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FOREWORD

The programme of yearbook publication was initiated in 1966. Great efforts have been made in editing as well as the setting up of standard for yearbook publication. The previously processed data have been reviewed and arranged in serial order or volumes to be published. The first issue was published in 1968 as Volume 8. It present records, during 1965 water year, of stage and discharge of 59 streams at 86 actual streamflow data calibrating sites and at 27 previously calibrated ones. Up till now 35 volumes of yearbooks presenting streamflow data as early as 1912 up to 1992 totalling 6,920 station-years of record had been published.

This Volume 36 which is the thirty-sixth issues of the series was prepared by the Data Processing and statistic Branch. It presents records, during 1993 water year, of stage and discharge of 155 streams at 228 currently calibrating sites.

Hydrology Division

April 1995

ACKNOWLEDGEMENT

The editorial staff of this hydrological yearbook publication feels particularly indebted to Mr. Boonchob Kanchanalak, former senior engineer hydrologist of the Royal Irrigation Department, who had initiated and directed the editing work of yearbook publication in 1966. He made a great attempt in setting up procedure for yearbook publication and adopting engineering standard, method and steps for implementation upon which the further publication of the series will be based.

Special thanks are conveyed to the Budget Bureau, office of the Prime Minister, who always renders great support to this work, also others who gave valuable advices in improving the work standard are kindly pleased to accept our sincere thanks.

Thank to Mr.Thada Sukhabunnaphan for the initiative of Hydrology Data Processing with Computer to Data Processing Section from 1978 and thank to Mrs. Srisuporn Srisuparb, Chief of Data Processing and Statistic Branch, for the valuable advice.

Also may we express our sincere wish to Hydrological Investigation Section, Study and Discharge Analysis Unit and Study and Water-Level Analysis Unit for the complete issue of Thailand Hydrological yearbook Volume 36.

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ILLUSSTRATION OF STREAM GAGING ACTIVITIES

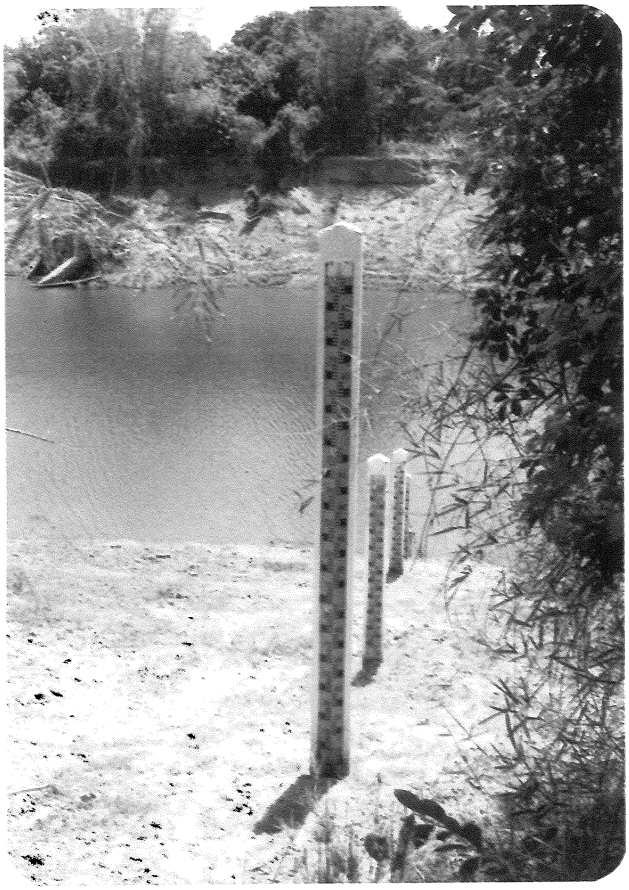


Fig. 1 Typical vertical staff gage

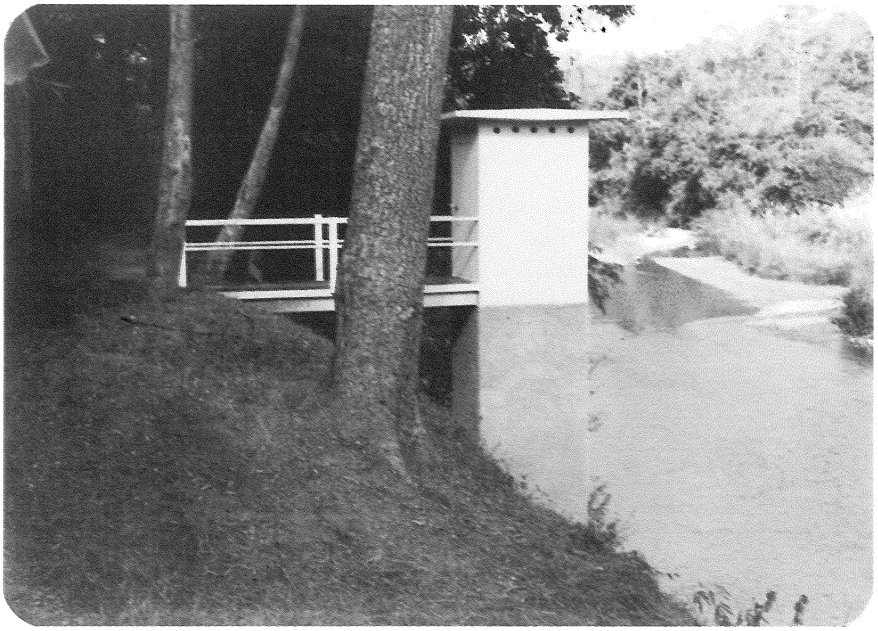


Fig. 2 Typical shelter for water level recorder (Float Type)



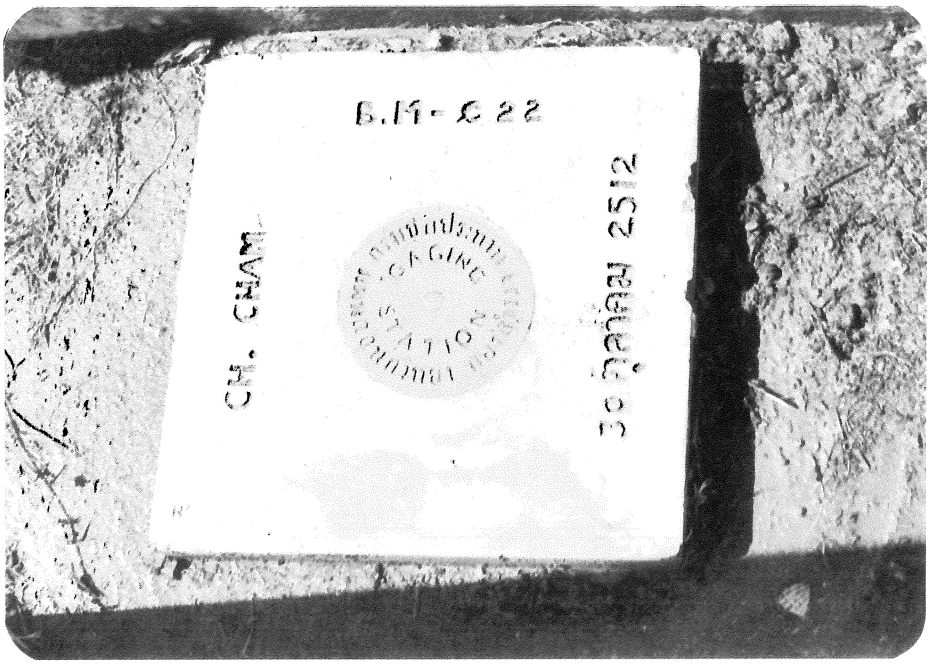


Fig. 3 Standard bench mark



Fig. 4 Close - up of rating operation



Fig. 5 Standard hydrologic equipment

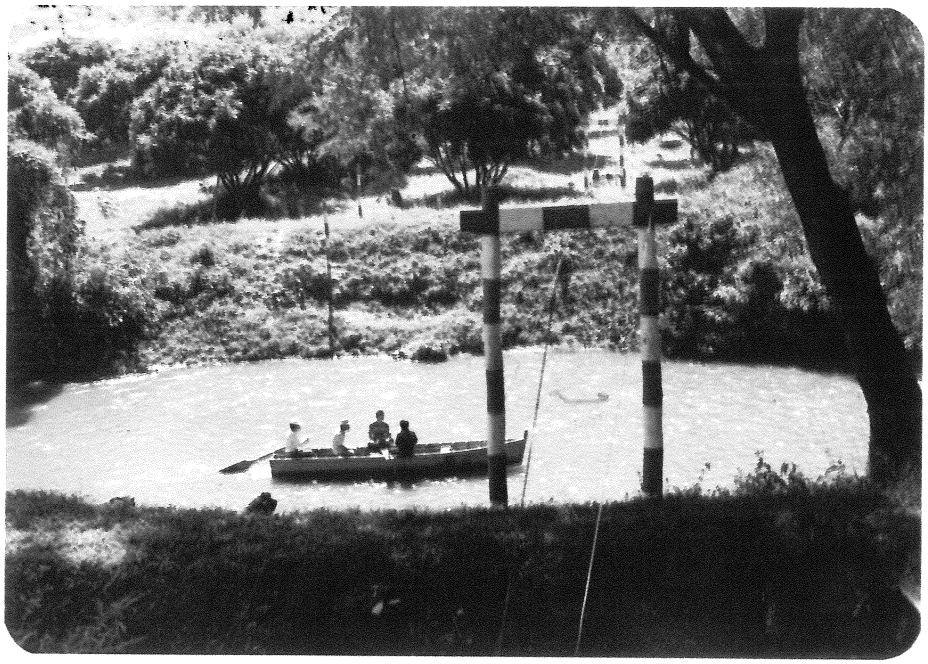


Fig. 6 Measuring line



Fig. 7 Camp for hydrological station

HYDROLOGICAL YEAR BOOK PUBLICATION

* **** ** **** *

Introduction

Great Attempt has been made all along to expedite the engineering processing of the streamflow data to be ready for publication, and to translate the publication plan into implementation. Efforts from various working units as well as personnel concerned are pulled together to drive this work into reality. Publication of streamflow data has begun since 1966. The first yearbook publication came out as Volume 8 for the 1965 water year. It presents records of stage and discharge of 113 gaging stations in 59 streams.

Definition of terms and abbreviations

Table for converting Metric Units to English Units is on page XXIV. Terms related to streamflow and other hydrologic data, as used in this report, are defined as follows:

CMS-day is the volume of water represented by a flow of 1 cubic meter per second for 24 hours. It is equivalent to 86,400 cubic meters, 0.0864 million cubic meter, or 3,050,784 cubic feet, or 70.07 acre-feet, and represents a runoff of 86.4 millimeters from 1 square kilometer.

Control designates of feature downstream from the gage that determines the stage-discharge relation at the gage. This feature may be a natural constriction of the channel, an artificial structure, or a uniform cross section over a long reach of the channel.

Cubic meter per second (cms) is the rate of stream discharge expressed in volume per a unit of time. One cubic meter per second is the rate of discharge representing a volume of 1 cubic meter passing a given point during 1 second.

Discharge is the volume of water (or more broadly, total fluids), that passes a given point within a given period of time.

Mean discharge is the arithmetic average of individual daily mean discharge during a specific period.

Momentary peak discharge is the peak discharge at a particular instant of time, at least once a year.

Drainage area of a stream at a specified location is that area, measured in a horizontal plane, enclosed by a topographic divide from which direct surface runoff from rainfall would normally drains by gravity into the stream above the specified point. Figures of drainage area given herein are determined from Royal Thai Survey Department AMS map with scale of 1 to 50,000, unless otherwise noted. They include all closed basins, or noncontributing areas, within the area unless otherwise noted.

Gage height (G.H.) is the water surface elevation above some arbitrary gage datum to which, in most cases, referred the Mean Sea Level (M.S.L.) Ko Lak datum, otherwise the arbitrary assumed datum (A.D.) being used.

Gaging station is a particular site on a stream, canal, lake, or reservoir where systematic observations of gage height or discharge are obtained. The term "staff gaging station" is applied only those gaging stations where only a gage height record is observed at an installed staff gage. If a water stage recorder is also installed, such a gaging station is referred as recording gaging station. In case of discharge measurements being practiced, it is referred as streamflow calibration or rating station.

Million cubic meter (mcm) is the volume of water expressed in millions of cubic meter.

One million cubic meter is the quantity of water required to cover 1 square kilometer to a depth of 1 meter and is equivalent to 811 acre-feet, or 408.6 cfs-day, or 264.2 million gallons.

Runoff in mcm shows the volume of approximately effective runoff from rainfall, passing a given point for a given period of time.

Annual runoff is the volume of approximately effective runoff from rainfall accumulated during the water year.

Stage-discharge relation is the relation between gage height and the volume of water per unit of time, flowing in a channel.

Rating tables giving the discharge for any gage height are prepared from stage-discharge relation curves or rating curves.

Water year is the 12-month period, April 1 through March 31, related to annual cycle of river flow during which the river begins to rise, reaching its flood stage and subsiding toward its cyclic minimum

The water year is designated by the calendar year in which it begins and which includes 9 of 12 months. Thus, the year began April 1, 1969 is called the "1969 water year".

Order of listing of gaging data

In this format, gaging data are listed according to their code running number order. It has been found more convenient in locating the required data when the list is arranged in such manner. The station code name contains the letters standing for river name and number in running order according to the age of the station installed in that river. The station code, for example, for the Chao Phraya River at Wat Tha Hat installed in 1905 is C. 1, which is the first streamflow rating station ever built in this river.

Series of yearbook publications

The yearbook series in which the streamflow data had been published was issued as follows:

Volume	Water Years	No. of station - years	Date of Issuance
1	1912 - 1937	112	September 1976
2	1938 - 1947	103	September 1976
3	1948 - 1953	146	September 1976
4	1954- 1956	178	September 1976
5	1957 - 1959	203	May 1974

Volume	Water Years	No.of station-years	Date of issuance
6	1960 - 1962	213	October 1973
7	1963 - 1964	182	July 1969
8	1965	113	May 1967
9	1966	129	June 1975
10	1967	172	September 1976
11	1968	187	September 1976
12	1969	182	March 1979
13	1970	182	March 1979
14	1971	182	June 1979
15	1972	184	October 1979
16	1973	187	January 1980
17	1974	191	March 1980
18	1975	182	August 1980
19	1976	184	November 1980
20	1977	192	February 1981
21	1978	210	May 1982
22	1979	237	July 1981
23	1980	231	August 1982
24	1981	213	November 1983
25	1982	224	June 1986
26	1983	235	October 1986
27	1984	242	February 1988
28	1985	232	January 1989
29	1986	245	June 1989
30	1987	271	July 1990
31	1988	267	February 1990
32	1989	224	July 1991
33	1990	225	July 1992
34	1991	227	July 1993
35	1992	220	May 1994
36	1993	228	April 1995

The preparation of the manuscripts of the further Volume is in progress. It is expected that they would be issued in serial order in the very near future.

STANDARD OF STREAMFLOW DATA PROCUREMENT

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Network design

The location of stream gaging stations is primarily based upon the urgent need at various damsites which is accessible. By the time of expansion of the network at later date, the area or basin of "blind spot" is put at first priority backing up by the following conditions:

(a) Accessibility.

(b) Geographical location.

(c) Mean annual rainfall.

(d) Vegetation cover determined from Army Map Service topographic map with 1:50,000 or 1:250,000 scale.

(e) Basin soil type.

(f) Type of surface rock.

Field work

The minimum standard of basic hydrologic data for observations and measurements are equal to those recommended in the United Nations ECAFE Flood Control series No. 6.

Water stage data are obtained by staff gage and by water stage recorder. Normally a vertical section staff gage is installed for manual observation with usual frequency of reading varies from 1 to 5 times of equal interval during the daytime. At some specific station where streamflow measurement camps are situated, the reading of water stage by night is also made, in addition, usually 1 to 3 times of equal interval. The standard bench mark is also established near the gage site. The 1.00-m standard enamelled staff gage sections with 1 cm graduation are used with zero reading, in most cases, referred to Mean Sea Level (M.S.L.) Ko Lak datum, otherwise the assumed datum being used. Few wire-weight gages are also adopted on highway bridges.

In some mountainous headwater area as well as in the estuary, additional installation of water stage recorder is made. A continuous record of water stage is obtained at such station. The German A. Ott type X has so for been adopted as our standard equipment. Some pneumatic recorder is also being used. Weekly visit to the gage for inspection and changing chart paper by the crew or gage observer is under practice.

At the streamflow gaging station, flow measurement by a current meter is periodically performed so that the calibration of stream section related to flow can be made through the development of stage-flow relationship or simply called "rating curve". Two types of the streamflow gaging station are under operation: with and without crew camp. Those without crew camp are under moving team and are capable for flow measurements of several stations. Those with crew camp are subject to less accessibility.

At station operated by a moving crew, at least twice a month during the monsoon period and once a month during the low flow period are expected for flow rating performance. The moving crew frequently fails to reach the stations while at their crest stages because of road damage and time available. At station with crew camp, daily rating performance may be expected, at least once whenever change of stage per day is over 30 centimeters. Fixed boat by cableway across the river is one of typical means of flow measurement by current meter for medium river, 100 m wide. Fow wider river, the boat is fixed in position by anchors.

The river cross section is requested to be made simultaneously during flow velocity measurement, so that shifting of the section could be determined. This request is lawful because there had been in the older day fashion of using cross section made during dry season for discharge computation.

The German A. Ott current meter has so far been adopted as standard equipment. The multiple-point method has been used as velocity measurement practice. At present the two-point method is carefully practiced.

Office data processing

The standard techniques used overseas are adopted in processing the data. In fact the standard methods of U.S. Geological Survey and U.S. Department of Agriculture (for small streams) are adopted as general basis.

Development of rating curve - Yearly mean rating curve is generally used as a tool in determining the daily flow. Periodically developed rating is frequently used when dictated by the conditions, so that the shifting control could be eliminated or reduced. Zero flow elevation of the rating section is determined by trial and error method with logarithmic plotting of the rating curve. Extension of the logarithmic rating line is frequently used to determine the channel flow at the overbank flow stage. The overbank flow is assessed by either direct velocity measurement or slope-area method whenever applicable.

Determination of daily mean flow - Application of the adjusted daily mean gage height to rating table gives the corresponding daily mean discharge from which the monthly and the yearly mean discharges are computed. Shifting adjustment for observed gage height is made when necessary. Shifting design is made basing on flood stages and times, if any. Other adjustments such as back water, rise and fall of flood, etc., which necessitate the use of other parametric factors, are also made, if any.

At some gaging stations where rises and falls of floods are immediate, hourly basis of gage height application to the rating curve is used to determine daily mean discharge.

At stations where rises and falls of streams are gentle, gage height data are usually obtained by manual reading.

It has been found that application of 1 to 5 times average reading (for daytime) gives an error of daily mean flow not more than 15% for mountainous streams, less than 10% for larger valley streams and not more than 5% for lower deltaic streams. Most of mountainous and valley streams are under recording operation, only deltaic streams that daytime reading are still used.

The daily mean gage heights are obtained by arithmetic mean of the observed data available. Adjusted gage heights due to shifting, which are applicable to rating curve for daily mean

flow computation, are practically made.

It is noted that the daily mean flow are mostly subject to upstream diversion. Headwater utilization of water by people diversions and state-owned diversions are expected in many river basins in this country. Consequently, the virgin flow is hardly determined. Daily mean values may be replaced by the monthly mean in the case of flow measured at tailwaters of existing reservoirs.

Time basis used for daily mean flow is from midnight to midnight.

Review of procedure for streamflow data processing.

Following are steps used for review the overall data before finalizing the process:

1) Checking of gage height data which are obtained either from staff gage or from water stage recorder, for the following cases:

a) Representability of daytime observation for the daily mean value, if the data are from staff gage reading.

b) Discrepancies of recording charts, if any.

c) Desirability of hourly-basis process for daily mean flow.

d) Datums of gage observation and of the rating curve used.

e) Location of gage from which data are taken and location of gage at which the rating curve is developed.

2) Checking of availability and goodness of field measurement notes.

3) Checking of differential magnitude of gage height during discharge measurement as to which arithmetic average or weighted average is desirable.

4) Checking stability of rating curve used.

5) Review of shifting control sample and design shifting, if any.

6) Adjustment of backwater, flood wave, etc., by rate of change of falls as index, if any.

7) Overall review of daily mean flow data as an end product.

8) Checking consistency of runoff volume among those observed at the upstream and downstream stations, taking into account intervening diversions of flow, if any.

Classification of streamflow data

The station description states the degree of accuracy of the records. "Excellent" indicates that, in general, the error in the daily records is believed to be less than 5 percent; "good", less than 10 percent; "fair", less than 15 percent; "poor", probably more than 15 percent.

Future plan for computerization

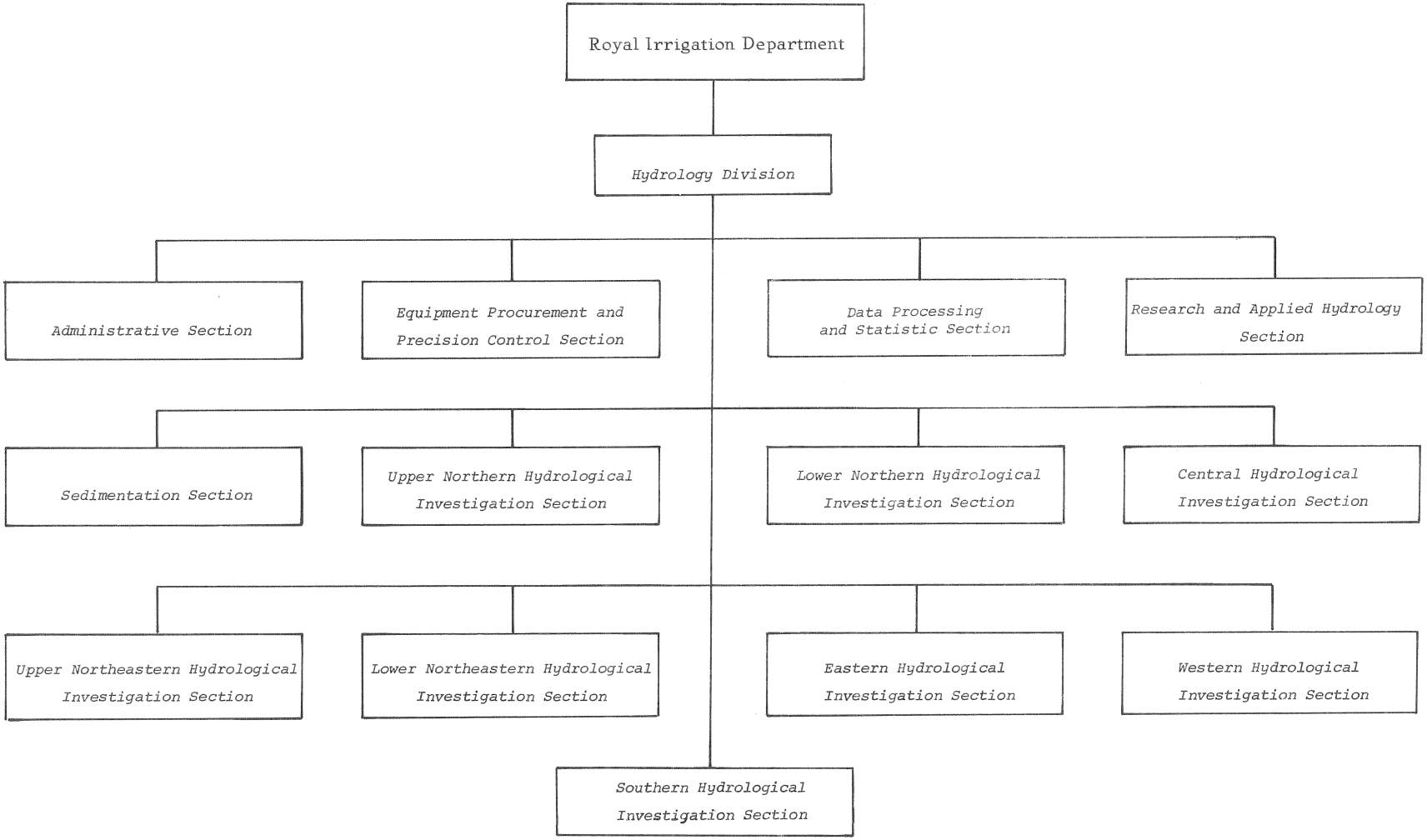
The Royal Irrigation Department (RID) has developed data system which includes computerization of storage, processing and retrieval of rainfall data since 1969. During the streamflow data system was being developed at RID in 1976, the National Economic and Social Development Board has made in agreement with the Asian Institute of Technology (AIT) to study on "Development of Water Resources Information System for Thailand". In the contract AIT will recommend a standardized procedure to various agencies for collecting and recording hydrometeorological and hydrological data and develop a computer based data storage and retrieval system to process, store, analyse and publish the data furnished by various agencies involved in data collection.

The Water Resources Information System for Thailand (WRIST) package has been designed to provide permanent computer media storage of hydrometeorological and hydrological data in such a form that it can be readily added, to, altered or deleted and also called for analysis and presentation as required. The Indexed Sequencial Method has been used for mass storage of the data and the processing and storing system have been designed taking into consideration the data processing schemes followed by the agencies, the probable frequency of retrieval expected and also the order or grouping of data elements differently for different agencies so that the system is best suited and efficient in operation for the current requirements and anticipated uses by the agencies in Thailand. The system will process and store data agencywise. The system is also designed to allow for the inclusion of additional data types if the need arise in the future. IBM 370/145 Computer facility at the AIT Bangkok will be used to develop the WRIST package. Operating programs will be written in ANS COBOL language independent of machine hardware to facilitate machine to machine transferability of the package for medium scale computers. The system has the data retrieval facility in the form of monthly and yearly publication agencywise; raw data and analysed data either in the form of computer printouts or in the direct accessible forms like cards of tapes controlled by basin, sub-basin, region, station and data type. Data stored can also be available in the form of punched cards or punched card image on magnetic tapes so that they can be accessed by FORTRAN programs.

Organization

Streamflow data presented herein are from the hydrologic network operating by the Hydrology Division of the Royal Irrigation Department (RID). Field data collection and office data processing as well as yearbook publication are hydrologic activities undertaken by the Division.

The organization structure of the Division is diagrammatically shown below:-


Royal Irrigation Department
Hydrology Division
Administrative Section
Equipment Procurement and Precision Control Section
Data Processing and Statistic Section
Research and Applied Hydrology Section
Sedimentation Section
Upper Northern Hydrological Investigation Section
Lower Northern Hydrological Investigation Section
Central Hydrological Investigation Section
Upper Northeastern Hydrological Investigation Section
Lower Northeastern Hydrological Investigation Section
Eastern Hydrological Investigation Section
Western Hydrological Investigation Section
Southern Hydrological Investigation Section

PARTICIPATION IN STREAM GAGING WORKS

* * * * * * *

Among 22 water related government agencies, several of them operate streamflow gaging works according to their own purposes. In early 1949 the Hydrology Section was established in the Survey Division of the Royal Irrigation Department. The Section is responsible for its activity in hydrology as prerequisite for water resources development. The activity includes:

(1) Procurement of basic hydrologic data including precipitation, streamflow, sediment, evaporation, etc.

(2) Analyses and research to produce the facts governing the behavior of water, their occurrences, circulation and distribution in its varied forms, their properties and their interaction with other allied factors.

(3) Application to water resources development and management, utilizing basic data and the facts disclosed by analyses and research.

Just one year after the beginning of water storage work, in 1953 there were only 49 discharge stations and 114 stage stations as operated by the Hydrology Section. In February 1975 the Section was separated from the Survey Division and was raised the status to be the Hydrology Division of the Royal Irrigation Department. The present network of stream gaging works contains 221 discharge stations of which 147 are currently operated and 74 are previously calibrated with continuous stage observation while 145 were abandoned, and 315 stage stations are currently operated while 232 were abandoned.

After the onset of the Lower Mekong River Basin Development Scheme, the Hydrology Section was also established in the Investigation and Planning Division of the National Energy Administration which is a representative agency of Thai Government in the Lower Mekong Committee. During the period of November 1958 - Mary 1962, seven hydrologic stations were installed and operated by the Harza Engineering Company contracted by the Agency for International Development of the United States Government. At present the NEA operates about 90 discharge stations and 140 stage stations. A series of yearbooks has also been published.

The third agency which operates the stream gaging works is the Hydrometeorology Division of the Meteorological Department. With the technical and financial support from the World Meteorelogical Organization, this agency began the stream gaging works in 1967. Up till now, about 11 discharge stations and 32 stage stations are under operation. The stream gaging data are also included in their yearbook.

The last agency which operates the stream gaging works for the planning purpose is the Electricity Generating Authority of Thailand. They began to operate 15 discharge stations and 4 stage stations in 1971.

In addition, there are other agencies operating the stream gaging works for their own purposes such as watershed management and conservation program of the Royal Forestry Department. The Port Authority of Thailand carries on discharge measurement along the estuary of the Chao Phraya River for studying the sedimentation in the vicinity of the service area.

UNITS OF MEASURE AND CONVERSION FACTORS

The following factors may be used to convert the metric and Thai unit published herein to the English units.

Multiply metric or Thai units	By	To obtain English units
	Length	
millimeters (mm)	.03973	inches (in)
meters (m)	39.73	inches (in)
	3.2808	feet (ft)
	1.0936	yards (yd)
	.1988	rods
kilometers (km)	.6214	miles (mi)
	Area	
square meters (m^2)	10.76	square feet (ft^2)
	1.196	square yards (yd^2)
	2.47×10^{-4}	acres
rai (1,600 m^2-Thai)	.3952	acres
hectares (ha)	2.4709	acres
square hectometers (hm^2)	2.4709	acres
square kilometers (km^2)	247.1	acres
	.3861	square miles (mi^2)
	Volume	
liters (l)	.2642	gallons (gal)
cubic decimeters (dm^3)	.2642	gallons (gal)
	.03531	cubic feet (ft^3)
cubic meters (m^3)	264.2	gallons (gal)
	2.642×10^{-4}	million gallons (10^6 gal)
	35.31	cubic feet (ft^3)
	4.086×10^{-4}	cfs-day (ft^3/s-day)
	8.11×10^{-4}	acre-feet (acre-ft)
cubic hectometers (hm^3)	264.2	million gallons (10^6 gal)
	408.6	cfs-day (ft^3/s-day)
	811	acre-feet (acre-ft)
million cubic meters (mcm)	811	acre-feet (acre-ft)
cubic kilometers (km^3)	811×10^3	acre-feet (acre-ft)
	Flow	
liters per second (l/s)	.03531	cubic feet per second (ft^3/s)
	15.85	gallons per minute (gpm)
cubic decimeters per second (dm^3/s)	.03531	cubic feet per second (ft^3/s)
	15.85	gallons per minute (gpm)
	22.82×10^{-3}	million gallons per day (mgd)

Multiply metric or Thai units	By	To obtain English units
	Flow (Cont.)	
cubic meters per second (m^3/s)	35.31	cubic feet per second (ft^3/s)
	15,850	gallons per minute (gpm)
	22.82	million gallons per day (mgd)

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Stream Gaging Data

Water Year 1993

WATER YEAR 1993

PING RIVER BASIN

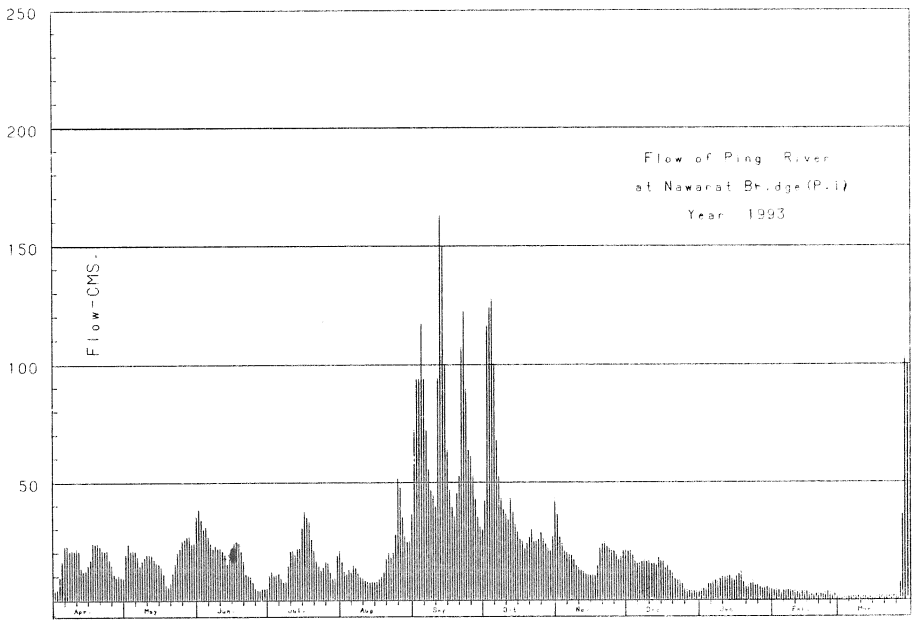
Ping River at Nawarat Bridge, Chiang Mai (P.1)

Location	Lat. 18-47-09 N., Long. 99-00-29 E., on left bank about 100 meters downstream from Nawarat Bridge, Amphoe Muang, Chiang Mai.
Drainage Area	6,355 sq.km.
Type of Gage	Water-stage recorder.
Zero Gage at Bottom	+300.500 m.(M.S.L.)
Bench Mark	B.M.-H.D.
Location	On left bank near automatic gage building.
Elevation	+305.31 m. (M.S.L.)
Gage Reading Frequency	Recording.
Basis of Mean Daily Gage Height	Arithmetic mean of 24 readings.
Period of Available Gage Records	1921 to date.
Rating Operation	
Period of Rating	1954-1960, 1967 to date.
Rated by Float	1936-1938
Rated by Current Meter	1954-1960, 1967 to date.
Stability of Channel Regimes	Stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records fair. Upstream state diversions for irrigation about 11,200 hectares at Mae Faek Weir. Stage-discharge relation defined by 64 discharge measurements made in 1993.

Gage Height in Meter (MSL), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	301.47	301.68	301.87	301.58	301.65	302.13	301.90	301.85	301.70	301.49	301.48	301.37	
2	301.48	301.73	301.83	301.60	301.60	302.28	302.42	301.76	301.70	301.50	301.49	301.34	
3	301.57	301.70	301.79	301.58	301.59	302.28	302.46	301.73	301.68	301.50	301.48	301.32	
4	301.65	301.70	301.80	301.58	301.61	302.42	302.48	301.70	301.65	301.53	301.46	301.32	
5	301.72	301.70	301.76	301.59	301.60	302.28	302.32	301.69	301.64	301.53	301.47	301.36	
6	301.72	301.67	301.73	301.56	301.63	302.13	302.10	301.68	301.64	301.54	301.48	301.34	
7	301.70	301.63	301.71	301.54	301.62	302.01	301.99	301.68	301.65	301.55	301.48	301.35	
8	301.70	301.65	301.72	301.54	301.59	301.94	301.91	301.66	301.66	301.54	301.47	301.35	
9	301.70	301.67	301.71	301.63	301.57	301.92	301.87	301.63	301.65	301.56	301.46	301.37	
10	301.71	301.68	301.71	301.70	301.56	301.88	301.85	301.62	301.65	301.57	301.46	301.38	
11	301.70	301.68	301.70	301.70	301.55	302.28	301.83	301.61	301.64	301.57	301.45	301.37	
12	301.62	301.68	301.68	301.68	301.54	302.67	301.91	301.60	301.64	301.57	301.45	301.36	
13	301.60	301.66	301.64	301.71	301.54	302.60	301.86	301.59	301.63	301.58	301.46	301.35	
14	301.61	301.64	301.66	301.71	301.54	302.32	301.81	301.58	301.67	301.56	301.45	301.33	
15	301.63	301.64	301.71	301.80	301.54	302.07	301.78	301.58	301.65	301.55	301.46	301.33	
16	301.66	301.62	301.73	301.86	301.54	301.94	301.75	301.58	301.65	301.57	301.42	301.32	
17	301.73	301.59	301.74	301.84	301.56	301.88	301.74	301.58	301.62	301.59	301.41	301.35	
18	301.73	301.52	301.73	301.82	301.57	301.84	301.71	301.63	301.63	301.60	301.42	301.37	
19	301.73	301.51	301.70	301.75	301.60	301.93	301.73	301.71	301.61	301.54	301.42	301.38	
20	301.72	301.53	301.65	301.70	301.66	301.99	301.76	301.73	301.59	301.51	301.42	301.38	
21	301.70	301.59	301.59	301.65	301.69	302.36	301.79	301.74	301.56	301.52	301.42	301.38	
22	301.70	301.64	301.58	301.63	301.67	302.45	301.74	301.72	301.55	301.53	301.41	301.38	
23	301.70	301.69	301.57	301.61	301.69	302.25	301.74	301.71	301.55	301.55	301.43	301.38	
24	301.66	301.71	301.54	301.62	301.77	302.07	301.75	301.70	301.53	301.52	301.46	301.39	
25	301.63	301.74	301.50	301.65	301.98	302.05	301.78	301.70	301.49	301.52	301.44	301.37	
26	301.59	301.75	301.48	301.64	301.95	301.99	301.75	301.68	301.48	301.51	301.43	301.35	
27	301.57	301.76	301.47	301.60	301.84	301.91	301.73	301.66	301.47	301.50	301.42	301.54	
28	301.58	301.76	301.49	301.56	301.76	301.84	301.71	301.67	301.46	301.51	301.40	301.85	
29	301.57	301.73	301.50	301.56	301.74	301.80	301.70	301.70	301.47	301.51		302.34	
30	301.56	301.73	301.50	301.68	301.74	301.79	301.76	301.70	301.46	301.50		302.32	
31		301.84		301.70	301.85		301.91		301.46	301.48		301.92	
Mean	301.65	301.67	301.66	301.66	301.66	302.11	301.89	301.67	301.59	301.54	301.45	301.46	
Max	301.73	301.84	301.87	301.86	301.98	302.67	302.48	301.85	301.70	301.60	301.49	302.34	302.67
Min	301.47	301.51	301.47	301.54	301.54	301.79	301.70	301.58	301.46	301.48	301.40	301.32	301.32

Annual Max Momentary Gage Height 302.69 M (MSL), at 15.00 Hours, on Sep 12, 1993
Zero Gage at Bottom Elevation 300.50 M (MSL), River Bed 299.37 M (MSL)
Left Bank Elevation 305.13 M (MSL)
Right Bank Elevation 302.45 M (MSL), Drainage Area 6355 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	4.16	19.20	38.70	10.60	16.50	72.39	42.00	36.50	21.00	4.72	4.44	1.84	
2	4.44	24.00	34.30	12.00	12.00	94.06	117.40	27.00	21.00	5.00	4.72	1.48	
3	9.90	21.00	30.00	10.60	11.30	94.06	124.20	24.00	19.20	5.00	4.44	1.24	
4	16.50	21.00	31.00	10.60	12.90	117.40	127.60	21.00	16.50	7.10	3.88	1.24	
5	23.00	21.00	27.00	11.30	12.00	94.06	100.40	20.10	15.60	7.10	4.16	1.72	
6	23.00	18.30	24.00	9.20	14.70	72.39	68.15	19.20	15.60	7.80	4.44	1.48	
7	21.00	14.70	22.00	7.80	13.80	55.42	52.80	19.20	16.50	8.50	4.44	1.60	
8	21.00	16.50	23.00	7.80	11.30	46.80	43.20	17.40	17.40	7.80	4.16	1.60	
9	21.00	18.30	22.00	14.70	9.90	44.40	38.70	14.70	16.50	9.20	3.88	1.84	
10	22.00	19.20	22.00	21.00	9.20	39.80	36.50	13.80	16.50	9.90	3.88	1.96	
11	21.00	19.20	21.00	21.00	8.50	94.06	34.30	12.90	15.60	9.90	3.60	1.84	
12	13.80	19.20	19.20	19.20	7.80	164.00	43.20	12.00	15.60	9.90	3.60	1.72	
13	12.00	17.40	15.60	22.00	7.80	150.00	37.60	11.30	14.70	10.60	3.88	1.60	
14	12.90	15.60	17.40	22.00	7.80	100.40	32.10	10.60	18.30	9.20	3.60	1.36	
15	14.70	15.60	22.00	31.00	7.80	63.91	29.00	10.60	16.50	8.50	3.88	1.36	
16	17.40	13.80	24.00	37.60	7.80	46.80	26.00	10.60	16.50	9.90	2.76	1.24	
17	24.00	11.30	25.00	35.40	9.20	39.80	25.00	10.60	13.80	11.30	2.48	1.60	
18	24.00	6.40	24.00	33.20	9.90	35.40	22.00	14.70	14.70	12.00	2.76	1.84	
19	24.00	5.70	21.00	26.00	12.00	45.60	24.00	22.00	12.90	7.80	2.76	1.96	
20	23.00	7.10	16.50	21.00	17.40	52.80	27.00	24.00	11.30	5.70	2.76	1.96	
21	21.00	11.30	11.30	16.50	20.10	107.20	30.00	25.00	9.20	6.40	2.76	1.96	
22	21.00	15.60	10.60	14.70	18.30	122.50	25.00	23.00	8.50	7.10	2.48	1.96	
23	21.00	20.10	9.90	12.90	20.10	89.65	25.00	22.00	8.50	8.50	3.04	1.96	
24	17.40	22.00	7.80	13.80	28.00	63.91	26.00	21.00	7.10	6.40	3.88	2.08	
25	14.70	25.00	5.00	16.50	51.60	61.07	29.00	21.00	4.72	6.40	3.32	1.84	
26	11.30	26.00	4.44	15.60	48.00	52.80	26.00	19.20	4.44	5.70	3.04	1.60	
27	9.90	27.00	4.16	12.00	35.40	43.20	24.00	17.40	4.16	5.00	2.76	7.80	
28	10.60	27.00	4.72	9.20	27.00	35.40	22.00	18.30	3.88	5.70	2.20	36.50	
29	9.90	24.00	5.00	9.20	25.00	31.00	21.00	21.00	4.16	5.70		103.80	
30	9.20	24.00	5.00	19.20	25.00	30.00	27.00	21.00	3.88	5.00		100.40	
31		35.40		21.00	36.50		43.20		3.88	4.44		44.40	
Total	498.80	581.90	547.62	544.60	554.60	2160.28	1349.35	561.10	388.12	233.26	98.00	336.78	7854.41 CMSDAY
Mean	16.63	18.77	18.25	17.57	17.89	72.01	43.53	18.70	12.52	7.52	3.50	10.86	21.52 CMS
Max	24.00	35.40	38.70	37.60	51.60	164.00	127.60	36.50	21.00	12.00	4.72	103.80	164.00 CMS
Min	4.16	5.70	4.16	7.80	7.80	30.00	21.00	10.60	3.88	4.44	2.20	1.24	1.24 CMS
Runoff	43.096	50.276	47.314	47.053	47.917	186.648	116.584	48.479	33.534	20.154	8.467	29.098	678.621 MCM

Momentary Peak 168.00 CMS, at 302.69 M (MSL), at 15.00 Hours, on Sep 12, 1993

Runoff Yield 3.39 Liters/Second/Square KM, Momentary Peak Yield 26.44 Liters/Second/Square KM

WATER YEAR 1993

PING RIVER BASIN

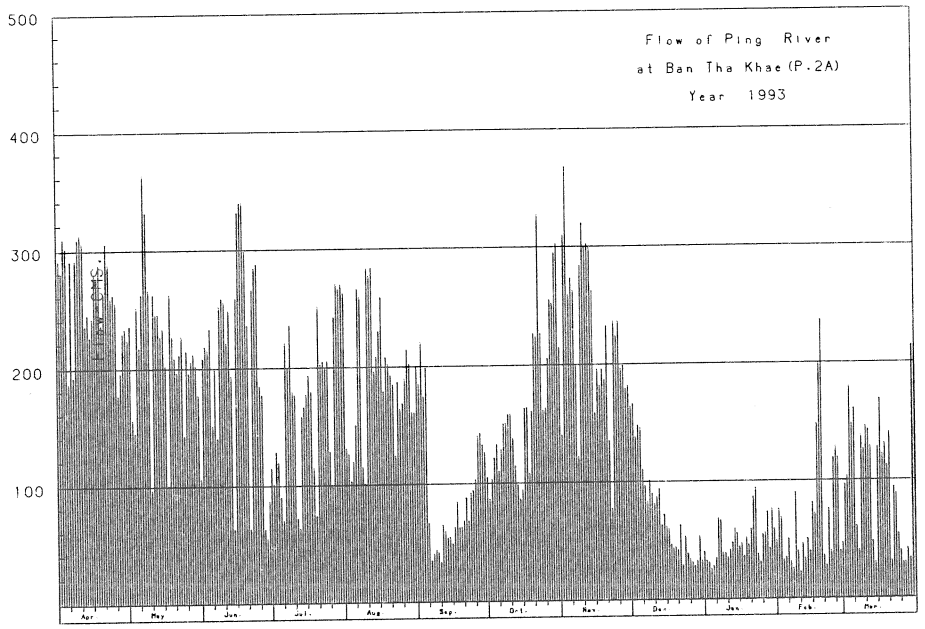
Ping River at Ban Tha Khae, Tak (P.2A)

Location	Lat. 16°-52′-10″ N., Long. 99°-07′-50″ E., on right bank about 200 meters downstream from Kittikhachon I Bridge, Ban Tha Khae, Amphoe Muang, Tak.
Drainage Area	38,862 sq.km.
Type of Gage	Water-stage recorder.
Zero Gage at Bottom	+104.00 m. (M.S.L.)
Bench Mark	B.M.-H.D.
Location	Near automatic gage building.
Elevation	+115.321 m. (M.S.L.)
Gage Reading Frequency	Recording.
Basis of Mean Daily Gage Height	Arithmetic mean of 24 readings.
Period of Available Gage Records	1952 to date.
Rating Operation	
Period of Rating	1952-1960, 1963-1967, 1971 to date.
Rated by Float	-
Rated by Current Meter	1952-1960, 1963-1967, 1971 to date.
Stability of Channel Regimes	Stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Flow regulated by Phumiphol Dam reservoir since 1964. Upstream state diversions for irrigation about 40,300 hectares. Stage-discharge relation defined by 19 discharge measurements made in 1993.

Gage Height in Meter (MSL), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	105.51	105.35	105.26	104.84	104.97	105.18	104.77	105.01	105.11	104.42	104.71	104.82	
2	105.48	105.07	105.29	104.96	104.95	105.30	104.85	105.56	105.00	104.41	104.67	104.85	
3	105.56	105.03	105.28	104.92	104.85	105.14	104.93	105.71	105.04	104.35	104.42	105.16	
4	105.54	105.40	105.34	104.79	104.92	105.23	104.98	105.42	105.03	104.38	104.44	105.04	
5	105.19	105.29	105.05	104.68	105.05	104.66	104.88	105.46	104.88	104.44	104.56	105.09	
6	105.51	105.43	105.23	105.30	105.44	104.44	104.96	105.43	104.82	104.67	104.41	104.63	
7	105.21	105.70	105.01	105.23	105.42	104.48	105.05	105.23	104.75	104.66	104.35	104.48	
8	105.51	105.62	105.40	105.35	104.90	104.51	105.05	104.93	104.84	104.47	104.79	105.00	
9	105.56	105.44	105.42	105.16	104.84	104.49	105.08	105.49	104.79	104.47	104.48	104.95	
10	105.57	104.82	105.41	105.15	105.49	104.43	105.08	105.59	104.74	104.44	104.32	105.03	
11	105.55	105.43	105.30	104.69	105.47	104.65	105.00	105.53	104.77	104.49	104.53	105.02	
12	105.35	105.38	105.39	104.64	105.49	104.62	104.90	105.54	104.81	104.54	104.43	104.96	
13	105.38	105.38	105.21	105.08	105.22	104.59	104.83	105.53	104.64	104.62	104.56	104.54	
14	105.32	105.32	104.64	105.11	105.26	104.59	104.77	105.43	104.69	104.60	104.48	104.40	
15	105.37	105.34	105.42	105.15	105.33	104.55	104.81	105.08	104.63	104.51	104.74	104.96	
16	105.48	105.24	105.62	105.21	105.42	104.64	105.10	105.22	104.62	104.53	104.69	105.12	
17	105.47	104.84	105.64	105.16	105.16	104.76	105.10	105.17	104.53	104.45	105.04	104.93	
18	105.50	105.43	105.64	104.90	105.26	104.64	104.87	105.22	104.50	104.57	105.23	104.97	
19	105.35	105.32	105.53	104.70	105.24	104.64	105.09	105.19	104.51	104.52	105.35	104.89	
20	105.43	105.26	105.35	105.40	105.21	104.67	105.32	105.34	104.49	104.62	104.45	105.01	
21	105.55	105.22	104.64	105.24	105.18	104.78	105.31	104.99	104.64	104.77	104.38	104.41	
22	105.50	105.27	105.44	105.25	104.94	104.67	105.61	104.72	104.39	104.81	104.71	104.81	
23	105.42	105.32	105.49	105.23	105.19	104.80	105.32	105.35	104.58	104.46	104.48	104.78	
24	105.43	105.02	105.50	105.25	105.10	104.81	105.09	105.31	104.47	104.41	104.92	104.59	
25	105.41	105.28	105.18	104.96	105.12	104.85	105.10	105.35	104.43	104.59	104.96	104.48	
26	105.15	105.22	105.15	104.83	105.20	105.01	105.25	105.22	104.41	104.60	104.92	104.40	
27	105.22	105.25	104.64	105.37	105.28	105.02	105.41	105.23	104.38	104.70	104.48	104.40	
28	105.33	105.27	104.59	105.45	105.24	104.98	105.40	105.16	104.42	104.50	104.53	104.49	
29	105.34	105.24	104.77	105.44	105.09	104.95	105.52	105.17	104.58	104.71		104.43	
30	105.31	105.15	104.90	105.45	105.09	104.86	105.54	105.10	104.42	104.62		105.28	
31		104.86		105.43	105.23		105.28		104.48	104.55		105.24	
Mean	105.42	105.26	105.22	105.11	105.18	104.76	105.10	105.29	104.66	104.54	104.64	104.81	
Max	105.57	105.70	105.64	105.45	105.49	105.30	105.61	105.71	105.11	104.81	105.35	105.28	105.71
Min	105.15	104.82	104.59	104.64	104.84	104.43	104.77	104.72	104.38	104.35	104.32	104.40	104.32

Annual Max Momentary Gage Height 105.93 M (MSL), at 7.00 Hours, on May 7, 1993
Zero Gage at Bottom Elevation 104.00 M (MSL), River Bed 103.61 M (MSL)
Left Bank Elevation 109.63 M (MSL)
Right Bank Elevation 109.34 M (MSL), Drainage Area 38862 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	291.60	236.50	208.60	101.20	131.10	184.80	86.60	140.60	166.60	32.60	75.80	96.60	
2	280.80	156.20	217.90	128.80	126.50	221.00	103.50	309.60	138.00	31.30	68.60	103.50	
3	309.60	145.80	214.80	119.60	103.50	174.40	121.90	368.00	148.40	25.50	32.60	179.60	
4	302.40	252.00	233.40	90.20	119.60	199.30	133.40	259.20	145.80	28.20	35.20	148.40	
5	187.40	217.90	151.00	70.40	151.00	66.80	110.40	273.60	110.40	35.20	50.80	161.40	
6	291.60	262.80	199.30	221.00	266.40	35.20	128.80	262.80	96.60	68.60	31.30	61.40	
7	193.10	364.00	140.60	199.30	259.20	40.40	151.00	199.30	83.00	66.80	25.50	40.40	
8	291.60	332.00	252.00	236.50	115.00	44.30	151.00	121.90	101.20	39.10	90.20	138.00	
9	309.60	266.40	259.20	179.60	101.20	41.70	158.80	284.40	90.20	39.10	40.40	126.50	
10	313.20	96.60	255.60	177.00	284.40	33.90	158.80	320.40	81.20	35.20	22.80	145.80	
11	306.00	262.80	221.00	72.20	277.20	65.00	138.00	298.80	86.60	41.70	46.90	143.20	
12	236.50	245.80	248.90	63.20	284.40	59.60	115.00	302.40	94.30	48.20	33.90	128.80	
13	245.80	245.80	193.10	158.80	196.20	54.70	98.90	298.80	63.20	59.60	50.80	48.20	
14	227.20	227.20	63.20	166.60	208.60	54.70	86.60	262.80	72.20	56.00	40.40	30.00	
15	242.70	233.40	259.20	177.00	230.30	49.50	94.30	158.80	61.40	44.30	81.20	128.80	
16	280.80	202.40	332.00	193.10	259.20	63.20	164.00	196.20	59.60	46.90	72.20	169.20	
17	277.20	101.20	340.00	179.60	179.60	84.80	164.00	182.20	46.90	36.50	148.40	121.90	
18	288.00	262.80	340.00	115.00	208.60	63.20	108.10	196.20	43.00	52.10	199.30	131.10	
19	236.50	227.20	298.80	74.00	202.40	63.20	161.40	187.40	44.30	45.60	236.50	112.70	
20	262.80	208.60	236.50	252.00	193.10	68.60	227.20	233.40	41.70	59.60	36.50	140.60	
21	306.00	196.20	63.20	202.40	184.80	88.40	224.10	135.70	63.20	86.60	28.20	31.30	
22	288.00	211.70	266.40	205.50	124.20	68.60	328.00	77.60	29.10	94.30	75.80	94.30	
23	259.20	227.20	284.40	199.30	187.40	92.00	227.20	236.50	53.40	37.80	40.40	88.40	
24	262.80	143.20	288.00	205.50	164.00	94.30	161.40	224.10	39.10	31.30	119.60	54.70	
25	255.60	214.80	184.80	128.80	169.20	103.50	164.00	236.50	33.90	54.70	128.80	40.40	
26	177.00	196.20	177.00	98.90	190.00	140.60	205.50	196.20	31.30	56.00	119.60	30.00	
27	196.20	205.50	63.20	242.70	214.80	143.20	255.60	199.30	28.20	74.00	40.40	30.00	
28	230.30	211.70	54.70	270.00	202.40	133.40	252.00	179.60	32.60	43.00	46.90	41.70	
29	233.40	202.40	86.60	266.40	161.40	126.50	295.20	182.20	53.40	75.80		33.90	
30	224.10	177.00	115.00	270.00	161.40	105.80	302.40	164.00	32.60	59.60		214.80	
31		105.80		262.80	199.30		214.80		40.40	49.50		202.40	
Total	7807.00	6639.10	6248.40	5327.40	5856.40	2764.60	5291.90	6688.50	2211.80	1554.70	2019.00	3218.00	55626.80 CMSDAY
Mean	260.23	214.16	208.28	171.85	188.92	92.15	170.71	222.95	71.35	50.15	72.11	103.81	152.40 CMS
Max	313.20	364.00	340.00	270.00	284.40	221.00	328.00	368.00	166.60	94.30	236.50	214.80	368.00 CMS
Min	177.00	96.60	54.70	63.20	101.20	33.90	86.60	77.60	28.20	25.50	22.80	30.00	22.80 CMS
Runoff	674.525	573.618	539.862	460.287	505.993	238.861	457.220	577.886	191.100	134.326	174.442	278.035	4806.156 MCM

Momentary Peak 462.50 CMS, at 105.93 M (MSL), at 7.00 Hours, on May 7, 1993
Runoff Yield 3.92 Liters/Second/Square KM, Momentary Peak Yield 11.90 Liters/Second/Square KM

WATER YEAR 1993

PING RIVER BASIN

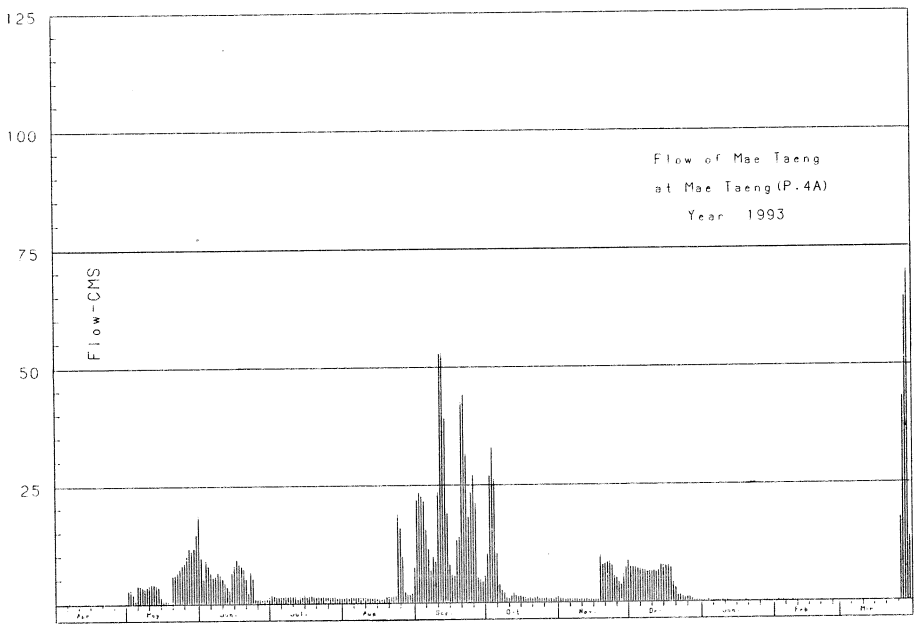
Mae Taeng River at Mae Taeng, Chiang Mai (P.4A)

Location	Lat. 19°-07'-15" N., Long. 98°-56'-51" E., on right bank at the bridge of Chiang Mai-Fang Highway, Amphoe Mae Taeng, Chiang Mai.
Drainage Area	1,902 sq.km.
Type of Gage	Water-stage recorder.
Zero Gage at Bottom	+333.745 m. (M.S.L.)
Bench Mark	B.M.-H.D.
Location	In the vicinity of Amphoe Mae Taeng office.
Elevation	+338.736 m. (M.S.L.)
Gage Reading Frequency	Recording.
Basis of Mean Daily Gage Height	Arithmetic mean of 24 readings.
Period of Available Gage Records	1955 to date.
Rating Operation	
Period of Rating	1955-1960, 1967 to date.
Rated by Float	-
Rated by Current Meter	1955-1960, 1967 to date.
Stability of Channel Regimes	Fairly stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records fair. Upstream state diversions for irrigation about 23,700 hectares at Mae Taeng Wier. Stage-discharge relation defined by 57 discharge measurements made in 1993.

Gage Height in Meter (MSL), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	334.51	334.93	335.47	334.80	334.72	335.98	335.51	334.69	335.31	334.56	334.54	334.51	
2	334.51	334.93	335.14	334.79	334.72	336.03	336.15	334.67	335.31	334.57	334.54	334.51	
3	334.51	334.84	335.43	334.75	334.72	336.00	336.33	334.65	335.30	334.58	334.54	334.51	
4	334.51	334.65	335.36	334.75	334.73	335.97	336.12	334.65	335.29	334.57	334.54	334.51	
5	334.51	335.03	335.24	334.75	334.73	335.74	335.52	334.65	335.28	334.57	334.54	334.51	
6	334.54	335.01	335.17	334.76	334.73	335.57	335.03	334.65	335.27	334.55	334.54	334.51	
7	334.53	334.99	335.18	334.76	334.73	335.27	334.90	334.65	335.26	334.55	334.54	334.51	
8	334.53	334.95	335.25	334.77	334.73	335.47	334.85	334.65	335.24	334.57	334.54	334.51	
9	334.53	335.00	335.20	334.77	334.73	335.40	334.70	334.64	335.24	334.56	334.54	334.51	
10	334.53	335.02	335.15	334.77	334.72	336.03	334.70	334.64	335.24	334.55	334.54	334.51	
11	334.53	335.04	335.06	334.76	334.72	336.86	334.76	334.64	335.24	334.55	334.54	334.51	
12	334.53	335.05	335.00	334.70	334.71	336.86	334.84	334.64	335.24	334.55	334.53	334.51	
13	334.53	335.02	334.91	334.75	334.71	336.51	334.77	334.64	335.25	334.54	334.53	334.51	
14	334.53	335.00	335.24	334.75	334.71	335.88	334.75	334.64	335.35	334.55	334.53	334.51	
15	334.53	334.75	335.35	334.81	334.70	335.36	334.75	334.63	335.33	334.55	334.53	334.49	
16	334.53	334.69	335.45	334.75	334.70	335.19	334.73	334.63	335.33	334.55	334.53	334.48	
17	334.53	334.63	335.37	334.77	334.67	335.18	334.72	334.63	335.33	334.55	334.53	334.48	
18	334.53	334.60	335.35	334.79	334.68	335.65	334.69	335.49	335.30	334.55	334.53	334.48	
19	334.53	334.59	335.30	334.75	334.75	335.68	334.69	335.35	335.05	334.54	334.53	334.49	
20	334.50	335.20	335.15	334.75	334.75	336.60	334.68	335.36	334.95	334.53	334.53	334.49	
21	334.48	335.20	334.86	334.75	334.75	336.64	334.69	335.39	334.77	334.53	334.53	334.50	
22	334.52	335.25	335.25	334.75	334.76	336.29	334.74	335.40	334.76	334.53	334.53	334.50	
23	334.52	335.30	335.15	334.75	334.77	335.85	334.68	335.34	334.74	334.53	334.53	334.50	
24	334.51	335.36	334.71	334.75	335.87	336.03	334.69	335.16	334.73	334.53	334.52	334.50	
25	334.51	335.39	334.69	334.75	335.76	336.15	334.69	335.14	334.72	334.53	334.52	334.49	
26	334.50	335.49	334.68	334.75	335.48	335.95	334.67	335.05	334.71	334.53	334.52	335.83	
27	334.51	335.59	334.67	334.75	334.87	335.15	334.66	335.01	334.65	334.53	334.52	336.63	
28	334.50	335.55	334.66	334.74	334.80	335.11	334.65	335.19	334.56	334.53	334.52	337.12	
29	334.51	335.59	334.70	334.71	334.80	335.08	334.65	335.31	334.56	334.53		337.24	
30	334.51	335.71	334.75	334.72	334.83	335.17	334.68	335.40	334.55	334.53		335.66	
31		335.87		334.72	335.31		334.73		334.55	334.54		335.34	
Mean	334.52	335.10	335.10	334.75	334.85	335.82	334.93	334.92	335.05	334.55	334.53	334.85	
Max	334.54	335.87	335.47	334.81	335.87	336.86	336.33	335.49	335.35	334.58	334.54	337.24	337.24
Min	334.48	334.59	334.66	334.70	334.67	335.08	334.65	334.63	334.55	334.53	334.52	334.48	334.48

Annual Max Momentary Gage Height 337.53 M (MSL), at 18.00 Hours, on Mar 28, 1993
Zero Gage at Bottom Elevation 333.74 M (MSL), River Bed 334.38 M (MSL)
Left Bank Elevation 339.84 M (MSL)
Right Bank Elevation 338.22 M (MSL), Drainage Area 1902 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.19	2.95	9.75	1.75	1.15	21.90	10.38	0.95	7.48	0.36	0.29	0.19	
2	0.19	2.95	5.25	1.68	1.15	23.40	27.00	0.85	7.48	0.40	0.29	0.19	
3	0.19	2.11	9.15	1.38	1.15	22.50	32.92	0.75	7.35	0.43	0.29	0.19	
4	0.19	0.75	8.16	1.38	1.23	21.60	26.10	0.75	7.22	0.40	0.29	0.19	
5	0.19	3.98	6.54	1.38	1.23	15.50	10.56	0.75	7.08	0.40	0.29	0.19	
6	0.29	3.76	5.63	1.45	1.23	11.46	3.98	0.75	6.94	0.32	0.29	0.19	
7	0.25	3.55	5.75	1.45	1.23	6.94	2.65	0.75	6.81	0.32	0.29	0.19	
8	0.25	3.15	6.67	1.52	1.23	9.75	2.20	0.75	6.54	0.40	0.29	0.19	
9	0.25	3.65	6.00	1.52	1.23	8.70	1.00	0.70	6.54	0.36	0.29	0.19	
10	0.25	3.87	5.37	1.52	1.15	23.40	1.00	0.70	6.54	0.32	0.29	0.19	
11	0.25	4.09	4.31	1.45	1.15	52.92	1.45	0.70	6.54	0.32	0.29	0.19	
12	0.25	4.20	3.65	1.00	1.07	52.92	2.11	0.70	6.54	0.32	0.25	0.19	
13	0.25	3.87	2.75	1.38	1.07	39.27	1.52	0.70	6.67	0.29	0.25	0.19	
14	0.25	3.65	6.54	1.38	1.07	19.00	1.38	0.70	8.03	0.32	0.25	0.19	
15	0.25	1.38	8.03	1.84	1.00	8.16	1.38	0.65	7.75	0.32	0.25	0.13	
16	0.25	0.95	9.45	1.38	1.00	5.87	1.23	0.65	7.75	0.32	0.25	0.12	
17	0.25	0.65	8.29	1.52	0.85	5.75	1.15	0.65	7.75	0.32	0.25	0.12	
18	0.25	0.50	8.03	1.68	0.90	13.25	0.95	10.05	7.35	0.32	0.25	0.12	
19	0.25	0.46	7.35	1.38	1.38	14.00	0.95	8.03	4.20	0.29	0.25	0.13	
20	0.15	6.00	5.37	1.38	1.38	42.60	0.90	8.16	3.15	0.25	0.25	0.13	
21	0.12	6.00	2.29	1.38	1.38	44.16	0.95	8.57	1.52	0.25	0.25	0.15	
22	0.22	6.67	6.67	1.38	1.45	31.56	1.30	8.70	1.45	0.25	0.25	0.15	
23	0.22	7.35	5.37	1.38	1.52	18.25	0.90	7.89	1.30	0.25	0.25	0.15	
24	0.19	8.16	1.07	1.38	18.75	23.40	0.95	5.50	1.23	0.25	0.22	0.15	
25	0.19	8.57	0.95	1.38	16.00	27.00	0.95	5.25	1.15	0.25	0.22	0.13	
26	0.15	10.05	0.90	1.38	9.90	21.00	0.85	4.20	1.07	0.25	0.22	17.75	
27	0.19	11.82	0.85	1.38	2.38	5.37	0.80	3.76	0.75	0.25	0.22	43.77	
28	0.15	11.10	0.80	1.30	1.75	4.87	0.75	5.87	0.36	0.25	0.22	64.42	
29	0.19	11.82	1.00	1.07	1.75	4.53	0.75	7.48	0.36	0.25		70.06	
30	0.19	14.75	1.38	1.15	2.02	5.63	0.90	8.70	0.32	0.25		13.50	
31		18.75		1.15	7.48		1.23		0.32	0.29		7.89	
Total	6.45	171.51	153.32	43.75	87.23	604.66	141.14	104.61	145.54	9.57	7.29	221.53	1696.60 CMSDAY
Mean	0.22	5.53	5.11	1.41	2.81	20.16	4.55	3.49	4.69	0.31	0.26	7.15	4.65 CMS
Max	0.29	18.75	9.75	1.84	18.75	52.92	32.92	10.05	8.03	0.43	0.29	70.06	70.06 CMS
Min	0.12	0.46	0.80	1.00	0.85	4.53	0.75	0.65	0.32	0.25	0.22	0.12	0.12 CMS
Runoff	0.557	14.818	13.247	3.780	7.537	52.243	12.194	9.038	12.575	0.827	0.630	19.140	146.586 MCM

Momentary Peak 84.43 CMS, at 337.53 M (MSL), at 18.00 Hours, on Mar 28, 1993

Runoff Yield 2.44 Liters/Second/Square KM, Momentary Peak Yield 44.39 Liters/Second/Square KM

WATER YEAR 1993

PING RIVER BASIN

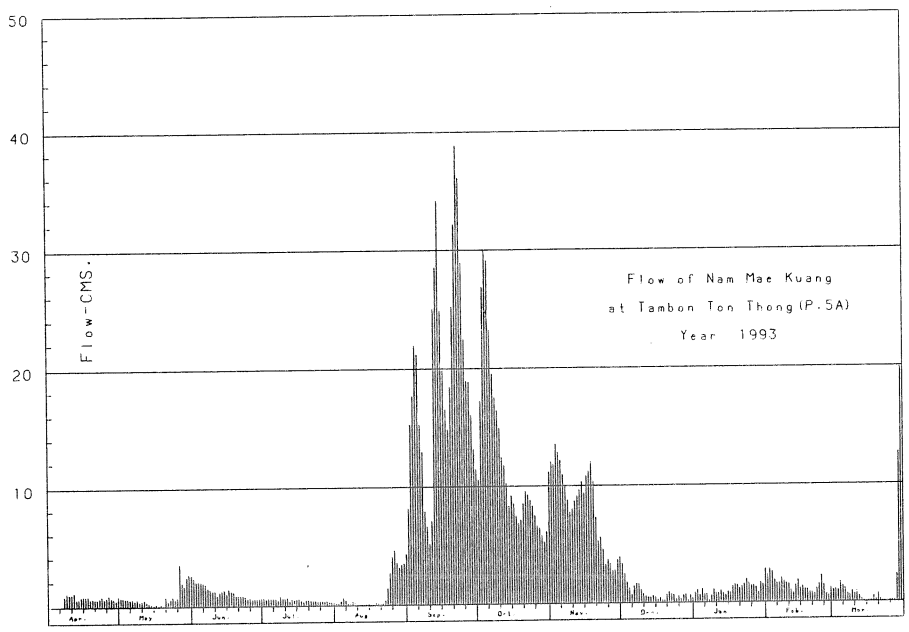
Nam Mae Kuang at Ban Tha Chak, Lamphun (P.5A)

Location	Lat. 18°-32'-31" N., Long. 98°-58'-20" E., on right bank at the bridge of Chiang Mai - Pa Sang Highway, Tambon Ton Thong, Amphoe Muang, Lamphun.
Drainage Area	1,740 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+0.00 m.(A.D.)
Bench Mark	B.M.- TEMPORARY
Location	On right bank at the foot path of the bridge.
Elevation	+6.550 m.(A.D.)
Gage Reading Frequency	5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1993 to date.
Rating Operation	
Period of Rating	1993 to date.
Rated by Float	-
Rated by Current Meter	1993 to date.
Stability of Channel Regimes	Stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records fair. Stream gaging began on Apr.7,1993. Stage-discharge relation defined by 38 discharge measurements made in 1993.

Gage Height in Meter (A.D), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	*******	0.48	0.74	0.43	0.31	1.34	0.75	0.82	0.33	0.11	0.25	0.13	
2	*******	0.45	0.71	0.43	0.27	1.67	1.08	0.81	0.27	0.13	0.29	0.13	
3	*******	0.46	0.70	0.43	0.37	1.75	1.50	0.90	0.21	0.08	0.28	0.13	
4	*******	0.44	0.71	0.44	0.43	1.87	1.62	0.86	0.15	0.14	0.22	0.20	
5	*******	0.43	0.70	0.44	0.39	1.85	1.59	0.83	0.09	0.09	0.19	0.17	
6	*******	0.42	0.67	0.42	0.25	1.67	1.35	0.77	0.17	0.08	0.20	0.14	
7	0.50	0.40	0.63	0.40	0.29	1.58	1.19	0.72	0.20	0.00	0.23	0.09	
8	0.55	0.42	0.59	0.47	0.33	1.32	1.10	0.66	0.19	0.07	0.21	0.06	
9	0.54	0.37	0.58	0.45	0.31	1.20	1.04	0.60	0.14	0.14	0.19	0.12	
10	0.53	0.37	0.57	0.42	0.21	1.07	0.97	0.62	0.09	0.10	0.19	0.08	
11	0.57	0.43	0.50	0.44	0.27	1.24	0.84	0.65	0.07	0.09	0.12	0.11	
12	0.44	0.37	0.57	0.37	0.16	1.95	0.81	0.68	0.05	0.13	0.10	0.05	
13	0.43	0.31	0.57	0.41	0.25	2.03	0.73	0.70	0.04	0.10	0.17	-0.01	
14	0.50	0.27	0.60	0.41	0.19	1.79	0.63	0.74	0.07	0.08	0.22	-0.06	
15	0.50	0.25	0.54	0.43	0.28	1.42	0.68	0.69	0.04	0.12	0.14	-0.10	
16	0.49	0.27	0.60	0.41	0.22	1.20	0.64	0.76	0.00	0.10	0.16	-0.06	
17	0.51	0.28	0.58	0.39	0.15	1.05	0.59	0.78	0.04	0.17	0.14	-0.06	
18	0.43	0.27	0.55	0.33	0.29	0.96	0.55	0.82	0.00	0.18	0.13	0.05	
19	0.46	0.28	0.51	0.40	0.28	1.14	0.57	0.74	0.00	0.18	0.11	0.00	
20	0.45	0.47	0.49	0.38	0.27	1.43	0.64	0.58	0.08	0.14	0.10	0.08	
21	0.42	0.38	0.49	0.37	0.24	1.71	0.70	0.46	0.12	0.16	0.09	0.00	
22	0.47	0.44	0.51	0.38	0.37	1.98	0.68	0.48	0.10	0.19	0.14	-0.06	
23	0.49	0.47	0.47	0.36	0.60	1.87	0.66	0.42	0.07	0.23	0.18	-0.07	
24	0.45	0.43	0.44	0.35	0.79	1.58	0.63	0.33	0.02	0.19	0.25	-0.08	
25	0.46	0.45	0.44	0.35	0.95	1.32	0.59	0.36	0.06	0.18	0.18	-0.05	
26	0.51	0.89	0.43	0.37	1.01	1.16	0.54	0.33	0.01	0.17	0.07	-0.05	
27	0.47	0.70	0.43	0.36	0.90	1.16	0.53	0.29	0.08	0.16	0.06	0.30	
28	0.43	0.64	0.41	0.35	0.84	1.02	0.49	0.29	0.08	0.11	0.15	0.75	
29	0.41	0.76	0.44	0.35	0.87	0.88	0.46	0.36	0.00	0.20		1.57	
30	0.49	0.78	0.43	0.32	0.89	0.79	0.51	0.37	0.08	0.18		1.81	
31		0.78		0.30	0.98		0.78		0.02	0.30		1.40	
Mean	*******	0.46	0.55	0.39	0.45	1.43	0.82	0.61	0.09	0.14	0.17	0.22	
Max	0.57	0.89	0.74	0.47	1.01	2.03	1.62	0.90	0.33	0.30	0.29	1.81	2.03
Min	*******	0.25	0.41	0.30	0.15	0.79	0.46	0.29	0.00	0.00	0.06	-0.10	*******

Annual Max Momentary Gage Height 2.04 M (A.D), at 6.00 Hours, on Sep 13, 1993
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed -0.47 M (A.D)
Left Bank Elevation 5.30 M (A.D)
Right Bank Elevation 5.68 M (A.D), Drainage Area 1740 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	*******	0.78	2.32	0.61	0.23	8.22	10.60	12.00	3.32	0.89	2.30	1.07	
2	*******	0.67	2.08	0.61	0.16	15.25	17.20	11.80	2.54	1.07	2.78	1.07	
3	*******	0.71	2.00	0.61	0.41	17.75	26.90	13.60	1.82	0.69	2.66	1.07	
4	*******	0.64	2.08	0.64	0.61	21.95	29.90	12.80	1.25	1.16	1.94	1.70	
5	*******	0.61	2.00	0.64	0.47	21.25	29.15	12.20	0.75	0.75	1.61	1.43	
6	*******	0.57	1.82	0.57	0.13	15.25	23.23	11.00	1.43	0.69	1.70	1.16	
7	0.85	0.50	1.58	0.50	0.18	13.00	19.58	10.00	1.70	0.25	2.06	0.75	
8	1.13	0.57	1.34	0.75	0.29	7.96	17.60	8.84	1.61	0.64	1.82	0.58	
9	1.07	0.41	1.29	0.67	0.23	6.60	16.40	7.70	1.16	1.16	1.61	0.98	
10	1.01	0.41	1.23	0.57	0.06	5.20	15.00	8.08	0.75	0.80	1.61	0.69	
11	1.23	0.61	0.85	0.64	0.16	7.04	12.40	8.65	0.64	0.75	0.98	0.89	
12	0.64	0.41	1.23	0.41	0.03	25.00	11.80	9.22	0.53	1.07	0.80	0.53	
13	0.61	0.23	1.23	0.53	0.13	28.59	10.20	9.60	0.47	0.80	1.43	0.23	
14	0.85	0.16	1.40	0.53	0.04	34.15	8.27	10.40	0.64	0.69	1.94	0.10	
15	0.85	0.13	1.07	0.61	0.17	24.94	9.22	9.41	0.47	0.98	1.16	0.00	
16	0.82	0.16	1.40	0.53	0.08	19.80	8.46	10.80	0.25	0.80	1.34	0.10	
17	0.91	0.17	1.29	0.47	0.03	16.60	7.52	11.20	0.47	1.43	1.16	0.10	
18	0.61	0.16	1.13	0.29	0.18	14.80	6.80	12.00	0.25	1.52	1.07	0.53	
19	0.71	0.17	0.91	0.50	0.17	18.48	7.16	10.40	0.25	1.52	0.89	0.25	
20	0.67	0.75	0.82	0.44	0.16	25.18	8.46	7.34	0.69	1.16	0.80	0.69	
21	0.57	0.44	0.82	0.41	0.11	32.15	9.60	5.26	0.98	1.34	0.75	0.25	
22	0.75	0.64	0.91	0.44	0.41	38.90	9.22	5.58	0.80	1.61	1.16	0.10	
23	0.82	0.75	0.75	0.38	1.40	36.15	8.84	4.62	0.64	2.06	1.52	0.08	
24	0.67	0.61	0.64	0.35	2.72	28.90	8.27	3.32	0.36	1.61	2.30	0.05	
25	0.71	0.67	0.64	0.35	4.05	22.49	7.52	3.74	0.58	1.52	1.52	0.13	
26	0.91	3.52	0.61	0.41	4.60	18.92	6.62	3.32	0.31	1.43	0.64	0.13	
27	0.75	2.00	0.61	0.38	3.60	18.92	6.44	2.78	0.69	1.34	0.58	0.20	
28	0.61	1.64	0.53	0.35	3.12	16.00	5.74	2.78	0.69	0.89	1.25	2.40	
29	0.53	2.48	0.64	0.35	3.36	13.20	5.26	3.74	0.25	1.70		12.75	
30	0.82	2.64	0.61	0.26	3.52	11.40	6.08	3.88	0.69	1.52		19.85	
31		2.64		0.20	4.32		11.20		0.36	2.90		9.00	
Total	*******	26.85	35.83	15.00	35.13	584.04	380.64	246.06	27.34	36.74	41.38	58.86	******** CMSDAY
Mean	*******	0.87	1.19	0.48	1.13	19.47	12.28	8.20	0.88	1.19	1.48	1.90	******** CMS
Max	1.23	3.52	2.32	0.75	4.60	38.90	29.90	13.60	3.32	2.90	2.78	19.85	38.90 CMS
Min	*******	0.13	0.53	0.20	0.03	5.20	5.26	2.78	0.25	0.25	0.58	0.00	******** CMS
Runoff	*******	2.320	3.096	1.296	3.035	50.461	32.887	21.260	2.362	3.174	3.575	5.086	******** MCM

Momentary Peak 29.12 CMS, at 2.04 M (A.D), at 6.00 Hours, on Sep 13, 1993

Runoff Yield ********* Liters/Second/Square KM, Momentary Peak Yield 16.74 Liters/Second/Square KM

WATER YEAR 1993

PING RIVER BASIN

Ping River at Ban Huai Yang, Kamphaeng Phet (P.7A)

Location — Lat. 16°-28'-38" N., Long. 99°-31'-06" E., on right bank about 100 meters upstream from the bridge on highway at Ban Nakhon Chum, Amphoe Muang, Kamphaeng Phet.

Drainage Area — 42,700 sq.km.

Type of Gage — Water-stage recorder.

Zero Gage at Bottom — +71.73 m. (M.S.L.)

Bench Mark — B.M.-H.D.

Location — Near the gage observer's house.

Elevation — +77.446 m. (M.S.L.)

Gage Reading Frequency — Recording.

Basis of Mean Daily Gage Height — Arithmetic mean of 24 readings.

Period of Available Gage Records — 1960 to date.

Rating Operation

Period of Rating — 1960-1961, 1967 to date.

Rated by Float —

Rated by Current Meter — 1960-1961, 1967 to date.

Stability of Channel Regimes — Stable.

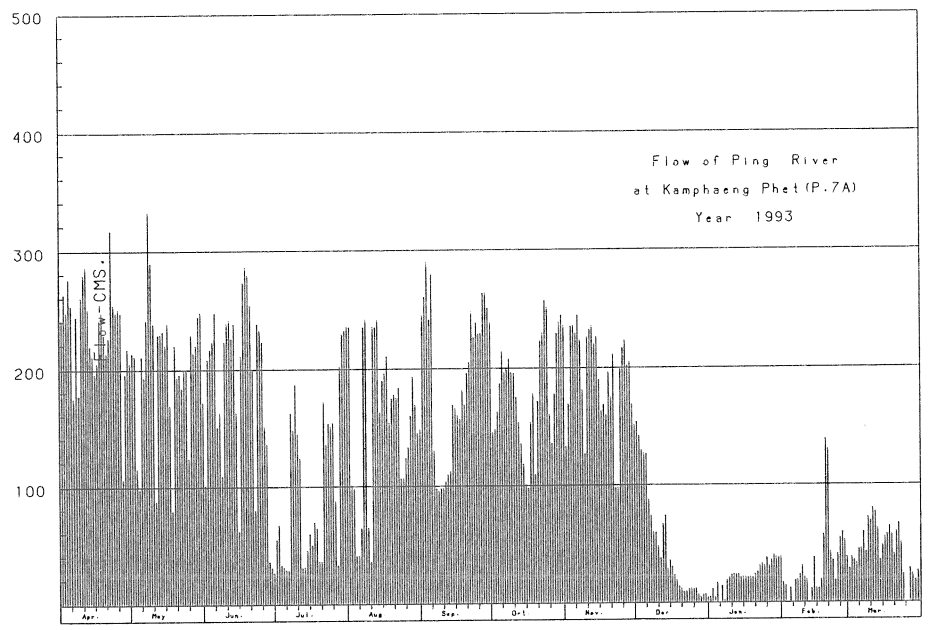
Overbank Flow Conditions — No overbank flow.

General Description — Records good. Flow completely regulated by Phumiphol Dam reservior and diverted for irrigation about 40,300 hectares at above gage site. Stage-discharge relation defined by 19 discharge measurements made in 1993.

Gage Height in Meter (MSL), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	73.48	73.39	73.01	72.83	73.46	73.49	73.16	73.12	73.19	72.62	72.67	72.72	
2	73.55	73.38	73.37	72.88	73.01	73.54	73.17	73.24	73.15	72.65	72.66	72.76	
3	73.50	73.06	73.40	72.74	73.00	73.63	73.22	73.46	73.11	72.62	72.60	72.75	
4	73.59	73.00	73.42	72.73	72.77	73.48	73.30	73.46	73.10	72.67	72.65	72.74	
5	73.52	73.38	73.50	72.72	72.77	73.60	73.39	73.44	73.10	72.59	72.60	72.79	
6	73.26	73.32	73.18	72.72	72.87	73.11	73.33	73.49	72.96	72.66	72.68	72.79	
7	73.49	73.48	73.22	73.22	73.46	73.00	73.34	73.42	72.91	72.61	72.68	72.85	
8	73.27	73.75	73.04	73.17	73.48	72.99	73.37	73.28	72.85	72.68	72.70	72.78	
9	73.54	73.63	73.42	73.30	72.87	73.00	73.33	73.10	72.85	72.69	72.73	72.90	
10	73.60	73.47	73.47	73.16	72.75	73.00	73.33	73.43	72.80	72.70	72.69	72.89	
11	73.62	72.96	73.48	73.09	73.46	73.02	73.26	73.45	72.76	72.70	72.68	72.93	
12	73.51	73.44	73.43	72.73	73.46	73.04	73.19	73.46	72.88	72.70	72.59	72.92	
13	73.41	73.44	73.47	72.73	73.48	73.05	73.13	73.41	72.91	72.70	72.65	72.86	
14	73.38	73.45	73.22	72.79	73.22	73.24	73.07	73.43	72.72	72.69	72.76	72.75	
15	73.33	73.41	72.86	72.85	73.31	73.23	73.01	73.31	72.75	72.69	72.65	72.80	
16	73.36	73.47	73.38	72.81	73.33	73.21	73.00	73.22	72.73	72.69	72.65	72.83	
17	73.48	73.24	73.58	72.89	73.38	73.20	73.19	73.24	72.70	72.69	72.68	72.84	
18	73.50	72.93	73.62	72.87	73.19	73.28	73.27	73.21	72.68	72.69	72.84	72.87	
19	73.44	73.41	73.60	72.75	73.26	73.24	73.04	73.33	72.66	72.69	73.14	72.84	
20	73.39	73.32	73.52	72.75	73.27	73.33	73.25	73.26	72.65	72.70	73.11	72.77	
21	73.43	73.33	73.34	73.25	73.26	73.36	73.42	73.38	72.64	72.71	72.78	72.85	
22	73.71	73.29	72.93	73.13	73.29	73.50	73.44	73.00	72.64	72.73	72.75	72.88	
23	73.52	73.34	73.47	73.19	73.03	73.43	73.53	73.00	72.65	72.74	72.68	72.81	
24	73.50	73.34	73.45	73.18	73.03	73.47	73.51	73.34	72.65	72.73	72.77	72.70	
25	73.51	73.09	73.42	73.19	73.09	73.44	73.21	73.40	72.65	72.76	72.83	72.59	
26	73.50	73.44	73.18	72.96	73.12	73.44	73.13	73.42	72.65	72.73	72.85	72.59	
27	73.03	73.39	73.13	72.74	73.21	73.55	73.27	73.35	72.63	72.75	72.82	72.72	
28	73.33	73.41	72.75	73.35	73.32	73.55	73.44	73.36	72.62	72.77	72.76	72.70	
29	73.40	73.49	72.73	73.44	73.24	73.51	73.47	73.24	72.63	72.76		72.68	
30	73.36	73.50	72.71	73.45	73.16	73.47	73.49	73.18	72.63	72.76		72.71	
31		73.25		73.46	73.17		73.46		72.62	72.76		72.86	
Mean	73.45	73.35	73.28	73.00	73.18	73.31	73.28	73.31	72.79	72.70	72.74	72.79	
Max	73.71	73.75	73.62	73.46	73.48	73.63	73.53	73.49	73.19	72.77	73.14	72.93	73.75
Min	73.03	72.93	72.71	72.72	72.75	72.99	73.00	73.00	72.62	72.59	72.59	72.59	72.59

Annual Max Momentary Gage Height 73.97 M (MSL), at 6.00 Hours, on May 8, 1993
Zero Gage at Bottom Elevation 71.73 M (MSL), River Bed 72.25 M (MSL)
Left Bank Elevation 78.07 M (MSL)
Right Bank Elevation 77.51 M (MSL), Drainage Area 42700 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	241.80	214.00	100.90	55.20	235.60	244.90	145.00	133.00	154.00	4.80	16.80	28.80	
2	264.00	211.00	208.00	67.20	100.90	260.80	148.00	169.00	142.00	12.00	14.40	38.40	
3	248.00	115.40	217.00	33.60	98.00	290.20	163.00	235.60	130.00	4.80	0.00	36.00	
4	276.80	98.00	223.20	31.20	40.80	241.80	187.00	235.60	127.00	16.80	12.00	33.60	
5	254.40	211.00	248.00	28.80	40.80	280.00	214.00	229.40	127.00	0.00	0.00	45.60	
6	175.00	193.00	151.00	28.80	64.80	130.00	196.00	244.90	87.60	14.40	19.20	45.60	
7	244.90	241.80	163.00	163.00	235.60	98.00	199.00	223.20	74.60	2.40	19.20	60.00	
8	178.00	333.00	109.60	148.00	241.80	95.40	208.00	181.00	60.00	19.20	24.00	43.20	
9	260.80	290.20	223.20	187.00	64.80	98.00	196.00	127.00	60.00	21.60	31.20	72.00	
10	280.00	238.70	238.70	145.00	36.00	98.00	196.00	226.30	48.00	24.00	21.60	69.60	
11	286.80	87.60	241.80	124.10	235.60	103.80	175.00	232.50	38.40	24.00	19.20	79.80	
12	251.20	229.40	226.30	31.20	235.60	109.60	154.00	235.60	67.20	24.00	0.00	77.20	
13	220.10	229.40	238.70	31.20	241.80	112.50	136.00	220.10	74.60	24.00	12.00	62.40	
14	211.00	232.50	163.00	45.60	163.00	169.00	118.30	226.30	28.80	21.60	38.40	36.00	
15	196.00	220.10	62.40	60.00	190.00	166.00	100.90	190.00	36.00	21.60	12.00	48.00	
16	205.00	238.70	211.00	50.40	196.00	160.00	98.00	163.00	31.20	21.60	12.00	55.20	
17	241.80	169.00	273.60	69.60	211.00	157.00	154.00	169.00	24.00	21.60	19.20	57.60	
18	248.00	79.80	286.80	64.80	154.00	181.00	178.00	160.00	19.20	21.60	57.60	64.80	
19	229.40	220.10	280.00	36.00	175.00	169.00	109.60	196.00	14.40	21.60	139.00	57.60	
20	214.00	193.00	254.40	36.00	178.00	196.00	172.00	175.00	12.00	24.00	130.00	40.80	
21	226.30	196.00	199.00	172.00	175.00	205.00	223.20	211.00	9.60	26.40	43.20	60.00	
22	317.80	184.00	79.80	136.00	184.00	248.00	229.40	98.00	9.60	31.20	36.00	67.20	
23	254.40	199.00	238.70	154.00	106.70	226.30	257.60	98.00	12.00	33.60	19.20	50.40	
24	248.00	199.00	232.50	151.00	106.70	238.70	251.20	199.00	12.00	31.20	40.80	24.00	
25	251.20	124.10	223.20	154.00	124.10	229.40	160.00	217.00	12.00	38.40	55.20	0.00	
26	248.00	229.40	151.00	87.60	133.00	229.40	136.00	223.20	12.00	31.20	60.00	0.00	
27	106.70	214.00	136.00	33.60	160.00	264.00	178.00	202.00	7.20	36.00	52.80	28.80	
28	196.00	220.10	36.00	202.00	193.00	264.00	229.40	205.00	4.80	40.80	38.40	24.00	
29	217.00	244.90	31.20	229.40	169.00	251.20	238.70	169.00	7.20	38.40		19.20	
30	205.00	248.00	26.40	232.50	145.00	238.70	244.90	151.00	7.20	38.40		26.40	
31		172.00		235.60	148.00		235.60		4.80	38.40		62.40	
Total	6997.40	6276.20	5474.40	3224.40	4783.60	5755.70	5631.80	5745.70	1454.40	729.60	943.40	1414.60	48431.20 CMSDAY
Mean	233.25	202.46	182.48	104.01	154.31	191.86	181.67	191.52	46.92	23.54	33.69	45.63	132.69 CMS
Max	317.80	333.00	286.80	235.60	241.80	290.20	257.60	244.90	154.00	40.80	139.00	79.80	333.00 CMS
Min	106.70	79.80	26.40	28.80	36.00	95.40	98.00	98.00	4.80	0.00	0.00	0.00	0.00 CMS
Runoff	604.575	542.264	472.988	278.588	413.303	497.293	486.588	496.429	125.660	63.037	81.510	122.221	4184.456 MCM

Momentary Peak 420.00 CMS, at 73.97 M (MSL), at 6.00 Hours, on May 8, 1993

Runoff Yield 3.11 Liters/Second/Square KM, Momentary Peak Yield 9.84 Liters/Second/Square KM

WATER YEAR 1993

PING RIVER BASIN

Ping River at Wang Kra Chao, Tak (P.12)

Location — Lat. 17°-14'-30" N., Long. 99°-00'-45" E., on right bank about 4 kilometers downstream from Phumiphol Dam reservoir, at Wang Kra Chao, Amphoe Sam Ngao, Tak.

Drainage Area — 26,396 sq.km.

Type of Gage — Water-stage recorder.

Zero Gage at Bottom — +132.00 m.(M.S.L.)

Bench Mark — B.M.-H.D.

Location — About 25 meters north of automatic gage building.

Elevation — +143.825 m. (M.S.L.)

Gage Reading Frequency — Recording.

Basis of Mean Daily Gage Height — Arithmetic mean of 24 readings.

Period of Available Gage Records — 1952 to date.

Rating Operation

Period of Rating — 1952 to date.

Rated by Float — -

Rated by Current Meter — 1952 to date.

Stability of Channel Regimes — Stable.

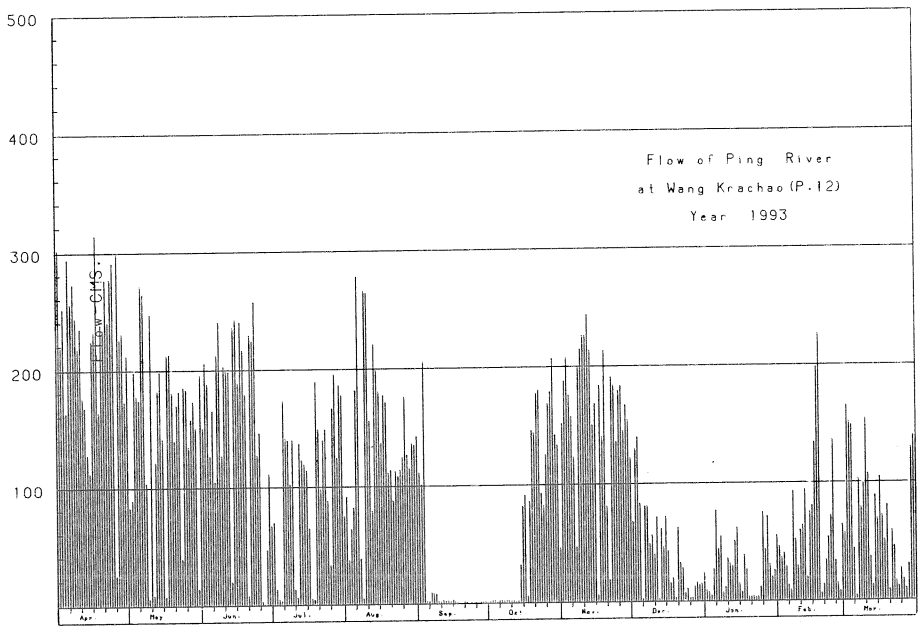
Overbank Flow Conditions — No overbank flow.

General Description — Records good. Flow regulated by Phumiphol Dam reservior and diverted for irrigation about 28,000 hectares at above gage site. Stage-discharge relation defined by 15 discharge measurements made in 1993.

Gage Height in Meter (MSL), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	134.49	133.01	133.54	132.88	133.08	133.24	131.88	133.55	132.86	132.09	132.64	132.75	
2	134.01	133.06	133.92	132.19	132.54	133.16	131.87	133.80	133.38	132.04	132.53	133.65	
3	134.21	133.87	133.80	131.95	132.82	133.92	131.87	133.93	133.46	131.97	132.58	133.55	
4	133.64	133.73	133.36	131.92	133.00	131.87	131.85	133.72	133.01	132.42	132.44	133.53	
5	134.45	133.71	133.65	133.70	133.76	131.86	131.87	133.60	131.88	132.95	132.18	132.62	
6	134.23	134.32	133.19	133.47	134.36	132.09	131.87	133.33	132.99	132.62	132.07	131.94	
7	134.33	134.28	133.96	133.46	132.56	132.06	131.86	132.65	132.99	132.73	133.09	133.17	
8	134.16	133.18	134.14	133.17	131.97	132.06	131.88	133.88	132.67	132.03	132.70	132.97	
9	134.00	131.99	133.36	133.46	134.29	131.86	131.87	133.98	132.74	132.15	132.44	133.14	
10	134.11	134.18	133.90	132.18	134.28	131.86	131.86	134.05	132.57	132.53	132.78	133.57	
11	133.72	132.06	133.87	132.00	133.58	131.88	131.86	134.05	132.90	132.47	132.82	133.21	
12	133.67	133.32	133.87	133.44	132.97	131.87	131.85	134.16	131.88	132.45	133.10	132.54	
13	133.37	133.76	132.30	133.33	134.02	131.87	131.85	133.97	132.80	132.69	132.30	132.18	
14	133.25	133.87	134.11	133.30	133.87	131.87	132.48	133.54	132.64	132.80	132.93	133.06	
15	134.04	133.47	134.15	133.26	133.75	131.89	133.00	133.67	132.90	132.21	132.99	132.87	
16	134.09	132.04	133.80	132.83	133.44	131.85	133.08	132.00	132.61	132.04	133.42	133.19	
17	134.56	133.96	134.14	131.97	133.73	131.83	131.98	133.77	132.23	132.56	133.87	132.90	
18	133.64	133.97	133.99	131.95	133.69	131.81	133.03	133.46	132.29	132.41	134.05	132.69	
19	134.13	133.75	133.74	133.81	133.24	131.81	133.51	133.97	131.91	131.91	132.01	132.99	
20	134.10	133.46	132.04	133.53	133.26	131.86	133.49	132.99	132.81	131.92	132.20	132.08	
21	134.35	133.68	134.07	133.13	133.05	131.83	133.73	132.28	132.48	131.93	132.50	132.77	
22	134.14	133.76	134.04	133.46	133.25	131.80	133.75	133.82	132.43	131.91	132.72	132.64	
23	134.35	132.57	134.24	133.53	133.22	131.84	133.09	133.77	132.03	131.92	132.90	132.24	
24	134.43	133.78	133.36	133.05	133.26	131.83	133.00	133.43	132.11	132.15	133.43	132.15	
25	132.39	133.77	133.51	132.49	133.34	131.84	133.35	133.74	131.90	132.93	132.50	132.41	
26	134.47	133.42	131.89	133.66	133.72	131.83	133.67	133.77	131.90	132.62	132.21	132.27	
27	134.05	133.60	131.83	133.85	133.36	131.85	133.74	133.50	132.17	132.90	132.05	132.10	
28	134.08	133.70	132.65	133.34	133.27	131.85	133.93	133.66	132.23	132.46	132.82	132.46	
29	133.70	133.54	133.24	133.79	133.43	131.84	133.48	133.57	132.20	132.31		133.38	
30	133.96	132.20	132.85	133.73	133.42	131.82	133.41	133.32	132.21	132.40		133.46	
31		133.85		132.93	133.48		132.64		132.36	132.73		133.42	
Mean	134.00	133.45	133.48	133.06	133.39	132.03	132.66	133.56	132.50	132.36	132.72	132.84	
Max	134.56	134.32	134.24	133.85	134.36	133.92	133.93	134.16	133.46	132.95	134.05	133.65	134.56
Min	132.39	131.99	131.83	131.92	131.97	131.80	131.85	132.00	131.88	131.91	132.01	131.94	131.80

Annual Max Momentary Gage Height 135.54 M (MSL), at 12.00 Hours, on Nov 29, 1993
Zero Gage at Bottom Elevation 132.00 M (MSL), River Bed 131.75 M (MSL)
Left Bank Elevation 142.18 M (MSL)
Right Bank Elevation 143.04 M (MSL), Drainage Area 26396 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	302.20	83.20	150.20	70.00	91.60	111.20	2.40	151.50	68.00	9.60	46.00	57.00	
2	219.60	89.20	206.00	13.60	37.20	101.20	2.10	188.00	129.40	7.60	36.40	165.50	
3	252.70	198.50	188.00	4.50	64.00	206.00	2.10	207.50	139.80	5.10	40.40	151.50	
4	164.00	177.50	126.80	3.60	82.00	2.10	1.50	176.00	83.20	27.60	29.20	148.90	
5	295.00	174.50	165.50	173.00	182.00	1.80	2.10	158.00	2.40	77.00	13.20	44.00	
6	256.10	271.60	104.80	141.10	278.80	9.60	2.10	122.90	81.00	44.00	8.80	4.20	
7	273.40	264.60	212.00	139.80	38.80	8.40	1.80	47.00	81.00	55.00	92.80	102.40	
8	244.20	103.60	240.80	102.40	5.10	8.40	2.40	200.00	49.00	7.20	52.00	79.00	
9	218.00	5.70	126.80	139.80	266.30	1.80	2.10	215.00	56.00	12.00	29.20	98.80	
10	235.70	247.60	203.00	13.20	264.60	1.80	1.80	226.00	39.60	36.40	60.00	154.10	
11	176.00	8.40	198.50	6.00	155.40	2.40	1.80	226.00	72.00	31.60	64.00	107.30	
12	168.50	121.60	198.50	137.20	79.00	2.10	1.50	244.20	2.40	30.00	94.00	37.20	
13	128.10	182.00	20.00	122.90	221.20	2.10	1.50	213.50	62.00	51.00	20.00	13.20	
14	112.50	198.50	235.70	119.00	198.50	2.10	32.40	150.20	46.00	62.00	75.00	89.20	
15	224.40	141.10	242.50	113.80	180.50	2.70	82.00	168.50	72.00	14.60	81.00	69.00	
16	232.40	7.60	188.00	65.00	137.20	1.50	91.60	6.00	43.00	7.60	134.60	104.80	
17	314.80	212.00	240.80	5.10	177.50	0.90	5.40	183.50	15.80	38.80	198.50	72.00	
18	164.00	213.50	216.50	4.50	171.50	0.30	85.60	139.80	19.40	26.80	226.00	51.00	
19	239.10	180.50	179.00	189.50	111.20	0.30	146.30	213.50	3.30	3.30	6.40	81.00	
20	234.00	139.80	7.60	148.90	113.80	1.80	143.70	81.00	63.00	3.60	14.00	9.20	
21	277.00	170.00	229.20	97.60	88.00	0.90	177.50	18.80	32.40	3.90	34.00	59.00	
22	240.80	182.00	224.40	139.80	112.50	0.00	180.50	191.00	28.40	3.30	54.00	46.00	
23	277.00	39.60	257.80	148.90	108.60	1.20	92.80	183.50	7.20	3.60	72.00	16.40	
24	291.40	185.00	126.80	88.00	113.80	0.90	82.00	135.90	10.40	12.00	135.90	12.00	
25	25.40	183.50	146.30	33.20	124.20	1.20	125.50	179.00	3.00	75.00	34.00	26.80	
26	298.60	134.60	2.70	167.00	176.00	0.90	168.50	183.50	3.00	44.00	14.60	18.20	
27	226.00	158.00	0.90	195.50	126.80	1.50	179.00	145.00	12.80	72.00	8.00	10.00	
28	230.80	173.00	47.00	124.20	115.10	1.50	207.50	167.00	15.80	30.80	64.00	30.80	
29	173.00	150.20	111.20	186.50	135.90	1.20	142.40	154.10	14.00	20.60		129.40	
30	212.00	14.00	67.00	177.50	134.60	0.60	133.30	121.60	14.60	26.00		139.80	
31		195.50		75.00	142.40		46.00		23.60	55.00		134.60	
Total	6706.70	4606.40	4664.30	3146.10	4234.10	478.40	2147.20	4797.50	1293.50	897.00	1738.00	2262.30	36971.50 CMSDAY
Mean	223.56	148.59	155.48	101.49	136.58	15.95	69.26	159.92	41.73	28.94	62.07	72.98	101.29 CMS
Max	314.80	271.60	257.80	195.50	278.80	206.00	207.50	244.20	139.80	77.00	226.00	165.50	314.80 CMS
Min	25.40	5.70	0.90	3.60	5.10	0.00	1.50	6.00	2.40	3.30	6.40	4.20	0.00 CMS
Runoff	579.459	397.993	402.996	271.823	365.826	41.334	185.518	414.504	111.758	77.501	150.163	195.463	3194.338 MCM

Momentary Peak 509.40 CMS, at 135.54 M (MSL), at 12.00 Hours, on Nov 29, 1993

Runoff Yield 3.84 Liters/Second/Square KM, Momentary Peak Yield 19.30 Liters/Second/Square KM

WATER YEAR 1993

PING RIVER BASIN

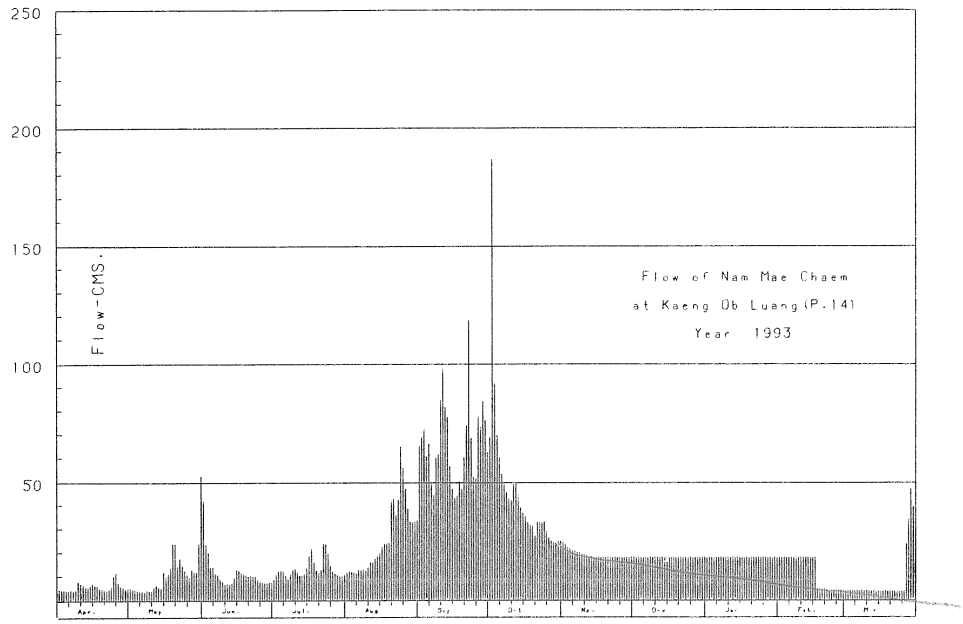
Nam Mae Chaem at Kaeng Ob Luang, Chiang Mai (P.14)

Location	Lat. 18°-13′-49″ N., Long. 98°-33′-35″ E., on right bank near the bridge of Hot-Mae Sariang Highway at guidepost 7+500, Amphoe Hot, Chiang Mai.
Drainage Area	3,853 sq.km.
Type of Gage	Water-stage recorder.
Zero Gage at Bottom	+275.80 m. (M.S.L.)
Bench Mark	B.M.-H.D.
Location	About 10 meters infront of automatic gage building.
Elevation	+282.20 m. (M.S.L.)
Gage Reading Frequency	Recording.
Basis of Mean Daily Gage Height	Arithmetic mean of 24 readings.
Period of Available Gage Records	1953 to date.
Rating Operation	
Period of Rating	1954-1960, 1967 to date.
Rated by Float	-
Rated by Current Meter	1954-1960, 1967 to date.
Stability of Channel Regimes	Fairly stable.
Overbank Flow Conditions	Overbank flow starts at elevation +282.27 m.(M.S.L.), records are channel flow only.
General Description	Records good. Stage-discharge relation defined by 151 discharge measurements made in 1993.

Gage Height in Meter (MSL), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	277.51	277.53	278.49	277.66	277.77	278.92	278.98	278.26	278.03	277.81	277.69	277.56	
2	277.51	277.52	278.08	277.74	277.79	278.98	280.35	278.24	278.03	277.80	277.69	277.56	
3	277.50	277.51	277.95	277.78	277.78	279.04	279.34	278.21	278.02	277.80	277.69	277.57	
4	277.50	277.50	277.84	277.80	277.76	278.85	279.00	278.20	278.01	277.80	277.68	277.57	
5	277.50	277.48	277.83	277.78	277.76	278.94	278.84	278.18	278.00	277.80	277.68	277.56	
6	277.50	277.48	277.76	277.72	277.80	278.63	278.72	278.17	277.99	277.80	277.68	277.56	
7	277.49	277.47	277.73	277.68	277.81	278.54	278.65	278.16	277.98	277.78	277.68	277.56	
8	277.50	277.49	277.67	277.75	277.81	278.84	278.57	278.15	277.97	277.79	277.68	277.56	
9	277.64	277.49	277.63	277.80	277.80	278.86	278.51	278.14	277.95	277.79	277.65	277.56	
10	277.60	277.48	277.60	277.82	277.83	279.23	278.50	278.13	277.95	277.78	277.63	277.56	
11	277.58	277.54	277.60	277.77	277.90	279.42	278.63	278.12	277.94	277.78	277.62	277.56	
12	277.56	277.58	277.60	277.73	277.89	279.18	278.64	278.11	277.94	277.75	277.62	277.56	
13	277.54	277.54	277.61	277.72	277.92	279.12	278.54	278.11	277.95	277.74	277.62	277.55	
14	277.58	277.54	277.70	277.75	277.93	278.78	278.44	278.10	277.95	277.74	277.61	277.54	
15	277.60	277.78	277.80	277.82	277.95	278.60	278.39	278.10	277.95	277.75	277.61	277.54	
16	277.58	277.70	277.80	277.93	277.98	278.52	278.36	278.09	277.93	277.74	277.61	277.53	
17	277.57	277.75	277.76	277.97	278.00	278.53	278.31	278.09	277.91	277.73	277.60	277.54	
18	277.53	277.82	277.75	277.90	278.01	278.65	278.28	278.09	277.90	277.72	277.60	277.55	
19	277.52	278.01	277.73	277.80	278.12	278.60	278.27	278.09	277.88	277.72	277.60	277.54	
20	277.51	278.08	277.72	277.76	278.50	278.84	278.32	278.09	277.88	277.73	277.60	277.54	
21	277.49	277.84	277.72	277.81	278.51	279.06	278.44	278.08	277.87	277.72	277.59	277.54	
22	277.52	277.92	277.72	278.07	278.37	279.70	278.43	278.07	277.87	277.72	277.56	277.54	
23	277.55	277.86	277.71	278.06	278.50	278.98	278.45	278.06	277.86	277.71	277.56	277.54	
24	277.72	277.79	277.67	277.95	278.92	278.69	278.44	278.06	277.85	277.71	277.56	277.54	
25	277.76	277.74	277.64	277.86	278.76	278.68	278.36	278.06	277.84	277.72	277.57	277.54	
26	277.62	277.69	277.62	277.78	278.60	279.12	278.30	278.05	277.83	277.72	277.57	277.55	
27	277.57	277.81	277.62	277.76	278.43	279.05	278.27	278.04	277.83	277.71	277.57	278.01	
28	277.54	277.77	277.61	277.73	278.31	279.22	278.25	278.04	277.81	277.70	277.56	278.33	
29	277.52	277.78	277.63	277.72	278.31	279.10	278.25	278.03	277.82	277.70		278.60	
30	277.53	278.06	277.62	277.71	278.31	278.88	278.26	278.03	277.82	277.69		278.45	
31		278.70		277.73	278.33		278.27		277.81	277.69		277.98	
Mean	277.55	277.72	277.74	277.80	278.11	278.92	278.56	278.11	277.92	277.75	277.62	277.67	
Max	277.76	278.70	278.49	278.07	278.92	279.70	280.35	278.26	278.03	277.81	277.69	278.60	280.35
Min	277.49	277.47	277.60	277.66	277.76	278.52	278.25	278.03	277.81	277.69	277.56	277.53	277.47

Annual Max Momentary Gage Height 282.35 M (MSL), at 3.00 Hours, on Oct 2, 1993
Zero Gage at Bottom Elevation 275.80 M (MSL), River Bed 277.41 M (MSL)
Left Bank Elevation M (MSL)
Right Bank Elevation 282.25 M (MSL), Drainage Area 3853 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	4.77	5.31	42.20	8.88	12.10	65.50	69.10	24.96	18.49	18.46	18.44	4.36	
2	4.77	5.04	24.06	11.20	12.70	69.10	187.25	24.04	18.49	18.46	18.44	4.36	
3	4.50	4.77	20.40	12.40	12.40	72.86	92.80	22.66	18.49	18.46	18.44	4.52	
4	4.50	4.50	14.40	13.00	11.80	61.30	70.30	22.20	18.49	18.46	18.44	4.52	
5	4.50	4.10	14.05	12.40	11.80	66.70	60.70	21.46	18.49	18.46	18.44	4.36	
6	4.50	4.10	11.80	10.60	13.00	49.29	54.06	21.09	18.48	18.46	18.44	4.36	
7	4.30	3.90	10.90	9.44	13.35	44.70	50.35	20.72	18.48	18.46	18.44	4.36	
8	4.50	4.30	9.16	11.50	13.35	60.70	46.20	20.35	18.48	18.46	18.44	4.36	
9	8.32	4.30	8.04	13.00	13.00	61.90	43.20	19.98	18.48	18.46	18.44	4.36	
10	7.20	4.10	7.20	13.70	14.05	85.31	42.70	19.61	18.48	18.46	18.43	4.36	
11	6.66	5.58	7.20	12.10	16.50	98.44	49.29	19.24	18.48	18.46	18.43	4.36	
12	6.12	6.66	7.20	10.90	16.15	81.98	49.82	18.87	18.48	18.45	18.43	4.36	
13	5.58	5.58	7.48	10.60	18.06	78.02	44.70	18.87	18.48	18.45	18.43	4.20	
14	6.66	5.58	10.00	11.50	18.84	57.24	39.70	18.50	18.48	18.45	18.43	4.04	
15	7.20	12.40	13.00	13.70	20.40	47.70	37.23	18.50	18.48	18.45	18.43	4.04	
16	6.66	10.00	13.00	18.84	22.74	43.70	35.82	18.50	18.48	18.45	18.43	3.88	
17	6.39	11.50	11.80	21.96	24.30	44.20	33.47	18.50	18.47	18.45	5.00	4.04	
18	5.31	13.70	11.50	16.50	24.27	50.35	32.10	18.50	18.47	18.45	5.00	4.20	
19	5.04	24.27	10.90	13.00	24.90	47.70	31.65	18.50	18.47	18.45	5.00	4.04	
20	4.77	24.06	10.60	11.80	42.70	60.70	27.72	18.50	18.47	18.45	5.00	4.04	
21	4.30	14.40	10.60	13.35	43.20	74.14	33.72	18.50	18.47	18.45	4.84	4.04	
22	5.04	18.06	10.60	24.09	36.29	119.00	33.14	18.50	18.47	18.45	4.36	4.04	
23	5.85	15.10	10.30	24.12	42.70	69.10	34.30	18.49	18.47	18.45	4.36	4.04	
24	10.60	12.70	9.16	20.40	65.50	52.47	33.72	18.49	18.47	18.45	4.36	4.04	
25	11.80	11.20	8.32	15.10	56.18	51.94	29.56	18.49	18.46	18.45	4.52	4.04	
26	7.76	9.72	7.76	12.40	47.70	78.02	26.80	18.49	18.46	18.45	4.52	4.20	
27	6.39	13.35	7.76	11.80	39.20	73.50	25.42	18.49	18.46	18.45	4.52	24.27	
28	5.58	12.10	7.48	10.90	33.47	84.64	24.50	18.49	18.46	18.44	4.36	34.41	
29	5.04	12.40	8.04	10.60	33.47	76.70	24.50	18.49	18.46	18.44		47.70	
30	5.31	24.12	7.76	10.30	33.47	63.10	24.96	18.49	18.46	18.44		40.20	
31		53.00		10.90	34.41		25.42		18.46	18.44		22.74	
Total	179.92	359.90	352.67	420.98	822.00	1990.00	1414.20	588.47	572.71	572.02	350.81	278.84	7902.52 CMSDAY
Mean	6.00	11.61	11.76	13.58	26.52	66.33	45.62	19.62	18.47	18.45	12.53	8.99	21.65 CMS
Max	11.80	53.00	42.20	24.12	65.50	119.00	187.25	24.96	18.49	18.46	18.44	47.70	187.25 CMS
Min	4.30	3.90	7.20	8.88	11.80	43.70	24.50	18.49	18.46	18.44	4.36	3.88	3.88 CMS
Runoff	15.545	31.095	30.471	36.373	71.021	171.936	122.187	50.844	49.482	49.423	30.310	24.092	682.778 MCM

Momentary Peak 616.00 CMS, at 282.35 M (MSL), at 3.00 Hours, on Oct 2, 1993
Runoff Yield 5.62 Liters/Second/Square KM, Momentary Peak Yield 159.88 Liters/Second/Square KM

WATER YEAR 1993

PING RIVER BASIN

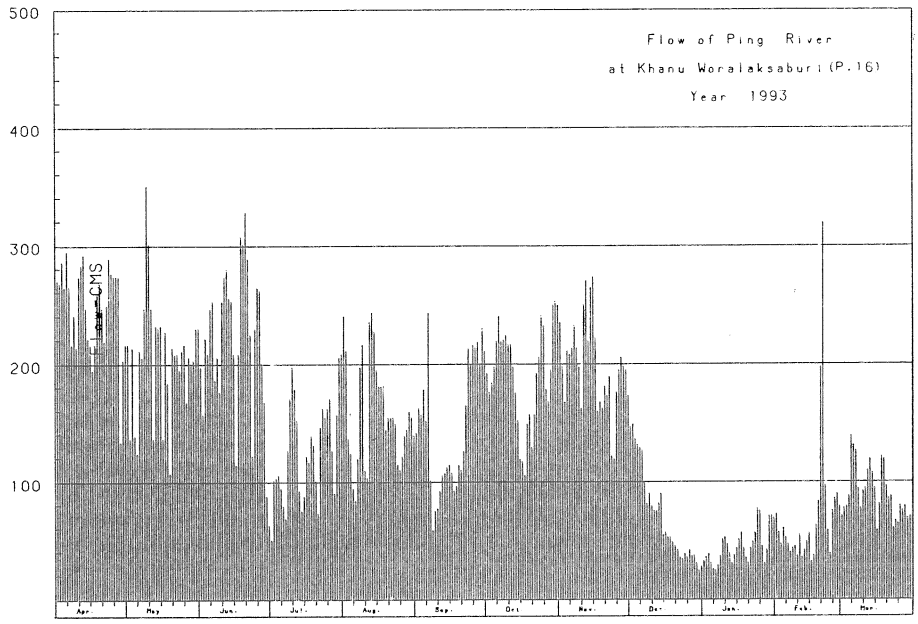
Ping River at Khanu Woralaksaburi, Kamphaeng Phet (P.16)

Location	Lat. 16°-03'-42" N., Long. 99°-51'-51" E., on right bank behind the Post Office, Amphoe Khanu Woralaksaburi, Kamphaeng Phet.
Drainage Area	45,677 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+41.780 m.(M.S.L.)
Bench Mark	B.M.-H.D.
Location	On right bank near the automatic gage building.
Elevation	+46.604 m.(M.S.L.)
Gage Reading Frequency	5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1954 to date.
Rating Operation	
Period of Rating	1960, 1967 - 1974, 1990 to date.
Rated by Float	-
Rated by Current Meter	1960, 1964 - 1975, 1979, 1990 to date.
Stability of Channel Regimes	Stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Stage-discharge relation defined by 63 discharge measurements made in 1993.

Gage Height in Meter (MSL), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	43.30	43.11	43.04	42.42	43.20	42.83	43.02	43.18	42.85	42.31	42.53	42.52	
2	43.29	42.81	42.89	42.66	43.09	42.91	42.96	43.04	42.86	42.33	42.45	42.55	
3	43.35	43.10	43.13	42.67	42.81	42.89	42.99	42.93	42.81	42.35	42.40	42.56	
4	43.28	42.82	43.08	42.68	42.76	42.97	43.04	43.09	42.79	42.30	42.47	42.60	
5	43.38	42.76	43.22	42.63	42.63	42.87	43.12	43.08	42.78	42.27	42.43	42.82	
6	43.28	43.09	43.24	42.56	42.58	43.21	43.20	43.10	42.77	42.26	42.40	42.79	
7	43.11	43.07	43.00	42.51	42.74	42.66	43.12	43.17	42.65	42.29	42.36	42.77	
8	43.20	43.22	43.07	42.77	43.04	42.46	43.13	43.10	42.57	42.34	42.38	42.63	
9	43.10	43.56	42.96	42.94	43.11	42.54	43.14	43.04	42.61	42.42	42.39	42.55	
10	43.31	43.40	43.24	43.04	42.70	42.55	43.11	42.91	42.56	42.43	42.34	42.62	
11	43.34	43.22	43.31	42.97	42.67	42.62	43.11	43.23	42.54	42.40	42.44	42.63	
12	43.37	42.81	43.33	42.87	43.18	42.68	43.04	43.30	42.54	42.35	42.33	42.70	
13	43.22	43.17	43.25	42.62	43.21	42.69	42.96	43.12	42.57	42.30	42.37	42.74	
14	43.13	43.16	43.24	42.54	43.15	42.71	42.87	43.28	42.61	42.34	42.41	42.69	
15	43.08	43.17	43.08	42.60	43.03	42.72	42.74	43.31	42.44	42.38	42.45	42.63	
16	43.03	42.81	42.72	42.75	42.98	42.69	42.73	43.13	42.45	42.42	42.31	42.46	
17	43.11	43.15	43.08	42.73	42.98	42.62	42.68	42.90	42.43	42.45	42.34	42.57	
18	43.26	42.99	43.42	42.82	42.98	42.64	42.86	42.93	42.43	42.38	42.48	42.75	
19	43.29	42.69	43.40	42.79	42.84	42.72	42.89	42.91	42.41	42.33	42.58	42.74	
20	43.22	43.10	43.49	42.66	42.88	42.70	42.78	42.98	42.39	42.30	43.04	42.64	
21	43.12	43.08	43.36	42.53	42.88	42.77	42.89	42.95	42.37	42.38	43.46	42.59	
22	43.23	43.08	43.14	42.85	42.88	42.92	43.02	43.01	42.33	42.41	42.64	42.60	
23	43.36	43.03	42.75	42.91	42.86	43.10	43.07	42.75	42.32	42.45	42.46	42.47	
24	43.32	43.09	43.16	42.88	42.72	43.05	43.20	42.74	42.35	42.55	42.35	42.50	
25	43.31	43.11	43.28	42.91	42.70	43.11	43.17	42.96	42.33	42.54	42.54	42.49	
26	43.31	42.93	43.27	42.94	42.75	43.10	42.97	43.03	42.37	42.39	42.59	42.56	
27	43.31	43.07	43.05	42.77	42.82	43.12	42.93	43.07	42.34	42.30	42.61	42.54	
28	42.80	43.05	42.93	42.61	42.84	43.05	43.03	43.04	42.34	42.37	42.56	42.56	
29	43.06	43.06	42.60	42.89	42.90	43.16	43.23	43.03	42.30	42.52		42.51	
30	43.11	43.16	42.48	43.07	42.88	43.09	43.24	42.95	42.26	42.52		42.52	
31		43.16		43.08	42.82		43.23		42.28	42.51		42.57	
Mean	43.22	43.07	43.11	42.76	42.89	42.84	43.02	43.04	42.50	42.38	42.50	42.61	
Max	43.38	43.56	43.49	43.08	43.21	43.21	43.24	43.31	42.86	42.55	43.46	42.82	43.56
Min	42.80	42.69	42.48	42.42	42.58	42.46	42.68	42.74	42.26	42.26	42.31	42.46	42.26

Annual Max Momentary Gage Height 43.68 M (MSL), at 2.00 Hours, on May 10, 1993
Zero Gage at Bottom Elevation 41.78 M (MSL), River Bed 41.35 M (MSL)
Left Bank Elevation 46.23 M (MSL)
Right Bank Elevation 46.49 M (MSL), Drainage Area 45677 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	271.00	216.70	197.80	51.00	241.00	141.80	192.40	235.60	147.00	32.60	73.30	71.20	
2	268.00	136.60	157.40	101.20	211.30	162.70	176.20	197.80	149.60	35.80	57.00	77.50	
3	286.25	214.00	222.10	103.40	136.60	157.40	184.30	168.10	136.60	39.00	47.00	79.60	
4	265.00	139.20	208.60	105.60	124.40	178.90	197.80	211.30	131.60	31.00	61.00	88.00	
5	295.40	124.40	247.00	94.60	94.60	152.20	219.40	208.60	129.20	26.20	53.00	139.20	
6	265.00	211.30	253.00	79.60	83.80	244.00	241.00	214.00	126.80	24.60	47.00	131.60	
7	216.70	205.90	187.00	69.10	119.60	101.20	219.40	232.90	99.00	29.40	40.60	126.80	
8	241.00	247.00	205.90	126.80	197.80	59.00	222.10	214.00	81.70	37.40	43.80	94.60	
9	214.00	350.90	176.20	170.80	216.70	75.40	224.80	197.80	90.20	51.00	45.40	77.50	
10	274.05	301.50	253.00	197.80	110.00	77.50	216.70	162.70	79.60	53.00	37.40	92.40	
11	283.20	247.00	274.05	178.90	103.40	92.40	216.70	250.00	75.40	47.00	55.00	94.60	
12	292.35	136.60	280.15	152.20	235.60	105.60	197.80	271.00	75.40	39.00	35.80	110.00	
13	247.00	232.90	256.00	92.40	244.00	107.80	176.20	219.40	81.70	31.00	42.20	119.60	
14	222.10	230.20	253.00	75.40	227.50	112.40	152.20	265.00	90.20	37.40	49.00	107.80	
15	208.60	232.90	208.60	88.00	195.10	114.80	119.60	274.05	55.00	43.80	57.00	94.60	
16	195.10	136.60	114.80	122.00	181.60	107.80	117.20	222.10	57.00	51.00	32.60	59.00	
17	216.70	227.50	208.60	117.20	181.60	92.40	105.60	160.00	53.00	57.00	37.40	81.70	
18	259.00	184.30	307.60	139.20	181.60	96.80	149.60	168.10	53.00	43.80	63.00	122.00	
19	268.00	107.80	301.50	131.60	144.40	114.80	157.40	162.70	49.00	35.80	83.80	119.60	
20	247.00	214.00	328.95	101.20	154.80	110.00	129.20	181.60	45.40	31.00	197.80	96.80	
21	219.40	208.60	289.30	73.30	154.80	126.80	157.40	173.50	42.20	43.80	319.80	85.90	
22	250.00	208.60	224.80	147.00	154.80	165.40	192.40	189.70	35.80	49.00	96.80	88.00	
23	289.30	195.10	122.00	162.70	149.60	214.00	205.90	122.00	34.20	57.00	59.00	61.00	
24	277.10	211.30	230.20	154.80	114.80	200.50	241.00	119.60	39.00	77.50	39.00	67.00	
25	274.05	216.70	265.00	162.70	110.00	216.70	232.90	176.20	35.80	75.40	75.40	65.00	
26	274.05	168.10	262.00	170.80	122.00	214.00	178.90	195.10	42.20	45.40	85.90	79.60	
27	274.05	205.90	200.50	126.80	139.20	219.40	168.10	205.90	37.40	31.00	90.20	75.40	
28	134.00	200.50	168.10	90.20	144.40	200.50	195.10	197.80	37.40	42.20	79.60	79.60	
29	203.20	203.20	88.00	157.40	160.00	230.20	250.00	195.10	31.00	71.20		69.10	
30	216.70	230.20	63.00	205.90	154.80	211.30	253.00	173.50	24.60	71.20		71.20	
31		230.20		208.60	139.20		250.00		27.80	69.10		81.70	
Total	7447.30	6375.70	6554.15	3958.20	4929.00	4403.70	5940.30	5965.15	2193.80	1409.60	2004.80	2807.60	53989.31 CMSDAY
Mean	248.24	205.67	218.47	127.68	159.00	146.79	191.62	198.84	70.77	45.47	71.60	90.57	147.92 CMS
Max	295.40	350.90	328.95	208.60	244.00	244.00	253.00	274.05	149.60	77.50	319.80	139.20	350.90 CMS
Min	134.00	107.80	63.00	51.00	83.80	59.00	105.60	119.60	24.60	24.60	32.60	59.00	24.60 CMS
Runoff	643.447	550.861	566.279	341.988	425.866	380.480	513.242	515.389	189.544	121.789	173.215	242.577	4664.677 MCM

Momentary Peak 388.70 CMS, at 43.68 M (MSL), at 2.00 Hours, on May 10, 1993

Runoff Yield 3.24 Liters/Second/Square KM, Momentary Peak Yield 8.51 Liters/Second/Square KM

WATER YEAR 1993

PING RIVER BASIN

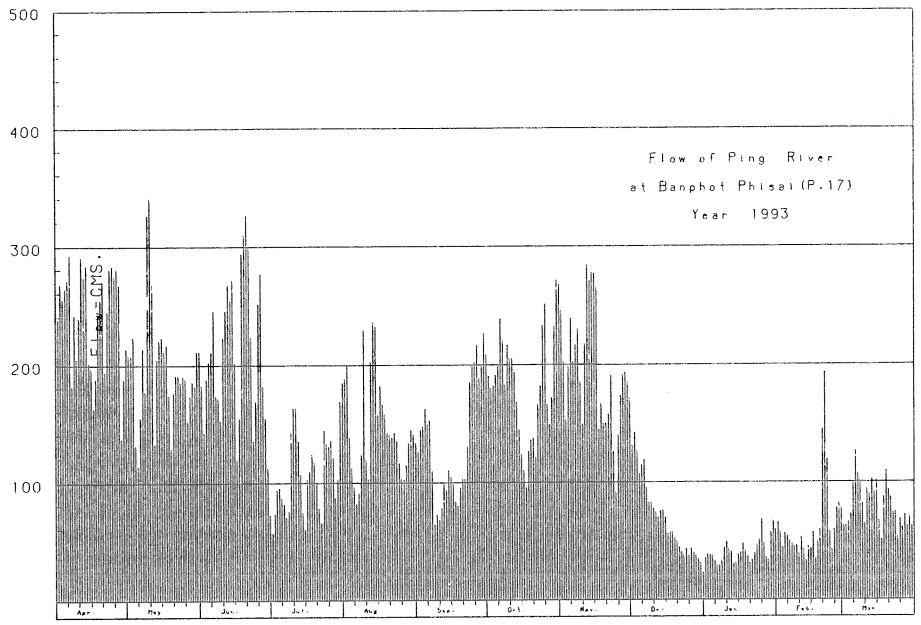
Ping River at Banphot Phisai, Nakhon Sawan (P.17)

Location	Lat. 15°-56'-02" N., Long. 99°-58'-49" E., on right bank at Som Sieo Market, Amphoe Banphot Phisai, Nakhon Sawan.
Drainage Area	45,851 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+32.00 m.(M.S.L.)
Bench Mark	B.M.-H.D.
Location	On right bank about 5.00 meters from the top staff gage.
Elevation	+37.940 m.(M.S.L.)
Gage Reading Frequency	5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1954 to date.
Rating Operation	
Period of Rating	1960, 1967 - 1974, 1990 to date.
Rated by Float	-
Rated by Current Meter	1954 - 1979, 1990 to date.
Stability of Channel Regimes	Stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Stage-discharge relation defined by 46 discharge measurements made in 1993.

Gage Height in Meter (MSL), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	35.11	35.01	34.92	34.38	34.94	34.70	34.95	35.13	34.72	34.23	34.43	34.41	
2	35.20	35.01	34.77	34.47	34.98	34.78	34.91	34.99	34.77	34.25	34.38	34.41	
3	35.16	35.06	34.94	34.56	34.75	34.79	34.92	34.81	34.70	34.25	34.30	34.43	
4	35.19	34.72	34.99	34.57	34.64	34.85	34.95	34.98	34.62	34.24	34.37	34.46	
5	35.21	34.65	35.02	34.53	34.57	34.80	34.98	35.11	34.65	34.21	34.36	34.58	
6	35.28	34.82	35.13	34.51	34.51	34.81	35.11	34.99	34.67	34.17	34.33	34.71	
7	34.92	35.03	34.89	34.45	34.55	34.63	35.05	35.04	34.57	34.18	34.32	34.62	
8	35.12	34.90	34.88	34.48	34.69	34.42	34.92	35.08	34.51	34.20	34.30	34.59	
9	35.00	35.38	34.81	34.77	35.08	34.46	35.04	34.93	34.51	34.30	34.31	34.51	
10	35.11	35.42	35.06	34.85	34.67	34.44	35.00	34.80	34.49	34.33	34.25	34.42	
11	35.27	35.20	35.13	34.85	34.60	34.49	35.00	35.04	34.47	34.28	34.35	34.56	
12	35.22	34.73	35.20	34.74	34.99	34.58	34.96	35.25	34.45	34.27	34.28	34.54	
13	35.25	35.00	35.16	34.62	35.10	34.56	34.87	35.21	34.48	34.19	34.21	34.60	
14	34.99	35.05	35.21	34.47	35.09	34.63	34.78	35.23	34.48	34.19	34.30	34.55	
15	34.97	35.06	34.99	34.40	34.83	34.61	34.69	35.23	34.45	34.25	34.29	34.59	
16	34.85	35.02	34.67	34.60	34.92	34.58	34.63	35.19	34.37	34.26	34.38	34.43	
17	34.94	35.04	34.82	34.63	34.86	34.52	34.57	34.78	34.38	34.32	34.22	34.34	
18	35.12	34.89	35.28	34.69	34.83	34.50	34.70	34.86	34.38	34.27	34.33	34.53	
19	35.16	34.71	35.33	34.66	34.77	34.57	34.74	34.80	34.35	34.24	34.39	34.63	
20	35.21	34.90	35.38	34.59	34.76	34.60	34.75	34.80	34.33	34.19	34.78	34.56	
21	34.96	34.95	35.30	34.49	34.75	34.60	34.68	34.83	34.30	34.21	34.96	34.53	
22	35.13	34.95	35.06	34.43	34.77	34.72	34.86	34.95	34.27	34.26	34.67	34.47	
23	35.24	34.93	34.74	34.78	34.74	34.93	34.92	34.70	34.24	34.31	34.38	34.47	
24	35.25	34.95	34.87	34.73	34.66	34.98	35.09	34.55	34.29	34.34	34.28	34.35	
25	35.22	34.94	35.15	34.72	34.60	34.99	35.15	34.76	34.24	34.44	34.39	34.44	
26	35.24	34.81	35.23	34.74	34.60	35.04	34.86	34.89	34.29	34.32	34.49	34.40	
27	35.20	34.89	34.92	34.68	34.65	34.94	34.80	34.95	34.26	34.23	34.51	34.46	
28	34.75	34.93	34.82	34.53	34.73	34.98	34.88	34.96	34.24	34.21	34.49	34.41	
29	34.94	34.92	34.64	34.60	34.78	35.07	35.09	34.93	34.22	34.38		34.45	
30	35.03	35.02	34.46	34.87	34.76	35.01	35.21	34.88	34.19	34.44		34.41	
31		35.02		34.93	34.73		35.20		34.13	34.39		34.42	
Mean	35.11	34.96	34.99	34.62	34.77	34.72	34.91	34.96	34.42	34.27	34.39	34.49	
Max	35.28	35.42	35.38	34.93	35.10	35.07	35.21	35.25	34.77	34.44	34.96	34.71	35.42
Min	34.75	34.65	34.46	34.38	34.51	34.42	34.57	34.55	34.13	34.17	34.21	34.34	34.13

Annual Max Momentary Gage Height 35.50 M (MSL), at 18.00 Hours, on May 16, 1993
Zero Gage at Bottom Elevation 32.00 M (MSL), River Bed 33.16 M (MSL)
Left Bank Elevation 37.97 M (MSL)
Right Bank Elevation 37.92 M (MSL), Drainage Area 45851 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	239.20	208.10	182.60	57.80	188.20	126.50	191.00	245.60	131.20	36.25	66.70	62.90	
2	268.00	208.10	142.95	74.30	199.40	145.30	179.80	202.20	142.95	38.75	57.80	62.90	
3	255.20	223.60	188.20	93.80	138.25	147.65	182.60	152.70	126.50	38.75	45.00	66.70	
4	264.80	131.20	202.20	96.10	112.40	163.50	191.00	199.40	107.70	37.50	56.20	72.40	
5	271.20	114.75	211.20	86.90	96.10	150.00	199.40	239.20	114.75	33.75	54.60	98.40	
6	293.60	155.40	245.60	82.30	82.30	152.70	239.20	202.20	119.45	28.75	49.80	128.85	
7	182.60	214.30	174.30	70.50	91.50	110.05	220.50	217.40	96.10	30.00	48.20	107.70	
8	242.40	177.00	171.60	76.20	124.15	64.80	182.60	229.80	82.30	32.50	45.00	100.70	
9	205.00	327.20	152.70	142.95	229.80	72.40	217.40	185.40	82.30	45.00	46.60	82.30	
10	239.20	341.00	223.60	163.50	119.45	68.60	205.00	150.00	78.10	49.80	38.75	64.80	
11	290.40	268.00	245.60	163.50	103.00	78.10	205.00	217.40	74.30	42.50	53.00	93.80	
12	274.40	133.55	268.00	135.90	202.20	98.40	193.80	284.00	70.50	41.25	42.50	89.20	
13	284.00	205.00	255.20	107.70	236.00	93.80	168.90	271.20	76.20	31.25	33.75	103.00	
14	202.20	220.50	271.20	74.30	232.90	110.05	145.30	277.60	76.20	31.25	45.00	91.50	
15	196.60	223.60	202.20	61.00	158.10	105.35	124.15	277.60	70.50	38.75	43.75	100.70	
16	163.50	211.20	119.45	103.00	182.60	98.40	110.05	264.80	56.20	40.00	57.80	66.70	
17	188.20	217.40	155.40	110.05	166.20	84.60	96.10	145.30	57.80	48.20	35.00	51.40	
18	242.40	174.30	293.60	124.15	158.10	80.00	126.50	166.20	57.80	41.25	49.80	86.90	
19	255.20	128.85	310.20	117.10	142.95	96.10	135.90	150.00	53.00	37.50	59.40	110.05	
20	271.20	177.00	327.20	100.70	140.60	103.00	138.25	150.00	49.80	31.25	145.30	93.80	
21	193.80	191.00	300.00	78.10	138.25	103.00	121.80	158.10	45.00	33.75	193.80	86.90	
22	245.60	191.00	223.60	66.70	142.95	131.20	166.20	191.00	41.25	40.00	119.45	74.30	
23	280.80	185.40	135.90	145.30	135.90	185.40	182.60	126.50	37.50	46.60	57.80	74.30	
24	284.00	191.00	168.90	133.55	117.10	199.40	232.90	91.50	43.75	51.40	42.50	53.00	
25	274.40	188.20	252.00	131.20	103.00	202.20	252.00	140.60	37.50	68.60	59.40	68.60	
26	280.80	152.70	277.60	135.90	103.00	217.40	166.20	174.30	43.75	48.20	78.10	61.00	
27	268.00	174.30	182.60	121.80	114.75	188.20	150.00	191.00	40.00	36.25	82.30	72.40	
28	138.25	185.40	155.40	86.90	133.55	199.40	171.60	193.80	37.50	33.75	78.10	62.90	
29	188.20	182.60	112.40	103.00	145.30	226.70	232.90	185.40	35.00	57.80		70.50	
30	214.30	211.20	72.40	168.90	140.60	208.10	271.20	171.60	31.25	68.60		62.90	
31		211.20		185.40	133.55		268.00		23.75	59.40		64.80	
Total	7197.45	6124.05	6223.80	3398.50	4512.15	4010.30	5667.85	5851.80	2139.90	1298.60	1785.40	2486.30	50696.10 CMSDAY
Mean	239.91	197.55	207.46	109.63	145.55	133.68	182.83	195.06	69.03	41.89	63.76	80.20	138.89 CMS
Max	293.60	341.00	327.20	185.40	236.00	226.70	271.20	284.00	142.95	68.60	193.80	128.85	341.00 CMS
Min	138.25	114.75	72.40	57.80	82.30	64.80	96.10	91.50	23.75	28.75	33.75	51.40	23.75 CMS
Runoff	621.860	529.118	537.736	293.630	389.850	346.490	489.702	505.596	184.887	112.199	154.259	214.816	4380.143 MCM

Momentary Peak 369.00 CMS, at 35.50 M (MSL), at 18.00 Hours, on May 16, 1993

Runoff Yield 3.03 Liters/Second/Square KM, Momentary Peak Yield 8.05 Liters/Second/Square KM

WATER YEAR 1993

PING RIVER BASIN

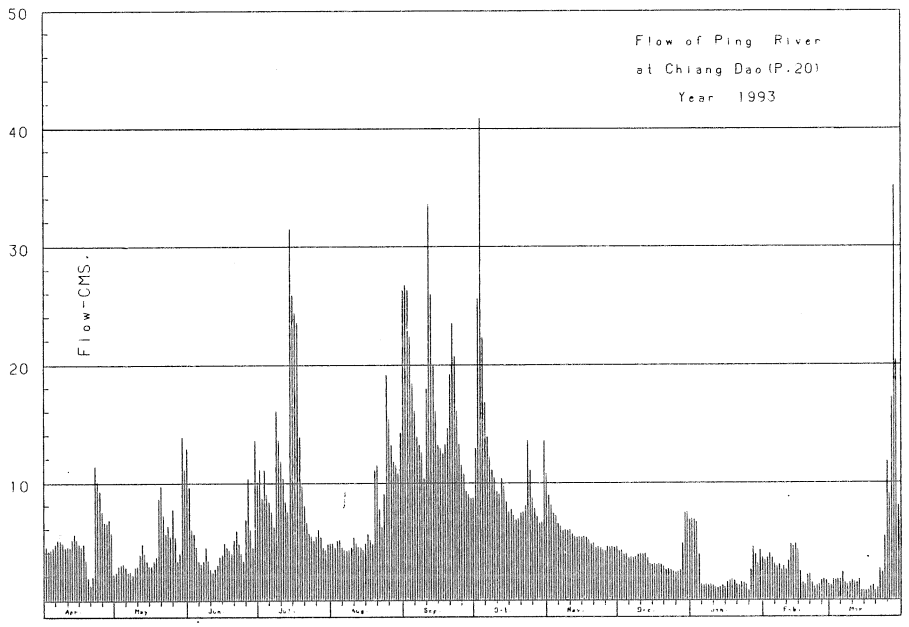
Ping River at Chiang Dao, Chiang Mai (P.20)

Location	Lat. 19°-22'-06" N., Long. 98°-58'-20" E., on right bank near Wat Inthra Ram, Amphoe Chiang Dao, Chiang Mai.
Drainage Area	1,355 sq.km.
Type of Gage	Water-stage recorder.
Zero Gage at Bottom	+0.00 m. (A.D.)
Bench Mark	B.M.-H.D.
Location	About 2 meters from automatic gage building.
Elevation	+4.133 m. (A.D.)
Gage Reading Frequency	Recording.
Basis of Mean Daily Gage Height	Arithmetic mean of 24 readings.
Period of Available Gage Records	1954 to date.
Rating Operation	
Period of Rating	1979 - 1982, 1989 to date.
Rated by Float	-
Rated by Current Meter	1979 - 1982, 1989 to date.
Stability of Channel Regimes	Stable.
Overbank Flow Conditions	NO overbank flow.
General Description	Records fair. Stage-discharge relation defined by 38 discharge measurements made in 1993.

Gage Height in Meter (A.D), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.55	0.47	0.72	0.76	0.56	1.17	0.81	0.70	0.54	0.63	0.51	0.42	
2	0.54	0.49	0.60	0.69	0.55	1.16	1.14	0.67	0.54	0.63	0.52	0.44	
3	0.54	0.50	0.59	0.76	0.57	1.06	1.51	0.65	0.53	0.62	0.53	0.44	
4	0.55	0.50	0.55	0.70	0.57	0.96	1.06	0.64	0.53	0.53	0.52	0.44	
5	0.56	0.49	0.51	0.68	0.55	0.90	0.92	0.62	0.52	0.42	0.50	0.44	
6	0.57	0.47	0.50	0.65	0.54	0.84	0.84	0.61	0.52	0.42	0.49	0.47	
7	0.57	0.47	0.51	0.61	0.54	0.82	0.79	0.60	0.52	0.42	0.50	0.43	
8	0.56	0.46	0.55	0.90	0.54	0.80	0.76	0.60	0.52	0.42	0.48	0.42	
9	0.55	0.49	0.51	0.83	0.55	0.74	0.74	0.60	0.53	0.42	0.49	0.43	
10	0.55	0.49	0.48	0.78	0.58	0.95	0.71	0.60	0.53	0.42	0.48	0.44	
11	0.55	0.53	0.47	0.74	0.56	1.34	0.70	0.59	0.53	0.41	0.51	0.43	
12	0.57	0.56	0.48	0.68	0.55	1.15	0.74	0.58	0.53	0.41	0.56	0.43	
13	0.59	0.53	0.50	0.65	0.55	1.00	0.72	0.58	0.52	0.41	0.55	0.44	
14	0.57	0.51	0.52	1.29	0.54	0.90	0.68	0.58	0.50	0.42	0.56	0.40	
15	0.56	0.49	0.53	1.15	0.56	0.82	0.65	0.58	0.50	0.41	0.54	0.39	
16	0.55	0.49	0.56	1.11	0.59	0.81	0.66	0.58	0.50	0.43	0.47	0.39	
17	0.56	0.51	0.55	1.09	0.57	0.80	0.64	0.58	0.50	0.44	0.43	0.40	
18	0.51	0.52	0.54	0.84	0.56	0.82	0.63	0.57	0.50	0.44	0.42	0.41	
19	0.45	0.69	0.53	0.72	0.76	0.86	0.63	0.56	0.50	0.44	0.46	0.42	
20	0.42	0.72	0.57	0.67	0.77	0.98	0.65	0.56	0.49	0.42	0.46	0.39	
21	0.45	0.64	0.60	0.62	0.66	1.09	0.65	0.55	0.48	0.42	0.43	0.41	
22	0.77	0.59	0.56	0.59	0.61	1.02	0.67	0.55	0.48	0.43	0.41	0.48	
23	0.73	0.61	0.53	0.58	0.70	0.90	0.83	0.55	0.48	0.43	0.42	0.47	
24	0.71	0.58	0.51	0.57	0.98	0.82	0.76	0.54	0.47	0.42	0.42	0.58	
25	0.65	0.66	0.63	0.58	0.88	0.77	0.69	0.54	0.47	0.40	0.44	0.78	
26	0.62	0.58	0.74	0.60	0.82	0.75	0.66	0.55	0.47	0.48	0.44	0.70	
27	0.62	0.51	0.60	0.58	0.78	0.71	0.64	0.55	0.48	0.55	0.44	0.93	
28	0.63	0.53	0.55	0.55	0.77	0.70	0.62	0.55	0.56	0.53	0.42	1.38	
29	0.59	0.84	0.83	0.54	0.75	0.69	0.62	0.55	0.65	0.50		1.01	
30	0.46	0.76	0.73	0.56	0.85	0.69	0.83	0.55	0.65	0.54		0.67	
31		0.81		0.56	1.16		0.75		0.63	0.52		0.57	
Mean	0.57	0.56	0.57	0.73	0.66	0.90	0.76	0.58	0.52	0.46	0.48	0.53	
Max	0.77	0.84	0.83	1.29	1.16	1.34	1.51	0.70	0.65	0.63	0.56	1.38	1.51
Min	0.42	0.46	0.47	0.54	0.54	0.69	0.62	0.54	0.47	0.40	0.41	0.39	0.39

Annual Max Momentary Gage Height 1.76 M (A.D), at 5.00 Hours, on Oct 3, 1993
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed -0.77 M (A.D)
Left Bank Elevation 5.88 M (A.D)
Right Bank Elevation 5.78 M (A.D), Drainage Area 1355 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	4.55	2.44	9.71	11.13	4.84	26.80	12.91	9.00	4.26	6.90	3.39	1.34	
2	4.26	2.88	6.00	8.70	4.55	26.40	25.60	8.10	4.26	6.90	3.68	1.78	
3	4.26	3.10	5.71	11.13	5.13	22.40	40.95	7.50	3.97	6.60	3.97	1.78	
4	4.55	3.10	4.55	9.00	5.13	18.44	22.40	7.20	3.97	3.97	3.68	1.78	
5	4.84	2.88	3.39	8.40	4.55	16.10	16.88	6.60	3.68	1.34	3.10	1.78	
6	5.13	2.44	3.10	7.50	4.26	13.97	13.97	6.30	3.68	1.34	2.88	2.44	
7	5.13	2.44	3.39	6.30	4.26	13.26	12.20	6.00	3.68	1.34	3.10	1.56	
8	4.84	2.22	4.55	16.10	4.26	12.55	11.13	6.00	3.68	1.34	2.66	1.34	
9	4.55	2.88	3.39	13.62	4.55	10.42	10.42	6.00	3.97	1.34	2.88	1.56	
10	4.55	2.88	2.66	11.84	5.42	18.05	9.35	6.00	3.97	1.34	2.66	1.78	
11	4.55	3.97	2.44	10.42	4.84	33.60	9.00	5.71	3.97	1.12	3.39	1.56	
12	5.13	4.84	2.66	8.40	4.55	26.00	10.42	5.42	3.97	1.12	4.84	1.56	
13	5.71	3.97	3.10	7.50	4.55	20.00	9.71	5.42	3.68	1.12	4.55	1.78	
14	5.13	3.39	3.68	31.60	4.26	16.10	8.40	5.42	3.10	1.34	4.84	0.90	
15	4.84	2.88	3.97	26.00	4.84	13.26	7.50	5.42	3.10	1.12	4.26	0.81	
16	4.55	2.88	4.84	24.40	5.71	12.91	7.80	5.42	3.10	1.56	2.44	0.81	
17	4.84	3.39	4.55	23.60	5.13	12.55	7.20	5.42	3.10	1.78	1.56	0.90	
18	3.39	3.68	4.26	13.97	4.84	13.26	6.90	5.13	3.10	1.78	1.34	1.12	
19	2.00	8.70	3.97	9.71	11.13	14.68	6.90	4.84	3.10	1.78	2.22	1.34	
20	1.34	9.71	5.13	8.10	11.48	19.22	7.50	4.84	2.88	1.34	2.22	0.81	
21	2.00	7.20	6.00	6.60	7.80	23.60	7.50	4.55	2.66	1.34	1.56	1.12	
22	11.48	5.71	4.84	5.71	6.30	20.80	8.10	4.55	2.66	1.56	1.12	2.66	
23	10.07	6.30	3.97	5.42	9.00	16.10	13.62	4.55	2.66	1.56	1.34	2.44	
24	9.35	5.42	3.39	5.13	19.22	13.26	11.13	4.26	2.44	1.34	1.34	5.42	
25	7.50	7.80	6.90	5.42	15.39	11.48	8.70	4.26	2.44	0.90	1.78	11.84	
26	6.60	5.42	10.42	6.00	13.26	10.78	7.80	4.55	2.44	2.66	1.78	9.00	
27	6.60	3.39	6.00	5.42	11.84	9.35	7.20	4.55	2.66	4.55	1.78	17.27	
28	6.90	3.97	4.55	4.55	11.48	9.00	6.60	4.55	4.84	3.97	1.34	35.20	
29	5.71	13.97	13.62	4.26	10.78	8.70	6.60	4.55	7.50	3.10		20.40	
30	2.22	11.13	10.07	4.84	14.33	8.70	13.62	4.55	7.50	4.26		8.10	
31		12.91		4.84	26.40		10.78		6.90	3.68		5.13	
Total	156.57	157.89	154.81	325.61	254.08	491.74	358.79	166.66	116.92	75.39	75.70	147.31	2481.47 CMSDAY
Mean	5.22	5.09	5.16	10.50	8.20	16.39	11.57	5.56	3.77	2.43	2.70	4.75	6.80 CMS
Max	11.48	13.97	13.62	31.60	26.40	33.60	40.95	9.00	7.50	6.90	4.84	35.20	40.95 CMS
Min	1.34	2.22	2.44	4.26	4.26	8.70	6.60	4.26	2.44	0.90	1.12	0.81	0.81 CMS
Runoff	13.528	13.642	13.376	28.133	21.953	42.486	30.999	14.399	10.102	6.514	6.540	12.728	214.399 MCM

Momentary Peak 53.40 CMS, at 1.76 M (A.D), at 5.00 Hours, on Oct 3, 1993

Runoff Yield 5.02 Liters/Second/Square KM, Momentary Peak Yield 39.41 Liters/Second/Square KM

WATER YEAR 1993

PING RIVER BASIN

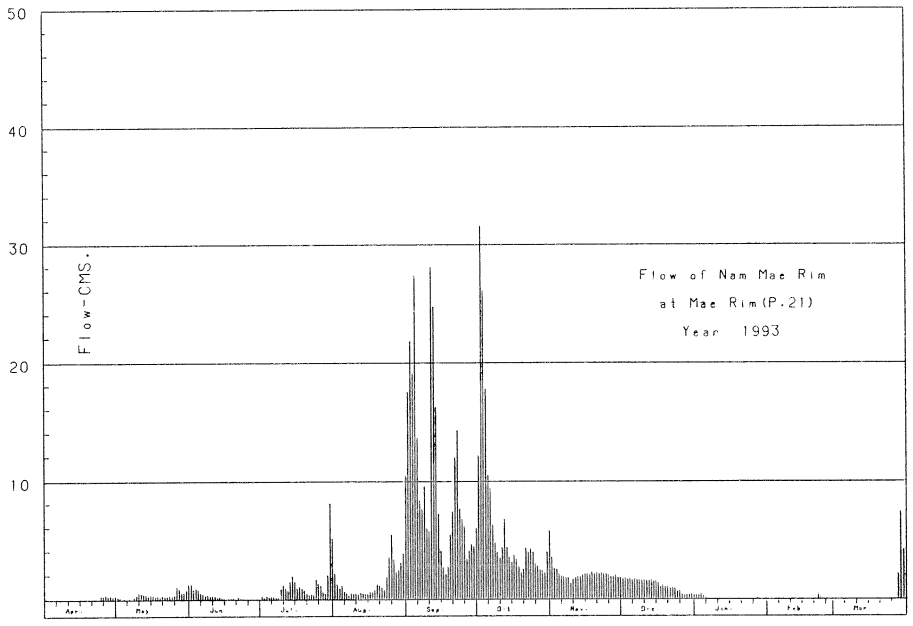
Nam Mae Rim at Mae Rim, Chiang Mai (P.21)

Location	Lat. 18°-55'-29" N., Long. 98°-56'-34" E., on right bank about 100 meters downstream from the bridge of Chiang Mai-Fang Highway, Amphoe Mae Rim, Chiang Mai.
Drainage Area	515 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+319.70 m.(M.S.L.)
Bench Mark	B.M.-H.D.
Location	B.M.1 in the vicinity of gage observer's house. B.M.2 on left bank at the abutment of the bridge.
Elevation	B.M.1 = +323.982 m.(M.S.L.), B.M.2 = +323.562 m.(M.S.L.)
Gage Reading Frequency	5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1954 to date.
Rating Operation	
Period of Rating	1954-1960, 1977 to date.
Rated by Float	-
Rated by Current Meter	1954-1960, 1977 to date.
Stability of Channel Regimes	Stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Stage-discharge relation defined by 46 discharge measurements made in 1993.

Gage Height in Meter (MSL), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	319.77	320.08	320.42	320.09	320.55	321.74	321.42	320.70	320.50	320.15	319.90	319.78	
2	319.77	319.98	320.33	320.04	320.41	321.97	322.41	320.60	320.50	320.19	319.89	319.77	
3	319.77	319.94	320.36	320.11	320.36	321.83	322.17	320.60	320.49	320.21	319.89	319.77	
4	319.76	319.88	320.33	320.08	320.39	322.23	321.76	320.54	320.49	320.15	319.88	319.77	
5	319.77	319.85	320.27	320.11	320.31	321.52	321.32	320.53	320.48	320.03	319.90	319.77	
6	319.77	319.85	320.21	320.06	320.23	321.16	321.24	320.51	320.48	319.99	319.94	319.78	
7	319.76	319.89	320.18	320.05	320.20	321.10	320.98	320.51	320.48	319.96	319.88	319.78	
8	319.76	319.96	320.17	320.02	320.23	321.26	320.83	320.50	320.47	319.95	319.86	319.81	
9	319.78	320.19	320.15	320.35	320.24	320.95	320.74	320.43	320.47	319.96	319.86	319.79	
10	319.78	320.25	320.12	320.40	320.24	320.92	320.70	320.48	320.47	319.89	319.84	319.77	
11	319.79	320.25	320.11	320.35	320.20	322.26	320.78	320.51	320.47	319.88	319.83	319.76	
12	319.79	320.23	320.08	320.32	320.28	322.11	321.02	320.51	320.47	319.92	319.83	319.77	
13	319.78	320.18	320.05	320.45	320.25	321.67	320.79	320.52	320.47	319.89	319.82	319.76	
14	319.79	320.15	320.03	320.53	320.21	321.07	320.70	320.53	320.46	319.99	319.82	319.76	
15	319.77	320.16	319.98	320.46	320.24	320.76	320.66	320.55	320.45	319.98	319.81	319.76	
16	319.78	320.13	319.96	320.35	320.28	320.61	320.72	320.54	320.43	319.95	319.81	319.75	
17	319.78	320.11	319.95	320.37	320.30	320.55	320.68	320.54	320.38	319.96	319.81	319.81	
18	319.77	320.10	320.00	320.36	320.32	320.62	320.62	320.56	320.39	319.92	319.80	319.77	
19	319.76	320.08	319.93	320.32	320.42	320.89	320.56	320.55	320.38	319.89	319.80	319.89	
20	319.74	320.12	319.88	320.26	320.39	321.08	320.59	320.55	320.37	319.89	319.80	319.81	
21	319.76	320.11	320.12	320.17	320.36	321.41	320.78	320.55	320.36	319.87	319.79	319.78	
22	319.78	320.13	320.01	320.23	320.33	321.56	320.75	320.56	320.36	319.87	320.23	319.77	
23	319.82	320.13	319.86	320.17	320.52	321.11	320.77	320.54	320.34	319.89	320.09	319.76	
24	320.14	320.13	319.85	320.49	320.70	321.02	320.75	320.55	320.31	319.90	319.82	319.75	
25	320.12	320.16	319.84	320.42	320.90	320.96	320.64	320.53	320.31	319.92	319.80	319.75	
26	320.15	320.37	319.83	320.40	320.68	320.69	320.62	320.51	320.19	319.95	319.80	319.75	
27	320.13	320.35	319.97	320.30	320.56	320.76	320.59	320.52	320.17	319.95	319.80	319.81	
28	320.12	320.27	319.95	320.22	320.59	320.81	320.58	320.53	320.16	319.95	319.78	320.55	
29	320.11	320.24	319.90	320.54	320.65	320.79	320.56	320.51	320.20	319.95		321.08	
30	320.10	320.33	319.93	321.15	320.74	320.95	320.75	320.50	320.19	319.94		320.77	
31		320.41		320.86	321.32		320.93		320.18	319.94		320.54	
Mean	319.86	320.13	320.06	320.32	320.43	321.21	320.92	320.54	320.38	319.96	319.86	319.90	
Max	320.15	320.41	320.42	321.15	321.32	322.26	322.41	320.70	320.50	320.21	320.23	321.08	322.41
Min	319.74	319.85	319.83	320.02	320.20	320.55	320.56	320.43	320.16	319.87	319.78	319.75	319.74

Annual Max Momentary Gage Height 322.47 M (MSL), at 9.00 Hours, on Oct 2, 1993
Zero Gage at Bottom Elevation 319.70 M (MSL), River Bed 319.70 M (MSL)
Left Bank Elevation 322.59 M (MSL)
Right Bank Elevation 323.11 M (MSL), Drainage Area 515 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.02	0.25	1.34	0.26	2.20	17.52	12.12	3.55	1.80	0.35	0.07	0.02	
2	0.02	0.13	0.83	0.20	1.28	21.90	31.64	2.60	1.80	0.41	0.07	0.02	
3	0.02	0.10	1.00	0.29	1.00	19.17	26.07	2.60	1.74	0.45	0.07	0.02	
4	0.02	0.06	0.83	0.25	1.17	27.39	17.88	2.12	1.74	0.35	0.06	0.02	
5	0.02	0.05	0.60	0.29	0.73	13.72	10.52	2.04	1.68	0.19	0.07	0.02	
6	0.02	0.05	0.45	0.22	0.50	8.32	9.36	1.88	1.68	0.14	0.10	0.02	
7	0.02	0.07	0.40	0.21	0.43	7.60	6.35	1.88	1.68	0.12	0.06	0.02	
8	0.02	0.12	0.38	0.17	0.50	9.64	4.85	1.80	1.63	0.11	0.05	0.03	
9	0.02	0.41	0.35	0.95	0.53	6.05	3.95	1.39	1.63	0.12	0.05	0.03	
10	0.02	0.55	0.30	1.22	0.53	5.75	3.55	1.68	1.63	0.07	0.05	0.02	
11	0.03	0.55	0.29	0.95	0.43	28.08	4.35	1.88	1.63	0.06	0.04	0.02	
12	0.03	0.50	0.25	0.78	0.62	24.81	6.76	1.88	1.63	0.09	0.04	0.02	
13	0.02	0.40	0.21	1.51	0.55	16.26	4.45	1.96	1.63	0.07	0.04	0.02	
14	0.03	0.35	0.19	2.04	0.45	7.29	3.55	2.04	1.57	0.14	0.04	0.02	
15	0.02	0.37	0.13	1.57	0.53	4.15	3.17	2.20	1.51	0.13	0.03	0.02	
16	0.02	0.32	0.12	0.95	0.62	2.69	3.75	2.12	1.39	0.11	0.03	0.02	
17	0.02	0.29	0.11	1.06	0.67	2.20	3.36	2.12	1.11	0.12	0.03	0.03	
18	0.02	0.27	0.15	1.00	0.78	2.79	2.79	2.28	1.17	0.09	0.03	0.02	
19	0.02	0.25	0.09	0.78	1.34	5.45	2.28	2.20	1.11	0.07	0.03	0.07	
20	0.01	0.30	0.06	0.57	1.17	7.39	2.52	2.20	1.06	0.07	0.03	0.03	
21	0.02	0.29	0.30	0.38	1.00	11.96	4.35	2.20	1.00	0.06	0.03	0.02	
22	0.02	0.32	0.16	0.50	0.83	14.36	4.05	2.28	1.00	0.06	0.50	0.02	
23	0.04	0.32	0.05	0.38	1.96	7.72	4.25	2.12	0.89	0.07	0.26	0.02	
24	0.33	0.32	0.05	1.74	3.55	6.76	4.05	2.20	0.73	0.07	0.04	0.02	
25	0.30	0.37	0.05	1.34	5.55	6.15	2.98	2.04	0.73	0.09	0.03	0.02	
26	0.35	1.06	0.04	1.22	3.36	3.45	2.79	1.88	0.41	0.11	0.03	0.02	
27	0.32	0.95	0.13	0.67	2.28	4.15	2.52	1.96	0.38	0.11	0.03	0.03	
28	0.30	0.60	0.11	0.48	2.52	4.65	2.44	2.04	0.37	0.11	0.02	2.20	
29	0.29	0.53	0.07	2.12	3.07	4.45	2.28	1.88	0.43	0.11		7.39	
30	0.27	0.83	0.09	8.20	3.95	6.05	4.05	1.80	0.41	0.10		4.25	
31		1.28		5.15	10.52		5.85		0.40	0.10		2.12	
Total	2.66	12.26	9.13	37.45	54.62	307.87	202.88	62.82	37.57	4.25	1.93	16.60	750.04 CMSDAY
Mean	0.09	0.40	0.30	1.21	1.76	10.26	6.54	2.09	1.21	0.14	0.07	0.54	2.05 CMS
Max	0.35	1.28	1.34	8.20	10.52	28.08	31.64	3.55	1.80	0.45	0.50	7.39	31.64 CMS
Min	0.01	0.05	0.04	0.17	0.43	2.20	2.28	1.39	0.37	0.06	0.02	0.02	0.01 CMS
Runoff	0.230	1.059	0.789	3.236	4.719	26.600	17.529	5.428	3.246	0.367	0.167	1.434	64.803 MCM

Momentary Peak 33.08 CMS, at 322.47 M (MSL), at 9.00 Hours, on Oct 2, 1993

Runoff Yield 3.99 Liters/Second/Square KM, Momentary Peak Yield 64.23 Liters/Second/Square KM

WATER YEAR 1993

PING RIVER BASIN

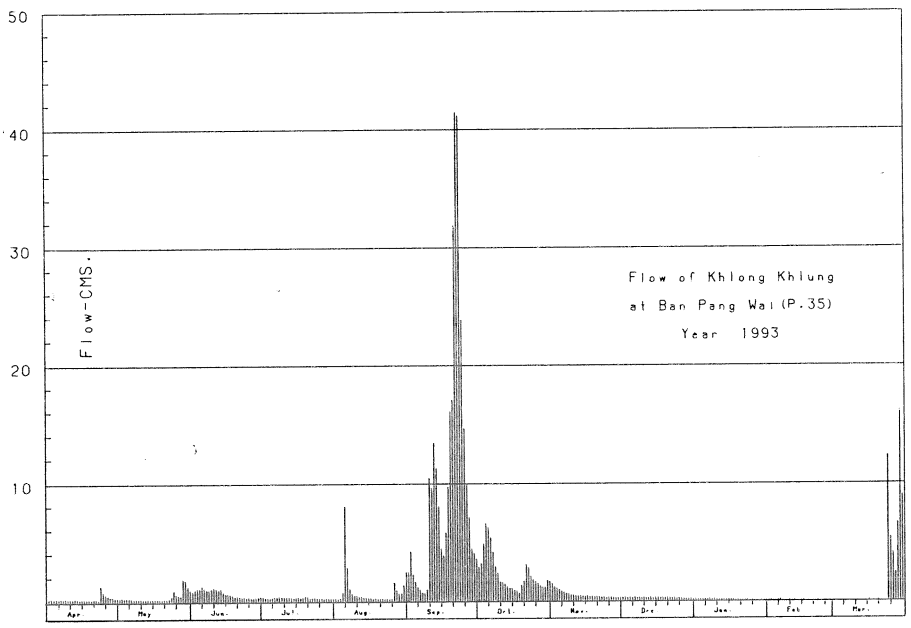
Khlong Khlung at Ban Pang Wai, Kamphaeng Phet (P.35)

Location	Lat. 16°-04'-22" N., Long. 99°-24'-18" E., on right bank at Ban Pang Wai about 1.5 kilometers from Khao Song Phi Nong, Amphoe Khlong Khlung, Kamphaeng Phet.
Drainage Area	730 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+0.00 m. (A.D.)
Bench Mark	B.M.-H.D.
Location	On right bank about 34 meters from the top staff gage.
Elevation	+4.502 m. (A.D.)
Gage Reading Frequency	13-time daily readings at 06.00 - 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 13 readings.
Period of Available Gage Records	1974 to date.
Rating Operation	
Period of Rating	1974 to date.
Rated by Float	-
Rated by Current Meter	1974 to date.
Stability of Channel Regimes	Stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Stage-discharge relation defined by 61 discharge measurements made in 1993.

Gage Height in Meter (A.D), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	-0.04	-0.02	0.22	0.01	-0.05	0.70	0.78	0.44	-0.03	-0.10	-0.13	-0.21	
2	-0.04	-0.02	0.28	-0.01	-0.06	0.99	0.84	0.36	-0.03	-0.10	-0.13	-0.21	
3	-0.05	-0.03	0.31	-0.02	-0.05	0.67	1.08	0.31	-0.04	-0.10	-0.13	-0.22	
4	-0.05	-0.04	0.32	-0.02	0.21	0.50	1.31	0.28	-0.04	-0.10	-0.13	-0.22	
5	-0.05	-0.05	0.39	-0.01	1.48	0.35	1.27	0.23	-0.04	-0.10	-0.13	-0.22	
6	-0.05	-0.05	0.32	0.01	0.78	0.27	1.16	0.19	-0.03	-0.10	-0.13	-0.23	
7	-0.05	-0.06	0.29	0.01	0.31	0.20	0.98	0.15	-0.04	-0.10	-0.14	-0.24	
8	-0.05	-0.06	0.26	0.02	0.14	0.15	0.80	0.13	-0.04	-0.10	-0.13	-0.24	
9	-0.06	-0.06	0.31	0.02	0.08	0.29	0.68	0.09	-0.04	-0.11	-0.13	-0.27	
10	-0.06	-0.07	0.34	0.01	0.06	1.72	0.50	0.07	-0.04	-0.11	-0.13	-0.28	
11	-0.05	-0.07	0.31	0.01	0.03	1.63	0.47	0.05	-0.04	-0.11	-0.13	-0.29	
12	-0.05	-0.07	0.28	0.01	0.02	1.97	0.44	0.05	-0.04	-0.11	-0.13	-0.30	
13	-0.06	-0.07	0.30	-0.01	0.00	1.80	0.35	0.05	-0.04	-0.11	-0.14	-0.27	
14	-0.07	-0.08	0.22	-0.01	-0.03	1.48	0.32	0.04	-0.04	-0.11	-0.15	-0.27	
15	-0.07	-0.08	0.14	0.00	-0.03	1.02	0.30	0.03	-0.04	-0.11	-0.16	-0.13	
16	-0.07	-0.08	0.14	-0.01	-0.04	0.94	0.26	0.03	-0.04	-0.11	-0.16	-0.14	
17	-0.07	-0.08	0.13	-0.02	-0.06	1.22	0.23	0.02	-0.04	-0.12	-0.16	-0.15	
18	-0.08	-0.08	0.07	-0.01	-0.06	1.64	0.18	0.01	-0.04	-0.12	-0.17	-0.15	
19	-0.08	-0.08	0.05	0.05	-0.07	2.15	0.39	0.01	-0.04	-0.12	-0.17	-0.16	
20	-0.07	-0.07	0.04	0.02	-0.07	2.21	0.52	0.00	-0.04	-0.12	-0.17	-0.16	
21	-0.07	-0.07	0.03	-0.02	-0.07	2.95	0.82	0.00	-0.05	-0.12	-0.17	-0.17	
22	-0.08	-0.06	0.01	-0.02	-0.07	3.29	0.78	-0.01	-0.05	-0.13	-0.18	-0.18	
23	0.40	0.04	0.01	-0.03	-0.07	3.28	0.63	-0.02	-0.06	-0.13	-0.18	-0.16	
24	0.22	0.26	0.00	-0.03	-0.07	2.60	0.57	-0.02	-0.06	-0.13	-0.18	1.88	
25	0.12	0.13	-0.01	-0.04	-0.08	2.05	0.49	-0.03	-0.07	-0.13	-0.19	1.16	
26	0.09	0.08	-0.01	-0.04	0.49	1.67	0.44	-0.03	-0.07	-0.13	-0.19	0.96	
27	0.04	0.07	-0.02	-0.05	0.27	1.38	0.38	-0.03	-0.08	-0.14	-0.20	0.69	
28	0.02	0.58	-0.02	-0.05	0.14	1.02	0.33	-0.04	-0.09	-0.14	-0.20	1.32	
29	0.00	0.54	0.01	-0.05	0.18	0.97	0.35	-0.04	-0.09	-0.13		2.15	
30	-0.03	0.38	0.02	-0.05	0.39	0.89	0.54	-0.04	-0.09	-0.13		1.57	
31		0.27		-0.05	0.70		0.50		-0.10	-0.13		1.05	
Mean	-0.02	0.03	0.16	-0.01	0.14	1.40	0.60	0.08	-0.05	-0.12	-0.16	0.19	
Max	0.40	0.58	0.39	0.05	1.48	3.29	1.31	0.44	-0.03	-0.10	-0.13	2.15	3.29
Min	-0.08	-0.08	-0.02	-0.05	-0.08	0.15	0.18	-0.04	-0.10	-0.14	-0.20	-0.30	-0.30

Annual Max Momentary Gage Height 3.35 M (A.D), at 12.00 Hours, on Sep 23, 1993
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed -0.08 M (A.D)
Left Bank Elevation 12.00 M (A.D)
Right Bank Elevation 4.51 M (A.D), Drainage Area 730 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.32	0.36	0.86	0.42	0.30	2.50	2.90	1.52	0.34	0.20	0.14	0.00	
2	0.32	0.36	1.04	0.38	0.28	4.28	3.27	1.28	0.34	0.20	0.14	0.00	
3	0.30	0.34	1.13	0.36	0.30	2.35	4.89	1.13	0.32	0.20	0.14	0.00	
4	0.30	0.32	1.16	0.36	0.83	1.70	6.58	1.04	0.32	0.20	0.14	0.00	
5	0.30	0.30	1.37	0.38	8.10	1.25	6.26	0.89	0.32	0.20	0.14	0.00	
6	0.30	0.30	1.16	0.42	2.90	1.01	5.43	0.78	0.34	0.20	0.14	0.00	
7	0.30	0.28	1.07	0.42	1.13	0.80	4.22	0.70	0.32	0.20	0.12	0.00	
8	0.30	0.28	0.98	0.44	0.68	0.70	3.00	0.66	0.32	0.20	0.14	0.00	
9	0.28	0.28	1.13	0.44	0.56	1.07	2.40	0.58	0.32	0.18	0.14	0.00	
10	0.28	0.26	1.22	0.42	0.52	10.50	1.70	0.54	0.32	0.18	0.14	0.00	
11	0.30	0.26	1.13	0.42	0.46	9.60	1.61	0.50	0.32	0.18	0.14	0.00	
12	0.30	0.26	1.04	0.42	0.44	13.51	1.52	0.50	0.32	0.18	0.14	0.00	
13	0.28	0.26	1.10	0.38	0.40	11.30	1.25	0.50	0.32	0.18	0.12	0.00	
14	0.26	0.24	0.86	0.38	0.34	8.10	1.16	0.48	0.32	0.18	0.10	0.00	
15	0.26	0.24	0.68	0.40	0.34	4.48	1.10	0.46	0.32	0.18	0.08	0.14	
16	0.26	0.24	0.68	0.38	0.32	3.94	0.98	0.46	0.32	0.18	0.08	0.12	
17	0.26	0.24	0.66	0.36	0.28	5.86	0.89	0.44	0.32	0.16	0.08	0.10	
18	0.24	0.24	0.54	0.38	0.28	9.70	0.76	0.42	0.32	0.16	0.06	0.10	
19	0.24	0.24	0.50	0.50	0.26	16.15	1.37	0.42	0.32	0.16	0.06	0.08	
20	0.26	0.26	0.48	0.44	0.26	17.06	1.76	0.40	0.32	0.16	0.06	0.08	
21	0.26	0.26	0.46	0.36	0.26	31.85	3.13	0.40	0.30	0.16	0.06	0.06	
22	0.24	0.28	0.42	0.36	0.26	41.51	2.90	0.38	0.30	0.14	0.04	0.04	
23	1.40	0.48	0.42	0.34	0.26	41.22	2.15	0.36	0.28	0.14	0.04	0.08	
24	0.86	0.98	0.40	0.34	0.26	23.90	1.91	0.36	0.28	0.14	0.04	12.34	
25	0.64	0.66	0.38	0.32	0.24	14.65	1.67	0.34	0.26	0.14	0.02	5.43	
26	0.58	0.56	0.38	0.32	1.67	10.00	1.52	0.34	0.26	0.14	0.02	4.08	
27	0.48	0.54	0.36	0.30	1.01	7.14	1.34	0.34	0.24	0.12	0.00	2.45	
28	0.44	1.94	0.36	0.30	0.68	4.48	1.19	0.32	0.22	0.12	0.00	6.66	
29	0.40	1.82	0.42	0.30	0.76	4.15	1.25	0.32	0.22	0.14		16.15	
30	0.34	1.34	0.44	0.30	1.37	3.61	1.82	0.32	0.22	0.14		9.00	
31		1.01		0.30	2.50		1.70		0.20	0.14		4.69	
Total	11.30	15.43	22.83	11.64	28.25	308.37	73.63	17.18	9.24	5.20	2.52	61.60	567.19 CMSDAY
Mean	0.38	0.50	0.76	0.38	0.91	10.28	2.38	0.57	0.30	0.17	0.09	1.99	1.55 CMS
Max	1.40	1.94	1.37	0.50	8.10	41.51	6.58	1.52	0.34	0.20	0.14	16.15	41.51 CMS
Min	0.24	0.24	0.36	0.30	0.24	0.70	0.76	0.32	0.20	0.12	0.00	0.00	0.00 CMS
Runoff	0.976	1.333	1.973	1.006	2.441	26.643	6.362	1.484	0.798	0.449	0.218	5.322	49.005 MCM

Momentary Peak 43.25 CMS, at 3.35 M (A.D), at 12.00 Hours, on Sep 23, 1993

Runoff Yield 2.13 Liters/Second/Square KM, Momentary Peak Yield 59.25 Liters/Second/Square KM

WATER YEAR 1993

PING RIVER BASIN

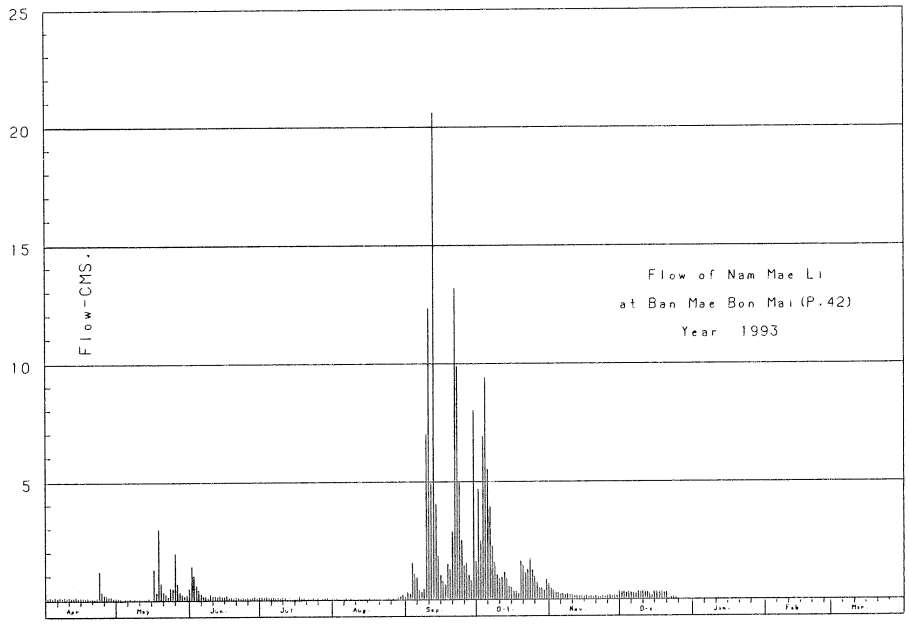
Nam Mae Li at Ban Mae Bon Mai, Lamphun (P.42)

Location	Lat. 17°-53'-16" N., Long. 99°-05'-20" E., on right bank at Ban Mae Bon Mai, King Amphoe Thung Hua Chang, Lamphun.
Drainage Area	315 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+500.10 m. (M.S.L.)
Bench Mark	B.M.-H.D.
Location	On right bank at the top staff gage.
Elevation	+505.708 m. (M.S.L.)
Gage Reading Frequency	5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1978 to date.
Rating Operation	
Period of Rating	1978 to date.
Rated by Float	-
Rated by Current Meter	1978 to date.
Stability of Channel Regimes	Fairly stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Stage-discharge relation defined by 47 discharge measurements made in 1993.

Gage Height in Meter (MSL), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	500.45	500.44	500.98	500.44	500.42	500.56	501.69	500.66	500.57	500.38	500.38	500.26	
2	500.45	500.42	500.84	500.46	500.42	500.55	501.24	500.60	500.57	500.38	500.38	500.25	
3	500.45	500.40	500.72	500.46	500.41	501.02	501.98	500.58	500.56	500.38	500.38	500.25	
4	500.45	500.40	500.62	500.46	500.41	500.86	502.25	500.55	500.56	500.38	500.37	500.24	
5	500.45	500.42	500.56	500.45	500.41	500.82	501.81	500.53	500.56	500.37	500.38	500.23	
6	500.45	500.42	500.50	500.44	500.41	500.61	501.56	500.52	500.53	500.37	500.38	500.23	
7	500.45	500.41	500.47	500.44	500.41	500.59	501.20	500.51	500.54	500.37	500.38	500.22	
8	500.45	500.41	500.46	500.44	500.41	500.63	501.01	500.51	500.58	500.37	500.37	500.22	
9	500.45	500.40	500.52	500.44	500.41	501.99	500.85	500.51	500.58	500.37	500.37	500.21	
10	500.45	500.40	500.50	500.44	500.40	502.53	500.79	500.50	500.58	500.37	500.37	500.21	
11	500.45	500.42	500.49	500.44	500.40	501.73	500.82	500.49	500.58	500.37	500.37	500.21	
12	500.45	500.42	500.49	500.44	500.40	503.17	500.89	500.48	500.58	500.37	500.37	500.18	
13	500.45	500.42	500.49	500.43	500.40	501.58	500.79	500.48	500.52	500.37	500.37	500.16	
14	500.44	500.42	500.49	500.43	500.40	501.10	500.70	500.48	500.50	500.37	500.36	500.14	
15	500.44	500.43	500.49	500.42	500.40	500.85	500.66	500.47	500.57	500.37	500.33	500.12	
16	500.44	500.94	500.49	500.42	500.40	500.76	500.60	500.47	500.57	500.36	500.31	500.12	
17	500.44	500.59	500.46	500.47	500.40	500.72	500.58	500.47	500.57	500.36	500.32	500.12	
18	500.44	501.36	500.44	500.43	500.40	501.00	500.55	500.46	500.57	500.36	500.32	500.12	
19	500.43	500.74	500.44	500.43	500.41	500.92	501.04	500.46	500.56	500.36	500.32	500.11	
20	500.43	500.60	500.44	500.42	500.41	501.33	500.97	500.46	500.55	500.36	500.32	500.10	
21	500.43	500.53	500.44	500.42	500.40	502.61	500.88	500.46	500.42	500.36	500.32	500.10	
22	500.43	500.49	500.44	500.42	500.40	502.30	500.91	500.46	500.44	500.36	500.31	500.10	
23	500.91	500.66	500.44	500.42	500.41	501.73	501.07	500.47	500.44	500.36	500.31	500.10	
24	500.58	500.67	500.44	500.42	500.41	501.26	500.92	500.47	500.43	500.36	500.30	500.10	
25	500.53	501.14	500.44	500.42	500.41	500.98	500.82	500.47	500.42	500.37	500.32	500.10	
26	500.50	500.73	500.44	500.43	500.40	501.00	500.75	500.48	500.39	500.38	500.30	500.10	
27	500.48	500.60	500.46	500.43	500.40	500.85	500.66	500.49	500.38	500.37	500.30	500.10	
28	500.46	500.52	500.45	500.43	500.46	500.76	500.64	500.49	500.38	500.38	500.27	500.10	
29	500.44	500.50	500.45	500.43	500.49	502.10	500.62	500.49	500.38	500.38		500.35	
30	500.44	500.51	500.44	500.42	500.50	501.04	500.78	500.57	500.37	500.38		500.44	
31		500.65		500.42	500.46		500.72		500.36	500.38		500.39	
Mean	500.47	500.56	500.51	500.43	500.42	501.27	500.99	500.50	500.50	500.37	500.34	500.18	
Max	500.91	501.36	500.98	500.47	500.50	503.17	502.25	500.66	500.58	500.38	500.38	500.44	503.17
Min	500.43	500.40	500.44	500.42	500.40	500.55	500.55	500.46	500.36	500.36	500.27	500.10	500.10

Annual Max Momentary Gage Height 503.40 M (MSL), at 12.00 Hours, on Sep 12, 1993
Zero Gage at Bottom Elevation 500.10 M (MSL), River Bed 500.26 M (MSL)
Left Bank Elevation 505.29 M (MSL)
Right Bank Elevation 504.28 M (MSL), Drainage Area 315 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.13	0.11	1.48	0.11	0.08	0.31	4.69	0.51	0.33	0.04	0.04	0.00	
2	0.13	0.08	1.04	0.14	0.08	0.29	2.48	0.38	0.33	0.04	0.04	0.00	
3	0.13	0.05	0.66	0.14	0.07	1.60	6.96	0.34	0.31	0.04	0.04	0.00	
4	0.13	0.05	0.42	0.14	0.07	1.10	9.41	0.29	0.31	0.04	0.04	0.00	
5	0.13	0.08	0.31	0.13	0.07	0.97	5.57	0.25	0.31	0.04	0.04	0.00	
6	0.13	0.08	0.20	0.11	0.07	0.40	3.98	0.24	0.25	0.04	0.04	0.00	
7	0.13	0.07	0.16	0.11	0.07	0.36	2.30	0.22	0.27	0.04	0.04	0.00	
8	0.13	0.07	0.14	0.11	0.07	0.45	1.57	0.22	0.34	0.04	0.04	0.00	
9	0.13	0.05	0.24	0.11	0.07	7.05	1.07	0.22	0.34	0.04	0.04	0.00	
10	0.13	0.05	0.20	0.11	0.05	12.33	0.88	0.20	0.34	0.04	0.04	0.00	
11	0.13	0.08	0.18	0.11	0.05	4.98	0.97	0.18	0.34	0.04	0.04	0.00	
12	0.13	0.08	0.18	0.11	0.05	20.65	1.19	0.17	0.34	0.04	0.04	0.00	
13	0.13	0.08	0.18	0.09	0.05	4.09	0.88	0.17	0.24	0.04	0.04	0.00	
14	0.11	0.08	0.18	0.09	0.05	1.85	0.60	0.17	0.20	0.04	0.03	0.00	
15	0.11	0.09	0.18	0.08	0.05	1.07	0.51	0.16	0.33	0.04	0.01	0.00	
16	0.11	1.35	0.18	0.08	0.05	0.79	0.38	0.16	0.33	0.03	0.01	0.00	
17	0.11	0.36	0.14	0.16	0.05	0.66	0.34	0.16	0.33	0.03	0.01	0.00	
18	0.11	3.02	0.11	0.09	0.05	1.54	0.29	0.14	0.33	0.03	0.01	0.00	
19	0.09	0.72	0.11	0.09	0.07	1.29	1.66	0.14	0.31	0.03	0.01	0.00	
20	0.09	0.38	0.11	0.08	0.07	2.88	1.44	0.14	0.29	0.03	0.01	0.00	
21	0.09	0.25	0.11	0.08	0.05	13.22	1.16	0.14	0.08	0.03	0.01	0.00	
22	0.09	0.18	0.11	0.08	0.05	9.91	1.26	0.14	0.11	0.03	0.01	0.00	
23	1.26	0.51	0.11	0.08	0.07	4.98	1.76	0.16	0.11	0.03	0.01	0.00	
24	0.34	0.53	0.11	0.08	0.07	2.57	1.29	0.16	0.09	0.03	0.00	0.00	
25	0.25	2.03	0.11	0.08	0.07	1.48	0.97	0.16	0.08	0.04	0.01	0.00	
26	0.20	0.69	0.11	0.09	0.05	1.54	0.76	0.17	0.05	0.04	0.00	0.00	
27	0.17	0.38	0.14	0.09	0.05	1.07	0.51	0.18	0.04	0.04	0.00	0.00	
28	0.14	0.24	0.13	0.09	0.14	0.79	0.47	0.18	0.04	0.04	0.00	0.00	
29	0.11	0.20	0.13	0.09	0.18	8.03	0.42	0.18	0.04	0.04		0.03	
30	0.11	0.22	0.11	0.08	0.20	1.66	0.85	0.33	0.04	0.04		0.11	
31		0.49		0.08	0.14		0.66		0.03	0.04		0.05	
Total	5.18	12.65	7.57	3.11	2.31	109.91	57.28	6.26	6.88	1.15	0.65	0.19	213.14 CMSDAY
Mean	0.17	0.41	0.25	0.10	0.07	3.66	1.85	0.21	0.22	0.04	0.02	0.01	0.58 CMS
Max	1.26	3.02	1.48	0.16	0.20	20.65	9.41	0.51	0.34	0.04	0.04	0.11	20.65 CMS
Min	0.09	0.05	0.11	0.08	0.05	0.29	0.29	0.14	0.03	0.03	0.00	0.00	0.00 CMS
Runoff	0.448	1.093	0.654	0.269	0.200	9.496	4.949	0.541	0.594	0.099	0.056	0.016	18.415 MCM

Momentary Peak 24.10 CMS, at 503.40 M (MSL), at 12.00 Hours, on Sep 12, 1993

Runoff Yield 1.85 Liters/Second/Square KM, Momentary Peak Yield 76.51 Liters/Second/Square KM

WATER YEAR 1993

PING RIVER BASIN

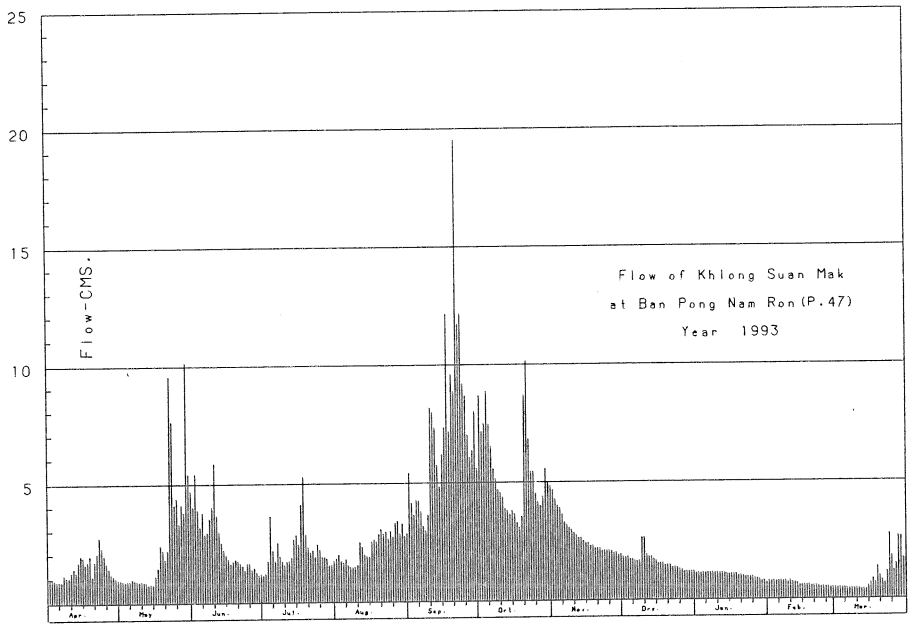
Khlong Suan Mak at Ban Pong Nam Ron, Kamphaeng Phet (P.47)

Location	Lat. 16°-20'-03" N., Long. 99°-16'-29" E., on right bank at Ban Pong Nam Ron, Amphoe Khlong Lan, Kamphaeng Phet.
Drainage Area	521 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+0.00 m.(A.D.)
Bench Mark	B.M.-H.D.
Location	On right bank about 9 meters from the top staff gage.
Elevation	+4.740 m.(A.D.)
Gage Reading Frequency	13-time daily readings at 06.00 - 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 13 readings.
Period of Available Gage Records	1983 to date.
Rating Operation	
Period of Rating	1983 to date.
Rated by Float	-
Rated by Current Meter	1983 to date.
Stability of Channel Regimes	Stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Stage-discharge relation defined by 59 discharge measurements made in 1993.

Gage Height in Meter (A.D), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	-0.13	-0.14	0.17	-0.11	-0.03	0.27	0.47	0.22	-0.03	-0.11	-0.17	-0.23	
2	-0.13	-0.15	0.27	-0.10	-0.01	0.18	0.38	0.19	-0.03	-0.11	-0.17	-0.23	
3	-0.14	-0.15	0.16	-0.04	-0.04	0.14	0.40	0.17	-0.03	-0.11	-0.17	-0.23	
4	-0.15	-0.15	0.10	0.14	-0.05	0.19	0.48	0.16	-0.04	-0.11	-0.17	-0.23	
5	-0.15	-0.15	0.15	0.01	-0.03	0.19	0.40	0.14	-0.04	-0.11	-0.17	-0.23	
6	-0.15	-0.13	0.07	-0.04	-0.06	0.15	0.34	0.11	-0.05	-0.11	-0.17	-0.24	
7	-0.10	-0.14	0.08	0.04	-0.07	0.10	0.28	0.10	-0.05	-0.11	-0.17	-0.24	
8	-0.12	-0.15	0.13	-0.02	-0.07	0.08	0.25	0.09	-0.05	-0.11	-0.17	-0.24	
9	-0.12	-0.15	0.17	-0.04	-0.07	0.14	0.22	0.08	0.05	-0.11	-0.18	-0.24	
10	-0.09	-0.15	0.30	-0.06	-0.06	0.44	0.21	0.07	0.05	-0.11	-0.17	-0.24	
11	-0.07	-0.15	0.14	-0.04	0.04	0.43	0.20	0.06	-0.02	-0.11	-0.18	-0.24	
12	-0.09	-0.16	0.08	-0.04	0.02	0.39	0.16	0.05	-0.03	-0.11	-0.18	-0.25	
13	-0.04	-0.17	0.04	-0.02	-0.01	0.29	0.15	0.05	-0.03	-0.11	-0.19	-0.25	
14	-0.01	-0.17	0.01	0.05	-0.02	0.23	0.14	0.04	-0.04	-0.12	-0.20	-0.25	
15	-0.02	-0.17	-0.01	0.07	-0.02	0.32	0.15	0.03	-0.05	-0.12	-0.20	-0.22	
16	-0.05	-0.11	-0.03	0.03	0.04	0.39	0.14	0.03	-0.06	-0.12	-0.20	-0.19	
17	-0.04	-0.07	-0.05	0.18	0.05	0.65	0.11	0.02	-0.06	-0.12	-0.20	-0.16	
18	-0.01	0.03	-0.04	0.26	0.04	0.38	0.09	0.02	-0.06	-0.12	-0.20	-0.19	
19	-0.11	0.01	-0.03	0.07	0.07	0.52	0.13	0.01	-0.07	-0.13	-0.21	-0.08	
20	-0.04	-0.03	-0.04	0.02	0.09	0.48	0.47	0.01	-0.07	-0.13	-0.21	-0.14	
21	0.00	0.01	-0.05	0.00	0.07	0.94	0.55	0.01	-0.07	-0.13	-0.21	-0.17	
22	0.06	0.52	-0.06	0.01	0.08	0.63	0.36	0.00	-0.08	-0.14	-0.21	-0.19	
23	0.02	0.41	-0.08	-0.02	0.05	0.65	0.27	0.00	-0.08	-0.14	-0.22	-0.11	
24	-0.01	0.18	-0.05	0.03	0.08	0.50	0.27	0.00	-0.08	-0.14	-0.22	0.06	
25	-0.05	0.20	-0.05	0.01	0.06	0.47	0.21	0.00	-0.09	-0.14	-0.22	-0.03	
26	-0.07	0.11	-0.08	-0.02	0.11	0.37	0.18	0.00	-0.09	-0.15	-0.22	-0.10	
27	-0.10	0.18	-0.07	-0.02	0.12	0.31	0.17	-0.01	-0.10	-0.15	-0.23	-0.07	
28	-0.11	0.15	-0.09	-0.03	0.07	0.33	0.20	-0.01	-0.10	-0.16	-0.23	0.05	
29	-0.13	0.55	-0.11	-0.06	0.11	0.43	0.28	-0.02	-0.10	-0.17		0.05	
30	-0.14	0.27	-0.10	-0.06	0.06	0.28	0.24	-0.02	-0.10	-0.17		-0.04	
31		0.22		-0.04	0.07		0.23		-0.10	-0.18		0.00	
Mean	-0.08	0.01	0.03	0.01	0.02	0.36	0.26	0.05	-0.05	-0.13	-0.19	-0.16	
Max	0.06	0.55	0.30	0.26	0.12	0.94	0.55	0.22	0.05	-0.11	-0.17	0.06	0.94
Min	-0.15	-0.17	-0.11	-0.11	-0.07	0.08	0.09	-0.02	-0.10	-0.18	-0.23	-0.25	-0.25

Annual Max Momentary Gage Height 1.05 M (A.D), at 9.00 Hours, on Sep 21, 1993
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed -0.77 M (A.D)
Left Bank Elevation 7.34 M (A.D)
Right Bank Elevation 6.08 M (A.D), Drainage Area 521 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	1.02	0.96	4.04	1.14	1.83	5.45	8.69	4.70	1.83	1.14	0.78	0.48	
2	1.02	0.90	5.45	1.20	2.01	4.16	7.18	4.28	1.83	1.14	0.78	0.48	
3	0.96	0.90	3.92	1.74	1.74	3.68	7.50	4.04	1.83	1.14	0.78	0.48	
4	0.90	0.90	3.20	3.68	1.65	4.28	8.86	3.92	1.74	1.14	0.78	0.48	
5	0.90	0.90	3.80	2.21	1.83	4.28	7.50	3.68	1.74	1.14	0.78	0.48	
6	0.90	1.02	2.87	1.74	1.56	3.80	6.54	3.32	1.65	1.14	0.78	0.44	
7	1.20	0.96	2.98	2.54	1.47	3.20	5.60	3.20	1.65	1.14	0.78	0.44	
8	1.08	0.90	3.56	1.92	1.47	2.98	5.15	3.09	1.65	1.14	0.78	0.44	
9	1.08	0.90	4.04	1.74	1.47	3.68	4.70	2.98	2.65	1.14	0.72	0.44	
10	1.29	0.90	5.90	1.56	1.56	8.18	4.55	2.87	2.65	1.14	0.78	0.44	
11	1.47	0.90	3.68	1.74	2.54	8.01	4.40	2.76	1.92	1.14	0.72	0.44	
12	1.29	0.84	2.98	1.74	2.32	7.34	3.92	2.65	1.83	1.14	0.72	0.40	
13	1.74	0.78	2.54	1.92	2.01	5.75	3.80	2.65	1.83	1.14	0.66	0.40	
14	2.01	0.78	2.21	2.65	1.92	4.85	3.68	2.54	1.74	1.08	0.60	0.40	
15	1.92	0.78	2.01	2.87	1.92	6.22	3.80	2.43	1.65	1.08	0.60	0.52	
16	1.65	1.14	1.83	2.43	2.54	7.34	3.68	2.43	1.56	1.08	0.60	0.66	
17	1.74	1.47	1.65	4.16	2.65	12.15	3.32	2.32	1.56	1.08	0.60	0.84	
18	2.01	2.43	1.74	5.30	2.54	7.18	3.09	2.32	1.56	1.08	0.60	0.66	
19	1.14	2.21	1.83	2.87	2.87	9.58	3.56	2.21	1.47	1.02	0.56	1.38	
20	1.74	1.83	1.74	2.32	3.09	8.86	8.69	2.21	1.47	1.02	0.56	0.96	
21	2.10	2.21	1.65	2.10	2.87	19.54	10.15	2.21	1.47	1.02	0.56	0.78	
22	2.76	9.58	1.56	2.21	2.98	11.73	6.86	2.10	1.38	0.96	0.56	0.66	
23	2.32	7.67	1.38	1.92	2.65	12.15	5.45	2.10	1.38	0.96	0.52	1.14	
24	2.01	4.16	1.65	2.43	2.98	9.20	5.45	2.10	1.38	0.96	0.52	2.76	
25	1.65	4.40	1.65	2.21	2.76	8.69	4.55	2.10	1.29	0.96	0.52	1.83	
26	1.47	3.32	1.38	1.92	3.32	7.02	4.16	2.10	1.29	0.90	0.52	1.20	
27	1.20	4.16	1.47	1.92	3.44	6.06	4.04	2.01	1.20	0.90	0.48	1.47	
28	1.14	3.80	1.29	1.83	2.87	6.38	4.40	2.01	1.20	0.84	0.48	2.65	
29	1.02	10.15	1.14	1.56	3.32	8.01	5.60	1.92	1.20	0.78		2.65	
30	0.96	5.45	1.20	1.56	2.76	5.60	5.00	1.92	1.20	0.78		1.74	
31		4.70		1.74	2.87		4.85		1.20	0.72		2.10	
Total	43.69	82.00	76.34	68.87	73.81	215.35	168.72	81.17	50.00	32.04	18.12	30.24	940.35 CMSDAY
Mean	1.46	2.65	2.54	2.22	2.38	7.18	5.44	2.71	1.61	1.03	0.65	0.98	2.58 CMS
Max	2.76	10.15	5.90	5.30	3.44	19.54	10.15	4.70	2.65	1.14	0.78	2.76	19.54 CMS
Min	0.90	0.78	1.14	1.14	1.47	2.98	3.09	1.92	1.20	0.72	0.48	0.40	0.40 CMS
Runoff	3.775	7.085	6.596	5.950	6.377	18.606	14.577	7.013	4.320	2.768	1.566	2.613	81.246 MCM

Momentary Peak 23.10 CMS, at 1.05 M (A.D), at 9.00 Hours, on Sep 21, 1993

Runoff Yield 4.94 Liters/Second/Square KM, Momentary Peak Yield 44.34 Liters/Second/Square KM

WATER YEAR 1993

PING RIVER BASIN

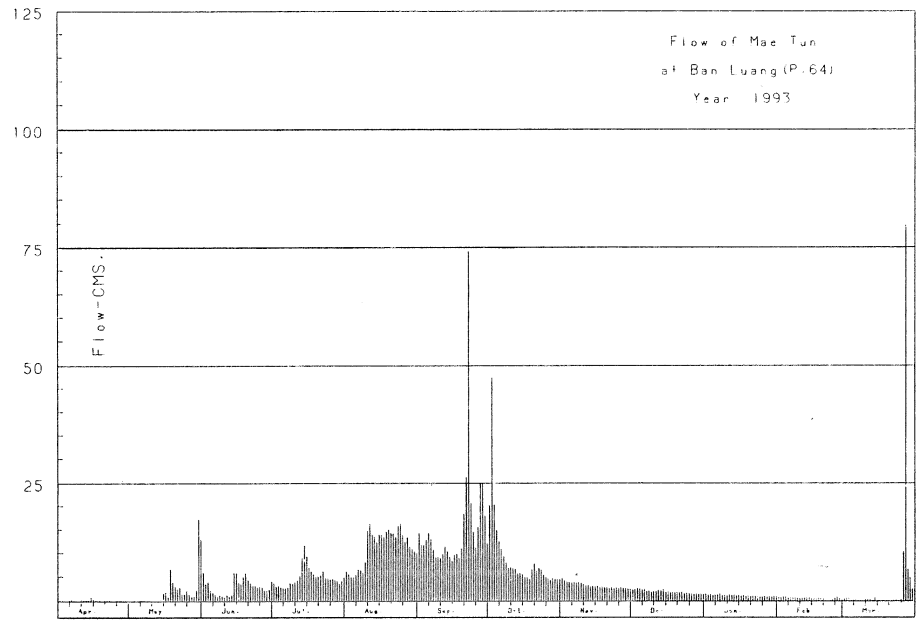
Nam Mae Tun at Ban Luang, Chiang Mai (P.64)

Location	Lat. 17°-47'-01" N., Long. 98°-22'-31" E., on right bank at the bridge on highway, Ban Luang, Amphoe Omkoi, Chiang Mai.
Drainage Area	336 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+0.00 m.(A.D.)
Bench Mark	B.M.-H.D.
Location	B.M.1-about 25.00 meters from the top staff gage. B.M.2-about 35.00 meters from the top staff gage.
Elevation	B.M.1=+7.500 m. (A.D.), B.M.2=+9.000 m.(A.D.)
Gage Reading Frequency	5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1990 to date.
Rating Operation	
Period of Rating	1990 to date.
Rated by Float	-
Rated by Current Meter	1990 to date.
Stability of Channel Regimes	Stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records fair. Stage-discharge relation defined by 57 discharge measurements made in 1993.

Gage Height in Meter (A.D), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.35	0.33	0.74	0.63	0.75	1.05	1.22	0.69	0.56	0.50	0.44	0.41	
2	0.35	0.32	0.62	0.60	0.72	0.96	1.85	0.66	0.56	0.49	0.43	0.42	
3	0.34	0.34	0.65	0.60	0.70	0.96	1.23	0.65	0.58	0.49	0.45	0.42	
4	0.35	0.32	0.54	0.59	0.69	1.00	1.07	0.64	0.57	0.48	0.44	0.40	
5	0.35	0.31	0.52	0.58	0.72	1.05	0.99	0.64	0.56	0.48	0.43	0.38	
6	0.35	0.31	0.48	0.57	0.76	1.00	0.93	0.64	0.56	0.49	0.43	0.38	
7	0.35	0.31	0.45	0.59	0.76	0.93	0.88	0.64	0.54	0.50	0.43	0.39	
8	0.35	0.31	0.47	0.63	0.73	0.87	0.82	0.64	0.54	0.48	0.43	0.36	
9	0.40	0.31	0.46	0.63	0.83	0.87	0.78	0.64	0.53	0.47	0.42	0.40	
10	0.39	0.31	0.43	0.64	1.06	0.86	0.78	0.62	0.53	0.47	0.42	0.40	
11	0.37	0.30	0.48	0.66	1.11	0.90	0.77	0.61	0.54	0.48	0.42	0.40	
12	0.37	0.32	0.44	0.71	1.04	0.95	0.77	0.61	0.55	0.48	0.43	0.37	
13	0.36	0.36	0.48	0.86	1.02	0.92	0.73	0.60	0.55	0.48	0.43	0.38	
14	0.44	0.36	0.73	0.96	0.98	0.87	0.73	0.60	0.56	0.47	0.43	0.42	
15	0.39	0.51	0.74	0.88	1.04	0.84	0.72	0.60	0.53	0.47	0.42	0.37	
16	0.38	0.52	0.64	0.78	1.03	0.89	0.70	0.60	0.53	0.47	0.41	0.41	
17	0.36	0.44	0.62	0.75	1.02	0.90	0.69	0.59	0.52	0.47	0.42	0.39	
18	0.36	0.77	0.70	0.72	1.06	0.86	0.68	0.59	0.52	0.46	0.42	0.40	
19	0.35	0.64	0.73	0.70	1.07	0.94	0.76	0.59	0.52	0.46	0.41	0.40	
20	0.35	0.60	0.67	0.70	1.05	1.17	0.82	0.58	0.52	0.46	0.41	0.38	
21	0.34	0.56	0.63	0.71	1.04	1.38	0.75	0.58	0.52	0.46	0.34	0.39	
22	0.34	0.59	0.61	0.75	1.02	2.29	0.78	0.58	0.52	0.46	0.40	0.37	
23	0.34	0.49	0.60	0.69	1.10	1.24	0.76	0.58	0.51	0.45	0.40	0.39	
24	0.35	0.50	0.59	0.68	1.11	1.06	0.72	0.58	0.51	0.45	0.42	0.39	
25	0.33	0.54	0.59	0.67	1.03	0.94	0.70	0.58	0.51	0.45	0.42	0.39	
26	0.33	0.48	0.59	0.68	0.98	1.09	0.68	0.58	0.50	0.45	0.43	0.92	
27	0.32	0.45	0.55	0.67	1.02	1.35	0.67	0.58	0.50	0.45	0.41	2.37	
28	0.31	0.44	0.54	0.65	0.95	1.35	0.68	0.57	0.50	0.45	0.42	0.77	
29	0.34	0.55	0.56	0.63	0.93	1.16	0.68	0.57	0.50	0.45		0.69	
30	0.34	1.14	0.65	0.65	0.92	0.97	0.67	0.56	0.50	0.45		0.57	
31		1.00		0.69	0.90		0.67		0.50	0.45		0.55	
Mean	0.36	0.48	0.58	0.69	0.94	1.05	0.83	0.61	0.53	0.47	0.42	0.51	
Max	0.44	1.14	0.74	0.96	1.11	2.29	1.85	0.69	0.58	0.50	0.45	2.37	2.37
Min	0.31	0.30	0.43	0.57	0.69	0.84	0.67	0.56	0.50	0.45	0.34	0.36	0.30

Annual Max Momentary Gage Height 3.12 M (A.D), at 11.00 Hours, on Sep 22, 1993
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed 0.00 M (A.D)
Left Bank Elevation 3.40 M (A.D)
Right Bank Elevation 3.70 M (A.D), Drainage Area 336 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.22	0.16	6.06	3.70	6.30	14.50	20.20	4.90	2.46	1.50	0.84	0.51	
2	0.22	0.12	3.50	3.10	5.58	11.80	47.50	4.30	2.46	1.39	0.73	0.62	
3	0.19	0.19	4.10	3.10	5.10	11.80	20.55	4.10	2.78	1.39	0.95	0.62	
4	0.22	0.12	2.14	2.94	4.90	13.00	15.10	3.90	2.62	1.28	0.84	0.40	
5	0.22	0.08	1.82	2.78	5.58	14.50	12.70	3.90	2.46	1.28	0.73	0.33	
6	0.22	0.08	1.28	2.62	6.54	13.00	10.90	3.90	2.46	1.39	0.73	0.33	
7	0.22	0.08	0.95	2.94	6.54	10.90	9.50	3.90	2.14	1.50	0.73	0.36	
8	0.22	0.08	1.17	3.70	5.82	9.25	8.00	3.90	2.14	1.28	0.73	0.26	
9	0.40	0.08	1.06	3.70	8.25	9.25	7.02	3.90	1.98	1.17	0.62	0.40	
10	0.36	0.08	0.73	3.90	14.80	9.00	7.02	3.50	1.98	1.17	0.62	0.40	
11	0.29	0.05	1.28	4.30	16.35	10.00	6.78	3.30	2.14	1.28	0.62	0.40	
12	0.29	0.12	0.84	5.34	14.20	11.50	6.78	3.30	2.30	1.28	0.73	0.29	
13	0.26	0.26	1.28	9.00	13.60	10.60	5.82	3.10	2.30	1.28	0.73	0.33	
14	0.84	0.26	5.82	11.80	12.40	9.25	5.82	3.10	2.46	1.17	0.73	0.62	
15	0.36	1.66	6.06	9.50	14.20	8.50	5.58	3.10	1.98	1.17	0.62	0.29	
16	0.33	1.82	3.90	7.02	13.90	9.75	5.10	3.10	1.98	1.17	0.51	0.51	
17	0.26	0.84	3.50	6.30	13.60	10.00	4.90	2.94	1.82	1.17	0.62	0.36	
18	0.26	6.78	5.10	5.58	14.80	9.00	4.70	2.94	1.82	1.06	0.62	0.40	
19	0.22	3.90	5.82	5.10	15.10	11.20	6.54	2.94	1.82	1.06	0.51	0.40	
20	0.22	3.10	4.50	5.10	14.50	18.45	8.00	2.78	1.82	1.06	0.51	0.33	
21	0.19	2.46	3.70	5.34	14.20	26.20	6.30	2.78	1.82	1.06	0.19	0.36	
22	0.19	2.94	3.30	6.30	13.60	74.35	7.02	2.78	1.82	1.06	0.40	0.29	
23	0.19	1.39	3.10	4.90	16.00	20.90	6.54	2.78	1.66	0.95	0.40	0.36	
24	0.22	1.50	2.94	4.70	16.35	14.80	5.58	2.78	1.66	0.95	0.62	0.36	
25	0.16	2.14	2.94	4.50	13.90	11.20	5.10	2.78	1.66	0.95	0.62	0.36	
26	0.16	1.28	2.94	4.70	12.40	15.70	4.70	2.78	1.50	0.95	0.73	10.60	
27	0.12	0.95	2.30	4.50	13.60	25.00	4.50	2.78	1.50	0.95	0.51	79.55	
28	0.08	0.84	2.14	4.10	11.50	25.00	4.70	2.62	1.50	0.95	0.62	6.78	
29	0.19	2.30	2.46	3.70	10.90	18.10	4.70	2.62	1.50	0.95		4.90	
30	0.19	17.40	4.10	4.10	10.60	12.10	4.50	2.46	1.50	0.95		2.62	
31		13.00		4.90	10.00		4.50		1.50	0.95		2.30	
Total	7.51	66.06	90.83	153.26	355.11	468.60	276.65	97.96	61.54	35.72	17.81	116.64	1747.69 CMSDAY
Mean	0.25	2.13	3.03	4.94	11.46	15.62	8.92	3.27	1.99	1.15	0.64	3.76	4.79 CMS
Max	0.84	17.40	6.06	11.80	16.35	74.35	47.50	4.90	2.78	1.50	0.95	79.55	79.55 CMS
Min	0.08	0.05	0.73	2.62	4.90	8.50	4.50	2.46	1.50	0.95	0.19	0.26	0.05 CMS
Runoff	0.649	5.708	7.848	13.242	30.682	40.487	23.903	8.464	5.317	3.086	1.539	10.078	151.000 MCM

Momentary Peak 136.70 CMS, at 3.12 M (A.D), at 11.00 Hours, on Sep 22, 1993

Runoff Yield 14.25 Liters/Second/Square KM, Momentary Peak Yield 406.85 Liters/Second/Square KM

WATER YEAR 1993

PING RIVER BASIN

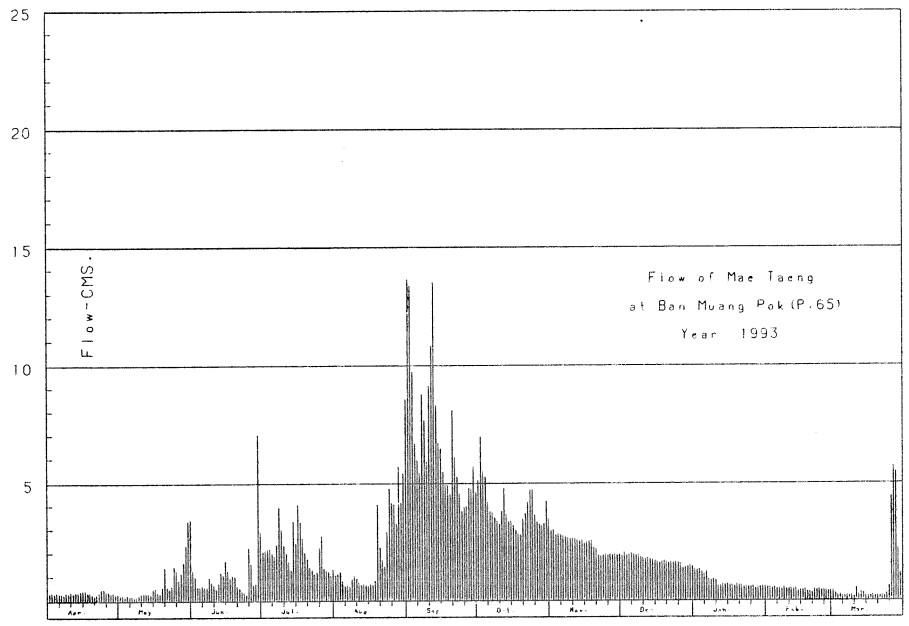
Mae Taeng River at Ban Muang Pok, Chiang Mai, (P.65)

Location	Lat. 19°-38'-10" N., Long. 98°-38'-19" E., on left bank in front of King Amphoe Wiang Haeng Office, King Amphoe Wiang Haeng, Chiang Mai.
Drainage Area	240 sq.km.
Type of Gage	Water-stage recorder.
Zero Gage at Bottom	+0.00 m.(A.D.)
Bench Mark	B.M.-H.D.
Location	On left bank in front of the station office.
Elevation	+3.900 m.(A.D.)
Gage Reading Frequency	Recording.
Basis of Mean Daily Gage Height	Arithmetic mean of 24 readings.
Period of Available Gage Records	1992 to date.
Rating Operation	
Period of Rating	1992 to date.
Rated by Float	-
Rated by Current Meter	1992 to date.
Stability of Channel Regimes	Fairly stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Stage-discharge relation defined by 278 discharge measurements made in 1993.

Gage Height in Meter (A.D), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.52	0.50	0.68	0.79	0.66	1.83	1.12	0.89	0.77	0.69	0.58	0.54	
2	0.52	0.49	0.65	0.79	0.66	1.81	1.31	0.89	0.78	0.69	0.57	0.52	
3	0.52	0.48	0.58	0.80	0.68	1.56	1.16	0.87	0.77	0.69	0.57	0.49	
4	0.52	0.49	0.57	0.80	0.62	1.28	1.14	0.87	0.77	0.68	0.57	0.51	
5	0.52	0.48	0.59	0.78	0.59	1.21	1.02	0.87	0.78	0.66	0.56	0.48	
6	0.51	0.47	0.57	0.76	0.59	1.15	0.98	0.86	0.77	0.68	0.56	0.49	
7	0.51	0.46	0.58	0.82	0.58	1.48	0.97	0.86	0.77	0.63	0.56	0.50	
8	0.52	0.47	0.64	1.00	0.63	1.38	0.95	0.85	0.77	0.63	0.57	0.49	
9	0.52	0.50	0.61	0.89	0.65	1.20	0.93	0.85	0.76	0.63	0.56	0.50	
10	0.53	0.51	0.59	0.82	0.64	1.51	0.92	0.85	0.75	0.63	0.56	0.48	
11	0.52	0.52	0.56	0.78	0.61	1.64	0.98	0.85	0.75	0.60	0.56	0.57	
12	0.53	0.52	0.61	0.73	0.60	1.82	1.09	0.84	0.75	0.59	0.56	0.50	
13	0.52	0.51	0.67	0.69	0.60	1.44	0.96	0.84	0.75	0.60	0.56	0.52	
14	0.54	0.51	0.66	0.93	0.60	1.28	0.93	0.84	0.74	0.60	0.54	0.52	
15	0.54	0.56	0.74	0.83	0.59	1.26	0.93	0.83	0.74	0.60	0.54	0.48	
16	0.54	0.56	0.68	1.01	0.60	1.16	0.91	0.83	0.73	0.60	0.55	0.48	
17	0.53	0.52	0.64	0.93	0.60	1.10	0.89	0.84	0.73	0.59	0.55	0.49	
18	0.52	0.52	0.65	0.85	0.62	1.10	0.87	0.84	0.73	0.59	0.54	0.50	
19	0.51	0.57	0.65	0.78	1.01	1.06	0.87	0.81	0.74	0.60	0.53	0.49	
20	0.49	0.70	0.58	0.75	0.81	1.42	0.94	0.80	0.73	0.60	0.53	0.48	
21	0.50	0.58	0.57	0.70	0.74	1.22	0.97	0.77	0.73	0.59	0.55	0.49	
22	0.53	0.56	0.54	0.69	0.71	1.14	1.02	0.76	0.73	0.58	0.55	0.49	
23	0.55	0.58	0.52	0.66	0.88	1.06	1.08	0.77	0.73	0.58	0.55	0.49	
24	0.56	0.71	0.51	0.68	1.09	0.98	1.08	0.77	0.73	0.58	0.55	0.51	
25	0.53	0.68	0.81	0.81	1.02	1.00	0.96	0.77	0.73	0.58	0.55	0.59	
26	0.53	0.62	0.72	0.86	1.01	1.00	0.93	0.77	0.72	0.58	0.54	1.05	
27	0.52	0.67	0.60	0.70	0.92	1.09	0.92	0.77	0.70	0.57	0.54	1.18	
28	0.52	0.73	0.60	0.68	1.18	1.08	0.91	0.77	0.70	0.57	0.54	1.16	
29	0.51	0.82	1.32	0.68	1.02	1.18	0.92	0.77	0.71	0.58		0.80	
30	0.51	0.93	0.88	0.65	1.15	1.07	1.03	0.77	0.71	0.58		0.67	
31		0.94		0.69	1.46		0.94		0.71	0.58		0.63	
Mean	0.52	0.59	0.65	0.78	0.78	1.28	0.99	0.82	0.74	0.61	0.55	0.58	
Max	0.56	0.94	1.32	1.01	1.46	1.83	1.31	0.89	0.78	0.69	0.58	1.18	1.83
Min	0.49	0.46	0.51	0.65	0.58	0.98	0.87	0.76	0.70	0.57	0.53	0.48	0.46

Annual Max Momentary Gage Height 2.30 M (A.D), at 1.00 Hours, on Sep 12, 1993
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed 0.39 M (A.D)
Left Bank Elevation 5.06 M (A.D)
Right Bank Elevation 5.40 M (A.D), Drainage Area 240 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.34	0.25	1.26	2.12	1.12	13.68	5.10	3.01	1.96	1.33	0.61	0.43	
2	0.34	0.23	1.05	2.12	1.12	13.36	7.00	3.01	2.04	1.33	0.56	0.34	
3	0.34	0.20	0.61	2.20	1.26	9.78	5.50	2.83	1.96	1.33	0.56	0.23	
4	0.34	0.23	0.56	2.20	0.84	6.70	5.30	2.83	1.96	1.26	0.56	0.29	
5	0.34	0.20	0.65	2.04	0.65	6.00	4.18	2.83	2.04	1.12	0.52	0.20	
6	0.29	0.18	0.56	1.88	0.65	5.40	3.82	2.74	1.96	1.26	0.52	0.23	
7	0.29	0.15	0.61	2.38	0.61	8.78	3.73	2.74	1.96	0.91	0.52	0.25	
8	0.34	0.18	0.98	4.00	0.91	7.70	3.55	2.65	1.96	0.91	0.56	0.23	
9	0.34	0.25	0.77	3.01	1.05	5.90	3.37	2.65	1.88	0.91	0.52	0.25	
10	0.38	0.29	0.65	2.38	0.98	9.13	3.28	2.65	1.80	0.91	0.52	0.20	
11	0.34	0.34	0.52	2.04	0.77	10.86	3.82	2.65	1.80	0.70	0.52	0.56	
12	0.38	0.34	0.77	1.64	0.70	13.52	4.81	2.56	1.80	0.65	0.52	0.25	
13	0.34	0.29	1.19	1.33	0.70	8.34	3.64	2.56	1.80	0.70	0.52	0.34	
14	0.43	0.29	1.12	3.37	0.70	6.70	3.37	2.56	1.72	0.70	0.43	0.34	
15	0.43	0.52	1.72	2.47	0.65	6.50	3.37	2.47	1.72	0.70	0.43	0.20	
16	0.43	0.52	1.26	4.09	0.70	5.50	3.19	2.47	1.64	0.70	0.48	0.20	
17	0.38	0.34	0.98	3.37	0.70	4.90	3.01	2.56	1.64	0.65	0.48	0.23	
18	0.34	0.34	1.05	2.65	0.84	4.90	2.83	2.56	1.64	0.65	0.43	0.25	
19	0.29	0.56	1.05	2.04	4.09	4.54	2.83	2.29	1.72	0.70	0.38	0.23	
20	0.23	1.40	0.61	1.80	2.29	8.12	3.46	2.20	1.64	0.70	0.38	0.20	
21	0.25	0.61	0.56	1.40	1.72	6.10	3.73	1.96	1.64	0.65	0.48	0.23	
22	0.38	0.52	0.43	1.33	1.48	5.30	4.18	1.88	1.64	0.61	0.48	0.23	
23	0.48	0.61	0.34	1.12	2.92	4.54	4.72	1.96	1.64	0.61	0.48	0.23	
24	0.52	1.48	0.29	1.26	4.81	3.82	4.72	1.96	1.64	0.61	0.48	0.29	
25	0.38	1.26	2.29	2.29	4.18	4.00	3.64	1.96	1.64	0.61	0.48	0.65	
26	0.38	0.84	1.56	2.74	4.09	4.00	3.37	1.96	1.56	0.61	0.43	4.45	
27	0.34	1.19	0.70	1.40	3.28	4.81	3.28	1.96	1.40	0.56	0.43	5.70	
28	0.34	1.64	0.70	1.26	5.70	4.72	3.19	1.96	1.40	0.56	0.43	5.50	
29	0.29	2.38	7.10	1.26	4.18	5.70	3.28	1.96	1.48	0.61		2.20	
30	0.29	3.37	2.92	1.05	5.40	4.63	4.27	1.96	1.48	0.61		1.19	
31		3.46		1.33	8.56		3.46		1.48	0.61		0.91	
Total	10.58	24.46	34.86	65.57	67.65	207.93	121.00	72.34	53.64	24.77	13.71	27.03	723.54 CMSDAY
Mean	0.35	0.79	1.16	2.12	2.18	6.93	3.90	2.41	1.73	0.80	0.49	0.87	1.98 CMS
Max	0.52	3.46	7.10	4.09	8.56	13.68	7.00	3.01	2.04	1.33	0.61	5.70	13.68 CMS
Min	0.23	0.15	0.29	1.05	0.61	3.82	2.83	1.88	1.40	0.56	0.38	0.20	0.15 CMS
Runoff	0.914	2.113	3.012	5.665	5.845	17.965	10.454	6.250	4.634	2.140	1.185	2.335	62.514 MCM

Momentary Peak 23.60 CMS, at 2.30 M (A.D), at 1.00 Hours, on Sep 12, 1993

Runoff Yield 8.26 Liters/Second/Square KM, Momentary Peak Yield 98.33 Liters/Second/Square KM

WATER YEAR 1993

WANG RIVER BASIN

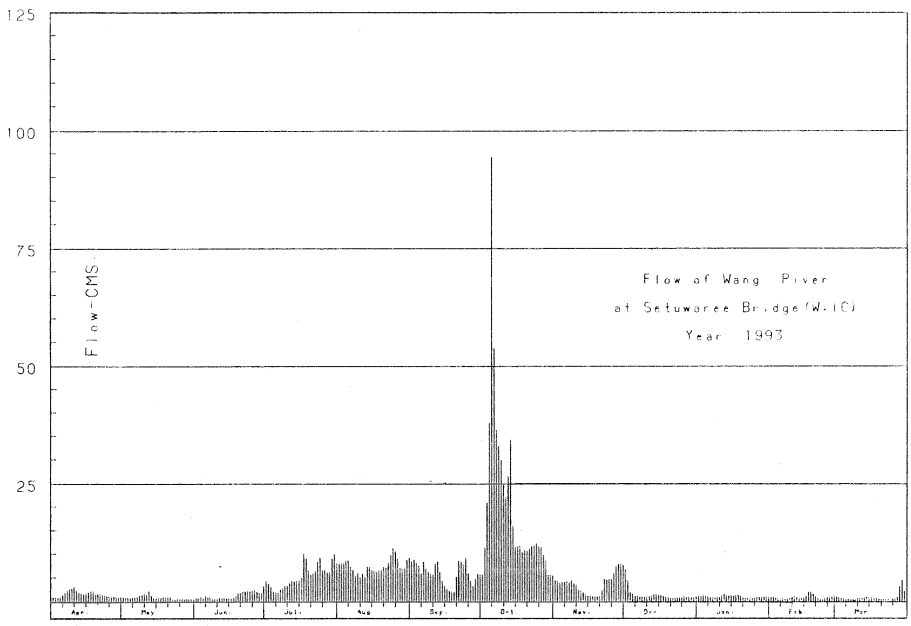
Wang River at Setu Wari Bridge, Lampang (W.1C)

Location	Lat. 18°-17'-51" N., Long. 99°-30'-56" E., on left bank at Setu Wari Bridge about 3 kms. upstream from station W.1B, Amphoe Muang, Lampang.
Drainage Area	3,478 sq.km.
Type of Gage	Water-stage recorder.
Zero Gage at Bottom	+229.30 m. (M.S.L.)
Bench Mark	B.M.-H.D.
Location	On left bank at the abutment of the bridge.
Elevation	+234.435 m.(M.S.L.)
Gage Reading Frequency	Recording.
Basis of Mean Daily Gage Height	Arithmetic mean of 24 readings.
Period of Available Gage Records	1990 to date.
Rating Operation	
Period of Rating	1990 to date.
Rated by Float	-
Rated by Current Meter	1990 to date.
Stability of Channel Regimes	Fairly stable with variable water surface slope.
Overbank Flow Conditions	No overbank flow.
General Description	Records fair. Stage-discharge relation defined by 72 discharge measurements made in 1993.

Gage Height in Meter (MSL), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	229.35	229.35	229.31	229.67	229.91	229.92	229.77	229.69	229.83	229.39	229.37	229.37	
2	229.34	229.33	229.32	229.64	229.90	229.95	229.87	229.67	229.69	229.39	229.36	229.34	
3	229.34	229.33	229.34	229.57	229.91	229.91	230.15	229.65	229.47	229.40	229.34	229.33	
4	229.34	229.33	229.32	229.49	229.93	229.87	230.54	229.65	229.43	229.39	229.33	229.31	
5	229.42	229.33	229.39	229.46	229.94	229.79	231.46	229.66	229.39	229.37	229.31	229.29	
6	229.45	229.34	229.37	229.46	229.86	229.93	230.85	229.66	229.38	229.35	229.31	229.28	
7	229.51	229.36	229.34	229.52	229.83	229.84	230.51	229.65	229.37	229.35	229.30	229.27	
8	229.53	229.40	229.29	229.55	229.75	229.81	230.44	229.68	229.36	229.34	229.30	229.27	
9	229.55	229.42	229.27	229.59	229.79	229.77	230.38	229.64	229.37	229.34	229.33	229.27	
10	229.57	229.43	229.30	229.60	229.73	229.77	230.25	229.61	229.37	229.37	229.36	229.32	
11	229.51	229.41	229.33	229.65	229.78	229.90	230.18	229.53	229.39	229.41	229.37	229.33	
12	229.46	229.50	229.33	229.67	229.74	229.93	230.29	229.49	229.40	229.44	229.35	229.33	
13	229.44	229.40	229.32	229.67	229.87	229.80	230.47	229.47	229.43	229.40	229.33	229.34	
14	229.43	229.32	229.32	229.67	229.86	229.68	230.01	229.43	229.43	229.40	229.33	229.36	
15	229.44	229.33	229.31	229.68	229.83	229.59	229.87	229.40	229.42	229.40	229.35	229.35	
16	229.46	229.33	229.31	229.73	229.81	229.53	229.88	229.39	229.40	229.40	229.38	229.34	
17	229.50	229.34	229.32	230.01	229.81	229.50	229.88	229.38	229.39	229.41	229.48	229.31	
18	229.49	229.36	229.39	229.96	229.82	229.48	229.84	229.37	229.36	229.42	229.48	229.32	
19	229.43	229.34	229.44	229.82	229.83	229.48	229.85	229.37	229.35	229.39	229.44	229.31	
20	229.43	229.34	229.46	229.77	229.86	229.74	229.85	229.37	229.33	229.35	229.38	229.29	
21	229.43	229.36	229.47	229.78	229.86	229.93	229.86	229.52	229.33	229.33	229.32	229.29	
22	229.42	229.28	229.49	229.82	229.91	229.92	229.88	229.70	229.33	229.33	229.30	229.28	
23	229.40	229.27	229.49	229.92	230.00	229.89	229.88	229.70	229.34	229.34	229.29	229.29	
24	229.39	229.28	229.50	229.97	230.07	229.97	229.90	229.70	229.35	229.33	229.32	229.29	
25	229.36	229.29	229.51	229.83	230.04	229.79	229.88	229.71	229.34	229.33	229.36	229.30	
26	229.35	229.31	229.51	229.82	229.95	229.67	229.87	229.79	229.38	229.35	229.37	229.31	
27	229.36	229.29	229.48	229.80	229.86	229.60	229.82	229.87	229.36	229.36	229.37	229.35	
28	229.35	229.28	229.46	229.80	229.84	229.70	229.77	229.90	229.35	229.36	229.40	229.58	
29	229.35	229.29	229.46	229.96	229.85	229.78	229.77	229.90	229.35	229.37		229.69	
30	229.35	229.27	229.59	230.00	229.94	229.76	229.76	229.89	229.35	229.36		229.49	
31		229.27		229.90	229.97		229.75		229.37	229.36		229.43	
Mean	229.43	229.34	229.39	229.73	229.87	229.77	230.08	229.61	229.40	229.37	229.35	229.34	
Max	229.57	229.50	229.59	230.01	230.07	229.97	231.46	229.90	229.83	229.44	229.48	229.69	231.46
Min	229.34	229.27	229.27	229.46	229.73	229.48	229.75	229.37	229.33	229.33	229.29	229.27	229.27

Annual Max Momentary Gage Height 231.80 M (MSL), at 5.00 Hours, on Oct 5, 1993
Zero Gage at Bottom Elevation 229.30 M (MSL), River Bed 229.11 M (MSL)
Left Bank Elevation 234.55 M (MSL)
Right Bank Elevation 233.37 M (MSL), Drainage Area 3478 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	1.05	1.05	0.77	4.41	8.30	8.49	5.85	4.67	6.84	1.33	1.19	1.19	
2	0.98	0.91	0.84	4.02	8.10	9.08	11.57	4.41	4.67	1.33	1.12	0.98	
3	0.98	0.91	0.98	3.17	8.30	8.30	21.05	4.15	2.10	1.40	0.98	0.91	
4	0.98	0.91	0.84	2.30	8.68	7.56	38.00	4.15	1.70	1.33	0.91	0.77	
5	1.60	0.91	1.33	2.00	8.88	6.15	94.50	4.28	1.33	1.19	0.77	0.65	
6	1.90	0.98	1.19	2.00	7.38	8.68	54.00	4.28	1.26	1.05	0.77	0.61	
7	2.51	1.12	0.98	2.62	6.84	7.02	36.50	4.15	1.19	1.05	0.70	0.57	
8	2.73	1.40	0.65	2.95	5.55	6.48	33.00	4.54	1.12	0.98	0.70	0.57	
9	2.95	1.60	0.57	3.39	6.15	5.85	30.20	4.02	1.19	0.98	0.91	0.57	
10	3.17	1.70	0.70	3.50	5.25	5.85	25.00	3.63	1.19	1.19	1.12	0.84	
11	2.51	1.50	0.91	4.15	6.00	8.10	22.22	2.73	1.33	1.50	1.19	0.91	
12	2.00	2.40	0.91	4.41	5.40	8.68	26.60	2.30	1.40	1.80	1.05	0.91	
13	1.80	1.40	0.84	4.41	7.56	6.30	34.50	2.10	1.70	1.40	0.91	0.98	
14	1.70	0.84	0.84	4.41	7.38	4.54	16.13	1.70	1.70	1.40	0.91	1.12	
15	1.80	0.91	0.77	4.54	6.84	3.39	11.57	1.40	1.60	1.40	1.05	1.05	
16	2.00	0.91	0.77	5.25	6.48	2.73	11.88	1.33	1.40	1.40	1.26	0.98	
17	2.40	0.98	0.84	10.25	6.48	2.40	11.88	1.26	1.33	1.50	2.20	0.77	
18	2.30	1.12	1.33	9.27	6.66	2.20	10.64	1.19	1.12	1.60	2.20	0.84	
19	1.70	0.98	1.80	6.66	6.84	2.20	10.95	1.19	1.05	1.33	1.80	0.77	
20	1.70	0.98	2.00	5.85	7.38	5.40	10.95	1.19	0.91	1.05	1.26	0.65	
21	1.70	1.12	2.10	6.00	7.38	8.68	11.26	2.62	0.91	0.91	0.84	0.65	
22	1.60	0.61	2.30	6.66	8.30	8.49	11.88	4.80	0.91	0.91	0.70	0.61	
23	1.40	0.57	2.30	8.49	10.05	7.92	11.88	4.80	0.98	0.98	0.65	0.65	
24	1.33	0.61	2.40	9.47	11.43	9.47	12.50	4.80	1.05	0.91	0.84	0.65	
25	1.12	0.65	2.51	6.84	10.84	6.15	11.88	4.95	0.98	0.91	1.12	0.70	
26	1.05	0.77	2.51	6.66	9.08	4.41	11.57	6.15	1.26	1.05	1.19	0.77	
27	1.12	0.65	2.20	6.30	7.38	3.50	10.02	7.56	1.12	1.12	1.19	1.05	
28	1.05	0.61	2.00	6.30	7.02	4.80	8.74	8.10	1.05	1.12	1.40	3.28	
29	1.05	0.65	2.00	9.27	7.20	6.00	5.85	8.10	1.05	1.19		4.67	
30	1.05	0.57	3.39	10.05	8.88	5.70	5.70	7.92	1.05	1.12		2.30	
31		0.57		8.10	9.47		5.55		1.19	1.12		1.70	
Total	51.23	30.89	43.57	173.70	237.48	184.52	623.82	118.47	47.68	37.55	30.93	33.67	1613.51 CMSDAY
Mean	1.71	1.00	1.45	5.60	7.66	6.15	20.12	3.95	1.54	1.21	1.10	1.09	4.42 CMS
Max	3.17	2.40	3.39	10.25	11.43	9.47	94.50	8.10	6.84	1.80	2.20	4.67	94.50 CMS
Min	0.98	0.57	0.57	2.00	5.25	2.20	5.55	1.19	0.91	0.91	0.65	0.57	0.57 CMS
Runoff	4.426	2.669	3.764	15.008	20.518	15.943	53.898	10.236	4.120	3.244	2.672	2.909	139.407 MCM

Momentary Peak 121.00 CMS, at 231.80 M (MSL), at 5.00 Hours, on Oct 5, 1993

Runoff Yield 1.27 Liters/Second/Square KM, Momentary Peak Yield 34.79 Liters/Second/Square KM

WATER YEAR 1993

WANG RIVER BASIN

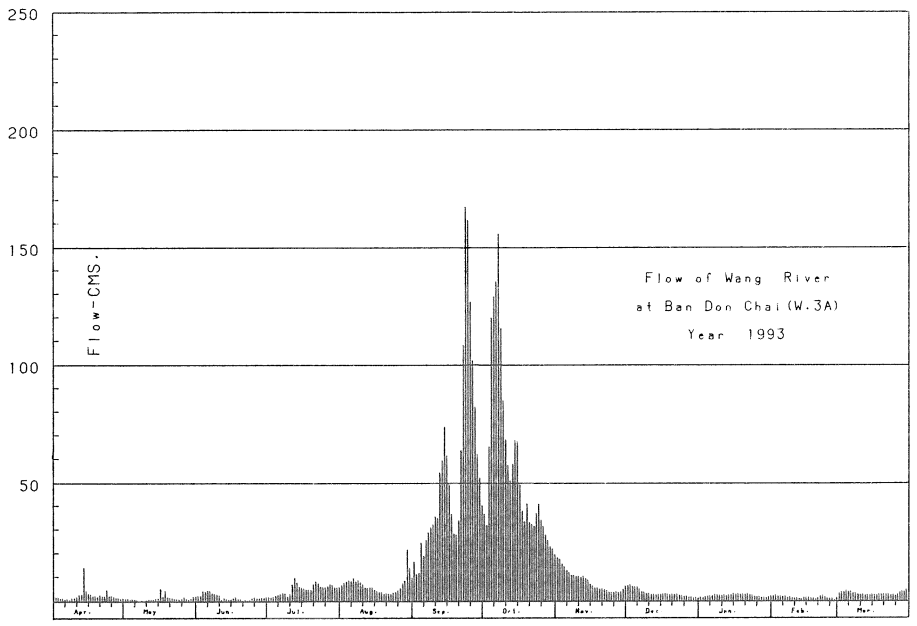
Wang River at Ban Don Chai, Lampang (W.3A)

Location	Lat. 17°-38'-29" N., Long. 99°-14'-04" E., on right bank about 30 meters upstream from Siriyong Bridge, Amphoe Thoen, Lampang.
Drainage Area	8,985 sq.km.
Type of Gage	Water-stage recorder.
Zero Gage at Bottom	+161.00 m. (M.S.L.)
Bench Mark	B.M.-H.D.
Location	On right bank about 15 meters from automatic gage building.
Elevation	+167.074 m.(M.S.L.).
Gage Reading Frequency	Recording.
Basis of Mean Daily Gage Height	Arithmetic mean of 24 readings.
Period of Available Gage Records	1967 to date.
Rating Operation	
Period of Rating	1967 to date.
Rated by Float	-
Rated by Current Meter	1967 to date.
Stability of Channel Regimes	Fairly stable with variable water surface slope.
Overbank Flow Conditions	No overbank flow.
General Description	Records fair. Stage-discharge relation defined by 25 discharge measurements made in 1993.

Gage Height in Meter (MSL), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	160.99	160.93	161.02	160.97	161.32	161.69	162.27	161.76	161.32	160.96	161.04	161.12	
2	160.97	160.92	161.04	160.98	161.35	161.51	162.16	161.73	161.32	160.98	161.05	161.14	
3	160.95	160.90	161.16	160.98	161.39	161.54	162.88	161.67	161.30	161.00	161.03	161.16	
4	160.93	160.89	161.17	161.04	161.40	161.95	163.73	161.62	161.27	161.03	161.02	161.18	
5	160.92	160.88	161.20	161.07	161.40	161.78	163.86	161.58	161.29	161.03	161.02	161.16	
6	160.90	160.85	161.17	161.08	161.44	161.99	163.94	161.54	161.22	161.04	161.02	161.16	
7	160.90	160.85	161.12	161.13	161.39	162.07	164.20	161.51	161.17	161.07	160.98	161.13	
8	160.94	160.84	161.08	161.10	161.40	162.13	163.67	161.50	161.14	161.07	160.97	161.11	
9	160.97	160.85	161.08	161.01	161.37	162.16	163.20	161.49	161.12	161.04	160.96	161.09	
10	160.98	160.85	161.04	161.08	161.32	162.25	162.93	161.48	161.11	161.05	160.95	161.08	
11	161.05	160.90	160.86	161.32	161.27	162.23	162.73	161.47	161.09	161.06	160.94	161.07	
12	161.09	160.90	160.96	161.47	161.24	162.67	162.60	161.48	161.07	161.05	160.92	161.06	
13	161.62	160.90	160.91	161.36	161.27	162.78	162.75	161.45	161.07	161.05	160.91	161.05	
14	161.17	160.92	160.90	161.29	161.26	163.02	162.92	161.41	161.07	161.08	160.94	161.06	
15	161.11	160.95	160.89	161.26	161.21	162.81	162.91	161.34	161.09	161.10	160.97	161.06	
16	161.07	161.24	160.96	161.23	161.16	162.57	162.57	161.30	161.09	161.10	160.98	161.06	
17	161.03	161.02	160.97	161.22	161.15	162.27	162.31	161.26	161.11	161.10	160.95	161.06	
18	161.02	161.17	160.92	161.20	161.13	162.06	162.19	161.25	161.08	161.09	160.94	161.08	
19	161.01	160.98	160.89	161.21	161.10	162.04	162.38	161.24	161.08	161.09	160.93	161.09	
20	161.05	160.95	160.87	161.33	161.10	162.21	162.19	161.23	161.08	161.09	160.93	161.08	
21	161.03	160.96	160.86	161.38	161.09	162.85	162.16	161.22	161.09	161.10	161.03	161.09	
22	161.01	160.92	160.86	161.36	161.10	163.57	162.15	161.18	161.08	161.08	161.04	161.08	
23	161.19	160.90	160.85	161.29	161.12	164.34	162.28	161.15	161.06	161.05	161.00	161.06	
24	161.04	160.89	160.95	161.26	161.16	164.27	162.39	161.13	161.04	161.02	160.95	161.06	
25	161.02	160.93	160.97	161.26	161.18	163.83	162.22	161.15	161.02	161.02	160.93	161.05	
26	160.99	160.97	160.95	161.30	161.25	163.47	162.14	161.15	161.01	160.99	160.90	161.07	
27	160.97	160.91	160.95	161.34	161.36	163.16	162.05	161.15	160.99	160.98	160.89	161.15	
28	160.94	160.87	160.94	161.31	161.39	162.82	161.98	161.15	160.98	160.97	160.94	161.16	
29	160.93	160.94	160.97	161.27	161.87	162.63	161.91	161.23	160.96	160.97		161.16	
30	160.93	160.99	160.97	161.25	161.60	162.37	161.87	161.29	160.97	160.99		161.20	
31		161.03		161.26	161.46		161.79		160.96	161.02		161.47	
Mean	161.02	160.94	160.98	161.21	161.30	162.57	162.62	161.37	161.10	161.04	160.97	161.11	
Max	161.62	161.24	161.20	161.47	161.87	164.34	164.20	161.76	161.32	161.10	161.05	161.47	164.34
Min	160.90	160.84	160.85	160.97	161.09	161.51	161.79	161.13	160.96	160.96	160.89	161.05	160.84

Annual Max Momentary Gage Height 164.38 M (MSL), at 6.00 Hours, on Sep 23, 1993
Zero Gage at Bottom Elevation 161.00 M (MSL), River Bed 159.08 M (MSL)
Left Bank Elevation 169.05 M (MSL)
Right Bank Elevation 167.24 M (MSL), Drainage Area 8985 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	1.95	1.31	2.30	1.74	7.00	16.70	36.80	18.80	7.00	1.63	2.55	3.61	
2	1.74	1.21	2.55	1.84	7.68	11.30	32.48	17.90	7.00	1.84	2.68	3.92	
3	1.52	1.00	4.23	1.84	8.58	12.20	65.80	16.10	6.55	2.05	2.42	4.23	
4	1.31	0.90	4.38	2.55	8.80	24.75	120.10	14.60	6.04	2.42	2.30	4.54	
5	1.21	0.80	4.85	2.93	8.80	19.40	129.50	13.40	6.38	2.42	2.30	4.23	
6	1.00	0.50	4.38	3.05	9.68	26.15	135.50	12.20	5.19	2.55	2.30	4.23	
7	1.00	0.50	3.61	3.77	8.58	29.09	156.00	11.30	4.38	2.93	1.84	3.77	
8	1.42	0.40	3.05	3.30	8.80	31.34	115.90	11.00	3.92	2.93	1.74	3.45	
9	1.74	0.50	3.05	2.17	8.12	32.48	85.00	10.78	3.61	2.55	1.63	3.17	
10	1.84	0.50	2.55	3.05	7.00	36.00	68.80	10.56	3.45	2.68	1.52	3.05	
11	2.68	1.00	0.60	7.00	6.04	35.20	57.50	10.34	3.17	2.80	1.42	2.93	
12	3.17	1.00	1.63	10.34	5.53	54.50	51.00	10.56	2.93	2.68	1.21	2.80	
13	14.60	1.00	1.11	7.90	6.04	60.00	58.50	9.90	2.93	2.68	1.11	2.68	
14	4.38	1.21	1.00	6.38	5.87	74.20	68.20	9.02	2.93	3.05	1.42	2.80	
15	3.45	1.52	0.90	5.87	5.02	61.60	67.60	7.45	3.17	3.30	1.74	2.80	
16	2.93	5.53	1.63	5.36	4.23	49.56	49.56	6.55	3.17	3.30	1.84	2.80	
17	2.42	2.30	1.74	5.19	4.07	36.80	38.40	5.87	3.45	3.30	1.52	2.80	
18	2.30	4.38	1.21	4.85	3.77	28.72	33.62	5.70	3.05	3.17	1.42	3.05	
19	2.17	1.84	0.90	5.02	3.30	27.98	41.20	5.53	3.05	3.17	1.31	3.17	
20	2.68	1.52	0.70	7.23	3.30	34.40	33.62	5.36	3.05	3.17	1.31	3.05	
21	2.42	1.63	0.60	8.35	3.17	64.00	32.48	5.19	3.17	3.30	2.42	3.17	
22	2.17	1.21	0.60	7.90	3.30	108.90	32.10	4.54	3.05	3.05	2.55	3.05	
23	4.70	1.00	0.50	6.38	3.61	167.20	37.20	4.07	2.80	2.68	2.05	2.80	
24	2.55	0.90	1.52	5.87	4.23	161.60	41.60	3.77	2.55	2.30	1.52	2.80	
25	2.30	1.31	1.74	5.87	4.54	127.25	34.80	4.07	2.30	2.30	1.31	2.68	
26	1.95	1.74	1.52	6.55	5.70	101.90	31.72	4.07	2.17	1.95	1.00	2.93	
27	1.74	1.11	1.52	7.45	7.90	82.60	28.35	4.07	1.95	1.84	0.90	4.07	
28	1.42	0.70	1.42	6.77	8.58	62.20	25.80	4.07	1.84	1.74	1.42	4.23	
29	1.31	1.42	1.74	6.04	22.10	52.50	23.35	5.36	1.63	1.74		4.23	
30	1.31	1.95	1.74	5.70	14.00	40.80	22.10	6.38	1.74	1.95		4.85	
31		2.42		5.87	10.12		19.70		1.63	2.30		10.34	
Total	77.38	44.31	59.27	164.13	217.46	1671.32	1774.28	258.51	109.25	79.77	48.75	112.23	4616.66 CMSDAY
Mean	2.58	1.43	1.98	5.29	7.01	55.71	57.23	8.62	3.52	2.57	1.74	3.62	12.65 CMS
Max	14.60	5.53	4.85	10.34	22.10	167.20	156.00	18.80	7.00	3.30	2.68	10.34	167.20 CMS
Min	1.00	0.40	0.50	1.74	3.17	11.30	19.70	3.77	1.63	1.63	0.90	2.68	0.40 CMS
Runoff	6.686	3.828	5.121	14.181	18.789	144.402	153.298	22.335	9.439	6.892	4.212	9.697	398.879 MCM

Momentary Peak 170.40 CMS, at 164.38 M (MSL), at 6.00 Hours, on Sep 23, 1993

Runoff Yield 1.41 Liters/Second/Square KM, Momentary Peak Yield 18.96 Liters/Second/Square KM

WATER YEAR 1993

WANG RIVER BASIN

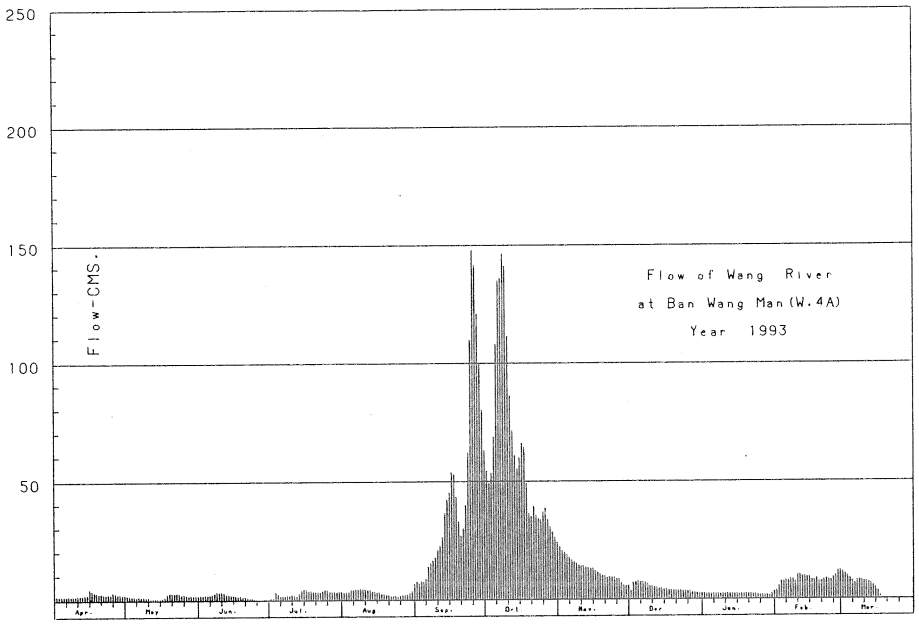
Wang River at Ban Wang Man, Tak (W.4A)

Location	Lat. 17°-12'-22" N., Long. 99°-06'-08" E., on right bank about 200 meters upstream from the bridge on highway, Amphoe Sam Ngao, Tak.
Drainage Area	10,507 sq.km.
Type of Gage	Water-stage recorder.
Zero Gage at Bottom	+130.00 m. (M.S.L.)
Bench Mark	B.M.-H.D.
Location	Infront of Wat Wang Man.
Elevation	+136.071 m. (M.S.L.)
Gage Reading Frequency	Recording.
Basis of Mean Daily Gage Height	Arithmetic mean of 24 readings.
Period of Available Gage Records	1968 to date.
Rating Operation	
Period of Rating	1971 to date.
Rated by Float	-
Rated by Current Meter	1971 to date.
Stability of Channel Regimes	Stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Upstream state diversions for irrigation about 12,320 hectares. Stage-discharge relation defined by 18 discharge measurements made in 1993.

Gage Height in Meter (MSL), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	130.49	130.51	130.50	130.34	130.64	131.00	132.79	131.70	130.68	130.56	130.68	131.18	
2	130.47	130.48	130.51	130.39	130.63	130.92	132.64	131.63	130.94	130.55	130.85	131.15	
3	130.47	130.46	130.52	130.63	130.66	131.00	132.76	131.61	130.97	130.54	130.97	131.09	
4	130.47	130.45	130.52	130.57	130.73	130.97	133.18	131.55	130.99	130.54	130.98	131.05	
5	130.47	130.44	130.53	130.48	130.75	131.05	134.09	131.50	130.98	130.54	131.00	130.98	
6	130.47	130.44	130.55	130.46	130.75	131.30	134.64	131.44	130.96	130.54	131.00	130.92	
7	130.47	130.44	130.60	130.48	130.76	131.38	134.66	131.41	130.97	130.54	131.03	131.00	
8	130.47	130.44	130.65	130.50	130.77	131.43	134.87	131.37	130.91	130.54	131.03	131.02	
9	130.48	130.43	130.65	130.50	130.78	131.50	134.76	131.34	130.86	130.54	130.97	130.99	
10	130.49	130.42	130.64	130.53	130.75	131.65	134.17	131.32	130.84	130.55	131.12	130.98	
11	130.51	130.37	130.61	130.50	130.73	131.71	133.61	131.31	130.83	130.55	131.12	130.97	
12	130.52	130.34	130.56	130.48	130.72	131.86	133.24	131.30	130.80	130.55	131.09	130.95	
13	130.53	130.34	130.54	130.57	130.68	132.25	132.98	131.27	130.78	130.54	131.09	130.91	
14	130.54	130.34	130.53	130.73	130.65	132.44	132.81	131.27	130.76	130.54	131.08	130.86	
15	130.77	130.35	130.52	130.77	130.63	132.53	132.94	131.26	130.74	130.54	131.07	130.78	
16	130.71	130.37	130.49	130.74	130.62	132.77	133.11	131.21	130.74	130.54	131.02	130.66	
17	130.66	130.44	130.47	130.69	130.57	132.75	133.06	131.18	130.72	130.54	131.01	130.46	
18	130.61	130.56	130.47	130.69	130.55	132.47	132.64	131.14	130.70	130.54	131.05	130.31	
19	130.60	130.62	130.45	130.67	130.52	132.11	132.23	131.12	130.70	130.54	130.96	130.12	
20	130.58	130.60	130.44	130.64	130.50	131.89	132.19	131.10	130.69	130.55	130.99	130.02	
21	130.56	130.60	130.42	130.64	130.48	132.01	132.35	131.07	130.68	130.55	131.01	130.00	
22	130.55	130.63	130.39	130.65	130.47	132.36	132.21	131.08	130.68	130.54	131.04	130.00	
23	130.55	130.59	130.35	130.69	130.46	133.01	132.16	131.08	130.67	130.53	131.01	130.00	
24	130.55	130.55	130.31	130.75	130.46	134.13	132.14	131.07	130.67	130.52	131.01	130.00	
25	130.63	130.54	130.31	130.72	130.48	134.90	132.27	131.05	130.67	130.50	131.07	130.00	
26	130.59	130.51	130.30	130.67	130.50	134.77	132.32	131.04	130.67	130.49	131.10	130.00	
27	130.56	130.50	130.29	130.65	130.52	134.36	132.15	130.94	130.61	130.49	131.21	130.00	
28	130.54	130.50	130.29	130.65	130.53	133.91	132.03	130.86	130.59	130.48	131.21	130.00	
29	130.53	130.50	130.30	130.65	130.61	133.46	131.95	130.87	130.58	130.48		130.00	
30	130.52	130.49	130.31	130.65	130.68	133.03	131.85	130.86	130.57	130.54		130.00	
31		130.50		130.65	130.91		131.77		130.57	130.64		131.03	
Mean	130.55	130.48	130.47	130.60	130.63	132.36	132.92	131.23	130.76	130.54	131.03	130.56	
Max	130.77	130.63	130.65	130.77	130.91	134.90	134.87	131.70	130.99	130.64	131.21	131.18	134.90
Min	130.47	130.34	130.29	130.34	130.46	130.92	131.77	130.86	130.57	130.48	130.68	130.00	130.00

Annual Max Momentary Gage Height 134.95 M (MSL), at 18.00 Hours, on Oct 8, 1993
Zero Gage at Bottom Elevation 130.00 M (MSL), River Bed 130.12 M (MSL)
Left Bank Elevation 136.08 M (MSL)
Right Bank Elevation 136.35 M (MSL), Drainage Area 10507 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	1.90	2.10	2.00	0.70	3.40	8.00	54.65	22.50	3.80	2.60	3.80	11.60	
2	1.70	1.80	2.10	0.95	3.30	6.80	49.40	20.75	7.10	2.50	5.75	11.00	
3	1.70	1.60	2.20	3.30	3.60	8.00	53.60	20.25	7.55	2.40	7.55	9.80	
4	1.70	1.50	2.20	2.70	4.30	7.55	69.20	19.00	7.85	2.40	7.70	9.00	
5	1.70	1.40	2.30	1.80	4.50	9.00	108.05	18.00	7.70	2.40	8.00	7.70	
6	1.70	1.40	2.50	1.60	4.50	14.00	135.00	16.80	7.40	2.40	8.00	6.80	
7	1.70	1.40	3.00	1.80	4.60	15.60	136.00	16.20	7.55	2.40	8.60	8.00	
8	1.70	1.40	3.50	2.00	4.70	16.60	146.50	15.40	6.65	2.40	8.60	8.40	
9	1.80	1.30	3.50	2.00	4.80	18.00	141.00	14.80	5.90	2.40	7.55	7.85	
10	1.90	1.20	3.40	2.30	4.50	21.25	111.65	14.40	5.60	2.50	10.40	7.70	
11	2.10	0.85	3.10	2.00	4.30	22.75	86.45	14.20	5.45	2.50	10.40	7.55	
12	2.20	0.70	2.60	1.80	4.20	26.50	71.60	14.00	5.00	2.50	9.80	7.25	
13	2.30	0.70	2.40	2.70	3.80	36.88	61.30	13.40	4.80	2.40	9.80	6.65	
14	2.40	0.70	2.30	4.30	3.50	42.40	55.35	13.40	4.60	2.40	9.60	5.90	
15	4.70	0.75	2.20	4.70	3.30	45.55	59.90	13.20	4.40	2.40	9.40	4.80	
16	4.10	0.85	1.90	4.40	3.20	53.95	66.40	12.20	4.40	2.40	8.40	3.60	
17	3.60	1.40	1.70	3.90	2.70	53.25	64.40	11.60	4.20	2.40	8.20	1.60	
18	3.10	2.60	1.70	3.90	2.50	43.45	49.40	10.80	4.00	2.40	9.00	0.55	
19	3.00	3.20	1.50	3.70	2.20	33.03	36.32	10.40	4.00	2.40	7.40	0.00	
20	2.80	3.00	1.40	3.40	2.00	27.25	35.23	10.00	3.90	2.50	7.85	0.00	
21	2.60	3.00	1.20	3.40	1.80	30.27	39.63	9.40	3.80	2.50	8.20	0.00	
22	2.50	3.30	0.95	3.50	1.70	39.90	35.78	9.60	3.80	2.40	8.80	0.00	
23	2.50	2.90	0.75	3.90	1.60	62.40	34.40	9.60	3.70	2.30	8.20	0.00	
24	2.50	2.50	0.55	4.50	1.60	109.85	33.85	9.40	3.70	2.20	8.20	0.00	
25	3.30	2.40	0.55	4.20	1.80	148.00	37.43	9.00	3.70	2.00	9.40	0.00	
26	2.90	2.10	0.50	3.70	2.00	141.50	38.80	8.80	3.70	1.90	10.00	0.00	
27	2.60	2.00	0.45	3.50	2.20	121.00	34.12	7.10	3.10	1.90	12.20	0.00	
28	2.40	2.00	0.45	3.50	2.30	99.95	30.82	5.90	2.90	1.80	12.20	0.00	
29	2.30	2.00	0.50	3.50	3.10	80.40	28.75	6.05	2.80	1.80		0.00	
30	2.20	1.90	0.55	3.50	3.80	63.20	26.25	5.90	2.70	2.40		0.00	
31		2.00		3.50	6.65		24.25		2.70	3.40		8.60	
Total	73.60	55.95	53.95	94.65	102.45	1406.28	1955.48	382.05	148.45	73.30	243.00	134.35	4723.51 CMSDAY
Mean	2.45	1.80	1.80	3.05	3.30	46.88	63.08	12.73	4.79	2.36	8.68	4.33	12.94 CMS
Max	4.70	3.30	3.50	4.70	6.65	148.00	146.50	22.50	7.85	3.40	12.20	11.60	148.00 CMS
Min	1.70	0.70	0.45	0.70	1.60	6.80	24.25	5.90	2.70	1.80	3.80	0.00	0.00 CMS
Runoff	6.359	4.834	4.661	8.178	8.852	121.503	168.953	33.009	12.826	6.333	20.995	11.608	408.111 MCM

Momentary Peak 150.50 CMS, at 134.95 M (MSL), at 18.00 Hours, on Oct 8, 1993

Runoff Yield 1.23 Liters/Second/Square KM, Momentary Peak Yield 14.32 Liters/Second/Square KM

WATER YEAR 1993

WANG RIVER BASIN

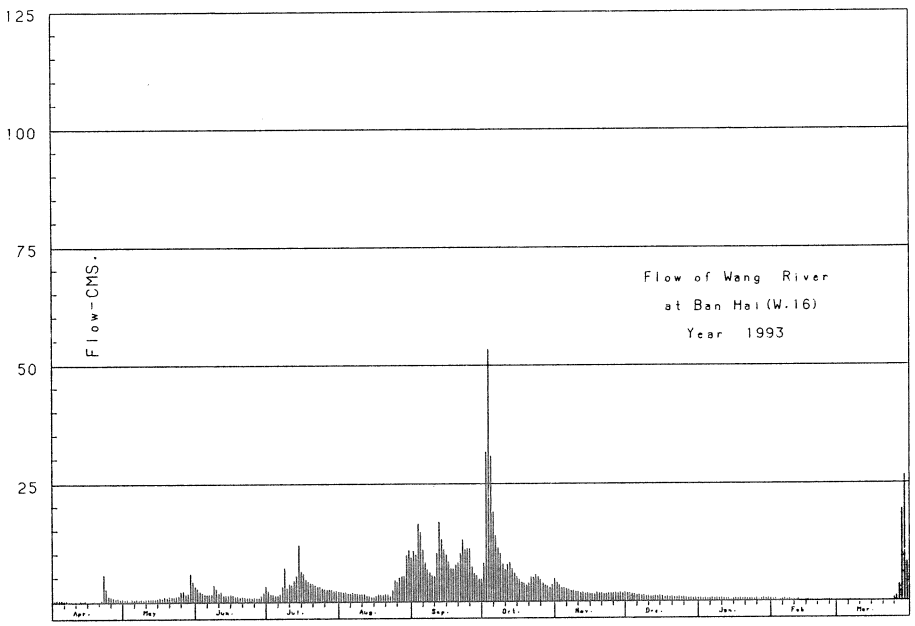
Wang River at Ban Hai, Lampang (W.16)

Location	Lat. 18°-48'-12" N., Long. 99°-38'-45" E., on right bank at Ban Hai, Amphoe Chae Hom Lampang.
Drainage Area	1,284 sq.km.
Type of Gage	Water-stage recorder.
Zero Gage at Bottom	+0.00 m. (A.D.)
Bench Mark	B.M.-H.D.
Location	Near the automatic gage building.
Elevation	+7.676 m. (A.D.)
Gage Reading Frequency	Recording.
Basis of Mean Daily Gage Height	Arithmetic mean of 24 readings.
Period of Available Gage Records	1971 to date.
Rating Operation	
Period of Rating	1971 to date.
Rated by Float	-
Rated by Current Meter	1971 to date.
Stability of Channel Regimes	Stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Stage-discharge relation defined by 16 discharge measurements made in 1993.

Gage Height in Meter (A.D), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.14	0.18	0.57	0.48	0.45	1.44	1.21	0.76	0.41	0.20	0.16	0.08	
2	0.14	0.18	0.49	0.39	0.45	1.37	2.39	0.67	0.39	0.20	0.16	0.08	
3	0.14	0.18	0.42	0.36	0.44	1.85	2.93	0.60	0.38	0.20	0.15	0.08	
4	0.13	0.18	0.39	0.34	0.42	1.73	2.37	0.58	0.36	0.20	0.15	0.08	
5	0.12	0.17	0.38	0.34	0.42	1.47	1.97	0.56	0.34	0.20	0.15	0.08	
6	0.11	0.16	0.36	0.37	0.42	1.24	1.68	0.52	0.33	0.20	0.15	0.08	
7	0.10	0.16	0.39	0.65	0.41	1.06	1.50	0.50	0.32	0.20	0.14	0.08	
8	0.10	0.16	0.68	1.11	0.38	1.01	1.40	0.48	0.32	0.20	0.14	0.08	
9	0.10	0.16	0.56	0.58	0.38	0.92	1.21	0.46	0.30	0.20	0.13	0.07	
10	0.10	0.18	0.43	0.72	0.36	0.92	1.08	0.44	0.29	0.20	0.12	0.07	
11	0.10	0.21	0.46	0.67	0.36	1.40	1.18	0.42	0.29	0.18	0.12	0.06	
12	0.11	0.20	0.35	0.82	0.33	1.87	1.24	0.42	0.29	0.18	0.11	0.05	
13	0.11	0.20	0.34	0.92	0.30	1.64	1.09	0.40	0.29	0.18	0.10	0.05	
14	0.11	0.20	0.35	1.55	0.27	1.46	0.99	0.40	0.30	0.18	0.10	0.05	
15	0.11	0.21	0.38	1.04	0.27	1.39	0.89	0.39	0.30	0.18	0.10	0.05	
16	0.10	0.25	0.33	0.97	0.30	1.24	0.82	0.36	0.28	0.18	0.10	0.04	
17	0.10	0.24	0.31	0.84	0.38	1.10	0.76	0.37	0.26	0.18	0.10	0.03	
18	0.10	0.27	0.29	0.77	0.34	1.08	0.72	0.41	0.26	0.18	0.10	0.03	
19	0.09	0.27	0.28	0.74	0.36	1.19	0.68	0.41	0.26	0.18	0.10	0.03	
20	0.08	0.30	0.27	0.71	0.36	1.22	0.72	0.39	0.26	0.17	0.10	0.04	
21	0.15	0.30	0.26	0.67	0.35	1.41	0.88	0.38	0.25	0.17	0.10	0.04	
22	0.97	0.28	0.25	0.64	0.31	1.62	0.90	0.39	0.25	0.17	0.10	0.04	
23	0.56	0.30	0.24	0.62	0.53	1.47	0.94	0.39	0.25	0.17	0.10	0.04	
24	0.33	0.34	0.24	0.59	0.82	1.48	0.91	0.40	0.25	0.17	0.10	0.05	
25	0.27	0.47	0.25	0.54	0.76	1.47	0.81	0.39	0.24	0.17	0.10	0.22	
26	0.24	0.48	0.25	0.54	0.87	1.14	0.74	0.40	0.22	0.17	0.09	0.27	
27	0.22	0.39	0.25	0.56	0.92	0.99	0.68	0.41	0.22	0.18	0.09	0.68	
28	0.21	0.40	0.31	0.51	0.91	0.92	0.63	0.41	0.21	0.19	0.08	1.99	
29	0.20	0.99	0.44	0.49	1.38	0.85	0.61	0.40	0.21	0.19		2.24	
30	0.19	0.77	0.64	0.48	1.46	0.83	0.67	0.41	0.21	0.18		1.24	
31		0.66		0.48	1.32		0.84		0.21	0.17		0.84	
Mean	0.18	0.30	0.37	0.66	0.55	1.29	1.14	0.45	0.28	0.18	0.12	0.29	
Max	0.97	0.99	0.68	1.55	1.46	1.87	2.93	0.76	0.41	0.20	0.16	2.24	2.93
Min	0.08	0.16	0.24	0.34	0.27	0.83	0.61	0.36	0.21	0.17	0.08	0.03	0.03

Annual Max Momentary Gage Height 3.29 M (A.D), at 7.00 Hours, on Oct 3, 1993
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed 0.14 M (A.D)
Left Bank Elevation 7.26 M (A.D)
Right Bank Elevation 7.22 M (A.D), Drainage Area 1284 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.46	0.62	2.82	2.28	2.10	10.72	8.11	4.18	1.86	0.70	0.54	0.24	
2	0.46	0.62	2.34	1.74	2.10	9.86	31.65	3.49	1.74	0.70	0.54	0.24	
3	0.46	0.62	1.92	1.56	2.04	16.65	53.50	3.00	1.68	0.70	0.50	0.24	
4	0.42	0.62	1.74	1.44	1.92	14.68	30.95	2.88	1.56	0.70	0.50	0.24	
5	0.38	0.58	1.68	1.44	1.92	11.11	19.11	2.76	1.44	0.70	0.50	0.24	
6	0.34	0.54	1.56	1.62	1.92	8.42	13.92	2.52	1.38	0.70	0.50	0.24	
7	0.30	0.54	1.74	3.35	1.86	6.74	11.50	2.40	1.32	0.70	0.46	0.24	
8	0.30	0.54	3.56	7.19	1.68	6.29	10.20	2.28	1.32	0.70	0.46	0.24	
9	0.30	0.54	2.76	2.88	1.68	5.48	8.11	2.16	1.20	0.70	0.42	0.21	
10	0.30	0.62	1.98	3.86	1.56	5.48	6.92	2.04	1.15	0.70	0.38	0.21	
11	0.30	0.75	2.16	3.49	1.56	10.20	7.82	1.92	1.15	0.62	0.38	0.18	
12	0.34	0.70	1.50	4.66	1.38	16.99	8.42	1.92	1.15	0.62	0.34	0.15	
13	0.34	0.70	1.44	5.48	1.20	13.36	7.01	1.80	1.15	0.62	0.30	0.15	
14	0.34	0.70	1.50	12.15	1.05	10.98	6.11	1.80	1.20	0.62	0.30	0.15	
15	0.34	0.75	1.68	6.56	1.05	10.09	5.22	1.74	1.20	0.62	0.30	0.15	
16	0.30	0.95	1.38	5.93	1.20	8.42	4.66	1.56	1.10	0.62	0.30	0.12	
17	0.30	0.90	1.26	4.82	1.68	7.10	4.18	1.62	1.00	0.62	0.30	0.09	
18	0.30	1.05	1.15	4.26	1.44	6.92	3.86	1.86	1.00	0.62	0.30	0.09	
19	0.27	1.05	1.10	4.02	1.56	7.91	3.56	1.86	1.00	0.62	0.30	0.09	
20	0.24	1.20	1.05	3.78	1.56	8.21	3.86	1.74	1.00	0.58	0.30	0.12	
21	0.50	1.20	1.00	3.49	1.50	10.33	5.14	1.68	0.95	0.58	0.30	0.12	
22	5.93	1.10	0.95	3.28	1.26	13.08	5.30	1.74	0.95	0.58	0.30	0.12	
23	2.76	1.20	0.90	3.14	2.58	11.11	5.66	1.74	0.95	0.58	0.30	0.12	
24	1.38	1.44	0.90	2.94	4.66	11.24	5.39	1.80	0.95	0.58	0.30	0.15	
25	1.05	2.22	0.95	2.64	4.18	11.11	4.58	1.74	0.90	0.58	0.30	0.80	
26	0.90	2.28	0.95	2.64	5.06	7.46	4.02	1.80	0.80	0.58	0.27	1.05	
27	0.80	1.74	0.95	2.76	5.48	6.11	3.56	1.86	0.80	0.62	0.27	3.56	
28	0.75	1.80	1.26	2.46	5.39	5.48	3.21	1.86	0.75	0.66	0.24	19.57	
29	0.70	6.11	2.04	2.34	9.97	4.90	3.07	1.80	0.75	0.66		26.70	
30	0.66	4.26	3.28	2.28	10.98	4.74	3.49	1.86	0.75	0.62		8.42	
31		3.42		2.28	9.28		4.82		0.75	0.58		4.82	
Total	22.22	41.36	49.50	112.76	92.80	281.17	296.91	63.41	34.90	19.78	10.20	69.06	1094.07 CMSDAY
Mean	0.74	1.33	1.65	3.64	2.99	9.37	9.58	2.11	1.13	0.64	0.36	2.23	3.00 CMS
Max	5.93	6.11	3.56	12.15	10.98	16.99	53.50	4.18	1.86	0.70	0.54	26.70	53.50 CMS
Min	0.24	0.54	0.90	1.44	1.05	4.74	3.07	1.56	0.75	0.58	0.24	0.09	0.09 CMS
Runoff	1.920	3.574	4.277	9.742	8.018	24.293	25.653	5.479	3.015	1.709	0.881	5.967	94.528 MCM

Momentary Peak 71.50 CMS, at 3.29 M (A.D), at 7.00 Hours, on Oct 3, 1993
Runoff Yield 2.33 Liters/Second/Square KM, Momentary Peak Yield 55.69 Liters/Second/Square KM

WATER YEAR 1993

WANG RIVER BASIN

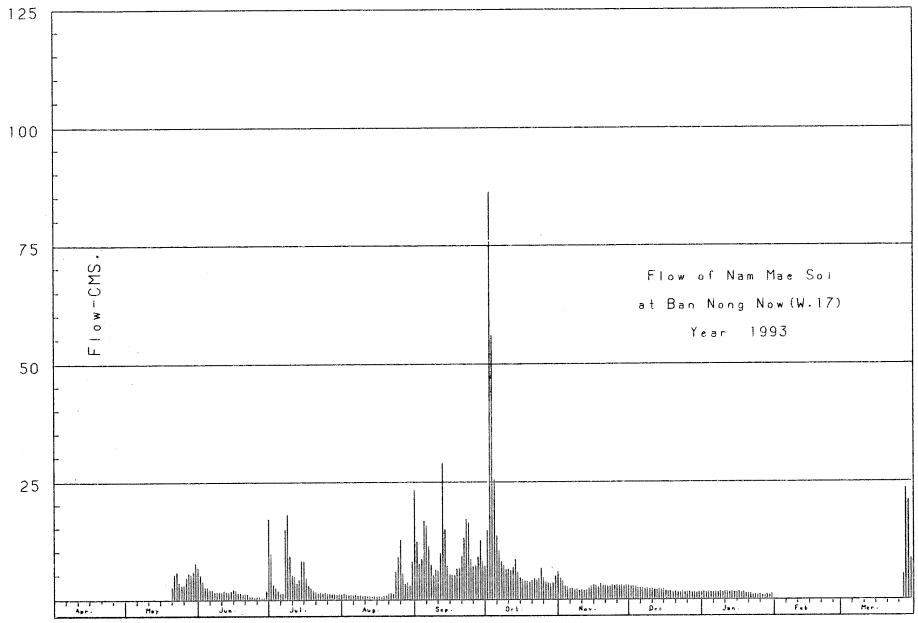
Nam Mae Soi at Ban Nong Now, Lampang (W.17)

Location	Lat. 18°-43'-16" N., Long 99°-34'-12" E., on right bank at the bridge of Lampang-Wang Nua Road, Ban Nong Now, Tambon Chae Hom, Amphoe Chae Hom, Lampang.
Drainage Area	619 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+292.00 m.(M.S.L.)
Bench Mark	B.M.-H.D.
Location	About 21 meters from the top staff gage.
Elevation	+295.790 m.(M.S.L.)
Gage Reading Frequency	5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1980 to date.
Rating Operation	
Period of Rating	1980 to date.
Rated by Float	-
Rated by Current Meter	1980 to date.
Stability of Channel Regimes	Stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records fair. Stage-discharge relation defined by 18 discharge measurements made in 1993.

Gage Height in Meter (MSL), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	291.87	291.82	292.10	292.48	291.70	292.62	292.73	292.03	291.86	291.72	291.89	291.83	
2	291.87	291.83	291.95	291.90	291.65	292.31	294.35	291.96	291.85	291.72	291.88	291.82	
3	291.87	291.82	291.84	291.81	291.65	292.39	293.88	291.86	291.85	291.72	291.88	291.81	
4	291.87	291.81	291.82	291.76	291.65	292.84	293.16	291.83	291.84	291.72	291.87	291.81	
5	291.87	291.82	291.79	291.69	291.65	292.78	292.68	291.81	291.82	291.72	291.87	291.81	
6	291.87	291.82	291.76	291.68	291.64	292.56	292.51	291.79	291.81	291.72	291.86	291.81	
7	291.87	291.83	291.73	292.75	291.64	292.30	292.36	291.78	291.80	291.72	291.86	291.81	
8	291.87	291.83	291.72	292.90	291.63	292.09	292.27	291.78	291.80	291.72	291.86	291.81	
9	291.87	291.82	291.74	292.45	291.63	292.19	292.21	291.76	291.80	291.72	291.86	291.80	
10	291.86	291.82	291.71	292.10	291.62	292.17	292.20	291.76	291.79	291.72	291.86	291.79	
11	291.86	291.82	291.75	292.06	291.62	292.49	292.17	291.76	291.78	291.72	291.86	291.79	
12	291.87	291.82	291.73	291.93	291.62	293.26	292.25	291.75	291.78	291.72	291.86	291.78	
13	291.88	291.82	291.71	291.99	291.61	292.75	292.40	291.81	291.78	291.72	291.85	291.78	
14	291.88	291.81	291.75	292.36	291.61	292.26	292.14	291.85	291.78	291.72	291.85	291.78	
15	291.88	291.81	291.79	292.37	291.61	292.11	292.04	291.90	291.78	291.72	291.85	291.77	
16	291.89	291.80	291.75	292.02	291.61	292.08	291.99	291.86	291.76	291.72	291.85	291.77	
17	291.88	291.79	291.71	291.88	291.61	292.09	291.97	291.84	291.75	291.71	291.84	291.77	
18	291.87	291.78	291.69	291.81	291.62	292.21	291.95	291.90	291.73	291.71	291.84	291.77	
19	291.87	291.77	291.68	291.76	291.65	292.23	291.95	291.88	291.72	291.69	291.84	291.77	
20	291.86	291.85	291.67	291.72	291.68	292.45	291.97	291.86	291.72	291.67	291.84	291.76	
21	291.85	292.10	291.66	291.70	291.69	292.65	292.02	291.86	291.72	291.66	291.84	291.77	
22	291.85	292.16	291.61	291.71	291.69	292.85	291.99	291.86	291.72	291.65	291.84	291.80	
23	291.94	291.93	291.60	291.70	292.16	292.82	292.01	291.87	291.72	291.65	291.84	291.82	
24	291.90	291.88	291.60	291.70	292.44	292.39	292.23	291.87	291.72	291.65	291.85	291.87	
25	291.85	291.87	291.59	291.69	292.64	292.25	292.03	291.87	291.71	291.65	291.85	291.86	
26	291.84	292.05	291.59	291.69	292.12	292.28	291.95	291.87	291.71	291.64	291.84	291.93	
27	291.83	292.13	291.58	291.68	291.92	292.44	291.93	291.87	291.71	291.64	291.84	292.11	
28	291.82	292.09	291.58	291.67	291.93	292.63	291.90	291.86	291.71	291.65	291.84	293.10	
29	291.82	292.17	291.76	291.67	291.88	292.35	291.93	291.86	291.71	291.65		293.02	
30	291.82	292.31	292.86	291.66	292.34	292.26	292.06	291.86	291.71	291.67		292.41	
31		292.23		291.65	293.09		292.15		291.72	291.89		292.10	
Mean	291.87	291.91	291.76	291.93	291.83	292.44	292.30	291.85	291.76	291.70	291.85	291.92	
Max	291.94	292.31	292.86	292.90	293.09	293.26	294.35	292.03	291.86	291.89	291.89	293.10	294.35
Min	291.82	291.77	291.58	291.65	291.61	292.08	291.90	291.75	291.71	291.64	291.84	291.76	291.58

Annual Max Momentary Gage Height 294.83 M (MSL), at 14.00 Hours, on Oct 2, 1993
Zero Gage at Bottom Elevation 292.00 M (MSL), River Bed 291.11 M (MSL)
Left Bank Elevation 295.42 M (MSL)
Right Bank Elevation 295.22 M (MSL), Drainage Area 619 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.00	0.00	5.30	9.75	1.40	12.40	14.60	4.56	2.87	1.58	0.00	0.00	
2	0.00	0.00	3.75	3.25	1.00	7.59	86.50	3.85	2.78	1.58	0.00	0.00	
3	0.00	0.00	2.68	2.40	1.00	8.49	56.00	2.87	2.78	1.58	0.00	0.00	
4	0.00	0.00	2.49	1.94	1.00	16.80	25.60	2.58	2.68	1.58	0.00	0.00	
5	0.00	0.00	2.21	1.32	1.00	15.60	13.60	2.40	2.49	1.58	0.00	0.00	
6	0.00	0.00	1.94	1.24	0.92	11.22	10.24	2.21	2.40	1.58	0.00	0.00	
7	0.00	0.00	1.67	15.00	0.92	7.47	8.15	2.12	2.30	1.58	0.00	0.00	
8	0.00	0.00	1.58	18.00	0.84	5.19	7.14	2.12	2.30	1.58	0.00	0.00	
9	0.00	0.00	1.76	9.32	0.84	6.24	6.46	1.94	2.30	1.58	0.00	0.00	
10	0.00	0.00	1.49	5.30	0.76	6.04	6.35	1.94	2.21	1.58	0.00	0.00	
11	0.00	0.00	1.85	4.88	0.76	9.90	6.04	1.94	2.12	1.58	0.00	0.00	
12	0.00	0.00	1.67	3.55	0.76	29.10	6.91	1.85	2.12	1.58	0.00	0.00	
13	0.00	0.00	1.49	4.15	0.68	15.00	8.60	2.40	2.12	1.58	0.00	0.00	
14	0.00	0.00	1.85	8.15	0.68	7.03	5.72	2.78	2.12	1.58	0.00	0.00	
15	0.00	0.00	2.21	8.26	0.68	5.40	4.67	3.25	2.12	1.58	0.00	0.00	
16	0.00	0.00	1.85	4.46	0.68	5.09	4.15	2.87	1.94	1.58	0.00	0.00	
17	0.00	0.00	1.49	3.06	0.68	5.19	3.95	2.68	1.85	1.49	0.00	0.00	
18	0.00	0.00	1.32	2.40	0.76	6.46	3.75	3.25	1.67	1.49	0.00	0.00	
19	0.00	0.00	1.24	1.94	1.00	6.69	3.75	3.06	1.58	1.32	0.00	0.00	
20	0.00	2.78	1.16	1.58	1.24	9.32	3.95	2.87	1.58	1.16	0.00	0.00	
21	0.00	5.30	1.08	1.40	1.32	13.00	4.46	2.87	1.58	1.08	0.00	0.00	
22	0.00	5.93	0.68	1.49	1.32	17.00	4.15	2.87	1.58	1.00	0.00	0.00	
23	0.00	3.55	0.60	1.40	5.93	16.40	4.36	2.97	1.58	1.00	0.00	0.00	
24	0.00	3.06	0.60	1.40	9.18	8.49	6.69	2.97	1.58	1.00	0.00	0.00	
25	0.00	2.97	0.54	1.32	12.80	6.91	4.56	2.97	1.49	1.00	0.00	0.00	
26	0.00	4.77	0.54	1.32	5.51	7.25	3.75	2.97	1.49	0.92	0.00	0.00	
27	0.00	5.61	0.48	1.24	3.45	9.18	3.55	2.97	1.49	0.92	0.00	5.40	
28	0.00	5.19	0.48	1.16	3.55	12.60	3.25	2.87	1.49	1.00	0.00	23.50	
29	0.00	6.04	1.94	1.16	3.06	8.04	3.55	2.87	1.49	1.00		21.10	
30	0.00	7.59	17.20	1.08	7.92	7.03	4.88	2.87	1.49	1.16		8.74	
31		6.69		1.00	23.20		5.82		1.58	0.00		5.30	
Total	0.00	59.48	65.14	123.92	94.84	302.12	335.15	82.74	61.17	40.82	0.00	64.04	1229.42 CMSDAY
Mean	0.00	1.92	2.17	4.00	3.06	10.07	10.81	2.76	1.97	1.32	0.00	2.07	3.37 CMS
Max	0.00	7.59	17.20	18.00	23.20	29.10	86.50	4.56	2.87	1.58	0.00	23.50	86.50 CMS
Min	0.00	0.00	0.48	1.00	0.68	5.09	3.25	1.85	1.49	0.00	0.00	0.00	0.00 CMS
Runoff	0.000	5.139	5.628	10.707	8.194	26.103	28.957	7.149	5.285	3.527	0.000	5.533	106.222 MCM

Momentary Peak 125.05 CMS, at 294.83 M (MSL), at 14.00 Hours, on Oct 2, 1993

Runoff Yield 5.44 Liters/Second/Square KM, Momentary Peak Yield 202.02 Liters/Second/Square KM

WATER YEAR 1993

WANG RIVER BASIN

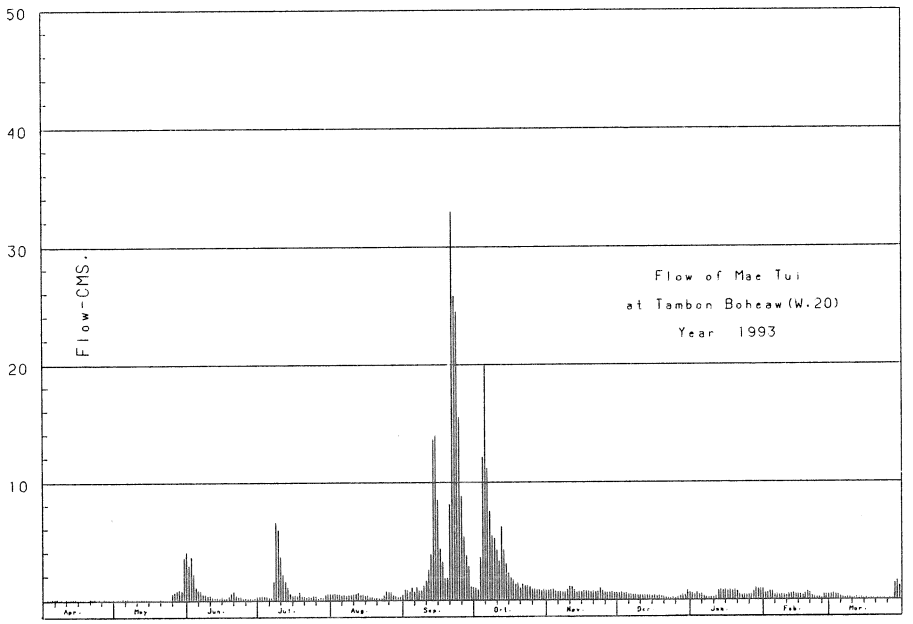
Nam Mae Tui at Ban Tha LO, Lampang (W.20)

Location	LAT. 18°-18'-35" N., Long. 99°-27'-29" N., on left bank at the bridge of Lampang-Hang Chat Highway, Tambon Bo Haeo, Amphoe Muang, Lampang.
Drainage Area	1,740 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+0.00 m.(A.D.)
Bench Mark	B.M.-H.D.
Location	On left bank at the approach of the bridge.
Elevation	+7.710 m.(A.D.)
Gage Reading Frequency	5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1993 to date.
Rating Operation	
Period of Rating	1993 to date.
Rated by Float	-
Rated by Current Meter	1993 to date.
Stability of Channel Regimes	Stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records fair. Stage-discharge relation defined by 25 discharge measurements made in 1993.

Gage Height in Meter (A.D), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.50	0.52	1.32	0.65	0.72	0.84	0.86	0.82	0.75	0.72	0.74	0.71	
2	0.50	0.51	1.48	0.65	0.72	0.81	0.83	0.82	0.75	0.70	0.74	0.71	
3	0.51	0.51	1.16	0.66	0.72	0.79	1.46	0.84	0.74	0.74	0.79	0.70	
4	0.51	0.52	0.89	0.63	0.70	0.87	2.42	0.78	0.73	0.70	0.78	0.68	
5	0.52	0.52	0.82	0.61	0.69	0.79	2.91	0.78	0.71	0.71	0.69	0.64	
6	0.52	0.52	0.79	0.60	0.68	0.89	2.34	0.77	0.69	0.65	0.70	0.60	
7	0.52	0.51	0.72	1.02	0.67	0.80	2.00	0.77	0.69	0.61	0.68	0.59	
8	0.52	0.50	0.69	1.89	0.67	0.82	1.74	0.76	0.69	0.61	0.68	0.59	
9	0.52	0.50	0.67	1.82	0.70	0.91	1.72	0.84	0.68	0.60	0.69	0.59	
10	0.52	0.51	0.66	1.48	0.70	1.04	1.58	0.89	0.67	0.62	0.67	0.58	
11	0.51	0.51	0.61	1.15	0.73	1.24	1.40	0.89	0.68	0.64	0.70	0.58	
12	0.51	0.50	0.61	1.02	0.74	1.51	1.85	0.82	0.67	0.81	0.73	0.60	
13	0.51	0.50	0.59	0.88	0.70	2.52	1.57	0.77	0.68	0.81	0.72	0.59	
14	0.51	0.49	0.59	0.74	0.70	2.54	1.36	0.77	0.66	0.81	0.70	0.58	
15	0.51	0.49	0.58	0.67	0.67	2.09	1.18	0.78	0.66	0.81	0.69	0.57	
16	0.51	0.50	0.58	0.67	0.66	1.59	1.10	0.79	0.66	0.80	0.68	0.57	
17	0.52	0.49	0.58	0.67	0.62	1.40	1.04	0.80	0.65	0.81	0.68	0.54	
18	0.54	0.50	0.66	0.76	0.61	1.07	0.96	0.78	0.65	0.80	0.71	0.49	
19	0.54	0.49	0.73	0.66	0.60	1.09	0.97	0.77	0.65	0.81	0.78	0.47	
20	0.53	0.49	0.79	0.64	0.60	2.05	0.87	0.78	0.63	0.79	0.74	0.48	
21	0.53	0.49	0.67	0.63	0.59	3.55	0.94	0.78	0.61	0.69	0.65	0.48	
22	0.53	0.45	0.65	0.64	0.56	3.22	0.92	0.77	0.60	0.68	0.63	0.48	
23	0.53	0.44	0.63	0.63	0.69	3.15	0.91	0.87	0.59	0.67	0.62	0.49	
24	0.53	0.53	0.60	0.65	0.78	2.64	0.90	0.79	0.59	0.68	0.59	0.48	
25	0.52	0.74	0.57	0.65	0.78	2.13	0.84	0.76	0.59	0.69	0.58	0.50	
26	0.52	0.75	0.58	0.59	0.76	1.73	0.83	0.74	0.61	0.69	0.70	0.49	
27	0.52	0.81	0.59	0.63	0.69	1.50	0.83	0.76	0.64	0.79	0.68	0.54	
28	0.53	0.82	0.58	0.59	0.65	1.30	0.81	0.76	0.69	0.86	0.68	0.97	
29	0.53	0.81	0.57	0.70	0.63	0.90	0.81	0.75	0.69	0.84		1.01	
30	0.53	1.47	0.63	0.71	0.62	0.87	0.82	0.73	0.80	0.83		0.91	
31		1.54		0.71	0.69		0.80		0.76	0.83		0.74	
Mean	0.52	0.61	0.72	0.81	0.68	1.56	1.28	0.79	0.67	0.74	0.69	0.61	
Max	0.54	1.54	1.48	1.89	0.78	3.55	2.91	0.89	0.80	0.86	0.79	1.01	3.55
Min	0.50	0.44	0.57	0.59	0.56	0.79	0.80	0.73	0.59	0.60	0.58	0.47	0.44

Annual Max Momentary Gage Height 3.70 M (A.D), at 8.00 Hours, on Sep 21, 1993
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed 0.28 M (A.D)
Left Bank Elevation 4.76 M (A.D)
Right Bank Elevation 5.07 M (A.D), Drainage Area 1740 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.10	0.12	2.93	0.35	0.55	0.95	1.02	0.87	0.65	0.55	0.61	0.52	
2	0.10	0.11	3.72	0.35	0.55	0.84	0.91	0.87	0.65	0.49	0.61	0.52	
3	0.11	0.11	2.21	0.38	0.55	0.77	3.61	0.95	0.61	0.61	0.77	0.49	
4	0.11	0.12	1.14	0.29	0.49	1.06	12.19	0.74	0.58	0.49	0.74	0.43	
5	0.12	0.12	0.87	0.24	0.46	0.77	19.93	0.74	0.52	0.52	0.46	0.32	
6	0.12	0.12	0.77	0.21	0.43	1.14	11.18	0.71	0.46	0.35	0.49	0.21	
7	0.12	0.11	0.55	1.63	0.41	0.80	7.60	0.71	0.46	0.24	0.43	0.20	
8	0.12	0.10	0.46	6.62	0.41	0.87	5.45	0.68	0.46	0.24	0.43	0.20	
9	0.12	0.10	0.41	6.06	0.49	1.21	5.30	0.95	0.43	0.21	0.46	0.20	
10	0.12	0.11	0.38	3.72	0.49	1.71	4.32	1.14	0.41	0.27	0.41	0.19	
11	0.11	0.11	0.24	2.16	0.58	2.56	3.30	1.14	0.43	0.32	0.49	0.19	
12	0.11	0.10	0.24	1.63	0.61	3.88	6.30	0.87	0.41	0.84	0.58	0.21	
13	0.11	0.10	0.20	1.10	0.49	13.66	4.26	0.71	0.43	0.84	0.55	0.20	
14	0.11	0.09	0.20	0.61	0.49	13.97	3.12	0.71	0.38	0.84	0.49	0.19	
15	0.11	0.09	0.19	0.41	0.41	8.50	2.29	0.74	0.38	0.84	0.46	0.18	
16	0.11	0.10	0.19	0.41	0.38	4.39	1.95	0.77	0.38	0.80	0.43	0.18	
17	0.12	0.09	0.19	0.41	0.27	3.30	1.71	0.80	0.35	0.84	0.43	0.14	
18	0.14	0.10	0.38	0.68	0.24	1.83	1.40	0.74	0.35	0.80	0.52	0.09	
19	0.14	0.09	0.58	0.38	0.21	1.91	1.44	0.71	0.35	0.84	0.74	0.08	
20	0.13	0.09	0.77	0.32	0.21	8.10	1.06	0.74	0.29	0.77	0.61	0.08	
21	0.13	0.09	0.41	0.29	0.20	33.00	1.33	0.74	0.24	0.46	0.35	0.08	
22	0.13	0.06	0.35	0.32	0.17	25.86	1.25	0.71	0.21	0.43	0.29	0.08	
23	0.13	0.05	0.29	0.29	0.46	24.45	1.21	1.06	0.20	0.41	0.27	0.09	
24	0.13	0.13	0.21	0.35	0.74	15.52	1.17	0.77	0.20	0.43	0.20	0.08	
25	0.12	0.61	0.18	0.35	0.74	8.90	0.95	0.68	0.20	0.46	0.19	0.10	
26	0.12	0.65	0.19	0.20	0.68	5.38	0.91	0.61	0.24	0.46	0.49	0.09	
27	0.12	0.84	0.20	0.29	0.46	3.82	0.91	0.68	0.32	0.77	0.43	0.14	
28	0.13	0.87	0.19	0.20	0.35	2.84	0.84	0.68	0.46	1.02	0.43	1.44	
29	0.13	0.84	0.18	0.49	0.29	1.17	0.84	0.65	0.46	0.95		1.59	
30	0.13	3.66	0.29	0.52	0.27	1.06	0.87	0.58	0.80	0.91		1.21	
31		4.07		0.52	0.46		0.80		0.68	0.91		0.61	
Total	3.60	13.95	19.11	31.78	13.54	194.22	109.42	23.45	12.99	18.91	13.36	10.33	464.66 CMSDAY
Mean	0.12	0.45	0.64	1.03	0.44	6.47	3.53	0.78	0.42	0.61	0.48	0.33	1.27 CMS
Max	0.14	4.07	3.72	6.62	0.74	33.00	19.93	1.14	0.80	1.02	0.77	1.59	33.00 CMS
Min	0.10	0.05	0.18	0.20	0.17	0.77	0.80	0.58	0.20	0.21	0.19	0.08	0.05 CMS
Runoff	0.311	1.205	1.651	2.746	1.170	16.781	9.454	2.026	1.122	1.634	1.154	0.893	40.147 MCM

Momentary Peak 36.50 CMS, at 3.70 M (A.D), at 8.00 Hours, on Sep 21, 1993
Runoff Yield 0.73 Liters/Second/Square KM, Momentary Peak Yield 20.98 Liters/Second/Square KM

WATER YEAR 1993

YOM RIVER BASIN

Yom River at Ban Nam Khong, Phrae (Y.1C)

Location — Lat. 18°-07'-59" N., Long. 100°-07'-39" E., on right bank about 5 meters downstream from Phathana Phak Nua 8 Bridge at Tambon Pa Mat, Amphoe Muang, Phrae.

Drainage Area — 7,624 sq.km.

Type of Gage — Water-stage recorder.

Zero Gage at Bottom — +143.50 m. (M.S.L.)

Bench Mark — B.M.-H.D.

Location — Infront of the station office.

Elevation — +153.908 m. (M.S.L.)

Gage Reading Frequency — Recording.

Basis of Mean Daily Gage Height — Arithmetic mean of 24 readings.

Period of Available Gage Records — 1979 to date.

Rating Operation

Period of Rating — 1979 to date.

Rated by Float — -

Rated by Current Meter — 1979 to date.

Stability of Channel Regimes — Stable.

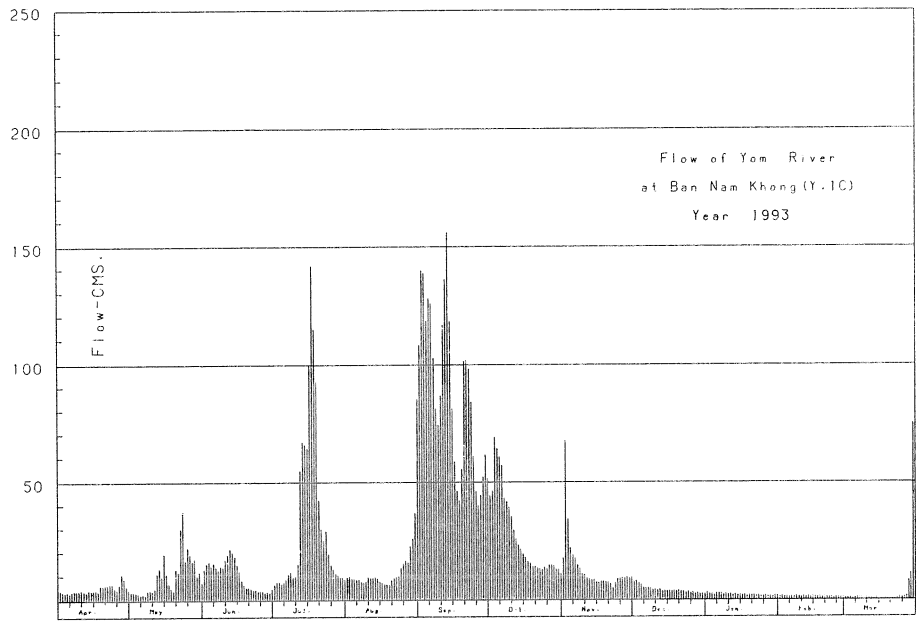
Overbank Flow Conditions — No overbank flow.

General Description — Records fair. Stage-discharge relation defined by 66 discharge measurements made in 1993.

Gage Height in Meter (MSL), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	143.90	143.86	144.25	144.01	144.13	146.08	144.97	144.38	144.06	143.84	143.75	143.70	
2	143.85	143.84	144.31	144.04	144.13	146.56	145.01	145.39	144.06	143.83	143.75	143.71	
3	143.85	143.85	144.35	144.04	144.11	146.54	145.42	144.79	144.04	143.81	143.75	143.71	
4	143.85	143.81	144.28	144.03	144.09	146.24	145.34	144.50	144.00	143.80	143.74	143.71	
5	143.84	143.79	144.33	144.05	144.09	146.39	145.27	144.43	143.95	143.82	143.74	143.71	
6	143.85	143.79	144.27	144.08	144.08	146.35	145.21	144.38	143.93	143.84	143.74	143.71	
7	143.89	143.79	144.24	144.18	144.06	146.00	144.95	144.31	143.95	143.82	143.75	143.71	
8	143.87	143.87	144.28	144.20	144.03	145.64	144.93	144.25	143.92	143.81	143.75	143.70	
9	143.89	143.89	144.28	144.13	144.06	145.52	144.88	144.19	143.91	143.81	143.75	143.70	
10	143.89	143.86	144.36	144.13	144.12	145.74	144.81	144.16	143.90	143.81	143.74	143.70	
11	143.88	143.93	144.42	144.32	144.12	146.21	144.69	144.12	143.90	143.80	143.74	143.70	
12	143.86	144.19	144.50	145.16	144.11	146.50	144.60	144.09	143.90	143.79	143.74	143.70	
13	143.89	144.26	144.45	145.39	144.13	146.79	144.54	144.09	143.88	143.79	143.74	143.69	
14	143.89	144.12	144.41	145.36	144.10	146.24	144.49	144.08	143.87	143.79	143.74	143.70	
15	143.88	144.43	144.31	145.34	144.06	145.64	144.44	144.05	143.88	143.79	143.74	143.70	
16	143.89	144.17	144.21	145.95	144.03	145.23	144.39	144.03	143.87	143.79	143.73	143.70	
17	143.88	144.03	144.08	146.59	144.02	145.01	144.35	144.07	143.88	143.79	143.73	143.70	
18	143.98	143.92	143.99	146.19	144.00	144.93	144.32	144.05	143.87	143.78	143.73	143.69	
19	143.99	143.89	143.96	145.84	144.01	145.18	144.29	144.06	143.88	143.78	143.73	143.69	
20	144.00	144.24	143.94	144.94	144.07	145.98	144.28	144.04	143.88	143.79	143.73	143.69	
21	143.99	144.21	143.92	144.69	144.12	145.98	144.27	144.01	143.88	143.77	143.73	143.70	
22	144.02	144.70	143.91	144.58	144.12	145.93	144.25	143.94	143.86	143.78	143.73	143.70	
23	144.00	144.83	143.89	144.68	144.15	145.70	144.25	144.04	143.85	143.77	143.72	143.70	
24	143.94	144.36	143.88	144.44	144.26	145.27	144.27	144.09	143.85	143.76	143.72	143.72	
25	143.89	144.51	143.87	144.31	144.33	145.01	144.26	144.11	143.84	143.76	143.72	143.72	
26	144.00	144.42	143.86	144.24	144.35	144.89	144.30	144.11	143.84	143.76	143.72	143.72	
27	144.18	144.35	143.85	144.19	144.34	144.97	144.31	144.12	143.83	143.76	143.72	143.76	
28	144.09	144.37	143.85	144.15	144.52	145.12	144.29	144.12	143.83	143.75	143.71	144.08	
29	143.98	144.15	143.85	144.13	144.61	145.29	144.25	144.12	143.82	143.75		144.18	
30	143.89	144.20	143.91	144.11	144.83	145.10	144.24	144.12	143.81	143.76		145.53	
31		144.04		144.08	145.72		144.19		143.82	143.75		145.97	
Mean	143.93	144.12	144.13	144.63	144.22	145.73	144.58	144.21	143.90	143.79	143.73	143.86	
Max	144.18	144.83	144.50	146.59	145.72	146.79	145.42	145.39	144.06	143.84	143.75	145.97	146.79
Min	143.84	143.79	143.85	144.01	144.00	144.89	144.19	143.94	143.81	143.75	143.71	143.69	143.69

Annual Max Momentary Gage Height 146.86 M (MSL), at 13.00 Hours, on Sep 13, 1993
Zero Gage at Bottom Elevation 143.50 M (MSL), River Bed 142.42 M (MSL)
Left Bank Elevation 151.85 M (MSL)
Right Bank Elevation 154.01 M (MSL), Drainage Area 7624 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	4.40	3.64	13.25	6.76	9.88	108.20	44.35	17.68	8.06	3.26	1.75	1.00	
2	3.45	3.26	15.16	7.54	9.88	140.20	46.55	67.45	8.06	3.07	1.75	1.15	
3	3.45	3.45	16.60	7.54	9.36	138.80	69.10	34.73	7.54	2.69	1.75	1.15	
4	3.45	2.69	14.18	7.28	8.84	118.60	64.70	22.00	6.50	2.50	1.60	1.15	
5	3.26	2.35	15.88	7.80	8.84	128.35	60.85	19.48	5.45	2.88	1.60	1.15	
6	3.45	2.35	13.87	8.58	8.58	125.75	57.55	17.68	5.03	3.26	1.60	1.15	
7	4.21	2.35	12.94	11.18	8.06	103.00	43.25	15.16	5.45	2.88	1.75	1.15	
8	3.83	3.83	14.18	11.70	7.28	81.20	42.15	13.25	4.82	2.69	1.75	1.00	
9	4.21	4.21	14.18	9.88	8.06	74.60	39.44	11.44	4.61	2.69	1.75	1.00	
10	4.21	3.64	16.96	9.88	9.62	86.70	35.73	10.66	4.40	2.69	1.60	1.00	
11	4.02	5.03	19.12	15.52	9.62	116.65	30.05	9.62	4.40	2.50	1.60	1.00	
12	3.64	11.44	22.00	54.80	9.36	136.00	26.00	8.84	4.40	2.35	1.60	1.00	
13	4.21	13.56	20.20	67.45	9.88	156.30	23.60	8.84	4.02	2.35	1.60	0.90	
14	4.21	9.62	18.76	65.80	9.10	118.60	21.64	8.58	3.83	2.35	1.60	1.00	
15	4.02	19.48	15.16	64.70	8.06	81.20	19.84	7.80	4.02	2.35	1.60	1.00	
16	4.21	10.92	12.01	99.75	7.28	58.65	18.04	7.28	3.83	2.35	1.45	1.00	
17	4.02	7.28	8.58	142.30	7.02	46.55	16.60	8.32	4.02	2.35	1.45	1.00	
18	6.08	4.82	6.29	115.35	6.50	42.15	15.52	7.80	3.83	2.20	1.45	0.90	
19	6.29	4.21	5.66	92.60	6.76	55.90	14.49	8.06	4.02	2.20	1.45	0.90	
20	6.50	12.94	5.24	42.70	8.32	101.70	14.18	7.54	4.02	2.35	1.45	0.90	
21	6.29	12.01	4.82	30.05	9.62	101.70	13.87	6.76	4.02	2.05	1.45	1.00	
22	7.02	30.50	4.61	25.20	9.62	98.45	13.25	5.24	3.64	2.20	1.45	1.00	
23	6.50	36.79	4.21	29.60	10.40	84.50	13.25	7.54	3.45	2.05	1.30	1.00	
24	5.24	16.96	4.02	19.84	13.56	60.85	13.87	8.84	3.45	1.90	1.30	1.30	
25	4.21	22.40	3.83	15.16	15.88	46.55	13.56	9.36	3.26	1.90	1.30	1.30	
26	6.50	19.12	3.64	12.94	16.60	39.97	14.80	9.36	3.26	1.90	1.30	1.30	
27	11.18	16.60	3.45	11.44	16.24	44.35	15.16	9.62	3.07	1.90	1.30	1.90	
28	8.84	17.32	3.45	10.40	22.80	52.60	14.49	9.62	3.07	1.75	1.15	8.58	
29	6.08	10.40	3.45	9.88	26.45	61.95	13.25	9.62	2.88	1.75		11.18	
30	4.21	11.70	4.61	9.36	36.79	51.50	12.94	9.62	2.69	1.90		75.15	
31		7.54		8.58	85.60		11.44		2.88	1.75		101.05	
Total	151.19	332.41	320.31	1031.56	433.86	2661.52	853.51	397.79	135.98	73.01	42.70	225.26	6659.10 CMSDAY
Mean	5.04	10.72	10.68	33.28	14.00	88.72	27.53	13.26	4.39	2.36	1.53	7.27	18.24 CMS
Max	11.18	36.79	22.00	142.30	85.60	156.30	69.10	67.45	8.06	3.26	1.75	101.05	156.30 CMS
Min	3.26	2.35	3.45	6.76	6.50	39.97	11.44	5.24	2.69	1.75	1.15	0.90	0.90 CMS
Runoff	13.063	28.720	27.675	89.127	37.486	229.955	73.743	34.369	11.749	6.308	3.689	19.462	575.346 MCM

Momentary Peak 161.80 CMS, at 146.86 M (MSL), at 13.00 Hours, on Sep 13, 1993

Runoff Yield 2.39 Liters/Second/Square KM, Momentary Peak Yield 21.22 Liters/Second/Square KM

WATER YEAR 1993

YOM RIVER BASIN

Yom River at Sawankhalok, Sukhothai (Y.3A)

Location — Lat. 17°-18'-29" N., Long. 99°-49'-43" E., on right bank about 100 meters downstream from the bridge on highway, Amphoe Sawankhalok, Sukhothai.

Drainage Area — 13,583 sq.km.

Type of Gage — Water-stage recorder.

Zero Gage at Bottom — +51.00 m.(M.S.L.)

Bench Mark — B.M.-H.D.

Location — Infront of automatic gage building.

Elevation — +60.559 m. (M.S.L.)

Gage Reading Frequency — Recording.

Basis of Mean Daily Gage Height — Arithmetic mean of 24 readings.

Period of Available Gage Records — 1967 to date.

Rating Operation

Period of Rating — 1967 to date.

Rated by Float — -

Rated by Current Meter — 1967 to date.

Stability of Channel Regimes — Stable.

Overbank Flow Conditions — No overbank flow.

General Description — Records good. Stage-discharge relation defined by 43 discharge measurements made in 1993.

Gage Height in Meter (MSL), Water Year April 1, 1993 to March 31, 1994

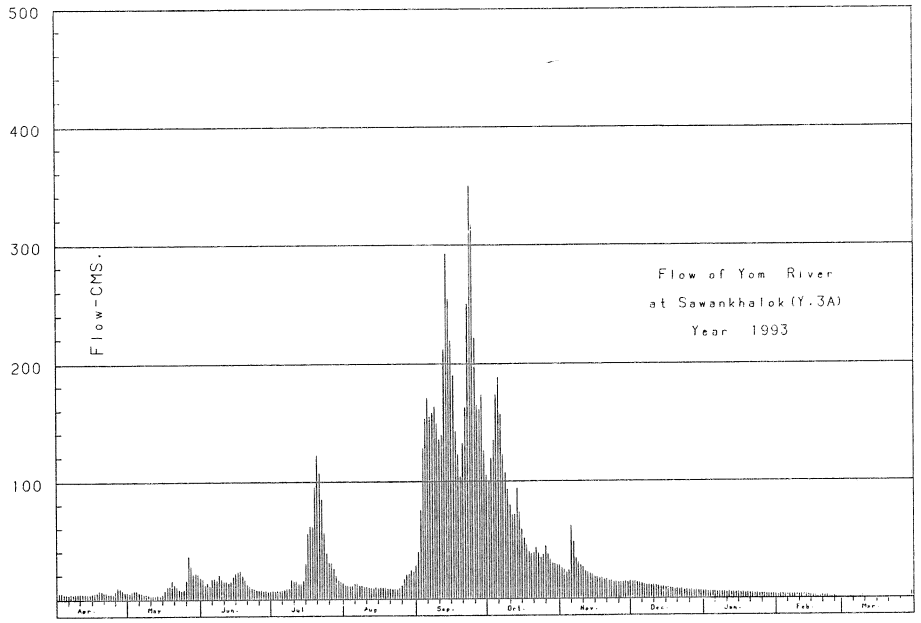
Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	51.14	51.12	51.60	51.21	51.44	52.07	53.02	51.81	51.53	51.18	51.02	50.89	
2	51.12	51.17	51.45	51.21	51.41	52.68	53.30	51.77	51.52	51.16	51.05	50.89	
3	51.10	51.25	51.49	51.21	51.41	53.42	53.51	51.73	51.51	51.15	51.05	50.89	
4	51.07	51.22	51.42	51.22	51.40	53.74	53.98	51.76	51.48	51.17	51.04	50.89	
5	51.06	51.16	51.60	51.23	51.48	53.95	54.16	52.46	51.47	51.15	51.03	50.89	
6	51.07	51.11	51.61	51.28	51.47	53.76	53.79	52.24	51.44	51.15	51.03	50.89	
7	51.08	51.08	51.59	51.29	51.43	53.81	53.34	51.98	51.43	51.15	51.03	50.89	
8	51.09	51.07	51.69	51.33	51.41	53.87	53.14	51.90	51.42	51.15	51.05	50.86	
9	51.10	51.06	51.60	51.58	51.38	53.69	52.93	51.86	51.42	51.14	51.03	50.95	
10	51.10	51.01	51.55	51.56	51.36	53.51	52.74	51.82	51.42	51.13	51.03	50.81	
11	51.10	51.02	51.53	51.54	51.35	53.57	52.61	51.76	51.42	51.15	51.03	50.81	
12	51.08	51.01	51.52	51.48	51.32	54.42	52.61	51.72	51.39	51.13	51.03	50.79	
13	51.07	51.04	51.53	51.46	51.32	55.28	52.95	51.71	51.38	51.13	51.02	50.79	
14	51.08	51.02	51.66	51.57	51.34	54.89	52.64	51.68	51.36	51.12	51.02	50.79	
15	51.10	51.06	51.71	51.89	51.33	54.50	52.42	51.65	51.34	51.12	50.97	50.80	
16	51.11	51.22	51.75	52.36	51.33	54.18	52.29	51.63	51.33	51.11	50.96	50.80	
17	51.16	51.40	51.76	52.46	51.35	53.61	52.18	51.62	51.32	51.11	50.96	50.78	
18	51.23	51.39	51.68	52.46	51.33	53.34	52.08	51.62	51.29	51.10	50.96	50.77	
19	51.22	51.55	51.58	52.96	51.31	53.09	52.04	51.59	51.27	51.10	50.96	50.75	
20	51.14	51.46	51.47	53.34	51.30	53.47	52.07	51.59	51.27	51.10	50.96	50.75	
21	51.14	51.38	51.40	53.14	51.29	53.86	52.14	51.56	51.27	51.10	50.96	50.75	
22	51.10	51.29	51.34	52.82	51.28	54.85	52.05	51.54	51.26	51.08	50.96	50.75	
23	51.08	51.22	51.29	52.37	51.28	55.84	51.99	51.52	51.24	51.08	50.94	50.75	
24	51.09	51.28	51.27	52.07	51.31	55.52	52.03	51.51	51.23	51.07	50.92	50.76	
25	51.18	51.58	51.26	51.91	51.43	54.53	52.17	51.51	51.23	51.08	50.91	50.77	
26	51.35	52.02	51.24	51.89	51.61	53.88	52.04	51.49	51.23	51.06	50.89	50.77	
27	51.33	51.84	51.23	51.81	51.68	53.84	51.95	51.51	51.21	51.05	50.89	50.78	
28	51.23	51.69	51.21	51.66	51.71	53.98	51.89	51.51	51.20	51.04	50.89	50.78	
29	51.16	51.72	51.19	51.58	51.76	53.39	51.87	51.51	51.20	51.04		50.79	
30	51.15	51.69	51.18	51.52	51.75	53.10	51.86	51.53	51.19	51.04		51.11	
31		51.64		51.48	51.85		51.85		51.18	51.03		51.09	
Mean	51.13	51.32	51.48	51.84	51.43	53.92	52.57	51.70	51.34	51.11	50.99	50.83	
Max	51.35	52.02	51.76	53.34	51.85	55.84	54.16	52.46	51.53	51.18	51.05	51.11	55.84
Min	51.06	51.01	51.18	51.21	51.28	52.07	51.85	51.49	51.18	51.03	50.89	50.75	50.75

Annual Max Momentary Gage Height — 55.91 M (MSL), at 18.00 Hours, on Sep 23, 1993

Zero Gage at Bottom Elevation — 51.00 M (MSL), River Bed — 50.61 M (MSL)

Left Bank Elevation — 60.06 M (MSL)

Right Bank Elevation — 60.43 M (MSL), Drainage Area — 13583 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	5.80	5.40	17.00	7.20	12.20	39.85	99.40	26.50	14.90	6.60	3.40	1.35	
2	5.40	6.40	12.50	7.20	11.30	76.20	119.50	24.65	14.60	6.20	4.00	1.35	
3	5.00	8.00	13.70	7.20	11.30	128.50	135.25	22.85	14.30	6.00	4.00	1.35	
4	4.40	7.40	11.60	7.40	11.00	153.20	173.30	24.20	13.40	6.40	3.80	1.35	
5	4.20	6.20	17.00	7.60	13.40	170.75	188.60	61.90	13.10	6.00	3.60	1.35	
6	4.40	5.20	17.45	8.60	13.10	154.80	157.20	49.20	12.20	6.00	3.60	1.35	
7	4.60	4.60	16.70	8.80	11.90	158.85	122.50	35.00	11.90	6.00	3.60	1.35	
8	4.80	4.40	21.05	9.60	11.30	163.95	107.80	31.00	11.60	6.00	4.00	0.90	
9	5.00	4.20	17.00	16.40	10.60	149.20	93.10	29.00	11.60	5.80	3.60	2.25	
10	5.00	3.20	15.50	15.80	10.20	135.25	80.10	27.00	11.60	5.60	3.60	0.15	
11	5.00	3.40	14.90	15.20	10.00	139.75	71.65	24.20	11.60	6.00	3.60	0.15	
12	4.60	3.20	14.60	13.40	9.40	211.80	71.65	22.40	10.80	5.60	3.60	0.00	
13	4.40	3.80	14.90	12.80	9.40	293.00	94.50	21.95	10.60	5.60	3.40	0.00	
14	4.60	3.40	19.70	16.10	9.80	254.55	73.60	20.60	10.20	5.40	3.40	0.00	
15	5.00	4.20	21.95	30.50	9.60	219.00	59.30	19.25	9.80	5.40	2.55	0.00	
16	5.20	7.40	23.75	55.80	9.60	190.30	51.95	18.35	9.60	5.20	2.40	0.00	
17	6.20	11.00	24.20	61.90	10.00	142.80	45.90	17.90	9.40	5.20	2.40	0.00	
18	7.60	10.80	20.60	61.90	9.60	122.50	40.40	17.90	8.80	5.00	2.40	0.00	
19	7.40	15.50	16.40	95.20	9.20	104.30	38.20	16.70	8.40	5.00	2.40	0.00	
20	5.80	12.80	13.10	122.50	9.00	132.25	39.85	16.70	8.40	5.00	2.40	0.00	
21	5.80	10.60	11.00	107.80	8.80	163.10	43.70	15.80	8.40	5.00	2.40	0.00	
22	5.00	8.80	9.80	85.40	8.60	250.75	38.75	15.20	8.20	4.60	2.40	0.00	
23	4.60	7.40	8.80	56.35	8.60	350.40	35.50	14.60	7.80	4.60	2.10	0.00	
24	4.80	8.60	8.40	39.85	9.20	317.00	37.65	14.30	7.60	4.40	1.80	0.00	
25	6.60	16.40	8.20	31.50	11.90	221.70	45.35	14.30	7.60	4.60	1.65	0.00	
26	10.00	37.10	7.80	30.50	17.45	164.80	38.20	13.70	7.60	4.20	1.35	0.00	
27	9.60	28.00	7.60	26.50	20.60	161.40	33.50	14.30	7.20	4.00	1.35	0.00	
28	7.60	21.05	7.20	19.70	21.95	173.30	30.50	14.30	7.00	3.80	1.35	0.00	
29	6.20	22.40	6.80	16.40	24.20	126.25	29.50	14.30	7.00	3.80		0.00	
30	6.00	21.05	6.60	14.60	23.75	105.00	29.00	14.90	6.80	3.80		5.20	
31		18.80		13.40	28.50		28.50		6.60	3.60		4.80	
Total	170.60	330.70	425.80	1023.10	395.45	5174.50	2253.90	672.95	308.60	160.40	80.15	22.90	11019.05 CMSDAY
Mean	5.69	10.67	14.19	33.00	12.76	172.48	72.71	22.43	9.95	5.17	2.86	0.74	30.19 CMS
Max	10.00	37.10	24.20	122.50	28.50	350.40	188.60	61.90	14.90	6.60	4.00	5.20	350.40 CMS
Min	4.20	3.20	6.60	7.20	8.60	39.85	28.50	13.70	6.60	3.60	1.35	0.00	0.00 CMS
Runoff	14.740	28.572	36.789	88.396	34.167	447.077	194.737	58.143	26.663	13.859	6.925	1.979	952.046 MCM

Momentary Peak 358.10 CMS, at 55.91 M (MSL), at 18.00 Hours, on Sep 23, 1993

Runoff Yield 2.22 Liters/Second/Square KM, Momentary Peak Yield 26.36 Liters/Second/Square KM

WATER YEAR 1993

YOM RIVER BASIN

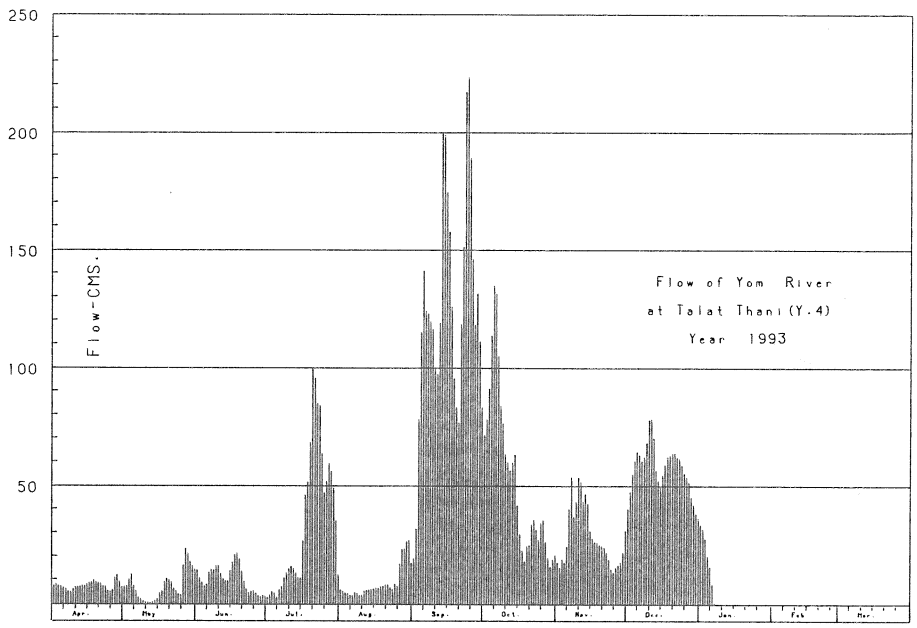
Yom River at Talat Thani, Sukhothai (Y.4)

Location	Lat. 17°-00'-18" N., Long. 99°-49'-31" E., on left bank near the Saving's Bank, Amphoe Muang, Sukhothai.
Drainage Area	17,731 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+44.00 m.(M.S.L.)
Bench Mark	B.M.-H.D.
Location	On left bank at the footpath of the governor's house.
Elevation	+49.142 m.(M.S.L.)
Gage Reading Frequency	5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1950 to date.
Rating Operation	
Period of Rating	1954-1956, 1967-1970, 1990 to date.
Rated by Float	-
Rated by Current Meter	1950-1960, 1962 to date.
Stability of Channel Regimes	Fairly stable because of backwater effect.
Overbank Flow Conditions	Overbank flow starts at elevation +49.27 m.(M.S.L.), records are channel flow only.
General Description	Records good. Stage-discharge relation defined by 25 discharge measurements made in 1993.

Gage Height in Meter (MSL), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	45.00	44.95	45.38	44.49	44.82	45.61	47.17	46.33	46.68	46.58	43.67	42.89	
2	45.03	44.97	45.18	44.58	44.74	46.11	47.31	46.29	46.78	46.55	43.65	42.94	
3	45.00	45.15	45.08	44.76	44.69	47.31	47.57	46.35	46.89	46.49	43.63	42.97	
4	44.96	45.26	44.97	44.67	44.65	47.99	47.96	46.33	46.96	46.37	43.63	43.00	
5	44.92	45.00	45.02	44.49	44.59	48.40	48.30	46.44	47.02	46.30	43.60	43.03	
6	44.85	44.76	45.32	44.83	44.56	48.13	48.25	46.68	46.99	46.17	43.59	43.04	
7	44.76	44.49	45.38	44.94	44.72	48.12	47.82	46.87	46.96	46.01	43.58	43.08	
8	44.71	44.37	45.38	45.19	44.66	48.06	47.43	46.63	46.98	45.92	43.60	43.47	
9	44.87	44.28	45.46	45.30	44.59	48.01	47.28	46.72	47.10	45.86	43.56	43.12	
10	44.93	44.15	45.47	45.40	44.59	47.73	46.99	46.87	47.31	45.78	43.56	43.14	
11	44.95	44.20	45.27	45.46	44.75	47.68	46.90	46.84	47.31	45.69	43.55	43.16	
12	44.97	44.17	45.16	45.40	44.80	48.05	46.82	46.72	47.14	45.60	43.49	43.18	
13	44.99	44.22	45.10	45.31	44.82	49.17	46.90	46.77	46.91	45.55	43.47	43.20	
14	45.00	44.27	45.11	45.18	44.83	49.16	46.99	46.71	46.85	45.47	43.44	43.23	
15	45.03	44.39	45.36	45.18	44.87	48.86	46.70	46.54	46.81	45.41	43.42	43.25	
16	45.06	44.68	45.54	45.92	44.89	48.64	46.52	46.49	46.88	45.33	43.42	43.23	
17	45.09	44.77	45.68	46.55	44.91	48.16	46.41	46.47	46.94	45.26	43.37	43.22	
18	45.12	45.09	45.71	46.70	44.95	47.65	46.34	46.46	46.98	45.14	43.33	43.25	
19	45.09	45.17	45.61	47.10	44.99	47.42	46.44	46.45	46.99	45.08	43.23	43.28	
20	45.07	45.13	45.34	47.72	45.01	47.28	46.45	46.44	47.00	44.97	43.20	43.30	
21	45.04	45.08	45.09	47.65	45.03	48.04	46.58	46.43	47.00	44.83	43.05	43.32	
22	44.99	44.90	44.86	47.45	44.93	48.55	46.61	46.40	46.98	44.65	43.00	43.28	
23	44.94	44.76	44.68	47.43	44.83	49.37	46.55	46.35	46.97	44.25	43.00	43.30	
24	44.79	44.65	44.76	47.00	45.04	49.44	46.48	46.28	46.94	44.11	43.00	43.34	
25	44.73	44.58	44.77	46.58	44.96	49.04	46.59	46.26	46.89	43.95	43.02	43.27	
26	44.83	45.48	44.68	46.70	45.50	48.47	46.61	46.29	46.87	43.84	43.01	43.28	
27	45.18	45.79	44.58	46.89	45.78	48.04	46.47	46.31	46.84	43.77	43.00	43.29	
28	45.26	45.70	44.48	46.81	45.78	48.25	46.36	46.33	46.75	43.77	43.00	43.30	
29	45.09	45.56	44.59	46.63	45.91	47.92	46.30	46.40	46.70	43.74		43.25	
30	44.92	45.46	44.52	46.23	45.92	47.42	46.35	46.54	46.65	43.70		43.25	
31		45.38		45.25	45.53		46.38		46.62	43.68		43.25	
Mean	44.97	44.86	45.12	45.93	44.99	48.07	46.90	46.50	46.93	45.16	43.36	43.20	
Max	45.26	45.79	45.71	47.72	45.92	49.44	48.30	46.87	47.31	46.58	43.67	43.47	49.44
Min	44.71	44.15	44.48	44.49	44.56	45.61	46.30	46.26	46.62	43.68	43.00	42.89	42.89

Annual Max Momentary Gage Height 49.50 M (MSL), at 6.00 Hours, on Sep 24, 1993
Zero Gage at Bottom Elevation 44.00 M (MSL), River Bed 43.06 M (MSL)
Left Bank Elevation 49.26 M (MSL)
Right Bank Elevation 49.30 M (MSL), Drainage Area 17731 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	8.00	7.50	14.65	3.18	6.20	19.25	71.65	17.80	40.60	33.70	0.00	0.00	
2	8.52	7.70	11.15	3.85	5.40	32.03	78.23	15.40	47.60	31.75	0.00	0.00	
3	8.00	10.63	9.40	5.60	4.90	78.23	91.43	19.00	55.30	27.85	0.00	0.00	
4	7.60	12.55	7.70	4.70	4.50	115.40	113.60	17.80	60.80	20.20	0.00	0.00	
5	7.20	8.00	8.35	3.18	3.93	141.50	135.00	24.60	64.93	16.00	0.00	0.00	
6	6.50	5.60	13.60	6.30	3.70	124.13	131.75	40.60	63.20	8.50	0.00	0.00	
7	5.60	3.18	14.65	7.40	5.20	123.50	105.20	53.90	60.80	0.50	0.00	0.00	
8	5.10	2.27	14.65	11.32	4.60	119.75	84.07	37.10	62.40	0.00	0.00	0.00	
9	6.70	1.60	16.20	13.25	3.93	116.62	76.80	43.40	68.62	0.00	0.00	0.00	
10	7.30	0.88	16.40	15.00	3.93	100.15	63.60	53.90	78.34	0.00	0.00	0.00	
11	7.50	1.00	12.72	16.20	5.50	97.40	60.00	51.80	78.34	0.00	0.00	0.00	
12	7.70	0.92	10.80	15.00	6.00	119.12	56.80	43.40	70.47	0.00	0.00	0.00	
13	7.90	1.15	9.75	13.43	6.20	199.60	60.00	46.90	56.80	0.00	0.00	0.00	
14	8.00	1.53	9.93	11.15	6.30	198.80	63.60	42.70	52.50	0.00	0.00	0.00	
15	8.52	2.42	14.30	11.15	6.70	174.80	42.00	31.10	49.70	0.00	0.00	0.00	
16	9.05	4.80	17.80	27.00	6.90	158.00	29.80	27.85	54.60	0.00	0.00	0.00	
17	9.57	5.70	21.00	46.25	7.10	126.00	22.65	26.55	59.20	0.00	0.00	0.00	
18	10.10	9.57	21.75	52.00	7.50	95.75	18.40	25.90	62.40	0.00	0.00	0.00	
19	9.57	10.97	19.25	68.50	7.90	83.55	24.60	25.25	63.20	0.00	0.00	0.00	
20	9.22	10.28	13.95	99.60	8.17	76.80	25.25	24.60	64.00	0.00	0.00	0.00	
21	8.70	9.40	9.57	95.75	8.52	118.50	33.70	23.95	64.00	0.00	0.00	0.00	
22	7.90	7.00	6.60	85.12	7.30	151.63	35.70	22.00	62.40	0.00	0.00	0.00	
23	7.40	5.60	4.80	84.07	6.30	217.30	31.75	19.00	61.60	0.00	0.00	0.00	
24	5.90	4.50	5.60	64.00	8.70	223.60	27.20	14.80	59.20	0.00	0.00	0.00	
25	5.30	3.85	5.70	47.30	7.60	189.20	34.35	13.60	55.30	0.00	0.00	0.00	
26	6.30	16.60	4.80	52.00	17.00	146.23	35.70	15.40	53.90	0.00	0.00	0.00	
27	11.15	23.75	3.85	59.60	23.50	118.50	26.55	16.60	51.80	0.00	0.00	0.00	
28	12.55	21.50	3.10	56.40	23.50	131.75	19.60	17.80	45.50	0.00	0.00	0.00	
29	9.57	18.20	3.93	49.20	26.75	111.20	16.00	22.00	42.00	0.00		0.00	
30	7.20	16.20	3.40	35.47	27.00	83.55	19.00	31.10	38.50	0.00		0.00	
31		14.65		12.37	17.60		20.80		36.40	0.00		0.00	
Total	239.62	249.50	329.35	1075.34	288.33	3791.84	1654.78	865.80	1784.40	138.50	0.00	0.00	10417.46 CMSDAY
Mean	7.99	8.05	10.98	34.69	9.30	126.39	53.38	28.86	57.56	4.47	0.00	0.00	28.54 CMS
Max	12.55	23.75	21.75	99.60	27.00	223.60	135.00	53.90	78.34	33.70	0.00	0.00	223.60 CMS
Min	5.10	0.88	3.10	3.18	3.70	19.25	16.00	13.60	36.40	0.00	0.00	0.00	0.00 CMS
Runoff	20.703	21.557	28.456	92.909	24.912	327.615	142.973	74.805	154.172	11.966	0.000	0.000	900.069 MCM

Momentary Peak 229.00 CMS, at 49.50 M (MSL), at 6.00 Hours, on Sep 24, 1993

Runoff Yield 1.61 Liters/Second/Square KM, Momentary Peak Yield 12.92 Liters/Second/Square KM

WATER YEAR 1993

YOM RIVER BASIN

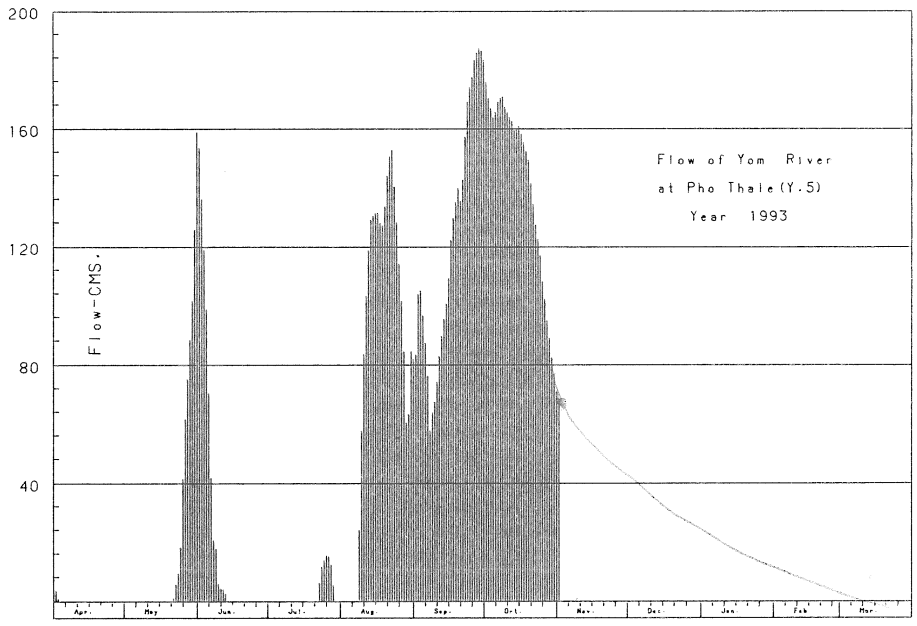
Yom River at Pho Thale, Phichit (Y.5)

Location	Lat. 16°-35'-05" N., Long. 100°-15'-48" E., on left bank in front of Amphoe Pho Thale Office, Amphoe Pho Thale, Phichit.
Drainage Area	22,344 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+22.05 m.(M.S.L.)
Bench Mark	B.M.-H.D.
Location	On left bank about 30 meters from Amphoe Pho Thale Office.
Elevation	+30.662 m.(M.S.L.)
Gage Reading Frequency	5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1951 - 1956, 1967 - 1969, 1973 to date.
Rating Operation	
Period of Rating	1967, 1991 to date.
Rated by Float	-
Rated by Current Meter	1967 - 1969, 1991 to date.
Stability of Channel Regimes	Stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records fair. Stage-discharge relation defined by 7 discharge measurements made in 1993.

Gage Height in Meter (MSL), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	23.48	22.81	26.36	22.74	23.02	25.12	26.73	24.85	26.27	26.13	25.23	23.93	
2	23.42	22.79	26.07	22.72	23.09	25.49	26.64	25.54	26.21	26.10	25.19	23.88	
3	23.38	22.76	25.76	22.70	23.19	25.51	26.58	25.70	26.30	26.09	25.14	23.84	
4	23.35	22.73	25.40	22.69	23.22	25.36	26.53	26.28	26.36	26.10	25.10	23.80	
5	23.33	22.70	24.88	22.68	23.12	25.19	26.56	26.26	26.37	26.12	25.07	23.74	
6	23.31	22.67	24.32	22.68	23.11	24.99	26.62	26.18	26.37	26.14	25.00	23.70	
7	23.30	22.66	23.86	22.67	23.39	24.64	26.64	26.12	26.33	26.18	24.95	23.64	
8	23.28	22.65	23.80	22.66	23.94	24.76	26.65	26.28	26.23	26.17	24.94	23.59	
9	23.27	22.64	23.53	22.66	24.64	24.83	26.59	26.47	26.10	26.13	24.90	23.55	
10	23.25	22.63	23.50	22.66	25.12	24.95	26.56	26.41	26.27	26.08	24.84	23.51	
11	23.23	22.61	23.49	22.64	25.48	25.11	26.53	26.43	26.41	26.03	24.79	23.47	
12	23.22	22.58	23.46	22.65	25.76	25.23	26.51	26.39	26.50	26.00	24.74	23.43	
13	23.21	22.57	23.41	22.71	25.95	25.34	26.46	26.45	26.55	25.97	24.69	23.41	
14	23.20	22.56	23.36	22.84	25.97	25.43	26.46	26.45	26.55	25.95	24.65	23.38	
15	23.22	22.62	23.31	22.87	25.99	25.59	26.48	26.33	26.50	25.92	24.61	23.37	
16	23.25	22.93	23.27	22.88	25.99	25.82	26.44	26.08	26.30	25.88	24.55	23.36	
17	23.23	23.11	23.25	22.89	25.93	25.96	26.39	26.02	26.36	25.85	24.50	23.34	
18	23.22	23.25	23.25	22.95	25.91	26.05	26.34	25.96	26.36	25.82	24.43	23.31	
19	23.20	23.32	23.25	23.07	26.03	26.13	26.29	25.93	26.34	25.76	24.37	23.27	
20	23.19	23.36	23.26	23.26	26.20	26.06	26.16	26.14	26.17	25.72	24.34	23.25	
21	23.17	23.42	23.25	23.38	26.31	26.18	26.04	26.14	26.33	25.69	24.31	23.21	
22	23.15	23.53	23.25	23.54	26.35	26.42	25.92	26.18	26.46	25.65	24.27	23.17	
23	23.13	23.61	23.24	23.66	26.14	26.62	25.83	26.32	26.37	25.60	24.21	23.14	
24	23.11	23.81	23.12	23.71	25.93	26.70	25.73	26.21	26.32	25.55	24.18	23.13	
25	23.08	24.31	23.05	23.75	25.68	26.76	25.57	26.23	26.27	25.51	24.14	23.12	
26	22.99	24.72	23.00	23.74	25.45	26.85	25.46	26.21	26.33	25.48	24.10	23.11	
27	22.96	24.97	22.91	23.68	25.14	26.89	25.33	26.34	26.33	25.43	24.03	23.10	
28	22.91	25.22	22.81	23.52	24.69	26.91	25.22	26.35	26.38	25.40	23.97	23.08	
29	22.88	25.45	22.80	23.32	24.75	26.90	25.10	26.36	26.28	25.36		23.07	
30	22.84	25.89	22.77	23.14	25.14	26.85	25.00	26.28	26.23	25.32		23.06	
31		26.45		23.09	25.09		24.89		26.17	25.28		23.04	
Mean	23.19	23.46	23.70	23.04	25.02	25.82	26.14	26.16	26.33	25.82	24.62	23.39	
Max	23.48	26.45	26.36	23.75	26.35	26.91	26.73	26.47	26.55	26.18	25.23	23.93	26.91
Min	22.84	22.56	22.77	22.64	23.02	24.64	24.89	24.85	26.10	25.28	23.97	23.04	22.56

Annual Max Momentary Gage Height 26.91 M (MSL), at 6.00 Hours, on Sep 28, 1993
Zero Gage at Bottom Elevation 22.05 M (MSL), River Bed 20.68 M (MSL)
Left Bank Elevation 30.20 M (MSL)
Right Bank Elevation 28.64 M (MSL), Drainage Area 22344 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	3.60	0.00	153.60	0.00	0.00	83.60	175.80	68.75	0.00	0.00	0.00	0.00	
2	0.90	0.00	136.20	0.00	0.00	103.95	170.40	0.00	0.00	0.00	0.00	0.00	
3	0.00	0.00	118.80	0.00	0.00	105.05	166.80	0.00	0.00	0.00	0.00	0.00	
4	0.00	0.00	99.00	0.00	0.00	96.80	163.80	0.00	0.00	0.00	0.00	0.00	
5	0.00	0.00	70.40	0.00	0.00	87.45	165.60	0.00	0.00	0.00	0.00	0.00	
6	0.00	0.00	42.00	0.00	0.00	76.45	169.20	0.00	0.00	0.00	0.00	0.00	
7	0.00	0.00	20.70	0.00	0.00	58.00	170.40	0.00	0.00	0.00	0.00	0.00	
8	0.00	0.00	18.00	0.00	24.30	64.00	171.00	0.00	0.00	0.00	0.00	0.00	
9	0.00	0.00	5.85	0.00	58.00	67.65	167.40	0.00	0.00	0.00	0.00	0.00	
10	0.00	0.00	4.50	0.00	83.60	74.25	165.60	0.00	0.00	0.00	0.00	0.00	
11	0.00	0.00	4.05	0.00	103.40	83.05	163.80	0.00	0.00	0.00	0.00	0.00	
12	0.00	0.00	2.70	0.00	118.80	89.65	162.60	0.00	0.00	0.00	0.00	0.00	
13	0.00	0.00	0.45	0.00	129.25	95.70	159.60	0.00	0.00	0.00	0.00	0.00	
14	0.00	0.00	0.00	0.00	130.35	100.65	159.60	0.00	0.00	0.00	0.00	0.00	
15	0.00	0.00	0.00	0.00	131.45	109.45	160.80	0.00	0.00	0.00	0.00	0.00	
16	0.00	0.00	0.00	0.00	131.45	122.10	158.40	0.00	0.00	0.00	0.00	0.00	
17	0.00	0.00	0.00	0.00	128.15	129.80	155.40	0.00	0.00	0.00	0.00	0.00	
18	0.00	0.00	0.00	0.00	127.05	135.00	152.40	0.00	0.00	0.00	0.00	0.00	
19	0.00	0.00	0.00	0.00	133.80	139.80	149.40	0.00	0.00	0.00	0.00	0.00	
20	0.00	0.00	0.00	0.00	144.00	135.60	141.60	0.00	0.00	0.00	0.00	0.00	
21	0.00	0.90	0.00	0.00	150.60	142.80	134.40	0.00	0.00	0.00	0.00	0.00	
22	0.00	5.85	0.00	6.30	153.00	157.20	127.60	0.00	0.00	0.00	0.00	0.00	
23	0.00	9.45	0.00	11.70	140.40	169.20	122.65	0.00	0.00	0.00	0.00	0.00	
24	0.00	18.45	0.00	13.95	128.15	174.00	117.15	0.00	0.00	0.00	0.00	0.00	
25	0.00	41.50	0.00	15.75	114.40	177.60	108.35	0.00	0.00	0.00	0.00	0.00	
26	0.00	62.00	0.00	15.30	101.75	183.25	102.30	0.00	0.00	0.00	0.00	0.00	
27	0.00	75.35	0.00	12.60	84.70	185.85	95.15	0.00	0.00	0.00	0.00	0.00	
28	0.00	89.10	0.00	5.40	60.50	187.15	89.10	0.00	0.00	0.00	0.00	0.00	
29	0.00	101.75	0.00	0.00	63.50	186.50	82.50	0.00	0.00	0.00		0.00	
30	0.00	125.95	0.00	0.00	84.70	183.25	77.00	0.00	0.00	0.00		0.00	
31		159.00		0.00	81.95		70.95		0.00	0.00		0.00	
Total	4.50	689.30	676.25	81.00	2607.25	3704.80	4376.75	68.75	0.00	0.00	0.00	0.00	12208.60 CMSDAY
Mean	0.15	22.24	22.54	2.61	84.10	123.49	141.19	2.29	0.00	0.00	0.00	0.00	33.45 CMS
Max	3.60	159.00	153.60	15.75	153.00	187.15	175.80	68.75	0.00	0.00	0.00	0.00	187.15 CMS
Min	0.00	0.00	0.00	0.00	0.00	58.00	70.95	0.00	0.00	0.00	0.00	0.00	0.00 CMS
Runoff	0.389	59.556	58.428	6.998	225.266	320.095	378.151	5.940	0.000	0.000	0.000	0.000	1054.823 MCM

Momentary Peak 187.15 CMS, at 26.91 M (MSL), at 6.00 Hours, on Sep 28, 1993

Runoff Yield 1.50 Liters/Second/Square KM, Momentary Peak Yield 8.38 Liters/Second/Square KM

WATER YEAR 1993

YOM RIVER BASIN

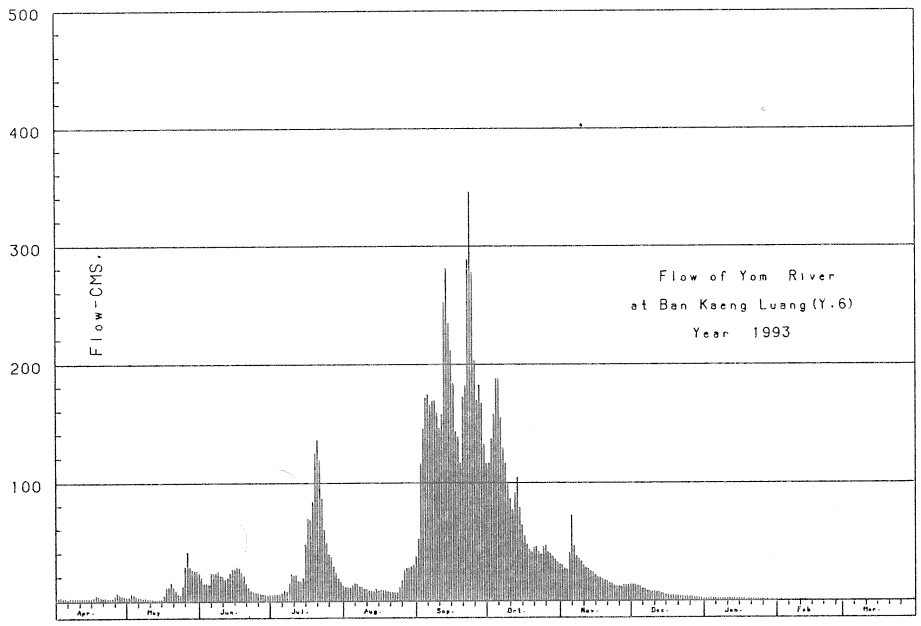
Yom River at Ban Kaeng Luang, Sukhothai (Y.6)

Location	Lat. 17°-26'-03" N., Long. 99°-47'-32" E., on left bank about 150 meters upstream from Kaeng Luang, Amphoe Si Satchanalai, Sukhothai.
Drainage Area	12,658 sq.km.
Type of Gage	Water-stage recorder.
Zero Gage at Bottom	+59.00 m. (M.S.L.)
Bench Mark	B.M.-H.D.
Location	Near the automatic gage building.
Elevation	+68.928 m. (M.S.L.)
Gage Reading Frequency	Recording.
Basis of Mean Daily Gage Height	Arithmetic mean of 24 readings.
Period of Available Gage Records	1952 to date.
Rating Operation	
Period of Rating	1952 to date.
Rated by Float	-
Rated by Current Meter	1952 to date.
Stability of Channel Regimes	Stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Flow diverted for irrigation about 24,000 hectares at above gage site. Stage-discharge relation defined by 79 discharge measurements made in 1993.

Gage Height in Meter (MSL), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	59.38	59.45	59.97	59.55	59.80	60.60	61.22	60.20	59.85	59.30	59.20	59.03	
2	59.38	59.59	59.88	59.55	59.78	61.21	61.42	60.14	59.84	59.30	59.18	59.04	
3	59.36	59.56	59.87	59.58	59.78	61.50	61.62	60.11	59.83	59.33	59.21	59.04	
4	59.33	59.46	59.86	59.56	59.83	61.75	61.91	60.40	59.81	59.32	59.16	59.00	
5	59.30	59.40	60.06	59.63	59.88	61.78	61.91	60.79	59.76	59.31	59.15	59.02	
6	59.34	59.37	60.03	59.69	59.86	61.69	61.59	60.50	59.74	59.31	59.12	59.05	
7	59.34	59.34	60.05	59.68	59.82	61.73	61.34	60.35	59.70	59.30	59.20	59.05	
8	59.32	59.35	60.08	59.89	59.79	61.73	61.22	60.30	59.68	59.30	59.19	58.91	
9	59.36	59.31	60.00	60.02	59.75	61.63	61.06	60.27	59.67	59.30	59.19	58.91	
10	59.34	59.25	59.98	60.00	59.73	61.50	60.93	60.20	59.66	59.31	59.18	58.96	
11	59.33	59.24	59.94	60.00	59.70	61.62	60.83	60.16	59.65	59.31	59.19	58.87	
12	59.33	59.23	59.97	59.92	59.68	62.42	60.97	60.13	59.64	59.30	59.18	58.94	
13	59.33	59.22	60.04	59.90	59.68	62.60	61.10	60.09	59.62	59.30	59.16	58.83	
14	59.35	59.21	60.14	59.96	59.74	62.31	60.85	60.05	59.57	59.30	59.14	58.81	
15	59.36	59.30	60.14	60.52	59.70	62.14	60.71	60.01	59.55	59.29	59.15	58.81	
16	59.38	59.54	60.18	60.76	59.71	61.87	60.62	59.97	59.52	59.28	59.14	58.77	
17	59.53	59.78	60.16	60.75	59.71	61.48	60.52	59.97	59.51	59.28	59.14	58.96	
18	59.48	59.80	60.06	60.90	59.70	61.43	60.44	59.94	59.50	59.27	59.12	58.94	
19	59.41	59.90	60.00	61.30	59.68	61.22	60.41	59.93	59.48	59.26	59.12	58.84	
20	59.38	59.79	59.87	61.41	59.65	61.76	60.47	59.91	59.47	59.26	59.12	58.88	
21	59.35	59.70	59.78	61.24	59.65	61.85	60.49	59.89	59.46	59.25	59.10	58.86	
22	59.33	59.59	59.70	60.93	59.63	62.65	60.41	59.87	59.45	59.25	59.09	58.90	
23	59.31	59.52	59.65	60.67	59.64	62.98	60.38	59.82	59.44	59.25	59.09	58.90	
24	59.36	59.82	59.64	60.54	59.78	62.58	60.48	59.80	59.44	59.24	59.05	58.90	
25	59.49	60.18	59.62	60.38	59.93	62.06	60.51	59.82	59.43	59.24	59.06	58.88	
26	59.63	60.42	59.60	60.33	60.13	61.73	60.41	59.80	59.42	59.20	59.05	58.89	
27	59.55	60.18	59.59	60.19	60.15	61.86	60.38	59.83	59.40	59.20	59.03	58.89	
28	59.51	60.11	59.56	60.05	60.15	61.71	60.34	59.83	59.38	59.20	59.01	59.15	
29	59.45	60.10	59.53	59.96	60.18	61.37	60.29	59.83	59.35	59.20		59.17	
30	59.40	60.09	59.54	59.90	60.21	61.21	60.25	59.84	59.33	59.19		59.27	
31		60.05		59.82	60.34		60.23		59.30	59.19		59.22	
Mean	59.39	59.64	59.88	60.21	59.83	61.80	60.82	60.06	59.56	59.27	59.13	58.96	
Max	59.63	60.42	60.18	61.41	60.34	62.98	61.91	60.79	59.85	59.33	59.21	59.27	62.98
Min	59.30	59.21	59.53	59.55	59.63	60.60	60.23	59.80	59.30	59.19	59.01	58.77	58.77

Annual Max Momentary Gage Height 63.01 M (MSL), at 6.00 Hours, on Sep 23, 1993
Zero Gage at Bottom Elevation 59.00 M (MSL), River Bed 57.63 M (MSL)
Left Bank Elevation 68.42 M (MSL)
Right Bank Elevation 68.90 M (MSL), Drainage Area 12658 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	3.26	4.15	20.26	5.70	12.20	53.00	116.94	30.00	14.20	2.30	1.40	0.35	
2	3.26	6.42	15.40	5.70	11.58	115.91	137.56	27.60	13.80	2.30	1.26	0.40	
3	3.02	5.88	15.00	6.24	11.58	145.81	158.19	26.40	13.40	2.66	1.49	0.40	
4	2.66	4.28	14.60	5.88	13.40	171.59	188.09	41.00	12.60	2.54	1.12	0.20	
5	2.30	3.50	24.40	7.35	15.40	174.69	188.09	72.59	10.96	2.42	1.05	0.30	
6	2.78	3.14	23.20	8.85	14.60	165.41	155.09	47.00	10.34	2.42	0.84	0.45	
7	2.78	2.78	24.00	8.60	13.00	169.53	129.31	38.25	9.10	2.30	1.40	0.45	
8	2.54	2.90	25.20	15.80	11.89	169.53	116.94	35.50	8.60	2.30	1.33	0.02	
9	3.02	2.42	22.00	22.80	10.65	159.22	100.44	33.85	8.35	2.30	1.33	0.02	
10	2.78	1.85	20.84	22.00	10.03	145.81	87.03	30.00	8.10	2.42	1.26	0.12	
11	2.66	1.76	18.52	22.00	9.10	158.19	76.72	28.40	7.85	2.42	1.33	0.00	
12	2.66	1.67	20.26	17.36	8.60	252.20	91.16	27.20	7.60	2.30	1.26	0.08	
13	2.66	1.58	23.60	16.20	8.60	281.00	104.56	25.60	7.10	2.30	1.12	0.00	
14	2.90	1.49	27.60	19.68	10.34	235.05	78.78	24.00	6.06	2.30	0.98	0.00	
15	3.02	2.30	27.60	48.20	9.10	211.81	64.34	22.40	5.70	2.21	1.05	0.00	
16	3.26	5.52	29.20	69.50	9.41	183.97	55.06	20.26	5.16	2.12	0.98	0.00	
17	5.34	11.58	28.40	68.47	9.41	143.75	48.20	20.26	4.98	2.12	0.98	0.12	
18	4.54	12.20	24.40	83.94	9.10	138.59	43.40	18.52	4.80	2.03	0.84	0.08	
19	3.63	16.20	22.00	125.19	8.60	116.94	41.60	17.94	4.54	1.94	0.84	0.00	
20	3.26	11.89	15.00	136.53	7.85	172.62	45.20	16.78	4.41	1.94	0.84	0.00	
21	2.90	9.10	11.58	119.00	7.85	181.91	46.40	15.80	4.28	1.85	0.70	0.00	
22	2.66	6.42	9.10	87.03	7.35	289.00	41.60	15.00	4.15	1.85	0.65	0.00	
23	2.42	5.16	7.85	60.22	7.60	346.30	39.90	13.00	4.02	1.85	0.65	0.00	
24	3.02	13.00	7.60	49.40	11.58	277.80	45.80	12.20	4.02	1.76	0.45	0.00	
25	4.67	29.20	7.10	39.90	17.94	203.56	47.60	13.00	3.89	1.76	0.50	0.00	
26	7.35	42.20	6.60	37.15	27.20	169.53	41.60	12.20	3.76	1.40	0.45	0.00	
27	5.70	29.20	6.42	29.60	28.00	182.94	39.90	13.40	3.50	1.40	0.35	0.00	
28	4.98	26.40	5.88	24.00	28.00	167.47	37.70	13.40	3.26	1.40	0.25	1.05	
29	4.15	26.00	5.34	19.68	29.20	132.41	34.95	13.40	2.90	1.40		1.19	
30	3.50	25.60	5.52	16.20	30.55	115.91	32.75	13.80	2.66	1.33		2.03	
31		24.00		13.00	37.70		31.65		2.30	1.33		1.58	
Total	103.68	339.79	514.47	1211.17	447.41	5431.45	2466.55	738.75	206.39	62.97	26.70	8.84	11558.17 CMSDAY
Mean	3.46	10.96	17.15	39.07	14.43	181.05	79.57	24.63	6.66	2.03	0.95	0.29	31.67 CMS
Max	7.35	42.20	29.20	136.53	37.70	346.30	188.09	72.59	14.20	2.66	1.49	2.03	346.30 CMS
Min	2.30	1.49	5.34	5.70	7.35	53.00	31.65	12.20	2.30	1.33	0.25	0.00	0.00 CMS
Runoff	8.958	29.358	44.450	104.645	38.656	469.277	213.110	63.828	17.832	5.441	2.307	0.764	998.626 MCM

Momentary Peak 351.85 CMS, at 63.01 M (MSL), at 6.00 Hours, on Sep 23, 1993

Runoff Yield 2.50 Liters/Second/Square KM, Momentary Peak Yield 27.80 Liters/Second/Square KM

WATER YEAR 1993

YOM RIVER BASIN

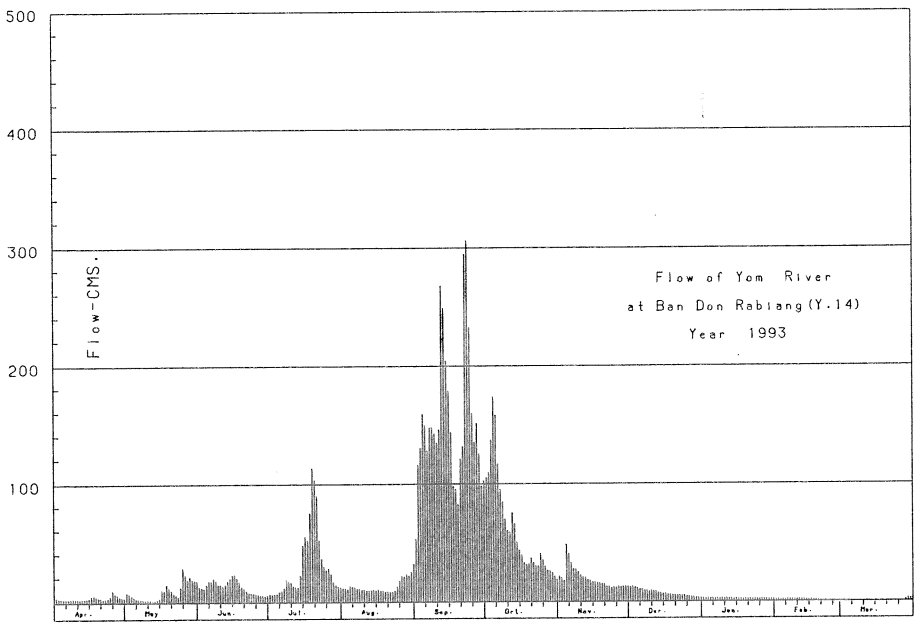
Yom River at Ban Don Rabiang, Sukhothai (Y.14)

Location	Lat. 17°-35'-42" N., Long. 99°-43'-08" E., on left bank about 50 meters from Si Satchanalai-Den Chai Highway No. 101 at guidepost 44 th., Amphoe Si Satchanalai, Sukhothai.
Drainage Area	12,131 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+65.10 m. (M.S.L.)
Bench Mark	B.M.-H.D.
Location	Infront of gage observer's house.
Elevation	+78.363 m. (M.S.L.)
Gage Reading Frequency	13-time daily readings at 06.00 - 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 13 readings.
Period of Available Gage Records	1964 to date.
Rating Operation	
Period of Rating	1964 to date.
Rated by Float	-
Rated by Current Meter	1964 to date.
Stability of Channel Regimes	Stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Stage-discharge relation defined by 53 discharge measurements made in 1993.

Gage Height in Meter (MSL), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	65.63	65.82	66.00	65.75	65.96	66.79	67.51	66.20	65.99	65.60	65.51	65.41	
2	65.62	65.77	65.98	65.75	65.94	67.64	67.56	66.16	66.00	65.60	65.50	65.41	
3	65.59	65.71	65.94	65.75	65.93	67.81	67.88	66.12	65.99	65.60	65.50	65.41	
4	65.57	65.65	66.05	65.77	66.01	68.11	68.25	66.70	65.94	65.60	65.50	65.40	
5	65.57	65.61	66.12	65.83	66.01	68.01	68.10	66.57	65.92	65.59	65.50	65.38	
6	65.57	65.57	66.10	65.86	65.98	67.78	67.65	66.42	65.90	65.59	65.51	65.37	
7	65.60	65.54	66.16	65.97	65.95	67.99	67.38	66.33	65.88	65.59	65.51	65.37	
8	65.60	65.52	66.11	66.13	65.93	67.99	67.24	66.31	65.86	65.59	65.51	65.36	
9	65.60	65.51	66.05	66.10	65.91	67.94	67.03	66.28	65.85	65.59	65.50	65.36	
10	65.58	65.50	66.04	66.08	65.90	67.85	66.90	66.21	65.86	65.59	65.50	65.36	
11	65.57	65.49	66.01	66.02	65.88	67.97	66.87	66.18	65.85	65.59	65.50	65.36	
12	65.58	65.48	66.05	65.99	65.86	69.10	67.11	66.17	65.83	65.59	65.50	65.35	
13	65.61	65.47	66.11	66.00	65.90	68.94	66.98	66.13	65.80	65.58	65.48	65.35	
14	65.60	65.55	66.17	66.22	65.90	68.55	66.74	66.11	65.77	65.57	65.47	65.35	
15	65.64	65.61	66.22	66.70	65.88	68.30	66.62	66.09	65.75	65.57	65.47	65.36	
16	65.69	65.89	66.23	66.82	65.91	67.95	66.54	66.08	65.75	65.55	65.47	65.36	
17	65.72	65.89	66.17	66.77	65.88	67.42	66.43	66.08	65.73	65.55	65.47	65.36	
18	65.67	66.05	66.09	67.11	65.87	67.38	66.39	66.06	65.72	65.55	65.46	65.36	
19	65.65	65.96	66.01	67.61	65.84	67.21	66.41	66.06	65.71	65.54	65.45	65.36	
20	65.62	65.88	65.95	67.49	65.83	67.70	66.49	66.05	65.70	65.54	65.44	65.37	
21	65.60	65.79	65.86	67.31	65.83	67.82	66.43	66.00	65.70	65.54	65.43	65.36	
22	65.58	65.73	65.81	66.78	65.82	69.31	66.37	66.00	65.70	65.54	65.43	65.35	
23	65.63	65.66	65.79	66.50	65.87	69.40	66.37	65.96	65.69	65.54	65.43	65.33	
24	65.68	66.00	65.78	66.36	66.00	68.80	66.56	65.98	65.69	65.54	65.42	65.33	
25	65.88	66.34	65.76	66.31	66.12	68.11	66.47	65.97	65.68	65.53	65.41	65.33	
26	65.79	66.23	65.75	66.33	66.20	67.86	66.36	66.00	65.66	65.53	65.41	65.33	
27	65.73	66.13	65.73	66.24	66.20	68.03	66.30	65.99	65.65	65.52	65.41	65.36	
28	65.68	66.20	65.71	66.09	66.23	67.75	66.28	65.99	65.64	65.52	65.41	65.48	
29	65.64	66.13	65.70	66.04	66.21	67.42	66.26	66.01	65.63	65.52		65.59	
30	65.62	66.13	65.72	66.00	66.27	67.47	66.19	66.00	65.61	65.52		65.55	
31		66.11		65.98	66.41		66.13		65.61	65.51		65.55	
Mean	65.64	65.80	65.97	66.31	65.98	68.01	66.83	66.14	65.78	65.56	65.47	65.39	
Max	65.88	66.34	66.23	67.61	66.41	69.40	68.25	66.70	66.00	65.60	65.51	65.59	69.40
Min	65.57	65.47	65.70	65.75	65.82	66.79	66.13	65.96	65.61	65.51	65.41	65.33	65.33

Annual Max Momentary Gage Height 69.60 M (MSL), at 18.00 Hours, on Sep 22, 1993
Zero Gage at Bottom Elevation 65.10 M (MSL), River Bed 63.05 M (MSL)
Left Bank Elevation 78.19 M (MSL)
Right Bank Elevation 75.15 M (MSL), Drainage Area 12131 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	3.75	8.50	13.00	6.75	12.00	53.45	105.80	22.00	12.75	3.00	2.10	1.10	
2	3.50	7.25	12.50	6.75	11.50	116.40	109.80	20.20	13.00	3.00	2.00	1.10	
3	2.90	5.75	11.50	6.75	11.25	130.95	137.60	18.40	12.75	3.00	2.00	1.10	
4	2.70	4.25	15.25	7.25	13.45	160.00	174.00	48.50	11.50	3.00	2.00	1.00	
5	2.70	3.25	18.40	8.75	13.45	150.00	159.00	41.35	11.00	2.90	2.00	0.80	
6	2.70	2.70	17.50	9.50	12.50	128.30	117.25	33.10	10.50	2.90	2.10	0.70	
7	3.00	2.40	20.20	12.25	11.75	148.05	95.50	28.50	10.00	2.90	2.10	0.70	
8	3.00	2.20	17.95	18.85	11.25	148.05	85.00	27.50	9.50	2.90	2.10	0.60	
9	3.00	2.10	15.25	17.50	10.75	143.30	70.10	26.00	9.25	2.90	2.00	0.60	
10	2.80	2.00	14.80	16.60	10.50	134.75	61.00	22.50	9.50	2.90	2.00	0.60	
11	2.70	1.90	13.45	13.90	10.00	146.15	58.90	21.10	9.25	2.90	2.00	0.60	
12	2.80	1.80	15.25	12.75	9.50	268.50	75.70	20.65	8.75	2.90	2.00	0.50	
13	3.25	1.70	17.95	13.00	10.50	249.10	66.60	18.85	8.00	2.80	1.80	0.50	
14	3.00	2.50	20.65	23.00	10.50	204.75	50.70	17.95	7.25	2.70	1.70	0.50	
15	4.00	3.25	23.00	48.50	10.00	179.00	44.10	17.05	6.75	2.70	1.70	0.60	
16	5.25	10.25	23.50	55.40	10.75	144.25	39.70	16.60	6.75	2.50	1.70	0.60	
17	6.00	10.25	20.65	52.35	10.00	98.60	33.65	16.60	6.25	2.50	1.70	0.60	
18	4.75	15.25	17.05	75.70	9.75	95.50	31.50	15.70	6.00	2.50	1.60	0.60	
19	4.25	12.00	13.45	113.85	9.00	82.75	32.55	15.70	5.75	2.40	1.50	0.60	
20	3.50	10.00	11.75	104.20	8.75	121.50	36.95	15.25	5.50	2.40	1.40	0.70	
21	3.00	7.75	9.50	90.25	8.75	131.90	33.65	13.00	5.50	2.40	1.30	0.60	
22	2.80	6.25	8.25	52.90	8.50	294.75	30.50	13.00	5.50	2.40	1.30	0.50	
23	3.75	4.50	7.75	37.50	9.75	306.00	30.50	12.00	5.25	2.40	1.30	0.30	
24	5.00	13.00	7.50	30.00	13.00	233.00	40.80	12.50	5.25	2.40	1.20	0.30	
25	10.00	29.00	7.00	27.50	18.40	160.00	35.85	12.25	5.00	2.30	1.10	0.30	
26	7.75	23.50	6.75	28.50	22.00	135.70	30.00	13.00	4.50	2.30	1.10	0.30	
27	6.25	18.85	6.25	24.00	22.00	152.00	27.00	12.75	4.25	2.20	1.10	0.60	
28	5.00	22.00	5.75	17.05	23.50	125.75	26.00	12.75	4.00	2.20	1.10	1.80	
29	4.00	18.85	5.50	14.80	22.50	98.60	25.00	13.45	3.75	2.20		2.90	
30	3.50	18.85	6.00	13.00	25.50	102.60	21.55	13.00	3.25	2.20		2.50	
31		17.95		12.50	32.55		18.85		3.25	2.10		2.50	
Total	120.60	289.80	403.30	971.60	423.60	4643.65	1905.10	591.20	229.50	80.80	47.00	26.70	9732.85 CMSDAY
Mean	4.02	9.35	13.44	31.34	13.66	154.79	61.45	19.71	7.40	2.61	1.68	0.86	26.67 CMS
Max	10.00	29.00	23.50	113.85	32.55	306.00	174.00	48.50	13.00	3.00	2.10	2.90	306.00 CMS
Min	2.70	1.70	5.50	6.75	8.50	53.45	18.85	12.00	3.25	2.10	1.10	0.30	0.30 CMS
Runoff	10.420	25.039	34.845	83.946	36.599	401.211	164.601	51.080	19.829	6.981	4.061	2.307	840.918 MCM

Momentary Peak 334.00 CMS, at 69.60 M (MSL), at 18.00 Hours, on Sep 22, 1993

Runoff Yield 2.20 Liters/Second/Square KM, Momentary Peak Yield 27.53 Liters/Second/Square KM

WATER YEAR 1993

YOM RIVER BASIN

Yom River at Sam Ngam, Phichit (Y.17)

Location — Lat. 16°-30'-50" N., Long. 100°-12'-40" E., on left bank at the bridge on highway, infront of Amphoe Sam Ngam Office, Amphoe Sam Ngam, Phichit.

Drainage Area — 21,415 sq.km.

Type of Gage — Staff gage.

Zero Gage at Bottom — +31.49 m.(M.S.L.)

Bench Mark — B.M.-H.D.

Location — On left bank about 50 meters from Amphoe Sam Ngam Office.

Elevation — +37.838 m.(M.S.L.)

Gage Reading Frequency — 5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.

Basis of Mean Daily Gage Height — Arithmetic mean of 5 readings.

Period of Available Gage Records — 1967 to date.

Rating Operation

Period of Rating — 1967, 1990 to date.

Rated by Float — -

Rated by Current Meter — 1967-1980, 1990 to date.

Stability of Channel Regimes — Stable.

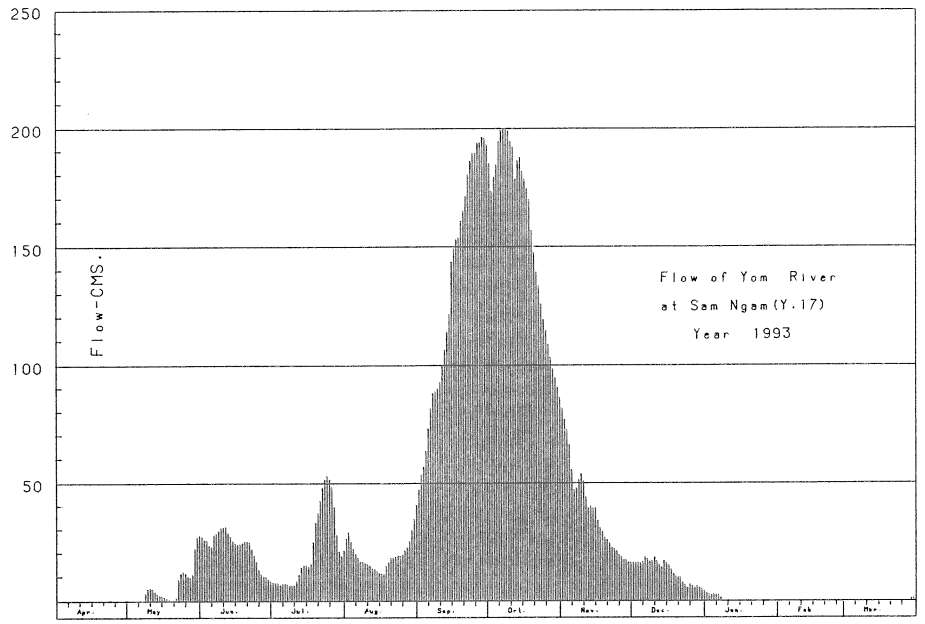
Overbank Flow Conditions — No overbank flow.

General Description — Records fair. Stage-discharge relation defined by 18 discharge measurements made in 1993.

Gage Height in Meter (MSL), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	31.05	30.91	32.58	31.99	32.56	33.00	35.04	33.61	32.29	31.82	31.44	31.19	
2	31.03	30.91	32.55	31.99	32.62	33.13	34.89	33.54	32.29	31.79	31.44	31.18	
3	31.03	31.47	32.54	31.98	32.53	33.20	34.97	33.47	32.29	31.78	31.44	31.17	
4	31.03	31.60	32.49	31.96	32.45	33.32	35.03	33.37	32.29	31.78	31.44	31.17	
5	31.02	31.58	32.47	31.97	32.40	33.48	35.15	33.17	32.30	31.78	31.44	31.17	
6	31.02	31.54	32.60	31.98	32.35	33.61	35.20	32.99	32.36	31.77	31.44	31.16	
7	31.01	31.60	32.61	31.96	32.31	33.71	35.21	33.01	32.34	31.70	31.44	31.14	
8	31.02	31.81	32.64	31.95	32.30	33.72	35.21	33.08	32.31	31.63	31.39	31.14	
9	31.02	31.88	32.66	31.94	32.29	33.74	35.20	33.14	32.31	31.59	31.39	31.13	
10	31.01	31.90	32.67	31.95	32.27	33.78	35.15	33.07	32.36	31.56	31.39	31.12	
11	31.00	31.88	32.67	32.01	32.26	33.89	35.12	32.93	32.31	31.56	31.39	31.11	
12	30.99	31.84	32.62	32.13	32.22	33.99	34.96	32.84	32.26	31.54	31.39	31.10	
13	31.04	31.79	32.58	32.23	32.22	34.11	35.05	32.85	32.24	31.54	31.38	31.10	
14	31.03	31.76	32.54	32.26	32.18	34.22	35.07	32.83	32.32	31.53	31.36	31.09	
15	31.03	31.74	32.51	32.26	32.16	34.52	35.00	32.84	32.29	31.52	31.34	31.09	
16	31.02	31.71	32.50	32.24	32.14	34.59	34.96	32.73	32.26	31.52	31.32	31.09	
17	31.01	31.68	32.50	32.28	32.13	34.64	34.91	32.66	32.21	31.51	31.31	31.08	
18	31.00	31.65	32.52	32.52	32.25	34.65	34.85	32.63	32.15	31.50	31.30	31.07	
19	30.98	31.63	32.53	32.71	32.30	34.74	34.69	32.57	32.09	31.50	31.28	31.06	
20	30.98	31.62	32.54	32.79	32.35	34.79	34.57	32.55	32.09	31.50	31.26	31.05	
21	30.97	31.70	32.52	32.90	32.35	34.87	34.46	32.51	32.08	31.48	31.25	31.04	
22	30.96	32.04	32.45	33.02	32.36	34.98	34.38	32.47	32.00	31.47	31.24	31.04	
23	30.96	32.15	32.38	33.09	32.38	35.05	34.28	32.45	31.95	31.46	31.23	31.03	
24	30.95	32.17	32.31	33.12	32.37	35.09	34.19	32.43	31.91	31.46	31.22	31.31	
25	30.94	32.15	32.21	33.09	32.39	35.09	34.12	32.39	31.97	31.45	31.22	31.29	
26	30.94	32.10	32.13	33.02	32.43	35.14	34.03	32.36	31.93	31.45	31.21	31.28	
27	30.93	32.07	32.10	32.85	32.47	35.14	33.94	32.33	31.91	31.45	31.21	31.28	
28	30.93	32.13	32.09	32.60	32.53	35.17	33.87	32.32	31.93	31.45	31.20	31.57	
29	30.92	32.45	32.05	32.42	32.64	35.16	33.81	32.30	31.91	31.45		31.66	
30	30.92	32.58	32.01	32.37	32.74	35.13	33.75	32.29	31.88	31.44		31.67	
31		32.59		32.43	32.86		33.68		31.85	31.44		31.63	
Mean	30.99	31.83	32.45	32.39	32.38	34.32	34.67	32.79	32.15	31.56	31.33	31.20	
Max	31.05	32.59	32.67	33.12	32.86	35.17	35.21	33.61	32.36	31.82	31.44	31.67	35.21
Min	30.92	30.91	32.01	31.94	32.13	33.00	33.68	32.29	31.85	31.44	31.20	31.03	30.91

Annual Max Momentary Gage Height — 35.21 M (MSL), at 6.00 Hours, on Oct 7, 1993
Zero Gage at Bottom Elevation — 31.49 M (MSL), River Bed 30.69 M (MSL)
Left Bank Elevation — 39.28 M (MSL)
Right Bank Elevation — 38.58 M (MSL), Drainage Area 21415 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.00	0.00	27.20	7.75	26.40	47.33	185.40	81.65	16.15	3.50	0.00	0.00	
2	0.00	0.00	26.00	7.75	28.97	53.62	173.20	77.10	16.15	2.85	0.00	0.00	
3	0.00	0.00	25.60	7.50	25.20	57.00	179.60	72.55	16.15	2.70	0.00	0.00	
4	0.00	0.00	23.60	7.00	22.00	63.60	184.55	66.35	16.15	2.70	0.00	0.00	
5	0.00	0.00	22.80	7.25	20.00	73.20	194.75	55.55	16.50	2.70	0.00	0.00	
6	0.00	0.00	28.00	7.50	18.25	81.65	199.00	46.85	18.60	2.55	0.00	0.00	
7	0.00	0.00	28.48	7.00	16.85	88.15	199.85	47.82	17.90	1.50	0.00	0.00	
8	0.00	3.25	29.93	6.75	16.50	88.80	199.85	51.20	16.85	0.45	0.00	0.00	
9	0.00	5.00	30.90	6.50	16.15	90.10	199.00	54.10	16.85	0.00	0.00	0.00	
10	0.00	5.50	31.38	6.75	15.45	92.70	194.75	50.72	18.60	0.00	0.00	0.00	
11	0.00	5.00	31.38	8.25	15.10	99.85	192.20	43.95	16.85	0.00	0.00	0.00	
12	0.00	4.00	28.97	11.25	13.70	106.35	178.80	39.60	15.10	0.00	0.00	0.00	
13	0.00	2.85	27.20	14.05	13.70	114.15	186.25	40.08	14.40	0.00	0.00	0.00	
14	0.00	2.40	25.60	15.10	12.50	121.50	187.95	39.12	17.20	0.00	0.00	0.00	
15	0.00	2.10	24.40	15.10	12.00	144.00	182.00	39.60	16.15	0.00	0.00	0.00	
16	0.00	1.65	24.00	14.40	11.50	149.25	178.80	34.28	15.10	0.00	0.00	0.00	
17	0.00	1.20	24.00	15.80	11.25	153.20	174.80	30.90	13.35	0.00	0.00	0.00	
18	0.00	0.75	24.80	24.80	14.75	154.00	170.00	29.45	11.75	0.00	0.00	0.00	
19	0.00	0.45	25.20	33.32	16.50	161.20	157.20	26.80	10.25	0.00	0.00	0.00	
20	0.00	0.30	25.60	37.18	18.25	165.20	147.75	26.00	10.25	0.00	0.00	0.00	
21	0.00	1.50	24.80	42.50	18.25	171.60	139.50	24.40	10.00	0.00	0.00	0.00	
22	0.00	9.00	22.00	48.30	18.60	180.40	133.50	22.80	8.00	0.00	0.00	0.00	
23	0.00	11.75	19.30	51.68	19.30	186.25	126.00	22.00	6.75	0.00	0.00	0.00	
24	0.00	12.25	16.85	53.13	18.95	189.65	119.35	21.20	5.75	0.00	0.00	0.00	
25	0.00	11.75	13.35	51.68	19.65	189.65	114.80	19.65	7.25	0.00	0.00	0.00	
26	0.00	10.50	11.25	48.30	21.20	193.90	108.95	18.60	6.25	0.00	0.00	0.00	
27	0.00	9.75	10.50	40.08	22.80	193.90	103.10	17.55	5.75	0.00	0.00	0.00	
28	0.00	11.25	10.25	28.00	25.20	196.45	98.55	17.20	6.25	0.00	0.00	0.00	
29	0.00	22.00	9.25	20.80	29.93	195.60	94.65	16.50	5.75	0.00		0.90	
30	0.00	27.20	8.25	18.95	34.77	193.05	90.75	16.15	5.00	0.00		1.05	
31		27.60		21.20	40.57		86.20		4.25	0.00		0.45	
Total	0.00	189.00	680.84	685.62	614.24	3995.30	4881.05	1149.72	381.30	18.95	0.00	2.40	12598.42 CMSDAY
Mean	0.00	6.10	22.69	22.12	19.81	133.18	157.45	38.32	12.30	0.61	0.00	0.08	34.52 CMS
Max	0.00	27.60	31.38	53.13	40.57	196.45	199.85	81.65	18.60	3.50	0.00	1.05	199.85 CMS
Min	0.00	0.00	8.25	6.50	11.25	47.33	86.20	16.15	4.25	0.00	0.00	0.00	0.00 CMS
Runoff	0.000	16.330	58.825	59.238	53.070	345.194	421.723	99.336	32.944	1.637	0.000	0.207	1088.504 MCM

Momentary Peak 199.85 CMS, at 35.21 M (MSL), at 6.00 Hours, on Oct 7, 1993

Runoff Yield 1.61 Liters/Second/Square KM, Momentary Peak Yield 9.33 Liters/Second/Square KM

WATER YEAR 1993

YOM RIVER BASIN

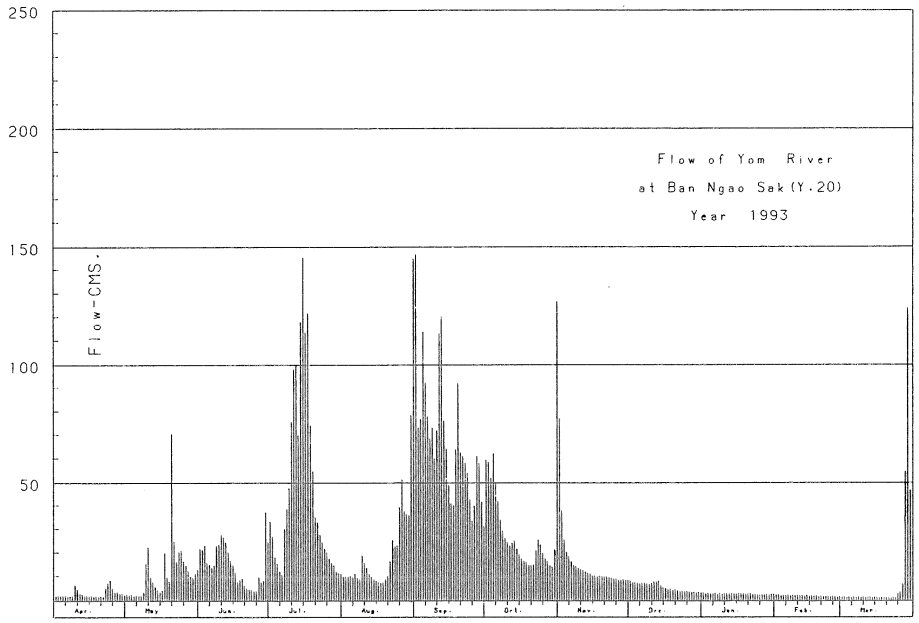
Yom River at Ban Ngao Sak, Phrae (Y.20)

Location	Lat. 18°-35'-03" N., Long. 100°-09'-17" E., on left bank about 1 kilometer downstream from Sop Ngao, Tambon Tao Poon, Amphoe Song, Phrae.
Drainage Area	5,410 sq.km.
Type of Gage	Water-stage recorder.
Zero Gage at Bottom	+180.97 m. (M.S.L.)
Bench Mark	B.M.-H.D.
Location	Near the automatic gage building.
Elevation	+193.552 m. (M.S.L.)
Gage Reading Frequency	Recording.
Basis of Mean Daily Gage Height	Arithmetic mean of 24 readings.
Period of Available Gage Records	1971 to date.
Rating Operation	
Period of Rating	1972 to date.
Rated by Float	-
Rated by Current Meter	1972 to date.
Stability of Channel Regimes	Stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records fair. Stage-discharge relation defined by 75 discharge measurements made in 1993.

Gage Height in Meter (MSL), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	181.48	181.51	182.15	182.48	181.81	184.50	183.03	183.39	181.74	181.55	181.52	181.45	
2	181.48	181.51	182.14	182.30	181.80	183.31	183.01	182.60	181.73	181.54	181.51	181.44	
3	181.48	181.51	182.20	182.06	181.81	183.38	182.88	182.26	181.72	181.54	181.50	181.44	
4	181.48	181.49	181.98	181.97	181.81	184.02	183.09	182.12	181.72	181.54	181.50	181.44	
5	181.48	181.49	181.97	181.88	181.80	183.66	182.85	182.06	181.71	181.54	181.50	181.44	
6	181.47	181.49	181.93	181.82	181.84	183.40	182.68	182.01	181.71	181.54	181.50	181.44	
7	181.47	181.48	181.95	182.40	181.79	183.21	182.51	181.96	181.72	181.53	181.50	181.44	
8	181.47	181.57	182.19	182.62	181.76	183.31	182.37	181.94	181.70	181.54	181.50	181.44	
9	181.69	181.98	182.21	182.79	182.08	183.04	182.29	181.93	181.70	181.53	181.50	181.44	
10	181.61	182.17	182.33	183.36	181.98	183.28	182.23	181.90	181.71	181.53	181.50	181.44	
11	181.54	181.80	182.29	183.75	181.92	184.01	182.20	181.89	181.73	181.53	181.50	181.44	
12	181.51	181.72	182.23	183.79	181.85	184.12	182.23	181.88	181.74	181.54	181.49	181.44	
13	181.49	181.66	182.12	183.24	181.80	183.37	182.25	181.85	181.74	181.54	181.49	181.44	
14	181.48	181.60	182.01	184.09	181.77	183.13	182.16	181.85	181.68	181.54	181.49	181.43	
15	181.48	181.57	181.96	184.48	181.75	182.82	182.08	181.82	181.64	181.54	181.48	181.43	
16	181.48	181.59	181.86	184.01	181.72	182.66	182.03	181.81	181.64	181.54	181.48	181.42	
17	181.47	182.11	181.73	184.14	181.72	182.65	182.01	181.81	181.62	181.54	181.48	181.42	
18	181.46	181.80	181.75	183.33	181.72	183.12	181.99	181.81	181.62	181.53	181.48	181.42	
19	181.46	181.73	181.78	182.94	181.77	183.65	181.96	181.81	181.61	181.53	181.47	181.42	
20	181.46	183.26	181.67	182.53	181.81	183.10	181.95	181.80	181.61	181.53	181.47	181.42	
21	181.46	182.24	181.63	182.47	182.00	183.06	181.96	181.80	181.59	181.53	181.47	181.42	
22	181.64	182.00	181.62	182.33	182.27	183.01	182.14	181.80	181.59	181.52	181.47	181.42	
23	181.71	182.12	181.60	182.23	182.19	182.92	182.27	181.78	181.58	181.52	181.47	181.42	
24	181.76	182.13	181.59	182.16	182.19	182.70	182.20	181.78	181.58	181.52	181.46	181.43	
25	181.63	182.00	181.58	182.11	182.63	182.49	182.10	181.77	181.58	181.50	181.46	181.54	
26	181.57	181.96	181.80	182.04	182.87	182.64	182.04	181.76	181.57	181.52	181.45	181.56	
27	181.56	181.88	181.73	181.99	182.60	183.07	182.00	181.76	181.57	181.52	181.45	181.71	
28	181.54	181.81	181.74	181.95	182.56	183.00	181.96	181.76	181.56	181.52	181.45	182.94	
29	181.53	181.78	182.59	181.88	182.56	182.68	181.93	181.76	181.56	181.52		184.17	
30	181.51	181.85	182.24	181.85	183.41	182.43	182.15	181.75	181.56	181.52		182.78	
31		181.90		181.84	184.47		184.21		181.56	181.52		182.19	
Mean	181.53	181.83	181.95	182.67	182.13	183.19	182.35	181.94	181.65	181.53	181.48	181.65	
Max	181.76	183.26	182.59	184.48	184.47	184.50	184.21	183.39	181.74	181.55	181.52	184.17	184.50
Min	181.46	181.48	181.58	181.82	181.72	182.43	181.93	181.75	181.56	181.50	181.45	181.42	181.42

Annual Max Momentary Gage Height 184.78 M (MSL), at 11.00 Hours, on Sep 1, 1993
Zero Gage at Bottom Elevation 180.97 M (MSL), River Bed 179.55 M (MSL)
Left Bank Elevation 193.51 M (MSL)
Right Bank Elevation 193.63 M (MSL), Drainage Area 5410 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	1.96	2.41	21.75	33.30	10.30	147.00	59.50	77.50	8.20	3.25	2.62	1.60	
2	1.96	2.41	21.40	27.00	10.00	73.50	58.50	38.00	7.90	3.04	2.41	1.48	
3	1.96	2.41	23.50	18.60	10.30	77.00	52.00	25.60	7.60	3.04	2.20	1.48	
4	1.96	2.08	15.80	15.45	10.30	114.20	62.50	20.70	7.60	3.04	2.20	1.48	
5	1.96	2.08	15.45	12.40	10.00	92.60	50.50	18.60	7.30	3.04	2.20	1.48	
6	1.84	2.08	14.05	10.60	11.20	78.00	42.00	16.85	7.30	3.04	2.20	1.48	
7	1.84	1.96	14.75	30.50	9.70	68.50	34.40	15.10	7.60	2.83	2.20	1.48	
8	1.84	3.67	23.15	39.00	8.80	73.50	29.45	14.40	7.00	3.04	2.20	1.48	
9	6.73	15.80	23.85	47.50	19.30	60.00	26.65	14.05	7.00	2.83	2.20	1.48	
10	4.57	22.45	28.05	76.00	15.80	72.00	24.55	13.00	7.30	2.83	2.20	1.48	
11	3.04	10.00	26.65	98.00	13.70	113.60	23.50	12.70	7.90	2.83	2.20	1.48	
12	2.41	7.60	24.55	100.40	11.50	120.40	24.55	12.40	8.20	3.04	2.08	1.48	
13	2.08	5.92	20.70	70.00	10.00	76.50	25.25	11.50	8.20	3.04	2.08	1.48	
14	1.96	4.30	16.85	118.40	9.10	64.50	22.10	11.50	6.46	3.04	2.08	1.36	
15	1.96	3.67	15.10	145.60	8.50	49.00	19.30	10.60	5.38	3.04	1.96	1.36	
16	1.96	4.09	11.80	113.60	7.60	41.00	17.55	10.30	5.38	3.04	1.96	1.24	
17	1.84	20.35	7.90	121.80	7.60	40.50	16.85	10.30	4.84	3.04	1.96	1.24	
18	1.72	10.00	8.50	74.50	7.60	64.00	16.15	10.30	4.84	2.83	1.96	1.24	
19	1.72	7.90	9.40	55.00	9.10	92.00	15.10	10.30	4.57	2.83	1.84	1.24	
20	1.72	71.00	6.19	35.20	10.30	63.00	14.75	10.00	4.57	2.83	1.84	1.24	
21	1.72	24.90	5.11	32.95	16.50	61.00	15.10	10.00	4.09	2.83	1.84	1.24	
22	5.38	16.50	4.84	28.05	25.95	58.50	21.40	10.00	4.09	2.62	1.84	1.24	
23	7.30	20.70	4.30	24.55	23.15	54.00	25.95	9.40	3.88	2.62	1.84	1.24	
24	8.80	21.05	4.09	22.10	23.15	43.00	23.50	9.40	3.88	2.62	1.72	1.36	
25	5.11	16.50	3.88	20.35	39.50	33.65	20.00	9.10	3.88	2.20	1.72	3.04	
26	3.67	15.10	10.00	17.90	51.50	40.00	17.90	8.80	3.67	2.62	1.60	3.46	
27	3.46	12.40	7.90	16.15	38.00	61.50	16.50	8.80	3.67	2.62	1.60	7.30	
28	3.04	10.30	8.20	14.75	36.40	58.00	15.10	8.80	3.46	2.62	1.60	55.00	
29	2.83	9.40	37.60	12.40	36.40	42.00	14.05	8.80	3.46	2.62		123.90	
30	2.41	11.50	24.90	11.50	78.50	31.55	21.75	8.50	3.46	2.62		47.00	
31		13.00		11.20	144.90		126.70		3.46	2.62		23.15	
Total	90.75	373.53	460.21	1454.75	724.65	2064.00	953.10	455.30	176.14	88.15	56.35	296.21	7193.14 CMSDAY
Mean	3.03	12.05	15.34	46.93	23.38	68.80	30.75	15.18	5.68	2.84	2.01	9.56	19.71 CMS
Max	8.80	71.00	37.60	145.60	144.90	147.00	126.70	77.50	8.20	3.25	2.62	123.90	147.00 CMS
Min	1.72	1.96	3.88	10.60	7.60	31.55	14.05	8.50	3.46	2.20	1.60	1.24	1.24 CMS
Runoff	7.841	32.273	39.762	125.690	62.610	178.330	82.348	39.338	15.219	7.616	4.869	25.593	621.487 MCM

Momentary Peak 168.40 CMS, at 184.78 M (MSL), at 11.00 Hours, on Sep 1, 1993

Runoff Yield 3.64 Liters/Second/Square KM, Momentary Peak Yield 31.13 Liters/Second/Square KM

WATER YEAR 1993

YOM RIVER BASIN

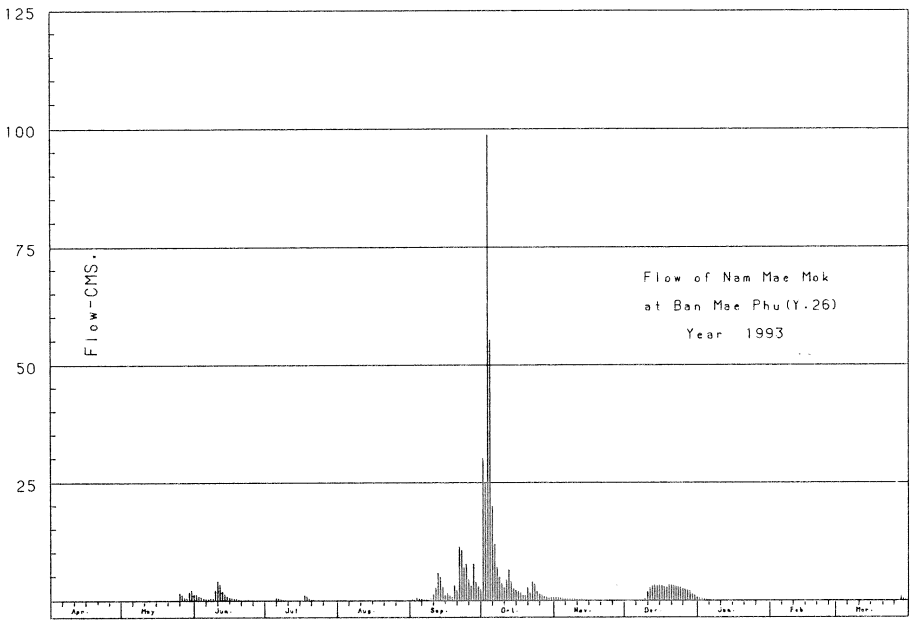
Nam Mae Mok at Ban Mae Phu, Lampang (Y.26)

Location	Lat. 17-19-45 N., Long. 99-27-42 E., on left bank downstream from Ban Mae Phu, Tambon Wiang Mok, Amphoe Thoen, Lampang.
Drainage Area	785 sq.km.
Type of Gage	Water-stage recorder.
Zero Gage at Bottom	+0.00 m. (A.D.)
Bench Mark	B.M.-H.D.
Location	On left bank along the gage line.
Elevation	+8.00 m. (A.D.)
Gage Reading Frequency	Recording.
Basis of Mean Daily Gage Height	Arithmetic mean of 24 readings.
Period of Available Gage Records	1979 to date.
Rating Operation	
Period of Rating	1979 to date.
Rated by Float	-
Rated by Current Meter	1979 to date.
Stability of Channel Regimes	Stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Stage-discharge relation defined by 45 discharge measurements made in 1993.

Gage Height in Meter (A.D), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.44	0.48	0.90	0.68	0.52	0.72	2.36	0.82	0.64	0.81	0.42	0.26	
2	0.43	0.45	0.86	0.64	0.52	0.69	2.20	0.81	0.64	0.77	0.41	0.26	
3	0.42	0.44	0.82	0.63	0.52	0.81	3.99	0.80	0.64	0.75	0.40	0.25	
4	0.41	0.42	0.78	0.60	0.52	0.76	3.06	0.78	0.64	0.73	0.40	0.24	
5	0.40	0.40	0.76	0.80	0.52	0.74	2.02	0.75	0.64	0.70	0.40	0.24	
6	0.39	0.39	0.74	0.74	0.61	0.70	1.68	0.74	0.63	0.69	0.40	0.23	
7	0.39	0.36	0.77	0.72	0.55	0.70	1.41	0.74	0.63	0.66	0.39	0.23	
8	0.48	0.36	0.77	0.69	0.53	0.68	1.27	0.73	0.62	0.64	0.38	0.22	
9	0.41	0.35	1.02	0.66	0.52	0.76	1.15	0.73	0.74	0.63	0.38	0.22	
10	0.41	0.34	1.21	0.67	0.52	0.91	1.08	0.72	0.98	0.62	0.37	0.21	
11	0.39	0.33	1.14	0.67	0.52	1.06	1.22	0.72	1.07	0.60	0.37	0.20	
12	0.38	0.31	0.99	0.61	0.50	1.33	1.38	0.72	1.12	0.60	0.36	0.19	
13	0.37	0.30	0.92	0.64	0.49	1.26	1.19	0.72	1.12	0.58	0.36	0.19	
14	0.37	0.29	0.85	0.61	0.47	1.09	1.06	0.72	1.12	0.57	0.35	0.18	
15	0.36	0.28	0.81	0.63	0.46	0.88	1.01	0.71	1.12	0.57	0.35	0.18	
16	0.35	0.69	0.78	0.63	0.44	0.93	0.99	0.70	1.12	0.57	0.34	0.18	
17	0.34	0.62	0.77	0.89	0.43	0.87	0.94	0.70	1.09	0.56	0.34	0.17	
18	0.33	0.57	0.75	0.84	0.42	0.82	0.89	0.70	1.09	0.54	0.33	0.16	
19	0.32	0.54	0.72	0.75	0.41	1.12	0.87	0.69	1.13	0.53	0.32	0.15	
20	0.32	0.53	0.72	0.72	0.40	1.00	1.07	0.67	1.13	0.52	0.31	0.14	
21	0.31	0.51	0.70	0.69	0.39	1.65	0.95	0.67	1.12	0.51	0.31	0.13	
22	0.31	0.49	0.70	0.66	0.39	1.62	1.20	0.67	1.11	0.50	0.30	0.12	
23	0.32	0.48	0.69	0.64	0.39	1.41	1.14	0.67	1.09	0.49	0.30	0.12	
24	0.61	0.74	0.68	0.63	0.38	1.45	0.99	0.67	1.09	0.48	0.29	0.13	
25	0.55	0.95	0.66	0.63	0.39	1.22	0.92	0.67	1.06	0.46	0.29	0.13	
26	0.53	0.89	0.65	0.62	0.38	1.12	0.88	0.67	1.03	0.46	0.28	0.13	
27	0.56	0.81	0.66	0.59	0.38	1.46	0.85	0.67	1.02	0.45	0.28	0.13	
28	0.55	0.77	0.62	0.57	0.37	1.18	0.83	0.66	1.00	0.44	0.27	0.87	
29	0.53	0.97	0.65	0.57	0.40	1.10	0.81	0.66	0.92	0.43		0.75	
30	0.50	1.01	0.68	0.54	0.49	1.02	0.81	0.65	0.87	0.43		0.66	
31		0.91		0.54	0.53		0.81		0.82	0.42		0.60	
Mean	0.42	0.55	0.79	0.66	0.46	1.04	1.32	0.71	0.94	0.57	0.35	0.25	
Max	0.61	1.01	1.21	0.89	0.61	1.65	3.99	0.82	1.13	0.81	0.42	0.87	3.99
Min	0.31	0.28	0.62	0.54	0.37	0.68	0.81	0.65	0.62	0.42	0.27	0.12	0.12

Annual Max Momentary Gage Height 4.47 M (A.D), at 18.00 Hours, on Oct 3, 1993
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed 0.33 M (A.D)
Left Bank Elevation 7.60 M (A.D)
Right Bank Elevation 7.73 M (A.D), Drainage Area 785 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.00	0.00	1.30	0.24	0.00	0.36	30.12	0.74	0.12	0.67	0.00	0.00	
2	0.00	0.00	1.02	0.12	0.00	0.27	25.00	0.67	0.12	0.51	0.00	0.00	
3	0.00	0.00	0.74	0.09	0.00	0.67	98.77	0.60	0.12	0.45	0.00	0.00	
4	0.00	0.00	0.54	0.00	0.00	0.48	55.40	0.54	0.12	0.39	0.00	0.00	
5	0.00	0.00	0.48	0.60	0.00	0.42	20.12	0.45	0.12	0.30	0.00	0.00	
6	0.00	0.00	0.42	0.42	0.03	0.30	12.06	0.42	0.09	0.27	0.00	0.00	
7	0.00	0.00	0.51	0.36	0.00	0.30	7.06	0.42	0.09	0.18	0.00	0.00	
8	0.00	0.00	0.51	0.27	0.00	0.24	5.08	0.39	0.06	0.12	0.00	0.00	
9	0.00	0.00	2.28	0.18	0.00	0.48	3.55	0.39	0.42	0.09	0.00	0.00	
10	0.00	0.00	4.24	0.21	0.00	1.38	2.82	0.36	1.94	0.06	0.00	0.00	
11	0.00	0.00	3.44	0.21	0.00	2.64	4.38	0.36	2.73	0.00	0.00	0.00	
12	0.00	0.00	2.02	0.03	0.00	5.92	6.62	0.36	3.22	0.00	0.00	0.00	
13	0.00	0.00	1.46	0.12	0.00	4.94	3.99	0.36	3.22	0.00	0.00	0.00	
14	0.00	0.00	0.95	0.03	0.00	2.91	2.64	0.36	3.22	0.00	0.00	0.00	
15	0.00	0.00	0.67	0.09	0.00	1.16	2.19	0.33	3.22	0.00	0.00	0.00	
16	0.00	0.27	0.54	0.09	0.00	1.54	2.02	0.30	3.22	0.00	0.00	0.00	
17	0.00	0.06	0.51	1.23	0.00	1.09	1.62	0.30	2.91	0.00	0.00	0.00	
18	0.00	0.00	0.45	0.88	0.00	0.74	1.23	0.30	2.91	0.00	0.00	0.00	
19	0.00	0.00	0.36	0.45	0.00	3.22	1.09	0.27	3.33	0.00	0.00	0.00	
20	0.00	0.00	0.36	0.36	0.00	2.10	2.73	0.21	3.33	0.00	0.00	0.00	
21	0.00	0.00	0.30	0.27	0.00	11.40	1.70	0.21	3.22	0.00	0.00	0.00	
22	0.00	0.00	0.30	0.18	0.00	10.74	4.10	0.21	3.11	0.00	0.00	0.00	
23	0.00	0.00	0.27	0.12	0.00	7.06	3.44	0.21	2.91	0.00	0.00	0.00	
24	0.03	0.42	0.24	0.09	0.00	7.70	2.02	0.21	2.91	0.00	0.00	0.00	
25	0.00	1.70	0.18	0.09	0.00	4.38	1.46	0.21	2.64	0.00	0.00	0.00	
26	0.00	1.23	0.15	0.06	0.00	3.22	1.16	0.21	2.37	0.00	0.00	0.00	
27	0.00	0.67	0.18	0.00	0.00	7.86	0.95	0.21	2.28	0.00	0.00	0.00	
28	0.00	0.51	0.06	0.00	0.00	3.88	0.81	0.18	2.10	0.00	0.00	1.09	
29	0.00	1.86	0.15	0.00	0.00	3.00	0.67	0.18	1.46	0.00		0.45	
30	0.00	2.19	0.24	0.00	0.00	2.28	0.67	0.15	1.09	0.00		0.18	
31		1.38		0.00	0.00		0.67		0.74	0.00		0.00	
Total	0.03	10.29	24.87	6.79	0.03	92.68	306.14	10.11	59.34	3.04	0.00	1.72	515.04 CMSDAY
Mean	0.00	0.33	0.83	0.22	0.00	3.09	9.88	0.34	1.91	0.10	0.00	0.06	1.41 CMS
Max	0.03	2.19	4.24	1.23	0.03	11.40	98.77	0.74	3.33	0.67	0.00	1.09	98.77 CMS
Min	0.00	0.00	0.06	0.00	0.00	0.24	0.67	0.15	0.06	0.00	0.00	0.00	0.00 CMS
Runoff	0.003	0.889	2.149	0.587	0.003	8.008	26.451	0.874	5.127	0.263	0.000	0.149	44.499 MCM

Momentary Peak 125.45 CMS, at 4.47 M (A.D), at 18.00 Hours, on Oct 3, 1993

Runoff Yield 1.80 Liters/Second/Square KM, Momentary Peak Yield 159.81 Liters/Second/Square KM

WATER YEAR 1993

YOM RIVER BASIN

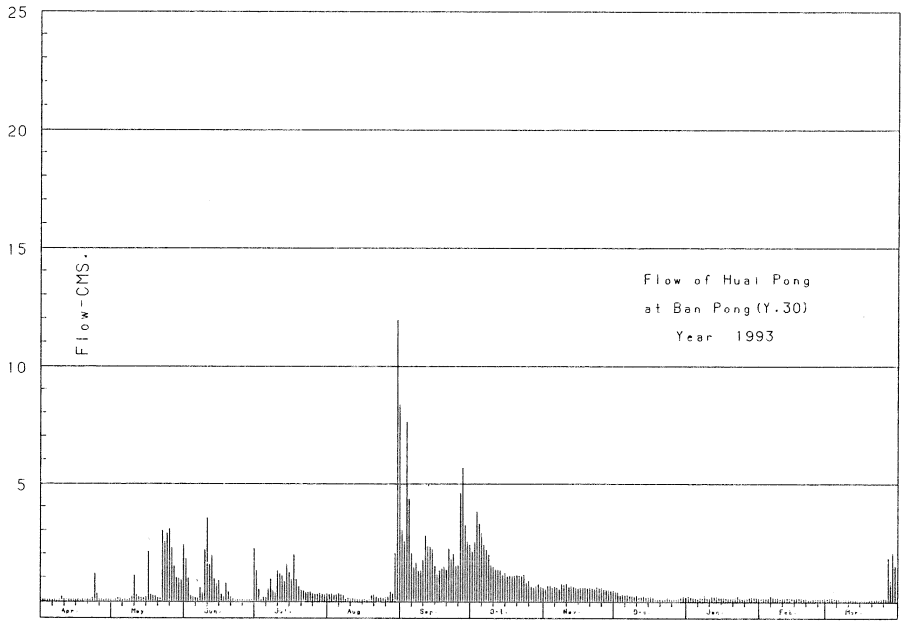
Huai Pong at Ban Pong, Lampang (Y.30)

Location	Lat. 18°-42'-59" N., Long. 99°-57'-40" E., on right bank at the bridge on highway, Tambon Mae Pong, Amphoe Ngao, Lampang.
Drainage Area	96 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+0.00 m.(A.D.)
Bench Mark	B.M.-H.D.
Location	On right bank about 25 meters from the top staff gage.
Elevation	+6.62 m.(A.D.)
Gage Reading Frequency	5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1983 to date.
Rating Operation	
Period of Rating	1983 to date.
Rated by Float	-
Rated by Current Meter	1983 to date.
Stability of Channel Regimes	Fairly stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records fair. Stage-discharge relation defined by 20 discharge measurements made in 1993.

Gage Height in Meter (A.D), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.58	0.60	1.01	0.92	0.71	1.19	1.06	0.77	0.74	0.67	0.62	0.62	
2	0.58	0.58	0.86	0.77	0.71	1.12	1.12	0.80	0.73	0.66	0.62	0.63	
3	0.58	0.64	0.69	0.60	0.70	1.64	1.29	0.81	0.70	0.63	0.63	0.63	
4	0.57	0.62	0.65	0.65	0.70	1.35	1.23	0.78	0.70	0.63	0.63	0.62	
5	0.57	0.58	0.63	0.65	0.72	1.05	1.17	0.80	0.70	0.61	0.68	0.61	
6	0.56	0.59	0.62	0.77	0.70	0.95	1.10	0.78	0.70	0.63	0.63	0.60	
7	0.56	0.59	0.79	0.86	0.70	0.98	1.07	0.77	0.69	0.63	0.64	0.60	
8	0.57	0.61	0.72	0.75	0.60	0.92	1.04	0.82	0.67	0.69	0.63	0.60	
9	0.67	0.67	1.07	0.72	0.64	0.92	0.96	0.81	0.67	0.63	0.62	0.60	
10	0.60	0.89	1.26	0.92	0.61	1.00	0.95	0.82	0.68	0.63	0.63	0.60	
11	0.60	0.70	0.97	0.90	0.62	1.16	0.93	0.80	0.65	0.66	0.62	0.59	
12	0.60	0.66	1.03	0.88	0.61	1.09	0.93	0.80	0.66	0.67	0.64	0.59	
13	0.57	0.63	0.86	0.84	0.60	1.09	0.92	0.80	0.67	0.66	0.63	0.59	
14	0.57	0.64	0.82	0.97	0.60	1.07	0.89	0.78	0.65	0.65	0.63	0.59	
15	0.58	0.65	0.84	0.91	0.60	0.96	0.90	0.78	0.65	0.65	0.62	0.59	
16	0.58	1.06	0.71	0.85	0.60	0.89	0.88	0.78	0.67	0.63	0.62	0.59	
17	0.58	0.70	0.65	1.04	0.59	0.92	0.88	0.79	0.64	0.63	0.63	0.58	
18	0.58	0.69	0.82	0.85	0.58	0.94	0.88	0.78	0.60	0.62	0.63	0.60	
19	0.58	0.67	0.74	0.80	0.70	0.95	0.88	0.78	0.60	0.62	0.61	0.59	
20	0.59	0.63	0.65	0.75	0.70	0.93	0.89	0.78	0.60	0.62	0.61	0.59	
21	0.59	0.63	0.61	0.75	0.67	1.08	0.88	0.78	0.60	0.63	0.60	0.59	
22	0.63	1.19	0.59	0.73	0.63	1.01	0.88	0.77	0.60	0.68	0.60	0.60	
23	0.90	1.12	0.58	0.73	0.63	1.04	0.89	0.79	0.64	0.62	0.61	0.59	
24	0.71	1.17	0.58	0.74	0.63	0.96	0.83	0.78	0.60	0.61	0.61	0.60	
25	0.60	1.20	0.59	0.71	0.64	0.96	0.84	0.78	0.60	0.61	0.61	0.62	
26	0.58	1.08	0.59	0.71	0.66	1.37	0.80	0.76	0.60	0.62	0.61	0.61	
27	0.58	0.96	0.59	0.71	0.74	1.48	0.79	0.76	0.61	0.64	0.61	1.02	
28	0.58	0.87	0.59	0.72	0.71	1.22	0.80	0.75	0.61	0.64	0.63	0.84	
29	0.58	0.86	0.59	0.71	1.05	1.12	0.82	0.75	0.64	0.64		1.05	
30	0.58	0.85	1.08	0.70	1.94	1.10	0.79	0.75	0.67	0.63		0.96	
31		1.10		0.71	1.69		0.78		0.66	0.63		0.79	
Mean	0.60	0.79	0.76	0.78	0.74	1.08	0.94	0.78	0.65	0.64	0.62	0.65	
Max	0.90	1.20	1.26	1.04	1.94	1.64	1.29	0.82	0.74	0.69	0.68	1.05	1.94
Min	0.56	0.58	0.58	0.60	0.58	0.89	0.78	0.75	0.60	0.61	0.60	0.58	0.56

Annual Max Momentary Gage Height 2.20 M (A.D), at 15.00 Hours, on Aug 30, 1993
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed 0.07 M (A.D)
Left Bank Elevation 9.49 M (A.D)
Right Bank Elevation 9.48 M (A.D), Drainage Area 96 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.09	0.10	1.81	1.31	0.33	3.03	2.14	0.54	0.43	0.23	0.14	0.14	
2	0.09	0.09	0.98	0.54	0.33	2.54	2.54	0.65	0.40	0.21	0.14	0.16	
3	0.09	0.18	0.27	0.10	0.29	7.66	3.82	0.70	0.29	0.16	0.16	0.16	
4	0.08	0.14	0.19	0.19	0.29	4.40	3.34	0.58	0.29	0.16	0.16	0.14	
5	0.08	0.09	0.16	0.19	0.36	2.07	2.89	0.65	0.29	0.12	0.25	0.12	
6	0.08	0.09	0.14	0.54	0.29	1.47	2.40	0.58	0.29	0.16	0.16	0.10	
7	0.08	0.09	0.61	0.98	0.29	1.64	2.21	0.54	0.27	0.16	0.18	0.10	
8	0.08	0.12	0.36	0.47	0.10	1.31	2.01	0.76	0.23	0.27	0.16	0.10	
9	0.23	0.23	2.21	0.36	0.18	1.31	1.53	0.70	0.23	0.16	0.14	0.10	
10	0.10	1.14	3.58	1.31	0.12	1.75	1.47	0.76	0.25	0.16	0.16	0.10	
11	0.10	0.29	1.59	1.20	0.14	2.82	1.37	0.65	0.19	0.21	0.14	0.09	
12	0.10	0.21	1.94	1.09	0.12	2.34	1.37	0.65	0.21	0.23	0.18	0.09	
13	0.08	0.16	0.98	0.87	0.10	2.34	1.31	0.65	0.23	0.21	0.16	0.09	
14	0.08	0.18	0.76	1.59	0.10	2.21	1.14	0.58	0.19	0.19	0.16	0.09	
15	0.09	0.19	0.87	1.26	0.10	1.53	1.20	0.58	0.19	0.19	0.14	0.09	
16	0.09	2.14	0.33	0.93	0.10	1.14	1.09	0.58	0.23	0.16	0.14	0.09	
17	0.09	0.29	0.19	2.01	0.09	1.31	1.09	0.61	0.18	0.16	0.16	0.09	
18	0.09	0.27	0.76	0.93	0.09	1.42	1.09	0.58	0.10	0.14	0.16	0.10	
19	0.09	0.23	0.43	0.65	0.29	1.47	1.09	0.58	0.10	0.14	0.12	0.09	
20	0.09	0.16	0.19	0.47	0.29	1.37	1.14	0.58	0.10	0.14	0.12	0.09	
21	0.09	0.16	0.12	0.47	0.23	2.27	1.09	0.58	0.10	0.16	0.10	0.09	
22	0.16	3.03	0.09	0.40	0.16	1.81	1.09	0.54	0.10	0.25	0.10	0.10	
23	1.20	2.54	0.09	0.40	0.16	2.01	1.14	0.61	0.18	0.14	0.12	0.09	
24	0.33	2.89	0.09	0.43	0.16	1.53	0.81	0.58	0.10	0.12	0.12	0.10	
25	0.10	3.10	0.09	0.33	0.18	1.53	0.87	0.58	0.10	0.12	0.12	0.14	
26	0.09	2.27	0.09	0.33	0.21	4.60	0.65	0.51	0.10	0.14	0.12	0.12	
27	0.09	1.53	0.09	0.33	0.43	5.70	0.61	0.51	0.12	0.18	0.12	1.88	
28	0.09	1.03	0.09	0.36	0.33	3.26	0.65	0.47	0.12	0.18	0.16	0.87	
29	0.09	0.98	0.09	0.33	2.07	2.54	0.76	0.47	0.18	0.18		2.07	
30	0.09	0.93	2.27	0.29	11.98	2.40	0.61	0.47	0.23	0.16		1.53	
31		2.40		0.33	8.36		0.58		0.21	0.16		0.61	
Total	4.23	27.25	21.46	20.99	28.27	72.78	45.10	17.82	6.23	5.35	4.09	9.73	263.30 CMSDAY
Mean	0.14	0.88	0.72	0.68	0.91	2.43	1.45	0.59	0.20	0.17	0.15	0.31	0.72 CMS
Max	1.20	3.10	3.58	2.01	11.98	7.66	3.82	0.76	0.43	0.27	0.25	2.07	11.98 CMS
Min	0.08	0.09	0.09	0.10	0.09	1.14	0.58	0.47	0.10	0.12	0.10	0.09	0.08 CMS
Runoff	0.365	2.354	1.854	1.814	2.443	6.288	3.897	1.540	0.538	0.462	0.353	0.841	22.749 MCM

Momentary Peak 16.70 CMS, at 2.20 M (A.D), at 15.00 Hours, on Aug 30, 1993

Runoff Yield 7.51 Liters/Second/Square KM, Momentary Peak Yield 173.96 Liters/Second/Square KM

WATER YEAR 1993

YOM RIVER BASIN

Khlong Tan at Ban Khlong Tan (1), Sukhothai (Y.33)

Location — Lat. 17°-10'-05" N., Long. 99°-51'-52" E., on left bank at the bridge on road, Tambon Khlong Tan, Amphoe Si Samrong, Sukhothai.

Drainage Area — Flood plain.

Type of Gage — Staff gage.

Zero Gage at Bottom — +45.820 m.(M.S.L.)

Bench Mark — B.M.-H.D.

Location — On left bank about 20.30 meters from the top staff gage.

Elevation — +55.420 m. (M.S.L.)

Gage Reading Frequency — 5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.

Basis of Mean Daily Gage Height — Arithmetic mean of 5 readings.

Period of Available Gage Records — 1990 to date.

Rating Operation

Period of Rating — 1990 to date.

Rated by Float — -

Rated by Current Meter — 1990 to date.

Stability of Channel Regimes — Stable.

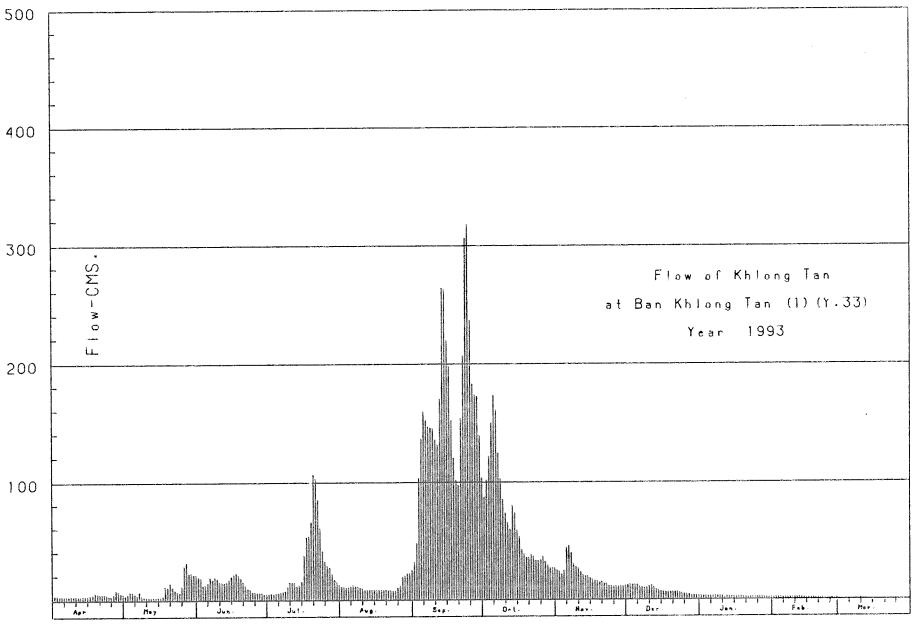
Overbank Flow Conditions — No overbank flow.

General Description — Records good. Stage-discharge relation defined by 42 discharge measurements made in 1993.

Gage Height in Meter (MSL), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	46.62	46.60	47.30	46.67	46.99	47.69	49.01	47.48	47.03	46.56	46.41	46.26	
2	46.60	46.64	47.26	46.68	46.95	48.13	49.29	47.43	47.04	46.54	46.41	46.26	
3	46.57	46.77	47.02	46.68	46.94	49.33	49.67	47.37	47.04	46.54	46.41	46.25	
4	46.56	46.75	47.03	46.69	46.94	49.95	50.18	47.46	47.04	46.53	46.41	46.24	
5	46.54	46.66	47.12	46.72	47.00	50.34	50.58	48.03	47.04	46.53	46.40	46.24	
6	46.54	46.60	47.27	46.73	47.03	50.22	50.36	48.09	46.96	46.53	46.40	46.25	
7	46.55	46.75	47.22	46.77	47.00	50.12	49.73	47.92	46.94	46.53	46.40	46.25	
8	46.57	46.55	47.28	46.79	46.97	50.11	49.31	47.64	46.90	46.53	46.40	46.26	
9	46.57	46.49	47.25	46.98	46.94	50.10	48.97	47.58	46.93	46.53	46.40	46.27	
10	46.56	46.46	47.13	47.13	46.90	49.93	48.74	47.53	46.98	46.53	46.40	46.30	
11	46.56	46.42	47.12	47.14	46.84	49.85	48.56	47.44	47.03	46.52	46.42	46.28	
12	46.56	46.43	47.12	47.12	46.84	50.52	48.43	47.34	46.94	46.50	46.42	46.24	
13	46.55	46.44	47.13	47.01	46.84	51.86	48.86	47.32	46.85	46.47	46.41	46.19	
14	46.57	46.44	47.22	47.03	46.84	51.84	48.74	47.31	46.82	46.47	46.41	46.07	
15	46.57	46.44	47.32	47.17	46.84	51.24	48.40	47.26	46.79	46.47	46.35	46.05	
16	46.60	46.47	47.36	47.87	46.84	50.93	48.26	47.21	46.74	46.46	46.36	46.05	
17	46.64	46.60	47.41	48.26	46.84	50.22	48.00	47.18	46.74	46.46	46.36	46.04	
18	46.71	46.97	47.34	48.28	46.84	49.65	47.88	47.16	46.74	46.49	46.36	46.03	
19	46.70	46.96	47.26	48.59	46.84	49.29	47.81	47.13	46.74	46.46	46.35	46.03	
20	46.66	47.10	47.14	49.40	46.84	49.21	47.80	47.13	46.74	46.45	46.35	46.03	
21	46.66	46.97	47.02	49.32	46.84	50.24	47.88	47.09	46.74	46.45	46.35	46.02	
22	46.67	46.84	46.90	48.97	46.82	51.06	47.83	47.07	46.74	46.45	46.34	46.03	
23	46.63	46.76	46.85	48.45	46.80	52.42	47.74	47.01	46.73	46.45	46.34	46.06	
24	46.59	46.74	46.76	47.97	46.79	52.57	47.72	46.99	46.69	46.45	46.25	46.03	
25	46.53	46.98	46.74	47.73	46.93	51.49	47.76	46.97	46.66	46.46	46.25	46.03	
26	46.66	47.59	46.74	47.60	47.06	50.72	47.82	46.97	46.64	46.45	46.32	46.03	
27	46.84	47.69	46.73	47.57	47.30	50.58	47.70	46.98	46.65	46.45	46.32	46.05	
28	46.77	47.40	46.70	47.38	47.32	50.56	47.61	46.99	46.60	46.45	46.28	46.06	
29	46.71	47.40	46.67	47.22	47.39	49.99	47.54	46.98	46.61	46.42		46.06	
30	46.66	47.37	46.66	47.13	47.39	49.34	47.54	46.99	46.57	46.40		46.06	
31		47.34		47.04	47.48		47.53		46.57	46.40		46.06	
Mean	46.62	46.83	47.07	47.49	46.97	50.32	48.49	47.30	46.81	46.48	46.37	46.13	
Max	46.84	47.69	47.41	49.40	47.48	52.57	50.58	48.09	47.04	46.56	46.42	46.30	52.57
Min	46.53	46.42	46.66	46.67	46.79	47.69	47.53	46.97	46.57	46.40	46.25	46.02	46.02

Annual Max Momentary Gage Height 52.69 M (MSL), at 18.00 Hours, on Sep 23, 1993
Zero Gage at Bottom Elevation 45.82 M (MSL), River Bed 45.60 M (MSL)
Left Bank Elevation 56.04 M (MSL)
Right Bank Elevation 55.67 M (MSL), Drainage Area Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	4.40	4.00	20.00	5.40	11.80	32.15	87.50	25.40	12.75	3.60	2.10	1.07	
2	4.00	4.80	18.80	5.60	11.00	48.20	101.50	23.90	13.00	3.40	2.10	1.07	
3	3.70	7.40	12.50	5.60	10.80	103.50	121.85	22.10	13.00	3.40	2.10	1.00	
4	3.60	7.00	12.75	5.80	10.80	137.25	150.50	24.80	13.00	3.30	2.10	0.93	
5	3.40	5.20	15.00	6.40	12.00	159.83	173.83	44.20	13.00	3.30	2.00	0.93	
6	3.40	4.00	19.10	6.60	12.75	152.83	161.00	46.60	11.20	3.30	2.00	1.00	
7	3.50	7.00	17.60	7.40	12.00	147.00	125.15	40.20	10.80	3.30	2.00	1.00	
8	3.70	3.50	19.40	7.80	11.40	146.42	102.50	30.40	10.00	3.30	2.00	1.07	
9	3.70	2.90	18.50	11.60	10.80	145.83	85.50	28.40	10.60	3.30	2.00	1.13	
10	3.60	2.60	15.25	15.25	10.00	136.15	74.00	26.90	11.60	3.30	2.00	1.33	
11	3.60	2.20	15.00	15.50	8.80	131.75	65.40	24.20	12.75	3.20	2.20	1.20	
12	3.60	2.30	15.00	15.00	8.80	170.33	60.20	21.20	10.80	3.00	2.20	0.93	
13	3.50	2.40	15.25	12.25	8.80	264.50	80.00	20.60	9.00	2.70	2.10	0.60	
14	3.70	2.40	17.60	12.75	8.80	263.00	74.00	20.30	8.40	2.70	2.10	0.00	
15	3.70	2.40	20.60	16.25	8.80	219.80	59.00	18.80	7.80	2.70	1.67	0.00	
16	4.00	2.70	21.80	38.45	8.80	198.10	53.40	17.30	6.80	2.60	1.73	0.00	
17	4.80	4.00	23.30	53.40	8.80	152.83	43.00	16.50	6.80	2.60	1.73	0.00	
18	6.20	11.40	21.20	54.20	8.80	120.75	38.80	16.00	6.80	2.90	1.73	0.00	
19	6.00	11.20	18.80	66.60	8.80	101.50	36.35	15.25	6.80	2.60	1.67	0.00	
20	5.20	14.50	15.50	107.00	8.80	97.50	36.00	15.25	6.80	2.50	1.67	0.00	
21	5.20	11.40	12.50	103.00	8.80	154.00	38.80	14.25	6.80	2.50	1.67	0.00	
22	5.40	8.80	10.00	85.50	8.40	207.20	37.05	13.75	6.80	2.50	1.60	0.00	
23	4.60	7.20	9.00	61.00	8.00	306.60	33.90	12.25	6.60	2.50	1.60	0.00	
24	3.90	6.80	7.20	41.95	7.80	318.60	33.20	11.80	5.80	2.50	1.00	0.00	
25	3.30	11.60	6.80	33.55	10.60	237.30	34.60	11.40	5.20	2.60	1.00	0.00	
26	5.20	28.70	6.80	29.00	13.50	183.40	36.70	11.40	4.80	2.50	1.47	0.00	
27	8.80	32.15	6.60	28.10	20.00	173.83	32.50	11.60	5.00	2.50	1.47	0.00	
28	7.40	23.00	6.00	22.40	20.60	172.67	29.35	11.80	4.00	2.50	1.20	0.00	
29	6.20	23.00	5.40	17.60	22.70	139.45	27.20	11.60	4.20	2.20		0.00	
30	5.20	22.10	5.20	15.25	22.70	104.00	27.20	11.80	3.70	2.00		0.00	
31		21.20		13.00	25.40		26.90		3.70	2.00		0.00	
Total	136.50	299.85	428.45	919.20	369.85	4926.27	2086.88	619.95	258.30	87.30	50.21	13.26	10196.02 CMSDAY
Mean	4.55	9.67	14.28	29.65	11.93	164.21	67.32	20.66	8.33	2.82	1.79	0.43	27.93 CMS
Max	8.80	32.15	23.30	107.00	25.40	318.60	173.83	46.60	13.00	3.60	2.20	1.33	318.60 CMS
Min	3.30	2.20	5.20	5.40	7.80	32.15	26.90	11.40	3.70	2.00	1.00	0.00	0.00 CMS
Runoff	11.794	25.907	37.018	79.419	31.955	425.630	180.306	53.564	22.317	7.543	4.338	1.146	880.936 MCM

Momentary Peak 328.65 CMS, at 52.69 M (MSL), at 18.00 Hours, on Sep 23, 1993

Runoff Yield ********* Liters/Second/Square KM, Momentary Peak Yield ********* Liters/Second/Square KM

WATER YEAR 1993

NAN RIVER BASIN

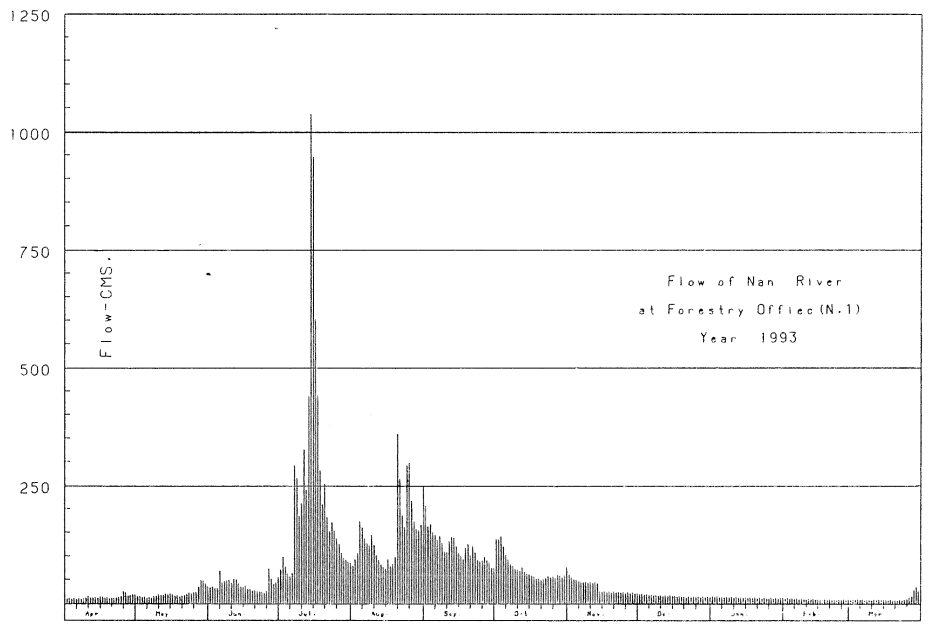
Nan River at Forestry Office, Nan (N.1)

Location	Lat. 18°-46'-23" N., Long. 100°-46'-51" E., on right bank infront of Forestry Office, Amphoe Muang, Nan.
Drainage Area	4,609 sq.km.
Type of Gage	Water-stage recorder.
Zero Gage at Bottom	+192.17 m. (M.S.L.)
Bench Mark	B.M.-H.D.
Location	On west side of automatic gage building.
Elevation	+199.204 m. (M.S.L.)
Gage Reading Frequency	Recording.
Basis of Mean Daily Gage Height	Arithmetic mean of 24 readings.
Period of Available Gage Records	1922-1956, 1962 to date.
Rating Operation	
Period of Rating	1954-1956, 1979 to date.
Rated by Float	-
Rated by Current Meter	1954-1956, 1979 to date.
Stability of Channel Regimes	Fairly stable with variable water surface slope.
Overbank Flow Conditions	No overbank flow.
General Description	Records fair. Stage-discharge relation defined by 55 discharge measurements made in 1993.

Gage Height in Meter (MSL), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	192.81	192.94	193.34	193.90	193.54	194.50	194.01	193.36	193.06	192.91	192.82	192.73	
2	192.81	192.91	193.40	194.19	193.65	194.20	194.01	193.28	193.05	192.91	192.82	192.74	
3	192.80	192.89	193.30	193.99	193.78	194.25	194.07	193.26	193.04	192.91	192.81	192.76	
4	192.79	192.87	193.34	193.80	194.28	194.12	193.90	193.23	193.02	192.90	192.81	192.75	
5	192.78	192.85	193.89	193.75	194.20	194.09	193.75	193.22	193.02	192.90	192.81	192.76	
6	192.79	192.85	193.54	193.84	194.02	193.99	193.65	193.19	193.00	192.90	192.81	192.75	
7	192.80	192.86	193.61	195.54	193.95	194.07	193.57	193.18	192.98	192.89	192.80	192.74	
8	192.79	192.91	193.60	195.39	193.90	193.94	193.52	193.18	192.97	192.89	192.80	192.74	
9	192.86	192.97	193.62	194.87	194.07	193.80	193.47	193.17	192.96	192.89	192.80	192.74	
10	192.91	193.00	193.54	195.06	193.92	193.78	193.45	193.17	192.96	192.88	192.78	192.74	
11	192.86	193.00	193.65	195.75	193.74	193.98	193.44	193.17	192.96	192.87	192.77	192.74	
12	192.85	193.01	193.66	194.72	193.64	194.06	193.50	193.17	192.96	192.87	192.78	192.74	
13	192.84	193.03	193.50	195.78	193.56	194.03	193.42	193.16	192.97	192.86	192.78	192.74	
14	192.85	193.03	193.40	198.20	193.50	193.90	193.36	193.16	192.97	192.86	192.77	192.74	
15	192.89	193.05	193.38	197.89	193.48	193.78	193.35	193.16	192.96	192.85	192.76	192.72	
16	192.88	192.99	193.41	196.50	193.65	193.71	193.34	193.16	192.94	192.86	192.75	192.72	
17	192.86	192.96	193.32	195.78	193.53	193.67	193.30	193.16	192.93	192.86	192.74	192.72	
18	192.86	192.95	193.26	194.98	193.56	193.86	193.28	193.16	192.92	192.85	192.76	192.72	
19	192.84	192.93	193.24	194.54	193.71	193.94	193.26	193.16	192.91	192.85	192.75	192.72	
20	192.82	192.92	193.21	194.80	195.39	193.73	193.24	193.16	192.90	192.84	192.74	192.72	
21	192.81	193.00	193.18	194.34	194.87	193.90	193.24	193.15	192.89	192.84	192.74	192.72	
22	192.87	193.05	193.16	194.14	194.38	193.79	193.28	193.14	192.90	192.83	192.74	192.72	
23	192.86	193.09	193.12	194.28	194.19	193.65	193.31	193.14	192.90	192.83	192.74	192.73	
24	192.95	193.09	193.10	194.14	195.04	193.61	193.30	193.13	192.90	192.83	192.75	192.74	
25	193.20	193.10	193.17	194.02	195.06	193.64	193.32	193.12	192.90	192.83	192.75	192.79	
26	193.11	193.10	193.92	193.94	194.59	193.70	193.27	193.12	192.90	192.83	192.75	192.85	
27	192.97	193.41	193.69	193.78	194.29	193.65	193.36	193.11	192.90	192.82	192.74	192.95	
28	192.96	193.64	193.51	193.68	194.16	193.59	193.32	193.10	192.89	192.82	192.74	193.34	
29	193.04	193.61	193.53	193.65	194.14	193.50	193.30	193.09	192.90	192.82		193.40	
30	192.99	193.52	193.71	193.60	194.24	193.48	193.33	193.07	192.90	192.82		193.18	
31		193.38		193.58	194.79		193.50		192.90	192.82		193.04	
Mean	192.88	193.06	193.44	194.72	194.09	193.86	193.47	193.17	192.95	192.86	192.77	192.81	
Max	193.20	193.64	193.92	198.20	195.39	194.50	194.07	193.36	193.06	192.91	192.82	193.40	198.20
Min	192.78	192.85	193.10	193.58	193.48	193.48	193.24	193.07	192.89	192.82	192.74	192.72	192.72

Annual Max Momentary Gage Height 198.33 M (MSL), at 9.00 Hours, on Jul 14, 1993
Zero Gage at Bottom Elevation 192.17 M (MSL), River Bed 189.89 M (MSL)
Left Bank Elevation 199.72 M (MSL)
Right Bank Elevation 199.74 M (MSL), Drainage Area 4609 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	11.90	17.10	34.00	72.00	81.40	206.00	136.40	63.00	21.90	15.90	12.30	8.70	
2	11.90	15.90	37.00	100.90	93.50	163.00	136.40	55.20	21.50	15.90	12.30	9.10	
3	11.50	15.10	32.00	80.10	108.60	170.00	144.80	53.40	21.10	15.90	11.90	9.90	
4	11.10	14.30	34.00	63.00	174.20	151.80	123.00	50.70	20.30	15.50	11.90	9.50	
5	10.70	13.50	71.10	59.00	163.00	147.60	105.00	49.80	20.30	15.50	11.90	9.90	
6	11.10	13.50	44.90	66.60	137.80	133.80	93.50	47.20	19.50	15.50	11.90	9.50	
7	11.50	13.90	49.15	292.80	129.00	144.80	84.70	46.40	18.70	15.10	11.50	9.10	
8	11.10	15.90	48.50	267.30	123.00	127.80	79.20	46.40	18.30	15.10	11.50	9.10	
9	13.90	18.30	49.80	185.50	144.80	111.00	74.00	45.60	17.90	15.10	11.50	9.10	
10	15.90	19.50	44.90	214.00	125.40	108.60	72.00	45.60	17.90	14.70	10.70	9.10	
11	13.90	19.50	51.75	329.00	103.80	132.60	71.00	45.60	17.90	14.30	10.30	9.10	
12	13.50	19.90	52.40	240.20	92.40	143.40	77.00	45.60	17.90	14.30	10.70	9.10	
13	13.10	20.70	42.50	441.68	83.60	139.20	69.00	44.80	18.30	13.90	10.70	9.10	
14	13.50	20.70	37.00	1038.00	77.00	123.00	63.00	25.90	18.30	13.90	10.30	9.10	
15	15.10	21.50	36.00	949.75	75.00	108.60	62.00	25.90	17.90	13.50	9.90	8.30	
16	14.70	19.10	37.55	603.00	93.50	100.20	61.00	25.90	17.10	13.90	9.50	8.30	
17	13.90	17.90	33.00	441.68	80.30	95.70	57.00	25.90	16.70	13.90	9.10	8.30	
18	13.90	17.50	30.20	284.00	83.60	118.20	55.20	25.90	16.30	13.50	9.90	8.30	
19	13.10	16.70	29.30	212.00	100.20	127.80	53.40	25.90	15.90	13.50	9.50	8.30	
20	12.30	16.30	27.95	253.00	362.00	102.60	51.60	25.90	15.50	13.10	9.10	8.30	
21	11.90	19.50	26.70	182.60	264.90	123.00	51.60	25.50	15.10	13.10	9.10	8.30	
22	14.30	21.50	25.90	154.60	188.20	109.80	55.20	25.10	15.50	12.70	9.10	8.30	
23	13.90	23.10	24.30	174.20	161.60	93.50	58.00	25.10	15.50	12.70	9.10	8.70	
24	17.50	23.10	23.50	154.60	294.90	89.10	57.00	24.70	15.50	12.70	9.50	9.10	
25	27.50	23.50	26.30	137.80	298.60	92.40	59.00	24.30	15.50	12.70	9.50	11.10	
26	23.90	23.50	73.80	127.80	219.50	99.00	54.30	24.30	15.50	12.70	9.50	13.50	
27	18.30	37.55	54.35	108.60	175.60	93.50	63.00	23.90	15.50	12.30	9.10	17.50	
28	17.90	51.10	43.10	96.80	157.40	86.90	59.00	23.50	15.10	12.30	9.10	34.00	
29	21.10	49.15	44.30	93.50	154.60	77.00	57.00	23.10	15.50	12.30		37.00	
30	19.10	43.70	55.80	88.00	168.60	75.00	60.00	22.30	15.50	12.30		26.70	
31		36.00		85.80	251.40		77.00		15.50	12.30		21.10	
Total	443.00	698.50	1221.05	7597.81	4767.40	3594.90	2320.30	1062.40	538.90	430.10	290.40	374.50	23339.26 CMSDAY
Mean	14.77	22.53	40.70	245.09	153.79	119.83	74.85	35.41	17.38	13.87	10.37	12.08	63.94 CMS
Max	27.50	51.10	73.80	1038.00	362.00	206.00	144.80	63.00	21.90	15.90	12.30	37.00	1038.00 CMS
Min	10.70	13.50	23.50	59.00	75.00	75.00	51.60	22.30	15.10	12.30	9.10	8.30	8.30 CMS
Runoff	38.275	60.350	105.499	656.451	411.903	310.599	200.474	91.791	46.561	37.161	25.091	32.357	2016.512 MCM

Momentary Peak 1077.00 CMS, at 198.33 M (MSL), at 9.00 Hours, on Jul 14, 1993

Runoff Yield 13.87 Liters/Second/Square KM, Momentary Peak Yield 233.67 Liters/Second/Square KM

WATER YEAR 1993

NAN RIVER BASIN

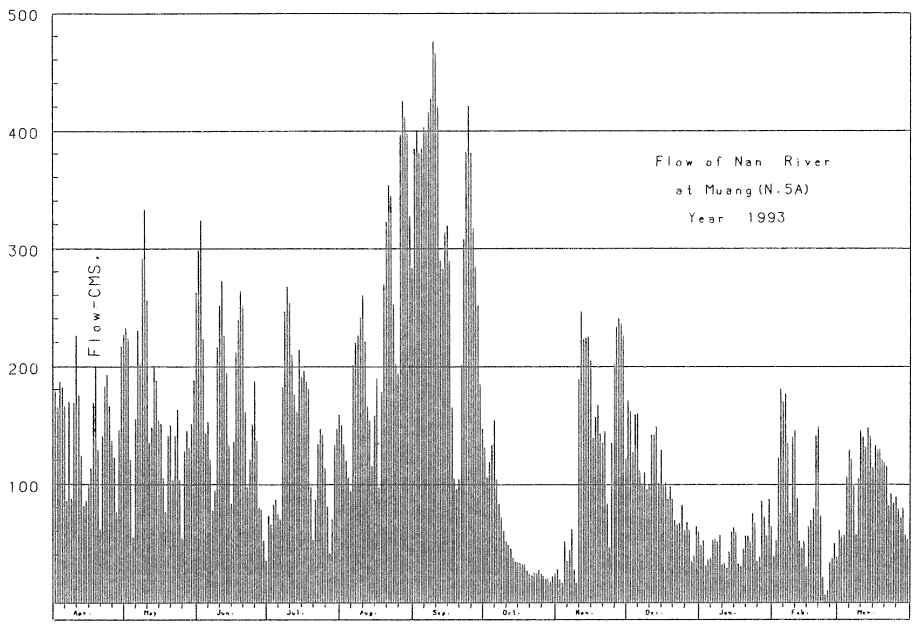
Nan River at Muang, Phitsanulok (N.5A)

Location	Lat. 16°-49′-15″ N., Long. 100°-15′-49″ E., on left bank near the post office and about 1 kilometer upstream from gaging station N.5, Amphoe Muang, Phitsanulok.
Drainage Area	25,286 sq.km.
Type of Gage	Water-stage recorder.
Zero Gage at Bottom	+34.50 m. (M.S.L.)
Bench Mark	B.M.-H.D.
Location	Near automatic gage building.
Elevation	+45.856 m. (M.S.L.)
Gage Reading Frequency	Recording.
Basis of Mean Daily Gage Height	Arithmetic mean of 24 readings.
Period of Available Gage Records	1963 to date.
Rating Operation	
Period of Rating	1966 to date.
Rated by Float	-
Rated by Current Meter	1966 to date.
Stability of Channel Regimes	Stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Flow regulated by Sirikit Dam since June 5, 1971. Stage-discharge relation defined by 35 discharge measurements made in 1993.

Gage Height in Meter (MSL), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	36.71	37.24	37.82	35.56	36.43	38.54	36.23	34.88	36.63	35.21	35.07	35.40	
2	36.58	37.16	38.05	35.45	36.26	38.67	35.96	34.71	36.55	35.26	35.28	35.33	
3	36.79	36.12	37.15	35.68	36.12	38.51	36.10	34.66	36.20	34.94	36.14	35.33	
4	36.75	35.31	36.36	35.72	35.95	38.55	36.26	35.25	36.51	35.02	36.73	35.97	
5	36.59	36.48	36.45	35.57	35.82	38.69	36.47	35.00	36.53	35.05	36.63	36.22	
6	35.71	37.23	36.12	35.52	36.94	38.65	35.93	35.16	36.02	35.28	36.70	36.13	
7	36.62	36.94	35.62	36.75	37.12	38.79	35.69	35.40	35.89	35.28	36.27	35.88	
8	35.75	37.77	35.82	37.37	37.19	38.87	35.53	34.88	36.01	35.25	35.58	35.35	
9	36.61	38.13	37.08	37.56	37.33	39.24	35.39	34.65	35.84	35.34	36.33	35.95	
10	37.18	37.46	37.42	37.44	37.49	39.16	35.26	36.82	35.88	34.96	36.38	36.38	
11	36.68	36.28	37.60	37.02	37.13	38.82	35.21	37.37	36.34	34.97	35.75	36.33	
12	36.17	36.40	37.18	36.68	36.59	37.75	35.17	37.16	36.35	34.90	35.27	36.24	
13	35.67	36.93	36.87	36.54	36.46	37.69	35.04	37.16	36.41	35.12	35.18	36.41	
14	35.71	36.80	36.25	37.07	36.07	37.95	35.00	37.18	35.90	35.38	35.25	36.33	
15	35.88	36.46	35.69	36.83	36.51	38.01	34.98	36.97	36.22	35.42	34.91	36.05	
16	36.04	36.44	36.29	36.89	36.82	37.74	34.97	36.32	35.88	35.36	35.43	36.26	
17	36.61	35.94	37.04	36.79	35.85	36.58	34.96	36.49	35.90	34.96	35.51	36.22	
18	36.92	35.59	37.31	36.73	36.71	35.94	34.95	36.60	35.74	34.93	35.63	36.22	
19	36.22	36.34	37.52	35.86	37.57	35.84	34.87	36.35	35.87	35.17	36.34	36.13	
20	35.41	36.42	37.41	35.27	38.04	35.94	34.80	36.28	35.73	35.32	36.41	36.10	
21	36.33	35.93	36.54	35.72	38.30	36.94	34.79	36.37	35.50	35.33	35.56	36.07	
22	36.76	36.33	35.85	36.27	38.22	37.90	34.82	35.69	35.46	35.25	34.76	35.66	
23	36.85	36.56	36.13	36.40	37.43	38.52	34.82	35.19	35.47	35.59	34.38	35.79	
24	36.59	35.92	36.43	36.34	36.94	38.83	34.86	36.27	35.68	35.47	34.50	35.70	
25	36.29	35.30	36.80	36.04	36.86	38.52	34.82	36.95	35.40	35.00	34.98	35.77	
26	36.15	36.21	36.29	35.66	38.64	37.99	34.77	37.25	35.49	35.07	35.05	35.63	
27	35.59	36.38	35.65	35.11	38.86	37.70	34.73	37.32	35.39	35.71	35.23	35.54	
28	36.39	36.23	35.62	35.51	38.75	37.42	34.73	37.28	35.01	35.55	35.05	35.63	
29	37.09	36.43	35.27	36.26	38.64	36.77	34.68	37.18	35.07	35.32		35.34	
30	37.20	36.81	35.00	36.39	38.08	36.39	34.76	36.13	35.44	35.74		35.28	
31		37.51		36.51	37.69		34.81		35.37	35.43		35.47	
Mean	36.39	36.55	36.55	36.27	37.19	37.90	35.21	36.16	35.86	35.24	35.58	35.87	
Max	37.20	38.13	38.05	37.56	38.86	39.24	36.47	37.37	36.63	35.74	36.73	36.41	39.24
Min	35.41	35.30	35.00	35.11	35.82	35.84	34.68	34.65	35.01	34.90	34.38	35.28	34.38

Annual Max Momentary Gage Height 39.30 M (MSL), at 6.00 Hours, on Sep 9, 1993
Zero Gage at Bottom Elevation 34.50 M (MSL), River Bed 33.17 M (MSL)
Left Bank Elevation 44.93 M (MSL)
Right Bank Elevation 44.41 M (MSL), Drainage Area 25286 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	179.00	232.40	298.30	74.00	151.00	384.50	131.00	28.40	171.00	48.70	39.55	62.00	
2	166.00	224.00	324.75	65.75	134.00	401.10	106.60	19.50	163.00	52.20	53.60	57.10	
3	187.00	120.80	223.00	83.40	120.80	380.75	119.00	17.00	128.00	31.70	122.60	57.10	
4	183.00	55.70	144.00	86.60	105.75	385.75	134.00	51.50	159.00	36.30	181.00	107.45	
5	167.00	156.00	153.00	74.75	94.70	403.70	155.00	35.00	161.00	38.25	171.00	130.00	
6	85.80	231.30	120.80	71.00	202.00	398.50	104.05	45.40	111.80	53.60	178.00	121.70	
7	170.00	202.00	78.60	183.00	220.00	416.70	84.20	62.00	100.65	53.60	135.00	99.80	
8	89.00	292.55	94.70	246.70	227.00	427.10	71.75	28.40	110.90	51.50	75.50	58.50	
9	169.00	333.95	216.00	268.40	242.30	476.40	61.30	16.50	96.40	57.80	141.00	105.75	
10	226.00	256.90	252.30	254.60	260.35	465.60	52.20	190.00	99.80	32.80	146.00	146.00	
11	176.00	136.00	273.00	210.00	221.00	420.60	48.70	246.70	142.00	33.35	89.00	141.00	
12	125.30	148.00	226.00	176.00	167.00	290.25	46.05	224.00	143.00	29.50	52.90	132.00	
13	82.60	201.00	195.00	162.00	154.00	283.35	37.60	224.00	149.00	42.80	46.70	149.00	
14	85.80	188.00	133.00	215.00	116.30	313.25	35.00	226.00	101.50	60.60	51.50	141.00	
15	99.80	154.00	84.20	191.00	159.00	320.15	33.90	205.00	130.00	63.50	30.05	114.50	
16	113.60	152.00	137.00	197.00	190.00	289.10	33.35	140.00	99.80	59.20	64.25	134.00	
17	169.00	104.90	212.00	187.00	97.25	166.00	32.80	157.00	101.50	32.80	70.25	130.00	
18	200.00	76.25	240.10	181.00	179.00	104.90	32.25	168.00	88.20	31.15	79.40	130.00	
19	130.00	142.00	263.80	98.10	269.55	96.40	27.85	143.00	98.95	46.05	142.00	121.70	
20	62.75	150.00	251.15	52.90	323.60	104.90	24.00	136.00	87.40	56.40	149.00	119.00	
21	141.00	104.05	162.00	86.60	354.50	202.00	23.50	145.00	69.50	57.10	74.00	116.30	
22	184.00	141.00	97.25	135.00	344.50	307.50	25.10	84.20	66.50	51.50	22.00	81.80	
23	193.00	164.00	121.70	148.00	253.45	382.00	25.10	47.35	67.25	76.25	6.30	92.20	
24	167.00	103.20	151.00	142.00	202.00	421.90	27.30	135.00	83.40	67.25	10.50	85.00	
25	137.00	55.00	188.00	113.60	194.00	382.00	25.10	203.00	62.00	35.00	33.90	90.60	
26	123.50	129.00	137.00	81.80	397.20	317.85	22.50	233.50	68.75	39.55	38.25	79.40	
27	76.25	146.00	81.00	42.15	425.80	284.50	20.50	241.20	61.30	85.80	50.10	72.50	
28	147.00	131.00	78.60	70.25	411.50	252.30	20.50	236.80	35.65	73.25	38.25	79.40	
29	217.00	151.00	52.90	134.00	397.20	185.00	18.00	226.00	39.55	56.40		57.80	
30	228.00	189.00	35.00	147.00	328.20	147.00	22.00	121.70	65.00	88.20		53.60	
31		262.65		159.00	283.35		24.55		59.90	64.25		67.25	
Total	4480.40	5133.65	5025.15	4337.60	7226.30	9411.05	1624.75	4037.15	3121.70	1606.35	2291.60	3133.45	51429.15 CMSDAY
Mean	149.35	165.60	167.51	139.92	233.11	313.70	52.41	134.57	100.70	51.82	81.84	101.08	140.90 CMS
Max	228.00	333.95	324.75	268.40	425.80	476.40	155.00	246.70	171.00	88.20	181.00	149.00	476.40 CMS
Min	62.75	55.00	35.00	42.15	94.70	96.40	18.00	16.50	35.65	29.50	6.30	53.60	6.30 CMS
Runoff	387.107	443.547	434.173	374.769	624.352	813.115	140.378	348.810	269.715	138.789	197.994	270.730	4443.479 MCM

Momentary Peak 484.50 CMS, at 39.30 M (MSL), at 6.00 Hours, on Sep 9, 1993

Runoff Yield 5.57 Liters/Second/Square KM, Momentary Peak Yield 19.16 Liters/Second/Square KM

WATER YEAR 1993

NAN RIVER BASIN

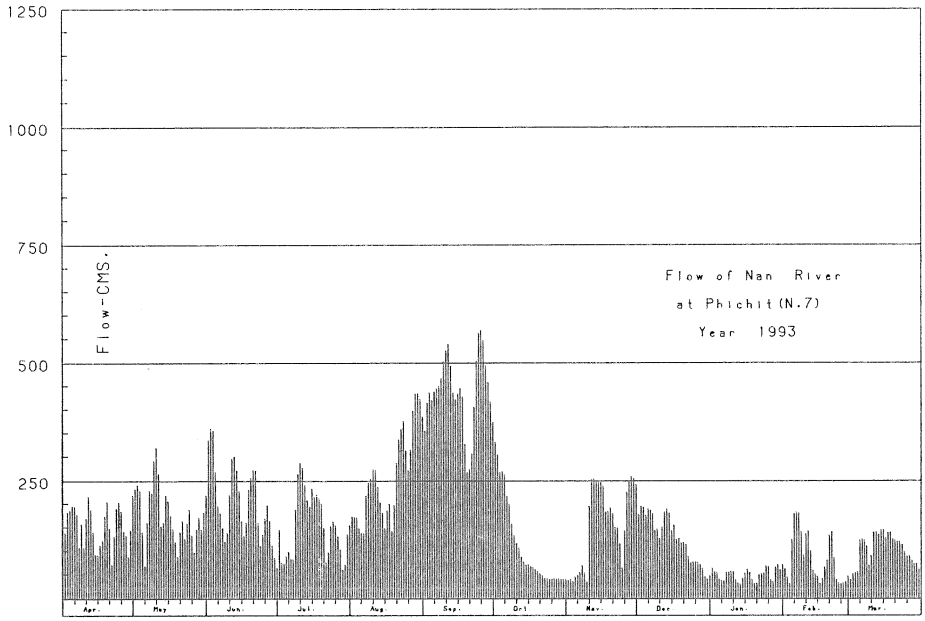
Nan River at Muang, Phichit (N.7)

Location	Lat. 16°-26'-31" N., Long. 100°-21'-11" E., on right bank infront of Phichit Phithaya Kham School, Amphoe Muang, Phichit.
Drainage Area	29,153 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+26.00 m. (M.S.L.)
Bench Mark	B.M.-H.D.
Location	Infront of Phichit Phitthaya Khom School.
Elevation	+37.228 m. (M.S.L.)
Gage Reading Frequency	5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1934 to date.
Rating Operation	
Period of Rating	1965-1967, 1973 to date.
Rated by Float	-
Rated by Current Meter	1965-1967, 1973 to date.
Stability of Channel Regimes	Stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Stage-discharge relation defined by 29 discharge measurements made in 1993.

Gage Height in Meter (MSL), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	27.93	28.95	29.99	28.01	28.32	30.18	29.94	26.68	28.39	27.09	27.07	26.71	
2	28.43	29.06	30.22	27.24	28.32	30.72	29.69	26.70	28.56	26.97	26.78	26.88	
3	28.46	28.92	30.18	27.22	28.30	30.92	29.31	26.64	28.55	26.94	26.56	26.94	
4	28.57	27.95	29.32	27.38	28.05	30.78	29.34	26.78	28.35	26.73	27.77	26.95	
5	28.55	27.16	28.56	27.49	27.94	30.95	29.27	26.85	28.50	26.67	28.40	27.76	
6	28.38	28.19	28.41	27.34	27.92	31.00	28.80	26.94	28.48	26.66	28.43	27.80	
7	27.59	28.92	28.06	27.31	28.80	31.05	28.61	27.18	28.39	26.94	28.42	27.76	
8	28.15	28.87	27.73	28.49	29.10	31.21	28.16	26.93	28.01	26.96	27.97	27.62	
9	27.57	29.55	27.93	29.29	29.18	31.52	27.88	26.62	28.03	26.97	27.41	27.18	
10	28.30	29.84	28.82	29.52	29.38	31.73	27.70	28.56	27.81	26.97	27.91	27.40	
11	28.78	29.28	29.60	29.41	29.36	31.86	27.57	29.18	28.08	26.75	27.99	27.96	
12	28.49	28.10	29.65	29.06	29.01	31.45	27.38	29.18	28.44	26.58	27.51	27.96	
13	27.95	28.18	29.36	28.70	28.66	30.92	27.26	29.15	28.50	26.53	27.02	27.91	
14	27.43	28.82	28.90	28.56	28.41	30.79	27.20	29.13	28.42	26.75	26.88	28.01	
15	27.41	28.67	28.23	28.96	28.05	30.90	27.20	29.11	27.99	26.90	26.80	28.02	
16	27.63	28.35	27.86	28.77	28.47	31.01	27.15	29.02	28.13	27.04	26.58	27.81	
17	27.75	28.03	28.18	28.83	28.62	30.84	27.10	28.44	27.78	26.94	26.75	27.94	
18	28.33	27.72	28.95	28.75	27.99	29.90	27.05	28.44	27.82	26.70	27.11	27.96	
19	28.66	27.37	29.20	28.62	28.59	29.32	26.97	28.52	27.70	26.57	27.32	27.80	
20	28.06	27.97	29.36	28.07	29.51	29.37	26.90	28.40	27.70	26.57	27.88	27.76	
21	27.20	28.22	29.36	27.24	29.99	29.71	26.83	28.07	27.66	26.87	27.98	27.74	
22	27.85	27.79	28.18	27.48	30.21	30.64	26.74	28.07	27.38	26.89	27.35	27.72	
23	28.52	28.18	27.62	28.10	30.36	31.54	26.73	27.68	27.25	26.92	26.71	27.65	
24	28.66	28.48	27.89	28.22	29.77	32.06	26.72	27.08	27.26	27.15	26.58	27.49	
25	28.44	27.87	28.28	28.12	29.36	32.12	26.72	27.99	27.27	27.15	26.56	27.39	
26	27.98	27.48	28.59	27.85	29.78	31.93	26.72	28.89	27.25	26.70	26.57	27.39	
27	27.87	28.03	28.23	27.54	30.57	31.45	26.72	29.13	27.21	26.61	26.63	27.30	
28	27.37	28.30	27.64	27.03	30.90	31.13	26.72	29.23	27.07	27.14	26.81	27.21	
29	28.01	28.02	27.35	27.19	30.91	30.74	26.71	29.20	26.80	27.19		27.23	
30	28.81	28.42	27.09	27.91	30.79	30.35	26.70	29.05	26.71	27.03		27.09	
31		28.81		28.12	30.45		26.69		26.83	27.20		26.95	
Mean	28.10	28.37	28.62	28.12	29.20	30.94	27.56	28.09	27.82	26.87	27.28	27.53	
Max	28.81	29.84	30.22	29.52	30.91	32.12	29.94	29.23	28.56	27.20	28.43	28.02	32.12
Min	27.20	27.16	27.09	27.03	27.92	29.32	26.69	26.62	26.71	26.53	26.56	26.71	26.53

Annual Max Momentary Gage Height 32.18 M (MSL), at 6.00 Hours, on Sep 25, 1993
Zero Gage at Bottom Elevation 26.00 M (MSL), River Bed 24.86 M (MSL)
Left Bank Elevation 36.83 M (MSL)
Right Bank Elevation 37.30 M (MSL), Drainage Area 29153 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	138.9	231.9	337.0	145.9	173.6	356.9	331.9	40.0	180.1	65.6	64.4	41.9	
2	183.8	242.3	361.2	76.3	173.6	415.2	306.2	41.3	195.8	58.1	46.3	52.5	
3	186.5	229.1	356.9	74.4	171.7	436.8	267.3	37.5	194.9	56.3	32.5	56.3	
4	196.7	140.6	268.3	89.6	149.4	421.7	270.3	46.3	176.4	43.1	125.0	56.9	
5	194.9	70.0	195.8	100.0	139.8	440.1	263.2	50.6	190.2	39.4	181.0	124.1	
6	179.1	161.6	181.9	85.8	138.0	445.5	218.0	56.3	188.4	38.8	183.8	127.5	
7	109.5	229.1	150.2	82.9	218.0	451.0	200.4	71.2	180.1	56.3	182.8	124.1	
8	158.1	224.5	121.5	189.3	246.3	468.6	159.0	55.6	145.9	57.5	142.4	112.2	
9	107.6	291.9	138.9	265.2	254.0	502.7	134.5	36.3	147.6	58.1	92.4	71.2	
10	171.7	321.6	219.8	288.8	274.4	526.1	119.0	195.8	128.4	58.1	137.1	91.5	
11	216.2	264.2	297.0	277.5	272.4	540.7	107.6	254.0	152.0	44.4	144.1	141.5	
12	189.3	153.8	302.1	242.3	237.5	495.0	89.6	254.0	184.7	33.8	101.9	141.5	
13	140.6	160.7	272.4	208.8	205.0	436.8	78.2	251.1	190.2	30.6	61.3	137.1	
14	94.3	219.8	227.2	195.8	181.9	422.8	72.5	249.2	182.8	44.4	52.5	145.9	
15	92.4	206.0	165.3	232.8	149.4	434.7	72.5	247.2	144.1	53.7	47.5	146.8	
16	113.0	176.4	132.8	215.2	187.5	446.6	69.4	238.5	156.4	62.5	33.8	128.4	
17	123.3	147.6	160.7	220.8	201.4	428.2	66.3	184.7	125.8	56.3	44.4	139.8	
18	174.5	120.7	231.9	213.4	144.1	327.7	63.1	184.7	129.3	41.3	66.9	141.5	
19	205.0	88.7	256.0	201.4	198.6	268.3	58.1	192.1	119.0	33.1	83.9	127.5	
20	150.2	142.4	272.4	151.1	287.8	273.4	53.7	181.0	119.0	33.1	134.5	124.1	
21	72.5	164.3	272.4	76.3	337.0	308.3	49.4	151.1	115.6	51.9	143.2	122.4	
22	131.9	126.7	160.7	99.1	360.1	406.6	43.8	151.1	89.6	53.1	86.7	120.7	
23	192.1	160.7	112.2	153.8	376.3	504.9	43.1	117.3	77.2	55.0	41.9	114.7	
24	205.0	188.4	135.4	164.3	314.4	563.3	42.5	65.0	78.2	69.4	33.8	100.0	
25	184.7	133.6	169.9	155.5	272.4	570.0	42.5	144.1	79.1	69.4	32.5	90.5	
26	143.2	99.1	198.6	131.9	315.5	548.6	42.5	226.3	77.2	41.3	33.1	90.5	
27	133.6	147.6	165.3	104.8	399.0	495.0	42.5	249.2	73.4	35.6	36.9	82.0	
28	88.7	171.7	113.9	61.9	434.7	459.8	42.5	259.1	64.4	68.7	48.1	73.4	
29	145.9	146.8	86.7	71.9	435.8	417.4	41.9	256.0	47.5	71.9		75.3	
30	218.9	182.8	65.6	137.1	422.8	375.2	41.3	241.4	41.9	61.9		65.6	
31		218.9		155.5	386.0		40.6		49.4	72.5		56.9	
Total	4642.1	5563.5	6130.0	4869.4	8058.4	13187.9	3473.4	4728.0	4024.6	1615.2	2414.7	3224.3	61931.5 CMSDAY
Mean	154.7	179.5	204.3	157.1	259.9	439.6	112.0	157.6	129.8	52.1	86.2	104.0	169.7 CMS
Max	218.9	321.6	361.2	288.8	435.8	570.0	331.9	259.1	195.8	72.5	183.8	146.8	570.0 CMS
Min	72.5	70.0	65.6	61.9	138.0	268.3	40.6	36.3	41.9	30.6	32.5	41.9	30.6 CMS
Runoff	401.08	480.69	529.63	420.72	696.25	1139.43	300.10	408.50	347.73	139.55	208.63	278.58	5350.88 MCM

Momentary Peak 576.75 CMS, at 32.18 M (MSL), at 6.00 Hours, on Sep 25, 1993

Runoff Yield 5.82 Liters/Second/Square KM, Momentary Peak Yield 19.78 Liters/Second/Square KM

WATER YEAR 1993

NAN RIVER BASIN

Nan River at Bang Mun Nak, Phichit (N.8)

Location — Lat. 16°-01′-50″ N., Long. 100°-22′-53″ E., on left bank about 46 meters downstream from the old staff gage, opposite to Wat Bang Mun Nak, Phichit.

Drainage Area — 32,878 sq.km.

Type of Gage — Staff gage.

Zero Gage at Bottom — +19.80 m.(M.S.L.)

Bench Mark — B.M.-H.D.

Location — On left bank about 89 meters upstream from the top staff gage.

Elevation — +30.523 m.(M.S.L.)

Gage Reading Frequency — 5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.

Basis of Mean Daily Gage Height — Arithmetic mean of 5 readings.

Period of Available Gage Records — 1951 to date.

Rating Operation

Period of Rating — 1965 - 1967, 1973 - 1979, 1991 to date.

Rated by Float — -

Rated by Current Meter — 1951 - 1980, 1991 to date.

Stability of Channel Regimes — Fairly stable because of backwater effect.

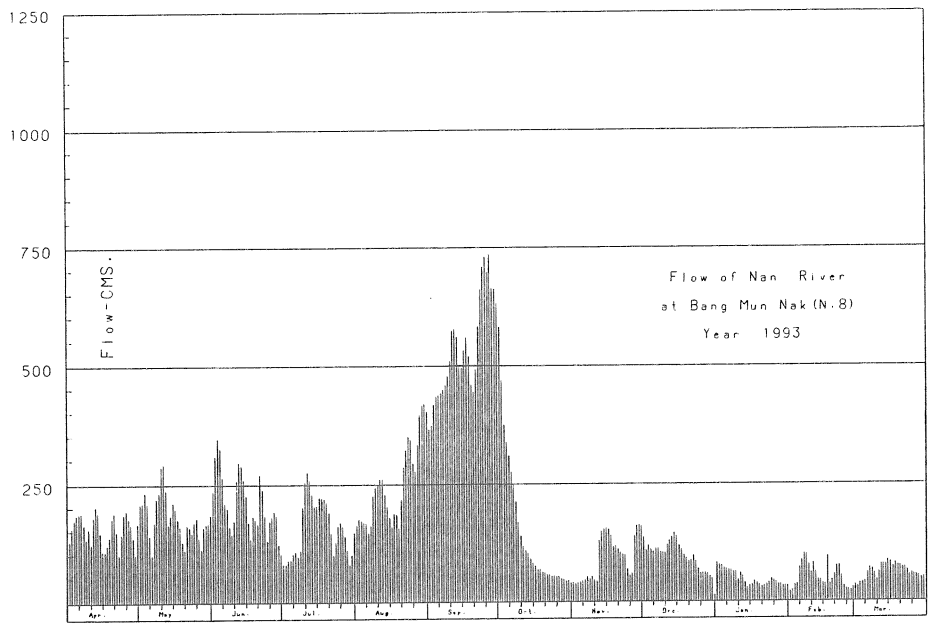
Overbank Flow Conditions — No overbank flow.

General Description — Records good. Stage-discharge relation defined by 26 discharge measurements made in 1993.

Gage Height in Meter (MSL), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	21.88	22.88	23.18	21.09	22.33	24.49	26.98	20.89	23.08	22.03	20.19	20.67	
2	22.22	22.89	23.94	21.12	22.47	24.59	26.32	20.84	22.59	21.96	20.25	20.61	
3	22.49	23.16	24.33	21.24	22.45	24.99	25.66	20.85	22.78	21.89	20.72	20.80	
4	22.60	22.87	24.11	21.27	22.38	25.16	25.35	20.95	22.62	21.79	20.74	20.91	
5	22.65	22.01	23.49	21.47	22.36	25.17	25.13	21.00	22.51	21.70	21.83	20.93	
6	22.65	21.45	22.89	21.54	22.10	25.23	24.80	21.09	22.65	21.68	22.13	21.51	
7	22.35	22.40	22.78	21.39	22.31	25.28	24.52	21.25	22.65	21.63	22.44	21.76	
8	21.92	23.00	22.29	21.60	23.06	25.38	24.15	21.16	22.52	21.58	22.39	21.72	
9	22.21	23.15	22.05	22.79	23.26	25.54	23.56	21.26	22.47	21.54	21.96	21.43	
10	21.79	23.73	22.43	23.40	23.35	25.84	23.17	21.04	22.48	21.08	21.49	21.07	
11	22.56	23.77	23.44	23.62	23.45	26.37	22.74	20.99	22.82	21.49	21.99	21.52	
12	22.83	23.20	23.81	23.43	23.45	26.40	22.59	22.99	22.96	21.25	21.52	21.97	
13	22.66	22.36	23.75	23.10	23.11	26.27	22.45	23.28	23.10	20.88	21.08	21.94	
14	22.12	22.58	23.44	22.83	22.80	25.71	22.24	23.37	23.27	20.48	21.01	21.96	
15	21.57	22.92	23.09	22.82	22.54	25.71	22.01	23.38	23.13	20.63	20.83	22.11	
16	21.59	22.75	22.41	23.05	22.27	26.02	21.89	23.37	22.80	20.74	20.75	22.05	
17	21.74	22.50	21.92	23.01	22.63	26.25	21.74	23.15	22.60	20.96	22.33	21.85	
18	21.97	22.26	22.58	23.01	22.62	25.93	21.70	22.74	22.39	20.88	20.80	21.98	
19	22.53	21.85	22.46	22.91	22.22	25.39	21.56	22.75	22.24	20.71	21.01	21.92	
20	22.65	21.60	22.36	22.68	22.99	25.24	21.48	22.64	22.12	20.61	21.41	21.87	
21	22.13	22.30	23.55	22.08	23.72	25.67	21.43	22.48	22.13	20.64	21.86	21.81	
22	21.46	22.27	23.23	21.43	24.06	26.45	21.37	22.42	22.38	20.76	21.92	21.77	
23	22.07	22.10	22.58	21.84	24.36	27.10	21.32	22.37	22.09	20.86	21.26	21.64	
24	22.61	22.39	21.89	22.28	24.28	27.47	21.30	21.75	21.76	21.16	20.64	21.46	
25	22.72	22.53	22.44	22.40	23.80	27.65	21.30	21.36	21.48	21.05	20.44	21.47	
26	22.51	21.95	22.54	22.27	23.61	27.53	21.26	21.43	21.46	20.91	20.34	21.37	
27	22.32	21.64	22.69	22.01	24.19	27.70	21.17	23.16	21.51	20.78	20.31	21.37	
28	21.97	22.25	22.58	21.60	24.79	27.37	21.09	23.45	21.41	20.74	20.49	21.26	
29	21.44	22.35	21.77	21.10	24.99	27.37	21.03	23.50	21.30	20.67		21.19	
30	22.35	22.35	21.46	21.43	25.01	27.22	21.01	23.44	21.12	20.64		21.18	
31		22.59		22.10	24.87		20.91		19.80	20.63		20.99	
Mean	22.22	22.52	22.85	22.19	23.28	26.08	22.68	22.15	22.27	21.11	21.22	21.49	
Max	22.83	23.77	24.33	23.62	25.01	27.70	26.98	23.50	23.27	22.03	22.44	22.11	27.70
Min	21.44	21.45	21.46	21.09	22.10	24.49	20.91	20.84	19.80	20.48	20.19	20.61	19.80

Annual Max Momentary Gage Height 27.79 M (MSL), at 15.00 Hours, on Sep 27, 1993
Zero Gage at Bottom Elevation 19.80 M (MSL), River Bed 17.46 M (MSL)
Left Bank Elevation 30.47 M (MSL)
Right Bank Elevation 30.58 M (MSL), Drainage Area 32878 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	131.0	208.8	235.2	79.4	164.7	364.5	582.4	40.7	135.8	82.4	21.8	34.1	
2	156.5	209.6	309.0	81.2	175.2	375.0	468.6	39.2	109.5	79.2	23.0	32.3	
3	176.7	233.4	348.0	88.4	173.8	416.9	375.8	39.5	119.0	76.0	35.6	38.0	
4	185.0	208.0	326.0	90.2	168.5	435.6	338.0	42.5	111.0	71.7	36.2	41.3	
5	189.2	140.7	264.0	102.2	167.0	436.7	311.6	44.0	105.5	68.5	73.4	41.9	
6	189.2	101.0	209.6	106.4	147.5	443.3	276.0	47.2	112.5	67.8	86.8	61.9	
7	166.3	170.0	200.3	97.4	163.2	448.8	248.4	52.8	112.5	66.0	102.0	70.6	
8	134.0	219.0	161.8	110.0	224.4	459.8	214.5	49.6	106.0	64.3	99.5	69.2	
9	155.7	232.5	143.7	201.2	242.4	477.4	168.2	53.1	103.5	62.9	79.2	59.1	
10	124.3	288.0	172.3	255.0	250.5	510.8	141.2	45.4	104.0	46.8	61.2	46.4	
11	182.0	292.0	259.0	277.0	260.0	574.4	117.0	43.7	121.1	61.2	80.5	62.2	
12	204.5	237.0	296.0	258.0	260.0	578.0	109.5	130.5	128.8	52.8	62.2	79.6	
13	190.1	167.0	290.0	228.0	228.9	562.4	102.5	148.6	137.0	40.4	46.8	78.3	
14	149.0	183.5	259.0	204.5	202.0	496.1	92.0	154.9	147.9	28.4	44.4	79.2	
15	108.2	212.2	227.1	203.7	180.5	496.1	81.5	155.6	138.8	32.9	38.9	86.0	
16	109.4	197.7	170.7	223.5	160.3	532.4	76.0	154.9	120.0	36.2	36.5	83.2	
17	120.5	177.5	134.0	219.9	187.5	560.0	69.9	140.0	110.0	42.8	96.5	74.3	
18	137.7	159.5	183.5	219.9	186.7	521.6	68.5	117.0	99.5	40.4	38.0	80.1	
19	179.8	128.8	174.5	211.3	156.5	460.9	63.6	117.5	92.0	35.3	44.4	77.4	
20	189.2	110.0	167.0	191.8	218.1	444.4	60.8	112.0	86.4	32.3	58.4	75.2	
21	149.7	162.5	270.0	146.0	287.0	491.7	59.1	104.0	86.8	33.2	74.7	72.5	
22	101.6	160.3	239.7	99.8	321.0	584.0	57.0	101.0	99.0	36.8	77.4	71.0	
23	145.2	147.5	183.5	128.0	351.0	662.5	55.2	98.5	85.0	39.8	53.1	66.4	
24	185.9	169.2	131.7	161.0	343.0	708.7	54.5	70.3	70.6	49.6	33.2	60.1	
25	195.2	179.8	173.0	170.0	295.0	731.2	54.5	56.6	60.8	45.7	27.2	60.4	
26	178.3	136.3	180.5	160.3	276.0	699.3	53.1	59.1	60.1	41.3	24.8	57.0	
27	164.0	113.0	192.7	140.7	334.0	735.0	50.0	140.6	61.9	37.4	24.2	57.0	
28	137.7	158.7	183.5	110.0	396.0	663.6	47.2	160.5	58.4	36.2	28.7	53.1	
29	100.4	166.3	122.8	80.0	416.9	663.6	45.1	164.0	54.5	34.1		50.7	
30	166.3	166.3	101.6	99.8	419.1	631.3	44.4	159.8	48.2	33.2		50.3	
31		184.2		147.5	404.4		41.3		14.0	32.9		43.7	
Total	4702.6	5620.3	6309.7	4892.1	7761.1	16166.0	4527.4	2843.1	3000.1	1508.5	1508.6	1912.5	60752.0 CMSDAY
Mean	156.8	181.3	210.3	157.8	250.4	538.9	146.0	94.8	96.8	48.7	53.9	61.7	166.4 CMS
Max	204.5	292.0	348.0	277.0	419.1	735.0	582.4	164.0	147.9	82.4	102.0	86.0	735.0 CMS
Min	100.4	101.0	101.6	79.4	147.5	364.5	41.3	39.2	14.0	28.4	21.8	32.3	14.0 CMS
Runoff	406.30	485.59	545.16	422.68	670.56	1396.74	391.17	245.64	259.21	130.33	130.34	165.24	5248.97 MCM

Momentary Peak 748.50 CMS, at 27.79 M (MSL), at 15.00 Hours, on Sep 27, 1993

Runoff Yield 5.06 Liters/Second/Square KM, Momentary Peak Yield 22.77 Liters/Second/Square KM

WATER YEAR 1993

NAN RIVER BASIN

Nan River at Taphan Hin, Phichit (N.10A)

Location — Lat. 16°-12'-42" N., Long. 100°-25'-01" E., on left bank near Taphan Hin Office about 250 meters from station N.10, Amphoe Taphan Hin, Phichit.

Drainage Area — 30,765 sq.km.

Type of Gage — Water-stage recorder.

Zero Gage at Bottom — +22.280 m.(M.S.L.)

Bench Mark — B.M.-H.D.

- Location — On left bank near automatic gage buiding.
- Elevation — +33.300 m.(M.S.L.)

Gage Reading Frequency — Recording.

Basis of Mean Daily Gage Height — Arithmetic mean of 24 readings.

Period of Available Gage Records — 1969 to date.

Rating Operation

- Period of Rating — 1974 - 1979, 1991 to date.
- Rated by Float — -
- Rated by Current Meter — 1974 - 1982, 1987, 1991 to date.

Stability of Channel Regimes — Stable.

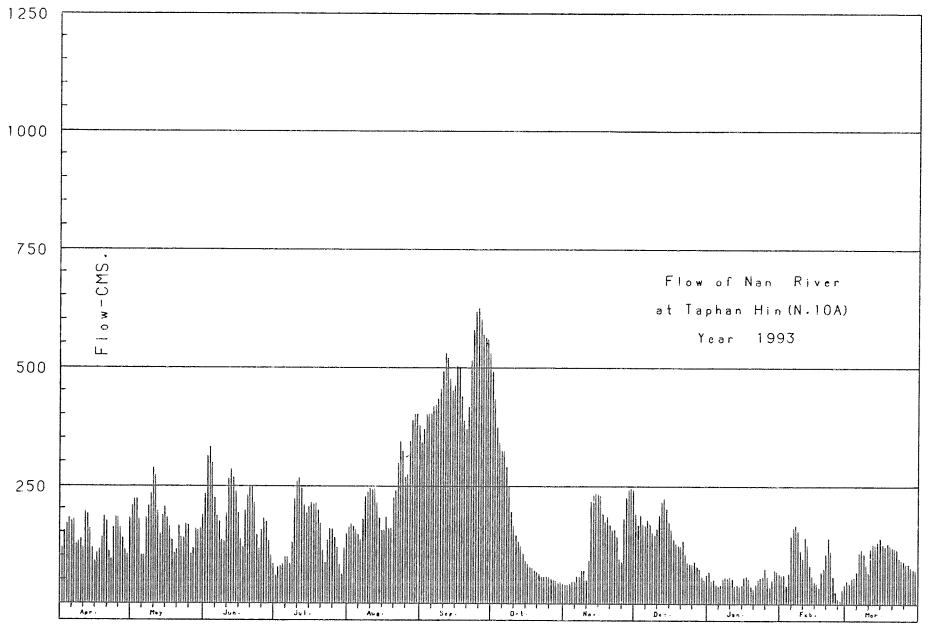
Overbank Flow Conditions — No overbank flow.

General Description — Records good. Stage-discharge relation defined by 22 discharge measurements made in 1993.

Gage Height in Meter (MSL), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	23.65	24.78	25.05	22.79	24.22	26.26	27.79	22.47	24.55	22.92	22.78	22.58	
2	24.10	24.92	25.95	23.05	24.29	26.54	27.19	22.46	24.27	22.59	22.79	22.51	
3	24.31	24.95	26.16	23.11	24.24	26.88	26.60	22.50	24.53	22.65	22.44	22.70	
4	24.44	24.40	25.77	23.14	24.13	26.88	26.25	22.55	24.27	22.48	22.86	22.70	
5	24.38	23.43	24.97	23.37	24.03	26.90	26.07	22.58	24.26	22.42	23.98	22.91	
6	24.40	23.40	24.50	23.35	23.86	27.04	26.05	22.74	24.39	22.44	24.20	23.51	
7	23.77	24.47	24.37	23.16	24.43	27.08	25.70	22.75	24.29	22.67	24.25	23.58	
8	23.82	24.77	23.86	23.81	24.99	27.20	25.21	22.94	24.05	22.71	24.10	23.47	
9	23.91	25.08	23.84	24.91	25.11	27.42	24.62	22.93	24.01	22.70	23.56	23.11	
10	23.64	25.68	24.56	25.36	25.18	27.79	24.23	22.63	24.16	22.72	23.30	22.89	
11	24.66	25.49	25.40	25.43	25.17	28.17	24.00	23.27	24.51	22.68	23.94	23.60	
12	24.57	24.62	25.63	25.20	25.17	28.06	23.83	24.86	24.87	22.40	23.71	23.76	
13	24.16	24.03	25.45	24.79	24.83	27.62	23.67	25.04	24.94	22.46	23.11	23.71	
14	23.65	24.53	25.12	24.59	24.47	27.38	23.47	25.06	24.70	22.37	22.76	23.81	
15	23.24	24.72	24.59	24.73	24.13	27.48	23.23	25.06	24.35	22.46	22.57	23.93	
16	23.47	24.45	23.88	24.84	24.13	27.89	23.14	25.00	24.13	22.71	22.48	23.76	
17	23.58	24.22	23.66	24.82	24.47	27.88	23.07	24.57	23.89	22.77	22.37	23.68	
18	23.95	23.88	24.64	24.82	24.18	27.26	23.01	24.34	23.75	22.65	22.88	23.79	
19	24.49	23.48	25.03	24.66	24.17	26.73	22.95	24.47	23.71	22.40	23.02	23.70	
20	24.38	23.58	25.25	24.30	24.97	26.56	22.88	24.28	23.67	22.27	23.44	23.66	
21	23.53	24.25	25.25	23.55	25.13	27.02	22.83	24.12	23.86	22.48	23.93	23.61	
22	23.28	23.93	24.83	23.20	25.79	28.02	22.74	24.15	23.45	22.64	23.52	23.59	
23	24.18	23.93	24.01	23.86	26.28	28.64	22.72	23.96	23.19	22.69	22.76	23.34	
24	24.49	24.28	23.60	24.16	26.05	29.00	22.75	23.29	23.16	22.76	22.18	23.25	
25	24.45	24.25	24.13	24.17	25.46	29.08	22.71	23.22	23.12	23.00	21.85	23.24	
26	24.18	23.46	24.43	23.94	25.50	28.86	22.67	24.42	23.21	22.72	21.78	23.14	
27	23.93	23.61	24.36	23.66	26.29	28.56	22.64	24.97	23.08	22.38	22.25	23.16	
28	23.58	24.17	23.85	23.11	26.76	28.50	22.58	25.16	22.98	22.60	22.44	23.04	
29	23.42	24.11	23.40	22.84	26.87	28.45	22.53	25.18	22.75	22.98		23.00	
30	24.44	24.19	23.14	23.62	26.87	28.16	22.54	25.14	22.62	22.90		22.93	
31		24.52		24.02	26.64		22.48		22.79	22.84		22.74	
Mean	24.00	24.31	24.62	24.01	25.09	27.64	23.94	23.87	23.86	22.63	23.04	23.30	
Max	24.66	25.68	26.16	25.43	26.87	29.08	27.79	25.18	24.94	23.00	24.25	23.93	29.08
Min	23.24	23.40	23.14	22.79	23.86	26.26	22.48	22.46	22.62	22.27	21.78	22.51	21.78

Annual Max Momentary Gage Height 29.15 M (MSL), at 6.00 Hours, on Sep 25, 1993
Zero Gage at Bottom Elevation 22.28 M (MSL), River Bed 20.19 M (MSL)
Left Bank Elevation 33.07 M (MSL)
Right Bank Elevation 33.26 M (MSL), Drainage Area 30765 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	119.5	209.3	232.5	60.4	163.6	342.7	493.0	41.2	190.0	68.8	59.8	47.8	
2	154.0	221.2	313.5	77.5	169.2	369.3	433.0	40.6	167.6	48.4	60.4	43.6	
3	170.8	223.8	333.2	81.7	165.2	402.0	375.0	43.0	188.4	52.0	39.4	55.0	
4	181.2	178.0	297.3	83.8	156.4	402.0	341.8	46.0	167.6	41.8	64.9	55.0	
5	176.4	104.1	225.4	99.9	148.4	404.0	324.6	47.8	166.8	38.2	144.4	68.2	
6	178.0	102.0	186.0	98.5	134.8	418.0	322.7	57.4	177.2	39.4	162.0	109.7	
7	127.9	183.6	175.6	85.2	180.4	422.0	291.0	58.0	169.2	53.2	166.0	114.6	
8	131.6	208.5	134.8	130.8	227.1	434.0	246.9	70.1	150.0	55.6	154.0	106.9	
9	138.8	235.2	133.2	220.3	237.9	456.0	195.7	69.5	146.8	55.0	113.2	81.7	
10	118.8	289.2	190.8	260.4	244.2	493.0	164.4	50.8	158.8	56.2	95.0	66.8	
11	199.1	272.1	264.0	266.7	243.3	531.0	146.0	92.9	186.8	53.8	141.2	116.0	
12	191.6	195.7	284.7	246.0	243.3	520.0	132.4	216.1	217.0	37.0	123.7	127.2	
13	158.8	148.4	268.5	210.2	213.5	476.0	120.9	231.6	222.9	40.6	81.7	123.7	
14	119.5	188.4	238.8	193.2	183.6	452.0	106.9	233.4	202.5	35.5	58.6	130.8	
15	90.8	204.2	193.2	205.0	156.4	462.0	90.1	233.4	174.0	40.6	47.2	140.4	
16	106.9	182.0	136.4	214.4	156.4	503.0	83.8	228.0	156.4	55.6	41.8	127.2	
17	114.6	163.6	120.2	212.7	183.6	502.0	78.9	191.6	137.2	59.2	35.5	121.6	
18	142.0	136.4	197.4	212.7	160.4	440.0	74.7	173.2	126.5	52.0	66.2	129.3	
19	185.2	107.6	230.7	199.1	159.6	387.4	70.8	183.6	123.7	37.0	75.4	123.0	
20	176.4	114.6	250.5	170.0	225.4	371.2	66.2	168.4	120.9	30.5	104.8	120.2	
21	111.1	166.0	250.5	112.5	239.7	416.0	63.0	155.6	134.8	41.8	140.4	116.7	
22	93.6	140.4	213.5	88.0	299.1	516.0	57.4	158.0	105.5	51.4	110.4	115.3	
23	160.4	140.4	146.8	134.8	344.6	578.4	56.2	142.8	87.3	54.4	58.6	97.8	
24	185.2	168.4	116.0	158.8	322.7	618.0	58.0	94.3	85.2	58.6	26.0	91.5	
25	182.0	166.0	156.4	159.6	269.4	626.8	55.6	89.4	82.4	74.0	10.3	90.8	
26	160.4	106.2	180.4	141.2	273.0	602.6	53.2	179.6	88.7	56.2	7.8	83.8	
27	140.4	116.7	174.8	120.2	345.6	570.0	51.4	225.4	79.6	36.0	29.5	85.2	
28	114.6	159.6	134.0	81.7	390.2	564.0	47.8	242.4	72.7	49.0	39.4	76.8	
29	103.4	154.8	102.0	63.6	401.0	559.0	44.8	244.2	58.0	72.7		74.0	
30	181.2	161.2	83.8	117.4	401.0	530.0	45.4	240.6	50.2	67.5		69.5	
31		187.6		147.6	378.8		41.8		60.4	63.6		57.4	
Total	4414.2	5335.2	5964.9	4653.9	7417.8	14368.4	4733.4	4248.9	4255.1	1575.6	2257.6	2967.5	62192.5 CMSDAY
Mean	147.1	172.1	198.8	150.1	239.3	478.9	152.7	141.6	137.3	50.8	80.6	95.7	170.4 CMS
Max	199.1	289.2	333.2	266.7	401.0	626.8	493.0	244.2	222.9	74.0	166.0	140.4	626.8 CMS
Min	90.8	102.0	83.8	60.4	134.8	342.7	41.8	40.6	50.2	30.5	7.8	43.6	7.8 CMS
Runoff	381.39	460.96	515.37	402.10	640.90	1241.43	408.97	367.10	367.64	136.13	195.06	256.39	5373.43 MCM

Momentary Peak 634.50 CMS, at 29.15 M (MSL), at 6.00 Hours, on Sep 25, 1993
Runoff Yield 5.54 Liters/Second/Square KM, Momentary Peak Yield 20.62 Liters/Second/Square KM

WATER YEAR 1993

NAN RIVER BASIN

Nan River at Ban Hat Phai, Uttaradit (N.12A)

Location — Lat. 17°-44'-10" N., Long. 100°-32'-28" E., on right bank about 4 kilometers downstream from Sirikit Dam Site, along Phasom-Silot road at Ban Hat Phai, Amphoe Tha Pha, Uttaradit.

Drainage Area — 15,718 sq.km.

Type of Gage — Water-stage recorder.

Zero Gage at Bottom — +69.00 m. (M.S.L.)

Bench Mark — B.M.-H.D.

Location — On right bank infront of gage observer's house.

Elevation — +84.000 m. (M.S.L.)

Gage Reading Frequency — Recording.

Basis of Mean Daily Gage Height — Arithmetic mean of 24 readings.

Period of Available Gage Records — 1966 to date.

Rating Operation

Period of Rating — 1966 to date.

Rated by Float — -

Rated by Current Meter — 1966 to date.

Stability of Channel Regimes — Stable.

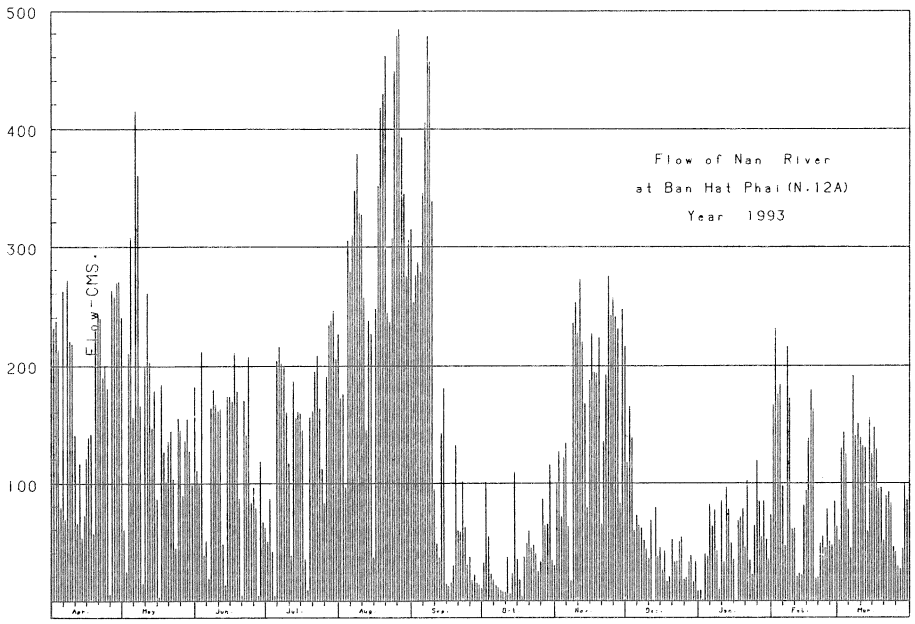
Overbank Flow Conditions — No overbank flow.

General Description — Records good. Stage-discharge relation defined by 93 discharge measurements made in 1993.

Gage Height in Meter (MSL), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	72.09	70.65	71.16	70.53	71.67	72.23	70.29	71.05	71.22	69.84	71.63	70.55	
2	72.13	70.17	71.06	70.93	71.70	72.36	71.07	71.30	71.62	69.57	72.09	71.32	
3	71.97	71.95	71.96	70.43	71.03	72.42	70.59	70.78	71.40	70.40	71.70	71.44	
4	70.86	72.53	70.39	69.69	72.52	72.38	70.14	71.26	70.64	70.38	71.76	71.28	
5	72.29	71.54	70.54	71.91	72.38	72.72	70.04	71.36	70.79	70.88	71.04	70.84	
6	70.74	73.02	70.07	71.99	72.54	72.98	69.94	70.68	70.69	70.69	70.49	70.46	
7	72.34	72.79	71.61	71.89	72.73	73.26	69.89	70.03	70.67	70.84	71.99	71.82	
8	72.02	71.62	71.73	71.88	72.87	73.18	69.84	72.12	70.55	70.43	71.67	71.41	
9	72.00	69.98	71.63	71.58	72.64	72.69	69.80	72.23	70.45	69.88	70.66	71.50	
10	71.42	71.87	71.59	71.22	72.63	71.01	69.79	72.06	70.35	70.91	70.66	71.40	
11	70.71	72.28	71.60	70.38	72.25	70.51	70.36	72.34	70.74	70.30	70.10	71.34	
12	71.22	71.90	70.51	71.78	71.45	70.36	69.75	72.01	69.51	71.03	70.14	71.33	
13	70.57	71.47	69.95	71.54	72.13	71.43	70.14	71.64	70.86	70.84	70.12	70.64	
14	70.79	71.72	71.68	71.58	72.06	71.74	71.15	70.85	70.37	70.52	70.87	71.54	
15	71.25	70.93	71.68	71.57	70.36	69.98	70.34	71.79	70.47	70.34	71.00	71.28	
16	71.40	69.63	71.65	71.45	72.19	69.91	70.05	72.06	70.19	69.61	71.39	71.47	
17	71.43	71.76	71.95	70.34	72.75	70.00	69.67	71.84	70.43	70.74	71.73	71.32	
18	70.62	71.30	71.72	69.84	73.03	70.25	70.36	71.83	70.02	70.77	71.60	71.01	
19	72.09	71.07	70.93	71.54	73.08	71.35	70.52	72.04	70.09	70.85	70.07	71.03	
20	72.17	71.37	69.70	71.59	73.20	70.65	70.64	70.71	70.56	70.47	70.08	70.54	
21	72.14	71.45	71.66	71.84	72.17	70.63	70.46	71.37	70.31	71.08	70.51	70.95	
22	71.81	71.10	71.42	71.94	72.12	71.08	70.50	71.82	70.31	70.33	70.59	70.99	
23	71.87	70.46	71.93	71.61	72.53	70.68	70.40	72.36	70.54	70.13	70.47	70.89	
24	71.74	71.54	70.90	71.18	73.15	70.26	70.18	72.16	70.58	70.69	70.84	70.48	
25	69.73	71.45	71.03	70.89	73.26	70.37	70.31	72.25	70.06	71.24	70.53	70.42	
26	72.29	70.96	70.85	71.81	73.28	70.03	70.93	72.15	70.08	70.91	70.49	70.24	
27	72.26	71.38	69.69	72.11	72.93	70.13	70.69	72.09	70.31	70.58	70.91	70.21	
28	72.33	71.53	71.23	72.13	72.72	69.99	70.71	70.89	70.38	70.91	70.68	70.46	
29	72.33	71.30	70.73	72.18	72.36	69.94	71.21	72.19	70.02	70.56		71.06	
30	72.15	71.05	70.67	71.92	72.52	69.88	70.32	71.99	70.33	70.33		70.92	
31		71.75		72.06	72.57		70.25		69.81	70.79		71.13	
Mean	71.63	71.40	71.11	71.40	72.41	71.15	70.33	71.64	70.46	70.54	70.92	71.01	
Max	72.34	73.02	71.96	72.18	73.28	73.26	71.21	72.36	71.62	71.24	72.09	71.82	73.28
Min	69.73	69.63	69.69	69.69	70.36	69.88	69.67	70.03	69.51	69.57	70.07	70.21	69.51

Annual Max Momentary Gage Height 73.74 M (MSL), at 18.00 Hours, on May 6, 1993
Zero Gage at Bottom Elevation 69.00 M (MSL), River Bed 67.81 M (MSL)
Left Bank Elevation 81.48 M (MSL)
Right Bank Elevation 81.48 M (MSL), Drainage Area 15718 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	231.50	60.50	110.60	50.40	172.10	253.80	32.40	99.00	117.40	9.60	166.90	52.00	
2	237.80	25.20	100.00	87.00	176.00	275.80	101.00	127.00	165.60	1.70	231.50	129.40	
3	213.50	210.50	212.00	42.40	97.00	286.80	55.20	72.20	139.00	40.00	176.00	143.80	
4	80.00	307.70	39.30	4.70	305.80	279.40	23.40	122.20	59.60	38.60	183.80	124.60	
5	263.40	155.80	51.20	204.50	279.40	345.40	18.00	134.20	73.10	82.00	98.00	78.00	
6	68.60	415.00	19.50	216.50	309.60	405.20	13.60	63.20	64.10	64.10	47.20	44.80	
7	272.20	360.80	164.30	201.60	347.60	478.80	11.60	17.50	62.30	78.00	216.50	191.80	
8	221.00	165.60	179.90	200.20	379.10	456.60	9.60	236.20	52.00	42.40	172.10	140.20	
9	218.00	15.20	166.90	160.60	329.00	339.00	8.00	253.80	44.00	11.20	61.40	151.00	
10	141.40	198.80	161.80	117.40	327.00	95.00	7.70	227.00	36.50	85.00	61.40	139.00	
11	65.90	261.80	163.00	38.60	257.00	48.80	37.20	272.20	68.60	33.00	21.00	131.80	
12	117.40	203.00	48.80	186.40	145.00	37.20	6.50	219.50	1.10	97.00	23.40	130.60	
13	53.60	147.40	14.00	155.80	237.80	142.60	23.40	168.20	80.00	78.00	22.20	59.60	
14	73.10	178.60	173.40	160.60	227.00	181.20	109.50	79.00	37.90	49.60	81.00	155.80	
15	121.00	87.00	173.40	159.40	37.20	15.20	35.80	187.70	45.60	35.80	94.00	124.60	
16	139.00	2.90	169.50	145.00	247.40	12.40	18.50	227.00	26.40	2.30	137.80	147.40	
17	142.60	183.80	210.50	35.50	352.00	16.00	4.10	194.60	42.40	68.60	179.90	129.40	
18	57.80	127.00	178.60	9.60	417.50	30.00	37.20	193.20	17.00	71.30	163.00	95.00	
19	231.50	101.00	87.00	155.80	430.00	133.00	49.60	224.00	20.50	79.00	19.50	97.00	
20	244.20	135.40	5.00	161.80	462.00	60.50	59.60	65.90	52.80	45.60	20.00	51.20	
21	239.40	145.00	170.80	194.60	244.20	58.70	44.80	135.40	33.70	102.00	48.80	89.00	
22	190.40	104.00	141.40	209.00	236.20	102.00	48.00	191.80	33.70	35.10	55.20	93.00	
23	198.80	44.80	207.50	164.30	307.70	63.20	40.00	275.80	51.20	22.80	45.60	83.00	
24	181.20	155.80	84.00	112.80	448.50	30.60	25.80	242.60	54.40	64.10	78.00	46.40	
25	5.90	145.00	97.00	83.00	478.80	37.90	33.70	257.00	19.00	119.80	50.40	41.60	
26	263.40	90.00	79.00	190.40	484.40	17.50	87.00	241.00	20.00	85.00	47.20	29.40	
27	258.60	136.60	4.70	234.60	393.20	22.80	64.10	231.50	33.70	54.40	85.00	27.60	
28	270.40	154.60	118.60	237.80	345.40	15.60	65.90	83.00	38.60	85.00	63.20	44.80	
29	270.40	127.00	67.70	245.80	275.80	13.60	116.20	247.40	17.00	52.80		100.00	
30	241.00	99.00	62.30	206.00	305.80	11.20	34.40	216.50	35.10	35.10		86.00	
31		182.50		227.00	315.30		30.00		8.40	73.10		107.30	
Total	5313.00	4727.30	3461.70	4599.40	9370.80	4265.80	1251.80	5305.60	1550.70	1742.00	2650.00	3065.10	47303.21 CMSDAY
Mean	177.10	152.49	115.39	148.37	302.28	142.19	40.38	176.85	50.02	56.19	94.64	98.87	129.60 CMS
Max	272.20	415.00	212.00	245.80	484.40	478.80	116.20	275.80	165.60	119.80	231.50	191.80	484.40 CMS
Min	5.90	2.90	4.70	4.70	37.20	11.20	4.10	17.50	1.10	1.70	19.50	27.60	1.10 CMS
Runoff	459.043	408.439	299.091	397.388	809.637	368.565	108.156	458.404	133.980	150.509	228.960	264.825	4086.997 MCM

Momentary Peak 626.60 CMS, at 73.74 M (MSL), at 18.00 Hours, on May 6, 1993

Runoff Yield 8.25 Liters/Second/Square KM, Momentary Peak Yield 39.87 Liters/Second/Square KM

WATER YEAR 1993

NAN RIVER BASIN

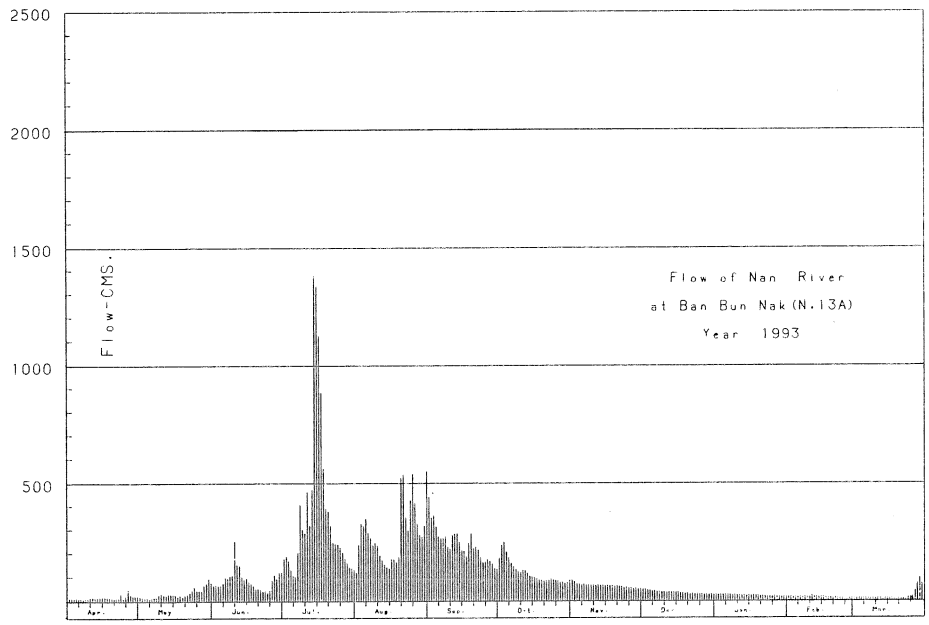
Nan River at Ban Bun Nak, Nan (N.13A)

Location	Lat. 18°-33'-12" N., Long. 100°-46'-08" E., on right bank about 2 kilometers upstream from station N.13, Ban Bun Nak, Amphoe Sa, Nan.
Drainage Area	8,784 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+177.39 m.(M.S.L)
Bench Mark	B.M.-H.D.
Location	On right bank at the abutment of the bridge.
Elevation	+192.690 m.(M.S.L)
Gage Reading Frequency	5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1987 to date.
Rating Operation	
Period of Rating	1987 to date.
Rated by Float	-
Rated by Current Meter	1987 to date.
Stability of Channel Regimes	Fairly stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records fair. Stage-discharge relation defined by 77 discharge measurements made in 1993.

Gage Height in Meter (MSL), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	178.14	178.18	178.49	179.06	178.78	180.25	179.08	178.61	178.40	178.25	178.18	178.12	
2	178.13	178.15	178.49	179.13	179.35	179.88	179.35	178.57	178.39	178.25	178.18	178.12	
3	178.13	178.14	178.48	179.02	179.76	179.94	179.42	178.53	178.38	178.25	178.17	178.13	
4	178.13	178.13	178.47	178.84	179.73	179.72	179.23	178.51	178.36	178.25	178.17	178.13	
5	178.12	178.12	178.54	178.72	179.88	179.52	179.09	178.50	178.35	178.25	178.17	178.13	
6	178.12	178.12	178.68	178.68	179.59	179.49	178.99	178.51	178.35	178.25	178.17	178.13	
7	178.11	178.15	178.64	179.21	179.50	179.48	178.90	178.50	178.34	178.24	178.17	178.12	
8	178.12	178.15	178.71	180.13	179.36	179.52	178.86	178.49	178.33	178.24	178.18	178.12	
9	178.12	178.25	178.71	179.65	179.39	179.33	178.80	178.49	178.33	178.24	178.17	178.12	
10	178.14	178.27	179.44	179.58	179.34	179.28	178.79	178.49	178.32	178.23	178.17	178.12	
11	178.17	178.24	178.94	180.35	179.15	179.55	178.82	178.49	178.32	178.22	178.22	178.12	
12	178.15	178.23	178.93	179.74	179.03	179.57	178.83	178.49	178.32	178.22	178.18	178.12	
13	178.14	178.25	178.69	180.40	178.95	179.59	178.76	178.49	178.32	178.22	178.17	178.12	
14	178.17	178.26	178.61	183.71	178.88	179.41	178.71	178.48	178.32	178.22	178.17	178.12	
15	178.16	178.24	178.66	183.56	178.87	179.25	178.68	178.48	178.32	178.22	178.17	178.12	
16	178.16	178.23	178.56	182.84	179.06	179.23	178.68	178.48	178.31	178.22	178.17	178.12	
17	178.16	178.20	178.53	181.99	179.05	179.13	178.64	178.48	178.30	178.22	178.16	178.12	
18	178.15	178.22	178.47	180.76	179.00	179.39	178.62	178.48	178.29	178.22	178.15	178.11	
19	178.14	178.19	178.41	180.05	179.11	179.59	178.60	178.47	178.28	178.21	178.15	178.10	
20	178.13	178.22	178.40	180.01	180.59	179.30	178.59	178.47	178.28	178.21	178.15	178.11	
21	178.12	178.25	178.38	179.72	180.65	179.32	178.59	178.47	178.27	178.21	178.15	178.11	
22	178.15	178.30	178.35	179.41	179.89	179.27	178.61	178.45	178.27	178.20	178.14	178.10	
23	178.26	178.38	178.34	179.37	179.64	179.10	178.63	178.44	178.27	178.20	178.13	178.10	
24	178.13	178.44	178.31	179.37	180.21	179.00	178.62	178.44	178.27	178.20	178.13	178.14	
25	178.19	178.37	178.36	179.30	180.67	179.01	178.61	178.43	178.27	178.20	178.13	178.16	
26	178.38	178.35	178.61	179.21	180.14	179.05	178.59	178.42	178.26	178.19	178.13	178.18	
27	178.25	178.36	178.73	179.07	179.76	179.03	178.56	178.41	178.25	178.19	178.12	178.36	
28	178.19	178.48	178.63	178.97	179.56	178.96	178.55	178.41	178.25	178.18	178.12	178.59	
29	178.21	178.54	178.78	178.89	179.50	178.88	178.54	178.40	178.25	178.18		178.66	
30	178.19	178.64	178.77	178.86	179.72	178.84	178.54	178.40	178.25	178.18		178.51	
31		178.54		178.83	180.72		178.60		178.25	178.18		178.36	
Mean	178.16	178.28	178.60	179.88	179.58	179.36	178.77	178.48	178.31	178.22	178.16	178.18	
Max	178.38	178.64	179.44	183.71	180.72	180.25	179.42	178.61	178.40	178.25	178.22	178.66	183.71
Min	178.11	178.12	178.31	178.68	178.78	178.84	178.54	178.40	178.25	178.18	178.12	178.10	178.10

Annual Max Momentary Gage Height 183.72 M (MSL), at 9.00 Hours, on Jul 14, 1993
Zero Gage at Bottom Elevation 177.39 M (MSL), River Bed 175.92 M (MSL)
Left Bank Elevation 189.02 M (MSL)
Right Bank Elevation 192.06 M (MSL), Drainage Area 8784 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	14.5	19.5	68.2	178.0	122.0	440.0	182.0	89.8	52.0	29.0	19.5	12.0	
2	13.3	15.7	68.2	192.0	237.0	353.6	237.0	82.6	50.4	29.0	19.5	12.0	
3	13.3	14.5	66.4	170.0	327.2	366.8	252.4	75.4	48.8	29.0	18.2	13.3	
4	13.3	13.3	64.6	134.0	320.6	318.4	212.0	71.8	45.6	29.0	18.2	13.3	
5	12.0	12.0	77.2	110.0	353.6	274.4	184.0	70.0	44.0	29.0	18.2	13.3	
6	12.0	12.0	102.4	102.4	289.8	267.8	164.0	71.8	44.0	29.0	18.2	13.3	
7	10.7	15.7	95.2	208.0	270.0	265.6	146.0	70.0	42.4	27.6	18.2	12.0	
8	12.0	15.7	108.0	411.2	239.2	274.4	138.0	68.2	40.8	27.6	19.5	12.0	
9	12.0	29.0	108.0	303.0	245.8	232.6	126.0	68.2	40.8	27.6	18.2	12.0	
10	14.5	31.8	256.8	287.6	234.8	222.0	124.0	68.2	39.2	26.2	18.2	12.0	
11	18.2	27.6	154.0	464.0	196.0	281.0	130.0	68.2	39.2	24.8	24.8	12.0	
12	15.7	26.2	152.0	322.8	172.0	285.4	132.0	68.2	39.2	24.8	19.5	12.0	
13	14.5	29.0	104.2	476.0	156.0	289.8	118.0	68.2	39.2	24.8	18.2	12.0	
14	18.2	30.4	89.8	1383.0	142.0	250.2	108.0	66.4	39.2	24.8	18.2	12.0	
15	17.0	27.6	98.8	1338.0	140.0	216.0	102.4	66.4	39.2	24.8	18.2	12.0	
16	17.0	26.2	80.8	1126.6	178.0	212.0	102.4	66.4	37.6	24.8	18.2	12.0	
17	17.0	22.0	75.4	887.2	176.0	192.0	95.2	66.4	36.0	24.8	17.0	12.0	
18	15.7	24.8	64.6	562.4	166.0	245.8	91.6	66.4	34.6	24.8	15.7	10.7	
19	14.5	20.8	53.8	392.0	188.0	289.8	88.0	64.6	33.2	23.4	15.7	9.5	
20	13.3	24.8	52.0	382.4	521.6	226.0	86.2	64.6	33.2	23.4	15.7	10.7	
21	12.0	29.0	48.8	318.4	536.0	230.4	86.2	64.6	31.8	23.4	15.7	10.7	
22	15.7	36.0	44.0	250.2	355.8	220.0	89.8	61.0	31.8	22.0	14.5	9.5	
23	30.4	48.8	42.4	241.4	300.8	186.0	93.4	59.2	31.8	22.0	13.3	9.5	
24	13.3	59.2	37.6	241.4	430.4	166.0	91.6	59.2	31.8	22.0	13.3	14.5	
25	20.8	47.2	45.6	226.0	540.8	168.0	89.8	57.4	31.8	22.0	13.3	17.0	
26	48.8	44.0	89.8	208.0	413.6	176.0	86.2	55.6	30.4	20.8	13.3	19.5	
27	29.0	45.6	112.0	180.0	327.2	172.0	80.8	53.8	29.0	20.8	12.0	45.6	
28	20.8	66.4	93.4	160.0	283.2	158.0	79.0	53.8	29.0	19.5	12.0	86.2	
29	23.4	77.2	122.0	144.0	270.0	142.0	77.2	52.0	29.0	19.5		98.8	
30	20.8	95.2	120.0	138.0	318.4	134.0	77.2	52.0	29.0	19.5		71.8	
31		77.2		132.0	552.8		88.0		29.0	19.5		45.6	
Total	523.7	1064.4	2696.0	11670.0	9004.6	7256.0	3758.4	1970.4	1153.0	759.2	474.5	668.8	40999.0 CMSDAY
Mean	17.5	34.3	89.9	376.5	290.5	241.9	121.2	65.7	37.2	24.5	16.9	21.6	112.3 CMS
Max	48.8	95.2	256.8	1383.0	552.8	440.0	252.4	89.8	52.0	29.0	24.8	98.8	1383.0 CMS
Min	10.7	12.0	37.6	102.4	122.0	134.0	77.2	52.0	29.0	19.5	12.0	9.5	9.5 CMS
Runoff	45.25	91.96	232.93	1008.29	778.00	626.92	324.73	170.24	99.62	65.59	41.00	57.78	3542.31 MCM

Momentary Peak 1386.00 CMS, at 183.72 M (MSL), at 9.00 Hours, on Jul 14, 1993

Runoff Yield 12.79 Liters/Second/Square KM, Momentary Peak Yield 157.79 Liters/Second/Square KM

WATER YEAR 1993

NAN RIVER BASIN

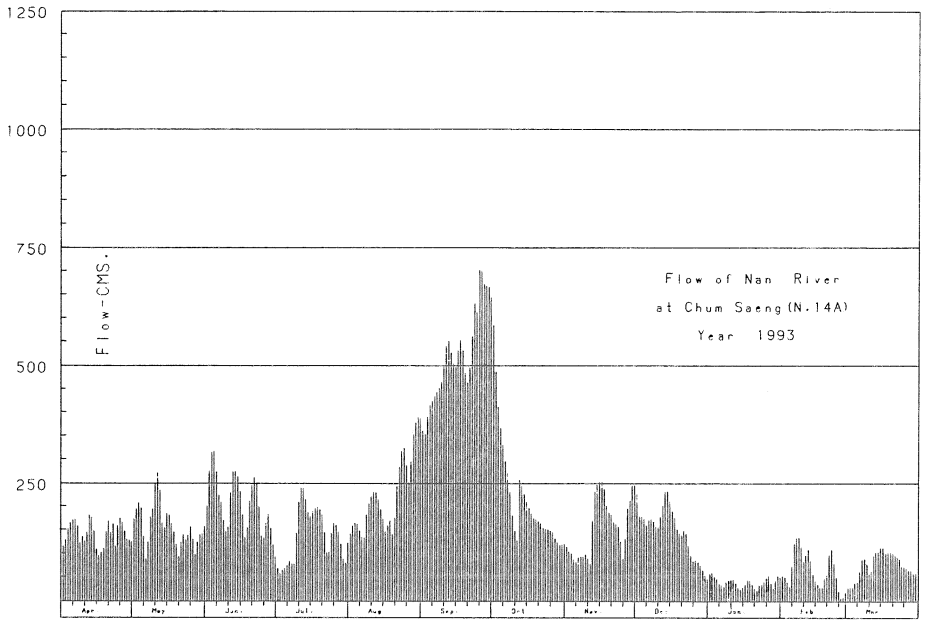
Nan River at Wat Luang Pho Kaeo, Nakhon Sawan (N.14A)

Location	Lat. 15°-53'-56" N., Long. 100°-18'-34" E., on right bank in front of Wat Luang Pho Kaeo about 1 km. upstream from station N.14, Amphoe Chum Saeng, Nakhon Sawan.
Drainage Area	33,182 sq.km.
Type of Gage	Water-stage recorder.
Zero Gage at Bottom	+19.00 m.(M.S.L.)
Bench Mark	B.M.-H.D.
Location	On right bank in front of automatic gage building.
Elevation	+27.842 m.(M.S.L.)
Gage Reading Frequency	Recording.
Basis of Mean Daily Gage Height	Arithmetic mean of 24 readings.
Period of Available Gage Records	1971 to date.
Rating Operation	
Period of Rating	1973 - 1979, 1991 to date.
Rated by Float	-
Rated by Current Meter	1972 - 1980, 1991 to date.
Stability of Channel Regimes	Stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Stage-discharge relation defined by 22 discharge measurements made in 1993.

Gage Height in Meter (MSL), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	20.09	20.76	21.07	19.43	20.42	22.63	25.05	20.07	21.32	19.24	19.13	18.67	
2	20.24	20.99	21.83	19.22	20.59	22.57	24.59	19.92	20.83	19.25	19.11	18.67	
3	20.54	21.13	22.22	19.37	20.67	22.90	24.18	19.89	20.81	19.13	18.90	18.69	
4	20.66	21.03	22.23	19.41	20.63	23.13	23.91	19.68	20.75	19.03	18.73	18.87	
5	20.74	20.35	21.82	19.52	20.49	23.20	23.67	19.63	20.62	18.86	19.49	18.91	
6	20.74	19.72	21.31	19.64	20.31	23.30	23.43	19.75	20.74	18.78	20.16	19.29	
7	20.60	20.18	21.14	19.57	20.31	23.39	23.23	19.79	20.75	18.73	20.30	19.69	
8	20.16	20.81	20.73	19.54	20.85	23.46	22.91	19.77	20.71	18.90	20.33	19.73	
9	20.34	20.99	20.45	20.44	21.12	23.56	22.46	19.85	20.56	18.99	20.06	19.57	
10	20.20	21.56	20.56	21.16	21.27	23.86	22.12	19.72	20.57	19.01	19.64	19.23	
11	20.44	21.80	21.35	21.47	21.37	24.21	21.85	19.56	20.80	19.01	19.82	19.33	
12	20.86	21.42	21.82	21.45	21.37	24.31	21.65	20.72	21.08	18.88	19.99	19.82	
13	20.78	20.65	21.82	21.20	21.20	24.10	21.50	21.39	21.38	18.66	19.65	19.90	
14	20.48	20.56	21.72	20.92	20.99	23.90	21.33	21.53	21.40	18.59	19.21	19.92	
15	20.00	20.88	21.39	20.81	20.75	23.85	21.15	21.60	21.16	18.67	18.94	20.03	
16	19.80	20.86	20.87	20.94	20.45	24.13	21.03	21.62	20.95	18.79	18.82	20.03	
17	19.89	20.65	20.30	21.01	20.61	24.31	20.88	21.45	20.78	18.99	18.66	19.88	
18	20.02	20.46	20.56	21.03	20.71	24.14	20.79	21.06	20.53	18.97	18.70	19.89	
19	20.47	20.12	21.17	20.99	20.41	23.73	20.74	20.92	20.42	18.82	19.03	19.91	
20	20.70	19.79	21.51	20.85	20.79	23.56	20.71	20.85	20.38	18.62	19.17	19.87	
21	20.43	20.18	21.69	20.45	21.49	23.83	20.65	20.69	20.49	18.56	19.83	19.83	
22	20.65	20.38	21.56	19.90	21.92	24.39	20.56	20.63	20.42	18.77	19.99	19.77	
23	20.09	20.26	21.05	19.90	22.23	24.97	20.52	20.59	20.09	18.82	19.58	19.72	
24	20.59	20.36	20.35	20.43	22.30	24.79	20.52	20.20	19.81	18.90	19.09	19.54	
25	20.78	20.58	20.31	20.65	21.95	25.53	20.49	19.73	19.65	19.08	18.51	19.48	
26	20.67	20.28	20.65	20.62	21.59	25.51	20.44	20.27	19.66	19.14	18.08	19.43	
27	20.48	19.85	20.86	20.45	22.02	25.40	20.30	21.00	19.62	18.87	18.12	19.38	
28	20.26	20.18	20.55	20.15	22.57	25.38	20.18	21.20	19.50	18.65	18.45	19.33	
29	20.25	20.40	20.12	19.70	22.79	25.38	20.12	21.51	19.37	18.95		19.24	
30	20.19	20.40	19.77	19.59	22.90	25.29	20.11	21.53	19.14	19.15		19.22	
31		20.58		20.16	22.87		20.13		19.01	19.07		19.09	
Mean	20.40	20.59	21.09	20.32	21.29	24.09	21.65	20.54	20.43	18.90	19.27	19.48	
Max	20.86	21.80	22.23	21.47	22.90	25.53	25.05	21.62	21.40	19.25	20.33	20.03	25.53
Min	19.80	19.72	19.77	19.22	20.31	22.57	20.11	19.56	19.01	18.56	18.08	18.67	18.08

Annual Max Momentary Gage Height 25.54 M (MSL), at 12.00 Hours, on Sep 25, 1993
Zero Gage at Bottom Elevation 19.00 M (MSL), River Bed 15.27 M (MSL)
Left Bank Elevation 27.90 M (MSL)
Right Bank Elevation 27.54 M (MSL), Drainage Area 33182 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	117.7	174.4	202.6	70.1	143.8	361.3	586.2	116.2	226.4	59.2	53.1	29.2	
2	129.2	195.1	276.2	58.1	159.1	354.7	488.1	105.0	180.7	59.8	52.1	29.2	
3	154.6	208.3	317.1	66.4	166.3	391.0	412.6	102.7	178.9	53.1	40.5	30.1	
4	165.4	198.9	318.1	68.7	162.7	416.3	368.1	87.6	173.5	47.7	31.9	38.9	
5	172.6	138.0	275.1	76.4	150.1	424.0	331.5	84.1	161.8	38.3	74.3	41.1	
6	172.6	90.4	225.4	84.8	134.8	435.0	298.0	92.5	172.6	34.1	123.0	62.0	
7	160.0	124.5	209.3	79.9	134.8	444.9	271.0	95.3	173.5	31.9	134.0	88.3	
8	123.0	178.9	171.7	77.8	182.5	452.9	230.7	93.9	169.9	40.5	136.4	91.1	
9	137.2	195.1	146.5	145.6	207.4	464.4	182.0	99.8	156.4	45.5	115.5	79.9	
10	126.0	249.2	156.4	211.2	221.7	499.2	149.6	90.4	157.3	46.6	84.8	58.7	
11	145.6	273.0	229.3	240.6	231.2	541.2	128.0	79.2	178.0	46.6	97.5	64.2	
12	183.4	235.9	275.1	238.8	231.2	553.2	258.0	170.8	203.6	39.4	110.2	97.5	
13	176.2	164.5	275.1	215.0	215.0	528.0	243.5	233.0	232.1	28.7	85.5	103.5	
14	149.2	156.4	265.0	188.8	195.1	504.0	227.3	246.4	234.0	25.6	57.5	105.0	
15	111.0	185.2	233.0	178.9	173.5	498.0	210.2	253.0	211.2	29.2	42.7	113.3	
16	96.0	183.4	184.3	190.6	146.5	531.6	198.9	255.0	191.5	34.6	36.1	113.3	
17	102.7	164.5	134.0	197.0	160.9	553.2	185.2	238.8	176.2	45.5	28.7	102.0	
18	112.5	147.4	156.4	198.9	169.9	532.8	177.1	201.7	153.7	44.3	30.5	102.7	
19	148.3	120.0	212.1	195.1	142.9	484.0	172.6	188.8	143.8	36.1	47.7	104.3	
20	169.0	95.3	244.5	182.5	177.1	464.4	169.9	182.5	140.4	26.9	55.4	101.3	
21	144.7	124.5	262.0	146.5	242.5	495.6	164.5	168.1	150.1	24.2	98.3	98.3	
22	164.5	140.4	249.2	103.5	285.6	562.8	156.4	162.7	143.8	33.7	110.2	93.9	
23	117.7	130.8	200.7	103.5	318.1	633.2	152.8	159.1	117.7	36.1	80.6	90.4	
24	159.1	138.8	138.0	144.7	325.5	610.8	152.8	126.0	96.8	40.5	51.0	77.8	
25	176.2	158.2	134.8	164.5	288.8	703.3	150.1	91.1	85.5	50.4	22.0	73.6	
26	166.3	132.4	164.5	161.8	252.0	701.2	145.6	131.6	86.2	53.7	7.0	70.1	
27	149.2	99.8	183.4	146.5	296.1	673.3	134.0	196.0	83.4	38.9	8.0	66.9	
28	130.8	124.5	155.5	122.2	354.7	668.0	124.5	215.0	75.0	28.3	19.3	64.2	
29	130.0	142.0	120.0	89.0	378.9	668.0	120.0	244.5	66.4	43.3		59.2	
30	125.2	142.0	93.9	81.3	391.0	644.0	119.3	246.4	53.7	54.3		58.1	
31		158.2		123.0	387.7		120.7		46.6	49.9		51.0	
Total	4315.9	4970.0	6209.2	4351.7	7027.4	15794.3	6829.2	4757.2	4620.7	1266.9	1833.8	2359.1	64335.4 CMSDAY
Mean	143.9	160.3	207.0	140.4	226.7	526.5	220.3	158.6	149.1	40.9	65.5	76.1	176.3 CMS
Max	183.4	273.0	318.1	240.6	391.0	703.3	586.2	255.0	234.0	59.8	136.4	113.3	703.3 CMS
Min	96.0	90.4	93.9	58.1	134.8	354.7	119.3	79.2	46.6	24.2	7.0	29.2	7.0 CMS
Runoff	372.89	429.41	536.47	375.99	607.17	1364.63	590.04	411.02	399.23	109.46	158.44	203.83	5558.58 MCM

Momentary Peak 704.50 CMS, at 25.54 M (MSL), at 12.00 Hours, on Sep 25, 1993

Runoff Yield 5.31 Liters/Second/Square KM, Momentary Peak Yield 21.23 Liters/Second/Square KM

WATER YEAR 1993

NAN RIVER BASIN

Khek River at Ban Wang Nok Aen, Phitsanulok (N.24)

Location — Lat. 16°-50'-35" N., Long. 100°-31'-20" E., on right bank about 2 kilometers downstream from Sakunothayan Fall, Amphoe Wang Thong, Phitsanulok.

Drainage Area — 1,861 sq.km.

Type of Gage — Water-stage recorder.

Zero Gage at Bottom — +0.00 m. (A.D.)

Bench Mark — B.M.-H.D.

Location — Near the gage site.

Elevation — +12.845 m. (A.D.)

Gage Reading Frequency — Recording.

Basis of Mean Daily Gage Height — Arithmetic mean of 24 readings.

Period of Available Gage Records — 1965 to date.

Rating Operation

Period of Rating — 1965-1974, 1980 to date.

Rated by Float —

Rated by Current Meter — 1965-1974, 1980 to date.

Stability of Channel Regimes — Stable.

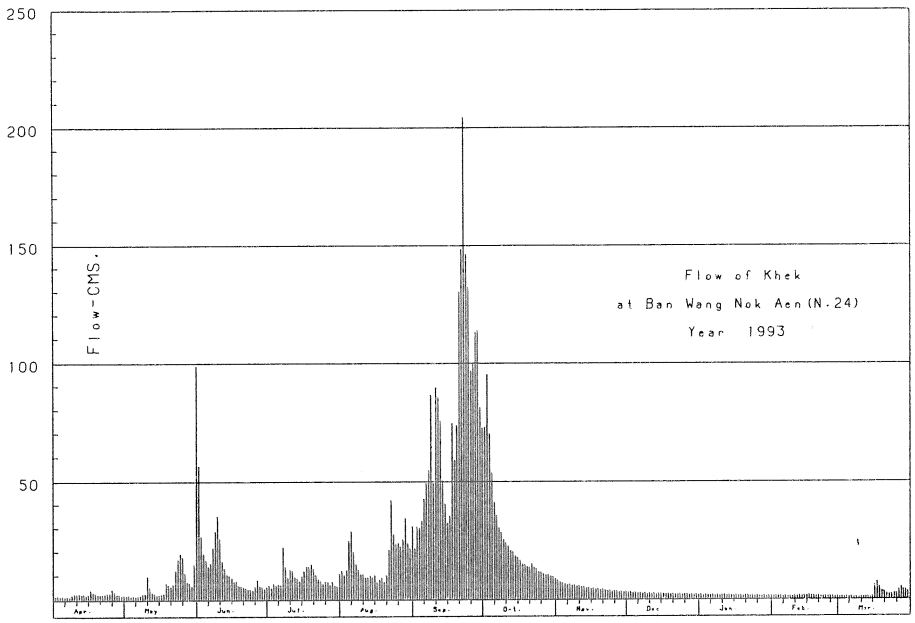
Overbank Flow Conditions — No overbank flow.

General Description — Records good. Stage-discharge relation defined by 28 discharge measurements made in 1993.

Gage Height in Meter (A.D), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.56	0.59	3.60	1.10	1.55	2.10	4.13	1.27	0.82	0.62	0.52	0.46	
2	0.54	0.57	2.33	1.02	1.45	2.54	4.82	1.24	0.81	0.61	0.52	0.45	
3	0.52	0.55	1.99	1.18	1.59	2.53	4.05	1.20	0.80	0.61	0.52	0.45	
4	0.51	0.53	1.84	1.12	2.24	2.66	3.46	1.19	0.79	0.61	0.51	0.44	
5	0.50	0.52	1.68	1.18	2.46	3.02	2.98	1.16	0.78	0.60	0.51	0.44	
6	0.49	0.51	1.77	1.11	2.01	3.28	2.74	1.14	0.77	0.60	0.51	0.43	
7	0.51	0.62	2.12	2.13	1.76	3.52	2.54	1.13	0.76	0.60	0.50	0.43	
8	0.60	0.68	2.46	1.66	1.58	4.56	2.42	1.11	0.75	0.59	0.50	0.43	
9	0.75	0.77	2.73	1.37	1.47	3.30	2.29	1.09	0.71	0.59	0.49	0.43	
10	0.68	1.42	2.29	1.58	1.45	4.66	2.20	1.08	0.73	0.58	0.52	0.42	
11	0.78	1.03	1.83	1.55	1.37	4.53	2.15	1.06	0.72	0.59	0.52	0.45	
12	0.71	0.84	1.62	1.39	1.36	4.22	2.06	1.04	0.72	0.59	0.53	0.46	
13	0.68	0.73	1.46	1.33	1.43	3.33	2.01	1.02	0.71	0.58	0.52	0.44	
14	0.65	0.66	1.41	1.27	1.36	2.95	1.94	0.99	0.71	0.58	0.54	0.42	
15	0.66	0.61	1.37	1.42	1.44	2.63	1.89	0.98	0.70	0.57	0.58	0.47	
16	0.91	0.67	1.26	1.54	1.22	2.73	1.83	0.97	0.71	0.57	0.59	1.11	
17	0.84	0.72	1.26	1.69	1.32	4.20	1.75	0.97	0.70	0.57	0.57	1.25	
18	0.75	1.23	1.13	1.66	1.35	3.68	1.72	0.95	0.70	0.56	0.53	1.03	
19	0.71	1.12	1.08	1.76	1.25	4.16	1.68	0.94	0.69	0.56	0.55	0.89	
20	0.65	1.09	1.06	1.60	1.42	5.79	1.64	0.93	0.68	0.56	0.53	0.82	
21	0.65	1.14	0.99	1.43	2.07	6.23	1.76	0.91	0.67	0.56	0.51	0.74	
22	0.74	1.58	0.96	1.33	3.00	7.54	1.66	0.90	0.67	0.55	0.50	0.68	
23	0.75	1.87	0.93	1.25	2.40	6.19	1.61	0.89	0.66	0.55	0.49	0.65	
24	0.81	1.99	0.92	1.20	2.17	5.83	1.54	0.87	0.66	0.54	0.49	0.75	
25	0.94	1.90	1.06	1.24	2.21	4.86	1.50	0.86	0.65	0.55	0.48	0.71	
26	0.83	1.48	1.28	1.26	2.12	4.94	1.46	0.85	0.64	0.55	0.48	0.92	
27	0.71	1.25	1.10	1.15	2.27	5.33	1.44	0.84	0.64	0.54	0.47	1.06	
28	0.64	1.20	1.03	1.23	2.71	5.34	1.43	0.84	0.63	0.53	0.46	0.92	
29	0.60	1.10	0.98	1.12	2.20	4.42	1.41	0.84	0.63	0.53		0.94	
30	0.59	1.72	1.03	1.05	2.08	4.12	1.38	0.83	0.62	0.53		0.82	
31		4.92		1.47	2.55		1.34		0.62	0.53		0.90	
Mean	0.68	1.15	1.55	1.37	1.83	4.17	2.16	1.00	0.70	0.57	0.52	0.67	
Max	0.94	4.92	3.60	2.13	3.00	7.54	4.82	1.27	0.82	0.62	0.59	1.25	7.54
Min	0.49	0.51	0.92	1.02	1.22	2.10	1.34	0.83	0.62	0.53	0.46	0.42	0.42

Annual Max Momentary Gage Height 7.74 M (A.D), at 12.00 Hours, on Sep 22, 1993
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed 0.28 M (A.D)
Left Bank Elevation 13.61 M (A.D)
Right Bank Elevation 14.57 M (A.D), Drainage Area 1861 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	1.80	1.95	57.00	6.00	12.25	22.00	72.90	8.05	3.20	2.10	1.60	1.30	
2	1.70	1.85	26.60	5.20	10.75	30.80	95.70	7.60	3.10	2.05	1.60	1.25	
3	1.60	1.75	19.80	6.80	12.85	30.60	70.50	7.00	3.00	2.05	1.60	1.25	
4	1.55	1.65	16.80	6.20	24.80	33.50	53.50	6.90	2.95	2.05	1.55	1.20	
5	1.50	1.60	14.20	6.80	29.20	42.50	41.50	6.60	2.90	2.00	1.55	1.20	
6	1.45	1.55	15.55	6.10	20.20	49.00	35.50	6.40	2.85	2.00	1.55	1.15	
7	1.55	2.10	22.40	22.60	15.40	55.00	30.80	6.30	2.80	2.00	1.50	1.15	
8	2.00	2.40	29.20	13.90	12.70	86.60	28.40	6.10	2.75	1.95	1.50	1.15	
9	2.75	2.85	35.25	9.55	11.05	49.50	25.80	5.90	2.55	1.95	1.45	1.15	
10	2.40	10.30	25.80	12.70	10.75	90.10	24.00	5.80	2.65	1.90	1.60	1.10	
11	2.90	5.30	16.60	12.25	9.55	85.55	23.00	5.60	2.60	1.95	1.60	1.25	
12	2.55	3.40	13.30	9.85	9.40	75.60	21.20	5.40	2.60	1.95	1.65	1.30	
13	2.40	2.65	10.90	8.95	10.45	50.25	20.20	5.20	2.55	1.90	1.60	1.20	
14	2.25	2.30	10.15	8.05	9.40	40.75	18.80	4.90	2.55	1.90	1.70	1.10	
15	2.30	2.05	9.55	10.30	10.60	32.75	17.80	4.80	2.50	1.85	1.90	1.35	
16	4.10	2.35	7.90	12.10	7.30	35.25	16.60	4.70	2.55	1.85	1.95	6.10	
17	3.40	2.60	7.90	14.35	8.80	75.00	15.25	4.70	2.50	1.85	1.85	7.75	
18	2.75	7.45	6.30	13.90	9.25	59.40	14.80	4.50	2.50	1.80	1.65	5.30	
19	2.55	6.20	5.80	15.40	7.75	73.80	14.20	4.40	2.45	1.80	1.75	3.90	
20	2.25	5.90	5.60	13.00	10.30	130.60	13.60	4.30	2.40	1.80	1.65	3.20	
21	2.25	6.40	4.90	10.45	21.40	148.20	15.40	4.10	2.35	1.80	1.55	2.70	
22	2.70	12.70	4.60	8.95	42.00	204.30	13.90	4.00	2.35	1.75	1.50	2.40	
23	2.75	17.40	4.30	7.75	28.00	146.60	13.15	3.90	2.30	1.75	1.45	2.25	
24	3.10	19.80	4.20	7.00	23.40	132.20	12.10	3.70	2.30	1.70	1.45	2.75	
25	4.40	18.00	5.60	7.60	24.20	97.10	11.50	3.60	2.25	1.75	1.40	2.55	
26	3.30	11.20	8.20	7.90	22.40	99.90	10.90	3.50	2.20	1.75	1.40	4.20	
27	2.55	7.75	6.00	6.50	25.40	113.55	10.60	3.40	2.20	1.70	1.35	5.60	
28	2.20	7.00	5.30	7.45	34.75	113.90	10.45	3.40	2.15	1.65	1.30	4.20	
29	2.00	6.00	4.80	6.20	24.00	81.70	10.15	3.40	2.15	1.65		4.40	
30	1.95	14.80	5.30	5.50	21.60	72.60	9.70	3.30	2.10	1.65		3.20	
31		99.20		11.05	31.00		9.10		2.10	1.65		4.00	
Total	72.95	288.45	409.80	300.35	550.90	2358.60	781.00	151.45	78.40	57.50	44.20	82.60	5176.20 CMSDAY
Mean	2.43	9.30	13.66	9.69	17.77	78.62	25.19	5.05	2.53	1.85	1.58	2.66	14.18 CMS
Max	4.40	99.20	57.00	22.60	42.00	204.30	95.70	8.05	3.20	2.10	1.95	7.75	204.30 CMS
Min	1.45	1.55	4.20	5.20	7.30	22.00	9.10	3.30	2.10	1.65	1.30	1.10	1.10 CMS
Runoff	6.303	24.922	35.407	25.950	47.598	203.783	67.478	13.085	6.774	4.968	3.819	7.137	447.224 MCM

Momentary Peak 213.30 CMS, at 7.74 M (A.D), at 12.00 Hours, on Sep 22, 1993
Runoff Yield 7.62 Liters/Second/Square KM, Momentary Peak Yield 114.62 Liters/Second/Square KM

WATER YEAR 1993

NAN RIVER BASIN

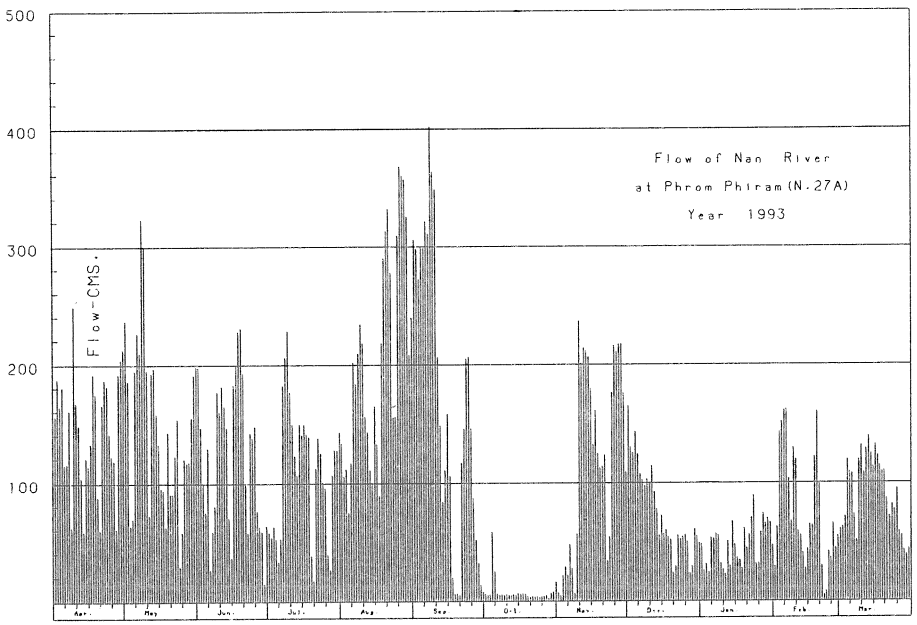
Nan River at Phrom Phiram, Phitsanulok (N.27A)

Location	Lat. 17-01-54 N., Long. 100-11-05 E., on right bank about 1,800 meters downstream from Phrom Phiram Dam, Amphoe Phrom Phiram, Phitsanulok.
Drainage Area	19,540 sq.km.
Type of Gage	Water-stage recorder.
Zero Gage at Bottom	+38.43 m.(M.S.L)
Bench Mark	B.M.-H.D.
Location	About 10 meters from the top staff gage.
Elevation	+48.572 m.(M.S.L)
Gage Reading Frequency	Recording.
Basis of Mean Daily Gage Height	Arithmetic mean of 24 readings.
Period of Available Gage Records	1980 to date.
Rating Operation	
Period of Rating	1980 to date.
Rated by Float	-
Rated by Current Meter	1980 to date.
Stability of Channel Regimes	Stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Stage-discharge relation defined by 25 discharge measurements made in 1993.

Gage Height in Meter (MSL), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	40.53	41.30	40.94	39.29	40.27	41.88	38.03	38.11	40.62	39.12	38.75	39.34	
2	40.84	40.83	40.42	39.23	39.94	41.82	38.02	37.98	40.23	38.67	39.36	39.36	
3	40.61	39.39	39.88	39.38	40.01	41.61	38.01	38.56	40.17	38.80	40.39	39.51	
4	40.78	39.48	39.58	39.19	39.58	41.83	39.29	38.76	40.39	38.65	40.47	40.11	
5	40.05	40.91	40.22	38.86	40.08	41.83	38.67	38.58	40.17	39.21	40.58	39.98	
6	40.07	41.21	38.69	39.20	40.98	42.01	38.07	39.11	39.97	39.20	40.58	39.97	
7	40.58	41.06	39.31	40.79	40.80	41.93	38.02	38.71	39.90	39.27	39.92	39.53	
8	39.36	42.03	39.64	41.02	41.06	42.64	38.01	38.06	39.85	39.24	39.45	39.18	
9	41.41	41.84	40.74	41.23	41.28	42.35	38.01	39.27	39.91	38.83	40.22	40.10	
10	40.64	40.92	40.56	40.73	41.13	42.24	38.01	41.30	39.87	38.71	40.11	40.25	
11	40.45	39.54	40.78	40.45	40.52	41.03	38.02	40.97	40.04	38.59	39.30	39.98	
12	39.93	40.89	40.62	40.15	40.39	40.44	38.01	41.10	39.79	39.17	39.25	40.21	
13	39.30	40.93	40.43	39.95	40.01	39.69	38.01	41.07	39.61	38.77	38.99	40.33	
14	40.12	40.55	39.49	40.46	39.88	40.00	38.02	41.03	39.25	39.45	38.72	40.17	
15	40.04	40.26	38.93	40.36	40.62	40.55	38.05	40.76	39.53	39.11	39.05	40.03	
16	40.26	39.83	40.79	40.45	40.26	39.95	38.05	40.26	39.26	38.91	39.39	40.25	
17	40.89	39.80	40.97	40.36	39.75	38.52	38.05	40.57	39.33	38.88	39.39	40.15	
18	40.72	39.38	41.22	40.34	41.14	38.05	38.06	40.17	39.22	38.71	40.13	40.04	
19	39.74	40.38	41.25	38.96	41.75	38.05	37.95	40.02	39.19	39.34	40.57	39.99	
20	39.33	39.77	40.89	38.46	41.95	38.02	37.95	40.04	38.62	39.07	39.86	39.99	
21	40.62	39.76	39.87	40.03	42.10	40.07	37.95	40.15	38.77	39.26	38.78	39.71	
22	40.83	40.15	39.29	40.32	41.65	40.42	37.95	38.87	39.24	39.50	38.02	39.52	
23	40.79	40.50	40.38	40.18	40.52	41.01	37.95	39.22	39.20	39.74	38.12	39.66	
24	40.37	38.78	40.32	39.88	40.52	41.03	37.95	40.73	39.22	38.81	39.02	39.60	
25	40.14	39.29	40.44	39.82	41.91	40.41	37.95	41.11	39.26	38.83	38.91	39.82	
26	40.10	40.11	39.60	38.97	42.39	39.72	37.95	41.07	39.15	39.29	39.41	39.29	
27	39.34	40.08	39.37	38.71	42.33	39.19	38.01	41.12	38.63	39.56	39.07	39.25	
28	40.88	40.08	39.31	39.96	42.30	38.83	37.91	41.13	38.76	39.41	39.23	39.03	
29	41.01	40.52	38.39	40.20	42.05	38.33	38.08	40.72	39.34	39.48		38.97	
30	41.08	40.88	39.38	40.21	41.04	38.13	38.10	39.98	39.23	39.43		39.06	
31		40.95		40.39	41.32		38.44		39.14	39.11		39.48	
Mean	40.36	40.37	40.06	39.92	40.95	40.39	38.08	39.95	39.51	39.10	39.47	39.74	
Max	41.41	42.03	41.25	41.23	42.39	42.64	39.29	41.30	40.62	39.74	40.58	40.33	42.64
Min	39.30	38.78	38.39	38.46	39.58	38.02	37.91	37.98	38.62	38.59	38.02	38.97	37.91

Annual Max Momentary Gage Height 42.72 M (MSL), at 18.00 Hours, on Sep 8, 1993
Zero Gage at Bottom Elevation 38.43 M (MSL), River Bed 37.41 M (MSL)
Left Bank Elevation 48.88 M (MSL)
Right Bank Elevation 48.36 M (MSL), Drainage Area 19540 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	157.35	237.50	198.00	58.40	133.95	305.60	5.75	7.75	166.00	48.20	29.00	61.40	
2	188.00	187.00	146.90	54.80	105.90	298.40	5.50	4.50	130.55	25.80	62.60	62.60	
3	165.00	64.40	100.80	63.80	111.85	273.20	5.25	21.40	125.45	31.00	144.15	71.60	
4	182.00	69.80	75.80	52.40	75.80	299.60	58.40	29.40	144.15	25.00	151.65	120.35	
5	115.25	195.00	129.70	34.00	117.80	299.60	25.80	22.20	125.45	53.60	162.10	109.30	
6	116.95	227.15	26.60	53.00	202.00	321.20	6.75	47.60	108.45	53.00	162.10	108.45	
7	162.10	210.60	59.60	183.00	184.00	311.60	5.50	27.40	102.50	57.20	104.20	72.80	
8	62.60	323.60	80.40	206.20	210.60	402.40	5.25	6.50	98.25	55.40	68.00	51.80	
9	250.15	300.80	178.00	229.45	235.20	363.50	5.25	57.20	103.35	32.50	129.70	119.50	
10	168.00	196.00	160.20	177.00	218.30	349.20	5.25	237.50	99.95	27.40	120.35	132.25	
11	149.75	73.40	182.00	149.75	156.40	207.30	5.50	201.00	114.40	22.60	59.00	109.30	
12	105.05	193.00	166.00	123.75	144.15	148.80	5.25	215.00	93.15	51.20	56.00	128.85	
13	59.00	197.00	147.85	106.75	111.85	84.65	5.25	211.70	77.85	29.80	40.50	139.05	
14	121.20	159.25	70.40	150.70	100.80	111.00	5.50	207.30	56.00	68.00	27.80	125.45	
15	114.40	133.10	37.50	141.60	166.00	159.25	6.25	180.00	72.80	47.60	44.00	113.55	
16	133.10	96.55	183.00	149.75	133.10	106.75	6.25	133.10	56.60	36.50	64.40	132.25	
17	193.00	94.00	201.00	141.60	89.75	19.80	6.25	161.15	60.80	35.00	64.40	123.75	
18	176.00	63.80	228.30	139.90	219.40	6.25	6.50	125.45	54.20	27.40	122.05	114.40	
19	88.90	143.30	231.75	39.00	290.00	6.25	3.75	112.70	52.40	61.40	161.15	110.15	
20	60.80	91.45	193.00	17.40	314.00	5.50	3.75	114.40	23.80	45.20	99.10	110.15	
21	166.00	90.60	99.95	113.55	332.00	116.95	3.75	123.75	29.80	56.60	30.20	86.35	
22	187.00	123.75	58.40	138.20	278.00	146.90	3.75	34.50	55.40	71.00	5.50	72.20	
23	183.00	154.50	143.30	126.30	156.40	205.10	3.75	54.20	53.00	88.90	8.00	82.10	
24	142.45	30.20	138.20	100.80	156.40	207.30	3.75	177.00	54.20	31.50	42.20	77.00	
25	122.90	58.40	148.80	95.70	309.20	145.95	3.75	216.10	56.60	32.50	36.50	95.70	
26	119.50	120.35	77.00	39.50	368.70	87.20	3.75	211.70	50.00	58.40	65.60	58.40	
27	61.40	117.80	63.20	27.40	360.90	52.40	5.25	217.20	24.20	74.60	45.20	56.00	
28	192.00	117.80	59.60	107.60	357.00	32.50	2.75	218.30	29.40	65.60	54.80	42.80	
29	205.10	156.40	14.75	128.00	326.00	13.25	7.00	176.00	61.40	69.80		39.50	
30	212.80	192.00	63.80	128.85	208.40	8.25	7.50	109.30	54.80	66.80		44.60	
31		199.00		144.15	239.80		16.60		49.40	47.60		69.80	
Total	4360.75	4617.50	3663.80	3422.30	6413.65	5095.65	244.55	3661.30	2384.30	1497.10	2160.25	2841.40	40362.55 CMSDAY
Mean	145.36	148.95	122.13	110.40	206.89	169.86	7.89	122.04	76.91	48.29	77.15	91.66	110.58 CMS
Max	250.15	323.60	231.75	229.45	368.70	402.40	58.40	237.50	166.00	88.90	162.10	139.05	402.40 CMS
Min	59.00	30.20	14.75	17.40	75.80	5.50	2.75	4.50	23.80	22.60	5.50	39.50	2.75 CMS
Runoff	376.769	398.952	316.552	295.687	554.139	440.264	21.129	316.336	206.004	129.349	186.646	245.497	3487.324 MCM

Momentary Peak 413.20 CMS, at 42.72 M (MSL), at 18.00 Hours, on Sep 8, 1993

Runoff Yield 5.66 Liters/Second/Square KM, Momentary Peak Yield 21.15 Liters/Second/Square KM

WATER YEAR 1993

NAN RIVER BASIN

Khwae Noi River at Ban Nong Krathao, Phitsanulok (N.36)

Location — Lat. 17°-04'-59" N., Long. 100°-49'-55" E., on left bank about 50 meters upstream from the bridge along Lom Sak-Nakhon Thai road, Tambon Nong Krathao, Amphoe Nakhon Thai, Phitsanulok.

Drainage Area — 1,651 sq.km.

Type of Gage — Water-stage recorder.

Zero Gage at Bottom — +0.00 m. (A.D.)

Bench Mark — B.M.-H.D.

Location — On left bank along the measuring line.

Elevation — +6.154 m. (A.D.)

Gage Reading Frequency — Recording.

Basis of Mean Daily Gage Height — Arithmetic mean of 24 readings.

Period of Available Gage Records — 1967 to date.

Rating Operation

Period of Rating — 1971-1979, 1993 to date.

Rated by Float — -

Rated by Current Meter — 1971-1979, 1993 to date.

Stability of Channel Regimes — Stable.

Overbank Flow Conditions — Overbank flow starts at elevation +6.70 m.(A.D.) and is included.

General Description — Records good. Stage-discharge relation defined by 94 discharge measurements made in 1993.

Gage Height in Meter (A.D), Water Year April 1, 1993 to March 31, 1994

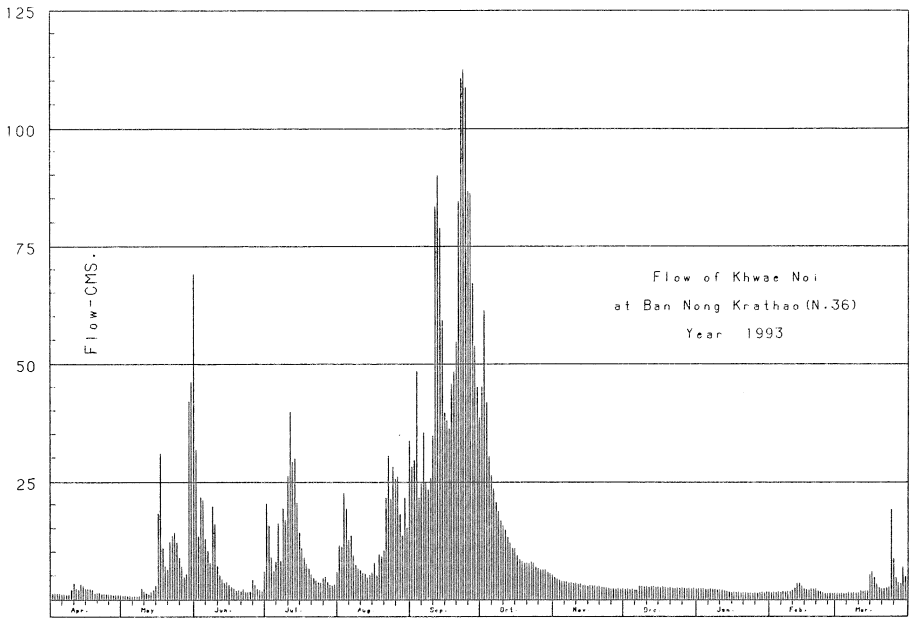
Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.78	0.68	3.26	2.49	1.90	3.01	4.01	1.29	0.98	0.99	0.83	0.79	
2	0.78	0.67	2.04	2.19	1.89	3.11	4.82	1.25	0.97	1.00	0.83	0.79	
3	0.77	0.66	2.59	1.71	2.64	4.18	3.85	1.24	0.96	0.99	0.85	0.79	
4	0.75	0.66	2.54	1.42	2.43	2.57	3.17	1.20	0.96	0.98	0.85	0.79	
5	0.75	0.65	1.99	1.61	1.98	2.77	2.90	1.20	0.95	0.97	0.85	0.79	
6	0.73	0.65	1.83	2.21	2.05	3.51	2.70	1.18	0.93	0.98	0.86	0.82	
7	0.72	0.65	1.58	1.63	1.74	2.78	2.52	1.16	1.07	0.97	0.86	0.82	
8	0.72	0.65	2.46	2.43	1.55	2.70	2.38	1.16	1.05	0.95	0.87	0.82	
9	0.94	1.00	2.20	2.26	1.46	2.86	2.26	1.15	1.05	0.94	0.88	0.81	
10	1.15	0.85	1.53	2.89	1.44	3.45	2.18	1.14	1.05	0.93	0.91	0.80	
11	0.97	0.80	1.33	3.75	1.36	5.74	2.13	1.13	1.05	0.93	1.02	0.89	
12	0.95	0.75	1.23	3.08	1.36	6.00	2.03	1.13	1.06	0.92	1.14	0.88	
13	1.11	0.83	1.16	3.14	1.27	5.56	1.94	1.10	1.05	0.88	1.16	0.88	
14	1.06	0.93	1.17	2.50	1.34	4.72	1.87	1.09	1.04	0.86	1.06	0.90	
15	0.99	1.06	1.09	2.09	1.38	3.74	1.86	1.07	1.03	0.84	0.99	1.35	
16	0.96	2.36	1.04	1.86	1.59	3.65	1.74	1.08	1.02	0.83	0.94	1.40	
17	0.96	3.20	0.98	1.71	1.33	3.56	1.67	1.08	1.05	0.84	0.94	1.29	
18	0.92	1.87	0.90	1.56	1.76	4.04	1.62	1.07	1.03	0.83	0.97	1.12	
19	0.80	1.51	0.90	1.47	1.73	4.17	1.59	1.06	1.02	0.81	0.98	1.03	
20	0.80	1.45	0.88	1.34	1.84	4.49	1.58	1.06	1.02	0.81	0.98	0.97	
21	0.79	1.95	0.95	1.27	2.57	5.78	1.57	1.05	1.02	0.81	0.91	0.97	
22	0.76	2.05	0.85	1.21	3.17	6.82	1.62	1.03	1.01	0.81	0.87	1.02	
23	0.74	2.08	0.83	1.17	2.57	6.87	1.58	1.01	1.01	0.81	0.81	1.03	
24	0.74	1.94	0.86	1.15	3.01	6.75	1.51	1.01	1.01	0.80	0.79	2.42	
25	0.73	1.70	1.24	1.27	2.85	5.87	1.47	0.96	1.01	0.80	0.78	1.69	
26	0.72	1.50	1.08	1.29	2.87	5.85	1.45	0.98	1.00	0.82	0.79	1.29	
27	0.71	1.29	0.98	1.18	2.35	5.09	1.45	0.99	1.00	0.83	0.79	1.16	
28	0.70	1.34	0.92	1.09	2.05	4.44	1.44	0.99	1.00	0.83	0.79	1.15	
29	0.70	3.86	0.88	1.08	2.58	4.01	1.40	0.98	1.00	0.83		1.50	
30	0.69	4.06	1.40	1.10	2.15	3.68	1.36	0.98	1.00	0.84		1.31	
31		5.17		1.40	3.38		1.33		1.00	0.84		1.17	
Mean	0.83	1.57	1.42	1.82	2.05	4.39	2.10	1.09	1.01	0.88	0.90	1.08	
Max	1.15	5.17	3.26	3.75	3.38	6.87	4.82	1.29	1.07	1.00	1.16	2.42	6.87
Min	0.69	0.65	0.83	1.08	1.27	2.57	1.33	0.96	0.93	0.80	0.78	0.79	0.65

Annual Max Momentary Gage Height — 6.93 M (A.D), at 6.00 Hours, on Sep 23, 1993

Zero Gage at Bottom Elevation — 0.00 M (A.D), River Bed -0.24 M (A.D)

Left Bank Elevation — 6.84 M (A.D)

Right Bank Elevation — 6.69 M (A.D), Drainage Area 1651 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	1.40	0.92	31.90	20.35	11.50	28.15	45.20	4.90	2.40	2.45	1.65	1.45	
2	1.40	0.88	13.60	15.85	11.35	29.65	61.40	4.50	2.35	2.50	1.65	1.45	
3	1.36	0.83	21.85	9.10	22.60	48.60	42.00	4.40	2.30	2.45	1.75	1.45	
4	1.26	0.83	21.10	6.20	19.45	21.55	30.55	4.00	2.30	2.40	1.75	1.45	
5	1.26	0.78	12.85	8.10	12.70	24.55	26.50	4.00	2.25	2.35	1.75	1.45	
6	1.16	0.78	10.45	16.15	13.75	35.65	23.50	3.85	2.15	2.40	1.80	1.60	
7	1.12	0.78	7.80	8.30	9.40	24.70	20.80	3.70	3.03	2.35	1.80	1.60	
8	1.12	0.78	19.90	19.45	7.50	23.50	18.70	3.70	2.87	2.25	1.85	1.60	
9	2.20	2.50	16.00	16.90	6.60	25.90	16.90	3.62	2.87	2.20	1.90	1.55	
10	3.62	1.75	7.30	26.35	6.40	34.75	15.70	3.55	2.87	2.15	2.05	1.50	
11	2.35	1.50	5.30	40.00	5.60	83.50	14.95	3.47	2.87	2.15	2.65	1.95	
12	2.25	1.26	4.30	29.20	5.60	90.00	13.45	3.47	2.95	2.10	3.55	1.90	
13	3.32	1.65	3.70	30.10	4.70	79.00	12.10	3.25	2.87	1.90	3.70	1.90	
14	2.95	2.15	3.77	20.50	5.40	59.40	11.05	3.18	2.80	1.80	2.95	2.00	
15	2.45	2.95	3.18	14.35	5.80	39.80	10.90	3.03	2.72	1.70	2.45	5.50	
16	2.30	18.40	2.80	10.90	7.90	38.00	9.40	3.10	2.65	1.65	2.20	6.00	
17	2.30	31.00	2.40	9.10	5.30	36.40	8.70	3.10	2.87	1.70	2.20	4.90	
18	2.10	11.05	2.00	7.60	9.60	45.80	8.20	3.03	2.72	1.65	2.35	3.40	
19	1.50	7.10	2.00	6.70	9.30	48.40	7.90	2.95	2.65	1.55	2.40	2.72	
20	1.50	6.50	1.90	5.40	10.60	54.80	7.80	2.95	2.65	1.55	2.40	2.35	
21	1.45	12.25	2.25	4.70	21.55	84.50	7.70	2.87	2.65	1.55	2.05	2.35	
22	1.31	13.75	1.75	4.10	30.55	110.70	8.20	2.72	2.57	1.55	1.85	2.65	
23	1.21	14.20	1.65	3.77	21.55	112.45	7.80	2.57	2.57	1.55	1.55	2.72	
24	1.21	12.10	1.80	3.62	28.15	108.75	7.10	2.57	2.57	1.50	1.45	19.30	
25	1.16	9.00	4.40	4.70	25.75	86.75	6.70	2.30	2.57	1.50	1.40	8.90	
26	1.12	7.00	3.10	4.90	26.05	86.25	6.50	2.40	2.50	1.60	1.45	4.90	
27	1.07	4.90	2.40	3.85	18.25	67.25	6.50	2.45	2.50	1.65	1.45	3.70	
28	1.02	5.40	2.10	3.18	13.75	53.80	6.40	2.45	2.50	1.65	1.45	3.62	
29	1.02	42.20	1.90	3.10	21.70	45.20	6.00	2.40	2.50	1.65		7.00	
30	0.97	46.20	6.00	3.25	15.25	38.60	5.60	2.40	2.50	1.70		5.10	
31		69.25		6.00	33.70		5.30		2.50	1.70		3.77	
Total	50.46	330.64	221.45	365.77	447.30	1666.35	479.50	96.88	81.07	58.85	57.45	111.73	3967.45 CMSDAY
Mean	1.68	10.67	7.38	11.80	14.43	55.54	15.47	3.23	2.62	1.90	2.05	3.60	10.87 CMS
Max	3.62	69.25	31.90	40.00	33.70	112.45	61.40	4.90	3.03	2.50	3.70	19.30	112.45 CMS
Min	0.97	0.78	1.65	3.10	4.70	21.55	5.30	2.30	2.15	1.50	1.40	1.45	0.78 CMS
Runoff	4.360	28.567	19.133	31.603	38.647	143.973	41.429	8.370	7.004	5.085	4.964	9.653	342.788 MCM

Momentary Peak 114.55 CMS, at 6.93 M (A.D), at 6.00 Hours, on Sep 23, 1993

Runoff Yield 6.58 Liters/Second/Square KM, Momentary Peak Yield 69.38 Liters/Second/Square KM

WATER YEAR 1993

NAN RIVER BASIN

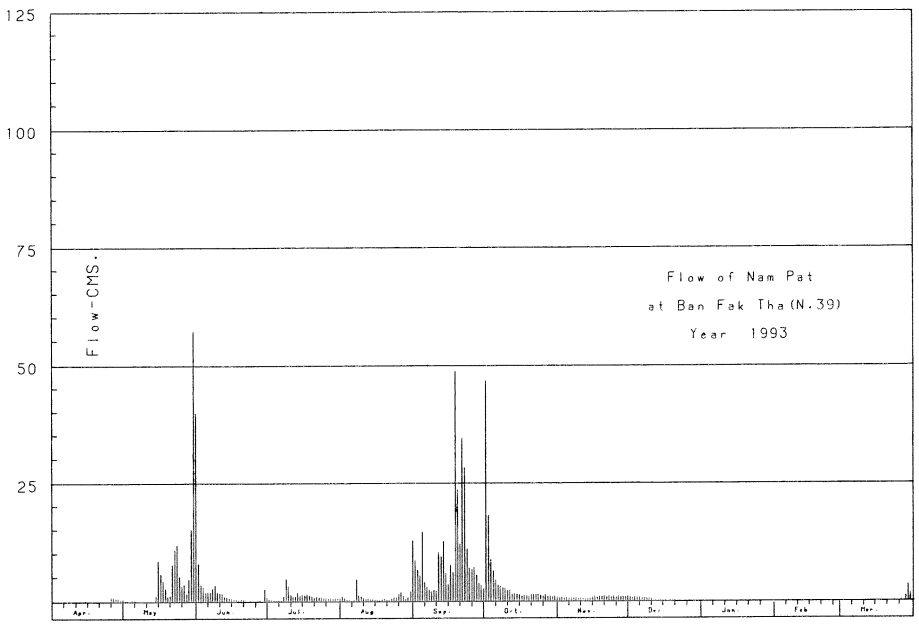
Nam Pat at Ban Fak Tha, Uttaradit (N.39)

Location	Lat. 17°-59'-52" N., Long. 100°-52'-49" E., on right bank about 400 meters north of Amphoe Fak Tha Office, Amphoe Fak Tha, Uttaradit.
Drainage Area	777 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+0.00 m.(A.D.)
Bench Mark	B.M.-H.D.
Location	B.M.1 about 20 meters from the top staff gage. B.M.2 about 20 meters from B.M.1.
Elevation	B.M.1= +4.863 m.(A.D.), B.M.2= +4.909 m.(A.D.).
Gage Reading Frequency	5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1967 to date.
Rating Operation	
Period of Rating	1991 to date.
Rated by Float	-
Rated by Current Meter	1991 to date.
Stability of Channel Regimes	Stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Stage-discharge relation defined by 40 discharge measurements made in 1993.

Gage Height in Meter (A.D), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.39	0.51	1.25	0.53	0.63	1.28	2.36	0.60	0.62	0.50	0.43	0.25	
2	0.39	0.50	0.94	0.49	0.57	1.17	1.69	0.60	0.61	0.50	0.44	0.24	
3	0.39	0.49	0.88	0.49	0.53	1.08	1.29	0.59	0.61	0.48	0.44	0.23	
4	0.39	0.49	0.78	0.50	0.51	1.56	1.16	0.60	0.61	0.48	0.43	0.22	
5	0.39	0.48	0.77	0.51	0.49	0.98	1.01	0.58	0.60	0.48	0.42	0.21	
6	0.39	0.48	0.78	0.51	0.50	0.88	0.93	0.57	0.58	0.47	0.41	0.20	
7	0.39	0.47	0.85	0.63	1.03	0.83	0.90	0.59	0.57	0.46	0.40	0.19	
8	0.39	0.47	0.93	1.04	0.66	0.77	0.88	0.60	0.58	0.46	0.40	0.17	
9	0.46	0.46	0.76	0.90	0.65	0.83	0.86	0.56	0.58	0.46	0.39	0.15	
10	0.45	0.46	0.76	0.70	0.60	0.79	0.82	0.56	0.56	0.46	0.46	0.14	
11	0.44	0.45	0.71	0.62	0.57	1.37	0.81	0.56	0.51	0.45	0.45	0.13	
12	0.44	0.45	0.65	0.65	0.56	1.33	0.72	0.54	0.51	0.46	0.44	0.12	
13	0.49	0.45	0.61	0.75	0.54	1.48	0.71	0.56	0.51	0.45	0.43	0.11	
14	0.47	0.66	0.60	0.67	0.56	1.12	0.71	0.56	0.51	0.45	0.41	0.10	
15	0.46	1.28	0.56	0.69	0.52	0.94	0.68	0.62	0.51	0.46	0.40	0.09	
16	0.45	1.12	0.55	0.69	0.52	1.23	0.66	0.64	0.51	0.46	0.39	0.09	
17	0.45	0.99	0.54	0.70	0.50	1.14	0.66	0.62	0.51	0.46	0.38	0.09	
18	0.44	0.86	0.53	0.68	0.52	2.40	0.67	0.63	0.51	0.46	0.37	0.08	
19	0.44	0.63	0.54	0.63	0.56	1.85	0.63	0.64	0.48	0.45	0.36	0.07	
20	0.44	0.68	0.54	0.61	0.53	1.45	0.70	0.64	0.49	0.44	0.35	0.07	
21	0.43	1.23	0.53	0.62	0.52	2.12	0.70	0.63	0.51	0.44	0.35	0.06	
22	0.43	1.40	0.51	0.62	0.55	1.98	0.71	0.64	0.47	0.45	0.34	0.09	
23	0.44	1.44	0.48	0.61	0.61	1.41	0.69	0.63	0.48	0.48	0.33	0.22	
24	0.45	1.08	0.47	0.59	0.59	1.19	0.68	0.64	0.47	0.46	0.32	0.24	
25	0.63	0.90	0.46	0.58	0.72	1.18	0.66	0.63	0.48	0.45	0.31	0.30	
26	0.62	0.93	0.47	0.58	0.76	1.20	0.68	0.64	0.47	0.44	0.30	0.51	
27	0.59	0.73	0.49	0.58	0.66	1.10	0.65	0.63	0.47	0.44	0.29	0.50	
28	0.56	1.02	0.50	0.56	0.53	0.96	0.64	0.62	0.47	0.44	0.27	0.66	
29	0.53	1.58	0.85	0.57	0.60	0.91	0.64	0.63	0.48	0.44		0.93	
30	0.52	2.54	0.60	0.57	0.80	0.86	0.64	0.63	0.49	0.43		0.72	
31		2.23		0.57	1.48		0.61		0.50	0.43		0.53	
Mean	0.46	0.89	0.66	0.63	0.62	1.25	0.84	0.61	0.52	0.46	0.38	0.25	
Max	0.63	2.54	1.25	1.04	1.48	2.40	2.36	0.64	0.62	0.50	0.46	0.93	2.54
Min	0.39	0.45	0.46	0.49	0.49	0.77	0.61	0.54	0.47	0.43	0.27	0.06	0.06

Annual Max Momentary Gage Height 2.96 M (A.D), at 18.00 Hours, on Oct 1, 1993
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed -0.50 M (A.D)
Left Bank Elevation 5.56 M (A.D)
Right Bank Elevation 4.82 M (A.D), Drainage Area 777 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.00	0.35	8.10	0.45	1.01	8.64	46.70	0.80	0.94	0.30	0.09	0.00	
2	0.00	0.30	3.68	0.27	0.65	6.72	18.32	0.80	0.87	0.30	0.12	0.00	
3	0.00	0.27	3.00	0.27	0.45	5.36	8.82	0.75	0.87	0.24	0.12	0.00	
4	0.00	0.27	2.06	0.30	0.35	14.80	6.56	0.80	0.87	0.24	0.09	0.00	
5	0.00	0.24	1.99	0.35	0.27	4.16	4.52	0.70	0.80	0.24	0.06	0.00	
6	0.00	0.24	2.06	0.35	0.30	3.00	3.56	0.65	0.70	0.21	0.03	0.00	
7	0.00	0.21	2.70	1.01	4.76	2.50	3.20	0.75	0.65	0.18	0.00	0.00	
8	0.00	0.21	3.56	4.88	1.22	1.99	3.00	0.80	0.70	0.18	0.00	0.00	
9	0.18	0.18	1.92	3.20	1.15	2.50	2.80	0.60	0.70	0.18	0.00	0.00	
10	0.15	0.18	1.92	1.50	0.80	2.13	2.40	0.60	0.60	0.18	0.18	0.00	
11	0.12	0.15	1.57	0.94	0.65	10.40	2.30	0.60	0.35	0.15	0.15	0.00	
12	0.12	0.15	1.15	1.15	0.60	9.60	1.64	0.50	0.35	0.18	0.12	0.00	
13	0.27	0.15	0.87	1.85	0.50	12.84	1.57	0.60	0.35	0.15	0.09	0.00	
14	0.21	1.22	0.80	1.29	0.60	5.92	1.57	0.60	0.35	0.15	0.03	0.00	
15	0.18	8.64	0.60	1.43	0.40	3.68	1.36	0.94	0.35	0.18	0.00	0.00	
16	0.15	5.92	0.55	1.43	0.40	7.74	1.22	1.08	0.35	0.18	0.00	0.00	
17	0.15	4.28	0.50	1.50	0.30	6.24	1.22	0.94	0.35	0.18	0.00	0.00	
18	0.12	2.80	0.45	1.36	0.40	48.90	1.29	1.01	0.35	0.18	0.00	0.00	
19	0.12	1.01	0.50	1.01	0.60	23.60	1.01	1.08	0.24	0.15	0.00	0.00	
20	0.12	1.36	0.50	0.87	0.45	12.15	1.50	1.08	0.27	0.12	0.00	0.00	
21	0.09	7.74	0.45	0.94	0.40	34.56	1.50	1.01	0.35	0.12	0.00	0.00	
22	0.09	11.00	0.35	0.94	0.55	28.44	1.57	1.08	0.21	0.15	0.00	0.00	
23	0.12	11.92	0.24	0.87	0.87	11.23	1.43	1.01	0.24	0.24	0.00	0.00	
24	0.15	5.36	0.21	0.75	0.75	7.04	1.36	1.08	0.21	0.18	0.00	0.00	
25	1.01	3.20	0.18	0.70	1.64	6.88	1.22	1.01	0.24	0.15	0.00	0.00	
26	0.94	3.56	0.21	0.70	1.92	7.20	1.36	1.08	0.21	0.12	0.00	0.35	
27	0.75	1.71	0.27	0.70	1.22	5.60	1.15	1.01	0.21	0.12	0.00	0.30	
28	0.60	4.64	0.30	0.60	0.45	3.92	1.08	0.94	0.21	0.12	0.00	1.22	
29	0.45	15.30	2.70	0.65	0.80	3.32	1.08	1.01	0.24	0.12		3.56	
30	0.40	57.28	0.80	0.65	2.20	2.80	1.08	1.01	0.27	0.09		1.64	
31		39.90		0.65	12.84		0.87		0.30	0.09		0.45	
Total	6.49	189.74	44.19	33.56	39.50	303.86	128.26	25.92	13.70	5.37	1.08	7.52	799.19 CMSDAY
Mean	0.22	6.12	1.47	1.08	1.27	10.13	4.14	0.86	0.44	0.17	0.04	0.24	2.19 CMS
Max	1.01	57.28	8.10	4.88	12.84	48.90	46.70	1.08	0.94	0.30	0.18	3.56	57.28 CMS
Min	0.00	0.15	0.18	0.27	0.27	1.99	0.87	0.50	0.21	0.09	0.00	0.00	0.00 CMS
Runoff	0.561	16.394	3.818	2.900	3.413	26.254	11.082	2.239	1.184	0.464	0.093	0.650	69.050 MCM

Momentary Peak 88.94 CMS, at 2.96 M (A.D), at 18.00 Hours, on Oct 1, 1993

Runoff Yield 2.82 Liters/Second/Square KM, Momentary Peak Yield 114.47 Liters/Second/Square KM

WATER YEAR 1993

NAN RIVER BASIN

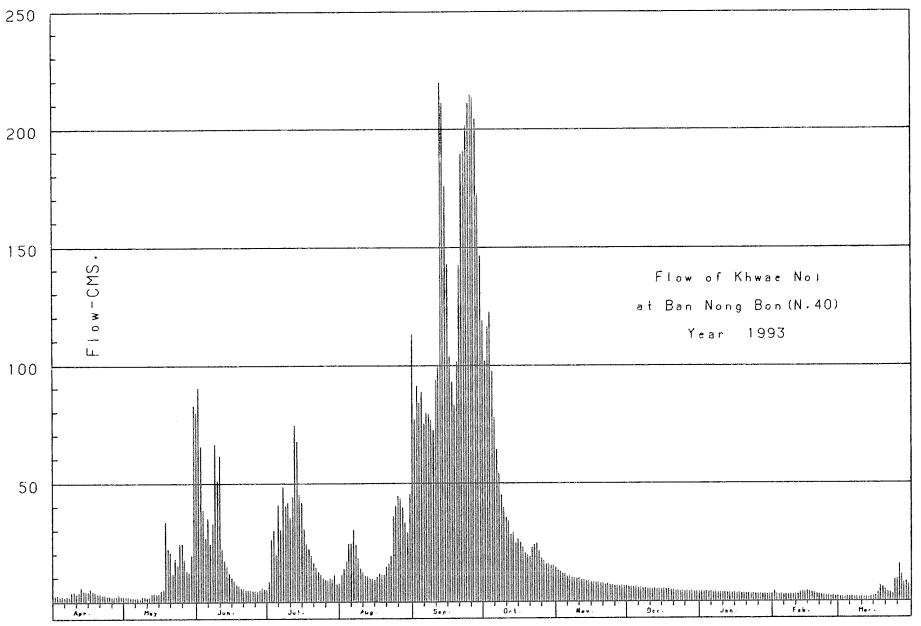
Khwae Noi River at Ban Nong Bon, Phitsanulok (N.40)

Location	Lat. 17°-13'-14" N., Long. 100°-21'-10" E., on left bank about 2 kilometers upstream from Ban Nong Bon, Amphoe Wat Bot, Phitsanulok.
Drainage Area	4,340 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+0.00 m. (A.D.)
Bench Mark	B.M.-H.D.
Location	B.M.1 about 4 meters south of the gage site, B.M.2 about 90 meters south of the gage site.
Elevation	B.M.1=+14.45 m. (A.D.), B.M.2=+14.40 m. (A.D.)
Gage Reading Frequency	5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5.readings.
Period of Available Gage Records	1967 - 1968, 1972 to date.
Rating Operation	
Period of Rating	1977 to date.
Rated by Float	-
Rated by Current Meter	1977 to date.
Stability of Channel Regimes	Stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Stage-discharge relation defined by 65 discharge measurements made in 1993.

Gage Height in Meter (A.D), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.52	0.48	3.26	0.87	0.99	2.93	3.53	1.06	0.77	0.62	0.63	0.47	
2	0.51	0.48	2.65	1.51	1.08	3.29	3.85	1.03	0.76	0.62	0.54	0.46	
3	0.49	0.46	1.91	1.65	1.22	3.10	3.97	1.01	0.76	0.62	0.54	0.46	
4	0.49	0.45	1.54	1.31	1.45	3.22	3.44	0.99	0.75	0.62	0.54	0.46	
5	0.47	0.45	1.81	1.97	1.46	2.89	2.95	0.96	0.74	0.62	0.53	0.47	
6	0.49	0.44	1.45	1.65	1.66	3.00	2.62	0.96	0.73	0.61	0.53	0.47	
7	0.48	0.43	1.75	2.20	1.45	2.99	2.35	0.94	0.72	0.61	0.53	0.46	
8	0.59	0.47	2.67	1.97	1.25	2.92	2.10	0.92	0.71	0.60	0.53	0.46	
9	0.63	0.49	2.27	2.00	1.09	2.82	1.94	0.92	0.71	0.60	0.53	0.46	
10	0.55	0.46	2.55	1.82	1.02	3.35	1.83	0.92	0.70	0.60	0.53	0.46	
11	0.61	0.46	1.38	2.08	0.97	3.48	1.77	0.90	0.70	0.59	0.55	0.45	
12	0.73	0.58	1.22	2.87	0.95	5.77	1.59	0.89	0.70	0.59	0.59	0.45	
13	0.66	0.57	1.12	2.70	0.93	5.62	1.61	0.88	0.70	0.59	0.62	0.45	
14	0.61	0.56	1.00	2.10	0.91	5.02	1.47	0.87	0.70	0.59	0.61	0.45	
15	0.63	0.56	0.94	2.01	0.90	4.38	1.52	0.86	0.70	0.59	0.64	0.49	
16	0.69	0.65	0.87	1.67	0.94	3.57	1.48	0.85	0.70	0.58	0.61	0.48	
17	0.65	0.70	0.82	1.45	1.01	3.33	1.41	0.85	0.69	0.58	0.60	0.59	
18	0.60	1.76	0.78	1.39	0.97	3.08	1.33	0.85	0.68	0.57	0.57	0.77	
19	0.57	1.39	0.73	1.29	0.99	3.53	1.29	0.84	0.67	0.57	0.55	0.74	
20	0.56	1.33	0.70	1.19	1.11	4.37	1.28	0.83	0.66	0.57	0.53	0.66	
21	0.54	1.00	0.68	1.10	1.18	5.26	1.40	0.82	0.65	0.56	0.52	0.61	
22	0.52	1.24	0.67	1.04	1.28	5.28	1.44	0.82	0.64	0.56	0.51	0.57	
23	0.50	1.15	0.65	0.98	1.85	5.46	1.47	0.81	0.64	0.56	0.51	0.55	
24	0.49	1.45	0.66	0.93	1.96	5.62	1.36	0.80	0.64	0.56	0.50	0.88	
25	0.48	1.46	0.63	0.90	2.09	5.68	1.26	0.79	0.64	0.55	0.49	0.89	
26	0.48	1.23	0.63	0.88	2.05	5.66	1.21	0.78	0.63	0.55	0.49	1.16	
27	0.49	1.05	0.67	0.93	1.95	5.51	1.17	0.78	0.63	0.55	0.48	0.98	
28	0.52	1.01	0.72	0.89	1.75	4.96	1.16	0.78	0.63	0.55	0.47	0.83	
29	0.50	1.30	0.70	0.97	1.62	4.45	1.14	0.78	0.62	0.54		0.86	
30	0.49	3.08	0.68	0.83	2.11	3.90	1.13	0.77	0.62	0.54		0.83	
31		3.00		0.83	3.78		1.10		0.62	0.54		0.90	
Mean	0.55	0.97	1.27	1.48	1.42	4.15	1.84	0.88	0.68	0.58	0.55	0.62	
Max	0.73	3.08	3.26	2.87	3.78	5.77	3.97	1.06	0.77	0.62	0.64	1.16	5.77
Min	0.47	0.43	0.63	0.83	0.90	2.82	1.10	0.77	0.62	0.54	0.47	0.45	0.43

Annual Max Momentary Gage Height 5.99 M (A.D), at 15.00 Hours, on Sep 12, 1993
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed -0.41 M (A.D)
Left Bank Elevation 13.48 M (A.D)
Right Bank Elevation 13.35 M (A.D), Drainage Area 4340 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	2.80	2.20	90.40	8.75	11.75	77.20	101.85	13.50	6.55	4.30	4.45	2.05	
2	2.65	2.20	66.00	26.30	14.00	91.60	116.50	12.75	6.40	4.30	3.10	1.90	
3	2.35	1.90	38.85	30.50	17.60	84.00	122.50	12.25	6.40	4.30	3.10	1.90	
4	2.35	1.75	27.20	20.30	24.50	88.80	97.80	11.75	6.25	4.30	3.10	1.90	
5	2.05	1.75	35.35	40.95	24.80	75.60	78.00	11.00	6.10	4.30	2.95	2.05	
6	2.35	1.60	24.50	30.50	30.80	80.00	64.80	11.00	5.95	4.15	2.95	2.05	
7	2.20	1.45	33.50	49.00	24.50	79.60	54.25	10.50	5.80	4.15	2.95	1.90	
8	3.85	2.05	66.80	40.95	18.50	76.80	45.50	10.00	5.65	4.00	2.95	1.90	
9	4.45	2.35	51.45	42.00	14.25	72.80	39.90	10.00	5.65	4.00	2.95	1.90	
10	3.25	1.90	62.00	35.70	12.50	94.00	36.05	10.00	5.50	4.00	2.95	1.90	
11	4.15	1.90	22.40	44.80	11.25	99.60	34.10	9.50	5.50	3.85	3.25	1.75	
12	5.95	3.70	17.60	74.80	10.75	220.20	28.70	9.25	5.50	3.85	3.85	1.75	
13	4.90	3.55	15.00	68.00	10.25	211.20	29.30	9.00	5.50	3.85	4.30	1.75	
14	4.15	3.40	12.00	45.50	9.75	176.10	25.10	8.75	5.50	3.85	4.15	1.75	
15	4.45	3.40	10.50	42.35	9.50	143.00	26.60	8.50	5.50	3.85	4.60	2.35	
16	5.35	4.75	8.75	31.10	10.50	103.65	25.40	8.25	5.50	3.70	4.15	2.20	
17	4.75	5.50	7.50	24.50	12.25	93.20	23.30	8.25	5.35	3.70	4.00	3.85	
18	4.00	33.80	6.70	22.70	11.25	83.20	20.90	8.25	5.20	3.55	3.55	6.55	
19	3.55	22.70	5.95	19.70	11.75	101.85	19.70	8.00	5.05	3.55	3.25	6.10	
20	3.40	20.90	5.50	16.75	14.75	142.50	19.40	7.75	4.90	3.55	2.95	4.90	
21	3.10	12.00	5.20	14.50	16.50	189.60	23.00	7.50	4.75	3.40	2.80	4.15	
22	2.80	18.20	5.05	13.00	19.40	190.80	24.20	7.50	4.60	3.40	2.65	3.55	
23	2.50	15.75	4.75	11.50	36.75	201.60	25.10	7.25	4.60	3.40	2.65	3.25	
24	2.35	24.50	4.90	10.25	40.60	211.20	21.80	7.00	4.60	3.40	2.50	9.00	
25	2.20	24.80	4.45	9.50	45.15	214.80	18.80	6.85	4.60	3.25	2.35	9.25	
26	2.20	17.90	4.45	9.00	43.75	213.60	17.30	6.70	4.45	3.25	2.35	16.00	
27	2.35	13.25	5.05	10.25	40.25	204.60	16.25	6.70	4.45	3.25	2.20	11.50	
28	2.80	12.25	5.80	9.25	33.50	172.80	16.00	6.70	4.45	3.25	2.05	7.75	
29	2.50	20.00	5.50	11.25	29.60	146.50	15.50	6.70	4.30	3.10		8.50	
30	2.35	83.20	5.20	7.75	45.85	119.00	15.25	6.55	4.30	3.10		7.75	
31		80.00		7.75	113.10		14.50		4.30	3.10		9.50	
Total	98.10	444.60	658.30	829.15	769.65	4059.40	1217.35	267.70	163.15	115.00	89.05	142.60	8854.05 CMSDAY
Mean	3.27	14.34	21.94	26.75	24.83	135.31	39.27	8.92	5.26	3.71	3.18	4.60	24.26 CMS
Max	5.95	83.20	90.40	74.80	113.10	220.20	122.50	13.50	6.55	4.30	4.60	16.00	220.20 CMS
Min	2.05	1.45	4.45	7.75	9.50	72.80	14.50	6.55	4.30	3.10	2.05	1.75	1.45 CMS
Runoff	8.476	38.413	56.877	71.639	66.498	350.732	105.179	23.129	14.096	9.936	7.694	12.321	764.990 MCM

Momentary Peak 234.35 CMS, at 5.99 M (A.D), at 15.00 Hours, on Sep 12, 1993

Runoff Yield 5.59 Liters/Second/Square KM, Momentary Peak Yield 54.00 Liters/Second/Square KM

WATER YEAR 1993

NAN RIVER BASIN

Nam Yao at Ban Nam Yao, Nan (N.49)

Location — Lat. 18°-59-29″ N., Long. 100°-56-32″ E., on right bank downstream of the bridge of Nam Yao, along Pua-Sila Phet road at Ban Nam Yao, Amphoe Pua, Nan.

Drainage Area — 155 sq.km.

Type of Gage — Staff gage.

Zero Gage at Bottom — +0.00 m. (A.D.)

Bench Mark — B.M.-H.D.

Location — On right bank about 15 meters from the top staff gage.

Elevation — +6.052 m. (A.D.)

Gage Reading Frequency — 5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.

Basis of Mean Daily Gage Height — Arithmetic mean of 5 readings.

Period of Available Gage Records — 1979 to date.

Rating Operation

Period of Rating — 1979 to date.

Rated by Float — -

Rated by Current Meter — 1979 to date.

Stability of Channel Regimes — Stable.

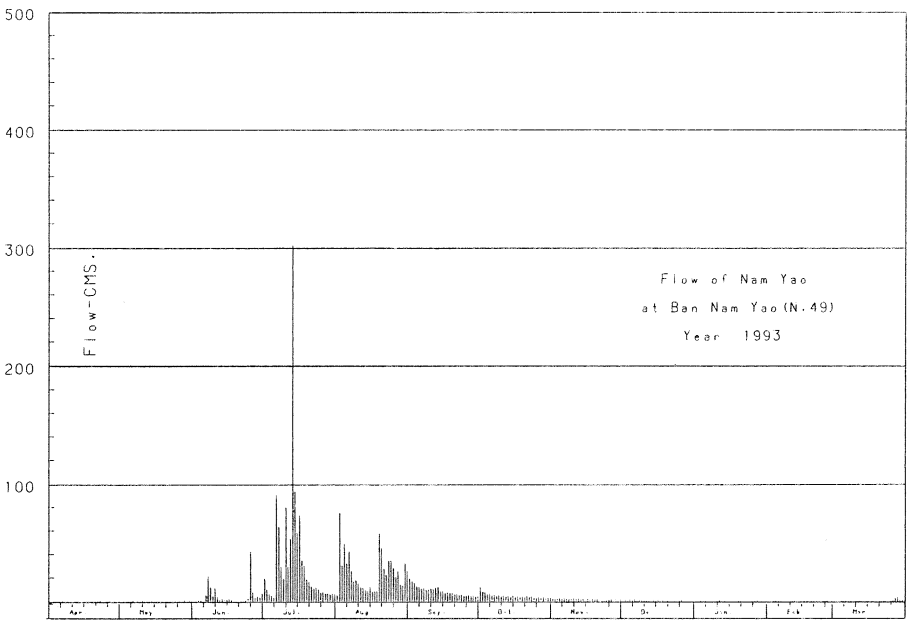
Overbank Flow Conditions — No overbank flow.

General Description — Records fair. Stage-discharge relation defined by 23 discharge measurements made in 1993.

Gage Height in Meter (A.D), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	1.30	1.30	1.41	1.89	1.63	1.88	1.77	1.52	1.45	1.40	1.37	1.35	
2	1.30	1.30	1.38	1.73	2.37	1.86	1.71	1.52	1.45	1.40	1.37	1.35	
3	1.30	1.30	1.36	1.66	2.02	1.83	1.68	1.51	1.45	1.40	1.37	1.35	
4	1.30	1.32	1.35	1.60	2.18	1.80	1.66	1.51	1.45	1.39	1.37	1.35	
5	1.30	1.33	1.35	1.56	2.03	1.77	1.65	1.51	1.44	1.39	1.37	1.35	
6	1.30	1.33	1.63	2.46	2.13	1.76	1.63	1.51	1.44	1.39	1.37	1.35	
7	1.30	1.34	1.91	2.29	1.97	1.75	1.62	1.51	1.44	1.39	1.37	1.35	
8	1.32	1.34	1.78	2.00	1.84	1.74	1.61	1.50	1.44	1.38	1.37	1.35	
9	1.33	1.39	1.61	1.89	1.87	1.73	1.61	1.50	1.44	1.38	1.37	1.35	
10	1.31	1.39	1.75	2.40	1.82	1.76	1.60	1.50	1.44	1.38	1.37	1.35	
11	1.30	1.33	1.56	2.00	1.78	1.73	1.60	1.49	1.44	1.38	1.37	1.35	
12	1.30	1.35	1.48	2.21	1.76	1.76	1.60	1.49	1.44	1.38	1.36	1.35	
13	1.30	1.35	1.50	3.31	1.73	1.79	1.59	1.49	1.43	1.37	1.36	1.34	
14	1.30	1.33	1.50	2.48	1.70	1.71	1.58	1.48	1.43	1.37	1.36	1.34	
15	1.30	1.33	1.48	2.25	1.77	1.70	1.60	1.48	1.43	1.37	1.36	1.34	
16	1.30	1.32	1.45	2.35	1.71	1.68	1.58	1.48	1.43	1.37	1.36	1.34	
17	1.30	1.32	1.42	2.06	1.71	1.67	1.58	1.47	1.43	1.37	1.36	1.34	
18	1.30	1.36	1.40	2.01	1.70	1.68	1.57	1.47	1.43	1.37	1.36	1.34	
19	1.30	1.38	1.39	1.88	2.25	1.66	1.57	1.47	1.43	1.37	1.36	1.34	
20	1.31	1.40	1.39	1.84	2.15	1.65	1.57	1.47	1.42	1.37	1.36	1.34	
21	1.41	1.37	1.38	1.78	1.99	1.64	1.58	1.47	1.42	1.37	1.36	1.34	
22	1.34	1.35	1.38	1.76	1.92	1.63	1.58	1.46	1.41	1.37	1.36	1.34	
23	1.34	1.35	1.38	1.76	2.06	1.62	1.57	1.46	1.41	1.37	1.36	1.34	
24	1.34	1.34	1.53	1.73	2.05	1.62	1.56	1.46	1.41	1.37	1.36	1.38	
25	1.35	1.35	2.13	1.69	2.00	1.62	1.55	1.46	1.41	1.37	1.36	1.37	
26	1.32	1.36	1.68	1.68	1.91	1.61	1.54	1.46	1.41	1.37	1.35	1.36	
27	1.30	1.36	1.55	1.67	1.96	1.61	1.54	1.46	1.40	1.37	1.35	1.53	
28	1.30	1.41	1.57	1.65	1.82	1.60	1.54	1.46	1.40	1.37	1.35	1.56	
29	1.30	1.40	1.57	1.65	1.79	1.60	1.53	1.46	1.40	1.37		1.45	
30	1.31	1.39	1.65	1.64	2.04	1.56	1.53	1.46	1.40	1.37		1.39	
31		1.40		1.64	1.96		1.53		1.40	1.37		1.37	
Mean	1.31	1.35	1.53	1.95	1.92	1.70	1.59	1.48	1.43	1.38	1.36	1.37	
Max	1.41	1.41	2.13	3.31	2.37	1.88	1.77	1.52	1.45	1.40	1.37	1.56	3.31
Min	1.30	1.30	1.35	1.56	1.63	1.56	1.53	1.46	1.40	1.37	1.35	1.34	1.30

Annual Max Momentary Gage Height 3.48 M (A.D), at 6.00 Hours, on Jul 13, 1993
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed 0.18 M (A.D)
Left Bank Elevation 4.00 M (A.D)
Right Bank Elevation 3.41 M (A.D), Drainage Area 155 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.60	0.60	1.58	20.30	6.24	19.60	12.47	3.26	2.13	1.45	1.20	1.03	
2	0.60	0.60	1.28	10.43	76.50	18.20	9.41	3.26	2.13	1.45	1.20	1.03	
3	0.60	0.60	1.11	7.38	31.60	16.10	8.14	3.03	2.13	1.45	1.20	1.03	
4	0.60	0.77	1.03	5.10	49.60	14.00	7.38	3.03	2.13	1.37	1.20	1.03	
5	0.60	0.86	1.03	4.18	32.65	12.47	7.00	3.03	1.99	1.37	1.20	1.03	
6	0.60	0.86	6.24	91.20	43.60	11.96	6.24	3.03	1.99	1.37	1.20	1.03	
7	0.60	0.94	21.85	64.60	26.95	11.45	5.86	3.03	1.99	1.37	1.20	1.03	
8	0.77	0.94	12.98	29.50	16.80	10.94	5.48	2.80	1.99	1.28	1.20	1.03	
9	0.86	1.37	5.48	20.30	18.90	10.43	5.48	2.80	1.99	1.28	1.20	1.03	
10	0.68	1.37	11.45	81.00	15.40	11.96	5.10	2.80	1.99	1.28	1.20	1.03	
11	0.60	0.86	4.18	29.50	12.98	10.43	5.10	2.67	1.99	1.28	1.20	1.03	
12	0.60	1.03	2.53	53.40	11.96	11.96	5.10	2.67	1.99	1.28	1.11	1.03	
13	0.60	1.03	2.80	303.00	10.43	13.49	4.87	2.67	1.85	1.20	1.11	0.94	
14	0.60	0.86	2.80	94.60	8.90	9.41	4.64	2.53	1.85	1.20	1.11	0.94	
15	0.60	0.86	2.53	59.00	12.47	8.90	5.10	2.53	1.85	1.20	1.11	0.94	
16	0.60	0.77	2.13	73.50	9.41	8.14	4.64	2.53	1.85	1.20	1.11	0.94	
17	0.60	0.77	1.72	35.80	9.41	7.76	4.64	2.40	1.85	1.20	1.11	0.94	
18	0.60	1.11	1.45	30.55	8.90	8.14	4.41	2.40	1.85	1.20	1.11	0.94	
19	0.60	1.28	1.37	19.60	59.00	7.38	4.41	2.40	1.85	1.20	1.11	0.94	
20	0.68	1.45	1.37	16.80	46.00	7.00	4.41	2.40	1.72	1.20	1.11	0.94	
21	1.58	1.20	1.28	12.98	28.65	6.62	4.64	2.40	1.72	1.20	1.11	0.94	
22	0.94	1.03	1.28	11.96	22.70	6.24	4.64	2.26	1.58	1.20	1.11	0.94	
23	0.94	1.03	1.28	11.96	35.80	5.86	4.41	2.26	1.58	1.20	1.11	0.94	
24	0.94	0.94	3.49	10.43	34.75	5.86	4.18	2.26	1.58	1.20	1.11	1.28	
25	1.03	1.03	43.60	8.52	29.50	5.86	3.95	2.26	1.58	1.20	1.11	1.20	
26	0.77	1.11	8.14	8.14	21.85	5.48	3.72	2.26	1.58	1.20	1.03	1.11	
27	0.60	1.11	3.95	7.76	26.10	5.48	3.72	2.26	1.45	1.20	1.03	3.49	
28	0.60	1.58	4.41	7.00	15.40	5.10	3.72	2.26	1.45	1.20	1.03	4.18	
29	0.60	1.45	4.41	7.00	13.49	5.10	3.49	2.26	1.45	1.20		2.13	
30	0.68	1.37	7.00	6.62	33.70	4.18	3.49	2.26	1.45	1.20		1.37	
31		1.45		6.62	26.10		3.49		1.45	1.20		1.20	
Total	21.27	32.23	165.75	1148.73	795.74	285.50	163.33	78.01	55.98	39.03	31.83	38.66	2856.06 CMSDAY
Mean	0.71	1.04	5.53	37.06	25.67	9.52	5.27	2.60	1.81	1.26	1.14	1.25	7.82 CMS
Max	1.58	1.58	43.60	303.00	76.50	19.60	12.47	3.26	2.13	1.45	1.20	4.18	303.00 CMS
Min	0.60	0.60	1.03	4.18	6.24	4.18	3.49	2.26	1.45	1.20	1.03	0.94	0.60 CMS
Runoff	1.838	2.785	14.321	99.250	68.752	24.667	14.112	6.740	4.837	3.372	2.750	3.340	246.764 MCM

Momentary Peak 354.80 CMS, at 3.48 M (A.D), at 6.00 Hours, on Jul 13, 1993
Runoff Yield 50.48 Liters/Second/Square KM, Momentary Peak Yield 2289.03 Liters/Second/Square KM

WATER YEAR 1993

NAN RIVER BASIN

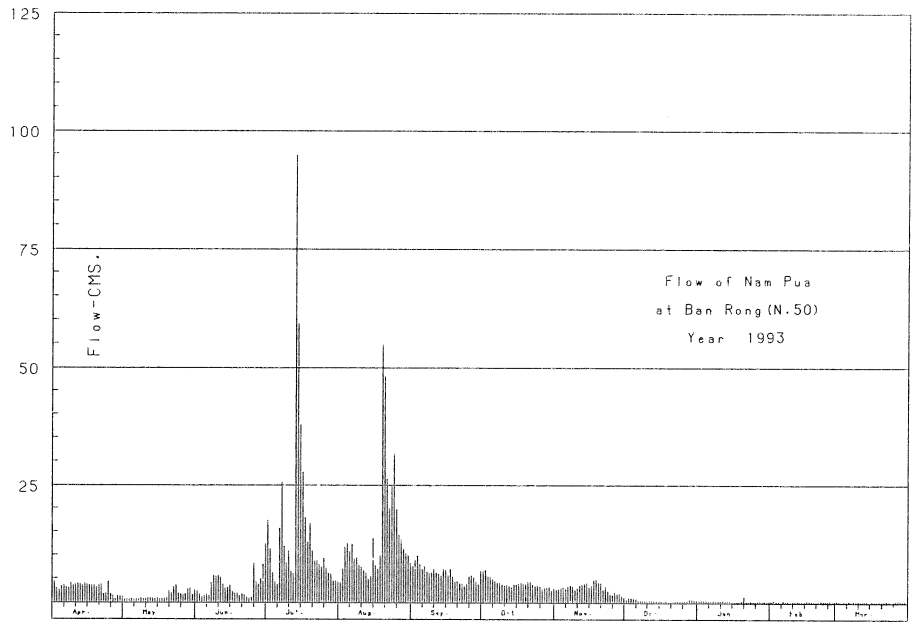
Nam Pua at Ban Rong, Nan (N.50)

Location	Lat. 19°-11'-38" N., Long. 100°-55'-14" E., on left bank downstream of the bridge of Nam Pua, along Pua-Thung Chang road at Ban Rong, Amphoe Pua, Nan.
Drainage Area	192 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+0.00 m. (A.D.)
Bench Mark	B.M.-H.D.
Location	On left bank at the abutment of the bridge.
Elevation	+4.361 m. (A.D.)
Gage Reading Frequency	5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1979 to date.
Rating Operation	
Period of Rating	1979 to date.
Rated by Float	-
Rated by Current Meter	1979 to date.
Stability of Channel Regimes	Fairly stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records fair. Stage-discharge relation defined by 23 discharge measurements made in 1993.

Gage Height in Meter (A.D), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.22	0.01	0.11	0.65	0.21	0.39	0.33	0.13	-0.03	-0.01	0.20	0.19	
2	0.14	0.01	0.08	0.51	0.36	0.43	0.35	0.13	0.03	-0.01	0.19	0.19	
3	0.13	0.01	0.04	0.32	0.52	0.47	0.28	0.15	0.03	-0.01	0.19	0.18	
4	0.16	0.01	0.06	0.21	0.54	0.40	0.27	0.15	0.02	-0.02	0.18	0.16	
5	0.18	0.01	0.07	0.19	0.50	0.36	0.25	0.14	0.02	-0.02	0.18	0.17	
6	0.15	0.01	0.06	0.62	0.54	0.38	0.22	0.16	-0.02	-0.03	0.17	0.18	
7	0.15	0.01	0.20	0.78	0.44	0.33	0.21	0.18	0.00	-0.02	0.17	0.19	
8	0.20	0.02	0.29	0.53	0.45	0.31	0.20	0.16	-0.02	-0.03	0.18	0.19	
9	0.18	0.02	0.27	0.41	0.40	0.32	0.19	0.13	-0.02	-0.01	0.17	0.19	
10	0.18	0.02	0.29	0.50	0.37	0.35	0.18	0.14	-0.02	-0.02	0.18	0.17	
11	0.19	0.02	0.26	0.33	0.34	0.32	0.18	0.18	-0.01	-0.02	0.18	0.17	
12	0.19	0.03	0.19	0.30	0.31	0.30	0.17	0.18	-0.01	-0.04	0.19	0.17	
13	0.17	0.02	0.14	1.40	0.25	0.29	0.15	0.20	-0.02	-0.04	0.20	0.16	
14	0.20	0.02	0.15	1.13	0.27	0.35	0.19	0.20	-0.02	-0.05	0.18	0.15	
15	0.18	0.02	0.18	0.93	0.57	0.34	0.18	0.16	-0.02	-0.05	0.16	0.11	
16	0.18	0.01	0.11	0.81	0.39	0.29	0.19	0.17	-0.05	-0.05	0.15	0.13	
17	0.17	0.02	0.08	0.66	0.36	0.36	0.21	0.24	-0.05	-0.04	0.18	0.14	
18	0.18	0.02	0.09	0.55	0.47	0.27	0.19	0.24	-0.04	-0.05	0.18	0.13	
19	0.15	0.03	0.05	0.64	1.09	0.22	0.19	0.21	-0.04	-0.04	0.18	0.10	
20	0.18	0.11	0.08	0.50	1.03	0.22	0.21	0.20	-0.05	0.05	0.17	0.11	
21	0.18	0.09	0.06	0.43	0.79	0.20	0.22	0.13	-0.03	0.06	0.18	0.16	
22	0.08	0.15	0.04	0.43	0.70	0.19	0.18	0.16	-0.05	0.06	0.20	0.15	
23	0.08	0.18	0.02	0.40	0.77	0.17	0.17	0.12	-0.04	0.12	0.20	0.16	
24	0.22	0.08	0.04	0.38	0.86	0.19	0.17	0.07	-0.04	0.18	0.20	0.15	
25	0.08	0.08	0.41	0.45	0.70	0.28	0.17	0.07	-0.03	0.19	0.18	0.13	
26	0.05	0.06	0.21	0.36	0.59	0.28	0.13	0.10	-0.04	0.18	0.20	0.15	
27	0.02	0.08	0.19	0.31	0.56	0.27	0.15	0.08	-0.02	0.19	0.19	0.28	
28	0.05	0.14	0.25	0.30	0.51	0.21	0.15	0.08	0.01	0.18	0.19	0.22	
29	0.05	0.14	0.40	0.23	0.48	0.19	0.16	0.06	0.01	0.16		0.15	
30	0.04	0.07	0.54	0.22	0.47	0.33	0.14	0.03	-0.01	0.18		0.07	
31		0.12		0.21	0.41		0.14		-0.01	0.18		0.06	
Mean	0.14	0.05	0.17	0.51	0.52	0.30	0.20	0.15	-0.02	0.04	0.18	0.16	
Max	0.22	0.18	0.54	1.40	1.09	0.47	0.35	0.24	0.03	0.19	0.20	0.28	1.40
Min	0.02	0.01	0.02	0.19	0.21	0.17	0.13	0.03	-0.05	-0.05	0.15	0.06	-0.05

Annual Max Momentary Gage Height 1.45 M (A.D), at 9.00 Hours, on Jul 13, 1993
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed -0.79 M (A.D)
Left Bank Elevation 3.27 M (A.D)
Right Bank Elevation 3.92 M (A.D), Drainage Area 192 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	4.58	0.77	2.49	17.50	4.39	7.90	6.70	2.87	0.47	0.56	0.40	0.39	
2	3.06	0.77	1.96	11.40	7.30	8.97	7.10	2.87	1.11	0.56	0.39	0.39	
3	2.87	0.77	1.28	6.50	11.80	10.13	5.72	3.25	1.11	0.56	0.39	0.38	
4	3.44	0.77	1.62	4.39	12.60	8.10	5.53	3.25	0.94	0.51	0.38	0.36	
5	3.82	0.77	1.79	4.01	11.00	7.30	5.15	3.06	0.94	0.51	0.38	0.37	
6	3.25	0.77	1.62	16.00	12.60	7.70	4.58	3.44	0.51	0.47	0.37	0.38	
7	3.25	0.77	4.20	25.60	9.26	6.70	4.39	3.82	0.60	0.51	0.37	0.39	
8	4.20	0.94	5.91	12.20	9.55	6.30	4.20	3.44	0.51	0.47	0.38	0.39	
9	3.82	0.94	5.53	8.39	8.10	6.50	4.01	2.87	0.51	0.56	0.37	0.39	
10	3.82	0.94	5.91	11.00	7.50	7.10	3.82	3.06	0.51	0.51	0.38	0.37	
11	4.01	0.94	5.34	6.70	6.90	6.50	3.82	3.82	0.56	0.51	0.38	0.37	
12	4.01	1.11	4.01	6.10	6.30	6.10	3.63	3.82	0.56	0.42	0.39	0.37	
13	3.63	0.94	3.06	95.00	5.15	5.91	3.25	4.20	0.51	0.42	0.40	0.36	
14	4.20	0.94	3.25	59.45	5.53	7.10	4.01	4.20	0.51	0.38	0.38	0.35	
15	3.82	0.94	3.82	38.00	13.80	6.90	3.82	3.44	0.51	0.38	0.36	0.31	
16	3.82	0.77	2.49	27.80	7.90	5.91	4.01	3.63	0.38	0.38	0.35	0.33	
17	3.63	0.94	1.96	18.00	7.30	7.30	4.39	4.96	0.38	0.42	0.38	0.34	
18	3.82	0.94	2.13	13.00	10.13	5.53	4.01	4.96	0.42	0.38	0.38	0.33	
19	3.25	1.11	1.45	17.00	54.90	4.58	4.01	4.39	0.42	0.42	0.38	0.30	
20	3.82	2.49	1.96	11.00	48.30	4.58	4.39	4.20	0.38	1.45	0.37	0.31	
21	3.82	2.13	1.62	8.97	26.30	4.20	4.58	2.87	0.47	0.26	0.38	0.36	
22	1.96	3.25	1.28	8.97	20.00	4.01	3.82	3.44	0.38	0.26	0.40	0.35	
23	1.96	3.82	0.94	8.10	24.90	3.63	3.63	2.68	0.42	0.32	0.40	0.36	
24	4.58	1.96	1.28	7.70	31.80	4.01	3.63	1.79	0.42	0.38	0.40	0.35	
25	1.96	1.96	8.39	9.55	20.00	5.72	3.63	1.79	0.47	0.39	0.38	0.33	
26	1.45	1.62	4.39	7.30	14.60	5.72	2.87	2.30	0.42	0.38	0.40	0.35	
27	0.94	1.96	4.01	6.30	13.40	5.53	3.25	1.96	0.51	0.39	0.39	0.52	
28	1.45	3.06	5.15	6.10	11.40	4.39	3.25	1.96	0.77	0.38	0.39	0.43	
29	1.45	3.06	8.10	4.77	10.42	4.01	3.44	1.62	0.77	0.36		0.35	
30	1.28	1.79	12.60	4.58	10.13	6.70	3.06	1.11	0.56	0.38		0.27	
31		2.68		4.39	8.39		3.06		0.56	0.38		0.26	
Total	94.97	46.62	109.54	485.77	451.65	185.03	128.76	95.07	17.59	14.26	10.72	11.11	1651.09 CMSDAY
Mean	3.17	1.50	3.65	15.67	14.57	6.17	4.15	3.17	0.57	0.46	0.38	0.36	4.52 CMS
Max	4.58	3.82	12.60	95.00	54.90	10.13	7.10	4.96	1.11	1.45	0.40	0.52	95.00 CMS
Min	0.94	0.77	0.94	4.01	4.39	3.63	2.87	1.11	0.38	0.26	0.35	0.26	0.26 CMS
Runoff	8.205	4.028	9.464	41.971	39.023	15.987	11.125	8.214	1.520	1.232	0.926	0.960	142.654 MCM

Momentary Peak 103.25 CMS, at 1.45 M (A.D), at 9.00 Hours, on Jul 13, 1993

Runoff Yield 23.56 Liters/Second/Square KM, Momentary Peak Yield 537.76 Liters/Second/Square KM

WATER YEAR 1993

NAN RIVER BASIN

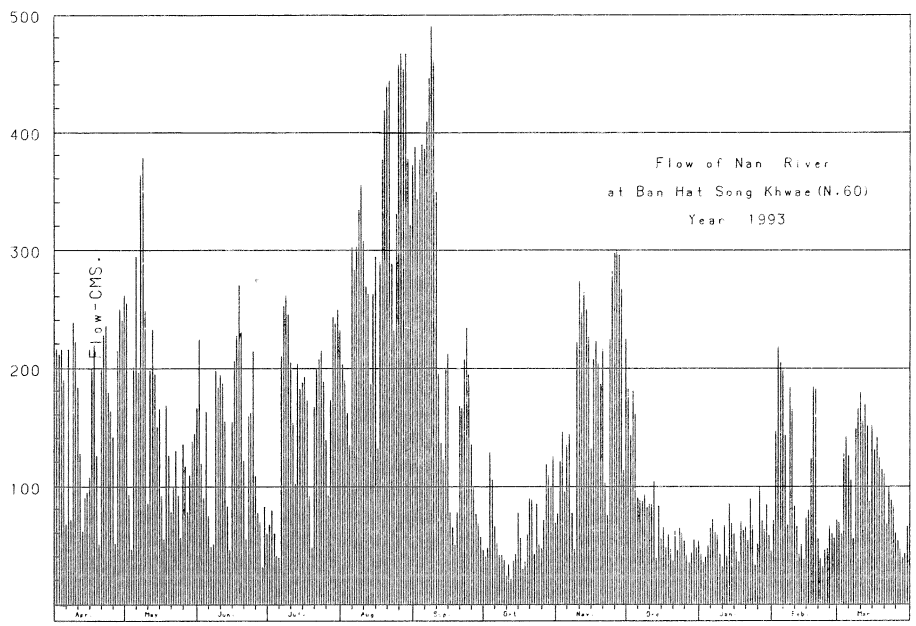
Nan River at Ban Hat Song Khwae, Uttaradit (N.60)

Location	Lat. 17°-24'-50" N., Long. 100°-07'-50" E., on right bank about 1 kilometer downstream from Wat Hat Song Khwae, Amphoe Tron, Uttaradit.
Drainage Area	18,692 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+48.50 m.(M.S.L.)
Bench Mark	B.M.-H.D.
Location	On right bank near the Meteorological Station.
Elevation	+57.592 m.(M.S.L.)
Gage Reading Frequency	16-time daily readings at 03.00, 06.00 - 18.00 and 21.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 16 readings.
Period of Available Gage Records	1986 to date.
Rating Operation	
Period of Rating	1986 to date.
Rated by Float	-
Rated by Current Meter	1986 to date.
Stability of Channel Regimes	Stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Stage-discharge relation defined by 127 discharge measurements made in 1993.

Gage Height in Meter (MSL), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	50.69	50.95	50.75	49.42	50.60	51.75	49.10	49.52	50.45	49.12	49.46	49.44	
2	50.66	49.68	49.93	49.55	50.50	51.49	49.20	49.95	50.13	49.03	50.16	49.34	
3	50.69	49.19	49.65	49.34	50.29	51.69	50.01	50.16	50.44	49.09	50.70	50.00	
4	50.50	50.58	50.30	49.10	50.06	51.76	49.81	49.71	50.28	49.22	50.61	50.12	
5	49.42	51.20	49.50	49.08	51.25	51.74	49.41	50.06	49.66	49.39	50.56	49.99	
6	50.69	50.55	49.21	50.65	51.13	51.87	49.24	50.14	49.63	49.47	50.13	49.81	
7	49.47	51.61	49.24	50.94	51.25	52.07	49.11	49.53	49.63	49.35	49.42	49.29	
8	50.85	51.70	50.56	50.99	51.44	52.30	49.12	49.18	49.68	49.32	50.46	50.18	
9	50.73	50.91	50.46	50.89	51.56	52.15	49.06	50.73	49.58	49.13	50.31	50.32	
10	50.46	49.61	50.53	50.61	51.28	51.53	48.86	51.07	49.60	48.98	49.59	50.43	
11	50.00	50.56	50.48	50.22	51.04	50.54	49.00	50.90	49.60	49.41	49.41	50.23	
12	49.36	50.81	50.23	49.78	51.00	50.08	48.81	51.01	49.80	49.10	49.12	50.36	
13	49.66	50.54	49.59	50.60	50.48	49.96	49.05	50.92	49.07	49.61	49.23	50.20	
14	49.70	50.19	49.18	50.45	51.00	50.58	49.12	50.76	49.59	49.44	49.07	49.62	
15	49.83	50.32	50.23	50.49	51.20	50.66	49.53	50.04	49.29	49.34	49.48	50.20	
16	50.57	49.67	50.62	50.52	50.04	49.53	49.29	50.63	49.39	49.15	49.55	50.03	
17	50.71	49.28	50.77	50.38	51.17	49.40	48.95	50.74	49.20	49.04	49.97	50.12	
18	49.99	50.34	51.05	49.67	51.69	49.23	49.03	50.60	49.33	49.45	50.46	49.97	
19	49.23	49.99	50.79	49.21	51.92	49.53	49.33	50.48	49.18	49.37	50.45	49.89	
20	50.58	49.54	49.95	50.33	52.04	50.34	49.65	50.69	49.05	49.40	49.29	49.85	
21	50.77	49.74	49.28	50.57	52.06	50.32	49.64	49.78	49.36	49.27	49.07	49.43	
22	50.83	50.02	50.27	50.63	51.16	50.63	49.13	49.51	49.18	49.65	48.98	49.74	
23	50.43	49.68	50.29	50.68	50.80	50.82	49.61	50.75	49.39	49.41	49.17	49.64	
24	50.30	49.30	50.68	50.49	51.42	50.53	49.23	51.12	49.34	49.00	49.20	49.59	
25	50.12	50.07	49.84	50.10	52.13	50.07	49.20	51.22	49.27	49.24	49.41	49.34	
26	49.24	49.91	49.53	49.68	52.18	49.75	49.46	51.23	49.11	49.74	49.34	49.27	
27	50.68	49.54	49.44	50.38	52.11	49.52	49.93	51.21	49.03	49.46	49.29	49.18	
28	50.92	49.84	48.97	50.88	52.18	49.43	49.84	51.03	49.14	49.37	49.47	49.09	
29	50.86	50.09	49.57	50.84	51.69	49.30	49.75	49.88	49.28	49.60		49.13	
30	51.00	50.14	49.38	50.92	51.36	49.18	49.98	50.75	49.21	49.32		49.41	
31		50.32		50.80	51.66		49.44		49.27	49.16		49.42	
Mean	50.30	50.19	50.01	50.26	51.28	50.59	49.35	50.44	49.49	49.31	49.69	49.76	
Max	51.00	51.70	51.05	50.99	52.18	52.30	50.01	51.23	50.45	49.74	50.70	50.43	52.30
Min	49.23	49.19	48.97	49.08	50.04	49.18	48.81	49.18	49.03	48.98	48.98	49.09	48.81

Annual Max Momentary Gage Height 52.39 M (MSL), at 10.00 Hours, on Sep 8, 1993
Zero Gage at Bottom Elevation 48.50 M (MSL), River Bed 47.47 M (MSL)
Left Bank Elevation 56.18 M (MSL)
Right Bank Elevation 57.63 M (MSL), Drainage Area 18692 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	216.60	255.00	225.00	67.80	204.00	388.00	41.00	77.00	183.00	42.40	71.40	69.60	
2	212.40	93.00	119.60	80.00	190.00	343.30	48.00	122.00	143.60	36.10	147.20	60.60	
3	216.60	47.30	90.00	60.60	162.80	377.30	129.20	147.20	181.60	40.30	218.00	128.00	
4	190.00	201.20	164.00	41.00	135.20	389.80	106.10	96.00	161.60	49.80	205.40	142.40	
5	67.80	295.00	75.00	39.60	303.00	386.20	66.90	135.20	91.00	65.10	198.40	126.80	
6	216.60	197.00	48.90	211.00	283.80	409.60	51.60	144.80	88.00	72.30	143.60	106.10	
7	72.30	363.70	51.60	253.40	303.00	446.30	41.70	78.00	88.00	61.50	67.80	56.10	
8	239.50	379.00	198.40	261.40	334.80	490.00	42.40	46.60	93.00	58.80	184.40	149.60	
9	222.20	248.60	184.40	245.50	355.20	461.50	38.20	222.20	83.00	43.10	165.20	166.40	
10	184.40	86.00	194.20	205.40	307.80	350.10	24.60	274.20	85.00	32.60	84.00	180.20	
11	128.00	198.40	187.20	154.40	269.40	195.60	34.00	247.00	85.00	66.90	66.90	155.60	
12	62.40	233.50	155.60	103.00	263.00	137.60	21.60	264.60	105.00	41.00	42.40	171.20	
13	91.00	195.60	84.00	204.00	187.20	123.20	37.50	250.20	38.90	86.00	50.70	152.00	
14	95.00	150.80	46.60	183.00	263.00	201.20	42.40	226.40	84.00	69.60	38.90	87.00	
15	108.30	166.40	155.60	188.60	295.00	212.40	78.00	132.80	56.10	60.60	73.20	152.00	
16	199.80	92.00	206.80	192.80	132.80	78.00	56.10	208.20	65.10	44.50	80.00	131.60	
17	219.40	55.20	227.80	173.60	290.20	66.00	30.50	223.60	48.00	36.80	124.40	142.40	
18	126.80	168.80	271.00	92.00	377.30	50.70	36.10	204.00	59.70	70.50	184.40	124.40	
19	50.70	126.80	230.60	48.90	418.60	78.00	59.70	187.20	46.60	63.30	183.00	114.90	
20	201.20	79.00	122.00	167.60	440.60	168.80	90.00	216.60	37.50	66.00	56.10	110.50	
21	227.80	99.00	55.20	199.80	444.40	166.40	89.00	103.00	62.40	54.30	38.90	68.70	
22	236.50	130.40	160.40	208.20	288.60	208.20	43.10	76.00	46.60	90.00	32.60	99.00	
23	180.20	93.00	162.80	215.20	232.00	235.00	86.00	225.00	65.10	66.90	45.90	89.00	
24	164.00	57.00	215.20	188.60	331.40	194.20	50.70	282.20	60.60	34.00	48.00	84.00	
25	142.40	136.40	109.40	140.00	457.70	136.40	48.00	298.20	54.30	51.60	66.90	60.60	
26	51.60	117.20	78.00	93.00	467.20	100.00	71.40	299.80	41.70	99.00	60.60	54.30	
27	215.20	79.00	69.60	173.60	453.90	77.00	119.60	296.60	36.10	71.40	56.10	46.60	
28	250.20	109.40	31.90	244.00	467.20	68.70	109.40	267.80	43.80	63.30	72.30	40.30	
29	241.00	138.80	82.00	238.00	377.30	57.00	100.00	113.80	55.20	85.00		43.10	
30	263.00	144.80	64.20	250.20	321.20	46.60	125.60	225.00	48.90	58.80		66.90	
31		166.40		232.00	372.20		69.60		54.30	45.20		67.80	
Total	5092.90	4903.70	4067.00	5156.20	9729.80	6643.10	1988.00	5691.20	2392.70	1826.70	2806.70	3247.70	53545.70 CMSDAY
Mean	169.76	158.18	135.57	166.33	313.86	221.44	64.13	189.71	77.18	58.93	100.24	104.76	146.70 CMS
Max	263.00	379.00	271.00	261.40	467.20	490.00	129.20	299.80	183.00	99.00	218.00	180.20	490.00 CMS
Min	50.70	47.30	31.90	39.60	132.80	46.60	21.60	46.60	36.10	32.60	32.60	40.30	21.60 CMS
Runoff	440.027	423.680	351.389	445.496	840.655	573.964	171.763	491.720	206.729	157.827	242.499	280.601	4626.349 MCM

Momentary Peak 507.10 CMS, at 52.39 M (MSL), at 10.00 Hours, on Sep 8, 1993

Runoff Yield 7.85 Liters/Second/Square KM, Momentary Peak Yield 27.13 Liters/Second/Square KM

WATER YEAR 1993

NAN RIVER BASIN

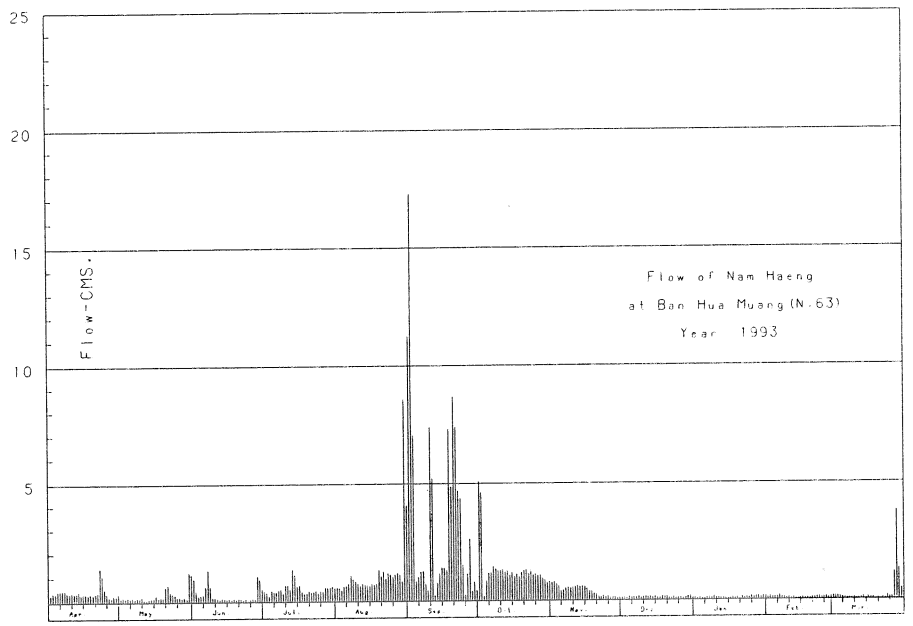
Nam Haeng at Ban Hua Muang, Nan (N.63)

Location	Lat. 18°-21'-48" N., Long. 100°-43'-41" E., on left bank at the bridge on road, Ban Hua Muang, Tambon Si Sa Ket, Amphoe Na Noi, Nan.
Drainage Area	788 sq.km.
Type of Gage	Water-stage recorder.
Zero Gage at Bottom	+0.00 m.(A.D.)
Bench Mark	B.M.-H.D.
Location	On left bank about 34 meters from the first staff gage.
Elevation	+11.00 m.(A.D.)
Gage Reading Frequency	Recording.
Basis of Mean Daily Gage Height	Arithmetic mean of 24 readings.
Period of Available Gage Records	1987 to date.
Rating Operation	
Period of Rating	1987 to date.
Rated by Float	-
Rated by Current Meter	1987 to date.
Stability of Channel Regimes	Stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records fair. Stage-discharge relation defined by 28 discharge measurements made in 1993.

Gage Height in Meter (A.D), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.52	0.49	0.63	0.54	0.57	1.63	1.13	0.60	0.47	0.45	0.47	0.50	
2	0.53	0.49	0.54	0.53	0.56	2.02	1.08	0.60	0.46	0.45	0.48	0.49	
3	0.53	0.49	0.51	0.51	0.55	1.31	0.87	0.59	0.47	0.45	0.48	0.49	
4	0.54	0.49	0.51	0.55	0.57	0.78	0.78	0.57	0.48	0.45	0.47	0.49	
5	0.55	0.48	0.52	0.54	0.58	0.76	0.74	0.54	0.48	0.45	0.48	0.46	
6	0.57	0.48	0.57	0.53	0.59	0.73	0.73	0.54	0.47	0.47	0.49	0.44	
7	0.55	0.48	0.71	0.55	0.65	0.72	0.70	0.56	0.47	0.46	0.48	0.45	
8	0.53	0.48	0.57	0.55	0.62	0.92	0.69	0.56	0.48	0.46	0.46	0.44	
9	0.53	0.49	0.50	0.53	0.61	0.84	0.67	0.56	0.47	0.47	0.45	0.44	
10	0.53	0.50	0.48	0.59	0.59	1.34	0.68	0.56	0.47	0.47	0.45	0.45	
11	0.53	0.46	0.47	0.58	0.58	1.14	0.68	0.57	0.50	0.45	0.45	0.46	
12	0.53	0.45	0.46	0.55	0.59	0.87	0.67	0.57	0.49	0.44	0.45	0.45	
13	0.54	0.47	0.47	0.69	0.59	0.79	0.67	0.57	0.48	0.45	0.45	0.46	
14	0.52	0.47	0.48	0.65	0.58	0.74	0.65	0.57	0.48	0.44	0.45	0.45	
15	0.52	0.49	0.46	0.58	0.58	0.70	0.66	0.57	0.48	0.45	0.45	0.45	
16	0.52	0.51	0.46	0.58	0.59	0.69	0.64	0.55	0.47	0.45	0.45	0.45	
17	0.52	0.49	0.46	0.54	0.59	0.68	0.65	0.54	0.47	0.46	0.45	0.45	
18	0.52	0.49	0.46	0.52	0.59	1.33	0.64	0.53	0.48	0.45	0.45	0.44	
19	0.52	0.50	0.46	0.53	0.71	1.11	0.66	0.52	0.49	0.45	0.45	0.43	
20	0.53	0.57	0.46	0.54	0.75	1.44	0.68	0.51	0.48	0.45	0.45	0.43	
21	0.53	0.59	0.46	0.53	0.67	1.34	0.68	0.50	0.47	0.47	0.47	0.43	
22	0.70	0.54	0.45	0.54	0.63	1.09	0.66	0.49	0.46	0.46	0.48	0.44	
23	0.75	0.52	0.45	0.54	0.66	1.06	0.68	0.50	0.47	0.46	0.47	0.44	
24	0.56	0.52	0.44	0.53	0.65	0.94	0.65	0.49	0.46	0.47	0.46	0.50	
25	0.52	0.49	0.45	0.54	0.64	0.86	0.65	0.49	0.46	0.48	0.46	0.47	
26	0.50	0.50	0.46	0.54	0.65	0.93	0.64	0.48	0.46	0.48	0.47	0.45	
27	0.50	0.49	0.47	0.57	0.73	0.97	0.65	0.48	0.46	0.50	0.47	0.66	
28	0.51	0.49	0.65	0.56	0.65	0.84	0.63	0.47	0.46	0.48	0.47	1.00	
29	0.51	0.48	0.62	0.57	0.61	0.79	0.61	0.46	0.50	0.47		0.68	
30	0.52	0.67	0.56	0.57	1.43	0.84	0.60	0.46	0.49	0.48		0.55	
31		0.93		0.56	1.03		0.60		0.47	0.48		0.51	
Mean	0.54	0.52	0.51	0.56	0.66	1.01	0.70	0.53	0.47	0.46	0.46	0.49	
Max	0.75	0.93	0.71	0.69	1.43	2.02	1.13	0.60	0.50	0.50	0.49	1.00	2.02
Min	0.50	0.45	0.44	0.51	0.55	0.68	0.60	0.46	0.46	0.44	0.45	0.43	0.43

Annual Max Momentary Gage Height 2.85 M (A.D), at 15.00 Hours, on Sep 1, 1993
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed 0.08 M (A.D)
Left Bank Elevation 5.89 M (A.D)
Right Bank Elevation 5.08 M (A.D), Drainage Area 788 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.32	0.18	0.99	0.44	0.62	11.25	5.09	0.80	0.14	0.10	0.14	0.20	
2	0.38	0.18	0.44	0.38	0.56	17.32	4.58	0.80	0.12	0.10	0.16	0.18	
3	0.38	0.18	0.26	0.26	0.50	7.03	0.22	0.74	0.14	0.10	0.16	0.18	
4	0.44	0.18	0.26	0.50	0.62	0.87	0.87	0.62	0.16	0.10	0.14	0.18	
5	0.50	0.16	0.32	0.44	0.68	1.01	1.16	0.44	0.16	0.10	0.16	0.12	
6	0.62	0.16	0.62	0.38	0.74	1.23	1.23	0.44	0.14	0.14	0.18	0.08	
7	0.50	0.16	1.38	0.50	1.12	1.30	1.45	0.56	0.14	0.12	0.16	0.10	
8	0.38	0.16	0.62	0.50	0.93	0.76	1.39	0.56	0.16	0.12	0.12	0.08	
9	0.38	0.18	0.20	0.38	0.87	0.44	1.26	0.56	0.14	0.14	0.10	0.08	
10	0.38	0.20	0.16	0.74	0.74	7.42	1.32	0.56	0.14	0.14	0.10	0.10	
11	0.38	0.12	0.14	0.68	0.68	5.20	1.32	0.62	0.20	0.10	0.10	0.12	
12	0.38	0.10	0.12	0.50	0.74	0.22	1.26	0.62	0.18	0.08	0.10	0.10	
13	0.44	0.14	0.14	1.39	0.74	0.80	1.26	0.62	0.16	0.10	0.10	0.12	
14	0.32	0.14	0.16	1.12	0.68	1.16	1.12	0.62	0.16	0.08	0.10	0.10	
15	0.32	0.18	0.12	0.68	0.68	1.45	1.19	0.62	0.16	0.10	0.10	0.10	
16	0.32	0.26	0.12	0.68	0.74	1.39	1.06	0.50	0.14	0.10	0.10	0.10	
17	0.32	0.18	0.12	0.44	0.74	1.32	1.12	0.44	0.14	0.12	0.10	0.10	
18	0.32	0.18	0.12	0.32	0.74	7.29	1.06	0.38	0.16	0.10	0.10	0.08	
19	0.32	0.20	0.12	0.38	1.38	4.88	1.19	0.32	0.18	0.10	0.10	0.06	
20	0.38	0.62	0.12	0.44	1.09	8.71	1.32	0.26	0.16	0.10	0.10	0.06	
21	0.38	0.74	0.12	0.38	1.26	7.42	1.32	0.20	0.14	0.14	0.14	0.06	
22	1.45	0.44	0.10	0.44	0.99	4.67	1.19	0.18	0.12	0.12	0.16	0.08	
23	1.09	0.32	0.10	0.44	1.19	4.38	1.32	0.20	0.14	0.12	0.14	0.08	
24	0.56	0.32	0.08	0.38	1.12	1.52	1.12	0.18	0.12	0.14	0.12	0.20	
25	0.32	0.18	0.10	0.44	1.06	0.29	1.12	0.18	0.12	0.16	0.12	0.14	
26	0.20	0.20	0.12	0.44	1.12	1.14	1.06	0.16	0.12	0.16	0.14	0.10	
27	0.20	0.18	0.14	0.62	1.23	2.66	1.12	0.16	0.12	0.20	0.14	1.19	
28	0.26	0.18	1.12	0.56	1.12	0.44	0.99	0.14	0.12	0.16	0.14	3.80	
29	0.26	0.16	0.93	0.62	0.87	0.80	0.87	0.12	0.20	0.14		1.32	
30	0.32	1.26	0.56	0.62	8.58	0.44	0.80	0.12	0.18	0.16		0.50	
31		1.14		0.56	4.09		0.80		0.14	0.16		0.26	
Total	12.82	8.98	9.90	16.65	38.22	104.81	42.18	12.72	4.60	3.80	3.52	9.97	268.17 CMSDAY
Mean	0.43	0.29	0.33	0.54	1.23	3.49	1.36	0.42	0.15	0.12	0.13	0.32	0.73 CMS
Max	1.45	1.26	1.38	1.39	8.58	17.32	5.09	0.80	0.20	0.20	0.18	3.80	17.32 CMS
Min	0.20	0.10	0.08	0.26	0.50	0.22	0.22	0.12	0.12	0.08	0.10	0.06	0.06 CMS
Runoff	1.108	0.776	0.855	1.439	3.302	9.056	3.644	1.099	0.397	0.328	0.304	0.861	23.170 MCM

Momentary Peak 34.17 CMS, at 2.85 M (A.D), at 15.00 Hours, on Sep 1, 1993

Runoff Yield 0.93 Liters/Second/Square KM, Momentary Peak Yield 43.37 Liters/Second/Square KM

WATER YEAR 1993

NAM MAE ING BASIN

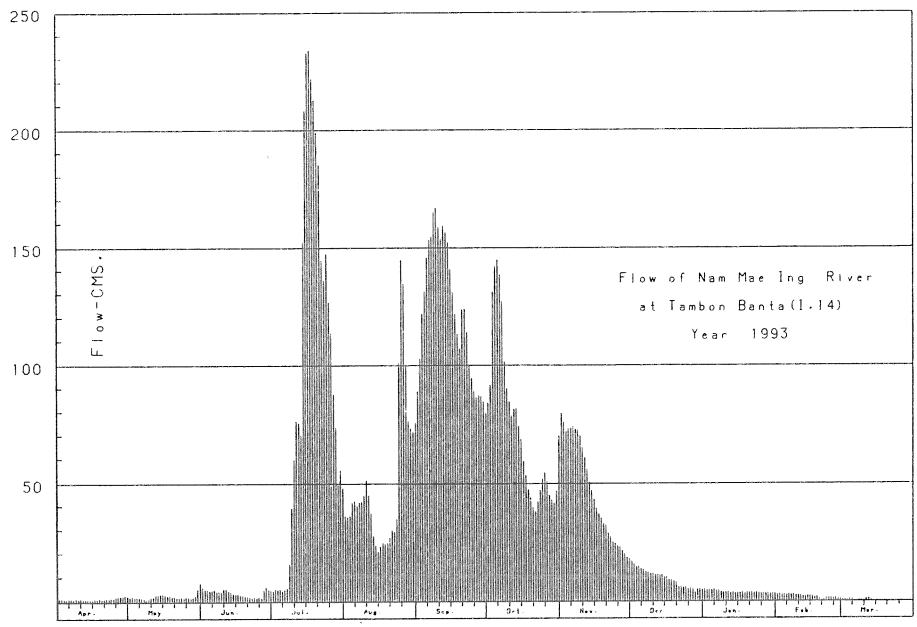
Nam Mae Ing at Ban Nam Ing, Chiang Rai (I.14)

Location	Lat. 19°-50'-00" N., Long. 100°-12'-15" E., on right bank at the bridge on road about 2 kilometers from King Amphoe Khun Tan, Chiang Rai.
Drainage Area	6,155 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+0.00 m.(A.D.)
Bench Mark	B.M.-H.D.
Location	On left bank downstream side at the approach of the bridge.
Elevation	+10.680 m.(A.D.)
Gage Reading Frequency	5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1993 to date.
Rating Operation	
Period of Rating	1993 to date.
Rated by Float	-
Rated by Current Meter	1993 to date.
Stability of Channel Regimes	Stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records fair. Stage-discharge relation defined by 46 discharge measurements made in 1993.

Gage Height in Meter (A.D), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.45	0.50	0.84	0.68	2.08	3.41	3.30	3.21	1.37	0.73	0.57	0.40	
2	0.43	0.51	0.76	0.74	2.05	3.71	3.47	3.12	1.31	0.72	0.57	0.38	
3	0.40	0.48	0.71	0.75	2.08	4.09	4.29	3.04	1.28	0.71	0.57	0.38	
4	0.40	0.47	0.69	0.74	2.25	4.29	4.49	3.06	1.27	0.70	0.56	0.39	
5	0.43	0.46	0.71	0.69	2.27	4.56	4.55	3.07	1.24	0.73	0.56	0.40	
6	0.41	0.45	0.70	0.71	2.22	4.71	4.43	3.08	1.21	0.69	0.56	0.47	
7	0.41	0.42	0.67	0.83	2.26	4.73	4.20	3.06	1.18	0.68	0.56	0.62	
8	0.42	0.38	0.65	1.32	2.26	4.93	3.69	3.05	1.14	0.65	0.56	0.91	
9	0.41	0.43	0.66	2.18	2.33	4.96	3.44	3.00	1.13	0.63	0.55	1.06	
10	0.42	0.47	0.75	2.76	2.53	4.81	3.32	2.88	1.12	0.64	0.55	1.15	
11	0.41	0.50	0.76	3.13	2.35	4.71	3.18	2.78	1.10	0.63	0.53	1.21	
12	0.41	0.55	0.69	3.12	2.11	4.82	3.25	2.65	1.09	0.62	0.51	1.27	
13	0.38	0.57	0.64	3.00	1.80	4.77	3.25	2.51	1.09	0.62	0.50	0.77	
14	0.38	0.59	0.60	4.69	1.63	4.69	3.09	2.40	1.08	0.61	0.53	0.53	
15	0.40	0.58	0.58	5.72	1.53	4.47	2.96	2.30	1.05	0.61	0.51	0.44	
16	0.41	0.55	0.58	6.11	1.61	4.28	2.74	2.18	1.03	0.62	0.51	0.55	
17	0.42	0.54	0.56	6.13	1.68	4.10	2.58	2.11	0.99	0.62	0.49	0.70	
18	0.42	0.53	0.53	5.95	1.65	3.92	2.42	2.04	0.98	0.61	0.48	0.62	
19	0.41	0.51	0.52	5.80	1.68	3.80	2.31	1.98	0.97	0.62	0.42	0.67	
20	0.42	0.49	0.51	5.56	1.76	4.13	2.19	1.94	0.95	0.63	0.39	0.56	
21	0.42	0.48	0.48	5.31	1.87	4.14	2.14	1.84	0.88	0.62	0.38	0.63	
22	0.43	0.47	0.46	4.54	1.86	3.94	2.27	1.77	0.87	0.62	0.44	0.63	
23	0.44	0.48	0.48	4.38	2.04	3.65	2.41	1.70	0.85	0.62	0.45	0.64	
24	0.45	0.47	0.47	4.60	3.67	3.54	2.54	1.66	0.84	0.62	0.45	0.68	
25	0.48	0.48	0.48	4.20	4.55	3.41	2.62	1.63	0.79	0.61	0.44	0.65	
26	0.50	0.47	0.46	3.93	4.35	3.35	2.51	1.60	0.78	0.60	0.44	0.62	
27	0.52	0.46	0.72	3.39	3.66	3.38	2.35	1.55	0.77	0.60	0.41	0.70	
28	0.53	0.47	0.84	3.07	3.13	3.36	2.28	1.48	0.62	0.60	0.39	0.70	
29	0.54	0.54	0.75	2.47	3.06	3.32	2.25	1.43	0.75	0.59		0.69	
30	0.51	0.74	0.68	2.64	3.03	3.21	2.39	1.40	0.74	0.59		0.74	
31		0.95		2.43	3.12		2.99		0.74	0.58		0.82	
Mean	0.44	0.52	0.63	3.28	2.40	4.11	3.03	2.32	1.01	0.64	0.50	0.68	
Max	0.54	0.95	0.84	6.13	4.55	4.96	4.55	3.21	1.37	0.73	0.57	1.27	6.13
Min	0.38	0.38	0.46	0.68	1.53	3.21	2.14	1.40	0.62	0.58	0.38	0.38	0.38

Annual Max Momentary Gage Height 6.16 M (A.D), at 10.00 Hours, on Jul 17, 1993
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed 0.19 M (A.D)
Left Bank Elevation 9.67 M (A.D)
Right Bank Elevation 9.38 M (A.D), Drainage Area 6155 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	1.60	2.15	6.03	4.66	36.40	88.95	84.00	79.95	17.25	5.18	3.09	1.05	
2	1.38	2.28	5.42	5.26	35.50	102.92	91.65	75.90	15.75	5.11	3.09	0.84	
3	1.05	1.93	5.03	5.34	36.40	121.65	131.51	72.30	15.06	5.03	3.09	0.84	
4	1.05	1.82	4.80	5.26	41.75	131.51	141.88	73.20	14.84	4.95	2.96	0.94	
5	1.38	1.71	5.03	4.80	42.45	145.58	145.05	73.65	14.18	5.18	2.96	1.05	
6	1.16	1.60	4.95	5.03	40.70	153.53	138.76	74.10	13.52	4.80	2.96	0.18	
7	1.16	1.27	4.52	5.96	42.10	154.59	127.07	73.20	12.94	4.66	2.96	0.38	
8	1.27	0.84	4.22	16.00	42.10	165.22	101.94	72.75	12.22	4.22	2.96	0.82	
9	1.16	1.38	4.37	39.40	44.55	166.84	90.30	70.50	12.04	3.93	2.83	1.04	
10	1.27	1.82	5.34	60.40	51.55	158.83	84.90	65.20	11.86	4.08	2.83	1.17	
11	1.16	2.15	5.42	76.35	45.25	153.53	78.60	61.20	11.50	3.93	2.55	1.27	
12	1.16	2.83	4.80	75.90	37.30	159.36	81.75	56.00	11.33	3.79	2.28	1.36	
13	0.84	3.09	4.08	70.50	28.00	156.71	81.75	50.85	11.33	3.79	2.15	0.60	
14	0.84	3.36	3.50	152.47	23.75	152.47	74.55	47.00	11.16	3.65	2.55	0.26	
15	1.05	3.23	3.23	208.20	21.25	140.84	68.70	43.50	10.65	3.65	2.28	0.15	
16	1.16	2.83	3.23	232.70	23.25	131.01	59.60	39.40	10.31	3.79	2.28	0.29	
17	1.27	2.69	2.96	234.10	25.00	122.14	53.30	37.30	9.47	3.79	2.04	0.50	
18	1.27	2.55	2.55	222.00	24.25	113.27	47.70	35.20	9.14	3.65	1.93	0.38	
19	1.16	2.28	2.42	213.00	25.00	107.36	43.85	33.40	8.81	3.79	1.27	0.45	
20	1.27	2.04	2.28	198.87	27.00	123.62	39.70	32.20	8.15	3.93	0.94	0.30	
21	1.27	1.93	1.93	185.53	30.10	124.11	38.20	29.20	6.35	3.79	0.84	0.39	
22	1.38	1.82	1.71	144.52	29.80	114.26	42.45	27.25	6.27	3.79	1.49	0.39	
23	1.49	1.93	1.93	136.16	35.20	99.96	47.35	25.50	6.11	3.79	1.60	0.41	
24	1.60	1.82	1.82	147.70	100.95	94.80	51.90	24.50	6.03	3.79	1.60	0.47	
25	1.93	1.93	1.93	127.07	145.05	88.95	54.80	23.75	5.65	3.65	1.49	0.42	
26	2.15	1.82	1.71	113.76	134.60	86.25	50.85	23.00	5.57	3.50	1.49	0.38	
27	2.42	1.71	5.11	88.05	100.46	87.60	45.25	21.75	5.49	3.50	1.16	0.50	
28	2.55	1.82	6.03	73.65	76.35	86.70	42.80	20.00	3.79	3.50	0.94	0.50	
29	2.69	2.69	5.34	49.45	73.20	84.90	41.75	18.75	5.34	3.36		0.48	
30	2.28	5.26	4.66	55.60	71.85	79.95	46.65	18.00	5.26	3.36		0.56	
31		8.15		48.05	75.90		70.05		5.26	3.23		0.68	
Total	43.42	74.73	116.35	3005.74	1567.01	3697.41	2298.61	1398.50	302.63	124.16	60.61	19.05	12708.22 CMSDAY
Mean	1.45	2.41	3.88	96.96	50.55	123.25	74.15	46.62	9.76	4.01	2.16	0.61	34.82 CMS
Max	2.69	8.15	6.03	234.10	145.05	166.84	145.05	79.95	17.25	5.18	3.09	1.36	234.10 CMS
Min	0.84	0.84	1.71	4.66	21.25	79.95	38.20	18.00	3.79	3.23	0.84	0.15	0.15 CMS
Runoff	3.751	6.457	10.053	259.696	135.390	319.456	198.600	120.830	26.147	10.727	5.237	1.646	1097.990 MCM

Momentary Peak 236.20 CMS, at 6.16 M (A.D), at 10.00 Hours, on Jul 17, 1993

Runoff Yield 5.66 Liters/Second/Square KM, Momentary Peak Yield 38.38 Liters/Second/Square KM

WATER YEAR 1993

CHAO PHRAYA RIVER BASIN

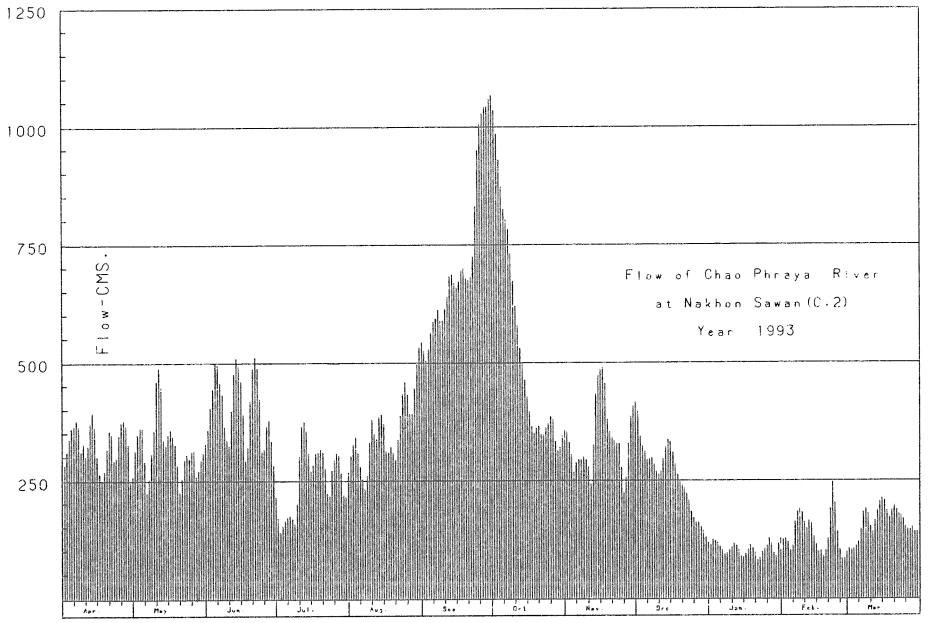
Chao Phraya River at Khai Chira Prawat, Nakhon Sawan (C.2)

Location	Lat. 15°40′15″ N., Long. 100°06′45″ E., on left bank at Khai Chira Prawat about 3 kilometers downstream from Dechatiwong Bridge, Amphoe Muang, Nakhon Sawan.
Drainage Area	110,569 sq.km.
Type of Gage	Water-stage recorder.
Zero Gage at Bottom	+0.00 m.(M.S.L.)
Bench Mark	B.M.-H.D.
Location	About 20 meters west of the gage site.
Elevation	+25.628 m.(M.S.L.)
Gage Reading Frequency	Recording.
Basis of Mean Daily Gage Height	Arithmetic mean of 24 readings.
Period of Available Gage Records	1914 to date.
Rating Operation	
Period of Rating	1956 to date.
Rated by Float	-
Rated by Current Meter	1956 to date.
Stability of Channel Regimes	Stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Stage-discharge relation defined by 147 discharge measurements made in 1993.

Gage Height in Meter (MSL), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	18.55	18.70	18.94	17.87	18.65	19.68	21.44	18.91	19.12	17.38	17.47	17.27	
2	18.69	18.88	19.16	17.63	18.77	19.59	21.28	18.80	18.87	17.47	17.50	17.26	
3	18.84	18.96	19.34	17.73	18.86	19.70	21.11	18.66	18.75	17.46	17.42	17.26	
4	18.95	18.95	19.57	17.84	18.68	19.83	20.93	18.47	18.70	17.41	17.25	17.35	
5	18.98	18.59	19.55	17.88	18.53	19.93	20.78	18.57	18.60	17.34	17.37	17.42	
6	19.04	18.22	19.39	17.90	18.38	19.95	20.70	18.61	18.61	17.24	17.80	17.67	
7	18.97	18.38	19.29	17.87	18.27	20.03	20.64	18.60	18.63	17.16	17.97	17.95	
8	18.70	18.67	18.97	17.77	18.43	19.93	20.46	18.63	18.56	17.17	18.00	18.01	
9	18.78	18.93	18.83	18.08	18.79	19.94	20.26	18.61	18.47	17.26	17.96	17.93	
10	18.64	19.41	18.76	18.65	19.05	20.03	20.06	18.52	18.44	17.33	17.80	17.73	
11	18.76	19.53	19.13	18.97	18.89	20.14	19.89	18.33	18.48	17.39	17.68	17.61	
12	19.01	19.35	19.47	19.03	18.84	20.29	19.71	18.77	18.61	17.36	17.82	17.82	
13	19.11	18.82	19.62	18.92	19.07	20.31	19.56	19.29	18.74	17.24	17.77	17.98	
14	18.96	18.77	19.54	18.67	19.10	20.24	19.42	19.46	18.83	17.12	17.54	18.11	
15	18.64	18.88	19.41	18.48	19.00	20.21	19.26	19.51	18.80	17.07	17.39	18.14	
16	18.45	18.94	19.10	18.54	18.70	20.25	19.12	19.53	18.69	17.15	17.20	18.12	
17	18.37	18.86	18.60	18.67	18.69	20.34	18.97	19.39	18.55	17.27	17.23	17.97	
18	18.47	18.78	18.74	18.69	18.75	20.35	18.90	19.05	18.44	17.36	17.11	17.89	
19	18.73	18.54	19.22	18.72	18.68	20.28	18.95	18.91	18.36	17.30	17.25	17.98	
20	18.93	18.22	19.52	18.69	18.60	20.26	18.98	18.85	18.31	17.18	17.48	18.05	
21	18.88	18.39	19.63	18.51	18.83	20.29	18.89	18.81	18.27	17.03	18.01	18.00	
22	18.60	18.61	19.53	18.20	19.09	20.44	18.88	18.78	18.21	17.06	18.35	17.94	
23	18.62	18.66	19.24	18.18	19.29	20.80	18.96	18.79	18.11	17.21	18.08	17.91	
24	18.88	18.62	18.70	18.48	19.40	21.17	19.00	18.52	17.97	17.27	17.63	17.86	
25	19.01	18.70	18.72	18.61	19.29	21.34	19.08	18.22	17.88	17.36	17.27	17.71	
26	19.04	18.70	18.97	18.67	19.10	21.41	19.04	18.40	17.79	17.51	17.04	17.70	
27	18.98	18.42	19.04	18.65	19.11	21.45	18.81	18.78	17.79	17.39	17.07	17.67	
28	18.78	18.48	18.82	18.46	19.34	21.45	18.71	19.08	17.72	17.19	17.19	17.70	
29	18.34	18.61	18.55	18.19	19.56	21.50	18.74	19.18	17.64	17.10		17.63	
30	18.42	18.68	18.17	18.16	19.71	21.52	18.87	19.21	17.53	17.40		17.61	
31		18.78		18.46	19.76		18.93		17.41	17.49		17.57	
Mean	18.77	18.74	19.12	18.36	18.94	20.42	19.62	18.84	18.35	17.28	17.56	17.77	
Max	19.11	19.53	19.63	19.03	19.76	21.52	21.44	19.53	19.12	17.51	18.35	18.14	21.52
Min	18.34	18.22	18.17	17.63	18.27	19.59	18.71	18.22	17.41	17.03	17.04	17.26	17.03

Annual Max Momentary Gage Height 21.53 M (MSL), at 24.00 Hours, on Sep 29, 1993
Zero Gage at Bottom Elevation 0.00 M (MSL), River Bed 14.66 M (MSL)
Left Bank Elevation 25.24 M (MSL)
Right Bank Elevation 25.36 M (MSL), Drainage Area 110569 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	284.7	313.3	359.5	171.1	303.6	525.3	1039.7	353.7	396.4	115.1	124.7	105.0	
2	311.3	347.9	405.2	142.7	326.7	504.4	986.6	332.5	346.0	124.7	128.0	104.1	
3	340.2	363.3	446.3	154.1	344.1	530.0	930.8	305.5	322.9	123.6	119.2	104.1	
4	361.4	361.4	499.8	167.2	309.4	562.6	872.6	269.9	313.3	118.1	103.1	112.4	
5	367.1	292.1	495.1	172.4	281.1	587.9	826.6	288.4	294.0	111.5	114.2	119.2	
6	379.4	225.8	457.9	175.0	253.4	593.0	802.3	295.9	295.9	102.2	162.0	147.3	
7	365.2	253.4	434.7	171.1	234.1	613.3	784.1	294.0	299.8	94.8	185.5	182.5	
8	313.3	307.5	365.2	158.6	262.6	587.9	730.4	299.8	286.6	95.7	190.0	191.6	
9	328.7	357.5	338.3	202.8	330.6	590.5	674.5	295.9	269.9	104.1	184.0	179.5	
10	301.7	462.6	324.8	303.6	381.5	613.3	620.9	279.2	264.4	110.5	162.0	154.1	
11	324.8	490.5	398.6	365.2	349.8	641.8	577.8	244.4	271.8	116.1	148.4	140.5	
12	373.1	448.6	476.5	377.3	340.2	682.8	532.5	326.7	295.9	113.3	164.6	164.6	
13	394.2	336.3	511.4	355.6	385.7	688.2	497.4	434.7	320.9	102.2	158.6	187.0	
14	363.3	326.7	492.8	307.5	392.0	669.0	464.9	474.2	338.3	91.1	132.5	207.7	
15	301.7	347.9	462.6	271.8	371.0	660.7	427.8	485.8	332.5	86.5	116.1	212.6	
16	266.3	359.5	392.0	282.9	313.3	671.7	396.4	490.5	311.3	93.9	98.5	209.3	
17	251.6	344.1	294.0	307.5	311.3	696.5	365.2	457.9	284.7	105.0	101.3	185.5	
18	269.9	328.7	320.9	311.3	322.9	699.3	351.7	381.5	264.4	113.3	90.2	173.7	
19	319.0	282.9	418.6	317.1	309.4	680.0	361.4	353.7	249.8	107.7	103.1	187.0	
20	357.5	225.8	488.2	311.3	294.0	674.5	367.1	342.1	240.8	96.7	125.8	198.0	
21	347.9	255.2	513.7	277.4	338.3	682.8	349.8	334.4	234.1	82.8	191.6	190.0	
22	294.0	295.9	490.5	222.5	389.9	724.6	347.9	328.7	224.1	85.5	248.0	181.0	
23	297.9	305.5	423.2	219.2	434.7	832.7	363.3	330.6	207.7	99.4	202.8	176.5	
24	347.9	297.9	313.3	271.8	460.2	950.2	371.0	279.2	185.5	105.0	142.7	169.8	
25	373.1	313.3	317.1	295.9	434.7	1006.5	387.8	225.8	172.4	113.3	105.0	151.8	
26	379.4	313.3	365.2	307.5	392.0	1029.7	379.4	257.0	160.9	129.1	83.7	150.7	
27	367.1	260.7	379.4	303.6	394.2	1043.0	334.4	328.7	160.9	116.1	86.5	147.3	
28	328.7	271.8	336.3	268.1	446.3	1043.0	315.2	387.8	152.9	97.6	97.6	150.7	
29	246.2	295.9	284.7	220.9	497.4	1059.6	320.9	409.6	143.9	89.3		142.7	
30	260.7	309.4	217.6	215.9	532.5	1066.2	346.0	416.3	131.4	117.0		140.5	
31		328.7		268.1	545.0		357.5		118.1	126.9		135.9	
Total	9817.3	10023.4	12023.4	7897.0	11281.9	21911.0	16483.9	10304.4	7891.5	3288.1	3869.7	5002.6	119794.2 CMSDAY
Mean	327.2	323.3	400.8	254.7	363.9	730.4	531.7	343.5	254.6	106.1	138.2	161.4	328.2 CMS
Max	394.2	490.5	513.7	377.3	545.0	1066.2	1039.7	490.5	396.4	129.1	248.0	212.6	1066.2 CMS
Min	246.2	225.8	217.6	142.7	234.1	504.4	315.2	225.8	118.1	82.8	83.7	104.1	82.8 CMS
Runoff	848.21	866.02	1038.82	682.30	974.76	1893.11	1424.21	890.30	681.83	284.09	334.34	432.22	10350.22 MCM

Momentary Peak 1069.56 CMS, at 21.53 M (MSL), at 24.00 Hours, on Sep 29, 1993

Runoff Yield 2.97 Liters/Second/Square KM, Momentary Peak Yield 9.67 Liters/Second/Square KM

WATER YEAR 1993

CHAO PHRAYA RIVER BASIN

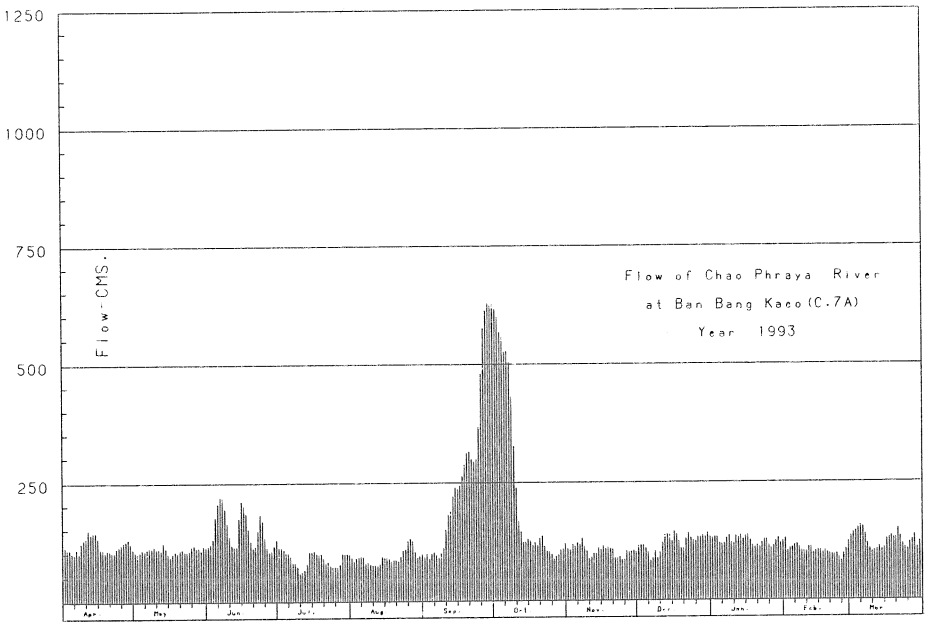
Chao Phraya River at Ban Bang Kaeo, Ang Thong (C.7A)

Location	Lat. 14°-35′-05″ N., Long. 100°-27′-12″ E., on left bank about 40 meters downstream from Ang Thong Bridge, Ban Bang Kaeo, Amphoe Muang, Ang Thong.
Drainage Area	Flood plain.
Type of Gage	Water-stage recorder.
Zero Gage at Bottom	+0.00 m.(M.S.L.)
Bench Mark	B.M.-H.D.
Location	Near Ang Thong Province's tennis court.
Elevation	+7.16 m.(M.S.L.)
Gage Reading Frequency	Recording.
Basis of Mean Daily Gage Height	Arithmetic mean of 24 readings.
Period of Available Gage Records	1971 to date.
Rating Operation	
Period of Rating	1976-1979, 1984 to date
Rated by Float	-
Rated by Current Meter	1976-1979, 1984 to date
Stability of Channel Regimes	Fairly stable because of backwater effect.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Stage-discharge relation defined by 90 discharge measurements made in 1993.

Gage Height in Meter (MSL), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.49	0.40	0.50	0.46	0.29	0.31	2.69	0.43	0.48	0.58	0.58	0.61	
2	0.43	0.36	0.51	0.46	0.24	0.35	2.63	0.42	0.50	0.60	0.40	0.64	
3	0.45	0.40	0.59	0.44	0.28	0.28	2.53	0.51	0.49	0.59	0.43	0.67	
4	0.37	0.43	0.84	0.37	0.31	0.35	2.49	0.47	0.45	0.52	0.46	0.70	
5	0.37	0.41	1.01	0.38	0.32	0.39	2.39	0.52	0.37	0.50	0.48	0.73	
6	0.44	0.45	1.09	0.31	0.30	0.33	2.39	0.51	0.24	0.52	0.51	0.72	
7	0.38	0.46	1.07	0.22	0.20	0.30	2.31	0.59	0.27	0.58	0.45	0.63	
8	0.53	0.46	0.95	0.20	0.21	0.36	2.02	0.47	0.39	0.62	0.40	0.51	
9	0.58	0.48	0.77	0.15	0.19	0.46	1.59	0.41	0.28	0.52	0.38	0.43	
10	0.59	0.45	0.61	0.03	0.16	0.69	1.18	0.26	0.38	0.52	0.39	0.38	
11	0.69	0.44	0.51	0.04	0.16	0.88	0.79	0.30	0.53	0.60	0.46	0.39	
12	0.65	0.43	0.47	0.08	0.16	0.91	0.67	0.35	0.62	0.59	0.45	0.42	
13	0.66	0.53	0.49	0.20	0.18	1.09	0.53	0.36	0.63	0.61	0.36	0.46	
14	0.67	0.47	0.83	0.39	0.32	1.18	0.54	0.44	0.62	0.57	0.38	0.42	
15	0.59	0.36	1.04	0.40	0.30	1.17	0.57	0.43	0.55	0.60	0.41	0.43	
16	0.45	0.32	0.98	0.40	0.29	1.20	0.55	0.48	0.66	0.62	0.40	0.56	
17	0.43	0.36	0.90	0.37	0.28	1.31	0.50	0.44	0.64	0.56	0.37	0.59	
18	0.39	0.41	0.70	0.34	0.23	1.41	0.53	0.45	0.54	0.48	0.39	0.60	
19	0.42	0.37	0.56	0.37	0.26	1.52	0.50	0.44	0.44	0.46	0.37	0.58	
20	0.42	0.43	0.47	0.28	0.25	1.54	0.58	0.42	0.43	0.48	0.34	0.58	
21	0.38	0.43	0.48	0.21	0.23	1.47	0.62	0.29	0.58	0.47	0.34	0.70	
22	0.39	0.41	0.69	0.22	0.32	1.44	0.47	0.27	0.64	0.52	0.32	0.62	
23	0.45	0.39	0.88	0.17	0.41	1.47	0.41	0.31	0.59	0.57	0.35	0.51	
24	0.49	0.42	0.81	0.13	0.44	1.76	0.38	0.24	0.55	0.56	0.27	0.44	
25	0.51	0.48	0.59	0.15	0.55	2.22	0.35	0.26	0.55	0.49	0.23	0.42	
26	0.54	0.51	0.46	0.13	0.59	2.55	0.27	0.39	0.59	0.43	0.33	0.52	
27	0.56	0.47	0.40	0.19	0.55	2.68	0.30	0.38	0.60	0.49	0.42	0.56	
28	0.59	0.46	0.40	0.37	0.40	2.73	0.34	0.38	0.61	0.54	0.53	0.61	
29	0.52	0.43	0.50	0.35	0.30	2.71	0.41	0.41	0.60	0.59		0.45	
30	0.44	0.49	0.58	0.37	0.31	2.72	0.44	0.37	0.64	0.51		0.53	
31		0.46		0.34	0.35		0.51		0.60	0.54		0.58	
Mean	0.50	0.43	0.69	0.27	0.30	1.26	1.05	0.40	0.52	0.54	0.40	0.55	
Max	0.69	0.53	1.09	0.46	0.59	2.73	2.69	0.59	0.66	0.62	0.58	0.73	2.73
Min	0.37	0.32	0.40	0.03	0.16	0.28	0.27	0.24	0.24	0.43	0.23	0.38	0.03

Annual Max Momentary Gage Height 2.76 M (MSL), at 1.00 Hours, on Sep 28, 1993
Zero Gage at Bottom Elevation 0.00 M (MSL), River Bed -7.39 M (MSL)
Left Bank Elevation 8.26 M (MSL)
Right Bank Elevation 7.22 M (MSL), Drainage Area Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	116.73	105.33	118.00	112.93	91.40	93.93	617.63	109.13	115.47	131.60	131.60	136.73	
2	109.13	100.27	119.70	112.93	85.07	99.00	599.43	107.87	118.00	135.00	105.33	141.93	
3	111.67	105.33	133.30	110.40	90.13	90.13	569.10	119.70	116.73	133.30	109.13	147.13	
4	101.53	109.13	176.60	101.53	93.93	99.00	557.00	114.20	111.67	121.40	112.93	152.33	
5	101.53	106.60	207.35	102.80	95.20	104.07	527.30	121.40	101.53	118.00	115.47	157.53	
6	110.40	111.67	222.15	93.93	92.67	96.47	527.30	119.70	85.07	121.40	119.70	155.80	
7	102.80	112.93	218.45	82.53	80.00	92.67	505.70	133.30	88.87	131.60	111.67	140.20	
8	123.10	112.93	196.25	80.00	81.27	100.27	430.53	114.20	104.07	138.47	105.33	119.70	
9	131.60	115.47	164.47	74.00	78.80	112.93	327.75	106.60	90.13	121.40	102.80	109.13	
10	133.30	111.67	136.73	60.30	75.20	150.60	239.60	87.60	102.80	121.40	104.07	102.80	
11	150.60	110.40	119.70	61.40	75.20	183.53	167.93	92.67	123.10	135.00	112.93	104.07	
12	143.67	109.13	114.20	65.80	75.20	188.85	147.13	99.00	138.47	133.30	111.67	107.87	
13	145.40	123.10	116.73	80.00	77.60	222.15	123.10	100.27	140.20	136.73	100.27	112.93	
14	147.13	114.20	174.87	104.07	95.20	239.60	124.80	110.40	138.47	129.90	102.80	107.87	
15	133.30	100.27	212.90	105.33	92.67	237.65	129.90	109.13	126.50	135.00	106.60	109.13	
16	111.67	95.20	201.80	105.33	91.40	243.50	126.50	115.47	145.40	138.47	105.33	128.20	
17	109.13	100.27	187.00	101.53	90.13	265.20	118.00	110.40	141.93	128.20	101.53	133.30	
18	104.07	106.60	152.33	97.73	83.80	287.25	123.10	111.67	124.80	115.47	104.07	135.00	
19	107.87	101.53	128.20	101.53	87.60	312.00	118.00	110.40	110.40	112.93	101.53	131.60	
20	107.87	109.13	114.20	90.13	86.33	316.50	131.60	107.87	109.13	115.47	97.73	131.60	
21	102.80	109.13	115.47	81.27	83.80	300.75	138.47	91.40	131.60	114.20	97.73	152.33	
22	104.07	106.60	150.60	82.53	95.20	294.00	114.20	88.87	141.93	121.40	95.20	138.47	
23	111.67	104.07	183.53	76.40	106.60	300.75	106.60	93.93	133.30	129.90	99.00	119.70	
24	116.73	107.87	171.40	71.60	110.40	367.60	102.80	85.07	126.50	128.20	88.87	110.40	
25	119.70	115.47	133.30	74.00	126.50	481.40	99.00	87.60	126.50	116.73	83.80	107.87	
26	124.80	119.70	112.93	71.60	133.30	575.17	88.87	104.07	133.30	109.13	96.47	121.40	
27	128.20	114.20	105.33	78.80	126.50	614.60	92.67	102.80	135.00	116.73	107.87	128.20	
28	133.30	112.93	105.33	101.53	105.33	629.77	97.73	102.80	136.73	124.80	123.10	136.73	
29	121.40	109.13	118.00	99.00	92.67	623.70	106.60	106.60	135.00	133.30		111.67	
30	110.40	116.73	131.60	101.53	93.93	626.73	110.40	101.53	141.93	119.70		123.10	
31		112.93		97.73	99.00		119.70		135.00	124.80		131.60	
Total	3575.57	3389.92	4542.42	2780.19	2892.03	8349.77	7388.44	3165.65	3809.53	3892.93	2954.53	3946.32	50687.31 CMSDAY
Mean	119.19	109.35	151.41	89.68	93.29	278.33	238.34	105.52	122.89	125.58	105.52	127.30	138.87 CMS
Max	150.60	123.10	222.15	112.93	133.30	629.77	617.63	133.30	145.40	138.47	131.60	157.53	629.77 CMS
Min	101.53	95.20	105.33	60.30	75.20	90.13	88.87	85.07	85.07	109.13	83.80	102.80	60.30 CMS
Runoff	308.929	292.889	392.465	240.208	249.871	721.420	638.361	273.512	329.143	336.349	255.271	340.962	4379.384 MCM

Momentary Peak 638.87 CMS, at 2.76 M (MSL), at 1.00 Hours, on Sep 28, 1993

Runoff Yield ********* Liters/Second/Square KM, Momentary Peak Yield ********* Liters/Second/Square KM

WATER YEAR 1993

CHAO PHRAYA RIVER BASIN

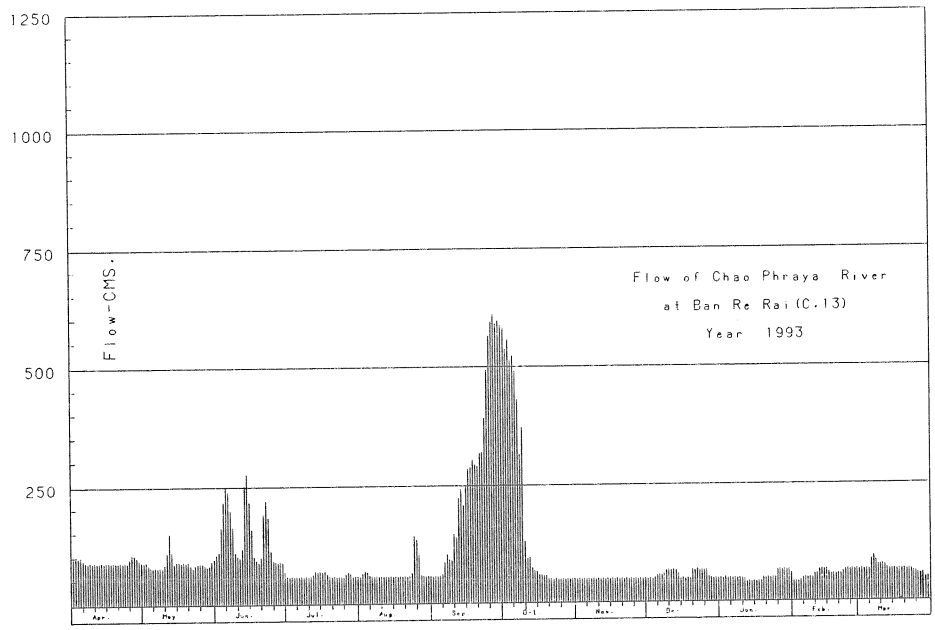
Chao Phraya River at Ban Re Rai, Chai Nat (C.13)

Location	Lat. 15°-09'-57" N., Long. 100°-11'-32" E., on left bank at Wat Pho Ngam about 1.5 kilometers downstream from Chao Phraya Diversion Dam, Amphoe Sanphaya, Chainat
Drainage Area	120,693 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+0.00 m.(M.S.L.)
Bench Mark	B.M.-H.D.
Location	On left bank about 5 meters from the top staff gage.
Elevation	+18.946 m.(M.S.L.)
Gage Reading Frequency	5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1947 to date.
Rating Operation	
Period of Rating	1953-1962, 1965-1968, 1972, 1975-1976, 1980 to date.
Rated by Float	-
Rated by Current Meter	1953-1962, 1965-1968, 1972, 1975-1976, 1980 to date.
Stability of Channel Regimes	Stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Flow regulated by Chao Phraya Diversion Dam above gage site which diverted for irrigation about 979,000 hectares. Stage-discharge relation defined by 128 discharge measurements made in 1993.

Gage Height in Meter (MSL), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	6.42	6.30	6.45	5.93	5.93	5.93	9.46	5.79	5.79	5.79	5.64	6.06	
2	6.42	6.30	6.53	5.93	6.00	5.93	9.23	5.79	5.79	5.79	5.64	6.06	
3	6.42	6.25	7.04	5.93	6.10	5.93	9.34	5.79	5.79	5.82	5.64	6.06	
4	6.42	6.18	7.47	5.93	6.04	5.93	9.11	5.79	5.81	5.79	5.66	6.06	
5	6.36	6.18	7.68	5.93	5.97	6.00	9.17	5.79	5.93	5.79	5.79	6.06	
6	6.30	6.18	7.61	5.93	5.93	6.27	9.00	5.79	5.93	5.79	5.79	6.29	
7	6.30	6.18	7.35	5.93	5.93	6.46	8.71	5.79	5.93	5.79	5.79	6.38	
8	6.30	6.18	7.03	5.93	5.93	6.33	8.07	5.79	5.95	5.79	5.79	6.26	
9	6.30	6.18	6.52	5.93	5.93	6.33	8.39	5.79	6.06	5.79	5.79	6.18	
10	6.30	6.24	6.42	5.93	5.93	6.87	6.72	5.79	6.06	5.79	5.93	6.18	
11	6.30	6.51	6.39	5.93	5.93	6.81	6.36	5.79	6.06	5.73	5.93	6.18	
12	6.30	6.92	6.58	6.01	5.93	7.51	6.37	5.79	6.06	5.64	6.06	6.17	
13	6.30	6.51	7.71	6.07	5.93	7.63	6.15	5.79	6.06	5.64	6.06	6.08	
14	6.30	6.27	7.84	6.07	5.93	7.41	6.06	5.79	5.95	5.64	6.06	6.06	
15	6.30	6.30	7.48	6.07	5.93	7.70	6.04	5.79	5.79	5.64	6.06	6.06	
16	6.30	6.30	7.00	6.07	5.93	7.89	5.96	5.79	5.79	5.64	5.97	6.06	
17	6.30	6.30	6.43	6.07	5.93	7.92	5.93	5.79	5.79	5.64	5.93	6.06	
18	6.30	6.30	6.33	6.01	5.93	8.00	5.93	5.79	5.79	5.67	5.93	6.06	
19	6.30	6.30	6.30	5.93	5.93	7.95	5.92	5.79	5.79	5.79	5.93	6.06	
20	6.30	6.30	6.40	5.93	5.93	7.92	5.81	5.79	6.06	5.79	5.93	6.06	
21	6.30	6.24	7.27	5.93	5.93	8.09	5.79	5.79	6.06	5.79	5.93	6.06	
22	6.30	6.18	7.50	5.93	5.93	8.09	5.79	5.79	6.06	5.79	5.99	6.06	
23	6.30	6.22	7.21	5.93	6.04	8.51	5.79	5.79	6.06	5.79	6.06	6.06	
24	6.30	6.27	6.55	5.93	6.83	9.01	5.79	5.79	6.06	5.82	6.06	6.06	
25	6.37	6.26	6.34	5.93	6.77	9.38	5.79	5.79	6.06	6.06	6.06	6.00	
26	6.46	6.26	6.30	6.00	6.49	9.53	5.79	5.79	6.06	6.06	6.06	5.93	
27	6.47	6.24	6.30	6.07	5.97	9.60	5.79	5.79	5.87	6.06	6.06	5.93	
28	6.42	6.19	6.30	6.00	5.93	9.50	5.79	5.79	5.79	6.06	6.06	5.93	
29	6.34	6.23	6.30	5.93	5.93	9.54	5.79	5.79	5.79	6.06		5.79	
30	6.30	6.31	6.06	5.93	5.93	9.49	5.79	5.79	5.79	6.06		5.79	
31		6.38		5.93	5.93		5.79		5.79	5.95		5.79	
Mean	6.34	6.29	6.82	5.97	6.02	7.65	6.82	5.79	5.92	5.81	5.91	6.06	
Max	6.47	6.92	7.84	6.07	6.83	9.60	9.46	5.79	6.06	6.06	6.06	6.38	9.60
Min	6.30	6.18	6.06	5.93	5.93	5.93	5.79	5.79	5.79	5.64	5.64	5.79	5.64

Annual Max Momentary Gage Height 9.67 M (MSL), at 13.00 Hours, on Sep 27, 1993
Zero Gage at Bottom Elevation 0.00 M (MSL), River Bed 1.65 M (MSL)
Left Bank Elevation 17.01 M (MSL)
Right Bank Elevation 16.31 M (MSL), Drainage Area 120693 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	101.03	89.50	104.08	58.10	58.10	58.10	582.00	50.39	50.39	50.39	42.74	67.80	
2	101.03	89.50	112.22	58.10	63.00	58.10	536.00	50.39	50.39	50.39	42.74	67.80	
3	101.03	84.75	164.53	58.10	71.00	58.10	558.00	50.39	50.39	51.92	42.74	67.80	
4	101.03	78.20	216.80	58.10	66.20	58.10	512.00	50.39	51.41	50.39	43.76	67.80	
5	95.20	78.20	248.80	58.10	60.90	63.00	524.00	50.39	58.10	50.39	50.39	67.80	
6	89.50	78.20	237.60	58.10	58.10	86.65	490.00	50.39	58.10	50.39	50.39	88.55	
7	89.50	78.20	200.50	58.10	58.10	105.10	432.00	50.39	58.10	50.39	50.39	97.10	
8	89.50	78.20	163.40	58.10	58.10	92.35	315.44	50.39	59.50	50.39	50.39	85.70	
9	89.50	78.20	111.20	58.10	58.10	92.35	371.50	50.39	67.80	50.39	50.39	78.20	
10	89.50	83.80	101.03	58.10	58.10	146.78	131.53	50.39	67.80	50.39	58.10	78.20	
11	89.50	110.18	98.05	58.10	58.10	140.68	95.20	50.39	67.80	47.33	58.10	78.20	
12	89.50	151.87	117.30	63.80	58.10	222.50	96.15	50.39	67.80	42.74	67.80	77.30	
13	89.50	110.18	253.70	68.60	58.10	240.80	75.50	50.39	67.80	42.74	67.80	69.40	
14	89.50	86.65	275.88	68.60	58.10	208.40	67.80	50.39	59.50	42.74	67.80	67.80	
15	89.50	89.50	218.20	68.60	58.10	252.00	66.20	50.39	50.39	42.74	67.80	67.80	
16	89.50	89.50	160.00	68.60	58.10	284.48	60.20	50.39	50.39	42.74	60.90	67.80	
17	89.50	89.50	102.05	68.60	58.10	289.64	58.10	50.39	50.39	42.74	58.10	67.80	
18	89.50	89.50	92.35	63.80	58.10	303.40	58.10	50.39	50.39	44.27	58.10	67.80	
19	89.50	89.50	89.50	58.10	58.10	294.80	57.40	50.39	50.39	50.39	58.10	67.80	
20	89.50	89.50	99.00	58.10	58.10	289.64	51.41	50.39	67.80	50.39	58.10	67.80	
21	89.50	83.80	190.60	58.10	58.10	318.88	50.39	50.39	67.80	50.39	58.10	67.80	
22	89.50	78.20	221.00	58.10	58.10	318.88	50.39	50.39	67.80	50.39	62.30	67.80	
23	89.50	81.90	183.80	58.10	66.20	393.50	50.39	50.39	67.80	50.39	67.80	67.80	
24	89.50	86.65	114.25	58.10	142.72	492.00	50.39	50.39	67.80	51.92	67.80	67.80	
25	96.15	85.70	93.30	58.10	136.62	566.00	50.39	50.39	67.80	67.80	67.80	63.00	
26	105.10	85.70	89.50	63.00	108.15	596.00	50.39	50.39	67.80	67.80	67.80	58.10	
27	106.12	83.80	89.50	68.60	60.90	610.00	50.39	50.39	54.47	67.80	67.80	58.10	
28	101.03	79.10	89.50	63.00	58.10	590.00	50.39	50.39	50.39	67.80	67.80	58.10	
29	93.30	82.85	89.50	58.10	58.10	598.00	50.39	50.39	50.39	67.80		50.39	
30	89.50	90.45	67.80	58.10	58.10	588.00	50.39	50.39	50.39	67.80		50.39	
31		97.10		58.10	58.10		50.39		50.39	59.50		50.39	
Total	2791.02	2747.88	4394.94	1885.30	2053.89	8416.23	5692.82	1511.70	1817.46	1623.64	1631.83	2125.92	36692.64 CMSDAY
Mean	93.03	88.64	146.50	60.82	66.25	280.54	183.64	50.39	58.63	52.38	58.28	68.58	100.53 CMS
Max	106.12	151.87	275.88	68.60	142.72	610.00	582.00	50.39	67.80	67.80	67.80	97.10	610.00 CMS
Min	89.50	78.20	67.80	58.10	58.10	58.10	50.39	50.39	50.39	42.74	42.74	50.39	42.74 CMS
Runoff	241.144	237.417	379.723	162.890	177.456	727.162	491.860	130.611	157.029	140.283	140.990	183.680	3170.244 MCM

Momentary Peak 624.00 CMS, at 9.67 M (MSL), at 13.00 Hours, on Sep 27, 1993

Runoff Yield 0.83 Liters/Second/Square KM, Momentary Peak Yield 5.17 Liters/Second/Square KM

WATER YEAR 1993

CHAO PHRAYA RIVER BASIN

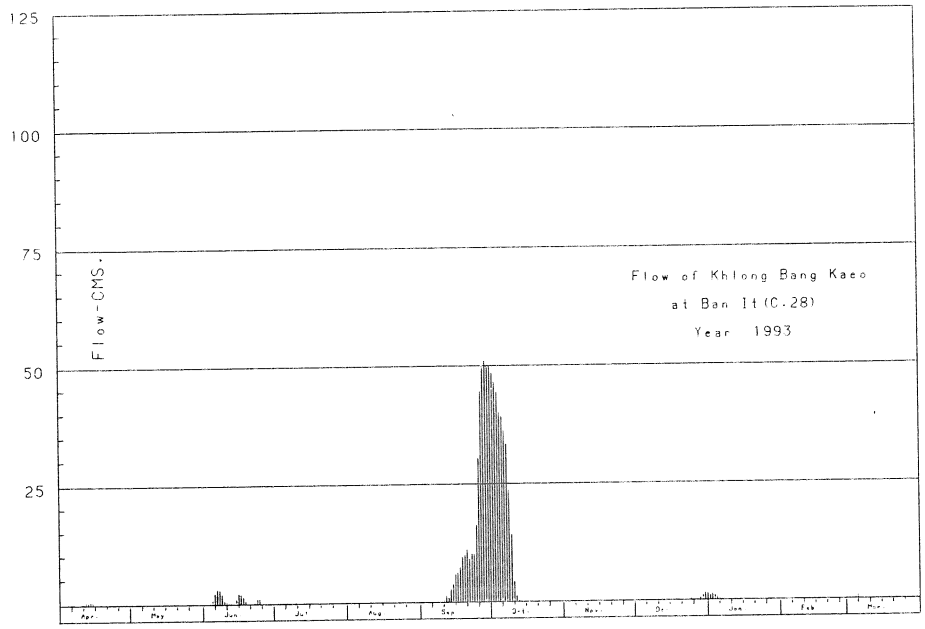
Khlong Bang Kaeo at Ban It, Ang Thong (C.28)

Location	Lat. 14°-35'-32" N., Long. 100°-28'-23" E., on right bank at the bridge on Asia Highway, Ban It, Amphoe Muang, Ang Thong.
Drainage Area	Flood plain.
Type of Gage	Staff gage.
Zero Gage at Bottom	+0.00 m.(M.S.L.)
Bench Mark	B.M.-Highways department.
Location	On right bank at the abutment of the bridge.
Elevation	+12.300 m.(M.S.L.)
Gage Reading Frequency	5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1969-1979, 1985 to date.
Rating Operation	
Period of Rating	1976,1978, 1985 - 1986, 1990 to date.
Rated by Float	-
Rated by Current Meter	1976,1978, 1985 - 1986, 1990 to date.
Stability of Channel Regimes	Fairly stable because of backwater effect.
Overbank Flow Conditions	No overbank flow.
General Description	Records fair. Stage-discharge relation defined by 8 discharge measurements made in 1993.

Gage Height in Meter (MSL), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.51	0.50	0.43	0.44	0.25	0.35	2.67	0.39	0.38	0.81	0.54	0.55	
2	0.43	0.43	0.47	0.45	0.31	0.43	2.62	0.35	0.40	0.85	0.40	0.57	
3	0.50	0.37	0.50	0.45	0.31	0.42	2.57	0.43	0.38	0.81	0.42	0.61	
4	0.34	0.41	0.77	0.35	0.40	0.44	2.46	0.37	0.34	0.77	0.46	0.62	
5	0.34	0.42	1.00	0.42	0.40	0.39	2.44	0.42	0.29	0.71	0.53	0.75	
6	0.40	0.45	1.06	0.31	0.38	0.29	2.36	0.40	0.15	0.64	0.48	0.68	
7	0.45	0.48	1.06	0.26	0.34	0.27	2.29	0.48	0.07	0.68	0.41	0.62	
8	0.50	0.48	0.95	0.29	0.42	0.40	1.99	0.39	0.15	0.68	0.36	0.49	
9	0.59	0.49	0.74	0.32	0.46	0.36	1.66	0.33	0.20	0.57	0.29	0.42	
10	0.58	0.51	0.63	0.21	0.21	0.69	1.16	0.24	0.25	0.54	0.29	0.38	
11	0.71	0.50	0.55	0.22	0.23	0.85	0.83	0.26	0.44	0.58	0.38	0.35	
12	0.67	0.50	0.45	0.18	0.23	0.79	0.65	0.30	0.49	0.57	0.39	0.37	
13	0.72	0.54	0.44	0.26	0.20	1.03	0.44	0.32	0.49	0.57	0.30	0.40	
14	0.69	0.45	0.81	0.43	0.37	1.12	0.41	0.42	0.59	0.57	0.34	0.39	
15	0.63	0.43	0.99	0.41	0.38	1.26	0.48	0.39	0.55	0.63	0.32	0.38	
16	0.49	0.33	0.94	0.39	0.36	1.27	0.50	0.38	0.54	0.64	0.38	0.52	
17	0.48	0.40	0.89	0.37	0.38	1.35	0.46	0.37	0.53	0.66	0.35	0.55	
18	0.40	0.42	0.70	0.31	0.29	1.46	0.45	0.39	0.60	0.57	0.39	0.62	
19	0.42	0.36	0.50	0.37	0.35	1.49	0.37	0.50	0.41	0.51	0.35	0.63	
20	0.43	0.40	0.40	0.25	0.32	1.53	0.53	0.34	0.29	0.51	0.34	0.58	
21	0.35	0.39	0.48	0.24	0.38	1.44	0.52	0.26	0.56	0.55	0.36	0.70	
22	0.42	0.43	0.63	0.27	0.31	1.50	0.45	0.17	0.59	0.59	0.32	0.62	
23	0.42	0.39	0.81	0.19	0.37	1.49	0.31	0.18	0.57	0.55	0.36	0.48	
24	0.49	0.46	0.79	0.13	0.46	1.74	0.31	0.20	0.63	0.55	0.24	0.45	
25	0.50	0.49	0.60	0.18	0.53	2.21	0.22	0.17	0.50	0.48	0.16	0.36	
26	0.56	0.58	0.52	0.18	0.54	2.57	0.18	0.25	0.57	0.33	0.26	0.44	
27	0.60	0.54	0.45	0.17	0.47	2.70	0.27	0.28	0.61	0.41	0.33	0.46	
28	0.60	0.53	0.42	0.29	0.57	2.73	0.26	0.43	0.71	0.45	0.42	0.58	
29	0.58	0.50	0.46	0.35	0.33	2.70	0.37	0.34	0.82	0.49		0.46	
30	0.51	0.51	0.48	0.36	0.34	2.70	0.37	0.35	0.89	0.52		0.59	
31		0.40		0.39	0.41		0.48		0.87	0.51		0.56	
Mean	0.51	0.45	0.66	0.30	0.36	1.27	1.00	0.34	0.48	0.59	0.36	0.52	
Max	0.72	0.58	1.06	0.45	0.57	2.73	2.67	0.50	0.89	0.85	0.54	0.75	2.73
Min	0.34	0.33	0.40	0.13	0.20	0.27	0.18	0.17	0.07	0.33	0.16	0.35	0.07

Annual Max Momentary Gage Height 2.76 M (MSL), at 6.00 Hours, on Sep 28, 1993
Zero Gage at Bottom Elevation 0.00 M (MSL), River Bed -0.87 M (MSL)
Left Bank Elevation 6.73 M (MSL)
Right Bank Elevation 7.16 M (MSL), Drainage Area Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.00	0.00	0.00	0.00	0.00	0.00	48.64	0.00	0.00	1.06	0.05	0.08	
2	0.00	0.00	0.00	0.00	0.00	0.00	46.54	0.00	0.00	1.30	0.00	0.12	
3	0.00	0.00	0.00	0.00	0.00	0.00	44.52	0.00	0.00	1.06	0.00	0.23	
4	0.00	0.00	0.85	0.00	0.00	0.00	40.17	0.00	0.00	0.85	0.00	0.26	
5	0.00	0.00	2.30	0.00	0.00	0.00	39.38	0.00	0.00	0.55	0.02	0.75	
6	0.00	0.00	3.02	0.00	0.00	0.00	36.24	0.00	0.00	0.32	0.00	0.44	
7	0.00	0.00	3.02	0.00	0.00	0.00	33.53	0.00	0.00	0.44	0.00	0.26	
8	0.00	0.00	1.95	0.00	0.00	0.00	23.59	0.00	0.00	0.44	0.00	0.00	
9	0.17	0.00	0.70	0.00	0.00	0.00	14.36	0.00	0.00	0.12	0.00	0.00	
10	0.15	0.00	0.29	0.00	0.00	0.47	4.40	0.00	0.00	0.05	0.00	0.00	
11	0.55	0.00	0.08	0.00	0.00	1.30	1.18	0.00	0.00	0.15	0.00	0.00	
12	0.41	0.00	0.00	0.00	0.00	0.95	0.35	0.00	0.00	0.12	0.00	0.00	
13	0.60	0.05	0.00	0.00	0.00	2.66	0.00	0.00	0.00	0.12	0.00	0.00	
14	0.47	0.00	1.06	0.00	0.00	3.80	0.00	0.00	0.17	0.12	0.00	0.00	
15	0.29	0.00	2.23	0.00	0.00	5.96	0.00	0.00	0.08	0.29	0.00	0.00	
16	0.00	0.00	1.88	0.00	0.00	6.12	0.00	0.00	0.05	0.32	0.00	0.00	
17	0.00	0.00	1.54	0.00	0.00	7.40	0.00	0.00	0.02	0.38	0.00	0.08	
18	0.00	0.00	0.50	0.00	0.00	9.46	0.00	0.00	0.20	0.12	0.00	0.26	
19	0.00	0.00	0.00	0.00	0.00	10.09	0.00	0.00	0.00	0.00	0.00	0.29	
20	0.00	0.00	0.00	0.00	0.00	11.05	0.02	0.00	0.00	0.00	0.00	0.15	
21	0.00	0.00	0.00	0.00	0.00	9.04	0.00	0.00	0.10	0.08	0.00	0.50	
22	0.00	0.00	0.29	0.00	0.00	10.30	0.00	0.00	0.17	0.17	0.00	0.26	
23	0.00	0.00	1.06	0.00	0.00	10.09	0.00	0.00	0.12	0.08	0.00	0.00	
24	0.00	0.00	0.95	0.00	0.00	16.44	0.00	0.00	0.29	0.08	0.00	0.00	
25	0.00	0.00	0.20	0.00	0.02	30.57	0.00	0.00	0.00	0.00	0.00	0.00	
26	0.10	0.15	0.00	0.00	0.05	44.52	0.00	0.00	0.12	0.00	0.00	0.00	
27	0.20	0.05	0.00	0.00	0.00	49.90	0.00	0.00	0.23	0.00	0.00	0.00	
28	0.20	0.02	0.00	0.00	0.12	51.19	0.00	0.00	0.55	0.00	0.00	0.15	
29	0.15	0.00	0.00	0.00	0.00	49.90	0.00	0.00	1.12	0.00		0.00	
30	0.00	0.00	0.00	0.00	0.00	49.90	0.00	0.00	1.54	0.00		0.17	
31		0.00		0.00	0.00		0.00		1.42	0.00		0.10	
Total	3.29	0.27	21.92	0.00	0.19	381.11	332.92	0.00	6.18	8.22	0.07	4.10	758.27 CMSDAY
Mean	0.11	0.01	0.73	0.00	0.01	12.70	10.74	0.00	0.20	0.27	0.00	0.13	2.08 CMS
Max	0.60	0.15	3.02	0.00	0.12	51.19	48.64	0.00	1.54	1.30	0.05	0.75	51.19 CMS
Min	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00 CMS
Runoff	0.284	0.023	1.894	0.000	0.016	32.928	28.764	0.000	0.534	0.710	0.006	0.354	65.515 MCM

Momentary Peak 52.48 CMS, at 2.76 M (MSL), at 6.00 Hours, on Sep 28, 1993

Runoff Yield ********* Liters/Second/Square KM, Momentary Peak Yield ********* Liters/Second/Square KM

WATER YEAR 1993

CHAO PHRAYA RIVER BASIN

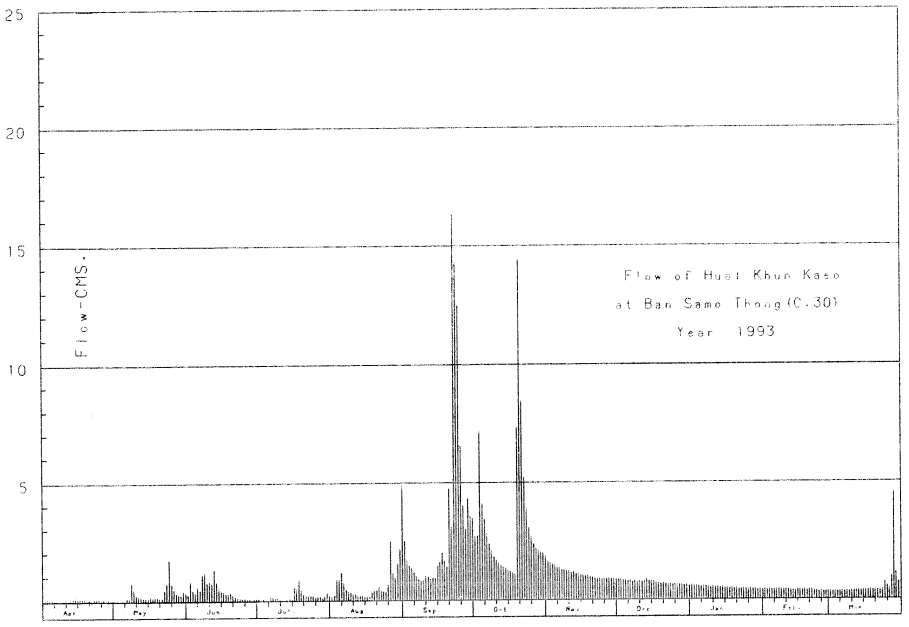
Huai Khun Kaeo at Ban Samo Thong, Uthai Thani (C.30)

Location	Lat. 15°-21'-04" N., Long. 99°-32'-22" E., on right bank infront of the Wat Samo Thong School, Ban Samo Thong, Tambon Khok Khwai, Amphoe Ban Rai, Uthai Thani.
Drainage Area	219 sq.km.
Type of Gage	Water-stage recorder.
Zero Gage at Bottom	+0.00 m.(A.D.)
Bench Mark	B.M.-H.D.
Location	On right bank about 60 meters from the top staff gage.
Elevation	+11.75 m.(A.D.)
Gage Reading Frequency	Recording.
Basis of Mean Daily Gage Height	Arithmetic mean of 24 readings.
Period of Available Gage Records	1982 to date.
Rating Operation	
Period of Rating	1983 to date.
Rated by Float	-
Rated by Current Meter	1983 to date.
Stability of Channel Regimes	Stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Stage-discharge relation defined by 123 discharge measurements made in 1993.

Gage Height in Meter (A.D), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.34	0.33	0.42	0.33	0.38	0.92	0.94	0.77	0.60	0.53	0.48	0.45	
2	0.35	0.32	0.58	0.33	0.42	0.78	0.95	0.75	0.59	0.53	0.48	0.45	
3	0.34	0.31	0.49	0.33	0.60	0.73	1.37	0.74	0.59	0.53	0.48	0.45	
4	0.34	0.31	0.44	0.33	0.60	0.70	1.11	0.73	0.58	0.52	0.48	0.45	
5	0.33	0.31	0.52	0.32	0.67	0.67	1.04	0.71	0.58	0.52	0.48	0.45	
6	0.33	0.37	0.49	0.39	0.56	0.63	0.96	0.70	0.58	0.52	0.48	0.45	
7	0.33	0.35	0.65	0.37	0.49	0.60	0.90	0.69	0.57	0.52	0.48	0.45	
8	0.33	0.57	0.66	0.36	0.46	0.58	0.85	0.68	0.57	0.51	0.48	0.45	
9	0.34	0.49	0.57	0.35	0.45	0.59	0.81	0.68	0.57	0.51	0.48	0.45	
10	0.34	0.42	0.58	0.34	0.43	0.63	0.78	0.67	0.57	0.51	0.47	0.45	
11	0.34	0.40	0.56	0.33	0.43	0.63	0.75	0.66	0.57	0.51	0.47	0.46	
12	0.34	0.39	0.70	0.32	0.40	0.60	0.73	0.66	0.58	0.51	0.47	0.46	
13	0.36	0.37	0.58	0.31	0.41	0.62	0.71	0.65	0.59	0.51	0.46	0.46	
14	0.38	0.35	0.52	0.35	0.40	0.61	0.71	0.65	0.58	0.51	0.46	0.46	
15	0.36	0.36	0.47	0.35	0.39	0.73	0.68	0.64	0.57	0.50	0.48	0.46	
16	0.36	0.39	0.46	0.52	0.39	0.76	0.67	0.63	0.57	0.50	0.47	0.46	
17	0.35	0.38	0.44	0.50	0.39	0.84	0.66	0.63	0.56	0.50	0.47	0.47	
18	0.35	0.38	0.43	0.60	0.46	0.77	0.64	0.63	0.55	0.50	0.47	0.47	
19	0.34	0.38	0.45	0.48	0.47	0.72	1.38	0.62	0.55	0.50	0.47	0.47	
20	0.34	0.36	0.42	0.42	0.49	1.17	1.85	0.61	0.55	0.50	0.47	0.47	
21	0.33	0.37	0.40	0.41	0.52	1.00	1.46	0.61	0.55	0.49	0.47	0.46	
22	0.35	0.49	0.37	0.40	0.48	1.95	1.21	0.60	0.54	0.49	0.46	0.46	
23	0.35	0.56	0.36	0.41	0.46	1.84	1.09	0.60	0.54	0.49	0.46	0.47	
24	0.35	0.79	0.35	0.40	0.46	1.73	1.00	0.60	0.54	0.49	0.45	0.56	
25	0.34	0.56	0.35	0.38	0.54	1.32	0.94	0.60	0.54	0.49	0.45	0.52	
26	0.34	0.49	0.35	0.38	0.92	1.10	0.90	0.60	0.54	0.49	0.45	0.49	
27	0.33	0.45	0.34	0.39	0.66	0.99	0.87	0.60	0.54	0.49	0.45	0.62	
28	0.33	0.42	0.34	0.37	0.61	1.13	0.85	0.60	0.53	0.49	0.45	1.15	
29	0.33	0.42	0.33	0.39	0.75	1.05	0.84	0.59	0.53	0.48		0.65	
30	0.32	0.47	0.35	0.45	0.86	1.04	0.83	0.59	0.53	0.48		0.56	
31		0.45		0.40	1.18		0.81		0.53	0.48		0.56	
Mean	0.34	0.42	0.47	0.39	0.54	0.91	0.94	0.65	0.56	0.50	0.47	0.50	
Max	0.38	0.79	0.70	0.60	1.18	1.95	1.85	0.77	0.60	0.53	0.48	1.15	1.95
Min	0.32	0.31	0.33	0.31	0.38	0.58	0.64	0.59	0.53	0.48	0.45	0.45	0.31

Annual Max Momentary Gage Height 2.21 M (A.D), at 7.00 Hours, on Sep 22, 1993
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed 0.59 M (A.D)
Left Bank Elevation 8.94 M (A.D)
Right Bank Elevation 6.46 M (A.D), Drainage Area 219 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.08	0.06	0.26	0.06	0.16	2.54	2.68	1.66	0.90	0.62	0.44	0.35	
2	0.10	0.04	0.82	0.06	0.26	1.71	2.75	1.57	0.86	0.62	0.44	0.35	
3	0.08	0.02	0.47	0.06	0.90	1.49	7.21	1.53	0.86	0.62	0.44	0.35	
4	0.08	0.02	0.32	0.06	0.90	1.35	4.11	1.49	0.82	0.58	0.44	0.35	
5	0.06	0.02	0.58	0.04	1.21	1.21	3.46	1.39	0.82	0.58	0.44	0.35	
6	0.06	0.14	0.47	0.18	0.74	1.03	2.82	1.35	0.82	0.58	0.44	0.35	
7	0.06	0.10	1.12	0.14	0.47	0.90	2.40	1.30	0.78	0.58	0.44	0.35	
8	0.06	0.78	1.17	0.12	0.38	0.82	2.10	1.26	0.78	0.54	0.44	0.35	
9	0.08	0.47	0.78	0.10	0.35	0.86	1.86	1.26	0.78	0.54	0.44	0.35	
10	0.08	0.26	0.82	0.08	0.29	1.03	1.71	1.21	0.78	0.54	0.41	0.35	
11	0.08	0.20	0.74	0.06	0.29	1.03	1.57	1.17	0.78	0.54	0.41	0.38	
12	0.08	0.18	1.35	0.04	0.20	0.90	1.49	1.17	0.82	0.54	0.41	0.38	
13	0.12	0.14	0.82	0.02	0.23	0.99	1.39	1.12	0.86	0.54	0.38	0.38	
14	0.16	0.10	0.58	0.10	0.20	0.94	1.39	1.12	0.82	0.54	0.38	0.38	
15	0.12	0.12	0.41	0.10	0.18	1.49	1.26	1.08	0.78	0.50	0.44	0.38	
16	0.12	0.18	0.38	0.58	0.18	1.62	1.21	1.03	0.78	0.50	0.41	0.38	
17	0.10	0.16	0.32	0.50	0.18	2.04	1.17	1.03	0.74	0.50	0.41	0.41	
18	0.10	0.16	0.29	0.90	0.38	1.66	1.08	1.03	0.70	0.50	0.41	0.41	
19	0.08	0.16	0.35	0.44	0.41	1.44	7.34	0.99	0.70	0.50	0.41	0.41	
20	0.08	0.12	0.26	0.26	0.47	4.77	14.50	0.94	0.70	0.50	0.41	0.41	
21	0.06	0.14	0.20	0.23	0.58	3.10	8.44	0.94	0.70	0.47	0.41	0.38	
22	0.10	0.47	0.14	0.20	0.44	16.35	5.22	0.90	0.66	0.47	0.38	0.38	
23	0.10	0.74	0.12	0.23	0.38	14.32	3.91	0.90	0.66	0.47	0.38	0.41	
24	0.10	1.76	0.10	0.20	0.38	12.52	3.10	0.90	0.66	0.47	0.35	0.74	
25	0.08	0.74	0.10	0.16	0.66	6.56	2.68	0.90	0.66	0.47	0.35	0.58	
26	0.08	0.47	0.10	0.16	2.54	4.00	2.40	0.90	0.66	0.47	0.35	0.47	
27	0.06	0.35	0.08	0.18	1.17	3.03	2.22	0.90	0.66	0.47	0.35	0.99	
28	0.06	0.26	0.08	0.14	0.94	4.33	2.10	0.90	0.62	0.47	0.35	4.55	
29	0.06	0.26	0.06	0.18	1.57	3.55	2.04	0.86	0.62	0.44		1.12	
30	0.04	0.41	0.10	0.35	2.16	3.46	1.98	0.86	0.62	0.44		0.74	
31		0.35		0.20	4.88		1.86		0.62	0.44		0.74	
Total	2.52	9.38	13.39	6.13	24.08	101.04	99.45	33.66	23.02	16.04	11.36	18.52	358.59 CMSDAY
Mean	0.08	0.30	0.45	0.20	0.78	3.37	3.21	1.12	0.74	0.52	0.41	0.60	0.98 CMS
Max	0.16	1.76	1.35	0.90	4.88	16.35	14.50	1.66	0.90	0.62	0.44	4.55	16.35 CMS
Min	0.04	0.02	0.06	0.02	0.16	0.82	1.08	0.86	0.62	0.44	0.35	0.35	0.02 CMS
Runoff	0.218	0.810	1.157	0.530	2.081	8.730	8.592	2.908	1.989	1.386	0.982	1.600	30.982 MCM

Momentary Peak 21.44 CMS, at 2.21 M (A.D), at 7.00 Hours, on Sep 22, 1993

Runoff Yield 4.49 Liters/Second/Square KM, Momentary Peak Yield 97.88 Liters/Second/Square KM

WATER YEAR 1993

SAKAE KRANG RIVER BASIN

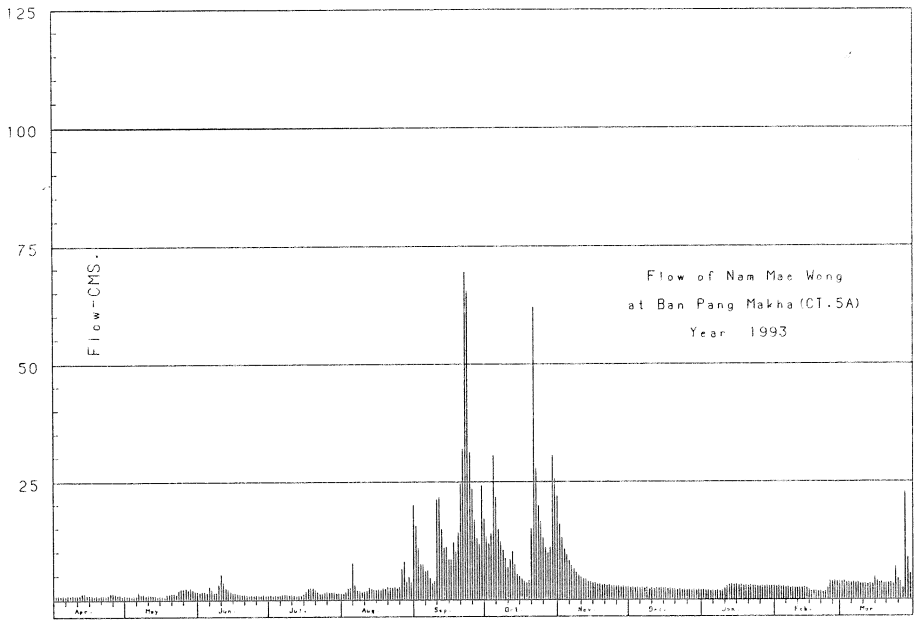
Nam Mae Wong at Ban Pang Makha, Kamphaeng Phet (CT.5A)

Location	Lat. 15°-54'-10" N., Long. 99°-28'-45" E., on left bank behind Wat Pang Makha, Amphoe Khanu Woralaksaburi, Kamphaeng Phet.
Drainage Area	938 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+0.00 m. (A.D.)
Bench Mark	B.M.-H.D.
Location	Infront of the station office.
Elevation	+4.60 m. (A.D.)
Gage Reading Frequency	13-time daily readings at 06.00 - 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 13 readings.
Period or Available Gage Records	1969 to date.
Rating Operation	
Period of Rating	1969 to date.
Rated by Float	-
Rated by Current Meter	1969 to date.
Stability of Channel Regimes	Stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Stage-discharge relation defined by 107 discharge measurements made in 1993.

Gage Height in Meter (A.D), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	-0.11	-0.13	0.01	-0.10	-0.02	0.75	0.68	0.76	0.17	0.08	0.19	0.30	
2	-0.12	-0.14	0.02	-0.11	0.01	0.59	0.63	0.67	0.16	0.08	0.19	0.30	
3	-0.12	-0.14	0.02	-0.11	0.14	0.47	0.70	0.59	0.15	0.08	0.18	0.28	
4	-0.12	-0.14	0.01	-0.10	0.14	0.46	1.08	0.54	0.15	0.06	0.18	0.27	
5	-0.13	-0.13	0.19	-0.08	0.48	0.41	0.90	0.50	0.15	0.06	0.17	0.27	
6	-0.11	0.03	0.08	-0.08	0.21	0.41	0.73	0.45	0.15	0.06	0.16	0.27	
7	-0.11	-0.06	0.01	-0.05	0.08	0.34	0.64	0.43	0.15	0.06	0.15	0.27	
8	-0.11	-0.06	-0.01	-0.07	0.05	0.27	0.58	0.39	0.15	0.06	0.15	0.27	
9	-0.12	-0.10	0.24	-0.08	0.03	0.30	0.51	0.37	0.14	0.06	0.15	0.25	
10	-0.12	-0.10	0.38	-0.09	0.03	0.89	0.44	0.34	0.14	0.13	0.15	0.25	
11	-0.09	-0.10	0.27	-0.11	0.06	0.90	0.50	0.33	0.13	0.18	0.15	0.24	
12	-0.03	-0.10	0.15	-0.11	0.15	0.73	0.57	0.32	0.13	0.23	0.15	0.24	
13	-0.05	-0.12	0.09	-0.11	0.14	0.60	0.46	0.30	0.14	0.23	0.15	0.24	
14	-0.09	-0.14	0.04	-0.10	0.08	0.60	0.38	0.28	0.14	0.23	0.15	0.24	
15	-0.11	-0.14	0.00	-0.04	0.10	0.51	0.35	0.27	0.14	0.23	0.09	0.34	
16	-0.11	-0.15	-0.03	0.03	0.09	0.50	0.33	0.26	0.13	0.22	0.03	0.30	
17	-0.12	-0.15	-0.04	0.14	0.10	0.64	0.30	0.25	0.12	0.22	0.06	0.28	
18	-0.12	-0.07	-0.07	0.14	0.13	0.56	0.28	0.24	0.12	0.21	0.04	0.27	
19	-0.12	-0.05	-0.07	0.15	0.13	0.71	0.31	0.23	0.11	0.21	0.04	0.26	
20	-0.12	-0.04	-0.09	0.08	0.16	0.97	0.73	0.22	0.10	0.21	0.03	0.25	
21	-0.12	-0.05	-0.10	0.01	0.15	1.10	1.53	0.22	0.10	0.21	0.02	0.27	
22	-0.12	-0.05	-0.10	-0.03	0.16	1.62	1.03	0.22	0.10	0.21	0.02	0.26	
23	-0.10	0.08	-0.10	-0.03	0.16	1.57	0.86	0.21	0.09	0.20	0.15	0.25	
24	-0.01	0.10	-0.10	0.02	0.15	1.09	0.77	0.20	0.09	0.20	0.30	0.44	
25	-0.03	0.10	-0.10	0.02	0.16	0.94	0.67	0.20	0.09	0.20	0.30	0.33	
26	-0.06	0.14	-0.10	0.02	0.42	0.78	0.60	0.19	0.08	0.20	0.30	0.28	
27	-0.08	0.09	-0.10	0.02	0.49	0.67	0.56	0.19	0.08	0.20	0.30	0.14	
28	-0.10	0.13	-0.09	0.01	0.30	0.62	0.60	0.18	0.08	0.20	0.30	0.93	
29	-0.12	0.09	-0.10	-0.01	0.35	0.96	1.08	0.18	0.08	0.20		0.52	
30	-0.12	0.03	-0.12	-0.03	0.27	0.79	0.99	0.17	0.08	0.19		0.38	
31		0.02		-0.04	0.86		0.91		0.08	0.19		0.24	
Mean	-0.10	-0.04	0.01	-0.03	0.19	0.73	0.67	0.32	0.12	0.16	0.15	0.30	
Max	-0.01	0.14	0.38	0.15	0.86	1.62	1.53	0.76	0.17	0.23	0.30	0.93	1.62
Min	-0.13	-0.15	-0.12	-0.11	-0.02	0.27	0.28	0.17	0.08	0.06	0.02	0.14	-0.15

Annual Max Momentary Gage Height 1.66 M (A.D), at 8.00 Hours, on Oct 21, 1993
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed -0.05 M (A.D)
Left Bank Elevation 4.62 M (A.D)
Right Bank Elevation 4.88 M (A.D), Drainage Area 938 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	1.00	0.89	1.67	1.05	1.49	15.85	13.44	16.22	2.79	2.16	2.93	4.00	
2	0.94	0.83	1.74	1.00	1.67	10.93	12.04	13.16	2.72	2.16	2.93	4.00	
3	0.94	0.83	1.74	1.00	2.58	7.75	14.00	10.93	2.65	2.16	2.86	3.80	
4	0.94	0.83	1.67	1.05	2.58	7.50	30.82	9.58	2.65	2.02	2.86	3.70	
5	0.89	0.89	2.93	1.16	8.00	6.25	21.70	8.50	2.65	2.02	2.79	3.70	
6	1.00	1.81	2.16	1.16	3.10	6.25	15.11	7.25	2.65	2.02	2.72	3.70	
7	1.00	1.27	1.67	1.33	2.16	4.80	12.32	6.75	2.65	2.02	2.65	3.70	
8	1.00	1.27	1.54	1.22	1.95	3.70	10.66	5.80	2.65	2.02	2.65	3.70	
9	0.94	1.05	3.40	1.16	1.81	4.00	8.77	5.40	2.58	2.02	2.65	3.50	
10	0.94	1.05	5.60	1.11	1.81	21.30	7.00	4.80	2.58	2.51	2.65	3.50	
11	1.11	1.05	3.70	1.00	2.02	21.70	8.50	4.60	2.51	2.86	2.65	3.40	
12	1.44	1.05	2.65	1.00	2.65	15.11	10.39	4.40	2.51	3.30	2.65	3.40	
13	1.33	0.94	2.23	1.00	2.58	11.20	7.50	4.00	2.58	3.30	2.65	3.40	
14	1.11	0.83	1.88	1.05	2.16	11.20	5.60	3.80	2.58	3.30	2.65	3.40	
15	1.00	0.83	1.60	1.38	2.30	8.77	5.00	3.70	2.58	3.30	2.23	4.80	
16	1.00	0.78	1.44	1.81	2.23	8.50	4.60	3.60	2.51	3.20	1.81	4.00	
17	0.94	0.78	1.38	2.58	2.30	12.32	4.00	3.50	2.44	3.20	2.02	3.80	
18	0.94	1.22	1.22	2.58	2.51	10.12	3.80	3.40	2.44	3.10	1.88	3.70	
19	0.94	1.33	1.22	2.65	2.51	14.37	4.20	3.30	2.37	3.10	1.88	3.60	
20	0.94	1.38	1.11	2.16	2.72	24.78	15.11	3.20	2.30	3.10	1.81	3.50	
21	0.94	1.33	1.05	1.67	2.65	32.00	62.19	3.20	2.30	3.10	1.74	3.70	
22	0.94	1.33	1.05	1.44	2.72	69.70	27.87	3.20	2.30	3.10	1.74	3.60	
23	1.05	2.16	1.05	1.44	2.72	65.51	20.10	3.10	2.23	3.00	2.65	3.50	
24	1.54	2.30	1.05	1.74	2.65	31.41	16.59	3.00	2.23	3.00	4.00	7.00	
25	1.44	2.30	1.05	1.74	2.72	23.46	13.16	3.00	2.23	3.00	4.00	4.60	
26	1.27	2.58	1.05	1.74	6.50	16.96	11.20	2.93	2.16	3.00	4.00	3.80	
27	1.16	2.23	1.05	1.74	8.25	13.16	10.12	2.93	2.16	3.00	4.00	2.58	
28	1.05	2.51	1.11	1.67	4.00	11.76	11.20	2.86	2.16	3.00	4.00	23.02	
29	0.94	2.23	1.05	1.54	5.00	24.34	30.82	2.86	2.16	3.00		9.04	
30	0.94	1.81	0.94	1.44	3.70	17.33	25.66	2.79	2.16	2.93		5.60	
31		1.74		1.38	20.10		22.14		2.16	2.93		3.40	
Total	31.61	43.43	53.00	45.99	112.14	532.03	465.61	155.76	75.64	85.93	76.05	144.14	1821.33 CMSDAY
Mean	1.05	1.40	1.77	1.48	3.62	17.73	15.02	5.19	2.44	2.77	2.72	4.65	4.99 CMS
Max	1.54	2.58	5.60	2.65	20.10	69.70	62.19	16.22	2.79	3.30	4.00	23.02	69.70 CMS
Min	0.89	0.78	0.94	1.00	1.49	3.70	3.80	2.79	2.16	2.02	1.74	2.58	0.78 CMS
Runoff	2.731	3.752	4.579	3.974	9.689	45.967	40.229	13.458	6.535	7.424	6.571	12.454	157.363 MCM

Momentary Peak 73.10 CMS, at 1.66 M (A.D), at 8.00 Hours, on Oct 21, 1993

Runoff Yield 5.32 Liters/Second/Square KM, Momentary Peak Yield 77.93 Liters/Second/Square KM

WATER YEAR 1993

SAKAE KRANG RIVER BASIN

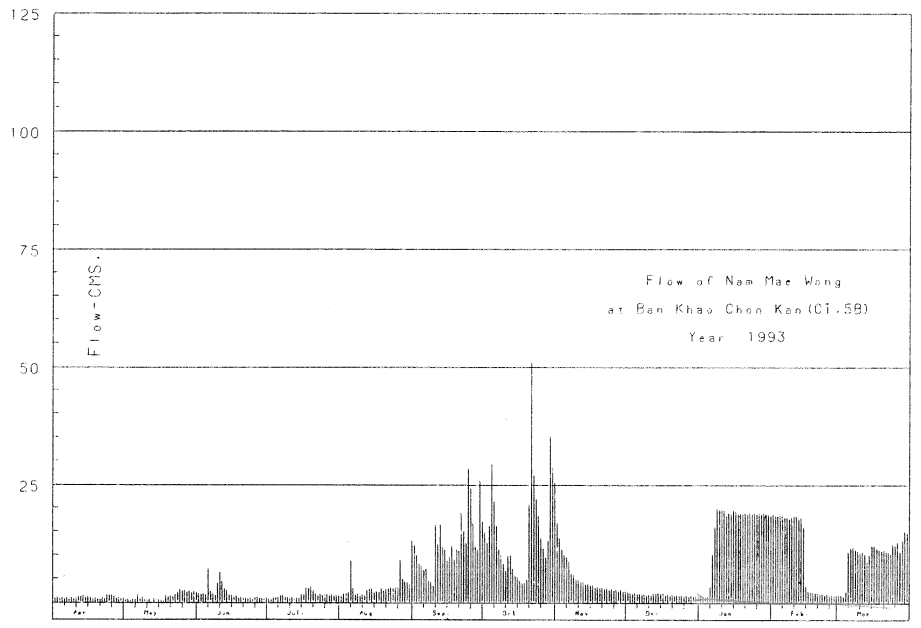
Nam Mae Wong at Ban Khao Chon Kan, Nakhon Sawan (CT.5B)

Location	Lat. 15°-54'-11" N., Long. 99°-27'-37" E., on right bank 8 kilometers upstream from CT.5A, Tambon Mae Lay, Amphoe Lat Yao, Nakhon Sawan.
Drainage Area	930 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+0.00 m.(A.D.)
Bench Mark	B.M.-H.D.
Location	On right bank about 7.00 meters from the top staff gage.
Elevation	+13.173 m.(A.D.)
Gage Reading Frequency	5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1987 to date.
Rating Operation	
Period of Rating	1988 to date.
Rated by Float	-
Rated by Current Meter	1988 to date.
Stability of Channel Regimes	Stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Stage-discharge relation defined by 55 discharge measurements made in 1993.

Gage Height in Meter (A.D), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	4.78	4.75	4.90	4.74	4.85	5.45	5.54	5.62	4.94	4.83	5.67	4.85	
2	4.78	4.74	4.90	4.76	4.89	5.36	5.47	5.50	4.91	4.83	5.67	4.85	
3	4.78	4.73	4.88	4.77	4.92	5.29	5.59	5.42	4.91	4.82	5.66	4.84	
4	4.77	4.73	4.86	4.80	4.92	5.26	5.99	5.36	4.91	4.82	5.66	4.95	
5	4.77	4.74	5.24	4.79	5.32	5.23	5.76	5.35	4.91	5.03	5.66	5.39	
6	4.77	4.86	4.95	4.87	4.99	5.23	5.60	5.30	4.90	5.37	5.66	5.43	
7	4.76	4.77	4.89	4.86	4.90	5.12	5.42	5.20	4.90	5.59	5.65	5.43	
8	4.77	4.79	4.88	4.82	4.88	5.09	5.36	5.17	4.88	5.71	5.65	5.42	
9	4.76	4.75	5.07	4.79	4.86	5.05	5.29	5.13	4.88	5.71	5.65	5.40	
10	4.76	4.74	5.21	4.79	4.87	5.60	5.22	5.12	4.87	5.71	5.67	5.39	
11	4.84	4.74	5.10	4.78	4.87	5.45	5.35	5.11	4.87	5.70	5.66	5.39	
12	4.84	4.73	5.00	4.77	4.95	5.61	5.37	5.09	4.90	5.67	5.65	5.38	
13	4.84	4.76	4.95	4.77	4.99	5.44	5.23	5.07	4.92	5.68	5.65	5.31	
14	4.81	4.75	4.88	4.79	4.98	5.41	5.17	5.06	4.91	5.68	5.59	5.36	
15	4.80	4.72	4.85	4.87	4.93	5.32	5.15	5.05	4.91	5.70	5.04	5.45	
16	4.78	4.71	4.83	4.90	4.93	5.34	5.11	5.04	4.90	5.69	4.94	5.44	
17	4.77	4.71	4.83	4.99	4.94	5.44	5.09	5.02	4.88	5.68	4.94	5.43	
18	4.77	4.85	4.80	5.01	4.99	5.33	5.08	5.01	4.88	5.68	4.92	5.41	
19	4.76	4.83	4.79	5.01	4.96	5.42	5.13	5.01	4.87	5.68	4.93	5.41	
20	4.76	4.83	4.78	4.97	4.97	5.40	5.74	5.00	4.87	5.68	4.91	5.41	
21	4.77	4.83	4.77	4.89	5.00	5.68	6.50	4.99	4.86	5.68	4.90	5.40	
22	4.77	4.86	4.77	4.87	5.00	5.56	5.93	4.99	4.86	5.68	4.89	5.39	
23	4.85	4.93	4.77	4.88	5.00	5.47	5.78	4.98	4.86	5.68	4.89	5.38	
24	4.88	4.96	4.77	4.87	5.00	5.96	5.66	4.98	4.85	5.68	4.88	5.45	
25	4.85	4.96	4.81	4.90	5.02	5.85	5.50	4.97	4.85	5.68	4.87	5.45	
26	4.82	4.95	4.80	4.88	5.33	5.61	5.42	4.97	4.84	5.68	4.86	5.47	
27	4.78	4.94	4.79	4.86	5.14	5.44	5.35	4.96	4.84	5.68	4.85	5.40	
28	4.78	4.94	4.76	4.87	5.10	5.41	5.49	4.96	4.84	5.68	4.85	5.49	
29	4.77	4.93	4.77	4.87	5.10	5.89	6.14	4.95	4.83	5.68		5.55	
30	4.76	4.93	4.77	4.85	5.05	5.63	5.97	4.94	4.83	5.67		5.55	
31		4.93		4.83	5.48		5.90		4.83	5.67		5.44	
Mean	4.79	4.82	4.88	4.85	5.00	5.44	5.53	5.11	4.88	5.54	5.28	5.35	
Max	4.88	4.96	5.24	5.01	5.48	5.96	6.50	5.62	4.94	5.71	5.67	5.55	6.50
Min	4.76	4.71	4.76	4.74	4.85	5.05	5.08	4.94	4.83	4.82	4.85	4.84	4.71

Annual Max Momentary Gage Height 6.74 M (A.D), at 6.00 Hours, on Oct 21, 1993
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed 4.34 M (A.D)
Left Bank Elevation 13.32 M (A.D)
Right Bank Elevation 12.88 M (A.D), Drainage Area 930 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	1.10	0.88	2.00	0.80	1.62	12.35	14.82	17.12	2.50	1.47	18.67	1.62	
2	1.10	0.80	2.00	0.95	1.92	10.10	12.89	13.70	2.12	1.47	18.67	1.62	
3	1.10	0.73	1.85	1.03	2.25	8.53	16.22	11.54	2.12	1.40	18.36	1.55	
4	1.03	0.73	1.70	1.25	2.25	7.85	29.62	10.10	2.12	1.40	18.36	2.62	
5	1.03	0.80	7.40	1.18	9.20	7.18	21.52	9.87	2.12	3.63	18.36	10.77	
6	1.03	1.70	2.62	1.77	3.12	7.18	16.50	8.75	2.00	10.32	18.36	11.81	
7	0.95	1.03	1.92	1.70	2.00	4.90	11.54	6.50	2.00	16.22	18.05	11.81	
8	1.03	1.18	1.85	1.40	1.85	4.38	10.10	5.90	1.85	19.92	18.05	11.54	
9	0.95	0.88	4.13	1.18	1.70	3.88	8.53	5.10	1.85	19.92	18.05	11.00	
10	0.95	0.80	6.73	1.18	1.77	16.50	6.95	4.90	1.77	19.92	18.67	10.77	
11	1.55	0.80	4.50	1.10	1.77	12.35	9.87	4.70	1.77	19.60	18.36	10.77	
12	1.55	0.73	3.25	1.03	2.62	16.81	10.32	4.38	2.00	18.67	18.05	10.55	
13	1.55	0.95	2.62	1.03	3.12	12.08	7.18	4.13	2.25	18.98	18.05	8.97	
14	1.32	0.88	1.85	1.18	3.00	11.27	5.90	4.00	2.12	18.98	16.22	10.10	
15	1.25	0.65	1.62	1.77	2.37	9.20	5.50	3.88	2.12	19.60	3.75	12.35	
16	1.10	0.58	1.47	2.00	2.37	9.65	4.70	3.75	2.00	19.29	2.50	12.08	
17	1.03	0.58	1.47	3.12	2.50	12.08	4.38	3.50	1.85	18.98	2.50	11.81	
18	1.03	1.62	1.25	3.38	3.12	9.42	4.25	3.38	1.85	18.98	2.25	11.27	
19	0.95	1.47	1.18	3.38	2.75	11.54	5.10	3.38	1.77	18.98	2.37	11.27	
20	0.95	1.47	1.10	2.87	2.87	11.00	20.88	3.25	1.77	18.98	2.12	11.27	
21	1.03	1.47	1.03	1.92	3.25	18.98	51.20	3.12	1.70	18.98	2.00	11.00	
22	1.03	1.70	1.03	1.77	3.25	15.38	27.34	3.12	1.70	18.98	1.92	10.77	
23	1.62	2.37	1.03	1.85	3.25	12.89	22.16	3.00	1.70	18.98	1.92	10.55	
24	1.85	2.75	1.03	1.77	3.25	28.48	18.36	3.00	1.62	18.98	1.85	12.35	
25	1.62	2.75	1.32	2.00	3.50	24.50	13.70	2.87	1.62	18.98	1.77	12.35	
26	1.40	2.62	1.25	1.85	9.42	16.81	11.54	2.87	1.55	18.98	1.70	12.89	
27	1.10	2.50	1.18	1.70	5.30	12.08	9.87	2.75	1.55	18.98	1.62	11.00	
28	1.10	2.50	0.95	1.77	4.50	11.27	13.43	2.75	1.55	18.98	1.62	13.43	
29	1.03	2.37	1.03	1.77	4.50	25.86	35.46	2.62	1.47	18.98		15.10	
30	0.95	2.37	1.03	1.62	3.88	17.43	28.86	2.50	1.47	18.67		15.10	
31		2.37		1.47	13.16		26.20		1.47	18.67		12.08	
Total	35.28	45.03	63.39	52.79	111.43	381.93	484.89	160.43	57.35	494.87	284.17	322.17	2493.73 CMSDAY
Mean	1.18	1.45	2.11	1.70	3.59	12.73	15.64	5.35	1.85	15.96	10.15	10.39	6.83 CMS
Max	1.85	2.75	7.40	3.38	13.16	28.48	51.20	17.12	2.50	19.92	18.67	15.10	51.20 CMS
Min	0.95	0.58	0.95	0.80	1.62	3.88	4.25	2.50	1.47	1.40	1.62	1.55	0.58 CMS
Runoff	3.048	3.891	5.477	4.561	9.628	32.999	41.895	13.861	4.955	42.757	24.552	27.835	215.458 MCM

Momentary Peak 65.53 CMS, at 6.74 M (A.D), at 6.00 Hours, on Oct 21, 1993
Runoff Yield 7.35 Liters/Second/Square KM, Momentary Peak Yield 70.47 Liters/Second/Square KM

WATER YEAR 1993

SAKAE KRANG RIVER BASIN

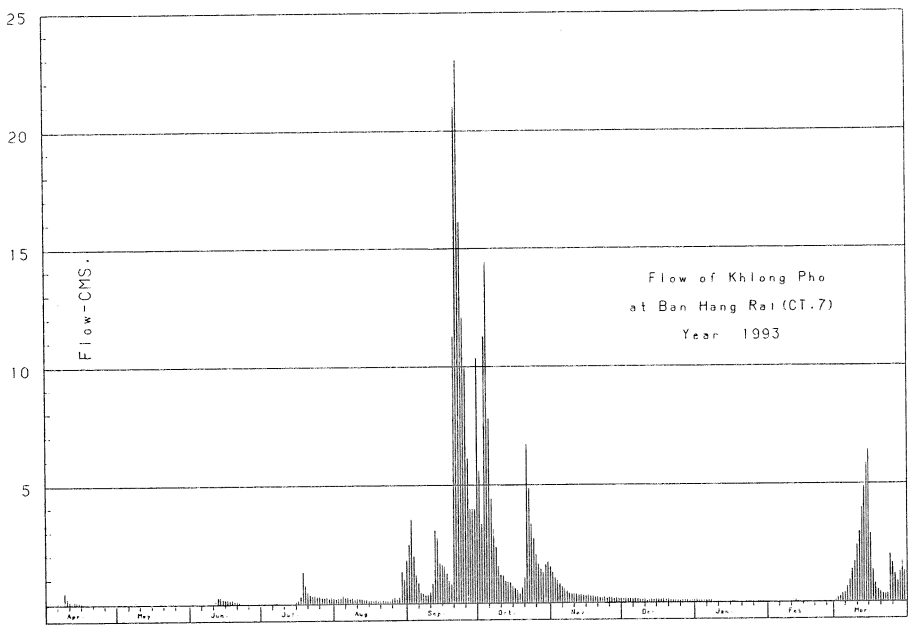
Khlong Pho at Ban Hang Rai, Nakhon Sawan (CT.7)

Location	Lat. 15°-38'-23" N., Long. 99°-32'-20" E., on right bank near the gage observer's house, Ban Hang Rai, Amphoe Lat Yao, Nakhon Sawan.
Drainage Area	457 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+0.00 m. (A.D.)
Bench Mark	B.M.-H.D.
Location	Infront of gage observer's house.
Elevation	+4.660 m. (A.D.)
Gage Reading Frequency	13-time daily readings at 06.00 - 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 13 readings.
Period of Available Gage Records	1975 to date.
Rating Operation	
Period of Rating	1975 to 1984, 1988 to date.
Rated by Float	-
Rated by Current Meter	1975 to 1984, 1988 to date.
Stability of Channel Regimes	Stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Stage-discharge relation defined by 31 discharge measurements made in 1993.

Gage Height in Meter (A.D), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.61	0.55	0.57	0.55	0.67	1.05	1.21	0.93	0.65	0.61	0.57	0.60	
2	0.61	0.55	0.59	0.54	0.67	1.12	1.11	0.91	0.65	0.60	0.57	0.64	
3	0.61	0.55	0.58	0.52	0.70	1.01	1.40	0.89	0.65	0.60	0.57	0.70	
4	0.60	0.54	0.57	0.51	0.74	0.92	1.48	0.87	0.65	0.60	0.57	0.75	
5	0.60	0.53	0.58	0.51	0.71	0.88	1.29	0.85	0.64	0.60	0.57	0.80	
6	0.61	0.52	0.57	0.59	0.71	0.81	1.16	0.83	0.64	0.60	0.57	0.85	
7	0.61	0.51	0.57	0.59	0.68	0.79	1.10	0.82	0.64	0.60	0.57	0.89	
8	0.82	0.61	0.58	0.59	0.69	0.77	1.04	0.80	0.63	0.59	0.57	0.94	
9	0.70	0.58	0.59	0.58	0.66	0.76	0.96	0.79	0.63	0.59	0.57	0.98	
10	0.62	0.57	0.58	0.57	0.68	0.81	0.92	0.78	0.63	0.59	0.57	1.04	
11	0.60	0.57	0.62	0.52	0.67	0.87	0.92	0.77	0.63	0.59	0.60	1.09	
12	0.63	0.58	0.72	0.51	0.66	1.10	0.89	0.76	0.63	0.59	0.60	1.14	
13	0.60	0.58	0.71	0.50	0.65	1.07	0.88	0.76	0.63	0.59	0.59	1.18	
14	0.60	0.58	0.68	0.59	0.64	0.98	0.88	0.75	0.63	0.59	0.58	1.22	
15	0.60	0.57	0.66	0.61	0.63	0.97	0.85	0.74	0.63	0.59	0.58	1.24	
16	0.58	0.57	0.65	0.63	0.62	0.96	0.84	0.74	0.63	0.59	0.58	1.08	
17	0.58	0.57	0.64	0.75	0.62	0.93	0.82	0.73	0.63	0.59	0.58	0.94	
18	0.58	0.57	0.64	0.94	0.63	0.89	0.80	0.72	0.63	0.59	0.58	0.86	
19	0.58	0.57	0.62	0.86	0.62	0.87	0.84	0.71	0.63	0.59	0.58	0.82	
20	0.58	0.57	0.61	0.81	0.63	1.40	0.91	0.70	0.63	0.59	0.58	0.79	
21	0.57	0.57	0.59	0.79	0.63	1.62	1.25	0.69	0.62	0.59	0.57	0.77	
22	0.58	0.57	0.59	0.76	0.62	1.66	1.18	0.68	0.61	0.59	0.57	0.75	
23	0.58	0.57	0.58	0.75	0.61	1.52	1.11	0.68	0.60	0.59	0.57	0.75	
24	0.58	0.60	0.58	0.74	0.61	1.42	1.07	0.67	0.60	0.59	0.57	1.01	
25	0.57	0.59	0.58	0.73	0.67	1.36	1.01	0.67	0.60	0.59	0.57	0.97	
26	0.57	0.58	0.58	0.71	0.70	1.23	0.97	0.67	0.61	0.59	0.57	0.92	
27	0.56	0.58	0.57	0.71	0.66	1.14	0.95	0.66	0.61	0.59	0.57	0.88	
28	0.56	0.57	0.57	0.71	0.70	1.14	0.93	0.66	0.61	0.59	0.57	0.93	
29	0.56	0.57	0.55	0.68	0.94	1.14	0.97	0.66	0.61	0.59		0.98	
30	0.56	0.58	0.54	0.70	0.90	1.37	0.98	0.65	0.61	0.58		0.93	
31		0.58		0.68	0.99		0.96		0.61	0.58		0.93	
Mean	0.60	0.57	0.60	0.65	0.69	1.09	1.02	0.75	0.63	0.59	0.58	0.92	
Max	0.82	0.61	0.72	0.94	0.99	1.66	1.48	0.93	0.65	0.61	0.60	1.24	1.66
Min	0.56	0.51	0.54	0.50	0.61	0.76	0.80	0.65	0.60	0.58	0.57	0.60	0.50

Annual Max Momentary Gage Height 1.70 M (A.D), at 12.00 Hours, on Sep 22, 1993
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed 0.58 M (A.D)
Left Bank Elevation 4.38 M (A.D)
Right Bank Elevation 4.47 M (A.D), Drainage Area 457 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.11	0.00	0.00	0.00	0.21	2.50	5.58	1.27	0.17	0.11	0.00	0.10	
2	0.11	0.00	0.05	0.00	0.21	3.54	3.32	1.09	0.17	0.10	0.00	0.16	
3	0.11	0.00	0.00	0.00	0.25	2.02	11.30	0.94	0.17	0.10	0.00	0.25	
4	0.10	0.00	0.00	0.00	0.31	1.18	14.42	0.82	0.17	0.10	0.00	0.33	
5	0.10	0.00	0.00	0.00	0.26	0.88	7.82	0.70	0.16	0.10	0.00	0.40	
6	0.11	0.00	0.00	0.05	0.26	0.46	4.42	0.58	0.16	0.10	0.00	0.70	
7	0.11	0.00	0.00	0.05	0.22	0.39	3.10	0.52	0.16	0.10	0.00	0.94	
8	0.52	0.11	0.00	0.05	0.23	0.35	2.38	0.40	0.14	0.05	0.00	1.36	
9	0.25	0.00	0.05	0.00	0.19	0.34	1.54	0.39	0.14	0.05	0.00	1.72	
10	0.13	0.00	0.00	0.00	0.22	0.46	1.18	0.37	0.14	0.05	0.00	2.38	
11	0.10	0.00	0.13	0.00	0.21	0.82	1.18	0.35	0.14	0.05	0.10	2.98	
12	0.14	0.00	0.28	0.00	0.19	3.10	0.94	0.34	0.14	0.05	0.10	3.98	
13	0.10	0.00	0.26	0.00	0.17	2.74	0.88	0.34	0.14	0.05	0.05	4.86	
14	0.10	0.00	0.22	0.05	0.16	1.72	0.88	0.33	0.14	0.05	0.00	5.86	
15	0.10	0.00	0.19	0.11	0.14	1.63	0.70	0.31	0.14	0.05	0.00	6.42	
16	0.00	0.00	0.17	0.14	0.13	1.54	0.64	0.31	0.14	0.05	0.00	2.86	
17	0.00	0.00	0.16	0.33	0.13	1.27	0.52	0.30	0.14	0.05	0.00	1.36	
18	0.00	0.00	0.16	1.36	0.14	0.94	0.40	0.28	0.14	0.05	0.00	0.76	
19	0.00	0.00	0.13	0.76	0.13	0.82	0.64	0.26	0.14	0.05	0.00	0.52	
20	0.00	0.00	0.11	0.46	0.14	11.30	1.09	0.25	0.14	0.05	0.00	0.39	
21	0.00	0.00	0.05	0.39	0.14	21.00	6.70	0.23	0.13	0.05	0.00	0.35	
22	0.00	0.00	0.05	0.34	0.13	23.00	4.86	0.22	0.11	0.05	0.00	0.33	
23	0.00	0.00	0.00	0.33	0.11	16.16	3.32	0.22	0.10	0.05	0.00	0.33	
24	0.00	0.10	0.00	0.31	0.11	12.08	2.74	0.21	0.10	0.05	0.00	2.02	
25	0.00	0.05	0.00	0.30	0.21	10.02	2.02	0.21	0.10	0.05	0.00	1.63	
26	0.00	0.00	0.00	0.26	0.25	6.14	1.63	0.21	0.11	0.05	0.00	1.18	
27	0.00	0.00	0.00	0.26	0.19	3.98	1.45	0.19	0.11	0.05	0.00	0.88	
28	0.00	0.00	0.00	0.26	0.25	3.98	1.27	0.19	0.11	0.05	0.00	1.27	
29	0.00	0.00	0.00	0.22	1.36	3.98	1.63	0.19	0.11	0.05		1.72	
30	0.00	0.00	0.00	0.25	1.00	10.34	1.72	0.17	0.11	0.00		1.27	
31		0.00		0.22	1.81		1.54		0.11	0.00		1.27	
Total	2.19	0.26	2.01	6.50	9.46	148.68	91.81	12.19	4.18	1.81	0.25	50.58	329.92 CMSDAY
Mean	0.07	0.01	0.07	0.21	0.31	4.96	2.96	0.41	0.13	0.06	0.01	1.63	0.90 CMS
Max	0.52	0.11	0.28	1.36	1.81	23.00	14.42	1.27	0.17	0.11	0.10	6.42	23.00 CMS
Min	0.00	0.00	0.00	0.00	0.11	0.34	0.40	0.17	0.10	0.00	0.00	0.10	0.00 CMS
Runoff	0.189	0.022	0.174	0.562	0.817	12.846	7.932	1.053	0.361	0.156	0.022	4.370	28.505 MCM

Momentary Peak 25.00 CMS, at 1.70 M (A.D), at 12.00 Hours, on Sep 22, 1993

Runoff Yield 1.98 Liters/Second/Square KM, Momentary Peak Yield 54.70 Liters/Second/Square KM

WATER YEAR 1993

SAKAE KRANG RIVER BASIN

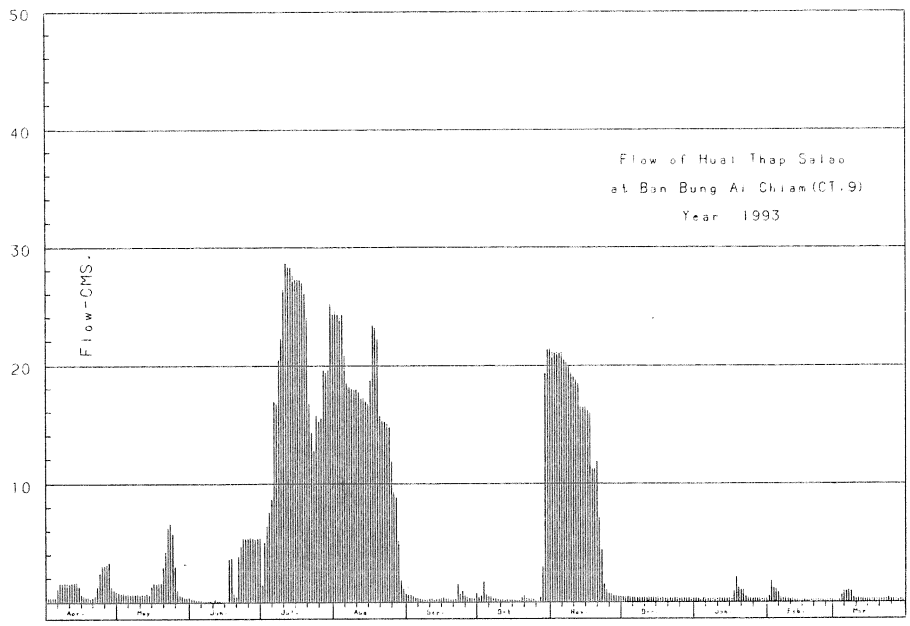
Huai Thap Salao at Ban Bung Ai Chiam, Uthai Thani (CT.9)

Location	Lat. 15°-31'-38" N., Long. 99°-28'-10" E., on left bank about 9 kilometers upstream from CT.6, Ban Bung Ai Chiam, King Amphoe Lan Sak, Uthai Thani.
Drainage Area	522 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+123.45 m. (M.S.L.)
Bench Mark	B.M.-H.D.
Location	On right bank about 100 meters from the gage observer's house.
Elevation	+129.00 m. (M.S.L.)
Gage Reading Frequency	13-time daily readings at 06.00 - 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 13 readings.
Period of Available Gage Records	1977 to date.
Rating Operation	
Period of Rating	1977 to date.
Rated by Float	-
Rated by Current Meter	1977 to date.
Stability of Channel Regimes	Stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Stage-discharge relation defined by 153 discharge measurements made in 1993.

Gage Height in Meter (MSL), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	124.13	124.22	124.10	124.32	125.51	124.18	124.13	125.39	124.15	124.11	124.17	124.09	
2	124.12	124.21	124.09	124.63	125.50	124.19	124.16	125.39	124.14	124.11	124.35	124.09	
3	124.12	124.21	124.09	124.73	125.49	124.15	124.35	125.39	124.14	124.11	124.29	124.09	
4	124.12	124.20	124.08	124.80	125.50	124.13	124.20	125.39	124.14	124.11	124.27	124.19	
5	124.28	124.20	124.08	124.86	125.38	124.11	124.16	125.39	124.13	124.11	124.23	124.24	
6	124.33	124.19	124.07	125.24	125.30	124.11	124.14	125.37	124.13	124.11	124.13	124.25	
7	124.33	124.19	124.07	125.23	125.29	124.10	124.11	125.36	124.13	124.11	124.12	124.25	
8	124.34	124.20	124.07	125.37	125.28	124.09	124.11	125.35	124.13	124.11	124.13	124.25	
9	124.33	124.19	124.07	125.43	125.28	124.09	124.10	125.33	124.13	124.11	124.11	124.13	
10	124.33	124.19	124.06	125.57	125.28	124.11	124.09	125.32	124.13	124.11	124.10	124.11	
11	124.33	124.19	124.09	125.64	125.27	124.10	124.09	125.31	124.13	124.11	124.10	124.12	
12	124.34	124.19	124.08	125.63	125.25	124.09	124.09	125.30	124.13	124.11	124.09	124.11	
13	124.34	124.20	124.07	125.63	125.25	124.09	124.09	125.22	124.13	124.11	124.09	124.11	
14	124.31	124.19	124.06	125.61	125.24	124.11	124.09	125.22	124.13	124.11	124.09	124.10	
15	124.20	124.31	124.06	125.60	125.23	124.11	124.08	125.22	124.13	124.11	124.09	124.10	
16	124.16	124.33	124.06	125.60	125.31	124.12	124.08	125.21	124.13	124.11	124.09	124.10	
17	124.14	124.33	124.52	125.60	125.47	124.11	124.08	125.20	124.12	124.24	124.09	124.10	
18	124.13	124.33	124.53	125.59	125.46	124.10	124.08	124.99	124.12	124.39	124.09	124.10	
19	124.11	124.34	124.20	125.56	125.43	124.09	124.14	124.99	124.12	124.29	124.09	124.11	
20	124.12	124.46	124.15	125.49	125.19	124.09	124.17	125.02	124.12	124.27	124.09	124.10	
21	124.17	124.57	124.54	125.23	125.17	124.10	124.11	124.77	124.12	124.26	124.09	124.10	
22	124.30	124.72	124.61	125.13	125.17	124.33	124.11	124.59	124.12	124.16	124.09	124.10	
23	124.42	124.74	124.66	125.06	125.16	124.20	124.10	124.33	124.12	124.13	124.09	124.11	
24	124.47	124.69	124.66	125.19	125.15	124.25	124.10	124.26	124.12	124.12	124.09	124.17	
25	124.48	124.47	124.66	125.17	125.02	124.18	124.08	124.22	124.12	124.11	124.09	124.11	
26	124.48	124.25	124.66	125.18	124.89	124.13	124.08	124.20	124.12	124.11	124.09	124.10	
27	124.50	124.18	124.66	125.34	124.87	124.12	124.14	124.18	124.12	124.11	124.09	124.10	
28	124.30	124.15	124.65	125.33	124.64	124.11	124.47	124.17	124.12	124.10	124.09	124.11	
29	124.26	124.13	124.66	125.34	124.36	124.11	125.33	124.16	124.12	124.10		124.10	
30	124.23	124.12	124.66	125.53	124.27	124.21	125.40	124.15	124.12	124.10		124.10	
31		124.11		125.50	124.21		125.40		124.12	124.10		124.10	
Mean	124.27	124.29	124.30	125.29	125.16	124.13	124.25	124.95	124.13	124.14	124.13	124.13	
Max	124.50	124.74	124.66	125.64	125.51	124.33	125.40	125.39	124.15	124.39	124.35	124.25	125.64
Min	124.11	124.11	124.06	124.32	124.21	124.09	124.08	124.15	124.12	124.10	124.09	124.09	124.06

Annual Max Momentary Gage Height 125.65 M (MSL), at 15.00 Hours, on Jul 11, 1993
Zero Gage at Bottom Elevation 123.45 M (MSL), River Bed 124.09 M (MSL)
Left Bank Elevation 127.65 M (MSL)
Right Bank Elevation 127.54 M (MSL), Drainage Area 522 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.42	0.82	0.30	1.50	24.65	0.62	0.42	21.11	0.50	0.34	0.58	0.24	
2	0.38	0.76	0.24	5.02	24.35	0.66	0.54	21.11	0.46	0.34	1.80	0.24	
3	0.38	0.76	0.24	6.48	24.05	0.50	1.80	21.11	0.46	0.34	1.24	0.24	
4	0.38	0.70	0.18	7.60	24.35	0.42	0.70	21.11	0.46	0.34	1.12	0.66	
5	1.18	0.70	0.18	8.74	20.82	0.34	0.54	21.11	0.42	0.34	0.88	0.94	
6	1.60	0.66	0.12	17.00	18.50	0.34	0.46	20.53	0.42	0.34	0.42	1.00	
7	1.60	0.66	0.12	16.75	18.25	0.30	0.34	20.24	0.42	0.34	0.38	1.00	
8	1.70	0.70	0.12	20.53	18.00	0.24	0.34	19.95	0.42	0.34	0.42	1.00	
9	1.60	0.66	0.12	22.28	18.00	0.24	0.30	19.37	0.42	0.34	0.34	0.42	
10	1.60	0.66	0.06	26.42	18.00	0.34	0.24	19.08	0.42	0.34	0.30	0.34	
11	1.60	0.66	0.24	28.70	17.75	0.30	0.24	18.79	0.42	0.34	0.30	0.38	
12	1.70	0.66	0.18	28.35	17.25	0.24	0.24	18.50	0.42	0.34	0.24	0.34	
13	1.70	0.70	0.12	28.35	17.25	0.24	0.24	16.50	0.42	0.34	0.24	0.34	
14	1.40	0.66	0.06	27.65	17.00	0.34	0.24	16.50	0.42	0.34	0.24	0.30	
15	0.70	1.40	0.06	27.30	16.75	0.34	0.18	16.50	0.42	0.34	0.24	0.30	
16	0.54	1.60	0.06	27.30	18.79	0.38	0.18	16.25	0.42	0.34	0.24	0.30	
17	0.46	1.60	3.64	27.30	23.47	0.34	0.18	16.00	0.38	0.94	0.24	0.30	
18	0.42	1.60	3.76	27.00	23.17	0.30	0.18	11.30	0.38	2.20	0.24	0.30	
19	0.34	1.70	0.70	26.12	22.28	0.24	0.46	11.30	0.38	1.24	0.24	0.34	
20	0.38	2.96	0.50	24.05	15.77	0.24	0.58	11.94	0.38	1.12	0.24	0.30	
21	0.58	4.24	3.88	16.75	15.31	0.30	0.34	7.12	0.38	1.06	0.24	0.30	
22	1.30	6.32	4.74	14.39	15.31	1.60	0.34	4.48	0.38	0.54	0.24	0.30	
23	2.52	6.64	5.44	12.82	15.08	0.70	0.30	1.60	0.38	0.42	0.24	0.34	
24	3.07	5.86	5.44	15.77	14.85	1.00	0.30	1.06	0.38	0.38	0.24	0.58	
25	3.18	3.07	5.44	15.31	11.94	0.62	0.18	0.82	0.38	0.34	0.24	0.34	
26	3.18	1.00	5.44	15.54	9.31	0.42	0.18	0.70	0.38	0.34	0.24	0.30	
27	3.40	0.62	5.44	19.66	8.93	0.38	0.46	0.62	0.38	0.34	0.24	0.30	
28	1.30	0.50	5.30	19.37	5.16	0.34	3.07	0.58	0.38	0.30	0.24	0.34	
29	1.06	0.42	5.44	19.66	1.90	0.34	19.37	0.54	0.38	0.30		0.30	
30	0.88	0.38	5.44	25.23	1.12	0.76	21.40	0.50	0.38	0.30		0.30	
31		0.34		24.35	0.76		21.40		0.38	0.30		0.30	
Total	40.55	50.01	63.00	603.29	498.12	13.42	75.74	376.32	12.62	15.56	11.86	12.98	1773.47 CMSDAY
Mean	1.35	1.61	2.10	19.46	16.07	0.45	2.44	12.54	0.41	0.50	0.42	0.42	4.86 CMS
Max	3.40	6.64	5.44	28.70	24.65	1.60	21.40	21.11	0.50	2.20	1.80	1.00	28.70 CMS
Min	0.34	0.34	0.06	1.50	0.76	0.24	0.18	0.50	0.38	0.30	0.24	0.24	0.06 CMS
Runoff	3.504	4.321	5.443	52.124	43.038	1.159	6.544	32.514	1.090	1.344	1.025	1.121	153.228 MCM

Momentary Peak 29.05 CMS, at 125.65 M (MSL), at 15.00 Hours, on Jul 11, 1993
Runoff Yield 9.31 Liters/Second/Square KM, Momentary Peak Yield 55.65 Liters/Second/Square KM

WATER YEAR 1993

PASAK RIVER BASIN

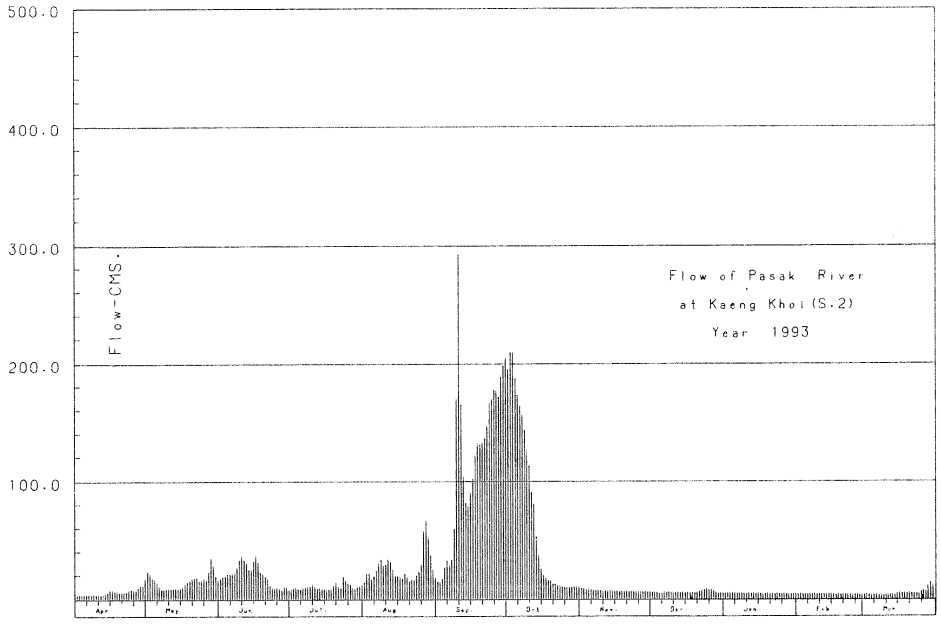
Pasak River at Kaeng Khoi, Saraburi (S.2)

Location	Lat. 14°-35'-32" N., Long. 101°-00'-23" E., on left bank about 100 meters downstream from Kaeng Khoi Water Supply, Amphoe Kaeng Khoi, Saraburi.
Drainage Area	14,522 sq.km.
Type of Gage	Water-stage recorder.
Zero Gage at Bottom	+6.11 m.(M.S.L.)
Bench Mark	B.M._H.D.
Location	On left bank near the automatic gage building.
Elevation	+20.130 m.(M.S.L.)
Gage Reading Frequency	Recording.
Basis of Mean Daily Gage Height	Arithmetic mean of 24 readings.
Period of Available Gage Records	1914 to date.
Rating Operation	
Period of Rating	1959 - 1962, 1965 - 1866, 1993 to date.
Rated by Float	-
Rated by Current Meter	1959 - 1962, 1965 - 1966, 1993 to date.
Stability of Channel Regimes	Stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Stage-discharge relation defined by 14 discharge measurements made in 1993.

Gage Height in Meter (MSL), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	6.67	7.50	7.30	6.96	7.21	7.22	9.84	7.03	6.85	6.79	6.74	6.71	
2	6.68	7.42	7.34	7.02	7.43	7.21	9.96	7.01	6.85	6.80	6.74	6.71	
3	6.69	7.31	7.37	7.03	7.46	7.30	9.96	6.97	6.85	6.80	6.74	6.71	
4	6.69	7.26	7.42	7.00	7.27	7.58	9.78	6.99	6.85	6.80	6.74	6.71	
5	6.69	7.19	7.43	6.99	7.38	7.73	9.65	6.97	6.85	6.79	6.74	6.70	
6	6.69	7.05	7.44	7.02	7.53	7.63	9.57	6.94	6.85	6.78	6.74	6.70	
7	6.69	6.97	7.47	7.06	7.67	7.74	9.50	6.94	6.84	6.78	6.74	6.69	
8	6.69	6.95	7.58	7.05	7.75	8.24	9.37	6.94	6.83	6.78	6.74	6.68	
9	6.69	6.99	7.74	7.08	7.62	9.63	9.17	6.94	6.83	6.78	6.74	6.68	
10	6.69	7.00	7.81	7.14	7.66	10.50	9.01	6.93	6.82	6.78	6.74	6.68	
11	6.69	7.00	7.74	7.08	7.75	9.58	8.72	6.91	6.82	6.78	6.74	6.68	
12	6.69	7.01	7.69	7.02	7.71	8.89	8.57	6.91	6.82	6.78	6.74	6.69	
13	6.72	7.00	7.55	7.01	7.53	8.59	8.13	6.91	6.82	6.77	6.74	6.69	
14	6.83	7.00	7.54	6.99	7.38	8.54	7.81	6.90	6.82	6.77	6.74	6.69	
15	6.93	7.01	7.72	6.99	7.37	8.70	7.55	6.89	6.82	6.77	6.74	6.76	
16	6.93	7.04	7.81	6.99	7.34	8.87	7.40	6.89	6.82	6.77	6.74	6.79	
17	6.90	7.16	7.69	6.97	7.31	9.11	7.31	6.89	6.82	6.77	6.73	6.79	
18	6.88	7.20	7.48	6.98	7.45	9.24	7.27	6.89	6.81	6.76	6.73	6.79	
19	6.83	7.24	7.42	7.10	7.34	9.23	7.24	6.89	6.81	6.76	6.73	6.79	
20	6.81	7.28	7.37	7.20	7.23	9.24	7.16	6.89	6.82	6.75	6.73	6.79	
21	6.81	7.31	7.30	7.05	7.27	9.29	7.14	6.89	6.89	6.75	6.72	6.78	
22	6.85	7.33	7.12	7.03	7.26	9.40	7.11	6.89	6.92	6.76	6.72	6.76	
23	6.91	7.25	7.02	7.37	7.39	9.59	7.10	6.87	6.97	6.76	6.71	6.77	
24	6.97	7.24	7.01	7.25	7.49	9.62	7.08	6.87	6.99	6.76	6.71	6.77	
25	6.92	7.29	7.01	7.16	7.65	9.69	7.06	6.87	6.96	6.75	6.71	6.89	
26	6.93	7.26	7.00	7.15	8.20	9.68	7.04	6.87	6.96	6.75	6.71	6.91	
27	7.04	7.50	6.94	7.03	8.35	9.64	7.04	6.87	6.91	6.75	6.71	6.89	
28	7.10	7.76	7.06	6.98	8.13	9.80	7.05	6.86	6.82	6.75	6.71	7.09	
29	7.11	7.62	7.04	7.06	7.82	9.87	7.07	6.85	6.79	6.74		7.19	
30	7.27	7.37	6.96	7.08	7.53	9.92	7.06	6.85	6.79	6.74		7.08	
31		7.24		7.12	7.32		7.05		6.79	6.74		7.08	
Mean	6.83	7.22	7.38	7.06	7.54	8.91	8.09	6.91	6.85	6.77	6.73	6.79	
Max	7.27	7.76	7.81	7.37	8.35	10.50	9.96	7.03	6.99	6.80	6.74	7.19	10.50
Min	6.67	6.95	6.94	6.96	7.21	7.21	7.04	6.85	6.79	6.74	6.71	6.68	6.67

Annual Max Momentary Gage Height 10.76 M (MSL), at 9.00 Hours, on Sep 10, 1993
Zero Gage at Bottom Elevation 6.11 M (MSL), River Bed 4.78 M (MSL)
Left Bank Elevation 21.34 M (MSL)
Right Bank Elevation 21.37 M (MSL), Drainage Area 14522 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	4.05	24.00	18.00	8.70	15.30	15.60	195.00	10.25	6.75	5.85	5.10	4.65	
2	4.20	21.60	19.20	10.00	21.90	15.30	210.00	9.75	6.75	6.00	5.10	4.65	
3	4.35	18.30	20.10	10.25	22.80	18.00	210.00	8.90	6.75	6.00	5.10	4.65	
4	4.35	16.80	21.60	9.50	17.10	27.20	187.80	9.30	6.75	6.00	5.10	4.65	
5	4.35	14.70	21.90	9.30	20.40	33.50	173.50	8.90	6.75	5.85	5.10	4.50	
6	4.35	10.75	22.20	10.00	25.20	29.20	164.70	8.30	6.75	5.70	5.10	4.50	
7	4.35	8.90	23.10	11.00	30.80	34.00	157.00	8.30	6.60	5.70	5.10	4.35	
8	4.35	8.50	27.20	10.75	34.50	60.40	144.30	8.30	6.45	5.70	5.10	4.20	
9	4.35	9.30	34.00	11.50	28.80	171.30	126.60	8.30	6.45	5.70	5.10	4.20	
10	4.35	9.50	37.50	13.20	30.40	293.00	113.80	8.10	6.30	5.70	5.10	4.20	
11	4.35	9.50	34.00	11.50	34.50	165.80	91.40	7.70	6.30	5.70	5.10	4.20	
12	4.35	9.75	31.60	10.00	32.50	104.20	81.05	7.70	6.30	5.70	5.10	4.35	
13	4.80	9.50	26.00	9.75	25.20	82.35	53.80	7.70	6.30	5.55	5.10	4.35	
14	6.45	9.50	25.60	9.30	20.40	79.10	37.50	7.50	6.30	5.55	5.10	4.35	
15	8.10	9.75	33.00	9.30	20.10	90.00	26.00	7.35	6.30	5.55	5.10	5.40	
16	8.10	10.50	37.50	9.30	19.20	102.60	21.00	7.35	6.30	5.55	5.10	5.85	
17	7.50	13.80	31.60	8.90	18.30	121.80	18.30	7.35	6.30	5.55	4.95	5.85	
18	7.20	15.00	23.40	9.10	22.50	132.60	17.10	7.35	6.15	5.40	4.95	5.85	
19	6.45	16.20	21.60	12.00	19.20	131.70	16.20	7.35	6.15	5.40	4.95	5.85	
20	6.15	17.40	20.10	15.00	15.90	132.60	13.80	7.35	6.30	5.25	4.95	5.85	
21	6.15	18.30	18.00	10.75	17.10	137.10	13.20	7.35	7.35	5.25	4.80	5.70	
22	6.75	18.90	12.60	10.25	16.80	147.00	12.30	7.35	7.90	5.40	4.80	5.40	
23	7.70	16.50	10.00	20.10	20.70	166.90	12.00	7.05	8.90	5.40	4.65	5.55	
24	8.90	16.20	9.75	16.50	23.70	170.20	11.50	7.05	9.30	5.40	4.65	5.55	
25	7.90	17.70	9.75	13.80	30.00	177.90	11.00	7.05	8.70	5.25	4.65	7.35	
26	8.10	16.80	9.50	13.50	58.00	176.80	10.50	7.05	8.70	5.25	4.65	7.70	
27	10.50	24.00	8.30	10.25	67.00	172.40	10.50	7.05	7.70	5.25	4.65	7.35	
28	12.00	35.00	11.00	9.10	53.80	190.00	10.75	6.90	6.30	5.25	4.65	11.75	
29	12.30	28.80	10.50	11.00	38.00	198.75	11.25	6.75	5.85	5.10		14.70	
30	17.10	20.10	8.70	11.50	25.20	205.00	11.00	6.75	5.85	5.10		11.50	
31		16.20		12.60	18.60		10.75		5.85	5.10		11.50	
Total	203.90	491.75	637.30	347.70	843.90	3582.30	2183.60	233.45	211.40	171.15	138.90	190.50	9235.85 CMSDAY
Mean	6.80	15.86	21.24	11.22	27.22	119.41	70.44	7.78	6.82	5.52	4.96	6.15	25.30 CMS
Max	17.10	35.00	37.50	20.10	67.00	293.00	210.00	10.25	9.30	6.00	5.10	14.70	293.00 CMS
Min	4.05	8.50	8.30	8.70	15.30	15.30	10.50	6.75	5.85	5.10	4.65	4.20	4.05 CMS
Runoff	17.617	42.487	55.063	30.041	72.913	309.511	188.663	20.170	18.265	14.787	12.001	16.459	797.978 MCM

Momentary Peak 342.00 CMS, at 10.76 M (MSL), at 9.00 Hours, on Sep 10, 1993
Runoff Yield 1.74 Liters/Second/Square KM, Momentary Peak Yield 23.55 Liters/Second/Square KM

WATER YEAR 1993

PASAK RIVER BASIN

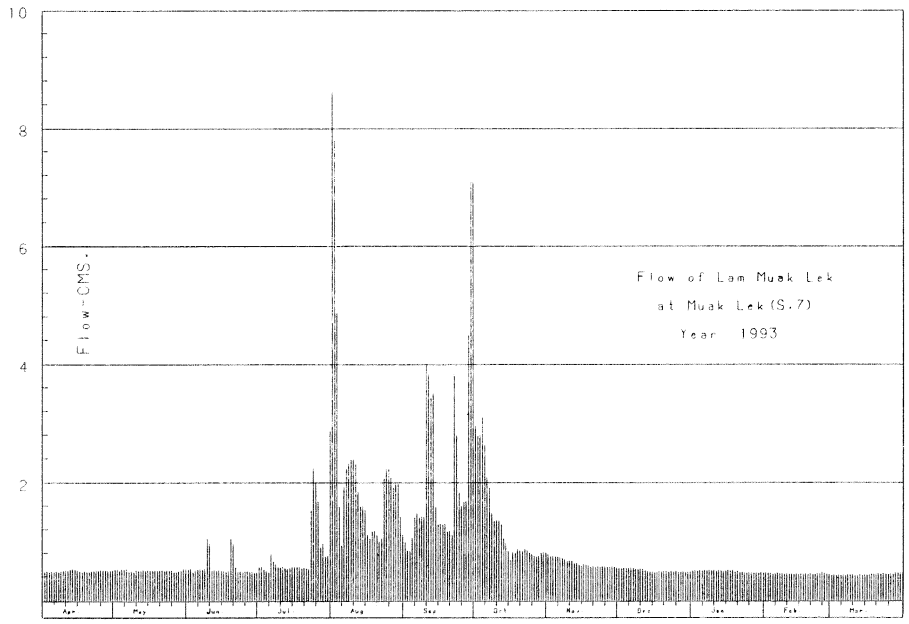
Lam Muak Lek at Muak Lek, Saraburi (S.7)

Location	Lat. 14°-38'-04" N., Long. 101°-12'-37" E., on left bank about 50 meters upstream from the bridge of Saraburi - Nakhon Ratchasima Highway, Tambon Muak Lek, Amphoe Muak Lek, Saraburi.
Drainage Area	177 sq.km.
Type of Gage	Water-stage recorder.
Zero Gage at Bottom	+0.00 m. (A.D.)
Bench Mark	B.M.-H.D.
Location	Near automatic gage building.
Elevation	+6.919 m. (A.D.)
Gage Reading Frequency	Recording.
Basis of Mean Daily Gage Height	Arithmetic mean of 24 readings.
Period of Available Gage Records	1965 to date.
Rating Operation	
Period of Rating	1965 to date.
Rated by Float	-
Rated by Current Meter	1965 to date.
Stability of Channel Regimes	Stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records fair. Stage-discharge relation defined by 22 discharge measurements made in 1993.

Gage Height in Meter (A.D), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.60	0.62	0.62	0.64	1.56	0.80	1.07	0.73	0.63	0.61	0.58	0.54	
2	0.60	0.62	0.62	0.64	1.50	0.75	1.05	0.72	0.63	0.61	0.58	0.54	
3	0.60	0.61	0.60	0.62	1.23	0.75	1.05	0.72	0.63	0.61	0.57	0.54	
4	0.60	0.62	0.61	0.60	0.90	0.81	1.09	0.72	0.63	0.61	0.57	0.54	
5	0.60	0.62	0.62	0.59	0.78	0.87	1.03	0.72	0.63	0.61	0.57	0.54	
6	0.60	0.62	0.62	0.73	0.94	0.88	0.96	0.71	0.63	0.61	0.57	0.54	
7	0.60	0.60	0.62	0.69	0.98	0.87	0.94	0.71	0.63	0.61	0.57	0.54	
8	0.60	0.60	0.62	0.66	0.99	0.87	0.88	0.70	0.62	0.61	0.56	0.55	
9	0.61	0.60	0.81	0.64	1.00	0.87	0.86	0.69	0.62	0.61	0.56	0.55	
10	0.61	0.61	0.79	0.64	1.00	1.20	0.86	0.69	0.62	0.61	0.56	0.54	
11	0.61	0.61	0.61	0.64	0.99	1.18	0.86	0.69	0.62	0.61	0.56	0.54	
12	0.62	0.61	0.61	0.63	0.93	1.13	0.85	0.67	0.61	0.61	0.56	0.54	
13	0.62	0.61	0.61	0.62	0.90	1.14	0.81	0.67	0.60	0.61	0.56	0.54	
14	0.62	0.61	0.61	0.63	0.90	0.90	0.79	0.66	0.60	0.60	0.56	0.54	
15	0.61	0.61	0.61	0.64	0.89	0.85	0.75	0.65	0.59	0.61	0.55	0.54	
16	0.60	0.61	0.60	0.64	0.82	0.85	0.70	0.66	0.59	0.61	0.55	0.54	
17	0.60	0.61	0.60	0.64	0.81	0.85	0.74	0.66	0.59	0.61	0.56	0.55	
18	0.60	0.61	0.60	0.64	0.83	0.85	0.74	0.65	0.60	0.61	0.56	0.55	
19	0.60	0.61	0.81	0.63	0.83	0.83	0.76	0.64	0.60	0.60	0.56	0.56	
20	0.60	0.61	0.79	0.63	0.82	0.83	0.75	0.64	0.60	0.60	0.56	0.56	
21	0.60	0.61	0.64	0.63	0.80	0.82	0.75	0.64	0.60	0.59	0.56	0.56	
22	0.61	0.61	0.60	0.62	0.81	1.18	0.76	0.64	0.60	0.59	0.56	0.56	
23	0.61	0.61	0.60	0.89	0.96	1.05	0.75	0.64	0.60	0.58	0.56	0.56	
24	0.61	0.61	0.60	0.98	0.98	0.93	0.74	0.64	0.60	0.58	0.57	0.56	
25	0.61	0.61	0.60	0.95	0.98	0.90	0.73	0.64	0.60	0.58	0.58	0.56	
26	0.61	0.60	0.60	0.91	0.96	0.91	0.72	0.64	0.60	0.58	0.57	0.56	
27	0.61	0.60	0.60	0.77	0.94	0.91	0.72	0.64	0.60	0.58	0.56	0.56	
28	0.61	0.60	0.59	0.79	0.95	1.25	0.72	0.64	0.59	0.58	0.55	0.58	
29	0.61	0.61	0.58	0.72	0.95	1.45	0.74	0.64	0.59	0.58		0.58	
30	0.61	0.62	0.58	0.72	0.87	1.45	0.74	0.63	0.59	0.58		0.58	
31		0.62		1.06	0.82		0.74		0.59	0.58		0.58	
Mean	0.61	0.61	0.63	0.70	0.96	0.96	0.83	0.67	0.61	0.60	0.56	0.55	
Max	0.62	0.62	0.81	1.06	1.56	1.45	1.09	0.73	0.63	0.61	0.58	0.58	1.56
Min	0.60	0.60	0.58	0.59	0.78	0.75	0.70	0.63	0.59	0.58	0.55	0.54	0.54

Annual Max Momentary Gage Height 1.60 M (A.D), at 12.00 Hours, on Aug 1, 1993
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed -0.45 M (A.D)
Left Bank Elevation 7.04 M (A.D)
Right Bank Elevation 6.91 M (A.D), Drainage Area 177 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.50	0.54	0.54	0.58	8.64	1.00	2.96	0.79	0.56	0.52	0.48	0.44	
2	0.50	0.54	0.54	0.58	7.80	0.85	2.80	0.76	0.56	0.52	0.48	0.44	
3	0.50	0.52	0.50	0.54	4.90	0.85	2.80	0.76	0.56	0.52	0.47	0.44	
4	0.50	0.54	0.52	0.50	1.60	1.06	3.12	0.76	0.56	0.52	0.47	0.44	
5	0.50	0.54	0.54	0.49	0.94	1.42	2.64	0.76	0.56	0.52	0.47	0.44	
6	0.50	0.54	0.54	0.79	1.92	1.48	2.08	0.73	0.56	0.52	0.47	0.44	
7	0.50	0.50	0.54	0.68	2.24	1.42	1.92	0.73	0.56	0.52	0.47	0.44	
8	0.50	0.50	0.54	0.62	2.32	1.42	1.48	0.70	0.54	0.52	0.46	0.45	
9	0.52	0.50	1.06	0.58	2.40	1.42	1.36	0.68	0.54	0.52	0.46	0.45	
10	0.52	0.52	0.97	0.58	2.40	4.00	1.36	0.68	0.54	0.52	0.46	0.44	
11	0.52	0.52	0.52	0.58	2.32	3.84	1.36	0.68	0.54	0.52	0.46	0.44	
12	0.54	0.52	0.52	0.56	1.84	3.44	1.30	0.64	0.52	0.52	0.46	0.44	
13	0.54	0.52	0.52	0.54	1.60	3.52	1.06	0.64	0.50	0.52	0.46	0.44	
14	0.54	0.52	0.52	0.56	1.60	1.60	0.97	0.62	0.50	0.50	0.46	0.44	
15	0.52	0.52	0.52	0.58	1.54	1.30	0.85	0.60	0.49	0.52	0.45	0.44	
16	0.50	0.52	0.50	0.58	1.12	1.30	0.70	0.62	0.49	0.52	0.45	0.44	
17	0.50	0.52	0.50	0.58	1.06	1.30	0.82	0.62	0.49	0.52	0.46	0.45	
18	0.50	0.52	0.50	0.58	1.18	1.30	0.82	0.60	0.50	0.52	0.46	0.45	
19	0.50	0.52	1.06	0.56	1.18	1.18	0.88	0.58	0.50	0.50	0.46	0.46	
20	0.50	0.52	0.97	0.56	1.12	1.18	0.85	0.58	0.50	0.50	0.46	0.46	
21	0.50	0.52	0.58	0.56	1.00	1.12	0.85	0.58	0.50	0.49	0.46	0.46	
22	0.52	0.52	0.50	0.54	1.06	3.84	0.88	0.58	0.50	0.49	0.46	0.46	
23	0.52	0.52	0.50	1.54	2.08	2.80	0.85	0.58	0.50	0.48	0.46	0.46	
24	0.52	0.52	0.50	2.24	2.24	1.84	0.82	0.58	0.50	0.48	0.47	0.46	
25	0.52	0.52	0.50	2.00	2.24	1.60	0.79	0.58	0.50	0.48	0.48	0.46	
26	0.52	0.50	0.50	1.68	2.08	1.68	0.76	0.58	0.50	0.48	0.47	0.46	
27	0.52	0.50	0.50	0.91	1.92	1.68	0.76	0.58	0.50	0.48	0.46	0.46	
28	0.52	0.50	0.49	0.97	2.00	4.50	0.76	0.58	0.49	0.48	0.45	0.48	
29	0.52	0.52	0.48	0.76	2.00	7.10	0.82	0.58	0.49	0.48		0.48	
30	0.52	0.54	0.48	0.76	1.42	7.10	0.82	0.56	0.49	0.48		0.48	
31		0.54		2.88	1.12		0.82		0.49	0.48		0.48	
Total	15.38	16.14	17.45	26.46	68.88	68.14	41.06	19.31	16.03	15.64	12.98	14.02	331.49 CMSDAY
Mean	0.51	0.52	0.58	0.85	2.22	2.27	1.32	0.64	0.52	0.50	0.46	0.45	0.91 CMS
Max	0.54	0.54	1.06	2.88	8.64	7.10	3.12	0.79	0.56	0.52	0.48	0.48	8.64 CMS
Min	0.50	0.50	0.48	0.49	0.94	0.85	0.70	0.56	0.49	0.48	0.45	0.44	0.44 CMS
Runoff	1.329	1.394	1.508	2.286	5.951	5.887	3.548	1.668	1.385	1.351	1.121	1.211	28.641 MCM

Momentary Peak 9.20 CMS, at 1.60 M (A.D), at 12.00 Hours, on Aug 1, 1993
Runoff Yield 5.13 Liters/Second/Square KM, Momentary Peak Yield 51.98 Liters/Second/Square KM

WATER YEAR 1993

PASAK RIVER BASIN

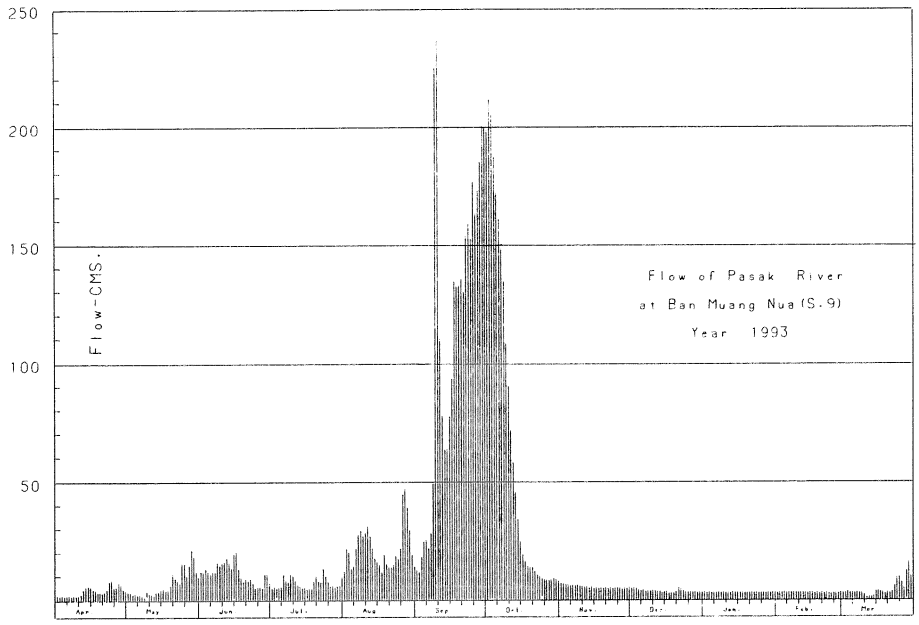
Pasak River at Ban Muang Nua, Saraburi (S.9)

Location	Lat. 14°-37'-33" N., Long. 101°-01'-00" E., on left bank at Ban Muang Nua railway bridge, Amphoe Kaeng Khoi, Saraburi.
Drainage Area	14,374 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+7.492 m.(M.S.L.)
Bench Mark	B.M.-H.D.
Location	On left bank under tamarind tree along the measuring line.
Elevation	+23.099 m.(M.S.L.)
Gage Reading Frequency	5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1973 to date.
Rating Operation	
Period of Rating	1973 to date.
Rated by Float	-
Rated by Current Meter	1973 to date.
Stability of Channel Regimes	Stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Stage-discharge relation defined by 27 discharge measurements made in 1993.

Gage Height in Meter (MSL), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	8.16	8.25	8.63	8.34	8.63	8.64	11.31	8.44	8.34	8.24	8.24	8.23	
2	8.16	8.23	8.61	8.36	8.95	8.62	11.43	8.43	8.34	8.24	8.24	8.24	
3	8.16	8.20	8.67	8.34	8.89	8.84	11.37	8.42	8.34	8.24	8.24	8.25	
4	8.16	8.21	8.62	8.34	8.67	9.04	11.21	8.40	8.30	8.24	8.24	8.24	
5	8.16	8.19	8.59	8.37	8.70	9.06	11.07	8.40	8.29	8.24	8.24	8.24	
6	8.16	8.19	8.62	8.59	8.96	8.96	10.97	8.40	8.29	8.24	8.24	8.24	
7	8.16	8.15	8.62	8.47	9.12	9.14	10.85	8.40	8.27	8.24	8.24	8.24	
8	8.16	8.13	8.75	8.46	9.17	9.61	10.71	8.40	8.27	8.24	8.24	8.24	
9	8.16	8.27	8.72	8.58	9.11	11.55	10.42	8.39	8.28	8.24	8.24	8.23	
10	8.16	8.22	8.75	8.56	9.14	11.64	10.21	8.37	8.28	8.24	8.24	8.19	
11	8.20	8.19	8.76	8.47	9.21	10.44	9.97	8.37	8.28	8.24	8.24	8.13	
12	8.31	8.18	8.82	8.41	9.11	10.05	9.76	8.37	8.26	8.24	8.24	8.13	
13	8.36	8.24	8.75	8.37	8.95	9.53	9.53	8.35	8.27	8.24	8.23	8.14	
14	8.39	8.26	8.67	8.35	8.82	9.85	9.29	8.37	8.26	8.24	8.23	8.14	
15	8.36	8.29	8.88	8.34	8.76	10.05	9.04	8.34	8.26	8.24	8.23	8.27	
16	8.32	8.32	8.90	8.32	8.72	10.25	8.87	8.34	8.26	8.24	8.23	8.27	
17	8.29	8.29	8.67	8.32	8.62	10.71	8.77	8.34	8.23	8.24	8.23	8.26	
18	8.24	8.29	8.52	8.33	8.87	10.69	8.71	8.34	8.23	8.24	8.23	8.26	
19	8.24	8.40	8.47	8.46	8.74	10.69	8.68	8.34	8.23	8.24	8.23	8.22	
20	8.24	8.59	8.50	8.55	8.69	10.72	8.69	8.34	8.25	8.24	8.23	8.24	
21	8.24	8.52	8.48	8.47	8.69	10.66	8.63	8.33	8.35	8.24	8.23	8.23	
22	8.32	8.47	8.50	8.45	8.72	10.90	8.58	8.34	8.32	8.24	8.23	8.27	
23	8.47	8.44	8.44	8.67	8.85	10.95	8.55	8.34	8.28	8.24	8.23	8.39	
24	8.48	8.74	8.33	8.56	8.81	10.89	8.52	8.33	8.25	8.24	8.23	8.52	
25	8.35	8.74	8.37	8.46	8.96	11.12	8.51	8.35	8.25	8.24	8.23	8.54	
26	8.35	8.55	8.36	8.37	9.52	10.99	8.49	8.33	8.25	8.24	8.23	8.45	
27	8.45	8.72	8.35	8.38	9.56	11.08	8.49	8.32	8.25	8.24	8.23	8.32	
28	8.40	8.93	8.59	8.36	9.40	11.20	8.49	8.34	8.25	8.24	8.23	8.64	
29	8.32	8.83	8.58	8.37	9.17	11.33	8.52	8.34	8.24	8.24		8.79	
30	8.28	8.62	8.43	8.39	8.86	11.33	8.49	8.35	8.24	8.24		8.54	
31		8.53		8.53	8.70		8.47		8.24	8.24		8.40	
Mean	8.27	8.39	8.60	8.43	8.94	10.29	9.50	8.36	8.27	8.24	8.23	8.31	
Max	8.48	8.93	8.90	8.67	9.56	11.64	11.43	8.44	8.35	8.24	8.24	8.79	11.64
Min	8.16	8.13	8.33	8.32	8.62	8.62	8.47	8.32	8.23	8.24	8.23	8.13	8.13

Annual Max Momentary Gage Height 11.98 M (MSL), at 6.00 Hours, on Sep 10, 1993
Zero Gage at Bottom Elevation 7.49 M (MSL), River Bed 5.83 M (MSL)
Left Bank Elevation 21.89 M (MSL)
Right Bank Elevation 21.83 M (MSL), Drainage Area 14374 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	2.02	3.60	12.40	5.30	12.40	12.70	198.60	7.50	5.30	3.42	3.42	3.24	
2	2.02	3.24	11.80	5.70	22.00	12.10	211.95	7.25	5.30	3.42	3.42	3.42	
3	2.02	2.70	13.60	5.30	20.20	18.70	205.20	7.00	5.30	3.42	3.42	3.60	
4	2.02	2.88	12.10	5.30	13.60	24.90	187.60	6.50	4.50	3.42	3.42	3.42	
5	2.02	2.53	11.25	5.90	14.50	25.60	172.20	6.50	4.32	3.42	3.42	3.42	
6	2.02	2.53	12.10	11.25	22.30	22.30	161.35	6.50	4.32	3.42	3.42	3.42	
7	2.02	1.85	12.10	8.25	27.80	28.60	149.00	6.50	3.96	3.42	3.42	3.42	
8	2.02	1.51	16.00	8.00	29.80	50.05	135.00	6.50	3.96	3.42	3.42	3.42	
9	2.02	3.96	15.10	11.00	27.40	226.00	108.80	6.30	4.14	3.42	3.42	3.24	
10	2.02	3.06	16.00	10.50	28.60	236.80	90.80	5.90	4.14	3.42	3.42	2.53	
11	2.70	2.53	16.30	8.25	31.40	110.60	71.90	5.90	4.14	3.42	3.42	1.51	
12	4.70	2.36	18.10	6.75	27.40	78.00	58.60	5.90	3.78	3.42	3.42	1.51	
13	5.70	3.42	16.00	5.90	22.00	64.00	45.65	5.50	3.96	3.42	3.24	1.68	
14	6.30	3.78	13.60	5.50	18.10	64.00	34.60	5.90	3.78	3.42	3.24	1.68	
15	5.70	4.32	19.90	5.30	16.30	78.00	24.90	5.30	3.78	3.42	3.24	3.96	
16	4.90	4.90	20.50	4.90	15.10	94.00	19.60	5.30	3.78	3.42	3.24	3.96	
17	4.32	4.32	13.60	4.90	12.10	135.00	16.60	5.30	3.24	3.42	3.24	3.78	
18	3.42	4.32	9.50	5.10	19.60	133.10	14.80	5.30	3.24	3.42	3.24	3.78	
19	3.42	6.50	8.25	8.00	15.70	133.10	13.90	5.30	3.24	3.42	3.24	3.06	
20	3.42	11.25	9.00	10.25	14.20	136.00	14.20	5.30	3.60	3.42	3.24	3.42	
21	3.42	9.50	8.50	8.25	14.20	130.40	12.40	5.10	5.50	3.42	3.24	3.24	
22	4.90	8.25	9.00	7.75	15.10	154.00	11.00	5.30	4.90	3.42	3.24	3.96	
23	8.25	7.50	7.50	13.60	19.00	159.25	10.25	5.30	4.14	3.42	3.24	6.30	
24	8.50	15.70	5.10	10.50	17.80	153.00	9.50	5.10	3.60	3.42	3.24	9.50	
25	5.50	15.70	5.90	8.00	22.30	177.70	9.25	5.50	3.60	3.42	3.24	10.00	
26	5.50	10.25	5.70	5.90	45.10	163.45	8.75	5.10	3.60	3.42	3.24	7.75	
27	7.75	15.10	5.50	6.10	47.30	173.30	8.75	4.90	3.60	3.42	3.24	4.90	
28	6.50	21.40	11.25	5.70	39.50	186.50	8.75	5.30	3.60	3.42	3.24	12.70	
29	4.90	18.40	11.00	5.90	29.80	200.80	9.50	5.30	3.42	3.42		17.20	
30	4.14	12.10	7.25	6.30	19.30	200.80	8.75	5.50	3.42	3.42		10.00	
31		9.75		9.75	14.50		8.25		3.42	3.42		6.50	
Total	124.14	219.21	353.90	229.10	694.40	3382.75	2040.40	173.85	124.58	106.02	92.88	153.52	7694.75 CMSDAV
Mean	4.14	7.07	11.80	7.39	22.40	112.76	65.82	5.80	4.02	3.42	3.32	4.95	21.08 CMS
Max	8.50	21.40	20.50	13.60	47.30	236.80	211.95	7.50	5.50	3.42	3.42	17.20	236.80 CMS
Min	2.02	1.51	5.10	4.90	12.10	12.10	8.25	4.90	3.24	3.42	3.24	1.51	1.51 CMS
Runoff	10.726	18.940	30.577	19.794	59.996	292.270	176.291	15.021	10.764	9.160	8.025	13.264	664.826 MCM

Momentary Peak 278.40 CMS, at 11.98 M (MSL), at 6.00 Hours, on Sep 10, 1993
Runoff Yield 1.47 Liters/Second/Square KM, Momentary Peak Yield 19.37 Liters/Second/Square KM

WATER YEAR 1993

PASAK RIVER BASIN

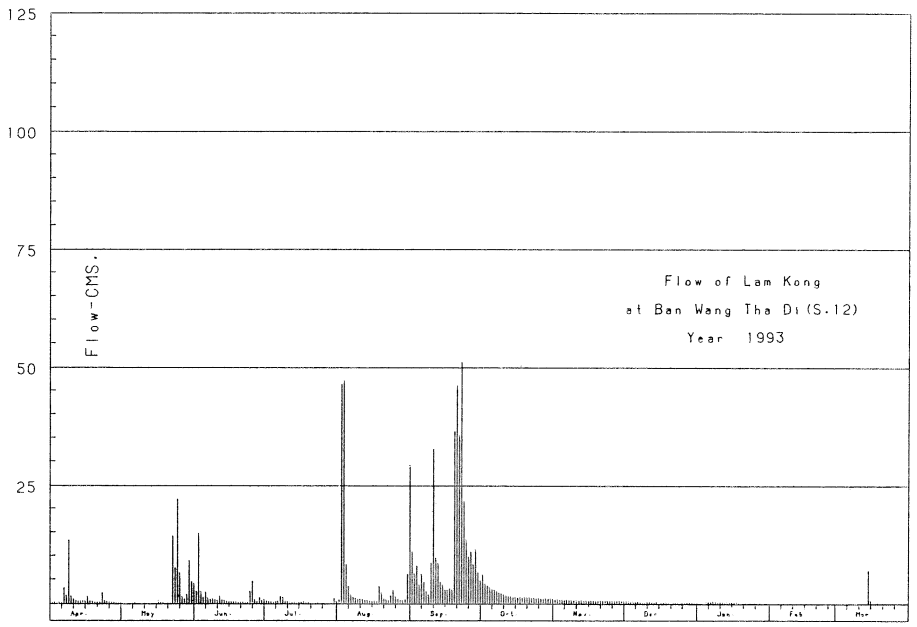
Lam Kong at Ban Wang Tha Di, Phetchabun (S.12)

Location	Lat. 15°-59'-50" N., Long. 101°-14'-28" E., on left bank at Ban Wang Tha Di, Amphoe Nong Phai, Phetchabun.
Drainage Area	471 sq.km.
Type of Gage	Water-stage recorder.
Zero Gage at Bottom	+0.00 m. (A.D.)
Bench Mark	B.M.-H.D.
Location	On left bank along the gage line.
Elevation	+5.792 m. (A.D.)
Gage Reading Frequency	Recording.
Basis of Mean Daily Gage Height	Arithmetic mean of 24 readings.
Period of Available Gage Records	1978 to date.
Rating Operation	
Period of Rating	1978 to date.
Rated by Float	-
Rated by Current Meter	1978 to date.
Stability of Channel Regimes	Stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Stage-discharge relation defined by 122 discharge measurements made in 1993.

Gage Height in Meter (A.D), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.46	0.43	0.83	0.53	0.58	1.44	1.13	0.58	0.51	0.44	0.40	0.32	
2	0.47	0.42	1.64	0.50	2.79	1.15	0.97	0.58	0.51	0.44	0.40	0.33	
3	0.46	0.40	0.82	0.48	2.81	1.28	0.94	0.57	0.49	0.44	0.39	0.33	
4	0.46	0.43	0.69	0.47	1.30	0.95	0.90	0.57	0.49	0.49	0.39	0.33	
5	0.45	0.41	0.81	0.51	0.93	1.14	0.87	0.56	0.48	0.49	0.39	0.33	
6	0.90	0.43	0.64	0.50	0.74	1.01	0.85	0.56	0.47	0.49	0.39	0.33	
7	0.73	0.41	0.60	0.71	0.68	0.83	0.83	0.56	0.47	0.49	0.39	0.33	
8	1.57	0.40	0.61	0.67	0.63	0.74	0.79	0.55	0.46	0.49	0.39	0.33	
9	0.71	0.40	0.59	0.51	0.60	1.32	0.78	0.54	0.45	0.49	0.39	0.33	
10	0.60	0.42	0.55	0.49	0.59	2.35	0.75	0.55	0.47	0.48	0.39	0.33	
11	0.55	0.44	0.71	0.48	0.58	1.37	0.73	0.54	0.48	0.47	0.38	0.32	
12	0.52	0.42	0.58	0.47	0.55	1.31	0.71	0.54	0.48	0.47	0.38	0.32	
13	0.52	0.41	0.54	0.47	0.54	1.01	0.70	0.53	0.48	0.47	0.38	0.32	
14	0.54	0.41	0.52	0.47	0.53	0.95	0.69	0.53	0.48	0.46	0.38	1.21	
15	0.51	0.45	0.51	0.47	0.52	0.86	0.68	0.53	0.48	0.46	0.38	0.53	
16	0.71	0.54	0.49	0.49	0.51	0.85	0.67	0.53	0.46	0.46	0.38	0.46	
17	0.53	0.46	0.49	0.49	0.51	0.89	0.67	0.53	0.45	0.45	0.38	0.45	
18	0.50	0.45	0.49	0.46	0.93	0.85	0.66	0.53	0.45	0.44	0.38	0.44	
19	0.48	0.44	0.48	0.45	0.79	2.47	0.67	0.53	0.45	0.44	0.38	0.44	
20	0.48	0.49	0.47	0.44	0.62	2.78	0.67	0.53	0.45	0.44	0.38	0.43	
21	0.47	0.45	0.47	0.47	0.57	2.44	0.67	0.53	0.45	0.43	0.35	0.43	
22	0.80	1.62	0.45	0.45	0.55	2.93	0.65	0.52	0.44	0.43	0.35	0.43	
23	0.52	1.25	0.45	0.44	0.73	1.94	0.64	0.52	0.44	0.43	0.34	0.46	
24	0.50	1.96	0.83	0.43	0.85	1.57	0.63	0.52	0.44	0.43	0.34	0.45	
25	0.48	1.16	1.03	0.42	0.69	1.38	0.63	0.52	0.45	0.43	0.33	0.45	
26	0.47	0.70	0.57	0.41	0.61	1.44	0.62	0.52	0.45	0.42	0.33	0.44	
27	0.46	0.61	0.51	0.40	0.57	1.30	0.62	0.52	0.46	0.42	0.33	0.44	
28	0.44	0.75	0.68	0.40	0.54	1.46	0.62	0.52	0.46	0.41	0.32	0.44	
29	0.43	1.34	0.54	0.47	0.59	1.17	0.62	0.52	0.46	0.41		0.43	
30	0.43	1.02	0.58	0.64	1.15	1.03	0.61	0.51	0.45	0.41		0.43	
31		0.98		0.49	2.23		0.59		0.45	0.40		0.42	
Mean	0.57	0.66	0.64	0.49	0.86	1.41	0.73	0.54	0.46	0.45	0.37	0.42	
Max	1.57	1.96	1.64	0.71	2.81	2.93	1.13	0.58	0.51	0.49	0.40	1.21	2.93
Min	0.43	0.40	0.45	0.40	0.51	0.74	0.59	0.51	0.44	0.40	0.32	0.32	0.32

Annual Max Momentary Gage Height 3.74 M (A.D), at 6.00 Hours, on Sep 22, 1993
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed 0.12 M (A.D)
Left Bank Elevation 6.30 M (A.D)
Right Bank Elevation 5.13 M (A.D), Drainage Area 471 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.34	0.22	2.70	0.65	0.90	11.06	6.09	0.90	0.55	0.26	0.10	0.00	
2	0.38	0.18	14.90	0.50	46.58	6.35	4.17	0.90	0.55	0.26	0.10	0.00	
3	0.34	0.10	2.60	0.42	47.23	8.12	3.84	0.85	0.46	0.26	0.08	0.00	
4	0.34	0.22	1.45	0.38	8.40	3.95	3.40	0.85	0.46	0.46	0.08	0.00	
5	0.30	0.14	2.50	0.55	3.73	6.22	3.10	0.80	0.42	0.46	0.08	0.00	
6	3.40	0.22	1.20	0.50	1.86	4.62	2.90	0.80	0.38	0.46	0.08	0.00	
7	1.77	0.14	1.00	1.59	1.40	2.70	2.70	0.80	0.38	0.46	0.08	0.00	
8	13.53	0.10	1.05	1.35	1.15	1.86	2.31	0.75	0.34	0.46	0.08	0.00	
9	1.59	0.10	0.95	0.55	1.00	8.78	2.22	0.70	0.30	0.46	0.08	0.00	
10	1.00	0.18	0.75	0.46	0.95	32.85	1.95	0.75	0.38	0.42	0.08	0.00	
11	0.75	0.26	1.59	0.42	0.90	9.73	1.77	0.70	0.42	0.38	0.06	0.00	
12	0.60	0.18	0.90	0.38	0.75	8.59	1.59	0.70	0.42	0.38	0.06	0.00	
13	0.60	0.14	0.70	0.38	0.70	4.62	1.50	0.65	0.42	0.38	0.06	0.00	
14	0.70	0.14	0.60	0.38	0.65	3.95	1.45	0.65	0.42	0.34	0.06	7.14	
15	0.55	0.30	0.55	0.38	0.60	3.00	1.40	0.65	0.42	0.34	0.06	0.65	
16	1.59	0.70	0.46	0.46	0.55	2.90	1.35	0.65	0.34	0.34	0.06	0.34	
17	0.65	0.34	0.46	0.46	0.55	3.30	1.35	0.65	0.30	0.30	0.06	0.30	
18	0.50	0.30	0.46	0.34	3.73	2.90	1.30	0.65	0.30	0.26	0.06	0.26	
19	0.42	0.26	0.42	0.30	2.31	36.57	1.35	0.65	0.30	0.26	0.06	0.26	
20	0.42	0.46	0.38	0.26	1.10	46.26	1.35	0.65	0.30	0.26	0.06	0.22	
21	0.38	0.30	0.38	0.38	0.85	35.64	1.35	0.65	0.30	0.22	0.00	0.22	
22	2.40	14.50	0.30	0.30	0.75	51.22	1.25	0.60	0.26	0.22	0.00	0.22	
23	0.60	7.70	0.30	0.26	1.77	21.76	1.20	0.60	0.26	0.22	0.00	0.34	
24	0.50	22.24	2.70	0.22	2.90	13.53	1.15	0.60	0.26	0.22	0.00	0.30	
25	0.42	6.48	4.86	0.18	1.45	9.92	1.15	0.60	0.30	0.22	0.00	0.30	
26	0.38	1.50	0.85	0.14	1.05	11.06	1.10	0.60	0.30	0.18	0.00	0.26	
27	0.34	1.05	0.55	0.10	0.85	8.40	1.10	0.60	0.34	0.18	0.00	0.26	
28	0.26	1.95	1.40	0.10	0.70	11.44	1.10	0.60	0.34	0.14	0.00	0.26	
29	0.22	9.16	0.70	0.38	0.95	6.61	1.10	0.60	0.34	0.14		0.22	
30	0.22	4.74	0.90	1.20	6.35	4.86	1.05	0.55	0.30	0.14		0.22	
31		4.28		0.46	29.34		0.95		0.30	0.10		0.18	
Total	35.49	78.58	48.56	14.43	172.00	382.77	59.59	20.70	11.16	9.18	1.44	11.95	845.85 CMSDAY
Mean	1.18	2.53	1.62	0.47	5.55	12.76	1.92	0.69	0.36	0.30	0.05	0.39	2.32 CMS
Max	13.53	22.24	14.90	1.59	47.23	51.22	6.09	0.90	0.55	0.46	0.10	7.14	51.22 CMS
Min	0.22	0.10	0.30	0.10	0.55	1.86	0.95	0.55	0.26	0.10	0.00	0.00	0.00 CMS
Runoff	3.066	6.789	4.196	1.247	14.861	33.071	5.149	1.788	0.964	0.793	0.124	1.032	73.081 MCM

Momentary Peak 83.30 CMS, at 3.74 M (A.D), at 6.00 Hours, on Sep 22, 1993
Runoff Yield 4.92 Liters/Second/Square KM, Momentary Peak Yield 176.86 Liters/Second/Square KM

WATER YEAR 1993

PASAK RIVER BASIN

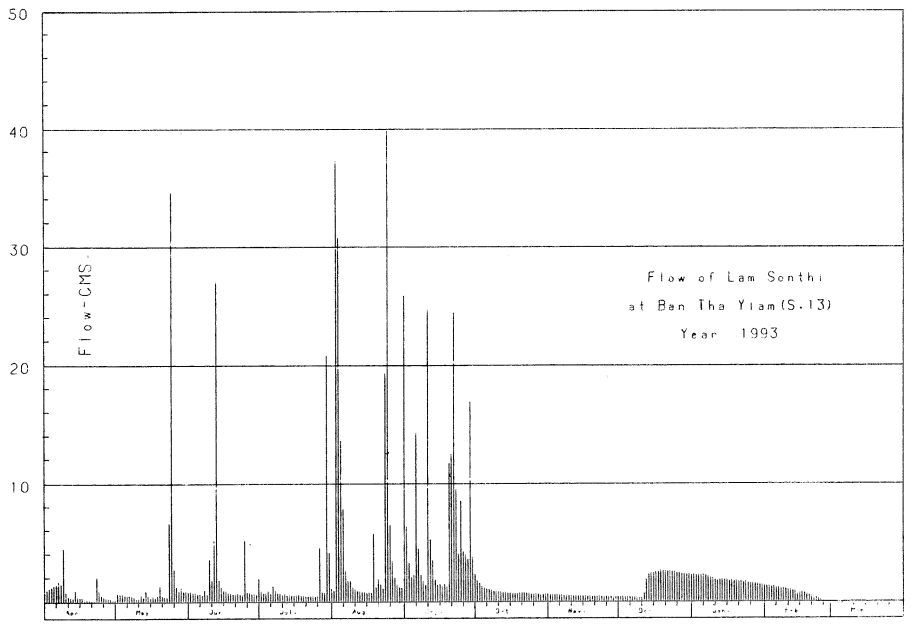
Lam Sonthi at Ban Tha Yiam, Lop Buri (S.13)

Location	Lat. 15°-20'-21" N., Long. 101°-22'-30" E., on left bank near Wat Tha Yiam, Amphoe Chai Badan, Lop Buri.
Drainage Area	359 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+0.00 m.(A.D.)
Bench Mark	B.M.-H.D.
Location	About 15 meters from the top staff gage.
Elevation	+8.697 m.(A.D.)
Gage Reading Frequency	13-time daily readings at 06.00 - 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 13 readings.
Period of Available Gage Records	1978 to date.
Rating Operation	
Period of Rating	1978 to date.
Rated by Float	-
Rated by Current Meter	1978 to date.
Stability of Channel Regimes	Stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records fair. Stage-discharge relation defined by 77 discharge measurements made in 1993.

Gage Height in Meter (A.D), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.40	0.33	0.36	0.37	0.39	1.31	0.58	0.31	0.26	0.70	0.48	0.10	
2	0.42	0.32	0.35	0.34	4.41	0.87	0.54	0.31	0.26	0.70	0.47	0.10	
3	0.46	0.31	0.34	0.33	3.85	0.66	0.47	0.31	0.26	0.70	0.47	0.10	
4	0.48	0.30	0.32	0.37	2.16	0.69	0.44	0.31	0.26	0.70	0.46	0.10	
5	0.51	0.29	0.31	0.33	1.51	2.23	0.42	0.30	0.26	0.70	0.45	0.10	
6	0.56	0.28	0.30	0.48	0.75	1.05	0.41	0.30	0.26	0.69	0.44	0.10	
7	0.53	0.26	0.40	0.38	0.57	0.70	0.39	0.29	0.25	0.67	0.43	0.10	
8	1.06	0.25	0.32	0.34	0.58	0.57	0.38	0.29	0.25	0.65	0.43	0.10	
9	0.34	0.22	0.92	0.33	0.45	0.50	0.37	0.29	0.24	0.63	0.42	0.10	
10	0.27	0.20	0.58	0.31	0.40	3.29	0.37	0.28	0.24	0.61	0.41	0.10	
11	0.24	0.29	1.15	0.31	0.38	1.17	0.36	0.28	0.34	0.61	0.40	0.10	
12	0.23	0.25	3.51	0.30	0.37	0.90	0.35	0.28	0.60	0.61	0.39	0.10	
13	0.39	0.38	0.60	0.30	0.36	0.61	0.35	0.28	0.71	0.60	0.38	0.10	
14	0.27	0.27	0.45	0.30	0.35	0.49	0.34	0.28	0.72	0.60	0.36	0.10	
15	0.25	0.24	0.39	0.29	0.34	0.52	0.33	0.28	0.73	0.60	0.35	0.10	
16	0.23	0.27	0.37	0.30	0.34	0.46	0.33	0.28	0.74	0.59	0.35	0.10	
17	0.21	0.24	0.35	0.30	0.34	0.52	0.33	0.27	0.75	0.59	0.34	0.10	
18	0.20	0.27	0.33	0.29	1.23	0.45	0.33	0.27	0.76	0.58	0.32	0.10	
19	0.19	0.47	0.32	0.28	0.46	1.95	0.33	0.27	0.76	0.58	0.30	0.10	
20	0.18	0.28	0.31	0.28	0.61	2.03	0.35	0.27	0.75	0.57	0.28	0.10	
21	0.18	0.25	0.32	0.28	0.50	3.26	0.34	0.27	0.75	0.57	0.26	0.10	
22	0.66	0.25	0.31	0.28	0.43	1.70	0.34	0.27	0.75	0.56	0.24	0.10	
23	0.37	1.36	0.30	0.28	2.76	0.98	0.33	0.27	0.75	0.56	0.22	0.10	
24	0.29	4.18	1.16	0.27	4.62	1.59	0.32	0.27	0.74	0.55	0.19	0.10	
25	0.25	0.78	0.36	0.28	1.34	1.02	0.32	0.27	0.73	0.54	0.16	0.10	
26	0.24	0.45	0.34	1.07	0.89	0.97	0.32	0.27	0.73	0.53	0.13	0.10	
27	0.23	0.38	0.33	0.36	0.65	0.92	0.32	0.27	0.72	0.53	0.10	0.10	
28	0.21	0.44	0.32	0.34	0.50	2.52	0.31	0.26	0.71	0.52	0.10	0.10	
29	0.20	0.37	0.31	2.91	0.45	0.94	0.31	0.26	0.71	0.51		0.10	
30	0.18	0.36	0.63	1.01	0.43	0.71	0.31	0.26	0.71	0.49		0.10	
31		0.36		0.42	3.39		0.31		0.70	0.49		0.10	
Mean	0.34	0.48	0.55	0.45	1.16	1.19	0.36	0.28	0.56	0.60	0.33	0.10	
Max	1.06	4.18	3.51	2.91	4.62	3.29	0.58	0.31	0.76	0.70	0.48	0.10	4.62
Min	0.18	0.20	0.30	0.27	0.34	0.45	0.31	0.26	0.24	0.49	0.10	0.10	0.10

Annual Max Momentary Gage Height 5.73 M (A.D), at 8.00 Hours, on Aug 24, 1993
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed 0.98 M (A.D)
Left Bank Elevation 8.78 M (A.D)
Right Bank Elevation 8.25 M (A.D), Drainage Area 359 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	1.02	0.73	0.86	0.90	0.98	6.34	1.79	0.64	0.44	2.30	1.37	0.00	
2	1.11	0.68	0.81	0.77	37.33	3.34	1.62	0.64	0.44	2.30	1.32	0.00	
3	1.28	0.64	0.77	0.73	31.01	2.13	1.32	0.64	0.44	2.30	1.32	0.00	
4	1.37	0.60	0.68	0.90	13.69	2.26	1.20	0.64	0.44	2.30	1.28	0.00	
5	1.49	0.56	0.64	0.73	7.92	14.33	1.11	0.60	0.44	2.30	1.24	0.00	
6	1.71	0.52	0.60	1.37	2.60	4.48	1.07	0.60	0.44	2.26	1.20	0.00	
7	1.58	0.44	1.02	0.94	1.75	2.30	0.98	0.56	0.40	2.17	1.15	0.00	
8	4.55	0.40	0.68	0.77	1.79	1.75	0.94	0.56	0.40	2.09	1.15	0.00	
9	0.77	0.28	3.66	0.73	1.24	1.45	0.90	0.56	0.36	2.00	1.11	0.00	
10	0.48	0.20	1.79	0.64	1.02	24.80	0.90	0.52	0.36	1.92	1.07	0.00	
11	0.36	0.56	5.17	0.64	0.94	5.31	0.86	0.52	0.77	1.92	1.02	0.00	
12	0.32	0.40	27.24	0.60	0.90	3.53	0.81	0.52	1.88	1.92	0.98	0.00	
13	0.98	0.94	1.88	0.60	0.86	1.92	0.81	0.52	2.36	1.88	0.94	0.00	
14	0.48	0.48	1.24	0.60	0.81	1.41	0.77	0.52	2.42	1.88	0.86	0.00	
15	0.40	0.36	0.98	0.56	0.77	1.53	0.73	0.52	2.48	1.88	0.81	0.00	
16	0.32	0.48	0.90	0.60	0.77	1.28	0.73	0.52	2.54	1.83	0.81	0.00	
17	0.24	0.36	0.81	0.60	0.77	1.53	0.73	0.48	2.60	1.83	0.77	0.00	
18	0.20	0.48	0.73	0.56	5.75	1.24	0.73	0.48	2.66	1.79	0.68	0.00	
19	0.18	1.32	0.68	0.52	1.28	11.78	0.73	0.48	2.66	1.79	0.60	0.00	
20	0.16	0.52	0.64	0.52	1.92	12.51	0.81	0.48	2.60	1.75	0.52	0.00	
21	0.16	0.40	0.68	0.52	1.45	24.47	0.77	0.48	2.60	1.75	0.44	0.00	
22	2.13	0.40	0.64	0.52	1.15	9.50	0.77	0.48	2.60	1.71	0.36	0.00	
23	0.90	6.71	0.60	0.52	19.33	4.04	0.73	0.48	2.60	1.71	0.28	0.00	
24	0.56	34.67	5.24	0.48	39.88	8.58	0.68	0.48	2.54	1.66	0.18	0.00	
25	0.40	2.78	0.86	0.52	6.56	4.29	0.68	0.48	2.48	1.62	0.12	0.00	
26	0.36	1.24	0.77	4.61	3.47	3.98	0.68	0.48	2.48	1.58	0.06	0.00	
27	0.32	0.94	0.73	0.86	2.09	3.66	0.68	0.48	2.42	1.58	0.00	0.00	
28	0.24	1.20	0.68	0.77	1.45	16.97	0.64	0.44	2.36	1.53	0.00	0.00	
29	0.20	0.90	0.64	20.85	1.24	3.79	0.64	0.44	2.36	1.49		0.00	
30	0.16	0.86	2.00	4.23	1.15	2.36	0.64	0.44	2.36	1.41		0.00	
31		0.86		1.11	25.91		0.64		2.30	1.41		0.00	
Total	24.43	61.91	64.62	49.27	217.78	186.86	27.09	15.68	54.23	57.86	21.64	0.00	781.37 CMSDAY
Mean	0.81	2.00	2.15	1.59	7.03	6.23	0.87	0.52	1.75	1.87	0.77	0.00	2.14 CMS
Max	4.55	34.67	27.24	20.85	39.88	24.80	1.79	0.64	2.66	2.30	1.37	0.00	39.88 CMS
Min	0.16	0.20	0.60	0.48	0.77	1.24	0.64	0.44	0.36	1.41	0.00	0.00	0.00 CMS
Runoff	2.111	5.349	5.583	4.257	18.816	16.145	2.341	1.355	4.685	4.999	1.870	0.000	67.510 MCM

Momentary Peak 54.17 CMS, at 5.73 M (A.D), at 8.00 Hours, on Aug 24, 1993

Runoff Yield 5.96 Liters/Second/Square KM, Momentary Peak Yield 150.88 Liters/Second/Square KM

WATER YEAR 1993

PASAK RIVER BASIN

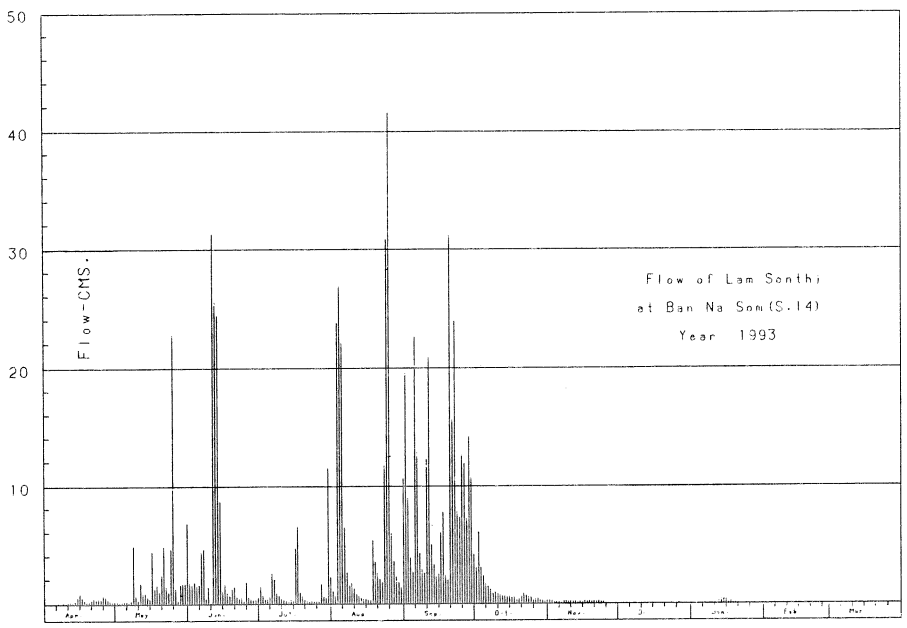
Lam Sonthi at Ban Na Som, Lop Buri (S.14)

Location	Lat. 15°-13'-24" N., Long. 101°-16'-51" E., on left bank at the bridge on road, Ban Na Som, Tambon Nong Yi To, Amphoe Chai Badan, Lop Buri.
Drainage Area	1,247 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+0.00 m.(A.D.)
Bench Mark	B.M.-H.D.
Location	On left bank at the gage observer's house.
Elevation	+10.065 m.(A.D.)
Gage Reading Frequency	13-time daily readings at 06.00-18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 13 readings.
Period of Available Gage Records	1978 to date.
Rating Operation	
Period of Rating	1980 to date.
Rated by Float	-
Rated by Current Meter	1980 to date.
Stability of Channel Regimes	Stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Stage-discharge relation defined by 24 discharge measurements made in 1993.

Gage Height in Meter (A.D), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	1.19	1.29	1.77	1.70	1.63	3.90	2.03	1.35	1.20	1.18	1.16	1.13	
2	1.17	1.28	1.73	1.50	1.48	2.77	2.44	1.34	1.18	1.17	1.16	1.13	
3	1.17	1.26	1.80	1.41	4.29	2.14	2.03	1.27	1.20	1.17	1.15	1.13	
4	1.18	1.26	1.71	1.40	4.54	1.97	1.92	1.24	1.21	1.17	1.13	1.12	
5	1.19	1.26	1.75	1.47	4.14	4.19	1.76	1.26	1.20	1.17	1.16	1.12	
6	1.18	1.23	2.20	1.95	2.49	3.20	1.72	1.28	1.19	1.18	1.16	1.07	
7	1.20	1.26	2.25	1.86	1.97	2.20	1.65	1.28	1.20	1.16	1.16	0.94	
8	1.20	2.29	1.43	1.57	1.74	2.00	1.57	1.29	1.20	1.18	1.17	0.80	
9	1.22	1.49	1.69	1.51	1.77	1.95	1.59	1.28	1.19	1.16	1.15	0.60	
10	1.24	1.37	1.22	1.41	1.67	3.14	1.57	1.28	1.19	1.14	1.16	0.60	
11	1.28	1.78	4.91	1.39	1.56	4.03	1.52	1.28	1.20	1.19	1.15	1.11	
12	1.25	1.55	4.43	1.33	1.49	2.30	1.50	1.27	1.19	1.30	1.15	1.13	
13	1.31	1.56	4.34	1.29	1.45	2.07	1.48	1.25	1.19	1.38	1.16	1.18	
14	1.46	1.47	2.75	1.36	1.40	1.89	1.47	1.28	1.19	1.41	1.13	1.18	
15	1.55	1.40	1.61	1.34	1.42	1.95	1.49	1.29	1.19	1.44	1.14	1.17	
16	1.44	2.21	1.74	2.26	1.36	2.43	1.46	1.30	1.19	1.35	1.13	1.16	
17	1.36	1.67	1.57	2.49	1.40	2.64	1.45	1.30	1.19	1.31	1.12	1.16	
18	1.25	1.74	1.51	1.61	2.35	1.92	1.37	1.30	1.19	1.34	1.14	1.17	
19	1.28	1.61	1.67	1.49	2.10	1.84	1.40	1.29	1.19	1.19	1.12	1.17	
20	1.37	1.93	1.70	1.39	1.95	4.89	1.49	1.30	1.20	1.20	1.13	1.15	
21	1.42	2.27	1.47	1.34	1.85	3.50	1.56	1.31	1.19	1.21	1.13	1.16	
22	1.36	1.70	1.43	1.31	1.80	4.30	1.52	1.30	1.19	1.20	1.14	1.15	
23	1.41	1.61	1.45	1.30	3.08	2.64	1.46	1.29	1.19	1.20	1.13	1.15	
24	1.41	2.25	1.35	1.30	4.87	2.59	1.46	1.29	1.19	1.16	1.13	1.15	
25	1.50	4.20	1.81	1.28	5.73	3.18	1.37	1.22	1.20	1.13	1.12	1.14	
26	1.47	1.66	1.47	1.27	2.42	3.10	1.41	1.17	1.19	1.12	1.13	1.14	
27	1.37	1.34	1.40	1.77	2.11	2.57	1.44	1.15	1.19	1.16	1.13	1.15	
28	1.31	1.75	1.38	1.49	1.90	3.35	1.37	1.15	1.19	1.17	1.12	1.14	
29	1.26	1.76	1.36	1.43	1.80	2.96	1.34	1.18	1.19	1.17		1.15	
30	1.27	1.77	1.47	3.06	1.69	2.18	1.36	1.19	1.18	1.17		1.15	
31		2.53		1.89	2.96		1.36		1.18	1.15		1.14	
Mean	1.31	1.73	1.95	1.59	2.34	2.79	1.57	1.27	1.19	1.21	1.14	1.09	
Max	1.55	4.20	4.91	3.06	5.73	4.89	2.44	1.35	1.21	1.44	1.17	1.18	5.73
Min	1.17	1.23	1.22	1.27	1.36	1.84	1.34	1.15	1.18	1.12	1.12	0.60	0.60

Annual Max Momentary Gage Height 6.28 M (A.D), at 6.00 Hours, on Aug 25, 1993
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed 0.68 M (A.D)
Left Bank Elevation 11.52 M (A.D)
Right Bank Elevation 11.53 M (A.D), Drainage Area 1247 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.09	0.23	1.74	1.43	1.13	19.56	3.11	0.33	0.10	0.08	0.06	0.03	
2	0.07	0.22	1.56	0.70	0.64	8.94	6.13	0.31	0.08	0.07	0.06	0.03	
3	0.07	0.19	1.87	0.43	23.89	3.89	3.11	0.20	0.10	0.07	0.05	0.03	
4	0.08	0.19	1.48	0.40	26.91	2.72	2.42	0.16	0.12	0.07	0.03	0.02	
5	0.09	0.19	1.65	0.61	22.08	22.68	1.69	0.19	0.10	0.07	0.06	0.02	
6	0.08	0.14	4.33	2.60	6.55	12.86	1.52	0.22	0.09	0.08	0.06	0.00	
7	0.10	0.19	4.70	2.13	2.72	4.33	1.22	0.22	0.10	0.06	0.06	0.00	
8	0.10	4.99	0.49	0.91	1.61	2.90	0.91	0.23	0.10	0.08	0.07	0.00	
9	0.13	0.67	1.39	0.73	1.74	2.60	0.97	0.22	0.09	0.06	0.05	0.00	
10	0.16	0.36	0.13	0.43	1.30	12.31	0.91	0.22	0.09	0.04	0.06	0.00	
11	0.22	1.78	31.38	0.39	0.88	20.89	0.76	0.22	0.10	0.09	0.05	0.01	
12	0.17	0.85	25.58	0.30	0.67	5.07	0.70	0.20	0.09	0.25	0.05	0.03	
13	0.26	0.88	24.49	0.23	0.55	3.39	0.64	0.17	0.09	0.37	0.06	0.08	
14	0.58	0.61	8.76	0.34	0.40	2.26	0.61	0.22	0.09	0.43	0.03	0.08	
15	0.85	0.40	1.04	0.31	0.46	2.60	0.67	0.23	0.09	0.52	0.04	0.07	
16	0.52	4.41	1.61	4.77	0.34	6.05	0.58	0.25	0.09	0.33	0.03	0.06	
17	0.34	1.30	0.91	6.55	0.40	7.80	0.55	0.25	0.09	0.26	0.02	0.06	
18	0.17	1.61	0.73	1.04	5.43	2.42	0.36	0.25	0.09	0.31	0.04	0.07	
19	0.22	1.04	1.30	0.67	3.60	2.04	0.40	0.23	0.09	0.09	0.02	0.07	
20	0.36	2.48	1.43	0.39	2.60	31.14	0.67	0.25	0.10	0.10	0.03	0.05	
21	0.46	4.85	0.61	0.31	2.08	15.59	0.88	0.26	0.09	0.12	0.03	0.06	
22	0.34	1.43	0.49	0.26	1.87	24.01	0.76	0.25	0.09	0.10	0.04	0.05	
23	0.43	1.04	0.55	0.25	11.76	7.80	0.58	0.23	0.09	0.10	0.03	0.05	
24	0.43	4.70	0.33	0.25	30.90	7.38	0.58	0.23	0.09	0.06	0.03	0.05	
25	0.70	22.80	1.91	0.22	41.59	12.67	0.36	0.13	0.10	0.03	0.02	0.04	
26	0.61	1.26	0.61	0.20	5.97	11.94	0.43	0.07	0.09	0.02	0.03	0.04	
27	0.36	0.31	0.40	1.74	3.67	7.22	0.52	0.05	0.09	0.06	0.03	0.05	
28	0.26	1.65	0.37	0.67	2.30	14.22	0.36	0.05	0.09	0.07	0.02	0.04	
29	0.19	1.69	0.34	0.49	1.87	10.67	0.31	0.08	0.09	0.07		0.05	
30	0.20	1.74	0.61	11.58	1.39	4.19	0.34	0.09	0.08	0.07		0.05	
31		6.88		2.26	10.67		0.34		0.08	0.05		0.04	
Total	8.64	71.08	122.79	43.59	217.97	292.14	33.39	6.01	2.87	4.18	1.16	1.23	805.05 CMSDAY
Mean	0.29	2.29	4.09	1.41	7.03	9.74	1.08	0.20	0.09	0.13	0.04	0.04	2.21 CMS
Max	0.85	22.80	31.38	11.58	41.59	31.14	6.13	0.33	0.12	0.52	0.07	0.08	41.59 CMS
Min	0.07	0.14	0.13	0.20	0.34	2.04	0.31	0.05	0.08	0.02	0.02	0.00	0.00 CMS
Runoff	0.746	6.141	10.609	3.766	18.833	25.241	2.885	0.519	0.248	0.361	0.100	0.106	69.556 MCM

Momentary Peak 48.74 CMS, at 6.28 M (A.D), at 6.00 Hours, on Aug 25, 1993

Runoff Yield 1.77 Liters/Second/Square KM, Momentary Peak Yield 39.09 Liters/Second/Square KM

WATER YEAR 1993

PASAK RIVER BASIN

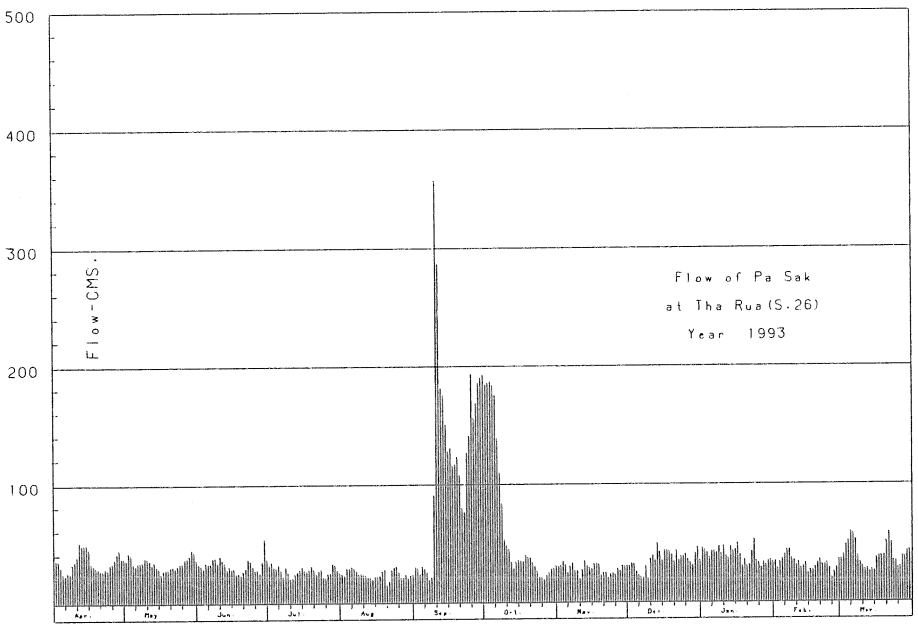
Pasak River at Tha Rua, Phra Nakhon Si Ayutthaya (S.26)

Location	Lat. 14°-33'-22" N., Long. 100°-43'-38" E., on right bank at the railway bridge, Amphoe Tha Rua, Phra Nakhon Si Ayutthaya.
Drainage Area	Flood plain.
Type of Gage	Staff gage.
Zero Gage at Bottom	+0.00 m.(A.D.)
Bench Mark	B.M.-H.D.
Location	On right bank about 10 meters from the top staff gage.
Elevation	+9.710 m.(A.D.)
Gage Reading Frequency	5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1984 to date.
Rating Operation	
Period of Rating	1985 to date.
Rated by Float	-
Rated by Current Meter	1985 to date.
Stability of Channel Regimes	Stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Stage-discharge relation defined by 10 discharge measurements made in 1993.

Gage Height in Meter (A.D), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	3.00	2.99	2.91	2.89	2.69	2.85	4.96	2.85	2.85	3.15	2.95	2.98	
2	2.97	3.09	2.86	2.94	2.67	2.81	4.97	2.86	2.91	3.12	2.79	3.05	
3	2.86	3.06	2.82	2.85	2.81	2.70	4.99	2.96	2.89	3.09	2.92	3.19	
4	2.71	2.92	2.92	2.81	2.82	2.85	4.95	2.87	2.74	3.01	2.99	3.24	
5	2.69	2.88	2.92	2.89	2.85	2.81	4.86	2.72	2.67	3.11	3.06	3.37	
6	2.73	2.92	2.91	2.77	2.81	2.74	4.45	2.84	2.62	3.10	3.12	3.34	
7	2.73	2.94	3.02	2.66	2.77	2.58	4.10	2.92	2.62	3.09	3.13	3.26	
8	2.90	2.94	3.02	2.85	2.69	2.62	3.73	2.75	2.84	3.17	3.00	3.03	
9	2.97	3.03	2.94	2.73	2.71	3.84	3.27	2.76	2.59	3.06	2.97	2.92	
10	3.04	3.01	3.05	2.60	2.68	6.72	3.18	2.59	2.99	3.17	2.87	2.83	
11	3.25	2.99	2.98	2.63	2.67	6.02	3.13	2.77	3.05	3.04	2.92	2.77	
12	3.20	2.90	2.92	2.69	2.64	4.93	2.94	2.95	2.97	3.00	2.80	2.80	
13	3.20	2.94	2.80	2.75	2.62	4.86	2.81	2.87	3.21	3.17	2.85	2.73	
14	3.21	2.86	2.85	2.78	2.59	4.59	2.94	2.81	3.09	3.10	2.90	2.77	
15	3.14	2.81	2.81	2.86	2.65	4.32	2.97	2.80	2.97	3.13	2.70	2.75	
16	2.92	2.70	2.81	2.77	2.64	4.36	2.95	2.89	3.12	3.21	2.76	3.00	
17	2.89	2.77	2.71	2.77	2.67	4.17	2.95	2.91	3.12	3.06	2.76	3.04	
18	2.83	2.80	2.71	2.79	2.75	4.19	3.06	2.88	3.10	2.85	2.82	3.03	
19	2.82	2.79	2.69	2.87	2.80	4.26	3.02	2.67	3.06	2.97	2.92	3.05	
20	2.78	2.85	2.75	2.79	2.47	4.07	3.02	2.71	2.93	2.84	2.97	3.23	
21	2.76	2.85	2.83	2.71	2.55	3.68	2.92	2.71	3.11	2.88	2.87	3.36	
22	2.82	2.83	3.01	2.77	2.78	3.64	2.85	2.62	2.98	3.10	2.88	3.22	
23	2.78	2.86	2.96	2.79	2.84	4.31	2.74	2.68	3.03	3.27	2.91	2.95	
24	2.91	2.92	2.87	2.64	2.85	4.48	2.63	2.71	3.04	2.95	2.81	2.95	
25	2.92	2.91	2.77	2.62	2.74	5.06	2.62	2.67	3.06	2.90	2.61	2.81	
26	3.00	3.01	2.78	2.70	2.62	4.64	2.58	2.79	2.98	2.82	2.72	2.82	
27	3.09	3.02	2.73	2.73	2.63	4.79	2.67	2.76	2.93	2.94	2.82	3.04	
28	3.13	3.05	2.96	2.92	2.68	4.97	2.71	2.86	2.87	2.86	2.99	3.02	
29	3.02	3.14	3.28	2.88	2.62	5.02	2.80	2.84	3.08	2.96		3.11	
30	3.01	3.10	3.00	2.79	2.66	5.05	2.80	2.86	3.16	2.97		3.11	
31		2.98		2.72	2.68		2.85		2.96	2.92		3.02	
Mean	2.94	2.93	2.89	2.77	2.70	4.13	3.34	2.80	2.95	3.03	2.89	3.03	
Max	3.25	3.14	3.28	2.94	2.85	6.72	4.99	2.96	3.21	3.27	3.13	3.37	6.72
Min	2.69	2.70	2.69	2.60	2.47	2.58	2.58	2.59	2.59	2.82	2.61	2.73	2.47

Annual Max Momentary Gage Height 6.85 M (A.D), at 9.00 Hours, on Sep 10, 1993
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed -1.10 M (A.D)
Left Bank Elevation 9.46 M (A.D)
Right Bank Elevation 9.25 M (A.D), Drainage Area Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	37.00	36.59	33.27	32.44	24.16	30.79	184.91	30.79	30.79	46.10	34.93	36.17	
2	35.76	42.40	31.20	34.51	23.33	29.13	185.82	31.20	33.27	44.24	28.30	40.00	
3	31.20	40.60	29.54	30.79	29.13	24.57	187.64	35.34	32.44	42.40	33.69	48.58	
4	24.99	33.69	33.69	29.13	29.54	30.79	184.00	31.61	26.23	37.60	36.59	51.68	
5	24.16	32.03	33.69	32.44	30.79	29.13	175.80	25.40	23.33	43.62	40.60	59.74	
6	25.81	33.69	33.27	27.47	29.13	26.23	138.87	30.37	21.26	43.00	44.24	57.88	
7	25.81	34.51	38.20	22.91	27.47	19.60	110.00	33.69	21.26	42.40	44.86	52.92	
8	32.86	34.51	38.20	30.79	24.16	21.26	83.36	26.64	30.37	47.34	37.00	38.80	
9	35.76	38.80	34.51	25.81	24.99	91.28	53.54	27.06	20.01	40.60	35.76	33.69	
10	39.40	37.60	40.00	20.43	23.74	357.73	47.96	20.01	36.59	47.34	31.61	29.96	
11	52.30	36.59	36.17	21.67	23.33	287.34	44.86	27.47	40.00	39.40	33.69	27.47	
12	49.20	32.86	33.69	24.16	22.09	182.18	34.51	34.93	35.76	37.00	28.71	28.71	
13	49.20	34.51	28.71	26.64	21.26	175.80	29.13	31.61	49.82	47.34	30.79	25.81	
14	49.82	31.20	30.79	27.89	20.01	151.20	34.51	29.13	42.40	43.00	32.86	27.47	
15	45.48	29.13	29.13	31.20	22.50	128.15	35.76	28.71	35.76	44.86	24.57	26.64	
16	33.69	24.57	29.13	27.47	22.09	131.45	34.93	32.44	44.24	49.82	27.06	37.00	
17	32.44	27.47	24.99	27.47	23.33	115.78	34.93	33.27	44.24	40.60	27.06	39.40	
18	29.96	28.71	24.99	28.30	26.64	117.43	40.60	32.03	43.00	30.79	29.54	38.80	
19	29.54	28.30	24.16	31.61	28.71	123.20	38.20	23.33	40.60	35.76	33.69	40.00	
20	27.89	30.79	26.64	28.30	15.04	107.84	38.20	24.99	34.10	30.37	35.76	51.06	
21	27.06	30.79	29.96	24.99	18.36	79.76	33.69	24.99	43.62	32.03	31.61	59.12	
22	29.54	29.96	37.60	27.47	27.89	76.88	30.79	21.26	36.17	43.00	32.03	50.44	
23	27.89	31.20	35.34	28.30	30.37	127.32	26.23	23.74	38.80	53.54	33.27	34.93	
24	33.27	33.69	31.61	22.09	30.79	141.35	21.67	24.99	39.40	34.93	29.13	34.93	
25	33.69	33.27	27.47	21.26	26.23	194.02	21.26	23.33	40.60	32.86	20.84	29.13	
26	37.00	37.60	27.89	24.57	21.26	155.76	19.60	28.30	36.17	29.54	25.40	29.54	
27	42.40	38.20	25.81	25.81	21.67	169.42	23.33	27.06	34.10	34.51	29.54	39.40	
28	44.86	40.00	35.34	33.69	23.74	185.82	24.99	31.20	31.61	31.20	36.59	38.20	
29	38.20	45.48	54.16	32.03	21.26	190.38	28.71	30.37	41.80	35.34		43.62	
30	37.60	43.00	37.00	28.30	22.91	193.11	28.71	31.20	46.72	35.76		43.62	
31		36.17		25.40	23.74		30.79		35.34	33.69		38.20	
Total	1063.78	1067.91	976.15	855.34	759.66	3694.70	2007.30	856.46	1109.80	1229.98	909.72	1232.91	15763.71 CMSDAY
Mean	35.46	34.45	32.54	27.59	24.51	123.16	64.75	28.55	35.80	39.68	32.49	39.77	43.19 CMS
Max	52.30	45.48	54.16	34.51	30.79	357.73	187.64	35.34	49.82	53.54	44.86	59.74	357.73 CMS
Min	24.16	24.57	24.16	20.43	15.04	19.60	19.60	20.01	20.01	29.54	20.84	25.81	15.04 CMS
Runoff	91.911	92.267	84.339	73.901	65.635	319.222	173.431	73.998	95.887	106.270	78.600	106.523	1361.985 MCM

Momentary Peak 370.81 CMS, at 6.85 M (A.D), at 9.00 Hours, on Sep 10, 1993

Runoff Yield ********* Liters/Second/Square KM, Momentary Peak Yield ********* Liters/Second/Square KM

WATER YEAR 1993

PASAK RIVER BASIN

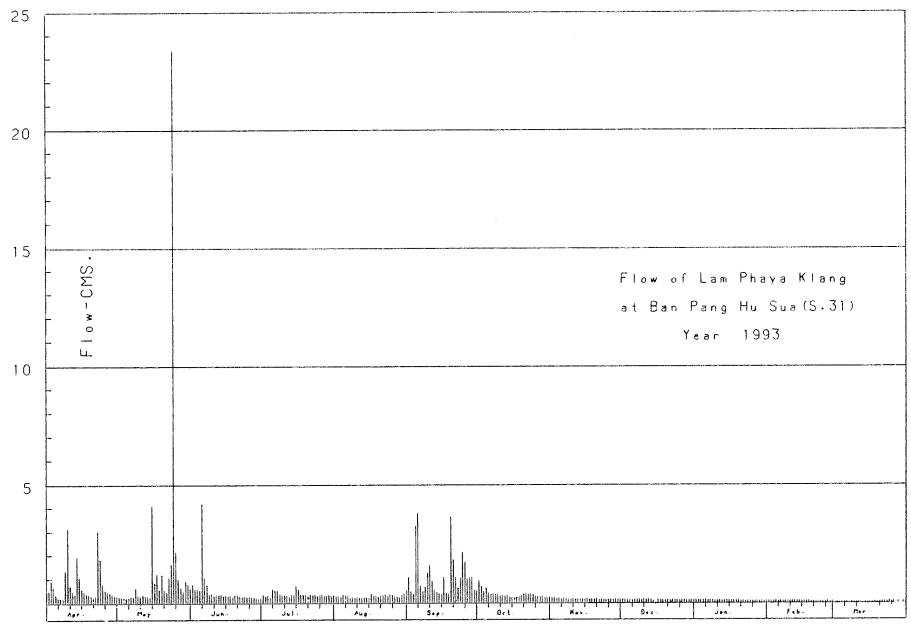
Lam Phaya Klang at Ban Pang Hu Sua, Lop Buri (S.31)

Location	Lat. 15°-06'-05" N., Long. 101°-24'-11" E., on left bank at the bridge of Dan Khun Tod - Chai Badan Highway, Tambon Sap Sombun, Amphoe Chai Badan, Lop Buri.
Drainage Area	381 sq.km.
Type of Gage	Water-stage recorder.
Zero Gage at Bottom	+0.00 m.(A.D.)
Bench Mark	B.M.-H.D.
Location	On left bank downstream side at the abutment of the bridge.
Elevation	+7.083 m.(A.D.)
Gage Reading Frequency	Recording.
Basis of Mean Daily Gage Height	Arithmetic mean of 24 readings.
Period of Available Gage Records	1986 to date.
Rating Operation	
Period of Rating	1987 to date.
Rated by Float	-
Rated by Current Meter	1987 to date.
Stability of Channel Regimes	Fairly stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records fair. Stage-discharge relation defined by 16 discharge measurements made in 1993.

Gage Height in Meter (A.D), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.28	0.22	0.33	0.24	0.23	0.37	0.35	0.21	0.18	0.17	0.15	0.13	
2	0.35	0.21	0.30	0.23	0.22	0.27	0.32	0.21	0.18	0.17	0.15	0.13	
3	0.31	0.21	0.30	0.23	0.22	0.25	0.27	0.20	0.17	0.17	0.15	0.13	
4	0.24	0.20	0.29	0.21	0.24	0.59	0.31	0.20	0.17	0.17	0.15	0.13	
5	0.21	0.21	0.66	0.30	0.24	0.63	0.26	0.19	0.17	0.17	0.15	0.13	
6	0.20	0.22	0.37	0.29	0.23	0.32	0.25	0.20	0.17	0.17	0.15	0.13	
7	0.20	0.22	0.33	0.28	0.21	0.28	0.25	0.20	0.18	0.17	0.15	0.13	
8	0.41	0.31	0.25	0.25	0.21	0.31	0.25	0.19	0.18	0.17	0.15	0.13	
9	0.58	0.23	0.25	0.23	0.21	0.40	0.24	0.19	0.18	0.16	0.15	0.13	
10	0.32	0.22	0.23	0.24	0.21	0.43	0.23	0.19	0.18	0.16	0.15	0.13	
11	0.27	0.24	0.24	0.23	0.21	0.35	0.23	0.19	0.18	0.16	0.15	0.13	
12	0.25	0.23	0.24	0.22	0.21	0.29	0.23	0.19	0.18	0.16	0.15	0.13	
13	0.47	0.22	0.24	0.24	0.21	0.27	0.23	0.19	0.18	0.16	0.15	0.13	
14	0.37	0.22	0.23	0.24	0.21	0.25	0.22	0.19	0.17	0.16	0.15	0.13	
15	0.30	0.65	0.23	0.32	0.21	0.25	0.21	0.19	0.17	0.16	0.15	0.13	
16	0.27	0.34	0.23	0.30	0.25	0.37	0.21	0.19	0.17	0.16	0.15	0.13	
17	0.25	0.39	0.23	0.24	0.23	0.26	0.21	0.19	0.17	0.16	0.15	0.13	
18	0.24	0.29	0.22	0.24	0.23	0.25	0.22	0.19	0.17	0.16	0.15	0.13	
19	0.23	0.39	0.23	0.24	0.22	0.62	0.23	0.19	0.17	0.16	0.14	0.13	
20	0.21	0.29	0.24	0.23	0.23	0.46	0.25	0.19	0.17	0.15	0.14	0.13	
21	0.22	0.27	0.22	0.24	0.24	0.37	0.25	0.18	0.17	0.15	0.14	0.14	
22	0.57	0.37	0.22	0.24	0.24	0.31	0.25	0.18	0.17	0.15	0.14	0.14	
23	0.46	0.44	0.22	0.24	0.23	0.37	0.25	0.18	0.17	0.15	0.14	0.14	
24	0.33	1.41	0.22	0.23	0.24	0.49	0.25	0.18	0.17	0.15	0.14	0.15	
25	0.29	0.49	0.22	0.24	0.24	0.45	0.23	0.18	0.17	0.15	0.14	0.14	
26	0.27	0.36	0.21	0.24	0.22	0.36	0.22	0.18	0.17	0.15	0.14	0.14	
27	0.26	0.31	0.21	0.23	0.22	0.37	0.22	0.18	0.17	0.15	0.14	0.14	
28	0.24	0.27	0.20	0.23	0.21	0.37	0.22	0.18	0.17	0.15	0.14	0.14	
29	0.23	0.35	0.20	0.24	0.24	0.29	0.21	0.18	0.17	0.15		0.14	
30	0.22	0.33	0.20	0.23	0.25	0.28	0.21	0.18	0.17	0.15		0.14	
31		0.30		0.23	0.29		0.21		0.17	0.15		0.17	
Mean	0.30	0.34	0.26	0.24	0.23	0.36	0.24	0.19	0.17	0.16	0.15	0.13	
Max	0.58	1.41	0.66	0.32	0.29	0.63	0.35	0.21	0.18	0.17	0.15	0.17	1.41
Min	0.20	0.20	0.20	0.21	0.21	0.25	0.21	0.18	0.17	0.15	0.14	0.13	0.13

Annual Max Momentary Gage Height 2.06 M (A.D), at 6.00 Hours, on May 24, 1993
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed -0.38 M (A.D)
Left Bank Elevation 6.83 M (A.D)
Right Bank Elevation 6.83 M (A.D), Drainage Area 381 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.52	0.28	0.81	0.36	0.32	1.09	0.95	0.24	0.16	0.14	0.10	0.06	
2	0.95	0.24	0.60	0.32	0.28	0.48	0.74	0.24	0.16	0.14	0.10	0.06	
3	0.67	0.24	0.60	0.32	0.28	0.40	0.48	0.20	0.14	0.14	0.10	0.06	
4	0.36	0.20	0.56	0.24	0.36	3.28	0.67	0.20	0.14	0.14	0.10	0.06	
5	0.24	0.24	4.24	0.60	0.36	3.82	0.44	0.18	0.14	0.14	0.10	0.06	
6	0.20	0.28	1.09	0.56	0.32	0.74	0.40	0.20	0.14	0.14	0.10	0.06	
7	0.20	0.28	0.81	0.52	0.24	0.52	0.40	0.20	0.16	0.14	0.10	0.06	
8	1.39	0.67	0.40	0.40	0.24	0.67	0.40	0.18	0.16	0.14	0.10	0.06	
9	3.17	0.32	0.40	0.32	0.24	1.30	0.36	0.18	0.16	0.12	0.10	0.06	
10	0.74	0.28	0.32	0.36	0.24	1.59	0.32	0.18	0.16	0.12	0.10	0.06	
11	0.48	0.36	0.36	0.32	0.24	0.95	0.32	0.18	0.16	0.12	0.10	0.06	
12	0.40	0.32	0.36	0.28	0.24	0.56	0.32	0.18	0.16	0.12	0.10	0.06	
13	1.97	0.28	0.36	0.36	0.24	0.48	0.32	0.18	0.16	0.12	0.10	0.06	
14	1.09	0.28	0.32	0.36	0.24	0.40	0.28	0.18	0.14	0.12	0.10	0.06	
15	0.60	4.10	0.32	0.74	0.24	0.40	0.24	0.18	0.14	0.12	0.10	0.06	
16	0.48	0.88	0.32	0.60	0.40	1.09	0.24	0.18	0.14	0.12	0.10	0.06	
17	0.40	1.23	0.32	0.36	0.32	0.44	0.24	0.18	0.14	0.12	0.10	0.06	
18	0.36	0.56	0.28	0.36	0.32	0.40	0.28	0.18	0.14	0.12	0.10	0.06	
19	0.32	1.23	0.32	0.36	0.28	3.68	0.32	0.18	0.14	0.12	0.08	0.06	
20	0.24	0.56	0.36	0.32	0.32	1.87	0.40	0.18	0.14	0.10	0.08	0.06	
21	0.28	0.48	0.28	0.36	0.36	1.09	0.40	0.16	0.14	0.10	0.08	0.08	
22	3.05	1.09	0.28	0.36	0.36	0.67	0.40	0.16	0.14	0.10	0.08	0.08	
23	1.87	1.68	0.28	0.36	0.32	1.09	0.40	0.16	0.14	0.10	0.08	0.08	
24	0.81	23.39	0.28	0.32	0.36	2.16	0.40	0.16	0.14	0.10	0.08	0.10	
25	0.56	2.16	0.28	0.36	0.36	1.77	0.32	0.16	0.14	0.10	0.08	0.08	
26	0.48	1.02	0.24	0.36	0.28	1.02	0.28	0.16	0.14	0.10	0.08	0.08	
27	0.44	0.67	0.24	0.32	0.28	1.09	0.28	0.16	0.14	0.10	0.08	0.08	
28	0.36	0.48	0.20	0.32	0.24	1.09	0.28	0.16	0.14	0.10	0.08	0.08	
29	0.32	0.95	0.20	0.36	0.36	0.56	0.24	0.16	0.14	0.10		0.08	
30	0.28	0.81	0.20	0.32	0.40	0.52	0.24	0.16	0.14	0.10		0.08	
31		0.60		0.32	0.56		0.24		0.14	0.10		0.14	
Total	23.23	46.16	15.63	11.82	9.60	35.22	11.60	5.40	4.52	3.64	2.60	2.16	171.58 CMSDAY
Mean	0.77	1.49	0.52	0.38	0.31	1.17	0.37	0.18	0.15	0.12	0.09	0.07	0.47 CMS
Max	3.17	23.39	4.24	0.74	0.56	3.82	0.95	0.24	0.16	0.14	0.10	0.14	23.39 CMS
Min	0.20	0.20	0.20	0.24	0.24	0.40	0.24	0.16	0.14	0.10	0.08	0.06	0.06 CMS
Runoff	2.007	3.988	1.350	1.021	0.829	3.043	1.002	0.467	0.391	0.314	0.225	0.187	14.825 MCM

Momentary Peak 55.00 CMS, at 2.06 M (A.D), at 6.00 Hours, on May 24, 1993
Runoff Yield 1.23 Liters/Second/Square KM, Momentary Peak Yield 144.36 Liters/Second/Square KM

WATER YEAR 1993

SALAWIN RIVER BASIN

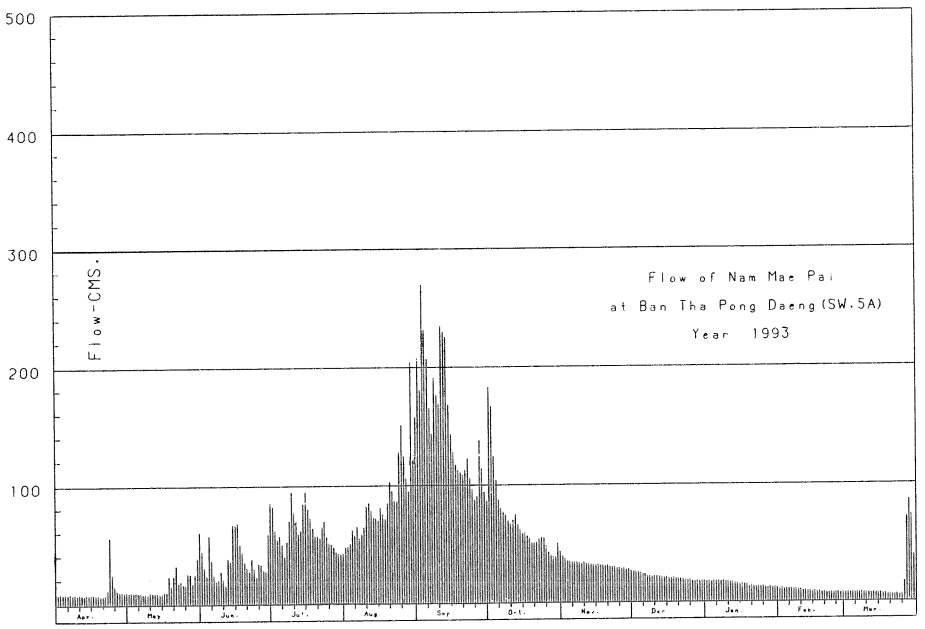
Nam Mae Pai at Ban Tha Pong Daeng, Mae Hong Son (SW.5A)

Location	Lat. 19°-16'-10" N., Long. 97°-56'-55" E., on left bank at Ban Tha Pong Daeng, Amphoe Muang, Mae Hong Son.
Drainage Area	4,466 sq.km.
Type of Gage	Water-stage recorder.
Zero Gage at Bottom	+0.00 m.(A.D.)
Bench Mark	B.M.-H.D.
Location	On left bank near the station office.
Elevation	+8.372 m.(A.D.)
Gage Reading Frequency	Recording.
Basis of Mean Daily Gage Height	Arithmetic mean of 24 readings.
Period of Available Gage Records	1980 to date.
Rating Operation	
Period of Rating	1984 to date.
Rated by Float	-
Rated by Current Meter	1984 to date.
Stability of Channel Regimes	Stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Stage-discharge relation defined by 152 discharge measurements made in 1993.

Gage Height in Meter (A.D), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.70	0.74	1.24	1.55	1.17	2.43	2.26	1.08	0.90	0.75	0.61	0.52	
2	0.70	0.73	1.09	1.39	1.17	2.25	2.15	1.05	0.90	0.75	0.62	0.52	
3	0.70	0.73	1.01	1.33	1.20	2.85	1.83	1.03	0.89	0.75	0.61	0.52	
4	0.70	0.72	1.36	1.35	1.31	2.59	1.68	1.02	0.87	0.75	0.61	0.52	
5	0.70	0.71	1.17	1.29	1.27	2.43	1.54	1.02	0.86	0.75	0.61	0.52	
6	0.70	0.70	1.01	1.20	1.34	2.14	1.47	1.01	0.85	0.75	0.60	0.52	
7	0.69	0.70	0.94	1.22	1.24	1.98	1.45	1.02	0.83	0.75	0.60	0.52	
8	0.69	0.69	0.95	1.39	1.28	2.32	1.42	1.00	0.82	0.75	0.59	0.52	
9	0.68	0.69	1.06	1.60	1.33	2.22	1.38	1.00	0.82	0.75	0.59	0.52	
10	0.68	0.73	0.96	1.45	1.49	2.16	1.35	1.01	0.82	0.74	0.58	0.52	
11	0.68	0.73	0.88	1.37	1.52	2.61	1.38	1.00	0.82	0.74	0.57	0.52	
12	0.67	0.73	1.18	1.28	1.46	2.58	1.43	0.99	0.82	0.73	0.56	0.51	
13	0.68	0.70	1.16	1.31	1.41	2.55	1.35	0.99	0.81	0.73	0.56	0.51	
14	0.68	0.70	1.43	1.51	1.40	2.16	1.31	0.98	0.81	0.71	0.55	0.51	
15	0.67	0.70	1.43	1.60	1.39	1.98	1.28	0.98	0.81	0.70	0.55	0.50	
16	0.67	0.73	1.44	1.48	1.48	1.86	1.28	0.98	0.80	0.71	0.55	0.50	
17	0.67	0.75	1.30	1.40	1.43	1.78	1.26	0.98	0.80	0.71	0.54	0.50	
18	0.66	1.01	1.23	1.33	1.40	1.74	1.23	0.97	0.80	0.69	0.54	0.49	
19	0.65	0.86	1.15	1.26	1.52	1.73	1.20	0.97	0.80	0.66	0.53	0.48	
20	0.65	1.00	1.09	1.26	1.67	1.71	1.19	0.97	0.78	0.67	0.53	0.47	
21	0.65	1.12	1.06	1.25	1.60	1.74	1.20	0.96	0.78	0.65	0.52	0.47	
22	0.81	0.92	1.18	1.34	1.53	1.82	1.23	0.96	0.78	0.65	0.52	0.47	
23	1.35	0.93	1.08	1.38	1.53	1.69	1.24	0.95	0.77	0.65	0.52	0.47	
24	1.03	0.90	1.00	1.26	1.86	1.61	1.24	0.94	0.77	0.65	0.52	0.46	
25	0.86	0.87	1.13	1.20	2.04	1.54	1.17	0.94	0.77	0.65	0.52	0.46	
26	0.78	1.03	1.12	1.19	1.84	1.56	1.12	0.93	0.76	0.65	0.52	0.74	
27	0.76	1.03	1.07	1.17	1.69	1.94	1.09	0.93	0.75	0.64	0.52	1.40	
28	0.75	0.91	1.05	1.13	1.60	1.75	1.07	0.92	0.75	0.64	0.52	1.53	
29	0.74	1.02	1.37	1.11	2.41	1.59	1.07	0.92	0.75	0.64		1.41	
30	0.74	1.19	1.57	1.11	1.84	1.53	1.19	0.90	0.75	0.64		1.08	
31		1.38		1.11	2.08		1.12		0.75	0.62		0.88	
Mean	0.74	0.85	1.16	1.32	1.53	2.03	1.36	0.98	0.81	0.70	0.56	0.63	
Max	1.35	1.38	1.57	1.60	2.41	2.85	2.26	1.08	0.90	0.75	0.62	1.53	2.85
Min	0.65	0.69	0.88	1.11	1.17	1.53	1.07	0.90	0.75	0.62	0.52	0.46	0.46

Annual Max Momentary Gage Height 3.19 M (A.D), at 12.00 Hours, on Sep 3, 1993
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed -0.27 M (A.D)
Left Bank Elevation 7.75 M (A.D)
Right Bank Elevation 5.25 M (A.D), Drainage Area 4466 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	8.70	10.02	44.40	82.50	48.00	207.50	182.40	39.40	26.50	17.55	10.93	7.46	
2	8.70	9.69	30.20	61.80	48.00	181.00	167.00	37.00	26.50	17.55	11.36	7.46	
3	8.70	9.69	23.80	54.60	51.00	270.50	123.90	35.40	25.88	17.55	10.93	7.46	
4	8.70	9.36	58.20	57.00	62.10	231.50	104.60	34.60	24.64	17.55	10.93	7.46	
5	8.70	9.03	37.30	49.90	58.00	207.50	87.80	34.60	24.02	17.55	10.93	7.46	
6	8.70	8.70	23.80	40.00	65.40	165.60	79.70	33.80	23.40	17.55	10.50	7.46	
7	8.43	8.70	19.40	53.00	55.00	143.40	77.50	34.60	22.16	17.55	10.50	7.46	
8	8.43	8.43	20.00	70.90	59.00	191.00	74.20	33.00	21.54	17.55	10.12	7.46	
9	8.16	8.43	27.80	95.00	64.30	176.80	69.80	33.00	21.54	17.55	10.12	7.46	
10	8.16	9.69	20.60	77.50	81.90	168.40	66.50	33.80	21.54	17.00	9.74	7.46	
11	8.16	9.69	16.00	68.70	85.40	234.50	69.80	33.00	21.54	17.00	9.36	7.46	
12	7.89	9.69	38.20	59.00	78.60	230.00	75.30	32.35	21.54	16.45	8.98	7.08	
13	8.16	8.70	36.40	62.10	73.10	225.50	66.50	32.35	20.92	16.45	8.98	7.08	
14	8.16	8.70	66.90	84.20	72.00	168.40	62.10	31.70	20.92	15.35	8.60	7.08	
15	7.89	8.70	66.90	95.00	70.90	143.40	59.00	31.70	20.92	14.80	8.60	6.70	
16	7.89	9.69	68.20	80.80	80.80	127.80	59.00	31.70	20.30	15.35	8.60	6.70	
17	7.89	10.35	51.00	72.00	75.30	117.40	57.00	31.70	20.30	15.35	8.22	6.70	
18	7.62	23.80	43.30	64.30	72.00	112.20	54.00	31.05	20.30	14.37	8.22	6.36	
19	7.35	15.00	35.50	57.00	85.40	110.90	51.00	31.05	20.30	13.08	7.84	6.02	
20	7.35	23.00	30.20	57.00	103.40	108.30	50.00	31.05	19.20	13.51	7.84	5.68	
21	7.35	32.80	27.80	56.00	95.00	112.20	51.00	30.40	19.20	12.65	7.46	5.68	
22	12.50	18.20	38.20	65.40	86.60	122.60	54.00	30.40	19.20	12.65	7.46	5.68	
23	57.00	18.80	29.40	69.80	86.60	105.80	55.00	29.75	18.65	12.65	7.46	5.68	
24	25.40	17.00	23.00	57.00	127.80	96.20	55.00	29.10	18.65	12.65	7.46	5.34	
25	15.00	15.50	33.70	51.00	151.60	87.80	48.00	29.10	18.65	12.65	7.46	5.34	
26	11.34	25.40	32.80	50.00	125.20	90.20	43.00	28.45	18.10	12.65	7.46	17.00	
27	10.68	25.40	28.60	48.00	105.80	138.20	40.20	28.45	17.55	12.22	7.46	72.00	
28	10.35	17.60	27.00	44.00	95.00	113.50	38.60	27.80	17.55	12.22	7.46	86.60	
29	10.02	24.60	59.40	42.00	204.50	93.80	38.60	27.80	17.55	12.22		73.10	
30	10.02	39.10	85.10	42.00	125.20	86.60	50.00	26.50	17.55	12.22		39.40	
31		60.60		42.00	157.20		43.00		17.55	11.36		25.26	
Total	333.40	514.06	1143.10	1909.50	2750.10	4568.50	2153.50	954.60	644.16	462.80	250.98	482.54	16167.24 CMSDAY
Mean	11.11	16.58	38.10	61.60	88.71	152.28	69.47	31.82	20.78	14.93	8.96	15.57	44.29 CMS
Max	57.00	60.60	85.10	95.00	204.50	270.50	182.40	39.40	26.50	17.55	11.36	86.60	270.50 CMS
Min	7.35	8.43	16.00	40.00	48.00	86.60	38.60	26.50	17.55	11.36	7.46	5.34	5.34 CMS
Runoff	28.806	44.415	98.764	164.981	237.609	394.718	186.062	82.477	55.655	39.986	21.685	41.691	1396.850 MCM

Momentary Peak 322.40 CMS, at 3.19 M (A.D), at 12.00 Hours, on Sep 3, 1993
Runoff Yield 9.92 Liters/Second/Square KM, Momentary Peak Yield 72.19 Liters/Second/Square KM

WATER YEAR 1993

SALAWIN RIVER BASIN

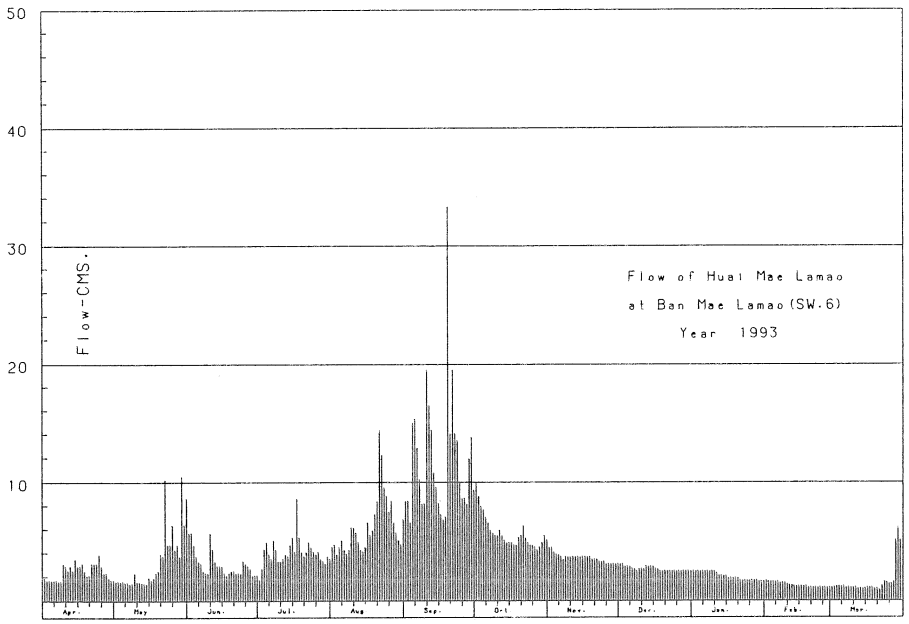
Huai Mae Lamao at Ban Mae Lamao, Tak (SW.6)

Location	Lat. 16°-45'- 44" N., Long. 98°-45'-14" E., on left bank downstream from the bridge on highway, at Ban Mae Lamao, Amphoe Mae Sot, Tak.
Drainage Area	1,038 sq.km.
Type of Gage	Water-stage recorder.
Zero Gage at Bottom	+0.00 m.(A.D.)
Bench Mark	B.M.-H.D.
Location	About 6.25 meters from automatic gage building.
Elevation	+10.386 m.(A.D.)
Gage Reading Frequency	Recording.
Basis of Mean Daily Gage Height	Arithmetic mean of 24 readings.
Period of Available Gage Records	1971 to date.
Rating Operation	
Period of Rating	1971 to date.
Rated by Float	-
Rated by Current Meter	1971 to date.
Stability of Channel Regimes	Stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Stage-discharge relation defined by 125 discharge measurements made in 1993.

Gage Height in Meter (A.D), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.51	0.49	0.70	0.50	0.64	0.82	0.89	0.64	0.57	0.54	0.50	0.44	
2	0.50	0.49	0.70	0.55	0.65	0.82	0.84	0.64	0.57	0.54	0.49	0.44	
3	0.50	0.49	0.65	0.63	0.61	0.74	0.80	0.62	0.56	0.54	0.49	0.45	
4	0.50	0.49	0.60	0.66	0.64	1.06	0.79	0.61	0.56	0.54	0.49	0.45	
5	0.50	0.48	0.58	0.61	0.67	1.07	0.76	0.61	0.56	0.54	0.49	0.45	
6	0.50	0.48	0.57	0.59	0.63	0.99	0.74	0.60	0.55	0.54	0.49	0.45	
7	0.49	0.47	0.54	0.67	0.61	0.90	0.71	0.59	0.55	0.54	0.48	0.44	
8	0.49	0.47	0.53	0.63	0.63	0.81	0.70	0.60	0.54	0.54	0.48	0.44	
9	0.57	0.53	0.53	0.58	0.72	0.81	0.69	0.60	0.55	0.54	0.48	0.44	
10	0.56	0.49	0.70	0.58	0.72	1.21	0.69	0.60	0.55	0.54	0.47	0.44	
11	0.54	0.48	0.63	0.59	0.70	1.11	0.71	0.60	0.55	0.53	0.46	0.44	
12	0.56	0.48	0.58	0.61	0.66	1.04	0.69	0.60	0.56	0.52	0.46	0.43	
13	0.54	0.47	0.56	0.60	0.63	0.92	0.67	0.60	0.56	0.52	0.45	0.43	
14	0.59	0.47	0.56	0.65	0.62	0.87	0.66	0.60	0.56	0.52	0.45	0.43	
15	0.56	0.51	0.56	0.68	0.64	0.81	0.66	0.60	0.56	0.52	0.45	0.43	
16	0.56	0.50	0.53	0.62	0.74	0.77	0.66	0.60	0.55	0.51	0.45	0.44	
17	0.57	0.51	0.52	0.83	0.69	0.75	0.65	0.60	0.55	0.51	0.45	0.44	
18	0.54	0.53	0.53	0.68	0.71	0.76	0.65	0.60	0.54	0.51	0.45	0.44	
19	0.52	0.54	0.54	0.62	0.77	1.59	0.68	0.59	0.54	0.51	0.44	0.43	
20	0.52	0.61	0.54	0.60	0.82	1.03	0.69	0.59	0.54	0.51	0.44	0.43	
21	0.57	0.60	0.53	0.62	1.04	1.21	0.73	0.59	0.54	0.50	0.44	0.42	
22	0.57	0.90	0.53	0.66	0.97	1.03	0.68	0.58	0.54	0.50	0.44	0.45	
23	0.57	0.65	0.53	0.64	0.87	1.01	0.66	0.58	0.54	0.50	0.44	0.49	
24	0.61	0.65	0.58	0.62	0.84	0.89	0.65	0.58	0.54	0.50	0.44	0.48	
25	0.56	0.73	0.57	0.61	0.78	0.83	0.65	0.57	0.54	0.50	0.44	0.47	
26	0.53	0.63	0.56	0.62	0.82	0.83	0.64	0.57	0.54	0.50	0.44	0.47	
27	0.53	0.65	0.55	0.59	0.74	0.81	0.63	0.57	0.54	0.50	0.44	0.49	
28	0.51	0.60	0.52	0.58	0.70	0.96	0.64	0.57	0.54	0.50	0.44	0.67	
29	0.50	0.91	0.52	0.57	0.67	1.02	0.66	0.57	0.54	0.49		0.72	
30	0.50	0.73	0.52	0.60	0.65	0.86	0.69	0.57	0.54	0.49		0.67	
31		0.83		0.59	0.75		0.67		0.54	0.49		0.56	
Mean	0.54	0.58	0.57	0.62	0.72	0.94	0.70	0.59	0.55	0.52	0.46	0.47	
Max	0.61	0.91	0.70	0.83	1.04	1.59	0.89	0.64	0.57	0.54	0.50	0.72	1.59
Min	0.49	0.47	0.52	0.50	0.61	0.74	0.63	0.57	0.54	0.49	0.44	0.42	0.42

Annual Max Momentary Gage Height 2.00 M (A.D), at 9.00 Hours, on Sep 19, 1993
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed -0.09 M (A.D)
Left Bank Elevation 8.70 M (A.D)
Right Bank Elevation 7.76 M (A.D), Drainage Area 1038 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	1.95	1.65	5.75	1.75	4.55	8.45	10.03	4.55	3.15	2.55	1.75	1.15	
2	1.75	1.65	5.75	2.75	4.75	8.45	8.90	4.55	3.15	2.55	1.65	1.15	
3	1.75	1.65	4.75	4.35	3.95	6.65	8.00	4.15	2.95	2.55	1.65	1.25	
4	1.75	1.65	3.75	4.95	4.55	15.05	7.78	3.95	2.95	2.55	1.65	1.25	
5	1.75	1.55	3.35	3.95	5.15	15.35	7.10	3.95	2.95	2.55	1.65	1.25	
6	1.75	1.55	3.15	3.55	4.35	12.95	6.65	3.75	2.75	2.55	1.65	1.25	
7	1.65	1.45	2.55	5.15	3.95	10.25	5.98	3.55	2.75	2.55	1.55	1.15	
8	1.65	1.45	2.35	4.35	4.35	8.23	5.75	3.75	2.55	2.55	1.55	1.15	
9	3.15	2.35	2.35	3.35	6.20	8.23	5.55	3.75	2.75	2.55	1.55	1.15	
10	2.95	1.65	5.75	3.35	6.20	19.55	5.55	3.75	2.75	2.55	1.45	1.15	
11	2.55	1.55	4.35	3.55	5.75	16.55	5.98	3.75	2.75	2.35	1.35	1.15	
12	2.95	1.55	3.35	3.95	4.95	14.45	5.55	3.75	2.95	2.15	1.35	1.05	
13	2.55	1.45	2.95	3.75	4.35	10.85	5.15	3.75	2.95	2.15	1.25	1.05	
14	3.55	1.45	2.95	4.75	4.15	9.58	4.95	3.75	2.95	2.15	1.25	1.05	
15	2.95	1.95	2.95	5.35	4.55	8.23	4.95	3.75	2.95	2.15	1.25	1.05	
16	2.95	1.75	2.35	4.15	6.65	7.32	4.95	3.75	2.75	1.95	1.25	1.15	
17	3.15	1.95	2.15	8.68	5.55	6.88	4.75	3.75	2.75	1.95	1.25	1.15	
18	2.55	2.35	2.35	5.35	5.98	7.10	4.75	3.75	2.55	1.95	1.25	1.15	
19	2.15	2.55	2.55	4.15	7.32	33.35	5.35	3.55	2.55	1.95	1.15	1.05	
20	2.15	3.95	2.55	3.75	8.45	14.15	5.55	3.55	2.55	1.95	1.15	1.05	
21	3.15	3.75	2.35	4.15	14.45	19.55	6.43	3.55	2.55	1.75	1.15	0.95	
22	3.15	10.25	2.35	4.95	12.35	14.15	5.35	3.35	2.55	1.75	1.15	1.25	
23	3.15	4.75	2.35	4.55	9.58	13.55	4.95	3.35	2.55	1.75	1.15	1.65	
24	3.95	4.75	3.35	4.15	8.90	10.03	4.75	3.35	2.55	1.75	1.15	1.55	
25	2.95	6.43	3.15	3.95	7.55	8.68	4.75	3.15	2.55	1.75	1.15	1.45	
26	2.35	4.35	2.95	4.15	8.45	8.68	4.55	3.15	2.55	1.75	1.15	1.45	
27	2.35	4.75	2.75	3.55	6.65	8.23	4.35	3.15	2.55	1.75	1.15	1.65	
28	1.95	3.75	2.15	3.35	5.75	12.05	4.55	3.15	2.55	1.75	1.15	5.15	
29	1.75	10.55	2.15	3.15	5.15	13.85	4.95	3.15	2.55	1.65		6.20	
30	1.75	6.43	2.15	3.75	4.75	9.35	5.55	3.15	2.55	1.65		5.15	
31		8.68		3.55	6.88		5.15		2.55	1.65		2.95	
Total	74.10	105.54	93.70	128.18	196.16	359.74	178.55	109.30	84.45	65.15	37.80	52.20	1484.87 CMSDAY
Mean	2.47	3.40	3.12	4.13	6.33	11.99	5.76	3.64	2.72	2.10	1.35	1.68	4.07 CMS
Max	3.95	10.55	5.75	8.68	14.45	33.35	10.03	4.55	3.15	2.55	1.75	6.20	33.35 CMS
Min	1.65	1.45	2.15	1.75	3.95	6.65	4.35	3.15	2.55	1.65	1.15	0.95	0.95 CMS
Runoff	6.402	9.119	8.096	11.075	16.948	31.082	15.427	9.444	7.296	5.629	3.266	4.510	128.293 MCM

Momentary Peak 49.75 CMS, at 2.00 M (A.D), at 9.00 Hours, on Sep 19, 1993

Runoff Yield 3.92 Liters/Second/Square KM, Momentary Peak Yield 47.93 Liters/Second/Square KM

WATER YEAR 1993

KHONG RIVER BASIN

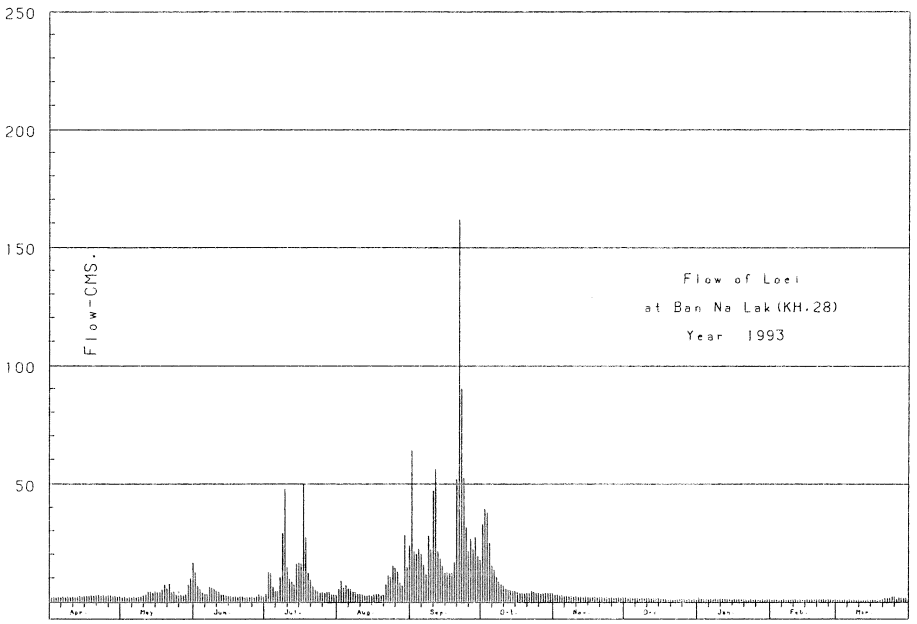
Loei River at Ban Na Lak, Loei (Kh.28)

Location	Lat. 17°-19'-08" N., Long. 101°-46'-44" E., on right bank at the bridge of Khon Kaen - Loei Highway, Amphoe Wang Saphung, Loei.
Drainage Area	1,263 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+239.20 m.(M.S.L.)
Bench Mark	B.M._H.D.
Location	On right bank near the automatic gage building.
Elevation	+249.288 m.(M.S.L.)
Gage Reading Frequency	3-time daily readings at 06.00, 12.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 3 readings.
Period of Available Gage Records	1968 to date.
Rating Operation	
Period of Rating	1993 to date.
Rated by Float	-
Rated by Current Meter	1993 to date.
Stability of Channel Regimes	Stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Stage-discharge relation defined by 26 discharge measurements made in 1993.

Gage Height in Meter (MSL), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	239.02	239.05	239.83	239.22	239.46	241.21	240.54	239.22	238.99	239.02	238.84	238.84	
2	239.02	239.05	239.55	239.85	239.65	240.20	240.69	239.21	238.99	238.94	238.84	238.83	
3	239.02	239.02	239.42	239.81	239.48	240.17	240.66	239.19	238.99	238.89	238.84	238.83	
4	239.02	239.02	239.31	239.53	239.57	240.23	240.31	239.17	238.99	238.90	238.83	238.83	
5	239.04	239.03	239.26	239.38	239.49	240.17	239.97	239.14	238.98	238.88	238.83	238.82	
6	239.04	239.04	239.21	239.34	239.43	239.97	239.88	239.12	238.98	238.88	238.83	238.82	
7	239.05	239.05	239.53	239.74	239.35	239.80	239.75	239.12	238.98	238.89	238.83	238.82	
8	239.05	239.04	239.48	240.43	239.30	240.40	239.63	239.11	238.98	238.89	238.83	238.81	
9	239.05	239.12	239.47	240.88	239.26	240.22	239.59	239.11	238.97	238.89	238.84	238.81	
10	239.05	239.15	239.36	239.93	239.23	240.87	239.54	239.11	238.96	238.89	238.84	238.81	
11	239.06	239.23	239.32	239.69	239.20	241.05	239.47	239.10	238.96	238.89	238.84	238.80	
12	239.09	239.35	239.23	239.64	239.17	240.20	239.42	239.10	238.96	238.89	238.84	238.80	
13	239.10	239.32	239.18	239.56	239.16	240.09	239.38	239.09	238.96	238.88	238.84	238.81	
14	239.10	239.30	239.17	240.00	239.15	239.95	239.37	239.09	238.95	238.88	238.84	238.84	
15	239.10	239.33	239.14	240.01	239.15	239.83	239.35	239.08	238.94	238.87	238.84	238.83	
16	239.11	239.30	239.11	239.99	239.20	239.82	239.30	239.07	238.92	238.87	238.84	238.82	
17	239.14	239.33	239.10	240.93	239.24	239.82	239.29	239.07	238.90	238.87	238.84	238.83	
18	239.15	239.42	239.09	240.37	239.22	239.81	239.27	239.06	238.85	238.86	238.84	238.83	
19	239.16	239.58	239.08	239.83	239.18	240.03	239.27	239.04	238.84	238.87	238.85	238.84	
20	239.19	239.45	239.07	239.67	239.18	240.96	239.27	239.04	238.84	238.85	238.89	238.86	
21	239.17	239.60	239.06	239.52	239.59	242.58	239.26	239.04	238.84	238.83	238.88	238.95	
22	239.16	239.32	239.04	239.43	239.78	241.64	239.38	239.03	238.84	238.83	238.86	238.99	
23	239.16	239.32	239.03	239.33	239.73	240.97	239.30	239.03	238.84	238.84	238.86	238.97	
24	239.15	239.22	239.06	239.30	239.97	240.50	239.29	239.02	238.90	238.84	238.85	239.13	
25	239.15	239.14	239.04	239.29	239.92	240.20	239.27	239.02	238.86	238.83	238.85	239.09	
26	239.14	239.16	239.03	239.29	239.84	240.35	239.27	239.01	238.84	238.84	238.84	239.05	
27	239.12	239.17	239.13	239.34	239.63	240.23	239.27	239.01	238.84	238.83	238.84	239.05	
28	239.12	239.20	239.19	239.30	239.54	240.37	239.27	239.00	238.85	238.83	238.84	239.00	
29	239.10	239.58	239.18	239.23	240.41	240.13	239.29	239.00	238.85	238.84		239.00	
30	239.07	239.70	239.04	239.18	239.94	240.05	239.27	238.99	238.85	238.85		238.97	
31		240.02		239.17	240.27		239.25		238.85	238.85		239.93	
Mean	239.10	239.28	239.22	239.68	239.51	240.39	239.55	239.08	238.91	238.87	238.84	238.92	
Max	239.19	240.02	239.83	240.93	240.41	242.58	240.69	239.22	238.99	239.02	238.89	239.93	242.58
Min	239.02	239.02	239.03	239.17	239.15	239.80	239.25	238.99	238.84	238.83	238.83	238.80	238.80

Annual Max Momentary Gage Height 242.58 M (MSL), at 16.00 Hours, on Sep 21, 1993
Zero Gage at Bottom Elevation 239.20 M (MSL), River Bed 239.62 M (MSL)
Left Bank Elevation 253.45 M (MSL)
Right Bank Elevation 253.27 M (MSL), Drainage Area 1263 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	2.10	2.25	12.60	3.40	5.80	64.55	33.40	3.40	1.95	2.10	1.20	1.20	
2	2.10	2.25	7.10	13.00	9.00	21.50	39.55	3.30	1.95	1.70	1.20	1.15	
3	2.10	2.10	5.40	12.20	6.00	20.75	38.20	3.13	1.95	1.45	1.20	1.15	
4	2.10	2.10	4.30	6.74	7.46	22.55	25.35	2.99	1.95	1.50	1.15	1.15	
5	2.20	2.15	3.80	5.00	6.10	20.75	15.75	2.78	1.90	1.40	1.15	1.10	
6	2.20	2.20	3.30	4.60	5.50	15.75	13.60	2.64	1.90	1.40	1.15	1.10	
7	2.25	2.25	6.74	10.80	4.70	12.00	11.00	2.64	1.90	1.45	1.15	1.10	
8	2.25	2.20	6.00	29.55	4.20	28.50	8.60	2.57	1.90	1.45	1.15	1.05	
9	2.25	2.64	5.90	48.10	3.80	22.20	7.82	2.57	1.85	1.45	1.20	1.05	
10	2.25	2.85	4.80	14.75	3.50	47.65	6.92	2.57	1.80	1.45	1.20	1.05	
11	2.30	3.50	4.40	9.80	3.20	56.50	5.90	2.50	1.80	1.45	1.20	1.00	
12	2.45	4.70	3.50	8.80	2.99	21.50	5.40	2.50	1.80	1.45	1.20	1.00	
13	2.50	4.40	3.06	7.28	2.92	18.75	5.00	2.45	1.80	1.40	1.20	1.05	
14	2.50	4.20	2.99	16.50	2.85	15.25	4.90	2.45	1.75	1.40	1.20	1.20	
15	2.50	4.50	2.78	16.75	2.85	12.60	4.70	2.40	1.70	1.35	1.20	1.15	
16	2.57	4.20	2.57	16.25	3.20	12.40	4.20	2.35	1.60	1.35	1.20	1.10	
17	2.78	4.50	2.50	50.50	3.60	12.40	4.10	2.35	1.50	1.35	1.20	1.15	
18	2.85	5.40	2.45	27.45	3.40	12.20	3.90	2.30	1.25	1.30	1.20	1.15	
19	2.92	7.64	2.40	12.60	3.06	17.25	3.90	2.20	1.20	1.35	1.25	1.20	
20	3.13	5.70	2.35	9.40	3.06	52.00	3.90	2.20	1.20	1.25	1.45	1.30	
21	2.99	8.00	2.30	6.56	7.82	162.20	3.80	2.20	1.20	1.15	1.40	1.75	
22	2.92	4.40	2.20	5.50	11.60	90.60	5.00	2.15	1.20	1.15	1.30	1.95	
23	2.92	4.40	2.15	4.50	10.60	52.50	4.20	2.15	1.20	1.20	1.30	1.85	
24	2.85	3.40	2.30	4.20	15.75	32.00	4.10	2.10	1.50	1.20	1.25	2.71	
25	2.85	2.78	2.20	4.10	14.50	21.50	3.90	2.10	1.30	1.15	1.25	2.45	
26	2.78	2.92	2.15	4.10	12.80	26.75	3.90	2.05	1.20	1.20	1.20	2.25	
27	2.64	2.99	2.71	4.60	8.60	22.55	3.90	2.05	1.20	1.15	1.20	2.25	
28	2.64	3.20	3.13	4.20	6.92	27.45	3.90	2.00	1.25	1.15	1.20	2.00	
29	2.50	7.64	3.06	3.50	28.85	19.75	4.10	2.00	1.25	1.20		2.00	
30	2.35	10.00	2.20	3.06	15.00	17.75	3.90	1.95	1.25	1.25		1.85	
31		17.00		2.99	23.95		3.70		1.25	1.25		14.75	
Total	75.74	138.46	113.34	370.78	243.58	980.10	290.49	73.04	48.45	42.05	34.15	58.21	2468.39 CMSDAY
Mean	2.52	4.47	3.78	11.96	7.86	32.67	9.37	2.43	1.56	1.36	1.22	1.88	6.76 CMS
Max	3.13	17.00	12.60	50.50	28.85	162.20	39.55	3.40	1.95	2.10	1.45	14.75	162.20 CMS
Min	2.10	2.10	2.15	2.99	2.85	12.00	3.70	1.95	1.20	1.15	1.15	1.00	1.00 CMS
Runoff	6.544	11.963	9.793	32.035	21.045	84.681	25.098	6.311	4.186	3.633	2.951	5.029	213.269 MCM

Momentary Peak 162.20 CMS, at 242.58 M (MSL), at 16.00 Hours, on Sep 21, 1993

Runoff Yield 5.35 Liters/Second/Square KM, Momentary Peak Yield 128.42 Liters/Second/Square KM

WATER YEAR 1993

KHONG RIVER BASIN

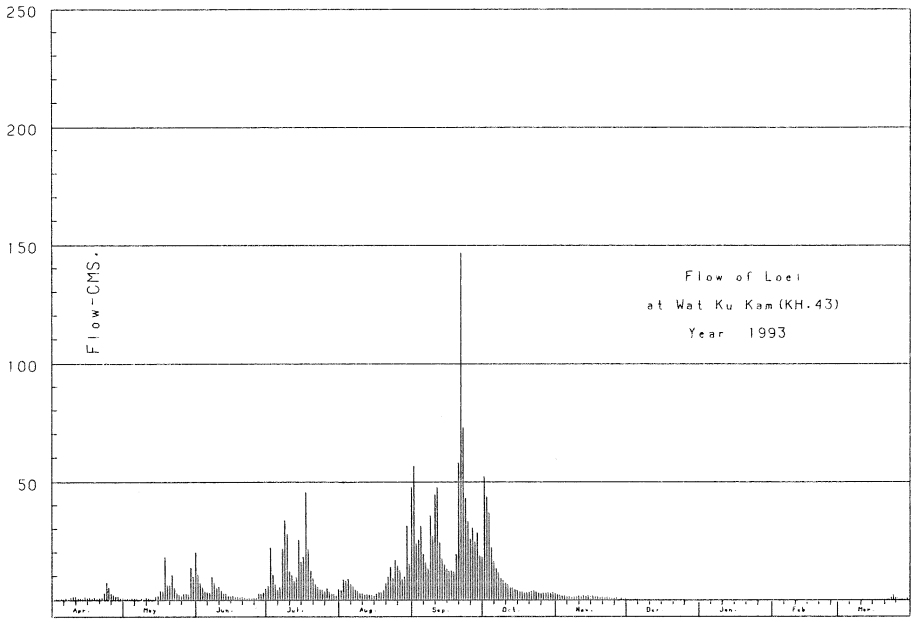
Loei River at Wat Ku Kam, Loei (Kh.43)

Location	Lat. 17°-14'-15" N., Long. 101°-41'-31" E., on left bank downstream from Wat Ku Kam at Ban Sai Khao, Amphoe Wang Saphung, Loei.
Drainage Area	991 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+248.00 m.(M.S.L.)
Bench Mark	B.M.-H.D.
Location	On left bank about 30 meters from the top staff gage.
Elevation	+258.760 m.(M.S.L.)
Gage Reading Frequency	5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1966 to date.
Rating Operation	
Period of Rating	1966 - 1973, 1981 to date.
Rated by Float	-
Rated by Current Meter	1966 - 1973, 1981 to date.
Stability of Channel Regimes	Rather unstable.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Stage-discharge relation defined by 70 discharge measurements made in 1993.

Gage Height in Meter (MSL), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	248.43	248.47	248.99	248.83	248.75	250.16	250.05	248.64	248.46	248.36	248.32	248.27	
2	248.43	248.46	248.88	249.33	248.92	249.37	249.87	248.61	248.46	248.35	248.32	248.26	
3	248.44	248.45	248.79	249.00	248.90	249.42	249.70	248.60	248.45	248.35	248.38	248.25	
4	248.44	248.45	248.72	248.84	248.94	249.56	249.34	248.58	248.44	248.35	248.48	248.25	
5	248.45	248.45	248.68	248.75	248.86	249.27	249.18	248.57	248.44	248.36	248.58	248.27	
6	248.45	248.44	248.68	248.79	248.81	249.16	249.09	248.55	248.43	248.36	248.68	248.27	
7	248.46	248.46	248.97	249.33	248.76	249.08	249.02	248.54	248.43	248.35	248.76	248.26	
8	248.51	248.44	248.87	249.62	248.72	249.67	248.95	248.54	248.42	248.35	248.81	248.26	
9	248.55	248.45	248.79	249.48	248.67	249.45	248.91	248.56	248.41	248.35	248.88	248.25	
10	248.54	248.50	248.80	249.05	248.65	249.89	248.88	248.57	248.41	248.35	248.99	248.25	
11	248.50	248.50	248.72	248.98	248.63	249.95	248.84	248.57	248.41	248.35	249.12	248.24	
12	248.48	248.47	248.67	248.91	248.63	249.39	248.80	248.59	248.41	248.35	249.18	248.25	
13	248.47	248.45	248.64	248.95	248.63	249.21	248.78	248.59	248.40	248.35	249.23	248.26	
14	248.53	248.57	248.60	249.42	248.61	249.14	248.76	248.60	248.40	248.35	249.27	248.26	
15	248.51	248.60	248.58	249.17	248.60	249.08	248.73	248.59	248.40	248.35	249.33	248.26	
16	248.51	248.72	248.57	249.23	248.64	249.04	248.72	248.58	248.40	248.34	249.38	248.27	
17	248.50	248.72	248.55	249.91	248.71	249.06	248.70	248.57	248.39	248.34	249.40	248.28	
18	248.50	249.23	248.54	249.31	248.68	249.03	248.69	248.56	248.39	248.34	249.29	248.28	
19	248.49	248.83	248.54	249.06	248.75	249.26	248.68	248.54	248.39	248.34	249.16	248.30	
20	248.48	248.83	248.53	248.94	248.86	250.18	248.71	248.53	248.38	248.34	249.12	248.37	
21	248.53	249.00	248.50	248.86	248.96	251.79	248.71	248.53	248.38	248.33	249.12	248.46	
22	248.68	248.80	248.49	248.80	249.11	250.49	248.74	248.53	248.37	248.32	249.14	248.40	
23	248.89	248.68	248.48	248.76	248.95	249.86	248.70	248.53	248.36	248.32	249.17	248.54	
24	248.79	248.61	248.50	248.74	249.20	249.62	248.69	248.52	248.35	248.32	249.17	248.61	
25	248.67	248.59	248.48	248.72	249.13	249.43	248.67	248.51	248.34	248.32	249.15	248.54	
26	248.62	248.63	248.47	248.79	249.05	249.54	248.66	248.50	248.43	248.33	248.54	248.47	
27	248.56	248.66	248.67	248.70	248.93	249.39	248.68	248.49	248.68	248.33	248.31	248.41	
28	248.54	248.62	248.63	248.66	248.96	249.50	248.68	248.48	248.91	248.33	248.27	248.39	
29	248.50	249.10	248.70	248.63	249.57	249.25	248.68	248.47	249.01	248.33		248.42	
30	248.49	248.96	248.76	248.61	249.14	249.23	248.68	248.47	248.94	248.32		248.47	
31		249.29		248.75	249.95		248.65		248.64	248.32		249.15	
Mean	248.53	248.66	248.66	249.00	248.89	249.55	248.90	248.55	248.48	248.34	248.91	248.36	
Max	248.89	249.29	248.99	249.91	249.95	251.79	250.05	248.64	249.01	248.36	249.40	249.15	251.79
Min	248.43	248.44	248.47	248.61	248.60	249.03	248.65	248.47	248.34	248.32	248.27	248.24	248.24

Annual Max Momentary Gage Height 252.00 M (MSL), at 9.00 Hours, on Sep 21, 1993
Zero Gage at Bottom Elevation 248.00 M (MSL), River Bed 248.07 M (MSL)
Left Bank Elevation 259.01 M (MSL)
Right Bank Elevation 257.73 M (MSL), Drainage Area 991 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.58	0.82	10.70	6.25	4.50	57.20	52.25	2.60	0.76	0.00	0.08	0.00	
2	0.58	0.76	7.50	22.20	8.60	23.80	44.15	2.15	0.76	0.00	0.08	0.00	
3	0.64	0.70	5.30	11.00	8.00	25.80	37.00	2.00	0.70	0.20	0.00	0.00	
4	0.64	0.70	3.90	6.50	9.20	31.40	22.60	1.80	0.64	0.20	0.00	0.00	
5	0.70	0.70	3.20	4.50	7.00	19.80	16.40	1.70	0.64	0.24	0.00	0.00	
6	0.70	0.64	3.20	5.30	5.75	15.80	13.70	1.50	0.58	0.24	0.00	0.00	
7	0.76	0.76	10.10	22.20	4.70	13.40	11.60	1.40	0.58	0.20	0.00	0.00	
8	1.10	0.64	7.25	33.80	3.90	35.80	9.50	1.40	0.52	0.20	0.00	0.00	
9	1.50	0.70	5.30	28.20	3.05	27.00	8.30	1.60	0.46	0.20	0.00	0.00	
10	1.40	1.00	5.50	12.50	2.75	45.05	7.50	1.70	0.46	0.20	0.00	0.00	
11	1.00	1.00	3.90	10.40	2.45	47.75	6.50	1.70	0.46	0.20	0.00	0.00	
12	0.88	0.82	3.05	8.30	2.45	24.60	5.50	1.90	0.46	0.20	0.00	0.00	
13	0.82	0.70	2.60	9.50	2.45	17.40	5.10	1.90	0.40	0.20	0.00	0.00	
14	1.30	1.70	2.00	25.80	2.15	15.20	4.70	2.00	0.40	0.20	0.00	0.00	
15	1.10	2.00	1.80	16.10	2.00	13.40	4.10	1.90	0.40	0.20	0.00	0.00	
16	1.10	3.90	1.70	18.20	2.60	12.20	3.90	1.80	0.40	0.16	0.00	0.00	
17	1.00	3.90	1.50	45.95	3.70	12.80	3.50	1.70	0.36	0.16	0.00	0.00	
18	1.00	18.20	1.40	21.40	3.20	11.90	3.35	1.60	0.36	0.16	0.00	0.00	
19	0.94	6.25	1.40	12.80	4.50	19.40	3.20	1.40	0.36	0.16	0.00	0.00	
20	0.88	6.25	1.30	9.20	7.00	58.10	3.70	1.30	0.32	0.16	0.00	0.28	
21	1.30	11.00	1.00	7.00	9.80	147.30	3.70	1.30	0.32	0.12	0.00	0.76	
22	3.20	5.50	0.94	5.50	14.30	73.50	4.30	1.30	0.28	0.08	0.00	0.40	
23	7.75	3.20	0.88	4.70	9.50	43.70	3.50	1.30	0.24	0.08	0.00	1.40	
24	5.30	2.15	1.00	4.30	17.00	33.80	3.35	1.20	0.20	0.08	0.00	2.15	
25	3.05	1.90	0.88	3.90	14.90	26.20	3.05	1.10	0.16	0.08	0.00	1.40	
26	2.30	2.45	0.82	5.30	12.50	30.60	2.90	1.00	0.00	0.12	0.00	0.82	
27	1.60	2.90	3.05	3.50	8.90	24.60	3.20	0.94	0.00	0.12	0.04	0.46	
28	1.40	2.30	2.45	2.90	9.80	29.00	3.20	0.88	0.00	0.12	0.00	0.36	
29	1.00	14.00	3.50	2.45	31.80	19.00	3.20	0.82	0.00	0.12		0.52	
30	0.94	9.80	4.70	2.15	15.20	18.20	3.20	0.82	0.00	0.08		0.82	
31		20.60		4.50	47.75		2.75		0.00	0.08		15.50	
Total	46.46	127.94	101.82	376.30	281.40	973.70	302.90	45.71	11.22	4.56	0.20	24.87	2297.08 CMSDAY
Mean	1.55	4.13	3.39	12.14	9.08	32.46	9.77	1.52	0.36	0.15	0.01	0.80	6.29 CMS
Max	7.75	20.60	10.70	45.95	47.75	147.30	52.25	2.60	0.76	0.24	0.08	15.50	147.30 CMS
Min	0.58	0.64	0.82	2.15	2.00	11.90	2.75	0.82	0.00	0.00	0.00	0.00	0.00 CMS
Runoff	4.014	11.054	8.797	32.512	24.313	84.128	26.171	3.949	0.969	0.394	0.017	2.149	198.468 MCM

Momentary Peak 162.00 CMS, at 252.00 M (MSL), at 9.00 Hours, on Sep 21, 1993
Runoff Yield 6.35 Liters/Second/Square KM, Momentary Peak Yield 163.47 Liters/Second/Square KM

WATER YEAR 1993

KHONG RIVER BASIN

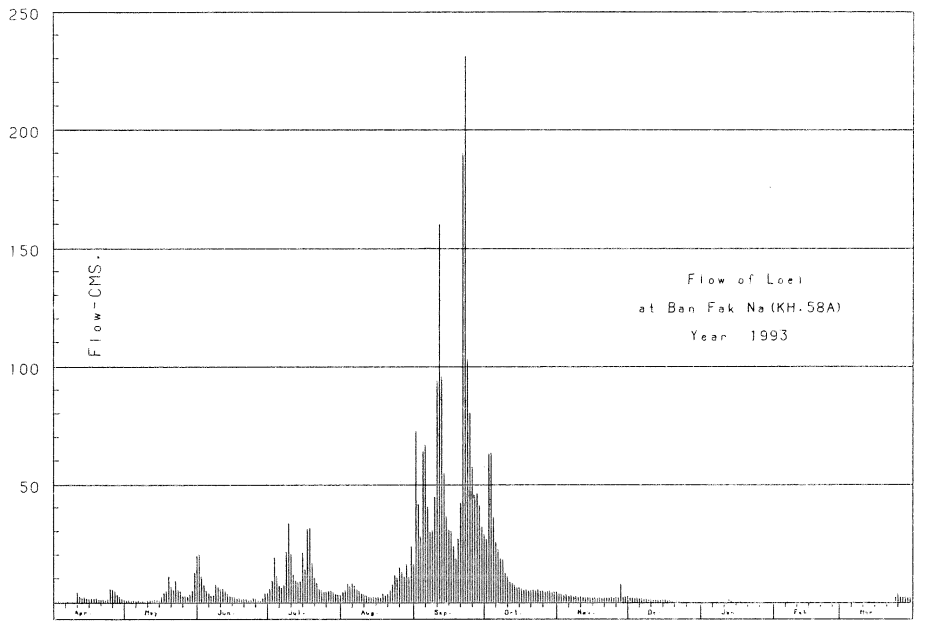
Loei River at Ban Fak Na, Loei (Kh.58A)

Location	Lat. 17°-29'-35" N., Long. 101°-44'-19" E., on left bank at the bridge on road, Ban Fak Na, Amphoe Muang, Loei.
Drainage Area	3,101 sq.km.
Type of Gage	Water-stage recorder.
Zero Gage at Bottom	+229.00 m.(M.S.L.)
Bench Mark	B.M.-Highways Dept.
Location	On left bank upstream side at the abutment of the bridge.
Elevation	+240.622 m.(M.S.L.)
Gage Reading Frequency	Recording.
Basis of Mean Daily Gage Height	Arithmetic mean of 24 readings.
Period of Available Gage Records	1984 to date.
Rating Operation	
Period of Rating	1990 to date.
Rated by Float	-
Rated by Current Meter	1990 to date.
Stability of Channel Regimes	Stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Stage-discharge relation defined by 53 discharge measurements made in 1993.

Gage Height in Meter (MSL), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	229.93	230.02	231.01	230.38	230.31	232.25	231.23	230.27	230.13	229.87	229.84	229.87	
2	229.94	230.00	230.65	230.58	230.34	231.64	232.07	230.24	230.11	229.87	229.85	229.85	
3	229.89	229.99	230.48	230.98	230.51	231.26	232.07	230.22	230.11	229.85	229.84	229.83	
4	229.89	229.98	230.33	230.66	230.44	232.09	231.51	230.23	230.11	229.85	229.83	229.83	
5	229.89	229.98	230.28	230.47	230.52	232.14	231.19	230.20	230.09	229.85	229.83	229.84	
6	229.89	229.98	230.19	230.41	230.45	231.61	231.08	230.19	230.07	229.85	229.82	229.83	
7	229.90	229.94	230.23	230.48	230.39	231.34	230.96	230.17	230.06	229.86	229.81	229.84	
8	229.88	229.95	230.48	231.05	230.32	231.35	230.93	230.17	230.05	229.87	229.83	229.83	
9	229.94	229.97	230.44	231.45	230.27	231.70	230.73	230.15	230.05	229.87	229.82	229.83	
10	230.29	229.98	230.37	231.03	230.23	232.60	230.65	230.15	230.05	229.89	229.84	229.81	
11	230.18	230.03	230.39	230.69	230.20	233.53	230.55	230.14	230.03	229.90	229.83	229.81	
12	230.12	230.01	230.33	230.58	230.16	232.63	230.52	230.12	230.03	230.05	229.86	229.82	
13	230.14	230.02	230.24	230.52	230.14	231.90	230.47	230.14	230.03	229.95	229.85	229.82	
14	230.10	230.01	230.20	230.56	230.15	231.51	230.43	230.12	230.02	229.90	229.82	229.82	
15	230.04	229.98	230.17	231.04	230.14	231.37	230.42	230.12	230.02	229.88	229.81	229.82	
16	230.07	230.17	230.13	230.78	230.13	231.34	230.39	230.11	230.01	229.92	229.82	229.81	
17	230.10	230.27	230.10	231.37	230.13	231.14	230.37	230.11	230.00	229.89	229.83	229.81	
18	230.07	230.33	230.09	231.40	230.25	230.96	230.36	230.11	230.01	229.88	229.82	229.83	
19	230.05	230.67	230.07	230.88	230.22	231.23	230.35	230.10	229.97	229.86	229.81	229.87	
20	230.05	230.44	230.05	230.64	230.24	231.65	230.34	230.11	229.94	229.90	229.82	229.85	
21	230.03	230.37	230.04	230.51	230.36	233.89	230.36	230.12	230.00	229.89	229.80	229.82	
22	230.02	230.55	230.02	230.40	230.50	234.35	230.35	230.12	229.97	229.86	229.88	229.81	
23	230.05	230.38	230.02	230.34	230.70	232.75	230.37	230.13	229.89	229.88	229.85	229.89	
24	230.40	230.32	230.11	230.32	230.63	232.38	230.35	230.12	229.87	229.88	229.83	230.15	
25	230.37	230.21	230.06	230.30	230.82	231.95	230.33	230.12	229.88	229.85	229.82	230.25	
26	230.33	230.16	230.01	230.34	230.74	231.71	230.32	230.12	229.88	229.83	229.83	230.21	
27	230.24	230.18	230.00	230.35	230.66	231.73	230.33	230.51	229.86	229.85	229.83	230.15	
28	230.15	230.23	230.11	230.29	230.86	231.62	230.33	230.15	229.85	229.84	229.81	230.15	
29	230.08	230.35	230.27	230.26	230.63	231.41	230.30	230.15	229.85	229.83		230.13	
30	230.03	230.74	230.28	230.22	231.14	231.29	230.30	230.17	229.86	229.82		230.13	
31		231.00		230.21	230.86		230.30		229.86	229.83		230.14	
Mean	230.07	230.20	230.24	230.63	230.43	231.94	230.65	230.16	229.99	229.87	229.83	229.92	
Max	230.40	231.00	231.01	231.45	231.14	234.35	232.07	230.51	230.13	230.05	229.88	230.25	234.35
Min	229.88	229.94	230.00	230.21	230.13	230.96	230.30	230.10	229.85	229.82	229.80	229.81	229.80

Annual Max Momentary Gage Height 234.63 M (MSL), at 6.00 Hours, on Sep 22, 1993
Zero Gage at Bottom Elevation 229.00 M (MSL), River Bed 229.52 M (MSL)
Left Bank Elevation 239.85 M (MSL)
Right Bank Elevation 238.77 M (MSL), Drainage Area 3101 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.65	1.20	20.30	5.70	4.65	73.00	26.90	4.05	2.30	0.41	0.32	0.41	
2	0.70	1.00	11.00	9.60	5.10	42.00	63.50	3.60	2.10	0.41	0.35	0.35	
3	0.47	0.95	7.60	19.44	8.20	27.80	63.50	3.30	2.10	0.35	0.32	0.29	
4	0.47	0.90	4.95	11.20	6.80	64.50	36.40	3.45	2.10	0.35	0.29	0.29	
5	0.47	0.90	4.20	7.40	8.40	67.00	25.70	3.00	1.90	0.35	0.29	0.32	
6	0.47	0.90	2.90	6.20	7.00	40.50	22.40	2.90	1.70	0.35	0.26	0.29	
7	0.50	0.70	3.45	7.60	5.85	30.20	18.88	2.70	1.60	0.38	0.23	0.32	
8	0.44	0.75	7.60	21.50	4.80	30.50	18.04	2.70	1.50	0.41	0.29	0.29	
9	0.70	0.85	6.80	34.00	4.05	45.00	12.75	2.50	1.50	0.41	0.26	0.29	
10	4.35	0.90	5.55	20.90	3.45	94.00	11.00	2.50	1.50	0.47	0.32	0.23	
11	2.80	1.30	5.85	11.80	3.00	160.40	9.00	2.40	1.30	0.50	0.29	0.23	
12	2.20	1.10	4.95	9.60	2.60	95.80	8.40	2.20	1.30	1.50	0.38	0.26	
13	2.40	1.20	3.60	8.40	2.40	55.00	7.40	2.40	1.30	0.75	0.35	0.26	
14	2.00	1.10	3.00	9.20	2.50	36.40	6.60	2.20	1.20	0.50	0.26	0.26	
15	1.40	0.90	2.70	21.20	2.40	31.10	6.40	2.20	1.20	0.44	0.23	0.26	
16	1.70	2.70	2.30	14.00	2.30	30.20	5.85	2.10	1.10	0.60	0.26	0.23	
17	2.00	4.05	2.00	31.10	2.30	24.20	5.55	2.10	1.00	0.47	0.29	0.23	
18	1.70	4.95	1.90	32.00	3.75	18.88	5.40	2.10	1.10	0.44	0.26	0.29	
19	1.50	11.40	1.70	16.66	3.30	26.90	5.25	2.00	0.85	0.38	0.23	0.41	
20	1.50	6.80	1.50	10.80	3.60	42.50	5.10	2.10	0.70	0.50	0.26	0.35	
21	1.30	5.55	1.40	8.20	5.40	190.10	5.40	2.20	1.00	0.47	0.20	0.26	
22	1.20	9.00	1.20	6.00	8.00	231.50	5.25	2.20	0.85	0.38	0.44	0.23	
23	1.50	5.70	1.20	5.10	12.00	103.00	5.55	2.30	0.47	0.44	0.35	0.47	
24	6.00	4.80	2.10	4.80	10.60	80.80	5.25	2.20	0.41	0.44	0.29	2.50	
25	5.55	3.15	1.60	4.50	15.04	57.50	4.95	2.20	0.44	0.35	0.26	3.75	
26	4.95	2.60	1.10	5.10	13.00	45.50	4.80	2.20	0.44	0.29	0.29	3.15	
27	3.60	2.80	1.00	5.25	11.20	46.50	4.95	8.20	0.38	0.35	0.29	2.50	
28	2.50	3.45	2.10	4.35	16.12	41.00	4.95	2.50	0.35	0.32	0.23	2.50	
29	1.80	5.25	4.05	3.90	10.60	32.40	4.50	2.50	0.35	0.29		2.30	
30	1.30	13.00	4.20	3.30	24.20	28.70	4.50	2.70	0.38	0.26		2.30	
31		20.00		3.15	16.12		4.50		0.38	0.29		2.40	
Total	58.12	119.85	123.80	361.95	228.73	1892.88	418.62	81.70	34.80	13.85	8.09	28.22	3370.61 CMSDAY
Mean	1.94	3.87	4.13	11.68	7.38	63.10	13.50	2.72	1.12	0.45	0.29	0.91	9.23 CMS
Max	6.00	20.00	20.30	34.00	24.20	231.50	63.50	8.20	2.30	1.50	0.44	3.75	231.50 CMS
Min	0.44	0.70	1.00	3.15	2.30	18.88	4.50	2.00	0.35	0.26	0.20	0.23	0.20 CMS
Runoff	5.022	10.355	10.696	31.272	19.762	163.545	36.169	7.059	3.007	1.197	0.699	2.438	291.221 MCM

Momentary Peak 259.00 CMS, at 234.63 M (MSL), at 6.00 Hours, on Sep 22, 1993

Runoff Yield 2.98 Liters/Second/Square KM, Momentary Peak Yield 83.52 Liters/Second/Square KM

WATER YEAR 1993

KHONG RIVER BASIN

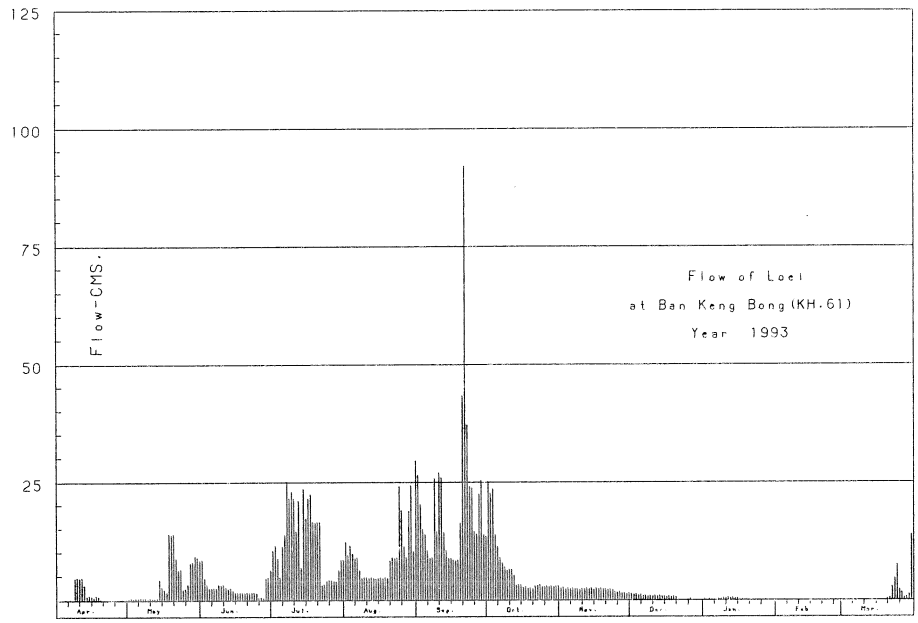
Loei River at Ban Kaeng Bong, Loei (Kh.61)

Location	Lat. 17-07-48 N., Long. 101-04-56 E.,on right bank at the bridge of Amphoe Wang Saphung-Ban Nong Khan road, Amphoe Phu Luang, Loei.
Drainage Area	562 sq.km.
Type of Gage	Water-stage recorder.
Zero Gage at Bottom	+258.36 m.(M.S.L.)
Bench Mark	B.M.-H.D.
Location	On left bank downstream side at the footpath of the bridge.
Elevation	+272.020 m.(M.S.L.)
Gage Reading Frequency	Recording.
Basis of Mean Daily Gage Height	Arithmetic mean of 24 readings.
Period of Available Gage Records	1982 to date.
Rating Operation	
Period of Rating	1993 to date.
Rated by Float	-
Rated by Current Meter	1993 to date.
Stability of Channel Regimes	Stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Stage-discharge relation defined by 25 discharge measurements made in 1993.

Gage Height in Meter (MSL), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	258.70	258.72	259.05	259.09	259.13	259.40	259.38	258.88	258.79	258.72	258.69	258.57	
2	258.70	258.72	258.96	259.11	259.07	259.29	259.33	258.88	258.79	258.71	258.69	258.57	
3	258.70	258.72	258.91	259.06	259.11	259.18	259.35	258.87	258.79	258.71	258.69	258.57	
4	258.70	258.72	258.88	258.96	259.08	259.16	259.16	258.87	258.78	258.71	258.69	258.57	
5	258.70	258.72	258.88	259.11	259.06	259.09	259.11	258.87	258.78	258.71	258.69	258.57	
6	258.70	258.72	258.87	259.16	259.06	259.06	259.06	258.87	258.77	258.71	258.69	258.57	
7	258.70	258.72	258.88	259.38	259.01	259.06	259.04	258.87	258.76	258.71	258.69	258.57	
8	258.96	258.72	258.91	259.31	258.96	259.39	259.02	258.86	258.76	258.72	258.68	258.57	
9	258.96	258.72	258.91	259.34	258.96	259.17	259.01	258.86	258.76	258.73	258.68	258.56	
10	258.96	258.72	258.91	259.31	258.96	259.41	259.01	258.86	258.76	258.73	258.68	258.56	
11	258.96	258.72	258.88	259.17	258.96	259.39	259.01	258.87	258.76	258.73	258.68	258.55	
12	258.91	258.72	258.87	259.30	258.96	259.17	258.98	258.87	258.76	258.73	258.68	258.55	
13	258.76	258.72	258.87	259.02	258.96	259.09	258.91	258.87	258.76	258.73	258.68	258.55	
14	258.76	258.95	258.85	259.35	258.95	259.06	258.91	258.87	258.76	258.73	258.68	258.55	
15	258.76	258.88	258.81	259.23	258.96	259.06	258.91	258.86	258.75	258.72	258.68	258.56	
16	258.76	258.85	258.81	259.31	258.96	259.05	258.89	258.87	258.75	258.72	258.68	258.55	
17	258.76	258.82	258.81	259.33	258.96	259.05	258.89	258.87	258.75	258.71	258.67	258.55	
18	258.76	259.16	258.81	259.21	258.96	259.05	258.88	258.87	258.75	258.71	258.67	258.55	
19	258.68	259.16	258.81	259.21	258.96	259.21	258.87	258.87	258.75	258.71	258.67	258.55	
20	258.68	259.16	258.81	259.21	259.05	259.69	258.87	258.86	258.75	258.70	258.67	258.71	
21	258.68	259.06	258.81	259.21	259.06	260.39	258.90	258.86	258.71	258.70	258.67	258.74	
22	258.68	259.01	258.81	258.91	259.06	259.59	258.91	258.86	258.71	258.70	258.67	258.89	
23	258.68	259.01	258.81	258.91	259.06	259.36	258.91	258.86	258.68	258.70	258.67	258.96	
24	258.68	258.86	258.81	258.94	259.36	259.35	258.90	258.82	258.69	258.70	258.67	259.03	
25	258.68	258.86	258.73	258.94	259.26	259.17	258.90	258.82	258.71	258.70	258.67	258.86	
26	258.68	258.91	258.73	258.94	259.11	259.16	258.90	258.82	258.71	258.70	258.66	258.81	
27	258.68	259.04	258.73	258.94	259.06	259.33	258.90	258.81	258.68	258.70	258.66	258.74	
28	258.68	259.04	258.96	258.93	259.26	259.38	258.90	258.80	258.65	258.70	258.66	258.74	
29	258.68	259.07	258.96	259.01	259.36	259.16	258.90	258.80	258.66	258.70		258.79	
30	258.68	259.06	259.01	259.05	259.09	259.15	258.90	258.80	258.66	258.70		259.16	
31		259.05		259.05	259.46		258.90		258.66	258.70		259.33	
Mean	258.75	258.88	258.86	259.13	259.07	259.27	258.98	258.85	258.74	258.71	258.68	258.69	
Max	258.96	259.16	259.05	259.38	259.46	260.39	259.38	258.88	258.79	258.73	258.69	259.33	260.39
Min	258.68	258.72	258.73	258.91	258.95	259.05	258.87	258.80	258.65	258.70	258.66	258.55	258.55

Annual Max Momentary Gage Height 260.56 M (MSL), at 18.00 Hours, on Sep 21, 1993
Zero Gage at Bottom Elevation 258.36 M (MSL), River Bed 258.37 M (MSL)
Left Bank Elevation 270.85 M (MSL)
Right Bank Elevation 270.61 M (MSL), Drainage Area 562 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.20	0.46	8.50	10.50	12.50	26.50	25.40	2.70	1.37	0.46	0.18	0.04	
2	0.20	0.46	4.80	11.50	9.50	20.50	22.65	2.70	1.37	0.33	0.18	0.04	
3	0.20	0.46	3.30	9.00	11.50	15.00	23.75	2.55	1.37	0.33	0.18	0.04	
4	0.20	0.46	2.70	4.80	10.00	14.00	14.00	2.55	1.24	0.33	0.18	0.04	
5	0.20	0.46	2.70	11.50	9.00	10.50	11.50	2.55	1.24	0.33	0.18	0.04	
6	0.20	0.46	2.55	14.00	9.00	9.00	9.00	2.55	1.11	0.33	0.18	0.04	
7	0.20	0.46	2.70	25.40	6.50	9.00	8.00	2.55	0.98	0.33	0.18	0.04	
8	4.80	0.46	3.30	21.55	4.80	25.95	7.00	2.40	0.98	0.46	0.17	0.04	
9	4.80	0.46	3.30	23.20	4.80	14.50	6.50	2.40	0.98	0.59	0.17	0.04	
10	4.80	0.46	3.30	21.55	4.80	27.05	6.50	2.40	0.98	0.59	0.17	0.04	
11	4.80	0.46	2.70	14.50	4.80	25.95	6.50	2.55	0.98	0.59	0.17	0.04	
12	3.30	0.46	2.55	21.00	4.80	14.50	5.40	2.55	0.98	0.59	0.17	0.04	
13	0.98	0.46	2.55	7.00	4.80	10.50	3.30	2.55	0.98	0.59	0.17	0.04	
14	0.98	4.50	2.25	23.75	4.50	9.00	3.30	2.55	0.98	0.59	0.17	0.04	
15	0.98	2.70	1.65	17.50	4.80	9.00	3.30	2.40	0.85	0.46	0.17	0.04	
16	0.98	2.25	1.65	21.55	4.80	8.50	2.85	2.55	0.85	0.46	0.17	0.04	
17	0.98	1.80	1.65	22.65	4.80	8.50	2.85	2.55	0.85	0.33	0.16	0.04	
18	0.98	14.00	1.65	16.50	4.80	8.50	2.70	2.55	0.85	0.33	0.16	0.04	
19	0.17	14.00	1.65	16.50	4.80	16.50	2.55	2.55	0.85	0.33	0.16	0.04	
20	0.17	14.00	1.65	16.50	8.50	43.40	2.55	2.40	0.85	0.20	0.16	0.33	
21	0.17	9.00	1.65	16.50	9.00	92.20	3.00	2.40	0.33	0.20	0.16	0.72	
22	0.17	6.50	1.65	3.30	9.00	37.40	3.30	2.40	0.33	0.20	0.16	2.85	
23	0.17	6.50	1.65	3.30	9.00	24.30	3.30	2.40	0.17	0.20	0.16	4.80	
24	0.17	2.40	1.65	4.20	24.30	23.75	3.00	1.80	0.18	0.20	0.16	7.50	
25	0.17	2.40	0.59	4.20	19.00	14.50	3.00	1.80	0.33	0.20	0.16	2.40	
26	0.17	3.30	0.59	4.20	11.50	14.00	3.00	1.80	0.33	0.20	0.14	1.65	
27	0.17	8.00	0.59	4.20	9.00	22.65	3.00	1.65	0.17	0.20	0.14	0.72	
28	0.17	8.00	4.80	3.90	19.00	25.40	3.00	1.50	0.12	0.20	0.14	0.72	
29	0.17	9.50	4.80	6.50	24.30	14.00	3.00	1.50	0.14	0.20		1.37	
30	0.17	9.00	6.50	8.50	10.50	13.50	3.00	1.50	0.14	0.20		14.00	
31		8.50		8.50	29.80		3.00		0.14	0.20		22.65	
Total	31.82	132.33	81.57	397.75	308.20	608.05	203.20	69.30	23.02	10.75	4.65	60.47	1931.11 CMSDAY
Mean	1.06	4.27	2.72	12.83	9.94	20.27	6.55	2.31	0.74	0.35	0.17	1.95	5.29 CMS
Max	4.80	14.00	8.50	25.40	29.80	92.20	25.40	2.70	1.37	0.59	0.18	22.65	92.20 CMS
Min	0.17	0.46	0.59	3.30	4.50	8.50	2.55	1.50	0.12	0.20	0.14	0.04	0.04 CMS
Runoff	2.749	11.433	7.048	34.366	26.628	52.536	17.556	5.988	1.989	0.929	0.402	5.225	166.848 MCM

Momentary Peak 105.80 CMS, at 260.56 M (MSL), at 18.00 Hours, on Sep 21, 1993
Runoff Yield 9.41 Liters/Second/Square KM, Momentary Peak Yield 188.26 Liters/Second/Square KM

WATER YEAR 1993

KHONG RIVER BASIN

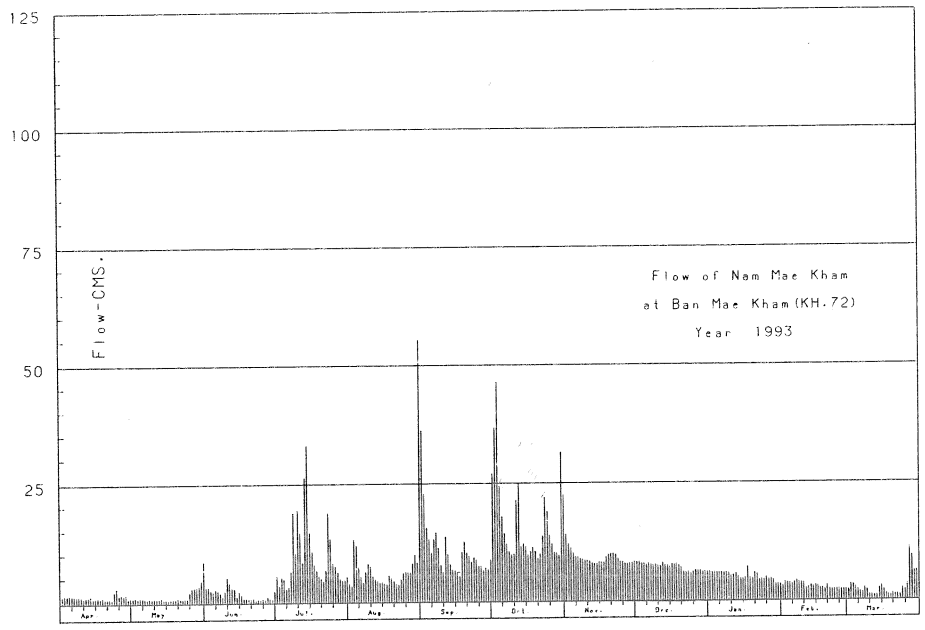
Nam Mae Kham at Ban Mae Kham, Chiang Rai (Kh.72)

Location	Lat. 20°-13'-03" N., Long. 99°-51'-38" E., on right bank at the bridge of Mae Chan - Mae Sai Highway, Tambon Mae Kham, Amphoe Mae Chan, Chiang Rai.
Drainage Area	644 sq.km.
Type of Gage	Water-stage recorder.
Zero Gage at Bottom	+0.00 m.(A.D.)
Bench Mark	B.M.-H.D.
Location	On right bank about 20 meters from the top staff gage.
Elevation	+6.245 m.(A.D.)
Gage Reading Frequency	Recording.
Basis of Mean Daily Gage Height	Arithmetic mean of 24 readings.
Period of Available Gage Records	1982 to date.
Rating Operation	
Period of Rating	1993 to date.
Rated by Float	-
Rated by Current Meter	1993 to date.
Stability of Channel Regimes	Fairly stable with variable water surface slope.
Overbank Flow Conditions	No overbank flow.
General Description	Records fair. Stage-discharge relation defined by 50 discharge measurements made in 1993.

Gage Height in Meter (A.D), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.97	0.91	1.14	1.35	1.20	2.84	2.52	1.90	1.56	1.40	1.13	1.04	
2	0.97	0.91	1.14	1.17	1.16	2.34	2.85	1.80	1.56	1.39	1.20	1.15	
3	0.98	0.90	1.08	1.33	1.85	1.99	3.09	1.74	1.54	1.38	1.20	1.15	
4	0.98	0.90	1.03	1.29	1.79	1.85	2.41	1.69	1.53	1.39	1.18	1.09	
5	0.98	0.90	1.10	1.11	1.50	1.70	2.11	1.64	1.52	1.39	1.17	1.04	
6	0.96	0.88	1.06	1.14	1.33	1.86	1.92	1.63	1.53	1.38	1.19	0.98	
7	0.96	0.88	1.03	1.43	1.23	1.93	1.79	1.62	1.52	1.38	1.24	0.99	
8	0.95	0.88	0.93	2.16	1.41	1.75	1.71	1.60	1.50	1.38	1.20	1.07	
9	0.95	0.89	1.06	1.69	1.56	1.53	1.66	1.59	1.52	1.38	1.20	1.04	
10	0.90	0.88	1.34	2.18	1.50	1.40	1.68	1.58	1.49	1.31	1.18	0.93	
11	0.94	0.89	1.22	1.93	1.34	1.89	2.27	1.57	1.50	1.33	1.08	0.91	
12	0.94	0.90	1.12	1.58	1.29	1.67	2.44	1.55	1.55	1.37	1.08	0.91	
13	0.96	0.90	1.12	2.50	1.25	1.54	1.76	1.53	1.50	1.31	1.14	0.90	
14	0.91	0.86	0.94	2.74	1.23	1.44	1.80	1.54	1.51	1.27	1.10	1.08	
15	0.90	0.85	1.04	1.94	1.24	1.44	1.76	1.57	1.47	1.27	1.14	1.11	
16	0.91	0.83	0.98	1.72	1.20	1.40	1.66	1.55	1.52	1.28	1.11	1.03	
17	0.91	0.86	0.90	1.53	1.20	1.34	1.71	1.56	1.52	1.48	1.08	0.96	
18	0.92	0.87	0.88	1.45	1.35	1.70	1.75	1.63	1.52	1.28	1.07	0.91	
19	0.89	0.88	0.87	1.34	1.30	1.83	1.71	1.67	1.51	1.28	1.05	0.91	
20	0.88	0.90	0.87	1.30	1.26	1.70	1.62	1.67	1.46	1.37	1.13	0.95	
21	0.88	0.89	0.89	1.26	1.19	1.65	1.67	1.67	1.40	1.35	1.06	0.94	
22	0.88	0.88	0.84	1.45	1.19	1.57	1.89	1.67	1.39	1.26	1.05	0.93	
23	1.06	0.88	0.84	2.16	1.29	1.64	2.30	1.62	1.39	1.25	1.04	0.92	
24	1.12	0.89	0.85	1.86	1.39	1.60	2.16	1.56	1.37	1.26	1.06	1.06	
25	0.98	1.04	0.87	1.56	1.42	1.51	1.89	1.56	1.39	1.29	1.05	1.04	
26	0.98	1.11	0.86	1.50	1.40	1.50	1.79	1.54	1.42	1.26	1.04	1.16	
27	0.98	1.14	0.94	1.42	1.41	1.44	1.70	1.54	1.42	1.27	1.05	1.74	
28	0.99	1.13	0.87	1.30	1.55	1.47	1.68	1.53	1.41	1.24	1.04	1.64	
29	0.90	1.17	0.87	1.26	1.68	1.45	1.66	1.55	1.40	1.16		1.40	
30	0.90	1.27	1.05	1.28	1.56	1.61	2.69	1.56	1.40	1.16		1.40	
31		1.60		1.33	3.27		2.32		1.40	1.15		1.30	
Mean	0.95	0.96	0.99	1.59	1.44	1.69	2.00	1.61	1.47	1.31	1.12	1.09	
Max	1.12	1.60	1.34	2.74	3.27	2.84	3.09	1.90	1.56	1.48	1.24	1.74	3.27
Min	0.88	0.83	0.84	1.11	1.16	1.34	1.62	1.53	1.37	1.15	1.04	0.90	0.83

Annual Max Momentary Gage Height 4.16 M (A.D), at 14.00 Hours, on Aug 31, 1993
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed 0.69 M (A.D)
Left Bank Elevation 4.64 M (A.D)
Right Bank Elevation 4.88 M (A.D), Drainage Area 644 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	1.63	1.09	3.30	5.60	3.90	36.40	27.00	14.10	8.28	6.20	3.20	2.30	
2	1.63	1.09	3.30	3.60	3.50	22.84	36.75	12.30	8.28	6.08	3.90	3.40	
3	1.72	1.00	2.70	5.36	13.20	15.81	46.55	11.22	8.02	5.96	3.90	3.40	
4	1.72	1.00	2.20	4.89	12.12	13.20	24.34	10.33	7.89	6.08	3.70	2.80	
5	1.72	1.00	2.90	3.00	7.50	10.50	18.10	9.48	7.76	6.08	3.60	2.30	
6	1.54	0.88	2.50	3.30	5.36	13.38	14.48	9.31	7.89	5.96	3.80	1.72	
7	1.54	0.88	2.20	6.59	4.23	14.67	12.12	9.14	7.76	5.96	4.34	1.81	
8	1.45	0.88	1.27	19.10	6.33	11.40	10.68	8.80	7.50	5.96	3.90	2.60	
9	1.45	0.94	2.50	10.33	8.28	7.89	9.82	8.67	7.76	5.96	3.90	2.30	
10	1.00	0.88	5.48	19.50	7.50	6.20	10.16	8.54	7.37	5.12	3.70	1.27	
11	1.36	0.94	4.12	14.67	5.48	13.92	21.37	8.41	7.50	5.36	2.70	1.09	
12	1.36	1.00	3.10	8.54	4.89	9.99	25.06	8.15	8.15	5.84	2.70	1.09	
13	1.54	1.00	3.10	26.50	4.45	8.02	11.58	7.89	7.50	5.12	3.30	1.00	
14	1.09	0.76	1.36	33.20	4.23	6.72	12.30	8.02	7.63	4.67	2.90	2.70	
15	1.00	0.70	2.30	14.86	4.34	6.72	11.58	8.41	7.11	4.67	3.30	3.00	
16	1.09	0.58	1.72	10.86	3.90	6.20	9.82	8.15	7.76	4.78	3.00	2.20	
17	1.09	0.76	1.00	7.89	3.90	5.48	10.68	8.28	7.76	7.24	2.70	1.54	
18	1.18	0.82	0.88	6.85	5.60	10.50	11.40	9.31	7.76	4.78	2.60	1.09	
19	0.94	0.88	0.82	5.48	5.00	12.84	10.68	9.99	7.63	4.78	2.40	1.09	
20	0.88	1.00	0.82	5.00	4.56	10.50	9.14	9.99	6.98	5.84	3.20	1.45	
21	0.88	0.94	0.94	4.56	3.80	9.65	9.99	9.99	6.20	5.60	2.50	1.36	
22	0.88	0.88	0.64	6.85	3.80	8.41	13.92	9.99	6.08	4.56	2.40	1.27	
23	2.50	0.88	0.64	19.10	4.89	9.48	22.00	9.14	6.08	4.45	2.30	1.18	
24	3.10	0.94	0.70	13.38	6.08	8.80	19.10	8.28	5.84	4.56	2.50	2.50	
25	1.72	2.30	0.82	8.28	6.46	7.63	13.92	8.28	6.08	4.89	2.40	2.30	
26	1.72	3.00	0.76	7.50	6.20	7.50	12.12	8.02	6.46	4.56	2.30	3.50	
27	1.72	3.30	1.36	6.46	6.33	6.72	10.50	8.02	6.46	4.67	2.40	11.22	
28	1.81	3.20	0.82	5.00	8.15	7.11	10.16	7.89	6.33	4.34	2.30	9.48	
29	1.00	3.60	0.82	4.56	10.16	6.85	9.82	8.15	6.20	3.50		6.20	
30	1.00	4.67	2.40	4.78	8.28	8.97	31.70	8.28	6.20	3.50		6.20	
31		8.80		5.36	55.50		22.42		6.20	3.40		5.00	
Total	43.26	50.59	57.47	300.95	237.92	324.30	519.26	274.53	222.42	160.47	85.84	90.36	2367.37 CMSDAY
Mean	1.44	1.63	1.92	9.71	7.67	10.81	16.75	9.15	7.17	5.18	3.07	2.91	6.49 CMS
Max	3.10	8.80	5.48	33.20	55.50	36.40	46.55	14.10	8.28	7.24	4.34	11.22	55.50 CMS
Min	0.88	0.58	0.64	3.00	3.50	5.48	9.14	7.89	5.84	3.40	2.30	1.00	0.58 CMS
Runoff	3.738	4.371	4.965	26.002	20.556	28.020	44.864	23.719	19.217	13.865	7.417	7.807	204.541 MCM

Momentary Peak 134.70 CMS, at 4.16 M (A.D), at 14.00 Hours, on Aug 31, 1993

Runoff Yield 10.07 Liters/Second/Square KM, Momentary Peak Yield 209.16 Liters/Second/Square KM

WATER YEAR 1993

KHONG RIVER BASIN

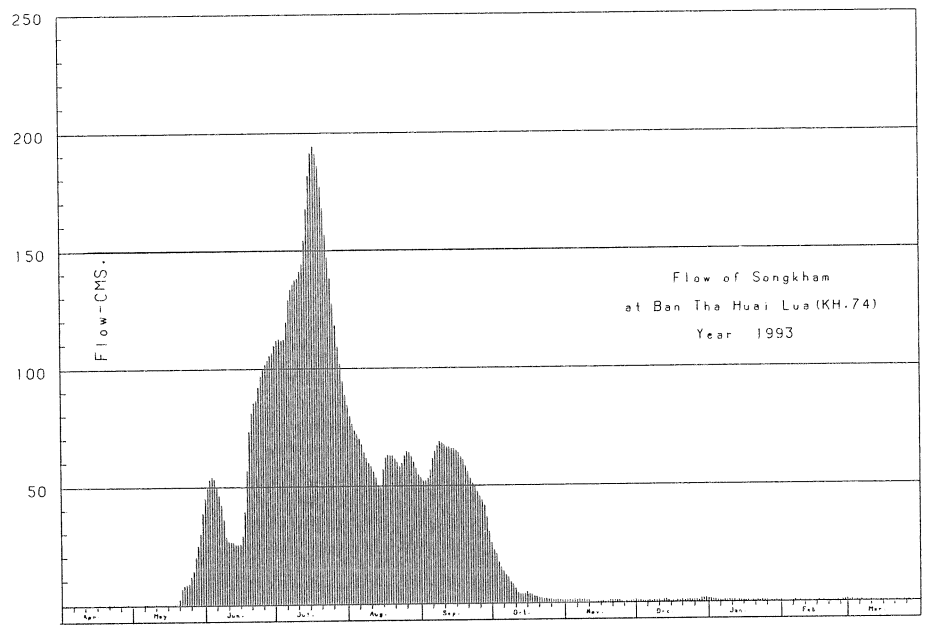
Songkram River at Ban Tha Huai Lua, Sakon Nakhon (Kh.74)

Location	Lat. 17-49-05 N., Long. 103-23-28 E., on left bank at Ban Tha Huai Lua, Amphoe Ban Muang, Sakon Nakhon.
Drainage Area	2,145 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+0.00 m.(A.D.)
Bench Mark	B.M.-H.D.
Location	On left bank at the abutment of the bridge.
Elevation	+11.633 m.(A.D.)
Gage Reading Frequency	5-time daily readings at 06.00, 09.0o, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1983 to date.
Rating Operation	
Period of Rating	1984 to date.
Rated by Float	-
Rated by Current Meter	1984 to date.
Stability of Channel Regimes	Fairly stable because of backwater effect.
Overbank Flow Conditions	Overbank flow starts at elevation +8.99 m.(A.D.), records are channel flow only.
General Description	Records fair. Stage-discharge relation defined by 104 discharge measurements made in 1993.

Gage Height in Meter (A.D), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	1.87	1.89	4.24	7.67	7.00	4.95	2.73	1.95	1.94	1.97	1.92	1.92	
2	1.87	1.89	4.40	7.70	6.79	4.92	2.63	1.95	1.93	1.95	1.91	1.92	
3	1.87	1.88	4.47	7.68	6.62	5.04	2.54	1.95	1.93	1.94	1.90	1.91	
4	1.86	1.88	4.41	7.69	6.50	5.31	2.47	1.96	1.92	1.93	1.90	1.91	
5	1.86	1.88	4.26	7.94	6.38	5.73	2.43	1.96	1.92	1.93	1.91	1.90	
6	1.86	1.88	4.08	8.21	6.19	5.96	2.38	1.96	1.92	1.92	1.91	1.90	
7	1.86	1.88	3.85	8.31	5.96	6.16	2.34	1.96	1.92	1.92	1.90	1.89	
8	1.87	1.89	3.54	8.36	5.73	6.27	2.28	1.95	1.92	1.93	1.90	1.89	
9	1.87	1.89	3.10	8.39	5.58	6.24	2.24	1.95	1.93	1.93	1.90	1.89	
10	1.87	1.89	2.98	8.41	5.44	6.16	2.18	1.94	1.93	1.93	1.90	1.90	
11	1.87	1.90	2.99	8.45	5.25	6.12	2.12	1.92	1.92	1.93	1.91	1.90	
12	1.87	1.90	2.96	8.51	5.04	6.09	2.09	1.91	1.96	1.92	1.91	1.90	
13	1.88	1.90	2.92	8.67	4.77	6.08	2.08	1.91	1.95	1.92	1.90	1.90	
14	1.88	1.90	2.89	8.87	4.64	6.05	2.10	1.90	1.92	1.92	1.90	1.90	
15	1.88	1.90	2.93	9.03	5.35	6.01	2.12	1.91	1.92	1.92	1.90	1.90	
16	1.88	1.91	3.15	9.12	5.77	5.91	2.10	1.91	1.91	1.92	1.90	1.89	
17	1.87	1.90	3.70	9.15	5.83	5.79	2.07	1.91	1.91	1.91	1.90	1.88	
18	1.87	1.90	4.60	9.13	5.84	5.65	2.05	1.92	1.92	1.91	1.90	1.88	
19	1.87	1.93	5.32	9.09	5.81	5.46	2.03	1.95	1.93	1.91	1.90	1.88	
20	1.88	2.05	5.66	9.02	5.73	5.23	2.02	1.94	1.94	1.92	1.90	1.89	
21	1.88	2.21	5.82	8.93	5.59	5.02	2.01	1.95	1.93	1.92	1.89	1.89	
22	1.88	2.25	5.87	8.82	5.45	4.84	2.00	1.95	1.94	1.92	1.89	1.89	
23	1.89	2.26	6.26	8.70	5.54	4.67	1.99	1.93	1.94	1.92	1.89	1.90	
24	1.89	2.28	6.74	8.58	5.84	4.48	1.98	1.90	1.94	1.92	1.89	1.91	
25	1.88	2.37	6.93	8.42	5.96	4.26	1.97	1.90	1.93	1.92	1.90	1.91	
26	1.88	2.45	7.07	8.25	5.93	4.09	1.97	1.91	1.93	1.91	1.92	1.90	
27	1.88	2.62	7.19	8.06	5.81	3.88	1.97	1.91	1.94	1.91	1.93	1.90	
28	1.88	2.87	7.30	7.85	5.61	3.57	1.96	1.91	1.98	1.91	1.93	1.90	
29	1.88	3.21	7.40	7.64	5.37	3.21	1.96	1.93	1.99	1.91		1.90	
30	1.88	3.67	7.56	7.41	5.16	2.91	1.94	1.95	1.99	1.91		1.90	
31		4.00		7.21	5.04		1.94		1.98	1.91		1.90	
Mean	1.87	2.20	4.82	8.36	5.73	5.20	2.15	1.93	1.94	1.92	1.90	1.90	
Max	1.89	4.00	7.56	9.15	7.00	6.27	2.73	1.96	1.99	1.97	1.93	1.92	9.15
Min	1.86	1.88	2.89	7.21	4.64	2.91	1.94	1.90	1.91	1.91	1.89	1.88	1.86

Annual Max Momentary Gage Height 9.16 M (A.D), at 16.00 Hours, on Jul 17, 1993
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed 0.33 M (A.D)
Left Bank Elevation 8.98 M (A.D)
Right Bank Elevation 8.98 M (A.D), Drainage Area 2145 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.35	0.45	49.60	111.90	80.00	52.40	22.75	1.25	1.10	1.55	0.80	0.80	
2	0.35	0.45	52.90	112.50	76.35	52.04	20.84	1.25	0.95	1.25	0.65	0.80	
3	0.35	0.40	54.37	112.10	73.80	53.48	17.60	1.25	0.95	1.10	0.50	0.65	
4	0.30	0.40	53.11	112.30	72.00	56.72	15.18	1.40	0.80	0.95	0.50	0.65	
5	0.30	0.40	50.00	119.90	70.32	61.76	13.82	1.40	0.80	0.95	0.65	0.50	
6	0.30	0.40	46.52	129.40	67.66	64.52	12.18	1.40	0.80	0.80	0.65	0.50	
7	0.30	0.40	42.15	133.50	64.52	67.24	10.94	1.40	0.80	0.80	0.50	0.45	
8	0.35	0.45	36.32	136.00	61.76	68.78	9.12	1.25	0.80	0.95	0.50	0.45	
9	0.35	0.45	28.60	137.50	59.96	68.36	7.96	1.25	0.95	0.95	0.50	0.45	
10	0.35	0.45	26.68	138.60	58.28	67.24	6.28	1.10	0.95	0.95	0.50	0.50	
11	0.35	0.50	26.84	141.00	56.00	66.68	4.72	0.80	0.80	0.95	0.65	0.50	
12	0.35	0.50	26.36	144.60	53.48	66.26	3.98	0.65	1.40	0.80	0.65	0.50	
13	0.40	0.50	25.72	154.20	50.50	66.12	3.76	0.65	1.25	0.80	0.50	0.50	
14	0.40	0.50	25.24	167.90	49.20	65.70	4.20	0.50	0.80	0.80	0.50	0.50	
15	0.40	0.50	25.88	182.00	57.20	65.14	4.72	0.65	0.80	0.80	0.50	0.50	
16	0.40	0.65	29.40	191.20	62.24	63.92	4.20	0.65	0.65	0.80	0.50	0.45	
17	0.35	0.50	39.30	194.50	62.96	62.48	3.54	0.65	0.65	0.65	0.50	0.40	
18	0.35	0.50	57.10	190.90	63.08	60.80	3.10	0.80	0.80	0.65	0.50	0.40	
19	0.35	0.95	73.36	185.80	62.72	58.52	2.66	1.25	0.95	0.65	0.50	0.40	
20	0.40	3.10	81.50	177.40	61.76	55.76	2.44	1.10	1.10	0.80	0.50	0.45	
21	0.40	7.09	85.50	168.00	60.08	53.24	2.22	1.25	0.95	0.80	0.45	0.45	
22	0.40	8.25	86.75	157.00	58.40	51.20	2.00	1.25	1.10	0.80	0.45	0.45	
23	0.45	8.54	92.10	147.00	59.48	49.50	1.85	0.95	1.10	0.80	0.45	0.50	
24	0.45	9.12	97.10	138.60	63.08	47.60	1.70	0.50	1.10	0.80	0.45	0.65	
25	0.40	11.87	99.95	127.40	64.52	45.40	1.55	0.50	0.95	0.80	0.50	0.65	
26	0.40	14.50	102.05	118.50	64.16	43.70	1.55	0.65	0.95	0.65	0.80	0.50	
27	0.40	20.46	103.85	109.40	62.72	41.76	1.55	0.65	1.10	0.65	0.95	0.50	
28	0.40	24.92	105.50	101.75	60.32	36.86	1.40	0.65	1.70	0.65	0.95	0.50	
29	0.40	30.38	107.00	94.70	57.44	30.38	1.40	0.95	1.85	0.65		0.50	
30	0.40	38.73	109.70	88.75	54.92	25.56	1.10	1.25	1.85	0.65		0.50	
31		45.00		84.20	53.48		1.10		1.70	0.65		0.50	
Total	11.15	231.31	1840.45	4308.50	1922.39	1669.12	191.41	29.25	32.45	25.85	16.05	16.05	10293.98 CMSDAY
Mean	0.37	7.46	61.35	138.98	62.01	55.64	6.17	0.98	1.05	0.83	0.57	0.52	28.20 CMS
Max	0.45	45.00	109.70	194.50	80.00	68.78	22.75	1.40	1.85	1.55	0.95	0.80	194.50 CMS
Min	0.30	0.40	25.24	84.20	49.20	25.56	1.10	0.50	0.65	0.65	0.45	0.40	0.30 CMS
Runoff	0.963	19.985	159.015	372.254	166.094	144.212	16.538	2.527	2.804	2.233	1.387	1.387	889.400 MCM

Momentary Peak 195.60 CMS, at 9.16 M (A.D), at 16.00 Hours, on Jul 17, 1993

Runoff Yield 13.15 Liters/Second/Square KM, Momentary Peak Yield 91.19 Liters/Second/Square KM

WATER YEAR 1993

KHONG RIVER BASIN

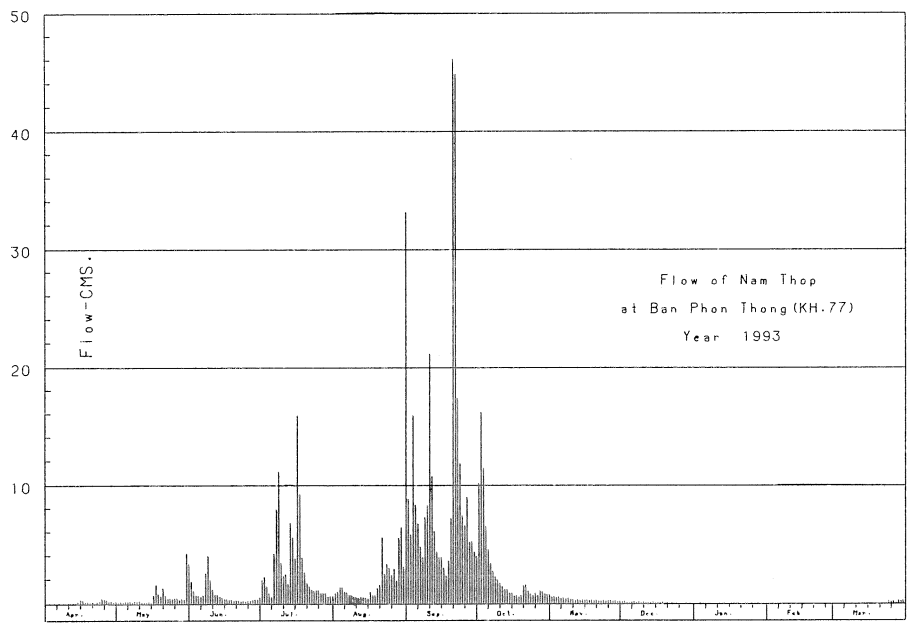
Nam Thop at Ban Phon Thong, Loei (Kh.77)

Location	Lat. 17°-15'-51" N., Long. 101°-39'-26" E., on left bank at Ban Phon Thong, Amphoe Wang Saphung, Loei.
Drainage Area	142 sq.km.
Type of Gage	Water-stage recorder.
Zero Gage at Bottom	+257.40 m.(M.S.L.)
Bench Mark	B.M.-H.D.
Location	On left bank near the measuring line.
Elevation	+265.00 m.(M.S.L.)
Gage Reading Frequency	Recording.
Basis of Mean Daily Gage Height	Arithmetic mean of 24 readings.
Period of Available Gage Records	1983 to date.
Rating Operation	
Period of Rating	1984 to date.
Rated by Float	-
Rated by Current Meter	1984 to date.
Stability of Channel Regimes	Fairly stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Stage-discharge relation defined by 46 discharge measurements in 1993.

Gage Height in Meter (MSL), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	257.72	257.75	258.09	258.10	257.94	258.66	258.74	257.88	257.77	257.72	257.70	257.69	
2	257.72	257.75	257.96	258.14	257.95	258.46	259.06	257.88	257.77	257.72	257.70	257.68	
3	257.72	257.76	257.91	258.03	258.02	259.05	258.82	257.87	257.76	257.72	257.70	257.68	
4	257.72	257.76	257.89	257.93	258.01	258.63	258.51	257.87	257.75	257.72	257.70	257.68	
5	257.72	257.76	257.89	257.88	257.96	258.53	258.37	257.85	257.76	257.72	257.70	257.68	
6	257.72	257.76	257.90	258.33	257.94	258.39	258.26	257.84	257.75	257.71	257.70	257.68	
7	257.72	257.76	258.18	258.61	257.91	258.30	258.19	257.84	257.75	257.71	257.70	257.68	
8	257.72	257.77	258.32	258.80	257.90	258.56	258.14	257.84	257.75	257.71	257.70	257.69	
9	257.72	257.77	258.10	258.26	257.88	258.63	258.10	257.83	257.75	257.71	257.70	257.69	
10	257.72	257.77	257.98	258.15	257.86	259.31	258.06	257.81	257.75	257.72	257.71	257.68	
11	257.72	257.76	257.92	258.16	257.86	258.78	258.03	257.81	257.75	257.71	257.70	257.68	
12	257.73	257.75	257.91	258.06	257.87	258.48	257.99	257.81	257.75	257.71	257.70	257.68	
13	257.74	257.75	257.89	258.53	257.87	258.35	257.98	257.81	257.74	257.72	257.70	257.68	
14	257.75	257.75	257.85	258.45	257.85	258.30	257.94	257.81	257.75	257.72	257.71	257.68	
15	257.82	257.75	257.84	258.30	257.85	258.30	257.93	257.81	257.75	257.70	257.70	257.69	
16	257.79	257.91	257.82	259.05	257.95	258.22	257.90	257.80	257.74	257.72	257.70	257.70	
17	257.76	258.05	257.82	258.69	257.91	258.15	257.90	257.80	257.74	257.72	257.70	257.70	
18	257.75	257.92	257.81	258.30	257.90	258.28	257.88	257.80	257.74	257.71	257.69	257.70	
19	257.75	257.90	257.80	258.18	258.01	258.56	257.90	257.80	257.74	257.71	257.70	257.69	
20	257.75	258.00	257.79	258.07	258.04	260.17	258.04	257.80	257.73	257.71	257.70	257.69	
21	257.75	257.90	257.79	258.02	258.45	260.13	258.04	257.79	257.75	257.71	257.69	257.71	
22	257.75	257.85	257.79	257.99	258.17	259.12	257.97	257.79	257.74	257.72	257.68	257.71	
23	257.78	257.84	257.78	257.96	258.25	258.84	257.92	257.79	257.73	257.71	257.68	257.74	
24	257.83	257.84	257.78	257.98	258.22	258.57	257.91	257.79	257.72	257.71	257.68	257.78	
25	257.83	257.84	257.78	257.97	258.15	258.52	257.93	257.79	257.72	257.71	257.69	257.77	
26	257.80	257.84	257.80	257.94	258.22	258.67	257.91	257.79	257.72	257.71	257.68	257.76	
27	257.78	257.82	257.82	257.94	258.10	258.42	257.97	257.79	257.72	257.70	257.68	257.75	
28	257.77	257.83	257.81	257.93	258.44	258.42	257.95	257.78	257.72	257.69	257.68	257.79	
29	257.76	257.83	257.83	257.89	258.51	258.35	257.93	257.77	257.71	257.69		257.79	
30	257.76	258.34	257.86	257.88	258.23	258.31	257.91	257.77	257.72	257.71		257.79	
31		258.25		257.88	259.74		257.91		257.72	257.71		257.84	
Mean	257.75	257.85	257.89	258.17	258.10	258.65	258.10	257.81	257.74	257.71	257.70	257.71	
Max	257.83	258.34	258.32	259.05	259.74	260.17	259.06	257.88	257.77	257.72	257.71	257.84	260.17
Min	257.72	257.75	257.78	257.88	257.85	258.15	257.88	257.77	257.71	257.69	257.68	257.68	257.68

Annual Max Momentary Gage Height 260.47 M (MSL), at 6.00 Hours, on Sep 21, 1993
Zero Gage at Bottom Elevation 257.40 M (MSL), River Bed 256.87 M (MSL)
Left Bank Elevation 264.39 M (MSL)
Right Bank Elevation 265.17 M (MSL), Drainage Area 142 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.06	0.15	1.93	2.00	0.94	8.86	10.18	0.62	0.21	0.06	0.00	0.00	
2	0.06	0.15	1.06	2.32	1.00	5.84	16.20	0.62	0.21	0.06	0.00	0.00	
3	0.06	0.18	0.76	1.51	1.44	16.00	11.56	0.58	0.18	0.06	0.00	0.00	
4	0.06	0.18	0.66	0.88	1.37	8.38	6.55	0.58	0.15	0.06	0.00	0.00	
5	0.06	0.18	0.66	0.62	1.06	6.85	4.67	0.50	0.18	0.06	0.00	0.00	
6	0.06	0.18	0.70	4.23	0.94	4.89	3.46	0.46	0.15	0.03	0.00	0.00	
7	0.06	0.18	2.64	8.06	0.76	3.90	2.72	0.46	0.15	0.03	0.00	0.00	
8	0.06	0.21	4.12	11.20	0.70	7.30	2.32	0.46	0.15	0.03	0.00	0.00	
9	0.06	0.21	2.00	3.46	0.62	8.38	2.00	0.42	0.15	0.03	0.00	0.00	
10	0.06	0.21	1.18	2.40	0.54	21.20	1.72	0.34	0.15	0.06	0.03	0.00	
11	0.06	0.18	0.82	2.48	0.54	10.86	1.51	0.34	0.15	0.03	0.00	0.00	
12	0.09	0.15	0.76	1.72	0.58	6.12	1.24	0.34	0.15	0.03	0.00	0.00	
13	0.12	0.15	0.66	6.85	0.58	4.45	1.18	0.34	0.12	0.06	0.00	0.00	
14	0.15	0.15	0.50	5.70	0.50	3.90	0.94	0.34	0.15	0.06	0.03	0.00	
15	0.38	0.15	0.46	3.90	0.50	3.90	0.88	0.34	0.15	0.00	0.00	0.00	
16	0.27	0.76	0.38	16.00	1.00	3.02	0.70	0.30	0.12	0.06	0.00	0.00	
17	0.18	1.65	0.38	9.34	0.76	2.40	0.70	0.30	0.12	0.06	0.00	0.00	
18	0.15	0.82	0.34	3.90	0.70	3.68	0.62	0.30	0.12	0.03	0.00	0.00	
19	0.15	0.70	0.30	2.64	1.37	7.30	0.70	0.30	0.12	0.03	0.00	0.00	
20	0.15	1.30	0.27	1.79	1.58	46.10	1.58	0.30	0.09	0.03	0.00	0.00	
21	0.15	0.70	0.27	1.44	5.70	44.90	1.58	0.27	0.15	0.03	0.00	0.03	
22	0.15	0.50	0.27	1.24	2.56	17.40	1.12	0.27	0.12	0.06	0.00	0.03	
23	0.24	0.46	0.24	1.06	3.35	11.92	0.82	0.27	0.09	0.03	0.00	0.12	
24	0.42	0.46	0.24	1.18	3.02	7.45	0.76	0.27	0.06	0.03	0.00	0.24	
25	0.42	0.46	0.24	1.12	2.40	6.70	0.88	0.27	0.06	0.03	0.00	0.21	
26	0.30	0.46	0.30	0.94	3.02	9.02	0.76	0.27	0.06	0.03	0.00	0.18	
27	0.24	0.38	0.38	0.94	2.00	5.28	1.12	0.27	0.06	0.00	0.00	0.15	
28	0.21	0.42	0.34	0.88	5.56	5.28	1.00	0.24	0.06	0.00	0.00	0.27	
29	0.18	0.42	0.42	0.66	6.55	4.45	0.88	0.21	0.03	0.00		0.27	
30	0.18	4.34	0.54	0.62	3.13	4.01	0.76	0.21	0.06	0.03		0.27	
31		3.35		0.62	33.20		0.76		0.06	0.03		0.46	
Total	4.79	19.79	23.82	101.70	87.97	299.74	81.87	10.79	3.78	1.14	0.06	2.23	637.68 CMSDAY
Mean	0.16	0.64	0.79	3.28	2.84	9.99	2.64	0.36	0.12	0.04	0.00	0.07	1.75 CMS
Max	0.42	4.34	4.12	16.00	33.20	46.10	16.20	0.62	0.21	0.06	0.03	0.46	46.10 CMS
Min	0.06	0.15	0.24	0.62	0.50	2.40	0.62	0.21	0.03	0.00	0.00	0.00	0.00 CMS
Runoff	0.414	1.710	2.058	8.787	7.601	25.898	7.074	0.932	0.327	0.098	0.005	0.193	55.096 MCM

Momentary Peak 55.10 CMS, at 260.47 M (MSL), at 6.00 Hours, on Sep 21, 1993

Runoff Yield 12.30 Liters/Second/Square KM, Momentary Peak Yield 388.03 Liters/Second/Square KM

WATER YEAR 1993

KHONG RIVER BASIN

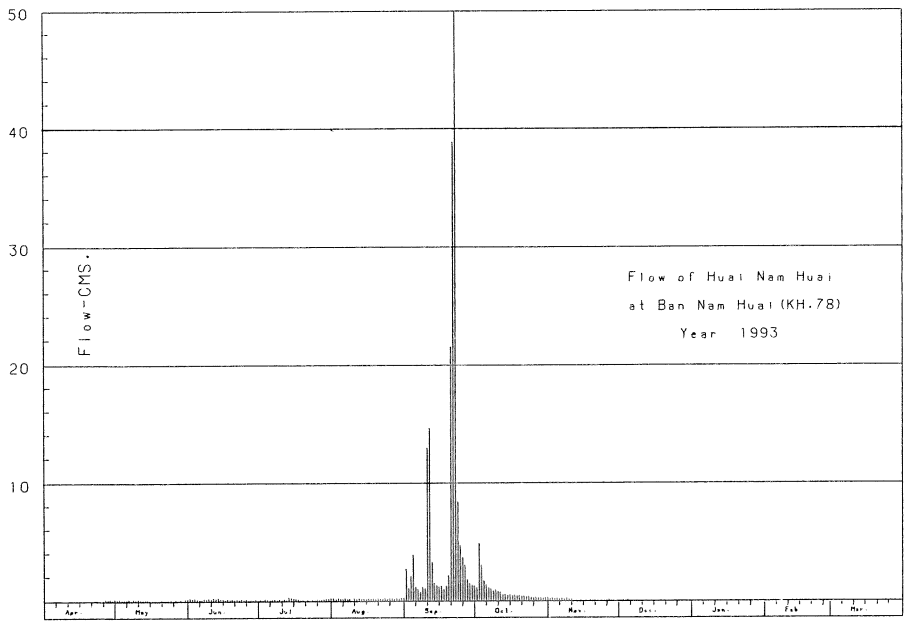
Huai Nam Huai at Ban Nam Huai, Loei (Kh.78)

Location	Lat. 17°-22'-58" N., Long. 101°-42'-45" E., on left bank at the bridge of Amphoe Wang Saphung-Amphoe Muang Highway, Amphoe Muang, Loei.
Drainage Area	217 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+0.00 m.(A.D.)
Bench Mark	B.M.-H.D.
Location	On left bank downstream side at the footpath of the bridge.
Elevation	+10.269 m.(A.D.)
Gage Reading Frequency	5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1983 to date.
Rating Operation	
Period of Rating	1993 to date.
Rated by Float	-
Rated by Current Meter	1993 to date.
Stability of Channel Regimes	Stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Stage-discharge relation defined by 10 discharge measurements made in 1993.

Gage Height in Meter (A.D), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.78	0.88	0.93	0.86	0.92	1.49	1.22	0.93	0.86	0.84	0.82	0.82	
2	0.78	0.88	0.92	0.87	0.92	1.22	1.77	0.92	0.86	0.84	0.83	0.82	
3	0.78	0.88	0.91	0.88	0.92	1.42	1.53	0.92	0.86	0.84	0.83	0.82	
4	0.78	0.87	0.90	0.88	0.92	1.64	1.36	0.91	0.86	0.84	0.83	0.82	
5	0.78	0.87	0.89	0.88	0.91	1.26	1.29	0.91	0.85	0.83	0.83	0.82	
6	0.78	0.87	0.89	0.88	0.91	1.18	1.24	0.91	0.85	0.83	0.83	0.82	
7	0.78	0.87	0.90	0.88	0.91	1.13	1.19	0.91	0.85	0.83	0.83	0.82	
8	0.78	0.88	0.90	0.88	0.90	1.23	1.16	0.91	0.84	0.83	0.83	0.82	
9	0.78	0.88	0.91	0.88	0.80	1.22	1.17	0.90	0.84	0.83	0.83	0.82	
10	0.78	0.87	0.92	0.88	0.91	2.61	1.15	0.90	0.83	0.83	0.83	0.82	
11	0.78	0.87	0.93	0.88	0.91	2.76	1.11	0.88	0.83	0.83	0.83	0.82	
12	0.78	0.86	0.93	0.88	0.91	1.57	1.07	0.87	0.83	0.83	0.83	0.82	
13	0.80	0.86	0.94	0.96	0.91	1.32	1.05	0.86	0.83	0.83	0.83	0.82	
14	0.80	0.85	0.92	0.96	0.90	1.29	1.04	0.86	0.83	0.83	0.83	0.82	
15	0.80	0.85	0.90	0.93	0.90	1.24	1.04	0.86	0.83	0.83	0.83	0.82	
16	0.81	0.85	0.88	0.89	0.90	1.26	1.04	0.86	0.83	0.83	0.83	0.82	
17	0.81	0.85	0.88	0.88	0.91	1.20	1.03	0.86	0.83	0.83	0.83	0.82	
18	0.81	0.85	0.88	0.87	0.90	1.28	1.03	0.86	0.83	0.83	0.82	0.82	
19	0.81	0.85	0.88	0.85	0.90	1.42	1.02	0.86	0.83	0.83	0.82	0.82	
20	0.82	0.85	0.88	0.85	0.91	3.34	1.02	0.86	0.83	0.83	0.82	0.82	
21	0.82	0.85	0.88	0.85	0.91	4.57	1.01	0.86	0.83	0.83	0.82	0.82	
22	0.82	0.85	0.88	0.85	0.91	5.25	1.00	0.86	0.83	0.83	0.82	0.82	
23	0.82	0.85	0.88	0.86	0.91	2.16	0.99	0.87	0.83	0.83	0.82	0.82	
24	0.88	0.85	0.88	0.87	0.91	1.74	0.98	0.87	0.83	0.83	0.82	0.82	
25	0.88	0.85	0.88	0.88	0.91	1.62	0.96	0.87	0.83	0.83	0.82	0.82	
26	0.88	0.85	0.88	0.88	0.91	1.53	0.95	0.86	0.83	0.83	0.82	0.82	
27	0.88	0.85	0.88	0.89	0.91	1.38	0.95	0.86	0.84	0.83	0.82	0.82	
28	0.88	0.85	0.87	0.90	0.91	1.31	0.94	0.86	0.84	0.83	0.82	0.83	
29	0.88	0.85	0.87	0.90	0.92	1.30	0.94	0.86	0.84	0.83		0.83	
30	0.88	0.88	0.86	0.93	0.92	1.26	0.94	0.86	0.84	0.83		0.83	
31		0.92		0.92	0.92		0.94		0.84	0.83		0.83	
Mean	0.81	0.86	0.89	0.89	0.91	1.77	1.10	0.88	0.84	0.83	0.83	0.82	
Max	0.88	0.92	0.94	0.96	0.92	5.25	1.77	0.93	0.86	0.84	0.83	0.83	5.25
Min	0.78	0.85	0.86	0.85	0.80	1.13	0.94	0.86	0.83	0.83	0.82	0.82	0.78

Annual Max Momentary Gage Height 5.90 M (A.D), at 18.00 Hours, on Sep 21, 1993
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed 0.67 M (A.D)
Left Bank Elevation 10.10 M (A.D)
Right Bank Elevation 7.75 M (A.D), Drainage Area 217 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.00	0.16	0.26	0.12	0.24	2.72	1.12	0.26	0.12	0.08	0.04	0.04	
2	0.00	0.16	0.24	0.14	0.24	1.12	4.96	0.24	0.12	0.08	0.06	0.04	
3	0.00	0.16	0.22	0.16	0.24	2.16	3.04	0.24	0.12	0.08	0.06	0.04	
4	0.00	0.14	0.20	0.16	0.24	3.92	1.76	0.22	0.12	0.08	0.06	0.04	
5	0.00	0.14	0.18	0.16	0.22	1.26	1.37	0.22	0.10	0.06	0.06	0.04	
6	0.00	0.14	0.18	0.16	0.22	0.98	1.19	0.22	0.10	0.06	0.06	0.04	
7	0.00	0.14	0.20	0.16	0.22	0.80	1.02	0.22	0.10	0.06	0.06	0.04	
8	0.00	0.16	0.20	0.16	0.20	1.16	0.91	0.22	0.08	0.06	0.06	0.04	
9	0.00	0.16	0.22	0.16	0.00	1.12	0.94	0.20	0.08	0.06	0.06	0.04	
10	0.00	0.14	0.24	0.16	0.22	13.01	0.87	0.20	0.06	0.06	0.06	0.04	
11	0.00	0.14	0.26	0.16	0.22	14.66	0.73	0.16	0.06	0.06	0.06	0.04	
12	0.00	0.12	0.26	0.16	0.22	3.36	0.61	0.14	0.06	0.06	0.06	0.04	
13	0.00	0.12	0.28	0.32	0.22	1.52	0.55	0.12	0.06	0.06	0.06	0.04	
14	0.00	0.10	0.24	0.32	0.20	1.37	0.52	0.12	0.06	0.06	0.06	0.04	
15	0.00	0.10	0.20	0.26	0.20	1.19	0.52	0.12	0.06	0.06	0.06	0.04	
16	0.02	0.10	0.16	0.18	0.20	1.26	0.52	0.12	0.06	0.06	0.06	0.04	
17	0.02	0.10	0.16	0.16	0.22	1.05	0.49	0.12	0.06	0.06	0.06	0.04	
18	0.02	0.10	0.16	0.14	0.20	1.33	0.49	0.12	0.06	0.06	0.04	0.04	
19	0.02	0.10	0.16	0.10	0.20	2.16	0.46	0.12	0.06	0.06	0.04	0.04	
20	0.04	0.10	0.16	0.10	0.22	21.61	0.46	0.12	0.06	0.06	0.04	0.04	
21	0.04	0.10	0.16	0.10	0.22	38.85	0.43	0.12	0.06	0.06	0.04	0.04	
22	0.04	0.10	0.16	0.10	0.22	49.95	0.40	0.12	0.06	0.06	0.04	0.04	
23	0.04	0.10	0.16	0.12	0.22	8.50	0.38	0.14	0.06	0.06	0.04	0.04	
24	0.16	0.10	0.16	0.14	0.22	4.72	0.36	0.14	0.06	0.06	0.04	0.04	
25	0.16	0.10	0.16	0.16	0.22	3.76	0.32	0.14	0.06	0.06	0.04	0.04	
26	0.16	0.10	0.16	0.16	0.22	3.04	0.30	0.12	0.06	0.06	0.04	0.04	
27	0.16	0.10	0.16	0.18	0.22	1.88	0.30	0.12	0.08	0.06	0.04	0.04	
28	0.16	0.10	0.14	0.20	0.22	1.46	0.28	0.12	0.08	0.06	0.04	0.06	
29	0.16	0.10	0.14	0.20	0.24	1.40	0.28	0.12	0.08	0.06		0.06	
30	0.16	0.16	0.12	0.26	0.24	1.26	0.28	0.12	0.08	0.06		0.06	
31		0.24		0.24	0.24		0.28		0.08	0.06		0.06	
Total	1.36	3.88	5.70	5.30	6.62	192.58	26.14	4.76	2.36	1.94	1.44	1.32	253.40 CMSDAY
Mean	0.05	0.13	0.19	0.17	0.21	6.42	0.84	0.16	0.08	0.06	0.05	0.04	0.69 CMS
Max	0.16	0.24	0.28	0.32	0.24	49.95	4.96	0.26	0.12	0.08	0.06	0.06	49.95 CMS
Min	0.00	0.10	0.12	0.10	0.00	0.80	0.28	0.12	0.06	0.06	0.04	0.04	0.00 CMS
Runoff	0.118	0.335	0.492	0.458	0.572	16.639	2.258	0.411	0.204	0.168	0.124	0.114	21.894 MCM

Momentary Peak 61.20 CMS, at 5.90 M (A.D), at 18.00 Hours, on Sep 21, 1993

Runoff Yield 3.20 Liters/Second/Square KM, Momentary Peak Yield 282.03 Liters/Second/Square KM

WATER YEAR 1993

KHONG RIVER BASIN

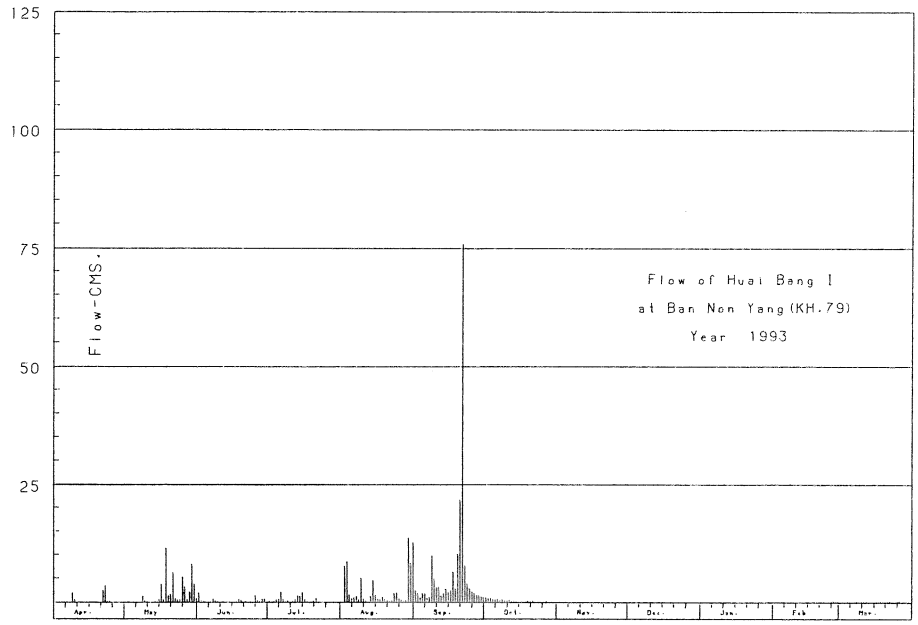
Huai Bang I at Ban Non Yang, Muk Dahan (Kh.79)

Location	Lat.16°-28'-49" N., Long. 104°-20'-08" E., on right bank at the bridge on highway, Ban Non Yang, Amphoe Kham Cha I, Muk Dahan.
Drainage Area	110 sq.km.
Type of Gage	Water-stage recorder.
Zero Gage at Bottom	+0.00 m.(A.D.)
Bench Mark	B.M.-H.D.
Location	At abutment of the bridge.
Elevation	+9.673 m.(A.D.)
Gage Reading Frequency	Recording.
Basis of Mean Daily Gage Height	Arithmetic mean of 24 readings.
Period of Available Gage Records	1984 to date.
Rating Operation	
Period of Rating	1984 to date.
Rated by Float	-
Rated by Current Meter	1984 to date.
Stability of Channel Regimes	Stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Stage-discharge relation defined by 18 discharge measurements made in 1993.

Gage Height in Meter (A.D), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.23	0.27	0.73	0.39	0.28	0.81	0.58	0.35	0.29	0.28	0.31	0.39	
2	0.23	0.26	0.46	0.38	1.21	0.72	0.57	0.35	0.29	0.28	0.33	0.39	
3	0.23	0.26	0.39	0.36	1.29	0.60	0.55	0.34	0.29	0.28	0.35	0.40	
4	0.23	0.25	0.36	0.47	0.68	0.71	0.53	0.34	0.29	0.28	0.36	0.40	
5	0.23	0.25	0.36	0.54	0.56	0.73	0.52	0.34	0.29	0.28	0.39	0.40	
6	0.23	0.24	0.38	0.78	0.57	0.58	0.51	0.34	0.28	0.28	0.39	0.40	
7	0.23	0.24	0.55	0.52	0.65	0.59	0.50	0.33	0.28	0.28	0.34	0.40	
8	0.74	0.65	0.40	0.42	0.51	1.37	0.49	0.33	0.28	0.28	0.30	0.40	
9	0.48	0.40	0.37	0.38	1.04	1.03	0.48	0.33	0.28	0.28	0.32	0.41	
10	0.37	0.36	0.34	0.37	0.52	0.88	0.47	0.33	0.28	0.28	0.33	0.41	
11	0.33	0.30	0.37	0.36	0.46	0.87	0.46	0.33	0.28	0.28	0.33	0.42	
12	0.29	0.27	0.38	0.52	0.41	0.63	0.45	0.32	0.28	0.28	0.34	0.42	
13	0.26	0.26	0.38	0.67	0.62	0.74	0.45	0.32	0.30	0.28	0.35	0.43	
14	0.25	0.25	0.37	0.62	1.02	0.83	0.45	0.32	0.29	0.27	0.36	0.43	
15	0.26	0.53	0.36	0.76	0.68	0.76	0.44	0.32	0.29	0.27	0.37	0.42	
16	0.26	0.95	0.34	0.54	0.54	0.79	0.43	0.32	0.29	0.27	0.39	0.42	
17	0.26	0.47	0.33	0.45	0.50	1.14	0.42	0.32	0.29	0.27	0.40	0.42	
18	0.25	1.46	0.54	0.41	0.62	0.85	0.42	0.32	0.29	0.27	0.41	0.42	
19	0.25	0.66	0.45	0.39	0.51	1.38	0.42	0.31	0.29	0.27	0.41	0.42	
20	0.25	0.68	0.37	0.38	0.48	1.91	0.41	0.31	0.29	0.27	0.42	0.43	
21	0.82	1.12	0.35	0.58	0.45	3.34	0.41	0.31	0.29	0.27	0.42	0.43	
22	0.90	0.57	0.34	0.41	0.40	1.23	0.41	0.31	0.29	0.27	0.43	0.43	
23	0.42	0.47	0.33	0.36	0.71	0.94	0.40	0.31	0.28	0.27	0.43	0.43	
24	0.35	0.52	0.32	0.35	0.75	0.85	0.39	0.31	0.28	0.27	0.42	0.43	
25	0.33	1.07	0.67	0.33	0.56	0.78	0.39	0.31	0.28	0.27	0.42	0.45	
26	0.31	0.88	0.47	0.32	0.48	0.72	0.38	0.30	0.28	0.27	0.41	0.40	
27	0.29	0.52	0.42	0.31	0.45	0.68	0.38	0.30	0.28	0.27	0.40	0.37	
28	0.28	0.78	0.54	0.30	0.43	0.65	0.37	0.30	0.28	0.27	0.40	0.34	
29	0.28	1.24	0.52	0.29	1.57	0.63	0.37	0.30	0.28	0.27		0.33	
30	0.27	0.95	0.44	0.29	1.25	0.60	0.36	0.29	0.28	0.27		0.32	
31		0.57		0.28	1.51		0.36		0.28	0.28		0.31	
Mean	0.34	0.57	0.42	0.44	0.70	0.94	0.44	0.32	0.29	0.27	0.38	0.40	
Max	0.90	1.46	0.73	0.78	1.57	3.34	0.58	0.35	0.30	0.28	0.43	0.45	3.34
Min	0.23	0.24	0.32	0.28	0.28	0.58	0.36	0.29	0.28	0.27	0.30	0.31	0.23

Annual Max Momentary Gage Height 4.45 M (A.D), at 8.00 Hours, on Sep 21, 1993
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed 0.05 M (A.D)
Left Bank Elevation 8.24 M (A.D)
Right Bank Elevation 8.12 M (A.D), Drainage Area 110 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.03	0.07	1.98	0.28	0.08	2.60	1.00	0.20	0.09	0.08	0.12	0.28	
2	0.03	0.06	0.48	0.26	7.65	1.90	0.95	0.20	0.09	0.08	0.16	0.28	
3	0.03	0.06	0.28	0.22	8.85	1.10	0.85	0.18	0.09	0.08	0.20	0.30	
4	0.03	0.05	0.22	0.51	1.62	1.82	0.75	0.18	0.09	0.08	0.22	0.30	
5	0.03	0.05	0.22	0.80	0.90	1.98	0.70	0.18	0.09	0.08	0.28	0.30	
6	0.03	0.04	0.26	2.35	0.95	1.00	0.65	0.18	0.08	0.08	0.28	0.30	
7	0.03	0.04	0.85	0.70	1.42	1.05	0.60	0.16	0.08	0.08	0.18	0.30	
8	2.05	1.42	0.30	0.36	0.65	10.05	0.57	0.16	0.08	0.08	0.10	0.30	
9	0.54	0.30	0.24	0.26	5.10	4.95	0.54	0.16	0.08	0.08	0.14	0.33	
10	0.24	0.22	0.18	0.24	0.70	3.30	0.51	0.16	0.08	0.08	0.16	0.33	
11	0.16	0.10	0.24	0.22	0.48	3.20	0.48	0.16	0.08	0.08	0.16	0.36	
12	0.09	0.07	0.26	0.70	0.33	1.29	0.45	0.14	0.08	0.08	0.18	0.36	
13	0.06	0.06	0.26	1.56	1.23	2.05	0.45	0.14	0.10	0.08	0.20	0.39	
14	0.05	0.05	0.24	1.23	4.80	2.80	0.45	0.14	0.09	0.07	0.22	0.39	
15	0.06	0.75	0.22	2.20	1.62	2.20	0.42	0.14	0.09	0.07	0.24	0.36	
16	0.06	4.00	0.18	0.80	0.80	2.43	0.39	0.14	0.09	0.07	0.28	0.36	
17	0.06	0.51	0.16	0.45	0.60	6.60	0.36	0.14	0.09	0.07	0.30	0.36	
18	0.05	11.70	0.80	0.33	1.23	3.00	0.36	0.14	0.09	0.07	0.33	0.36	
19	0.05	1.49	0.45	0.28	0.65	10.20	0.36	0.12	0.09	0.07	0.33	0.36	
20	0.05	1.62	0.24	0.26	0.54	21.75	0.33	0.12	0.09	0.07	0.36	0.39	
21	2.70	6.30	0.20	1.00	0.45	76.00	0.33	0.12	0.09	0.07	0.36	0.39	
22	3.50	0.95	0.18	0.33	0.30	7.95	0.33	0.12	0.09	0.07	0.39	0.39	
23	0.36	0.51	0.16	0.22	1.82	3.90	0.30	0.12	0.08	0.07	0.39	0.39	
24	0.20	0.70	0.14	0.20	2.13	3.00	0.28	0.12	0.08	0.07	0.36	0.39	
25	0.16	5.55	1.56	0.16	0.90	2.35	0.28	0.12	0.08	0.07	0.36	0.45	
26	0.12	3.30	0.51	0.14	0.54	1.90	0.26	0.10	0.08	0.07	0.33	0.30	
27	0.09	0.70	0.36	0.12	0.45	1.62	0.26	0.10	0.08	0.07	0.30	0.24	
28	0.08	2.35	0.80	0.10	0.39	1.42	0.24	0.10	0.08	0.07	0.30	0.18	
29	0.08	8.10	0.70	0.09	13.90	1.29	0.24	0.10	0.08	0.07		0.16	
30	0.07	4.00	0.42	0.09	8.25	1.10	0.22	0.09	0.08	0.07		0.14	
31		0.95		0.08	12.70		0.22		0.08	0.08		0.12	
Total	11.09	56.07	13.09	16.54	82.03	185.80	14.13	4.23	2.64	2.31	7.23	9.86	405.02 CMSDAY
Mean	0.37	1.81	0.44	0.53	2.65	6.19	0.46	0.14	0.09	0.07	0.26	0.32	1.11 CMS
Max	3.50	11.70	1.98	2.35	13.90	76.00	1.00	0.20	0.10	0.08	0.39	0.45	76.00 CMS
Min	0.03	0.04	0.14	0.08	0.08	1.00	0.22	0.09	0.08	0.07	0.10	0.12	0.03 CMS
Runoff	0.958	4.844	1.131	1.429	7.087	16.053	1.221	0.365	0.228	0.200	0.625	0.852	34.994 MCM

Momentary Peak 142.50 CMS, at 4.45 M (A.D), at 8.00 Hours, on Sep 21, 1993

Runoff Yield 10.09 Liters/Second/Square KM, Momentary Peak Yield 1295.45 Liters/Second/Square KM

WATER YEAR 1993

KHONG RIVER BASIN

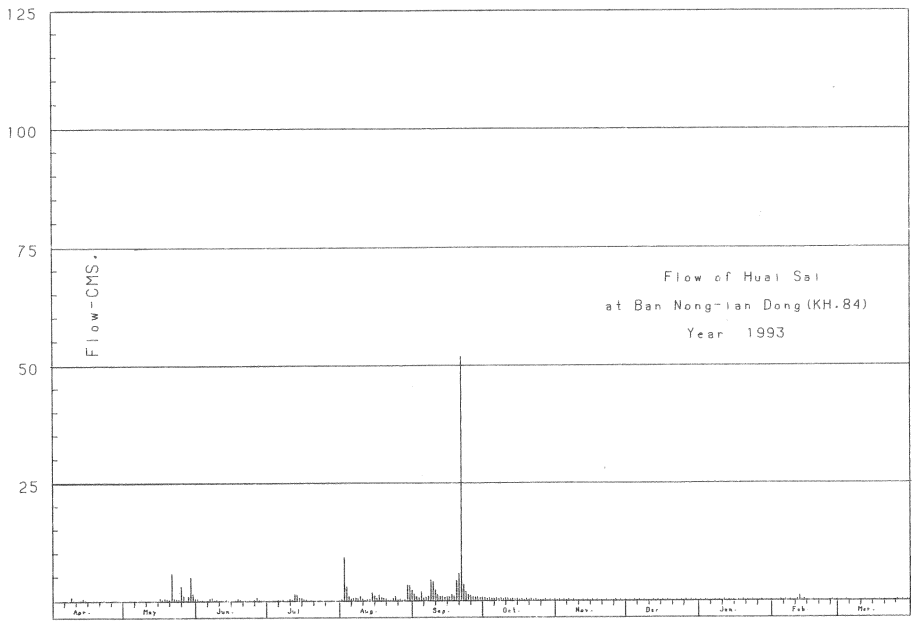
Huai Sai at Ban Nong Ian Dong, Muk Dahan (Kh.84)

Location	Lat. 16°-32'-15" N., Long. 104°-24'-20" E., on left bank at the bridge of Ban Huai Sai-Ban Nong Ian Dong Road, Amphoe Kham Cha-I, Muk Dahan.
Drainage Area	48 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+0.00 m.(A.D.)
Bench Mark	B.M.-Highways Department.
Location	On left bank downstream side at the abutment of the bridge.
Elevation	+6.037 m.(A.D.)
Gage Reading Frequency	5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1987 to date.
Rating Operation	
Period of Rating	1987 to date.
Rated by Float	-
Rated by Current Meter	1987 to date.
Stability of Channel Regimes	Stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records fair. Stage-discharge relation defined by 14 discharge measurements made in 1993.

Gage Height in Meter (A.D), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.86	0.86	1.15	1.02	1.08	1.35	1.21	1.11	1.06	1.06	1.06	1.06	
2	0.86	0.86	1.11	1.01	1.81	1.25	1.20	1.11	1.06	1.06	1.06	1.06	
3	0.86	0.86	1.05	1.00	1.54	1.23	1.20	1.10	1.06	1.06	1.06	1.06	
4	0.86	0.86	1.05	1.03	1.30	1.43	1.20	1.10	1.06	1.06	1.06	1.06	
5	0.86	0.85	1.06	1.08	1.19	1.23	1.19	1.10	1.06	1.06	1.06	1.06	
6	0.86	0.85	1.18	1.07	1.17	1.22	1.18	1.10	1.06	1.06	1.06	1.06	
7	0.86	0.84	1.20	1.07	1.23	1.31	1.18	1.10	1.06	1.06	1.06	1.06	
8	1.25	1.14	1.12	1.02	1.14	1.62	1.18	1.10	1.06	1.06	1.06	1.06	
9	0.98	0.98	1.08	1.03	1.31	1.61	1.17	1.09	1.06	1.06	1.06	1.06	
10	0.95	0.94	1.05	1.11	1.13	1.47	1.17	1.09	1.06	1.06	1.06	1.06	
11	0.92	0.92	1.05	1.07	1.10	1.33	1.16	1.09	1.06	1.06	1.15	1.06	
12	1.09	0.93	1.04	1.37	1.08	1.30	1.15	1.09	1.06	1.06	1.29	1.06	
13	1.18	0.92	1.10	1.33	1.14	1.27	1.15	1.09	1.06	1.06	1.11	1.06	
14	0.99	0.95	1.04	1.24	1.39	1.26	1.15	1.09	1.06	1.06	1.10	1.06	
15	0.96	0.96	1.02	1.22	1.32	1.27	1.15	1.08	1.07	1.06	1.09	1.06	
16	0.94	1.21	1.01	1.09	1.19	1.24	1.14	1.08	1.07	1.06	1.09	1.06	
17	0.92	1.05	1.00	1.07	1.32	1.35	1.14	1.08	1.07	1.06	1.08	1.06	
18	0.90	1.19	1.18	1.02	1.24	1.27	1.14	1.08	1.07	1.06	1.08	1.06	
19	0.87	1.12	1.05	1.03	1.17	1.62	1.14	1.08	1.07	1.06	1.07	1.06	
20	0.86	1.06	1.03	1.02	1.13	1.69	1.13	1.08	1.07	1.06	1.07	1.06	
21	0.86	1.70	1.01	1.01	1.10	2.40	1.13	1.08	1.07	1.06	1.07	1.06	
22	1.00	1.20	1.00	1.00	1.10	1.57	1.13	1.08	1.07	1.06	1.07	1.06	
23	0.98	1.12	1.00	0.96	1.21	1.41	1.13	1.08	1.07	1.06	1.07	1.06	
24	0.95	1.10	1.01	0.94	1.27	1.35	1.13	1.08	1.07	1.06	1.07	1.07	
25	0.92	1.53	1.04	0.93	1.14	1.30	1.12	1.07	1.07	1.06	1.06	1.07	
26	0.89	1.32	1.26	0.92	1.10	1.28	1.12	1.07	1.07	1.06	1.06	1.07	
27	0.89	1.11	1.12	0.92	1.09	1.26	1.12	1.07	1.07	1.06	1.06	1.07	
28	0.88	1.31	1.06	0.95	1.07	1.24	1.11	1.06	1.07	1.06	1.06	1.07	
29	0.87	1.66	0.99	0.92	1.56	1.23	1.11	1.06	1.07	1.06		1.07	
30	0.86	1.36	0.92	0.91	1.54	1.22	1.11	1.06	1.07	1.06		1.07	
31		1.20		0.92	1.47		1.11		1.07	1.06		1.07	
Mean	0.93	1.10	1.07	1.04	1.25	1.39	1.15	1.08	1.07	1.06	1.08	1.06	
Max	1.25	1.70	1.26	1.37	1.81	2.40	1.21	1.11	1.07	1.06	1.29	1.07	2.40
Min	0.86	0.84	0.92	0.91	1.07	1.22	1.11	1.06	1.06	1.06	1.06	1.06	0.84

Annual Max Momentary Gage Height 3.60 M (A.D), at 3.00 Hours, on Sep 21, 1993
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed 0.52 M (A.D)
Left Bank Elevation 4.57 M (A.D)
Right Bank Elevation 4.68 M (A.D), Drainage Area 48 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.03	0.03	0.50	0.21	0.32	1.45	0.70	0.38	0.28	0.28	0.28	0.28	
2	0.03	0.03	0.38	0.20	9.40	0.88	0.65	0.38	0.28	0.28	0.28	0.28	
3	0.03	0.03	0.26	0.18	3.22	0.79	0.65	0.35	0.28	0.28	0.28	0.28	
4	0.03	0.03	0.26	0.23	1.10	2.07	0.65	0.35	0.28	0.28	0.28	0.28	
5	0.03	0.03	0.28	0.32	0.62	0.79	0.62	0.35	0.28	0.28	0.28	0.28	
6	0.03	0.03	0.59	0.30	0.56	0.74	0.59	0.35	0.28	0.28	0.28	0.28	
7	0.03	0.02	0.65	0.30	0.79	1.17	0.59	0.35	0.28	0.28	0.28	0.28	
8	0.88	0.47	0.41	0.21	0.47	4.40	0.59	0.35	0.28	0.28	0.28	0.28	
9	0.15	0.15	0.32	0.23	1.17	4.20	0.56	0.33	0.28	0.28	0.28	0.28	
10	0.12	0.10	0.26	0.38	0.44	2.43	0.56	0.33	0.28	0.28	0.28	0.28	
11	0.08	0.08	0.26	0.30	0.35	1.31	0.53	0.33	0.28	0.28	0.50	0.28	
12	0.33	0.09	0.25	1.59	0.32	1.10	0.50	0.33	0.28	0.28	1.06	0.28	
13	0.59	0.08	0.35	1.31	0.47	0.97	0.50	0.33	0.28	0.28	0.38	0.28	
14	0.17	0.12	0.25	0.83	1.73	0.92	0.50	0.33	0.28	0.28	0.35	0.28	
15	0.13	0.13	0.21	0.74	1.24	0.97	0.50	0.32	0.30	0.28	0.33	0.28	
16	0.10	0.70	0.20	0.33	0.62	0.83	0.47	0.32	0.30	0.28	0.33	0.28	
17	0.08	0.26	0.18	0.30	1.24	1.45	0.47	0.32	0.30	0.28	0.32	0.28	
18	0.05	0.62	0.59	0.21	0.83	0.97	0.47	0.32	0.30	0.28	0.32	0.28	
19	0.04	0.41	0.26	0.23	0.56	4.40	0.47	0.32	0.30	0.28	0.30	0.28	
20	0.03	0.28	0.23	0.21	0.44	5.80	0.44	0.32	0.30	0.28	0.30	0.28	
21	0.03	6.00	0.20	0.20	0.35	52.00	0.44	0.32	0.30	0.28	0.30	0.28	
22	0.18	0.65	0.18	0.18	0.35	3.61	0.44	0.32	0.30	0.28	0.30	0.28	
23	0.15	0.41	0.18	0.13	0.70	1.89	0.44	0.32	0.30	0.28	0.30	0.28	
24	0.12	0.35	0.20	0.10	0.97	1.45	0.44	0.32	0.30	0.28	0.30	0.30	
25	0.08	3.09	0.25	0.09	0.47	1.10	0.41	0.30	0.30	0.28	0.28	0.30	
26	0.05	1.24	0.92	0.08	0.35	1.01	0.41	0.30	0.30	0.28	0.28	0.30	
27	0.05	0.38	0.41	0.08	0.33	0.92	0.41	0.30	0.30	0.28	0.28	0.30	
28	0.04	1.17	0.28	0.12	0.30	0.83	0.38	0.28	0.30	0.28	0.28	0.30	
29	0.04	5.20	0.17	0.08	3.48	0.79	0.38	0.28	0.30	0.28		0.30	
30	0.03	1.52	0.08	0.06	3.22	0.74	0.38	0.28	0.30	0.28		0.30	
31		0.65		0.08	2.43		0.38		0.30	0.28		0.30	
Total	3.73	24.35	9.56	9.81	38.84	101.98	15.52	9.78	9.02	8.68	9.31	8.84	249.42 CMSDAY
Mean	0.12	0.79	0.32	0.32	1.25	3.40	0.50	0.33	0.29	0.28	0.33	0.29	0.68 CMS
Max	0.88	6.00	0.92	1.59	9.40	52.00	0.70	0.38	0.30	0.28	1.06	0.30	52.00 CMS
Min	0.03	0.02	0.08	0.06	0.30	0.74	0.38	0.28	0.28	0.28	0.28	0.28	0.02 CMS
Runoff	0.322	2.104	0.826	0.848	3.356	8.811	1.341	0.845	0.779	0.750	0.804	0.764	21.550 MCM

Momentary Peak 183.00 CMS, at 3.60 M (A.D), at 3.00 Hours, on Sep 21, 1993
Runoff Yield 14.24 Liters/Second/Square KM, Momentary Peak Yield 3812.50 Liters/Second/Square KM

WATER YEAR 1993

KHONG RIVER BASIN

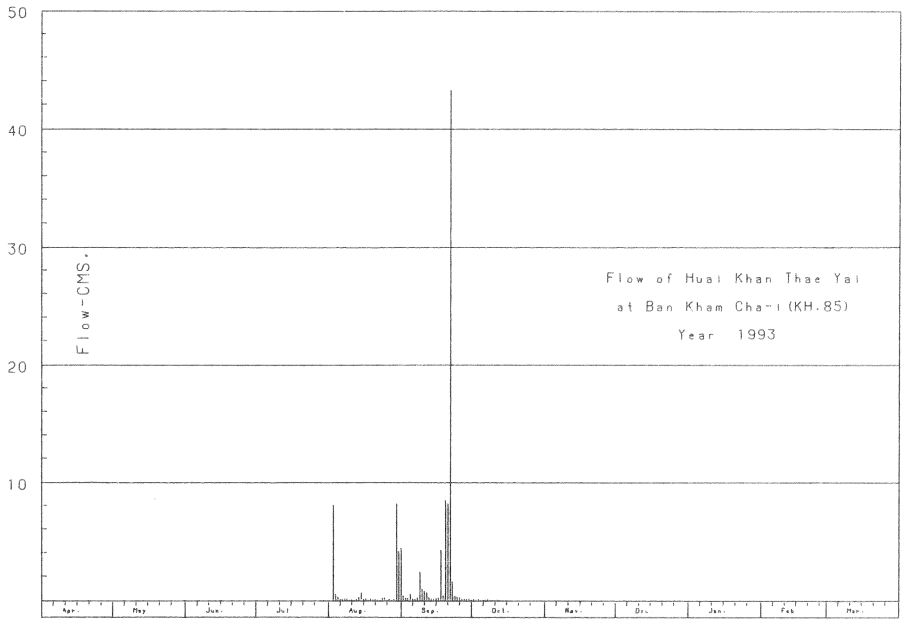
Huai Khan Thae Yai at Ban Kham Cha-I, Muk Dahan (KH.85)

Location	Lat. 16°-31'-12" N., Long. 104°-21'-58" E., on left bank at the bridge on road, Ban Kham Cha-I, Muk Dahan.
Drainage Area	28 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+0.00 m.(A.D.)
Bench Mark	B.M.-Highways Department.
Location	On right bank downstream side at the abutment of the bridge.
Elevation	+6.657 m.(A.D.)
Gage Reading Frequency	5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1987 to date.
Rating Operation	
Period of Rating	1987 to date.
Rated by Float	-
Rated by Current Meter	1987 to date.
Stability of Channel Regimes	Fairly stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Stage-discharge relation defined by 12 discharge measurements made in 1993.

Gage Height in Meter (A.D), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.25	0.60	0.61	0.59	0.54	0.80	0.64	2.03	2.30	1.97	1.47	1.45	
2	0.25	0.60	0.61	0.57	1.74	0.73	0.64	2.03	2.29	1.96	1.46	1.44	
3	0.25	0.59	0.58	0.57	0.84	0.69	0.64	2.05	2.28	1.95	1.46	1.43	
4	0.25	0.59	0.58	0.60	0.78	0.85	0.62	2.09	2.26	1.95	1.46	1.41	
5	0.25	0.58	0.57	0.61	0.66	0.70	0.61	2.13	2.26	1.95	1.46	1.40	
6	0.25	0.58	0.57	0.66	0.61	0.68	0.60	2.14	2.25	1.95	1.46	1.40	
7	0.25	0.58	0.71	0.62	0.70	0.72	0.60	2.16	2.24	1.94	1.46	1.39	
8	0.25	0.59	0.61	0.60	0.64	1.16	0.60	2.20	2.24	1.92	1.46	1.38	
9	0.25	0.59	0.58	0.58	0.63	0.93	0.60	2.24	2.23	1.90	1.47	1.37	
10	0.33	0.60	0.56	0.58	0.62	0.90	0.60	2.23	2.23	1.87	1.50	1.35	
11	0.73	0.61	0.56	0.58	0.62	0.88	0.60	2.23	2.20	1.86	1.50	1.33	
12	0.82	0.62	0.56	0.67	0.62	0.72	0.59	2.23	2.19	1.84	1.50	1.32	
13	1.18	0.62	0.55	0.71	0.74	0.66	0.59	2.24	2.18	1.83	1.51	1.32	
14	1.21	0.62	0.55	0.70	0.88	0.70	0.59	2.23	2.18	1.83	1.51	1.31	
15	1.23	0.61	0.55	0.72	0.68	0.72	0.59	2.23	2.17	1.82	1.51	1.31	
16	1.25	0.82	0.55	0.71	0.65	0.71	0.72	2.23	2.16	1.81	1.50	1.30	
17	1.27	0.65	0.55	0.63	0.63	1.37	0.73	2.24	2.15	1.72	1.50	1.29	
18	1.28	1.00	0.64	0.60	0.67	0.82	0.74	2.24	2.13	1.70	1.50	1.29	
19	1.29	0.70	0.61	0.59	0.64	1.77	0.75	2.25	2.11	1.69	1.49	1.29	
20	1.30	0.64	0.60	0.58	0.63	1.75	0.75	2.25	2.10	1.67	1.49	1.28	
21	0.80	1.94	0.59	0.62	0.62	3.74	0.74	2.26	2.08	1.66	1.49	1.28	
22	0.69	0.75	0.57	0.59	0.63	1.04	0.75	2.27	2.08	1.63	1.48	1.27	
23	0.66	0.63	0.56	0.58	0.74	0.81	1.35	2.28	2.07	1.60	1.48	1.27	
24	0.65	0.58	0.55	0.57	0.72	0.75	1.34	2.29	2.06	1.59	1.47	1.26	
25	0.63	0.80	0.58	0.56	0.66	0.73	1.33	2.29	2.05	1.58	1.47	1.25	
26	0.61	0.81	0.56	0.56	0.64	0.70	1.40	2.30	2.04	1.55	1.46	1.25	
27	0.60	0.64	0.81	0.56	0.62	0.69	1.48	2.30	2.03	1.55	1.46	1.24	
28	0.60	0.60	0.69	0.55	0.62	0.68	1.57	2.30	2.02	1.52	1.46	1.24	
29	0.60	1.25	0.57	0.54	1.75	0.66	1.68	2.31	2.00	1.50		1.24	
30	0.60	1.00	0.61	0.54	1.35	0.65	1.91	2.32	1.98	1.49		1.23	
31		0.68		0.54	1.38		2.02		1.97	1.48		1.22	
Mean	0.69	0.72	0.59	0.60	0.78	0.96	0.92	2.22	2.15	1.75	1.48	1.32	
Max	1.30	1.94	0.81	0.72	1.75	3.74	2.02	2.32	2.30	1.97	1.51	1.45	3.74
Min	0.25	0.58	0.55	0.54	0.54	0.65	0.59	2.03	1.97	1.48	1.46	1.22	0.25

Annual Max Momentary Gage Height 4.65 M (A.D), at 6.00 Hours, on Sep 21, 1993
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed 0.43 M (A.D)
Left Bank Elevation 5.36 M (A.D)
Right Bank Elevation 5.43 M (A.D), Drainage Area 28 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.00	0.00	0.00	0.00	0.07	0.40	0.14	0.00	0.00	0.00	0.00	0.00	
2	0.00	0.00	0.00	0.00	8.14	0.26	0.14	0.00	0.00	0.00	0.00	0.00	
3	0.00	0.00	0.00	0.00	0.56	0.19	0.14	0.00	0.00	0.00	0.00	0.00	
4	0.00	0.00	0.00	0.00	0.36	0.60	0.12	0.00	0.00	0.00	0.00	0.00	
5	0.00	0.00	0.00	0.00	0.16	0.20	0.11	0.00	0.00	0.00	0.00	0.00	
6	0.00	0.00	0.00	0.00	0.11	0.18	0.10	0.00	0.00	0.00	0.00	0.00	
7	0.00	0.00	0.00	0.00	0.20	0.24	0.10	0.00	0.00	0.00	0.00	0.00	
8	0.00	0.00	0.00	0.00	0.14	2.48	0.10	0.00	0.00	0.00	0.00	0.00	
9	0.00	0.00	0.00	0.00	0.13	0.95	0.10	0.00	0.00	0.00	0.00	0.00	
10	0.00	0.00	0.00	0.00	0.12	0.80	0.10	0.00	0.00	0.00	0.00	0.00	
11	0.00	0.00	0.00	0.00	0.12	0.72	0.10	0.00	0.00	0.00	0.00	0.00	
12	0.00	0.00	0.00	0.00	0.12	0.24	0.09	0.00	0.00	0.00	0.00	0.00	
13	0.00	0.00	0.00	0.00	0.28	0.16	0.09	0.00	0.00	0.00	0.00	0.00	
14	0.00	0.00	0.00	0.00	0.72	0.20	0.09	0.00	0.00	0.00	0.00	0.00	
15	0.00	0.00	0.00	0.00	0.18	0.24	0.00	0.00	0.00	0.00	0.00	0.00	
16	0.00	0.00	0.00	0.00	0.15	0.22	0.00	0.00	0.00	0.00	0.00	0.00	
17	0.00	0.00	0.00	0.00	0.13	4.33	0.00	0.00	0.00	0.00	0.00	0.00	
18	0.00	0.00	0.00	0.00	0.17	0.48	0.00	0.00	0.00	0.00	0.00	0.00	
19	0.00	0.00	0.00	0.00	0.14	8.47	0.00	0.00	0.00	0.00	0.00	0.00	
20	0.00	0.00	0.00	0.00	0.13	8.25	0.00	0.00	0.00	0.00	0.00	0.00	
21	0.00	0.00	0.00	0.00	0.12	43.36	0.00	0.00	0.00	0.00	0.00	0.00	
22	0.00	0.00	0.00	0.00	0.13	1.58	0.00	0.00	0.00	0.00	0.00	0.00	
23	0.00	0.00	0.00	0.00	0.28	0.44	0.00	0.00	0.00	0.00	0.00	0.00	
24	0.00	0.00	0.00	0.09	0.24	0.30	0.00	0.00	0.00	0.00	0.00	0.00	
25	0.00	0.00	0.00	0.08	0.16	0.26	0.00	0.00	0.00	0.00	0.00	0.00	
26	0.00	0.00	0.00	0.08	0.14	0.20	0.00	0.00	0.00	0.00	0.00	0.00	
27	0.00	0.00	0.00	0.08	0.12	0.19	0.00	0.00	0.00	0.00	0.00	0.00	
28	0.00	0.00	0.00	0.08	0.12	0.18	0.00	0.00	0.00	0.00	0.00	0.00	
29	0.00	0.00	0.00	0.07	8.25	0.16	0.00	0.00	0.00	0.00		0.00	
30	0.00	0.00	0.00	0.07	4.15	0.15	0.00	0.00	0.00	0.00		0.00	
31		0.00		0.07	4.42		0.00		0.00	0.00		0.00	
Total	0.00	0.00	0.00	0.62	30.26	76.43	1.52	0.00	0.00	0.00	0.00	0.00	108.83 CMSDAY
Mean	0.00	0.00	0.00	0.02	0.98	2.55	0.05	0.00	0.00	0.00	0.00	0.00	0.30 CMS
Max	0.00	0.00	0.00	0.09	8.25	43.36	0.14	0.00	0.00	0.00	0.00	0.00	43.36 CMS
Min	0.00	0.00	0.00	0.00	0.07	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00 CMS
Runoff	0.000	0.000	0.000	0.054	2.614	6.604	0.131	0.000	0.000	0.000	0.000	0.000	9.403 MCM

Momentary Peak 66.80 CMS, at 4.65 M (A.D), at 6.00 Hours, on Sep 21, 1993
Runoff Yield 10.65 Liters/Second/Square KM, Momentary Peak Yield 2385.71 Liters/Second/Square KM

WATER YEAR 1993

KHONG RIVER BASIN

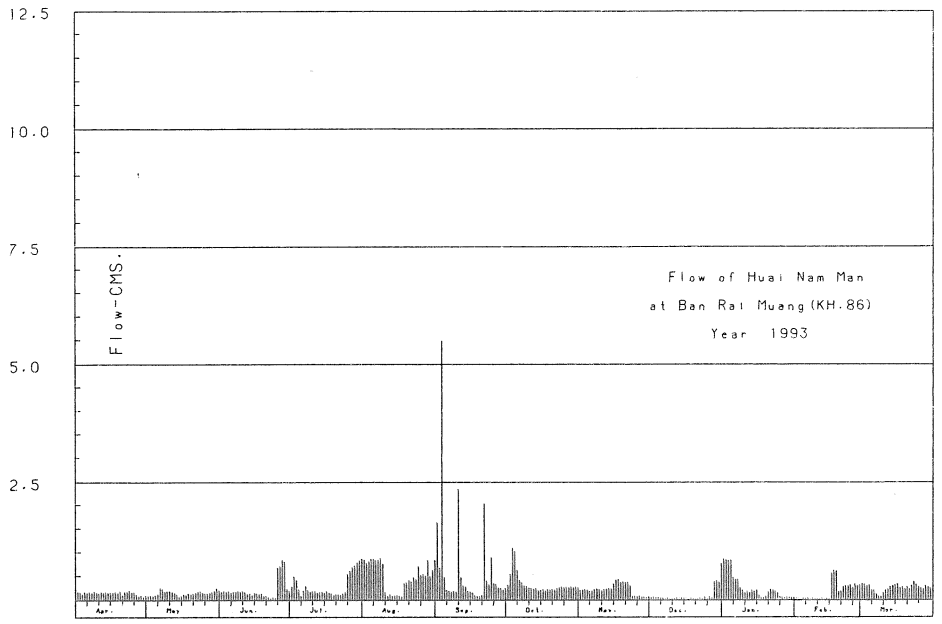
Huai Nam Man at Ban Rai Muang, Loei (Kh.86)

Location	Lat. 17°-28'-38" N., Long. 101°-40'-47" E., on left bank at the bridge of Amphoe Muang-Amphoe Phu Rua road, Amphoe Muang, Loei.
Drainage Area	91 sq.km.
Type of Gage	Water-stage recorder.
Zero Gage at Bottom	+0.00 m.(A.D.)
Bench Mark	B.M.-Highways Department.
Location	On left bank upstream side at the footpath of the bridge.
Elevation	+8.122 m.(A.D.)
Gage Reading Frequency	Recording.
Basis of Mean Daily Gage Height	Arithmetic mean of 24 readings.
Period of Available Gage Records	1987 to date.
Rating Operation	
Period of Rating	1993
Rated by Float	-
Rated by Current Meter	1993
Stability of Channel Regimes	Fairly stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records fair. Stage-discharge relation defined by 21 discharge measurements made in 1993.

Gage Height in Meter (A.D), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.44	0.40	0.44	0.49	0.72	0.99	0.50	0.45	0.37	0.72	0.36	0.52	
2	0.43	0.40	0.44	0.58	0.69	0.65	0.60	0.46	0.37	0.72	0.35	0.51	
3	0.42	0.40	0.44	0.55	0.71	1.68	0.81	0.46	0.37	0.71	0.35	0.50	
4	0.43	0.40	0.44	0.46	0.72	0.58	0.78	0.46	0.36	0.72	0.35	0.50	
5	0.43	0.42	0.43	0.40	0.73	0.45	0.64	0.44	0.36	0.57	0.35	0.46	
6	0.43	0.48	0.43	0.45	0.71	0.44	0.55	0.45	0.35	0.56	0.35	0.45	
7	0.43	0.46	0.44	0.49	0.72	0.44	0.52	0.46	0.35	0.55	0.35	0.42	
8	0.44	0.44	0.44	0.45	0.73	0.44	0.50	0.47	0.35	0.48	0.35	0.38	
9	0.43	0.44	0.44	0.44	0.69	0.44	0.49	0.46	0.34	0.45	0.34	0.39	
10	0.42	0.44	0.44	0.44	0.43	1.17	0.48	0.45	0.35	0.43	0.35	0.43	
11	0.44	0.44	0.43	0.44	0.40	0.58	0.47	0.46	0.35	0.44	0.35	0.45	
12	0.43	0.43	0.42	0.43	0.41	0.49	0.47	0.47	0.36	0.43	0.35	0.47	
13	0.43	0.41	0.42	0.43	0.40	0.49	0.47	0.47	0.36	0.45	0.35	0.48	
14	0.43	0.38	0.41	0.44	0.40	0.44	0.45	0.47	0.36	0.44	0.34	0.50	
15	0.43	0.39	0.43	0.43	0.40	0.44	0.45	0.51	0.36	0.46	0.34	0.50	
16	0.43	0.41	0.42	0.44	0.39	0.43	0.46	0.55	0.35	0.41	0.61	0.51	
17	0.43	0.41	0.42	0.43	0.39	0.40	0.45	0.55	0.35	0.36	0.63	0.48	
18	0.43	0.42	0.42	0.42	0.52	0.40	0.46	0.53	0.35	0.37	0.63	0.48	
19	0.44	0.42	0.40	0.41	0.52	0.39	0.46	0.53	0.35	0.38	0.44	0.47	
20	0.41	0.42	0.39	0.41	0.55	0.40	0.46	0.53	0.35	0.44	0.44	0.48	
21	0.43	0.43	0.36	0.41	0.53	1.11	0.46	0.53	0.35	0.46	0.49	0.47	
22	0.44	0.44	0.35	0.41	0.57	0.54	0.47	0.50	0.35	0.46	0.49	0.49	
23	0.45	0.44	0.36	0.42	0.56	0.51	0.48	0.40	0.35	0.44	0.50	0.54	
24	0.43	0.43	0.36	0.44	0.67	0.74	0.48	0.39	0.37	0.43	0.50	0.52	
25	0.43	0.42	0.65	0.60	0.60	0.52	0.48	0.39	0.34	0.39	0.48	0.49	
26	0.41	0.42	0.67	0.63	0.60	0.51	0.48	0.39	0.38	0.37	0.51	0.47	
27	0.40	0.43	0.72	0.66	0.59	0.48	0.48	0.38	0.36	0.37	0.50	0.47	
28	0.40	0.43	0.70	0.67	0.71	0.47	0.48	0.37	0.54	0.37	0.50	0.49	
29	0.38	0.45	0.47	0.70	0.58	0.46	0.48	0.37	0.54	0.37		0.49	
30	0.40	0.47	0.44	0.71	0.64	0.47	0.48	0.37	0.53	0.36		0.47	
31		0.45		0.72	0.71		0.48		0.69	0.36		0.53	
Mean	0.43	0.43	0.45	0.50	0.58	0.58	0.51	0.46	0.38	0.47	0.43	0.48	
Max	0.45	0.48	0.72	0.72	0.73	1.68	0.81	0.55	0.69	0.72	0.63	0.54	1.68
Min	0.38	0.38	0.35	0.40	0.39	0.39	0.45	0.37	0.34	0.36	0.34	0.38	0.34

Annual Max Momentary Gage Height 2.75 M (A.D), at 12.00 Hours, on Sep 3, 1993
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed 0.14 M (A.D)
Left Bank Elevation 6.89 M (A.D)
Right Bank Elevation 7.31 M (A.D), Drainage Area 91 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.19	0.10	0.19	0.30	0.87	1.67	0.32	0.21	0.07	0.87	0.06	0.37	
2	0.17	0.10	0.19	0.50	0.78	0.68	0.55	0.23	0.07	0.87	0.05	0.34	
3	0.14	0.10	0.19	0.44	0.84	5.52	1.12	0.23	0.07	0.84	0.05	0.32	
4	0.17	0.10	0.19	0.23	0.87	0.50	1.03	0.23	0.06	0.87	0.05	0.32	
5	0.17	0.14	0.17	0.10	0.89	0.21	0.65	0.19	0.06	0.48	0.05	0.23	
6	0.17	0.28	0.17	0.21	0.84	0.19	0.44	0.21	0.05	0.46	0.05	0.21	
7	0.17	0.23	0.19	0.30	0.87	0.19	0.37	0.23	0.05	0.44	0.05	0.14	
8	0.19	0.19	0.19	0.21	0.89	0.19	0.32	0.25	0.05	0.28	0.05	0.08	
9	0.17	0.19	0.19	0.19	0.78	0.19	0.30	0.23	0.04	0.21	0.04	0.09	
10	0.14	0.19	0.19	0.19	0.17	2.35	0.28	0.21	0.05	0.17	0.05	0.17	
11	0.19	0.19	0.17	0.19	0.10	0.50	0.25	0.23	0.05	0.19	0.05	0.21	
12	0.17	0.17	0.14	0.17	0.12	0.30	0.25	0.25	0.06	0.17	0.05	0.25	
13	0.17	0.12	0.14	0.17	0.10	0.30	0.25	0.25	0.06	0.21	0.05	0.28	
14	0.17	0.08	0.12	0.19	0.10	0.19	0.21	0.25	0.06	0.19	0.04	0.32	
15	0.17	0.09	0.17	0.17	0.10	0.19	0.21	0.34	0.06	0.23	0.04	0.32	
16	0.17	0.12	0.14	0.19	0.09	0.17	0.23	0.44	0.05	0.12	0.58	0.34	
17	0.17	0.12	0.14	0.17	0.09	0.10	0.21	0.44	0.05	0.06	0.63	0.28	
18	0.17	0.14	0.14	0.14	0.37	0.10	0.23	0.39	0.05	0.07	0.63	0.28	
19	0.19	0.14	0.10	0.12	0.37	0.09	0.23	0.39	0.05	0.08	0.19	0.25	
20	0.12	0.14	0.09	0.12	0.44	0.10	0.23	0.39	0.05	0.19	0.19	0.28	
21	0.17	0.17	0.06	0.12	0.39	2.06	0.23	0.39	0.05	0.23	0.30	0.25	
22	0.19	0.19	0.05	0.12	0.48	0.41	0.25	0.32	0.05	0.23	0.30	0.30	
23	0.21	0.19	0.06	0.14	0.46	0.34	0.28	0.10	0.05	0.19	0.32	0.41	
24	0.17	0.17	0.06	0.19	0.73	0.92	0.28	0.09	0.07	0.17	0.32	0.37	
25	0.17	0.14	0.68	0.55	0.55	0.37	0.28	0.09	0.04	0.09	0.28	0.30	
26	0.12	0.14	0.73	0.63	0.55	0.34	0.28	0.09	0.08	0.07	0.34	0.25	
27	0.10	0.17	0.87	0.71	0.53	0.28	0.28	0.08	0.06	0.07	0.32	0.25	
28	0.10	0.17	0.81	0.73	0.84	0.25	0.28	0.07	0.41	0.07	0.32	0.30	
29	0.08	0.21	0.25	0.81	0.50	0.23	0.28	0.07	0.41	0.07		0.30	
30	0.10	0.25	0.19	0.84	0.65	0.25	0.28	0.07	0.39	0.06		0.25	
31		0.21		0.87	0.84		0.28		0.78	0.06		0.39	
Total	4.78	4.94	6.97	10.01	16.20	19.18	10.68	6.96	3.50	8.31	5.45	8.45	105.43 CMSDAY
Mean	0.16	0.16	0.23	0.32	0.52	0.64	0.34	0.23	0.11	0.27	0.19	0.27	0.29 CMS
Max	0.21	0.28	0.87	0.87	0.89	5.52	1.12	0.44	0.78	0.87	0.63	0.41	5.52 CMS
Min	0.08	0.08	0.05	0.10	0.09	0.09	0.21	0.07	0.04	0.06	0.04	0.08	0.04 CMS
Runoff	0.413	0.427	0.602	0.865	1.400	1.657	0.923	0.601	0.302	0.718	0.471	0.730	9.109 MCM

Momentary Peak 15.15 CMS, at 2.75 M (A.D), at 12.00 Hours, on Sep 3, 1993
Runoff Yield 3.17 Liters/Second/Square KM, Momentary Peak Yield 166.48 Liters/Second/Square KM

WATER YEAR 1993

KHONG RIVER BASIN

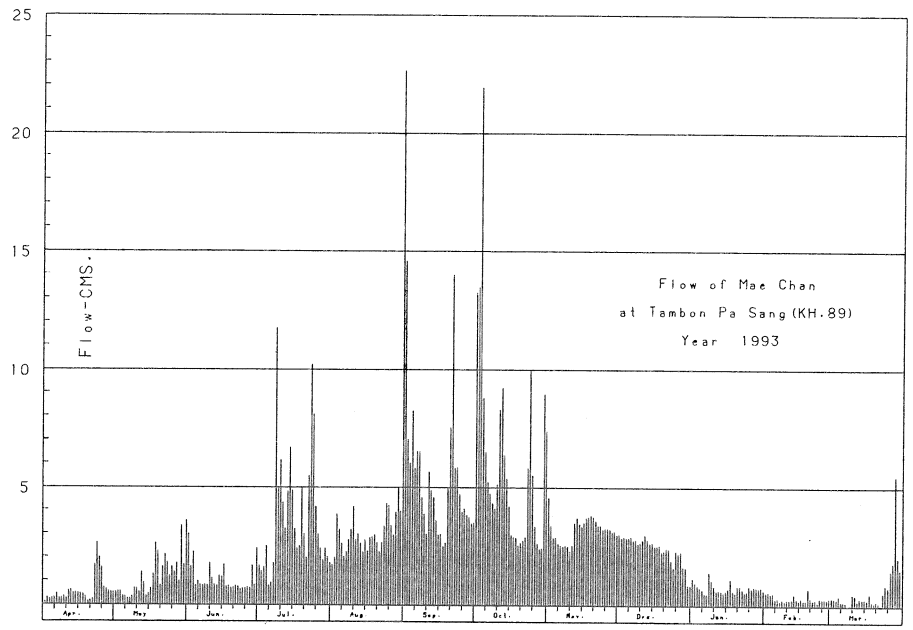
Nam Mae Chan at Ban Mae Khi, Chiang Rai (Kh.89)

Location	Lat. 20-09-20 N., Long. 90-51-44 E., on left bank at the bridge of Mae Chan - Mae Sai Highway, Tambon Pa Sang, Amphoe Mae Chan, Chiang Rai.
Drainage Area	255 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+0.00 m.(A.D.)
Bench Mark	B.M.-Temporary.
Location	On left bank at the footpath of the bridge.
Elevation	+5.470 m.(A.D.)
Gage Reading Frequency	5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1993 to date.
Rating Operation	
Period of Rating	1993 to date.
Rated by Float	-
Rated by Current Meter	1993 to date.
Stability of Channel Regimes	Stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records fair. Stage-discharge relation defined by 49 discharge measurements made in 1993.

Gage Height in Meter (A.D), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.35	0.45	0.70	0.59	0.59	1.32	1.27	0.83	0.70	0.53	0.45	0.41	
2	0.40	0.45	0.58	0.56	0.62	0.99	1.28	0.73	0.69	0.51	0.45	0.40	
3	0.39	0.45	0.64	0.58	0.77	0.93	1.53	0.69	0.69	0.50	0.44	0.40	
4	0.39	0.42	0.50	0.66	0.72	1.06	1.09	0.69	0.69	0.48	0.44	0.42	
5	0.40	0.41	0.52	0.50	0.67	0.92	0.96	0.67	0.69	0.47	0.40	0.37	
6	0.43	0.40	0.50	0.51	0.62	0.96	0.88	0.66	0.69	0.44	0.40	0.35	
7	0.40	0.40	0.50	0.60	0.64	0.96	0.84	0.66	0.68	0.43	0.37	0.35	
8	0.40	0.41	0.50	1.21	0.68	0.83	0.81	0.66	0.68	0.56	0.38	0.30	
9	0.41	0.48	0.50	0.86	0.72	0.77	0.79	0.66	0.67	0.52	0.37	0.32	
10	0.40	0.47	0.60	0.94	0.80	0.70	0.87	0.64	0.67	0.49	0.38	0.43	
11	0.46	0.45	0.53	0.81	0.68	0.91	1.06	0.66	0.68	0.46	0.38	0.43	
12	0.46	0.56	0.50	0.72	0.70	0.85	1.11	0.74	0.70	0.46	0.40	0.37	
13	0.44	0.51	0.50	0.85	0.67	0.83	0.95	0.76	0.68	0.46	0.43	0.40	
14	0.44	0.42	0.54	0.97	0.64	0.75	0.89	0.74	0.67	0.44	0.40	0.40	
15	0.44	0.43	0.54	0.85	0.68	0.70	0.80	0.73	0.67	0.46	0.38	0.39	
16	0.43	0.47	0.59	0.72	0.64	0.70	0.70	0.74	0.66	0.47	0.40	0.38	
17	0.43	0.55	0.49	0.65	0.69	0.66	0.69	0.76	0.66	0.53	0.38	0.44	
18	0.41	0.67	0.49	0.66	0.69	0.67	0.69	0.76	0.66	0.46	0.37	0.36	
19	0.36	0.64	0.48	0.86	0.70	0.86	0.66	0.77	0.64	0.44	0.48	0.35	
20	0.36	0.50	0.48	0.70	0.67	1.02	0.67	0.76	0.64	0.49	0.40	0.36	
21	0.39	0.58	0.49	0.62	0.64	1.30	0.68	0.75	0.65	0.49	0.37	0.35	
22	0.59	0.63	0.49	0.90	0.67	0.92	0.69	0.73	0.65	0.47	0.39	0.32	
23	0.67	0.60	0.47	1.15	0.73	0.92	0.92	0.73	0.61	0.45	0.35	0.45	
24	0.62	0.54	0.47	1.05	0.81	0.84	1.14	0.72	0.58	0.45	0.40	0.50	
25	0.58	0.58	0.48	0.80	0.80	0.78	0.90	0.72	0.64	0.49	0.40	0.50	
26	0.48	0.56	0.48	0.70	0.73	0.79	0.73	0.72	0.63	0.48	0.39	0.57	
27	0.47	0.60	0.48	0.65	0.70	0.77	0.67	0.72	0.64	0.49	0.39	0.60	
28	0.45	0.52	0.59	0.61	0.78	0.76	0.65	0.71	0.58	0.48	0.40	0.90	
29	0.45	0.73	0.50	0.65	0.86	0.74	0.65	0.71	0.58	0.48		0.62	
30	0.44	0.59	0.65	0.62	0.78	0.74	1.10	0.70	0.50	0.48		0.57	
31		0.75		0.60	1.55		1.01		0.50	0.46		0.48	
Mean	0.44	0.52	0.53	0.75	0.73	0.87	0.89	0.72	0.65	0.48	0.40	0.44	
Max	0.67	0.75	0.70	1.21	1.55	1.32	1.53	0.83	0.70	0.56	0.48	0.90	1.55
Min	0.35	0.40	0.47	0.50	0.59	0.66	0.65	0.64	0.50	0.43	0.35	0.30	0.30

Annual Max Momentary Gage Height 1.85 M (A.D), at 18.00 Hours, on Aug 31, 1993
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed 0.00 M (A.D)
Left Bank Elevation 4.13 M (A.D)
Right Bank Elevation 4.12 M (A.D), Drainage Area 255 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.15	0.57	3.00	1.70	1.70	14.62	13.25	4.59	3.00	1.13	0.57	0.35	
2	0.30	0.57	1.61	1.42	2.04	7.03	13.50	3.36	2.88	0.94	0.57	0.30	
3	0.27	0.57	2.28	1.61	3.84	6.01	21.91	2.88	2.88	0.85	0.52	0.30	
4	0.27	0.41	0.85	2.52	3.24	8.28	8.82	2.88	2.88	0.74	0.52	0.41	
5	0.30	0.35	1.04	0.85	2.64	5.84	6.52	2.64	2.88	0.69	0.30	0.21	
6	0.47	0.30	0.85	0.94	2.04	6.52	5.24	2.52	2.88	0.52	0.30	0.15	
7	0.30	0.30	0.85	1.80	2.28	6.52	4.72	2.52	2.76	0.47	0.21	0.15	
8	0.30	0.35	0.85	11.75	2.76	4.59	4.33	2.52	2.76	1.42	0.24	0.00	
9	0.35	0.74	0.85	4.98	3.24	3.84	4.08	2.52	2.64	1.04	0.21	0.06	
10	0.30	0.69	1.80	6.18	4.20	3.00	5.11	2.28	2.64	0.80	0.24	0.47	
11	0.63	0.57	1.13	4.33	2.76	5.67	8.28	2.52	2.76	0.63	0.24	0.47	
12	0.63	1.42	0.85	3.24	3.00	4.85	9.25	3.48	3.00	0.63	0.30	0.21	
13	0.52	0.94	0.85	4.85	2.64	4.59	6.35	3.72	2.76	0.63	0.47	0.30	
14	0.52	0.41	1.23	6.69	2.28	3.60	5.37	3.48	2.64	0.52	0.30	0.30	
15	0.52	0.47	1.23	4.85	2.76	3.00	4.20	3.36	2.64	0.63	0.24	0.27	
16	0.47	0.69	1.70	3.24	2.28	3.00	3.00	3.48	2.52	0.69	0.30	0.24	
17	0.47	1.33	0.80	2.40	2.88	2.52	2.88	3.72	2.52	1.13	0.24	0.52	
18	0.35	2.64	0.80	2.52	2.88	2.64	2.88	3.72	2.52	0.63	0.21	0.18	
19	0.18	2.28	0.74	4.98	3.00	4.98	2.52	3.84	2.28	0.52	0.74	0.15	
20	0.18	0.85	0.74	3.00	2.64	7.56	2.64	3.72	2.28	0.80	0.30	0.18	
21	0.27	1.61	0.80	2.04	2.28	14.00	2.76	3.60	2.40	0.80	0.21	0.15	
22	1.70	2.16	0.80	5.50	2.64	5.84	2.88	3.36	2.40	0.69	0.27	0.06	
23	2.64	1.80	0.69	10.25	3.36	5.84	5.84	3.36	1.92	0.57	0.15	0.57	
24	2.04	1.23	0.69	8.10	4.33	4.72	10.00	3.24	1.61	0.57	0.30	0.85	
25	1.61	1.61	0.74	4.20	4.20	3.96	5.50	3.24	2.28	0.80	0.30	0.85	
26	0.74	1.42	0.74	3.00	3.36	4.08	3.36	3.24	2.16	0.74	0.27	1.51	
27	0.69	1.80	0.74	2.40	3.00	3.84	2.64	3.24	2.28	0.80	0.27	1.80	
28	0.57	1.04	1.70	1.92	3.96	3.72	2.40	3.12	1.61	0.74	0.30	5.50	
29	0.57	3.36	0.85	2.40	4.98	3.48	2.40	3.12	1.61	0.74		2.04	
30	0.52	1.70	2.40	2.04	3.96	3.48	9.00	3.00	0.85	0.74		1.51	
31		3.60		1.80	22.65		7.38		0.85	0.63		0.74	
Total	18.83	37.78	34.20	117.50	113.82	161.62	189.01	96.27	74.09	23.23	9.09	20.80	896.24 CMSDAY
Mean	0.63	1.22	1.14	3.79	3.67	5.39	6.10	3.21	2.39	0.75	0.32	0.67	2.46 CMS
Max	2.64	3.60	3.00	11.75	22.65	14.62	21.91	4.59	3.00	1.42	0.74	5.50	22.65 CMS
Min	0.15	0.30	0.69	0.85	1.70	2.52	2.40	2.28	0.85	0.47	0.15	0.00	0.00 CMS
Runoff	1.627	3.264	2.955	10.152	9.834	13.964	16.330	8.318	6.401	2.007	0.785	1.797	77.435 MCM

Momentary Peak 36.70 CMS, at 1.85 M (A.D), at 18.00 Hours, on Aug 31, 1993

Runoff Yield 9.63 Liters/Second/Square KM, Momentary Peak Yield 143.92 Liters/Second/Square KM

WATER YEAR 1993

CHI RIVER BASIN

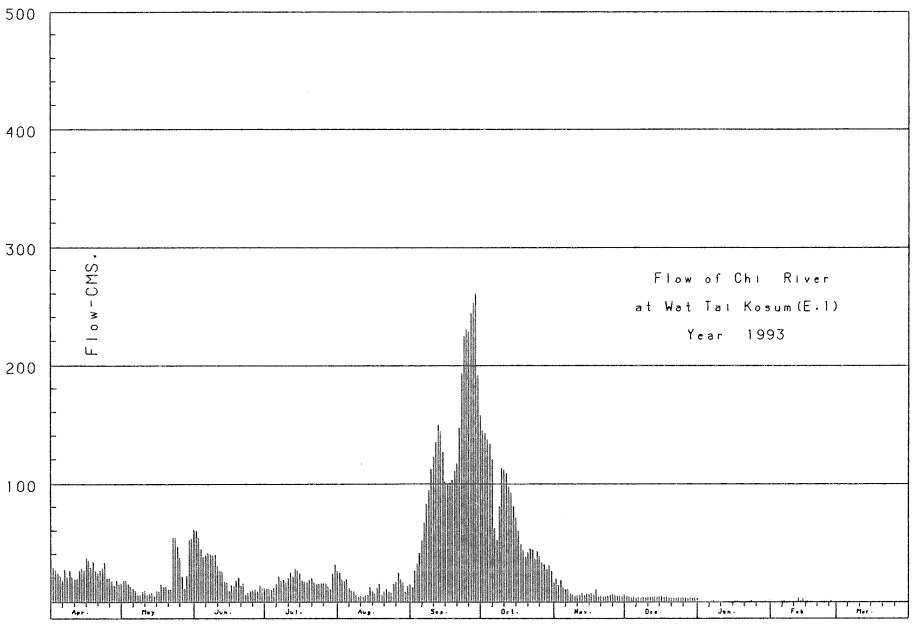
Chi River at Wat Tai Kosum, Maha Sarakham (E.1)

Location	Lat. 16°-15'-02" N., Long. 103°-04'-25" E., on right bank at Wat Tai Kosum about 800 meters north-east of Amphoe Kosum Phisai Office, Maha Sarakham.
Drainage Area	29,788 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+136.64 m. (M.S.L.)
Bench Mark	B.M.-H.D.
Location	On right bank at the footpath of the bridge.
Elevation	+149.341 m. (M.S.L.)
Gage Reading Frequency	5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1936-1943, 1951 to date.
Rating Operation	
Period of Rating	1965-1973, 1981 to date.
Rated by Float	-
Rated by Current Meter	1965-1973, 1981 to date.
Stability of Channel Regimes	Fairly stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Flow regulated by Nam Phong Dam above gage site. Stage-discharge relation defined by 20 discharge measurements made in 1993.

Gage Height in Meter (MSL), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	137.29	137.04	137.88	136.86	137.19	136.89	139.13	137.06	136.66	136.50	136.48	136.39	
2	137.23	137.02	137.76	136.84	137.04	137.21	139.11	136.93	136.62	136.47	136.45	136.43	
3	137.19	136.96	137.60	136.83	137.03	137.35	139.02	137.04	136.61	136.47	136.47	136.49	
4	137.12	136.89	137.45	136.86	137.04	137.52	138.98	136.87	136.63	136.47	136.48	136.45	
5	137.05	136.87	137.50	136.97	136.87	137.73	138.79	136.84	136.60	136.48	136.49	136.42	
6	137.24	136.79	137.52	137.12	136.79	137.99	137.90	136.83	136.60	136.49	136.46	136.42	
7	137.11	136.69	137.51	137.01	136.79	138.24	137.73	136.73	136.60	136.49	136.44	136.41	
8	137.23	136.67	137.48	137.05	136.67	138.42	138.22	136.68	136.61	136.49	136.44	136.38	
9	137.09	136.79	137.51	136.97	136.64	138.66	138.67	136.66	136.61	136.47	136.45	136.37	
10	137.06	136.79	137.30	137.07	136.64	138.82	138.65	136.66	136.61	136.44	136.44	136.39	
11	137.06	136.70	137.23	137.18	136.64	138.99	138.62	136.70	136.62	136.40	136.49	136.43	
12	137.24	136.73	137.19	137.12	136.66	139.21	138.46	136.73	136.63	136.41	136.60	136.43	
13	137.26	136.73	137.01	137.27	136.69	139.12	138.37	136.69	136.63	136.41	136.51	136.42	
14	137.24	136.66	136.98	137.22	136.88	138.88	138.22	136.71	136.63	136.41	136.55	136.41	
15	137.45	136.80	136.81	137.18	136.80	138.51	138.05	136.71	136.62	136.45	136.48	136.42	
16	137.40	136.77	136.92	137.04	136.71	138.48	137.86	136.72	136.64	136.48	136.44	136.42	
17	137.28	136.94	136.92	137.00	136.88	138.51	137.67	136.70	136.62	136.48	136.49	136.40	
18	137.39	136.91	137.02	137.00	136.95	138.53	137.56	136.82	136.62	136.48	136.43	136.40	
19	137.21	136.89	137.10	137.03	136.69	138.65	137.47	136.64	136.61	136.40	136.39	136.40	
20	137.19	136.84	136.93	137.08	136.77	138.73	137.53	136.64	136.58	136.40	136.47	136.44	
21	137.22	136.82	136.96	136.98	136.83	139.16	137.59	136.64	136.59	136.49	136.48	136.42	
22	137.28	137.78	136.70	136.96	136.78	139.75	137.59	136.64	136.59	136.49	136.48	136.40	
23	137.36	137.76	136.74	136.95	136.73	140.13	137.43	136.64	136.60	136.49	136.47	136.38	
24	137.09	137.63	136.80	136.98	136.97	140.18	137.56	136.69	136.60	136.46	136.44	136.40	
25	137.07	137.44	136.80	136.96	136.99	140.16	137.47	136.69	136.59	136.46	136.37	136.43	
26	137.01	137.12	136.82	136.97	137.19	140.34	137.36	136.68	136.59	136.46	136.50	136.42	
27	136.93	136.86	136.79	136.89	137.06	140.44	137.34	136.66	136.59	136.46	136.44	136.43	
28	137.04	137.12	136.93	136.85	136.98	140.52	137.26	136.64	136.59	136.45	136.41	136.44	
29	136.94	137.74	136.90	137.15	136.78	139.72	137.31	136.64	136.59	136.45		136.41	
30	136.96	137.74	136.85	137.34	136.90	139.31	137.22	136.68	136.59	136.45		136.42	
31		137.88		137.21	136.94		136.99		136.59	136.51		136.41	
Mean	137.17	137.04	137.13	137.03	136.86	138.87	137.97	136.73	136.61	136.46	136.47	136.42	
Max	137.45	137.88	137.88	137.34	137.19	140.52	139.13	137.06	136.66	136.51	136.60	136.49	140.52
Min	136.93	136.66	136.70	136.83	136.64	136.89	136.99	136.64	136.58	136.40	136.37	136.37	136.37

Annual Max Momentary Gage Height 140.71 M (MSL), at 6.00 Hours, on Sep 28, 1993
Zero Gage at Bottom Elevation 136.64 M (MSL), River Bed 136.22 M (MSL)
Left Bank Elevation 147.37 M (MSL)
Right Bank Elevation 149.52 M (MSL), Drainage Area 29788 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	29.73	18.68	61.06	11.60	25.07	12.65	145.10	19.52	5.28	1.30	1.04	0.00	
2	26.91	17.84	54.30	10.90	18.68	25.97	143.70	14.20	4.16	0.91	0.65	0.39	
3	25.07	15.40	45.50	10.55	18.26	32.70	137.40	18.68	3.88	0.91	0.91	1.17	
4	22.06	12.65	37.70	11.60	18.68	41.26	134.60	11.95	4.44	0.91	1.04	0.65	
5	19.10	11.95	40.20	15.80	11.95	52.65	121.30	10.90	3.60	1.04	1.17	0.26	
6	27.38	9.19	41.26	22.06	9.19	67.42	62.20	10.55	3.60	1.17	0.78	0.26	
7	21.63	6.12	40.73	17.42	9.19	82.80	52.65	7.33	3.60	1.17	0.52	0.13	
8	26.91	5.56	39.20	19.10	5.56	95.40	81.40	5.84	3.88	1.17	0.52	0.00	
9	20.78	9.19	40.73	15.80	4.72	112.20	112.90	5.28	3.88	0.91	0.65	0.00	
10	19.52	9.19	30.20	19.94	4.72	123.40	111.50	5.28	3.88	0.52	0.52	0.00	
11	19.52	6.40	26.91	24.64	4.72	135.30	109.40	6.40	4.16	0.00	1.17	0.39	
12	27.38	7.33	25.07	22.06	5.28	150.80	98.20	7.33	4.44	0.13	3.60	0.39	
13	28.32	7.33	17.42	28.79	6.12	144.40	91.90	6.12	4.44	0.13	1.53	0.26	
14	27.38	5.28	16.20	26.44	12.30	127.60	81.40	6.71	4.44	0.13	2.45	0.13	
15	37.70	9.50	9.85	24.64	9.50	101.70	71.00	6.71	4.16	0.65	1.04	0.26	
16	35.20	8.57	13.80	18.68	6.71	99.60	59.92	7.02	4.72	1.04	0.52	0.26	
17	29.26	14.60	13.80	17.00	12.30	101.70	49.35	6.40	4.16	1.04	1.17	0.00	
18	34.70	13.40	17.84	17.00	15.00	103.10	43.38	10.20	4.16	1.04	0.39	0.00	
19	25.97	12.65	21.20	18.26	6.12	111.50	38.70	4.72	3.88	0.00	0.00	0.00	
20	25.07	10.90	14.20	20.36	8.57	117.10	41.79	4.72	3.14	0.00	0.91	0.52	
21	26.44	10.20	15.40	16.20	10.55	147.20	44.97	4.72	3.37	1.17	1.04	0.26	
22	29.26	55.40	6.40	15.40	8.88	194.00	44.97	4.72	3.37	1.17	1.04	0.00	
23	33.20	54.30	7.64	15.00	7.33	225.70	36.70	4.72	3.60	1.17	0.91	0.00	
24	20.78	47.15	9.50	16.20	15.80	230.20	43.38	6.12	3.60	0.78	0.52	0.00	
25	19.94	37.20	9.50	15.40	16.60	228.40	38.70	6.12	3.37	0.78	0.00	0.39	
26	17.42	22.06	10.20	15.80	25.07	244.60	33.20	5.84	3.37	0.78	1.30	0.26	
27	14.20	11.60	9.19	12.65	19.52	253.60	32.20	5.28	3.37	0.78	0.52	0.39	
28	18.68	22.06	14.20	11.25	16.20	260.80	28.32	4.72	3.37	0.65	0.13	0.52	
29	14.60	53.20	13.00	23.35	8.88	191.60	30.70	4.72	3.37	0.65		0.13	
30	15.40	53.20	11.25	32.20	13.00	158.80	26.44	5.84	3.37	0.65		0.26	
31		61.06		25.97	14.60		16.60		3.37	1.53		0.13	
Total	739.51	639.16	713.45	572.06	369.07	3974.15	2163.97	228.66	119.43	24.28	26.04	7.41	9577.19 CMSDAY
Mean	24.65	20.62	23.78	18.45	11.91	132.47	69.81	7.62	3.85	0.78	0.93	0.24	26.24 CMS
Max	37.70	61.06	61.06	32.20	25.07	260.80	145.10	19.52	5.28	1.53	3.60	1.17	260.80 CMS
Min	14.20	5.28	6.40	10.55	4.72	12.65	16.60	4.72	3.14	0.00	0.00	0.00	0.00 CMS
Runoff	63.894	55.223	61.642	49.426	31.888	343.367	186.967	19.756	10.319	2.098	2.250	0.640	827.469 MCM

Momentary Peak 277.90 CMS, at 140.71 M (MSL), at 6.00 Hours, on Sep 28, 1993

Runoff Yield 0.88 Liters/Second/Square KM, Momentary Peak Yield 9.33 Liters/Second/Square KM

WATER YEAR 1993

CHI RIVER BASIN

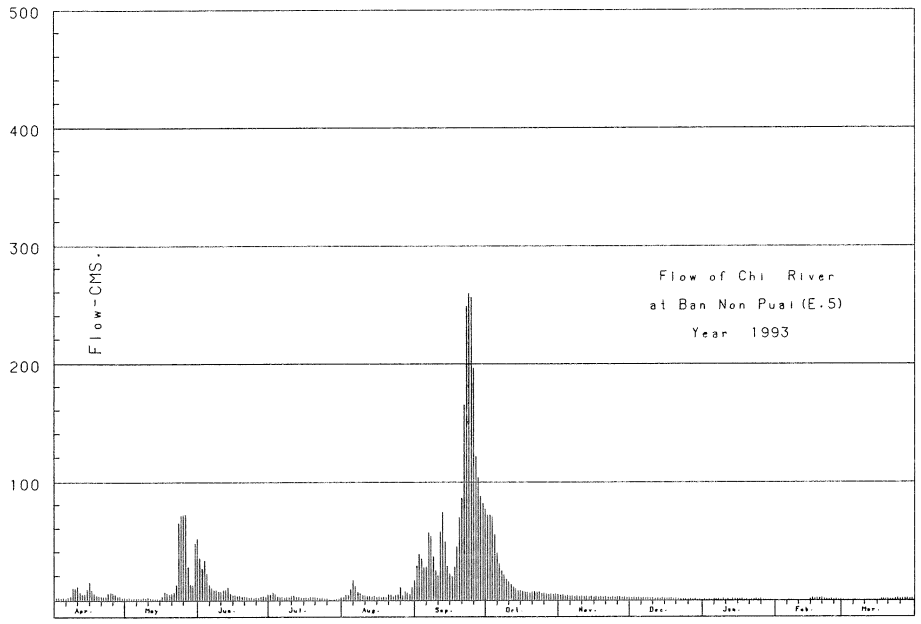
Chi River at Ban Non Puai, Chaiyaphum (E.5)

Location	Lat. 15°-46'-07" N., Long. 101°-49'-03" E., on left bank near Ban Non Puai about 30 meters downstream from Ban Ta Ngo, Amphoe Ban Khwao, Chaiyaphum.
Drainage Area	4,254 sq.km.
Type of Gage	Water-stage recorder.
Zero Gage at Bottom	+186.07 m. (M.S.L.)
Bench Mark	B.M.-H.D.
Location	Infront of the station office.
Elevation	+197.543 m. (M.S.L.)
Gage Reading Frequency	Recording.
Basis of Mean Daily Gage Height	Arithmetic mean of 24 readings.
Period of Available Gage Records	1958 to date.
Rating Operation	
Period of Rating	1967-1971, 1973, 1979, 1982 to date.
Rated by Float	-
Rated by Current Meter	1967-1971, 1973, 1979, 1982 to date.
Stability of Channel Regimes	Stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records fair. Stage-discharge relation defined by 30 discharge measurements made in 1993.

Gage Height in Meter (MSL), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	190.22	190.18	190.81	190.35	190.26	190.76	191.08	190.35	190.22	190.10	189.98	190.07	
2	190.20	190.18	190.74	190.43	190.34	190.83	191.10	190.34	190.22	190.10	189.98	190.07	
3	190.19	190.16	190.80	190.36	190.35	190.81	191.04	190.32	190.22	190.10	189.98	190.07	
4	190.18	190.14	190.69	190.30	190.50	190.74	190.93	190.32	190.21	190.10	189.99	190.06	
5	190.17	190.14	190.57	190.27	190.63	190.75	190.84	190.32	190.21	190.12	189.99	190.05	
6	190.21	190.14	190.51	190.25	190.54	190.94	190.77	190.31	190.20	190.12	190.01	190.02	
7	190.28	190.16	190.48	190.23	190.44	190.92	190.72	190.30	190.20	190.11	190.01	190.00	
8	190.52	190.19	190.47	190.23	190.39	190.82	190.68	190.30	190.20	190.12	190.01	190.00	
9	190.50	190.19	190.45	190.25	190.35	190.72	190.64	190.30	190.19	190.13	190.02	189.98	
10	190.53	190.22	190.43	190.31	190.32	190.67	190.61	190.30	190.19	190.11	190.03	189.99	
11	190.43	190.19	190.48	190.31	190.30	190.94	190.58	190.30	190.18	190.10	190.04	189.99	
12	190.37	190.15	190.47	190.27	190.29	191.16	190.54	190.29	190.19	190.11	190.06	190.00	
13	190.36	190.14	190.52	190.24	190.29	190.90	190.50	190.28	190.19	190.14	190.07	190.01	
14	190.50	190.13	190.40	190.23	190.28	190.75	190.47	190.28	190.20	190.15	190.09	190.01	
15	190.61	190.13	190.35	190.22	190.26	190.69	190.46	190.28	190.20	190.15	190.14	190.01	
16	190.46	190.27	190.33	190.21	190.26	190.67	190.44	190.27	190.19	190.14	190.20	190.12	
17	190.38	190.44	190.32	190.22	190.25	190.75	190.44	190.27	190.19	190.12	190.19	190.16	
18	190.33	190.40	190.30	190.24	190.24	190.87	190.42	190.27	190.18	190.10	190.18	190.12	
19	190.29	190.37	190.28	190.26	190.25	191.03	190.42	190.27	190.16	190.09	190.21	190.14	
20	190.27	190.38	190.26	190.23	190.35	191.59	190.43	190.26	190.16	190.08	190.20	190.16	
21	190.25	190.41	190.24	190.22	190.36	193.72	190.44	190.25	190.14	190.09	190.17	190.14	
22	190.28	190.57	190.22	190.20	190.31	195.31	190.44	190.25	190.14	190.12	190.15	190.12	
23	190.39	190.98	190.22	190.19	190.33	195.76	190.43	190.26	190.13	190.13	190.12	190.18	
24	190.42	191.08	190.22	190.16	190.37	195.64	190.41	190.25	190.11	190.13	190.11	190.18	
25	190.40	191.08	190.21	190.14	190.53	194.42	190.40	190.25	190.11	190.14	190.10	190.16	
26	190.35	191.09	190.22	190.11	190.31	192.65	190.39	190.25	190.12	190.11	190.09	190.17	
27	190.30	190.75	190.29	190.09	190.45	192.12	190.38	190.24	190.12	190.08	190.09	190.19	
28	190.26	190.57	190.28	190.10	190.41	191.62	190.38	190.24	190.09	190.06	190.09	190.19	
29	190.22	190.55	190.27	190.11	190.39	191.45	190.38	190.23	190.10	190.04		190.18	
30	190.20	190.89	190.36	190.16	190.52	191.26	190.37	190.22	190.10	190.02		190.17	
31		190.91		190.22	190.62		190.36		190.11	189.99		190.16	
Mean	190.34	190.43	190.41	190.23	190.37	191.71	190.56	190.28	190.17	190.10	190.08	190.09	
Max	190.61	191.09	190.81	190.43	190.63	195.76	191.10	190.35	190.22	190.15	190.21	190.19	195.76
Min	190.17	190.13	190.21	190.09	190.24	190.67	190.36	190.22	190.09	189.99	189.98	189.98	189.98

Annual Max Momentary Gage Height 195.82 M (MSL), at 1.00 Hours, on Sep 24, 1993
Zero Gage at Bottom Elevation 186.07 M (MSL), River Bed 185.70 M (MSL)
Left Bank Elevation 199.16 M (MSL)
Right Bank Elevation 199.12 M (MSL), Drainage Area 4254 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	2.30	1.80	35.60	4.65	2.90	29.60	72.20	4.65	2.30	1.00	0.18	0.76	
2	2.00	1.80	27.40	6.94	4.42	38.80	72.75	4.42	2.30	1.00	0.18	0.76	
3	1.90	1.60	34.00	4.88	4.65	35.60	71.10	3.96	2.30	1.00	0.18	0.76	
4	1.80	1.40	22.20	3.50	9.60	27.40	56.00	3.96	2.15	1.00	0.19	0.68	
5	1.70	1.40	13.38	3.05	17.40	28.50	40.40	3.96	2.15	1.20	0.19	0.60	
6	2.15	1.40	10.14	2.75	11.76	58.00	30.70	3.73	2.00	1.20	0.28	0.36	
7	3.20	1.60	8.84	2.45	7.32	54.00	25.20	3.50	2.00	1.10	0.28	0.20	
8	10.68	1.90	8.46	2.45	5.57	37.20	21.40	3.50	2.00	1.20	0.28	0.20	
9	9.60	1.90	7.70	2.75	4.65	25.20	18.20	3.50	1.90	1.30	0.36	0.18	
10	11.22	2.30	6.94	3.73	3.96	20.60	15.80	3.50	1.90	1.10	0.44	0.19	
11	6.94	1.90	8.84	3.73	3.50	58.00	13.92	3.50	1.80	1.00	0.52	0.19	
12	5.11	1.50	8.46	3.05	3.35	74.40	11.76	3.35	1.90	1.10	0.68	0.20	
13	4.88	1.40	10.68	2.60	3.35	50.00	9.60	3.20	1.90	1.40	0.76	0.28	
14	9.60	1.30	5.80	2.45	3.20	28.50	8.46	3.20	2.00	1.50	0.92	0.28	
15	15.80	1.30	4.65	2.30	2.90	22.20	8.08	3.20	2.00	1.50	1.40	0.28	
16	8.08	3.05	4.19	2.15	2.90	20.60	7.32	3.05	1.90	1.40	2.00	1.20	
17	5.34	7.32	3.96	2.30	2.75	28.50	7.32	3.05	1.90	1.20	1.90	1.60	
18	4.19	5.80	3.50	2.60	2.60	45.20	6.56	3.05	1.80	1.00	1.80	1.20	
19	3.35	5.11	3.20	2.90	2.75	70.82	6.56	3.05	1.60	0.92	2.15	1.40	
20	3.05	5.34	2.90	2.45	4.65	86.89	6.94	2.90	1.60	0.84	2.00	1.60	
21	2.75	6.18	2.60	2.30	4.88	165.68	7.32	2.75	1.40	0.92	1.70	1.40	
22	3.20	13.38	2.30	2.00	3.73	249.13	7.32	2.75	1.40	1.20	1.50	1.20	
23	5.57	66.00	2.30	1.90	4.19	259.48	6.94	2.90	1.30	1.30	1.20	1.80	
24	6.56	72.20	2.30	1.60	5.11	256.72	6.18	2.75	1.10	1.30	1.10	1.80	
25	5.80	72.20	2.15	1.40	11.22	196.48	5.80	2.75	1.10	1.40	1.00	1.60	
26	4.65	72.47	2.30	1.10	3.73	122.35	5.57	2.75	1.20	1.10	0.92	1.70	
27	3.50	28.50	3.35	0.92	7.70	103.96	5.34	2.60	1.20	0.84	0.92	1.90	
28	2.90	13.38	3.20	1.00	6.18	87.82	5.34	2.60	0.92	0.68	0.92	1.90	
29	2.30	12.30	3.05	1.10	5.57	82.55	5.34	2.45	1.00	0.52		1.80	
30	2.00	48.40	4.88	1.60	10.68	77.15	5.11	2.30	1.00	0.36		1.70	
31		52.00		2.30	16.60		4.88		1.10	0.19		1.60	
Total	152.12	508.13	259.27	80.90	183.77	2441.33	575.41	96.83	52.12	32.77	25.95	31.32	4439.92 CMSDAY
Mean	5.07	16.39	8.64	2.61	5.93	81.38	18.56	3.23	1.68	1.06	0.93	1.01	12.16 CMS
Max	15.80	72.47	35.60	6.94	17.40	259.48	72.75	4.65	2.30	1.50	2.15	1.90	259.48 CMS
Min	1.70	1.30	2.15	0.92	2.60	20.60	4.88	2.30	0.92	0.19	0.18	0.18	0.18 CMS
Runoff	13.143	43.902	22.401	6.990	15.878	210.931	49.715	8.366	4.503	2.831	2.242	2.706	383.609 MCM

Momentary Peak 260.86 CMS, at 195.82 M (MSL), at 1.00 Hours, on Sep 24, 1993
Runoff Yield 2.86 Liters/Second/Square KM, Momentary Peak Yield 61.32 Liters/Second/Square KM

WATER YEAR 1993

CHI RIVER BASIN

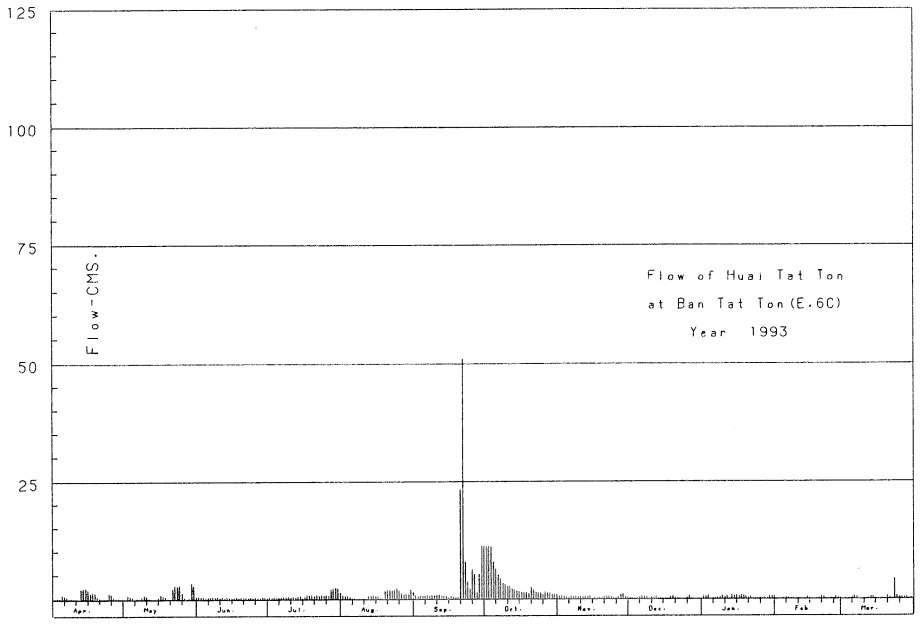
Huai Tat Ton at Ban Tat Ton, Chaiyaphum (E.6C).

Location	Lat. 15°-57'-36" N., Long. 102°-01'-57" E., on right bank about 5 kilometers upstream from E.6A station at Ban Tat Ton, Amphoe Muang, Chaiyaphum.
Drainage Area	300 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+0.00 m.(A.D.)
Bench Mark	B.M.-H.D.
Location	Near the automatic gage building.
Elevation	+6.840 m.(A.D.)
Gage Reading Frequency	5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1973 to date.
Rating Operation	
Period of Rating	1973 to date.
Rated by Float	-
Rated by Current Meter	1973 to date.
Stability of Channel Regimes	Stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records fair. Stage-discharge relation defined by 36 discharge measurements made in 1993.

Gage Height in Meter (A.D), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	-0.28	-0.31	-0.19	-0.23	-0.10	-0.10	0.67	-0.10	-0.26	-0.10	-0.24	-0.30	
2	-0.29	-0.10	-0.19	-0.22	-0.11	-0.14	0.67	-0.13	-0.26	-0.10	-0.24	-0.30	
3	-0.30	-0.15	-0.21	-0.22	-0.13	-0.13	0.67	-0.14	-0.27	-0.11	-0.24	-0.30	
4	-0.07	-0.23	-0.22	-0.22	-0.18	-0.10	0.49	-0.15	-0.26	-0.18	-0.24	-0.27	
5	-0.10	-0.30	-0.22	-0.22	-0.27	-0.10	0.39	-0.15	-0.15	-0.23	-0.18	-0.16	
6	-0.21	-0.32	-0.21	-0.21	-0.31	-0.10	0.32	-0.16	-0.15	-0.24	-0.18	-0.16	
7	-0.27	-0.33	-0.21	-0.20	-0.31	-0.11	0.26	-0.16	-0.16	-0.25	-0.18	-0.17	
8	-0.31	-0.18	-0.21	-0.19	-0.31	-0.10	0.21	-0.17	-0.17	-0.20	-0.20	-0.29	
9	-0.34	-0.08	-0.21	-0.19	-0.32	-0.09	0.17	-0.17	-0.27	-0.13	-0.26	-0.29	
10	-0.34	-0.17	-0.22	-0.19	-0.33	-0.09	0.15	-0.17	-0.15	-0.20	-0.26	-0.30	
11	-0.34	-0.27	-0.22	-0.19	-0.33	-0.08	0.13	-0.17	-0.10	-0.14	-0.26	-0.30	
12	0.08	-0.30	-0.23	-0.19	-0.16	-0.10	0.09	-0.17	-0.09	-0.10	-0.24	-0.27	
13	0.09	-0.32	-0.23	-0.19	-0.09	-0.12	0.06	-0.14	-0.19	-0.10	-0.20	-0.16	
14	0.10	-0.30	-0.23	-0.11	-0.10	-0.11	0.05	-0.06	-0.27	-0.10	-0.12	-0.21	
15	0.06	-0.22	-0.23	-0.26	-0.10	-0.20	0.03	-0.17	-0.29	-0.10	-0.26	-0.27	
16	0.00	-0.07	-0.23	-0.16	-0.17	-0.12	0.02	-0.24	-0.30	-0.10	-0.30	-0.28	
17	0.00	-0.16	-0.23	-0.08	-0.25	-0.20	0.00	-0.25	-0.30	-0.10	-0.30	-0.30	
18	0.00	-0.20	-0.23	-0.08	-0.30	-0.20	0.00	-0.25	-0.19	-0.10	-0.30	-0.30	
19	-0.17	-0.28	-0.23	-0.08	0.04	-0.21	-0.02	-0.24	-0.13	-0.10	-0.25	-0.30	
20	-0.27	-0.30	-0.23	-0.09	0.06	1.22	0.12	-0.19	-0.20	-0.10	-0.15	-0.16	
21	-0.30	0.09	-0.23	-0.09	0.06	2.27	0.06	-0.16	-0.26	-0.19	-0.19	-0.21	
22	-0.30	0.15	-0.23	-0.09	0.06	0.49	0.02	-0.16	-0.28	-0.25	-0.26	-0.30	
23	-0.29	0.15	-0.24	-0.09	0.06	0.22	0.00	-0.18	-0.28	-0.24	-0.30	0.26	
24	0.00	0.15	-0.23	-0.09	0.11	0.09	-0.01	-0.25	-0.29	-0.24	-0.30	-0.12	
25	-0.06	0.00	-0.23	-0.09	0.04	0.38	-0.06	-0.26	-0.22	-0.24	-0.30	-0.21	
26	-0.19	-0.26	-0.23	-0.09	-0.03	0.32	0.01	-0.21	-0.10	-0.24	-0.20	-0.24	
27	-0.26	-0.30	-0.23	0.08	-0.05	0.01	0.00	-0.05	-0.20	-0.25	-0.16	-0.22	
28	-0.30	-0.30	-0.20	0.10	-0.05	0.32	-0.01	-0.05	-0.28	-0.25	-0.19	-0.24	
29	-0.30	0.21	-0.22	0.12	-0.05	0.68	-0.04	-0.18	-0.30	-0.14		-0.25	
30	-0.31	0.15	-0.23	0.09	0.06	0.67	-0.06	-0.25	-0.30	-0.14		-0.28	
31		-0.16		0.01	0.02		-0.08		-0.30	-0.16		-0.29	
Mean	-0.18	-0.15	-0.22	-0.12	-0.11	0.14	0.14	-0.17	-0.22	-0.17	-0.23	-0.23	
Max	0.10	0.21	-0.19	0.12	0.11	2.27	0.67	-0.05	-0.09	-0.10	-0.12	0.26	2.27
Min	-0.34	-0.33	-0.24	-0.26	-0.33	-0.21	-0.08	-0.26	-0.30	-0.25	-0.30	-0.30	-0.34

Annual Max Momentary Gage Height 2.88 M (A.D), at 6.00 Hours, on Sep 21, 1993
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed -0.45 M (A.D)
Left Bank Elevation 7.66 M (A.D)
Right Bank Elevation 7.00 M (A.D), Drainage Area 300 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.26	0.18	0.53	0.41	0.80	0.80	11.26	0.80	0.32	0.80	0.38	0.20	
2	0.23	0.80	0.53	0.44	0.77	0.68	11.26	0.71	0.32	0.80	0.38	0.20	
3	0.20	0.65	0.47	0.44	0.71	0.71	11.26	0.68	0.29	0.77	0.38	0.20	
4	0.98	0.41	0.44	0.44	0.56	0.80	8.04	0.65	0.32	0.56	0.38	0.29	
5	0.80	0.20	0.44	0.44	0.29	0.80	6.44	0.65	0.65	0.41	0.56	0.62	
6	0.47	0.16	0.47	0.47	0.18	0.80	5.32	0.62	0.65	0.38	0.56	0.62	
7	0.29	0.14	0.47	0.50	0.18	0.77	4.36	0.62	0.62	0.35	0.56	0.59	
8	0.18	0.56	0.47	0.53	0.18	0.80	3.56	0.59	0.59	0.50	0.50	0.23	
9	0.12	0.92	0.47	0.53	0.16	0.86	3.10	0.59	0.29	0.71	0.32	0.23	
10	0.12	0.59	0.44	0.53	0.14	0.86	2.90	0.59	0.65	0.50	0.32	0.20	
11	0.12	0.29	0.44	0.53	0.14	0.92	2.70	0.59	0.80	0.68	0.32	0.20	
12	2.20	0.20	0.41	0.53	0.62	0.80	2.30	0.59	0.86	0.80	0.38	0.29	
13	2.30	0.16	0.41	0.53	0.86	0.74	2.00	0.68	0.53	0.80	0.50	0.62	
14	2.40	0.20	0.41	0.77	0.80	0.77	1.90	1.04	0.29	0.80	0.74	0.47	
15	2.00	0.44	0.41	0.32	0.80	0.50	1.70	0.59	0.23	0.80	0.32	0.29	
16	1.40	0.98	0.41	0.62	0.59	0.74	1.60	0.38	0.20	0.80	0.20	0.26	
17	1.40	0.62	0.41	0.92	0.35	0.50	1.40	0.35	0.20	0.80	0.20	0.20	
18	1.40	0.50	0.41	0.92	0.20	0.50	1.40	0.35	0.53	0.80	0.20	0.20	
19	0.59	0.26	0.41	0.92	1.80	0.47	1.28	0.38	0.71	0.80	0.35	0.20	
20	0.29	0.20	0.41	0.86	2.00	23.28	2.60	0.53	0.50	0.80	0.65	0.62	
21	0.20	2.30	0.41	0.86	2.00	51.10	2.00	0.62	0.32	0.53	0.53	0.47	
22	0.20	2.90	0.41	0.86	2.00	8.04	1.60	0.62	0.26	0.35	0.32	0.20	
23	0.23	2.90	0.38	0.86	2.00	3.72	1.40	0.56	0.26	0.38	0.20	4.36	
24	1.40	2.90	0.41	0.86	2.50	2.30	1.34	0.35	0.23	0.38	0.20	0.74	
25	1.04	1.40	0.41	0.86	1.80	6.28	1.04	0.32	0.44	0.38	0.20	0.47	
26	0.53	0.32	0.41	0.86	1.22	5.32	1.50	0.47	0.80	0.38	0.50	0.38	
27	0.32	0.20	0.41	2.20	1.10	1.50	1.40	1.10	0.50	0.35	0.62	0.44	
28	0.20	0.20	0.50	2.40	1.10	5.32	1.34	1.10	0.26	0.35	0.53	0.38	
29	0.20	3.56	0.44	2.60	1.10	11.44	1.16	0.56	0.20	0.68		0.35	
30	0.18	2.90	0.41	2.30	2.00	11.26	1.04	0.35	0.20	0.68		0.26	
31		0.62		1.50	1.60		0.92		0.20	0.62		0.23	
Total	22.25	28.66	13.05	27.81	30.55	143.38	101.12	18.03	13.22	18.74	11.30	15.01	443.12 CMSDAY
Mean	0.74	0.92	0.43	0.90	0.99	4.78	3.26	0.60	0.43	0.60	0.40	0.48	1.21 CMS
Max	2.40	3.56	0.53	2.60	2.50	51.10	11.26	1.10	0.86	0.80	0.74	4.36	51.10 CMS
Min	0.12	0.14	0.38	0.32	0.14	0.47	0.92	0.32	0.20	0.35	0.20	0.20	0.12 CMS
Runoff	1.922	2.476	1.128	2.403	2.640	12.388	8.737	1.558	1.142	1.619	0.976	1.297	38.286 MCM

Momentary Peak 69.40 CMS, at 2.88 M (A.D), at 6.00 Hours, on Sep 21, 1993
Runoff Yield 4.05 Liters/Second/Square KM, Momentary Peak Yield 231.33 Liters/Second/Square KM

WATER YEAR 1993

CHI RIVER BASIN

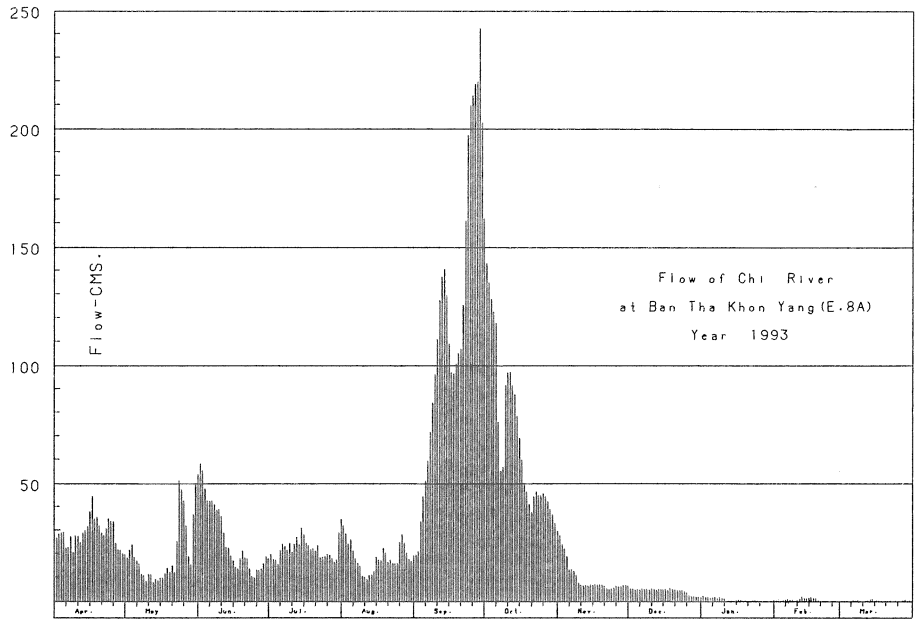
Chi River at Ban Tha Khon Yang, Maha Sarakham (E.8A)

Location	Lat. 16°-13'-51" N., Long. 103°-16'-29" E., on right bank at the bridge of Maha Sarakham-Kalasin Highway, Tambon Tha Khon Yang, Amphoe Kantharawichai, Maha Sarakham.
Drainage Area	30,764 sq.km.
Type of Gage	Water-stage recorder.
Zero Gage at Bottom	+133.21 m. (M.S.L.)
Bench Mark	B.M.-H.D.
Location	Near the automatic gage building.
Elevation	+144.420 m. (M.S.L.)
Gage Reading Frequency	Recording.
Basis of Mean Daily Gage Height	Arithmetic mean of 24 readings.
Period of Available Gage Records	1955 to date.
Rating Operation	
Period of Rating	1955-1957, 1965-1976, 1982 to date.
Rated by Float	-
Rated by Current Meter	1955-1957, 1965-1976, 1982 to date.
Stability of Channel Regimes	Stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Flow regulated by Nam Phong Dam above gage site. Stage-discharge relation defined by 22 discharge measurements made in 1993.

Gage Height in Meter (MSL), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	134.36	134.23	134.90	134.25	134.42	134.25	136.49	134.37	133.91	133.76	133.67	133.62	
2	134.38	134.28	134.81	134.22	134.38	134.27	136.35	134.32	133.90	133.74	133.69	133.61	
3	134.39	134.32	134.63	134.21	134.32	134.44	136.24	134.29	133.89	133.74	133.68	133.60	
4	134.39	134.23	134.52	134.18	134.35	134.54	136.14	134.24	133.89	133.73	133.67	133.61	
5	134.30	134.21	134.52	134.28	134.28	134.71	136.06	134.13	133.89	133.74	133.68	133.62	
6	134.30	134.18	134.52	134.32	134.22	134.90	135.24	134.13	133.90	133.73	133.68	133.63	
7	134.37	134.09	134.51	134.31	134.19	135.16	134.81	134.12	133.90	133.72	133.67	133.65	
8	134.27	134.07	134.49	134.28	134.16	135.41	134.84	134.07	133.89	133.73	133.66	133.66	
9	134.37	134.01	134.49	134.33	134.07	135.65	135.56	133.99	133.89	133.72	133.63	133.64	
10	134.37	134.09	134.46	134.27	134.05	135.93	135.66	133.95	133.90	133.70	133.64	133.61	
11	134.33	134.08	134.39	134.32	134.03	136.23	135.67	133.95	133.90	133.65	133.71	133.60	
12	134.39	134.00	134.30	134.36	134.07	136.39	135.55	133.95	133.89	133.64	133.75	133.65	
13	134.40	134.03	134.30	134.32	134.08	136.45	135.48	133.95	133.89	133.65	133.72	133.69	
14	134.42	134.02	134.24	134.41	134.11	136.26	135.29	133.96	133.90	133.65	133.71	133.69	
15	134.48	134.04	134.21	134.38	134.23	135.90	135.11	133.96	133.88	133.65	133.73	133.67	
16	134.55	134.04	134.15	134.33	134.21	135.66	134.91	133.96	133.89	133.66	133.73	133.65	
17	134.45	134.10	134.14	134.31	134.21	135.65	134.69	133.96	133.88	133.65	133.72	133.65	
18	134.46	134.14	134.22	134.29	134.30	135.74	134.59	133.96	133.91	133.63	133.71	133.64	
19	134.42	134.11	134.28	134.29	134.26	135.82	134.51	133.96	133.90	133.63	133.66	133.63	
20	134.39	134.17	134.23	134.28	134.20	135.86	134.48	133.94	133.88	133.62	133.64	133.62	
21	134.37	134.10	134.22	134.31	134.21	136.19	134.54	133.91	133.88	133.62	133.63	133.62	
22	134.41	134.34	134.14	134.23	134.19	136.79	134.60	133.90	133.88	133.64	133.62	133.64	
23	134.45	134.71	134.06	134.23	134.18	137.34	134.55	133.90	133.87	133.65	133.60	133.62	
24	134.44	134.62	134.05	134.24	134.19	137.54	134.55	133.92	133.86	133.64	133.59	133.64	
25	134.44	134.52	134.13	134.25	134.33	137.60	134.58	133.94	133.83	133.62	133.58	133.63	
26	134.33	134.42	134.12	134.25	134.38	137.67	134.54	133.93	133.77	133.61	133.59	133.65	
27	134.29	134.24	134.14	134.22	134.33	137.69	134.52	133.94	133.76	133.59	133.58	133.66	
28	134.28	134.17	134.18	134.20	134.26	138.01	134.49	133.95	133.75	133.60	133.60	133.66	
29	134.26	134.47	134.24	134.21	134.22	137.43	134.47	133.96	133.75	133.61		133.65	
30	134.25	134.68	134.22	134.39	134.20	136.80	134.43	133.94	133.74	133.63		133.64	
31		134.78		134.45	134.24		134.40		133.74	133.65		133.64	
Mean	134.38	134.24	134.33	134.29	134.22	136.08	135.08	134.01	133.86	133.66	133.66	133.64	
Max	134.55	134.78	134.90	134.45	134.42	138.01	136.49	134.37	133.91	133.76	133.75	133.69	138.01
Min	134.25	134.00	134.05	134.18	134.03	134.25	134.40	133.90	133.74	133.59	133.58	133.60	133.58

Annual Max Momentary Gage Height 138.05 M (MSL), at 6.00 Hours, on Sep 28, 1993
Zero Gage at Bottom Elevation 133.21 M (MSL), River Bed 133.38 M (MSL)
Left Bank Elevation 142.90 M (MSL)
Right Bank Elevation 142.43 M (MSL), Drainage Area 30764 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	27.12	18.60	59.50	19.80	31.99	19.80	143.40	27.84	5.50	2.20	0.70	0.20	
2	28.56	21.60	55.45	18.00	28.56	21.00	135.00	24.24	5.20	1.80	0.90	0.10	
3	29.28	24.24	48.00	17.40	24.24	33.98	128.40	22.20	4.98	1.80	0.80	0.00	
4	29.28	18.60	42.65	15.84	26.40	44.40	122.70	19.20	4.98	1.60	0.70	0.10	
5	22.80	17.40	42.65	21.60	21.60	51.22	118.30	13.44	4.98	1.80	0.80	0.20	
6	22.80	15.84	42.65	24.24	18.00	59.50	76.00	13.44	5.20	1.60	0.80	0.30	
7	27.84	11.62	41.30	23.52	16.32	72.00	55.45	12.96	5.20	1.40	0.70	0.50	
8	21.00	10.86	38.96	21.60	14.88	84.50	56.80	10.86	4.98	1.60	0.60	0.60	
9	27.84	8.58	38.96	24.96	10.86	96.50	92.00	7.90	4.98	1.40	0.30	0.40	
10	27.84	11.62	35.97	21.00	10.10	111.15	97.00	6.70	5.20	1.00	0.40	0.10	
11	24.96	11.24	29.28	24.24	9.34	127.80	97.50	6.70	5.20	0.50	1.20	0.00	
12	29.28	8.20	22.80	27.12	10.86	137.40	91.50	6.70	4.98	0.40	2.00	0.50	
13	30.00	9.34	22.80	24.24	11.24	141.00	88.00	6.70	4.98	0.50	1.40	0.90	
14	31.99	8.96	19.20	31.00	12.48	129.60	78.50	7.00	5.20	0.50	1.20	0.90	
15	37.96	9.72	17.40	28.56	18.60	109.50	69.50	7.00	4.76	0.50	1.60	0.70	
16	44.80	9.72	14.40	24.96	17.40	97.00	59.95	7.00	4.98	0.60	1.60	0.50	
17	34.98	12.00	13.92	23.52	17.40	96.50	50.40	7.00	4.76	0.50	1.40	0.50	
18	35.97	13.92	18.00	22.20	22.80	101.00	46.40	7.00	5.50	0.30	1.20	0.40	
19	31.99	12.48	21.60	22.20	20.40	105.10	41.30	7.00	5.20	0.30	0.60	0.30	
20	29.28	15.36	18.60	21.60	16.80	107.30	37.96	6.40	4.76	0.20	0.40	0.20	
21	27.84	12.00	18.00	23.52	17.40	125.45	44.40	5.50	4.76	0.20	0.30	0.20	
22	31.00	25.68	13.92	18.60	16.32	161.40	46.80	5.20	4.76	0.40	0.20	0.40	
23	34.98	51.22	10.48	18.60	15.84	197.10	44.80	5.20	4.54	0.50	0.00	0.20	
24	33.98	47.60	10.10	19.20	16.32	210.10	44.80	5.80	4.32	0.40	0.00	0.40	
25	33.98	42.65	13.44	19.80	24.96	214.00	46.00	6.40	3.66	0.20	0.00	0.30	
26	24.96	31.99	12.96	19.80	28.56	218.90	44.40	6.10	2.40	0.10	0.00	0.50	
27	22.20	19.20	13.92	18.00	24.96	220.30	42.65	6.40	2.20	0.00	0.00	0.60	
28	21.60	15.36	15.84	16.80	20.40	242.70	38.96	6.70	2.00	0.00	0.00	0.60	
29	20.40	36.97	19.20	17.40	18.00	202.95	36.97	7.00	2.00	0.10		0.50	
30	19.80	50.00	18.00	29.28	16.80	162.00	32.98	6.40	1.80	0.30		0.40	
31		54.16		34.98	19.20		30.00		1.80	0.50		0.40	
Total	866.31	656.73	789.95	693.58	579.03	3701.15	2138.82	287.98	135.76	23.20	19.80	11.90	9904.21 CMSDAY
Mean	28.88	21.18	26.33	22.37	18.68	123.37	68.99	9.60	4.38	0.75	0.71	0.38	27.13 CMS
Max	44.80	54.16	59.50	34.98	31.99	242.70	143.40	27.84	5.50	2.20	2.00	0.90	242.70 CMS
Min	19.80	8.20	10.10	15.84	9.34	19.80	30.00	5.20	1.80	0.00	0.00	0.00	0.00 CMS
Runoff	74.849	56.741	68.252	59.925	50.028	319.779	184.794	24.881	11.730	2.004	1.711	1.028	855.724 MCM

Momentary Peak 245.50 CMS, at 138.05 M (MSL), at 6.00 Hours, on Sep 28, 1993

Runoff Yield 0.88 Liters/Second/Square KM, Momentary Peak Yield 7.98 Liters/Second/Square KM

WATER YEAR 1993

CHI RIVER BASIN

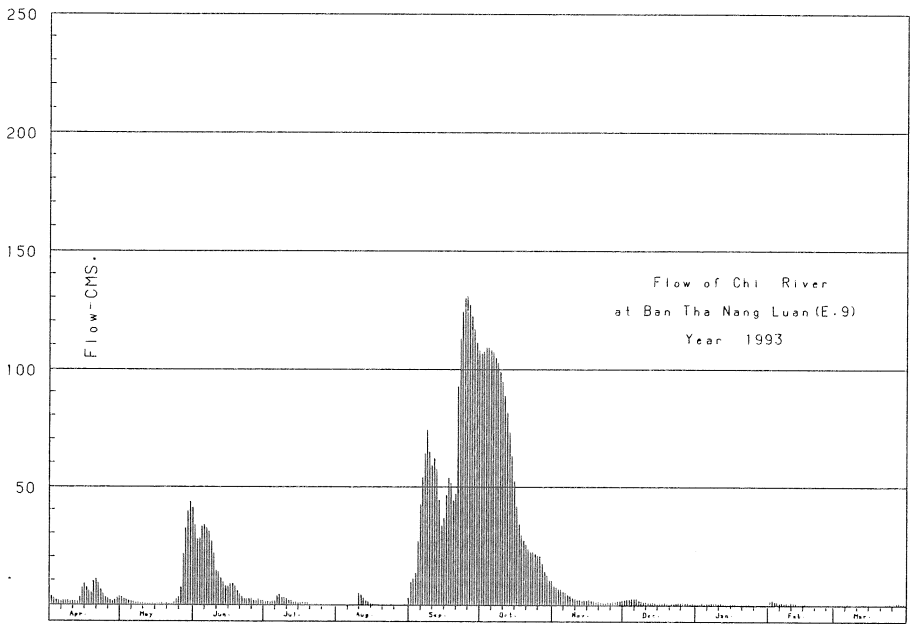
Chi River at Ban Tha Nang Luan, Khon Kaen (E.9)

Location	Lat. 16°-05'-49" N., Long. 102°-34'-23" E., on left bank about 80 meters downstream from the bridge on highway, Amphoe Chonnabot, Khon Kaen.
Drainage Area	11,020 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+151.11 m.(M.S.L.)
Bench Mark	B.M.-H.D.
Location	On left bank about 45 meters from the top staff gage.
Elevation	+163.044 m.(M.S.L.)
Gage Reading Frequency	5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1958 to date.
Rating Operation	
Period of Rating	1967 - 1973, 1986 - 1987, 1992 to date.
Rated by Float	-
Rated by Current Meter	1967 - 1980, 1983 - 1987, 1992 to date.
Stability of Channel Regimes	Stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Stage-discharge relation defined by 25 discharge measurements made in 1993.

Gage Height in Meter (MSL), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	152.81	152.72	154.91	152.39	151.93	153.35	158.35	153.22	152.56	152.25	152.45	152.03	
2	152.65	152.64	154.52	152.38	151.90	153.42	158.37	153.16	152.58	152.28	152.51	152.02	
3	152.54	152.54	154.57	152.39	151.87	153.58	158.45	153.11	152.61	152.28	152.43	152.02	
4	152.47	152.49	154.87	152.40	151.80	154.48	158.44	153.08	152.62	152.25	152.33	152.02	
5	152.43	152.42	154.93	152.46	151.74	155.43	158.41	153.02	152.66	152.23	152.29	152.04	
6	152.47	152.37	154.85	152.83	151.66	155.97	158.36	152.96	152.62	152.24	152.28	152.03	
7	152.48	152.31	154.73	152.87	151.59	156.47	158.28	152.88	152.52	152.24	152.26	152.04	
8	152.46	152.28	154.48	152.75	151.56	156.94	158.18	152.80	152.43	152.25	152.23	152.04	
9	152.42	152.26	154.12	152.69	152.00	156.49	158.04	152.71	152.38	152.24	152.26	152.04	
10	152.40	152.24	153.63	152.62	152.92	156.22	157.86	152.63	152.35	152.26	152.31	152.03	
11	152.39	152.24	153.58	152.52	152.87	156.37	157.62	152.58	152.33	152.23	152.28	152.04	
12	152.39	152.22	153.45	152.46	152.68	156.13	157.30	152.53	152.31	152.20	152.22	152.05	
13	152.76	152.20	153.32	152.37	152.53	155.51	156.90	152.50	152.30	152.19	152.20	152.09	
14	153.16	152.19	153.22	152.32	152.38	154.91	156.40	152.52	152.29	152.18	152.18	152.12	
15	153.27	152.18	153.21	152.28	152.23	155.10	155.90	152.54	152.28	152.18	152.15	152.15	
16	153.18	152.18	153.26	152.29	152.10	155.62	155.38	152.55	152.27	152.17	152.13	152.17	
17	153.02	152.26	153.30	152.30	152.01	155.97	154.96	152.50	152.28	152.16	152.11	152.16	
18	152.97	152.23	153.19	152.32	151.92	155.85	154.63	152.44	152.28	152.14	152.07	152.15	
19	153.34	152.20	153.04	152.27	151.88	155.52	154.51	152.39	152.27	152.11	152.04	152.14	
20	153.43	152.16	152.88	152.24	151.79	155.63	154.37	152.36	152.26	152.08	152.00	152.13	
21	153.29	152.14	152.75	152.18	151.69	157.78	154.25	152.31	152.26	152.05	151.96	152.12	
22	153.08	152.15	152.65	152.12	151.56	158.61	154.18	152.29	152.26	152.04	151.96	152.10	
23	152.89	152.37	152.59	152.11	151.39	159.05	154.16	152.30	152.28	152.03	151.93	152.14	
24	152.75	152.63	152.64	152.07	151.84	159.29	154.13	152.31	152.28	152.04	151.98	152.17	
25	152.65	152.74	152.64	152.00	151.94	159.31	154.05	152.34	152.28	152.04	152.01	152.20	
26	152.56	153.17	152.52	152.00	151.88	159.18	154.04	152.37	152.27	152.02	152.01	152.24	
27	152.47	154.13	152.49	152.03	151.84	158.98	153.82	152.40	152.29	152.01	152.01	152.27	
28	152.52	154.82	152.59	152.01	151.81	158.75	153.61	152.44	152.26	152.01	152.02	152.25	
29	152.71	155.28	152.52	151.98	151.76	158.54	153.50	152.50	152.24	152.02		152.19	
30	152.78	155.49	152.45	151.96	152.14	158.39	153.40	152.52	152.22	152.03		152.14	
31		155.37		151.93	152.72		153.37		152.23	152.12		152.09	
Mean	152.76	152.79	153.46	152.31	152.00	156.56	155.91	152.61	152.36	152.15	152.16	152.11	
Max	153.43	155.49	154.93	152.87	152.92	159.31	158.45	153.22	152.66	152.28	152.51	152.27	159.31
Min	152.39	152.14	152.45	151.93	151.39	153.35	153.37	152.29	152.22	152.01	151.93	152.02	151.39

Annual Max Momentary Gage Height 159.32 M (MSL), at 6.00 Hours, on Sep 25, 1993
Zero Gage at Bottom Elevation 151.11 M (MSL), River Bed 150.74 M (MSL)
Left Bank Elevation 165.25 M (MSL)
Right Bank Elevation 164.97 M (MSL), Drainage Area 11020 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	3.70	3.12	33.71	1.36	0.23	9.90	106.75	8.08	2.20	0.80	1.65	0.33	
2	2.70	2.64	27.71	1.32	0.20	10.94	107.25	7.36	2.30	0.92	1.95	0.32	
3	2.10	2.10	28.47	1.36	0.17	13.66	109.25	6.81	2.46	0.92	1.55	0.32	
4	1.75	1.85	33.08	1.40	0.10	27.09	109.00	6.48	2.52	0.80	1.12	0.32	
5	1.55	1.50	34.01	1.70	0.04	42.71	108.25	5.82	2.76	0.72	0.96	0.34	
6	1.75	1.28	32.78	3.90	0.00	53.98	107.00	5.20	2.52	0.76	0.92	0.33	
7	1.80	1.04	30.93	4.30	0.00	64.42	105.00	4.40	2.00	0.76	0.84	0.34	
8	1.70	0.92	27.09	3.30	0.00	74.23	102.50	3.60	1.55	0.80	0.72	0.34	
9	1.50	0.84	21.68	2.94	0.30	64.83	99.00	3.06	1.32	0.76	0.84	0.34	
10	1.40	0.76	14.60	2.52	4.80	59.20	94.50	2.58	1.20	0.84	1.04	0.33	
11	1.36	0.76	13.66	2.00	4.30	62.33	88.50	2.30	1.12	0.72	0.92	0.34	
12	1.36	0.68	11.45	1.70	2.88	57.32	81.74	2.05	1.04	0.60	0.68	0.35	
13	3.36	0.60	9.48	1.28	2.05	44.38	73.39	1.90	1.00	0.58	0.60	0.39	
14	7.36	0.58	8.08	1.08	1.32	33.71	62.96	2.00	0.96	0.56	0.56	0.44	
15	8.78	0.56	7.94	0.92	0.72	36.65	52.52	2.10	0.92	0.56	0.50	0.50	
16	7.58	0.56	8.64	0.96	0.40	46.68	41.67	2.15	0.88	0.54	0.46	0.54	
17	5.82	0.84	9.20	1.00	0.31	53.98	34.48	1.90	0.92	0.52	0.42	0.52	
18	5.30	0.72	7.69	1.08	0.22	51.48	29.39	1.60	0.92	0.48	0.37	0.50	
19	9.76	0.60	6.04	0.88	0.18	44.59	27.55	1.36	0.88	0.42	0.34	0.48	
20	11.11	0.52	4.40	0.76	0.09	46.89	25.41	1.24	0.84	0.38	0.30	0.46	
21	9.06	0.48	3.30	0.56	0.00	92.50	23.57	1.04	0.84	0.35	0.26	0.44	
22	6.48	0.50	2.70	0.44	0.00	113.25	22.52	0.96	0.84	0.34	0.26	0.40	
23	4.50	1.28	2.35	0.42	0.00	124.25	22.24	1.00	0.92	0.33	0.23	0.48	
24	3.30	2.58	2.64	0.37	0.14	130.25	21.82	1.04	0.92	0.34	0.28	0.54	
25	2.70	3.24	2.64	0.30	0.24	130.75	20.70	1.16	0.92	0.34	0.31	0.60	
26	2.20	7.47	2.00	0.30	0.18	127.50	20.56	1.28	0.88	0.32	0.31	0.76	
27	1.75	21.82	1.85	0.33	0.14	122.50	17.56	1.40	0.96	0.31	0.31	0.88	
28	2.00	32.31	2.35	0.31	0.11	116.75	14.20	1.60	0.84	0.31	0.32	0.80	
29	3.06	39.64	2.00	0.28	0.06	111.50	12.30	1.90	0.76	0.32		0.58	
30	3.48	43.97	1.65	0.26	0.48	107.75	10.60	2.00	0.68	0.33		0.48	
31		41.46		0.23	3.12		10.18		0.72	0.44		0.39	
Total	120.27	217.22	394.12	39.56	22.78	2075.97	1762.36	85.37	39.59	17.17	19.02	14.18	4807.61 CMSDAY
Mean	4.01	7.01	13.14	1.28	0.73	69.20	56.85	2.85	1.28	0.55	0.68	0.46	13.17 CMS
Max	11.11	43.97	34.01	4.30	4.80	130.75	109.25	8.08	2.76	0.92	1.95	0.88	130.75 CMS
Min	1.36	0.48	1.65	0.23	0.00	9.90	10.18	0.96	0.68	0.31	0.23	0.32	0.00 CMS
Runoff	10.391	18.768	34.052	3.418	1.968	179.364	152.268	7.376	3.421	1.483	1.643	1.225	415.378 MCM

Momentary Peak 131.00 CMS, at 159.32 M (MSL), at 6.00 Hours, on Sep 25, 1993

Runoff Yield 1.20 Liters/Second/Square KM, Momentary Peak Yield 11.89 Liters/Second/Square KM

WATER YEAR 1993

CHI RIVER BASIN

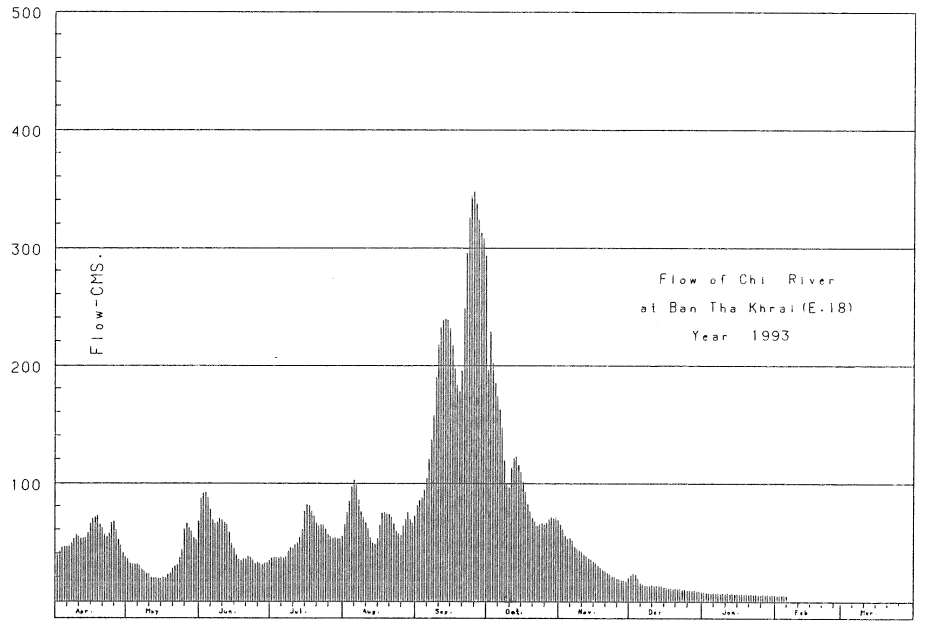
Chi River at Ban Tha Khrai, Roi Et (E.18)

Location	Lat. 16°-01'-59" N., Long. 103°-54'-38" E., on left bank at Ban Tha Khrai,Amphoe Selaphum, Roi Et.
Drainage Area	41,594 sq.km.
Type of Gage	Water-stage recorder.
Zero Gage at Bottom	+122.244 m. (M.S.L.)
Bench Mark	B.M.-H.D.
Location	On left bank at the abutment of the bridge.
Elevation	+135.187 m. (M.S.L.)
Gage Reading Frequency	Recording.
Basis of Mean Daily Gage Height	Arithmetic mean of 24 readings.
Period of Available Gage Records	1954 to date.
Rating Operation	
Period of Rating	1974 to date.
Rated by Float	-
Rated by Current Meter	1974 to date.
Stability of Channel Regimes	Stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Stage-discharge relation defined by 92 discharge measurements made in 1993.

Gage Height in Meter (MSL), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	123.39	123.31	124.30	123.32	123.93	124.20	125.80	123.93	122.99	122.52	122.37	122.54	
2	123.46	123.24	124.36	123.35	124.09	124.26	126.16	123.85	123.01	122.51	122.37	122.51	
3	123.52	123.21	124.38	123.34	124.25	124.31	125.87	123.76	123.01	122.49	122.37	122.50	
4	123.55	123.22	124.30	123.34	124.46	124.41	125.67	123.68	122.91	122.49	122.37	122.50	
5	123.55	123.22	124.14	123.34	124.56	124.58	125.52	123.72	122.80	122.49	122.37	122.48	
6	123.55	123.18	123.99	123.34	124.48	124.81	125.39	123.65	122.75	122.49	122.41	122.47	
7	123.62	123.11	123.93	123.35	124.28	125.05	125.19	123.55	122.73	122.48	122.46	122.49	
8	123.69	123.06	123.96	123.47	124.11	125.32	124.80	123.50	122.72	122.47	122.50	122.51	
9	123.78	123.03	124.00	123.52	124.02	125.73	124.48	123.48	122.72	122.47	122.54	122.51	
10	123.73	123.00	123.98	123.52	123.95	126.04	124.45	123.45	122.73	122.47	122.60	122.50	
11	123.69	122.94	123.96	123.57	123.86	126.20	124.70	123.41	122.72	122.47	122.68	122.50	
12	123.72	122.92	123.92	123.62	123.72	126.27	124.83	123.36	122.72	122.46	122.78	122.53	
13	123.71	122.91	123.82	123.71	123.61	126.29	124.84	123.33	122.72	122.45	122.89	122.57	
14	123.81	122.91	123.60	123.86	123.60	126.27	124.75	123.30	122.71	122.44	123.02	122.64	
15	123.94	122.89	123.52	124.10	123.71	126.20	124.65	123.27	122.69	122.43	123.05	122.67	
16	124.00	122.92	123.40	124.20	123.92	126.04	124.53	123.23	122.67	122.43	123.02	122.67	
17	124.03	122.93	123.30	124.20	124.08	125.82	124.38	123.19	122.65	122.43	122.93	122.69	
18	124.04	122.99	123.29	124.11	124.10	125.64	124.22	123.14	122.64	122.43	122.88	122.69	
19	123.93	123.04	123.31	124.04	124.07	125.58	124.10	123.10	122.64	122.43	122.83	122.68	
20	123.87	123.12	123.32	123.95	124.07	125.79	124.02	123.07	122.64	122.42	122.78	122.68	
21	123.77	123.17	123.36	123.90	124.02	126.39	123.96	123.04	122.64	122.42	122.73	122.68	
22	123.74	123.22	123.35	123.92	123.94	126.89	123.91	123.00	122.63	122.41	122.70	122.66	
23	123.80	123.35	123.29	123.92	123.84	127.20	123.92	122.97	122.61	122.40	122.67	122.72	
24	123.94	123.48	123.24	123.86	123.79	127.38	123.95	122.94	122.61	122.40	122.64	122.79	
25	123.97	123.85	123.26	123.78	123.77	127.42	123.93	122.91	122.60	122.40	122.63	123.04	
26	123.84	123.94	123.22	123.73	123.90	127.32	123.94	122.88	122.58	122.40	122.60	123.22	
27	123.68	123.88	123.22	123.71	124.00	127.18	124.00	122.87	122.59	122.39	122.58	123.17	
28	123.56	123.82	123.23	123.71	124.09	127.07	124.02	122.85	122.59	122.39	122.56	123.08	
29	123.44	123.72	123.25	123.70	124.00	127.02	124.01	122.84	122.58	122.38		122.98	
30	123.35	123.66	123.28	123.69	123.94	126.87	124.02	122.91	122.55	122.37		122.90	
31		123.96		123.74	124.04		123.98		122.54	122.36		122.83	
Mean	123.72	123.26	123.65	123.71	124.01	125.98	124.58	123.27	122.70	122.44	122.65	122.69	
Max	124.04	123.96	124.38	124.20	124.56	127.42	126.16	123.93	123.01	122.52	123.05	123.22	127.42
Min	123.35	122.89	123.22	123.32	123.60	124.20	123.91	122.84	122.54	122.36	122.37	122.47	122.36

Annual Max Momentary Gage Height 127.43 M (MSL), at 13.00 Hours, on Sep 25, 1993
Zero Gage at Bottom Elevation 122.24 M (MSL), River Bed 120.15 M (MSL)
Left Bank Elevation 132.99 M (MSL)
Right Bank Elevation 132.64 M (MSL), Drainage Area 41594 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	39.55	35.95	88.00	36.40	65.80	82.00	196.00	65.80	22.65	8.00	5.55	0.00	
2	42.70	32.80	91.60	37.75	75.40	85.60	228.40	61.00	23.40	7.75	5.55	0.00	
3	45.40	31.45	92.80	37.30	85.00	88.60	202.30	56.20	23.40	7.35	5.55	0.00	
4	46.75	31.90	88.00	37.30	97.60	94.60	185.60	52.60	19.85	7.35	5.55	0.00	
5	46.75	31.90	78.40	37.30	103.60	104.80	173.60	54.40	16.00	7.35	5.55	0.00	
6	46.75	30.20	69.40	37.30	98.80	120.70	163.20	51.25	14.50	7.35	0.00	0.00	
7	49.90	27.40	65.80	37.75	86.80	137.50	147.30	46.75	13.90	7.20	0.00	0.00	
8	53.05	25.40	67.60	43.15	76.60	157.60	120.00	44.50	13.60	7.05	0.00	0.00	
9	57.10	24.20	70.00	45.40	71.20	190.40	98.80	43.60	13.60	7.05	0.00	0.00	
10	54.85	23.00	68.80	45.40	67.00	217.60	97.00	42.25	13.90	7.05	0.00	0.00	
11	53.05	20.90	67.60	47.65	61.60	232.00	113.00	40.45	13.60	7.05	0.00	0.00	
12	54.40	20.20	65.20	49.90	54.40	238.30	122.10	38.20	13.60	6.90	0.00	0.00	
13	53.95	19.85	59.20	53.95	49.45	240.10	122.80	36.85	13.60	6.75	0.00	0.00	
14	58.60	19.85	49.00	61.60	49.00	238.30	116.50	35.50	13.30	6.60	0.00	0.00	
15	66.40	19.15	45.40	76.00	53.95	232.00	109.50	34.15	12.70	6.45	0.00	0.00	
16	70.00	20.20	40.00	82.00	65.20	217.60	101.80	32.35	12.10	6.45	0.00	0.00	
17	71.80	20.55	35.50	82.00	74.80	197.80	92.80	30.60	11.50	6.45	0.00	0.00	
18	72.40	22.65	35.05	76.60	76.00	183.20	83.20	28.60	11.20	6.45	0.00	0.00	
19	65.80	24.60	35.95	72.40	74.20	178.40	76.00	27.00	11.20	6.45	0.00	0.00	
20	62.20	27.80	36.40	67.00	74.20	195.20	71.20	25.80	11.20	6.30	0.00	0.00	
21	56.65	29.80	38.20	64.00	71.20	249.10	67.60	24.60	11.20	6.30	0.00	0.00	
22	55.30	31.90	37.75	65.20	66.40	295.55	64.60	23.00	10.90	6.15	0.00	0.00	
23	58.00	37.75	35.05	65.20	60.40	326.00	65.20	21.95	10.30	6.00	0.00	0.00	
24	66.40	43.60	32.80	61.60	57.55	344.00	67.00	20.90	10.30	6.00	0.00	0.00	
25	68.20	61.00	33.70	57.10	56.65	348.10	65.80	19.85	10.00	6.00	0.00	0.00	
26	60.40	66.40	31.90	54.85	64.00	338.00	66.40	18.80	9.50	6.00	0.00	0.00	
27	52.60	62.80	31.90	53.95	70.00	324.00	70.00	18.45	9.75	5.85	0.00	0.00	
28	47.20	59.20	32.35	53.95	75.40	313.00	71.20	17.75	9.75	5.85	0.00	0.00	
29	41.80	54.40	33.25	53.50	70.00	308.00	70.60	17.40	9.50	5.70		0.00	
30	37.75	51.70	34.60	53.05	66.40	293.65	71.20	19.85	8.75	5.55		0.00	
31		67.60		55.30	72.40		68.80		8.50	5.40		0.00	
Total	1655.70	1076.10	1591.20	1701.85	2191.00	6571.70	3369.50	1050.40	407.25	204.15	27.75	0.00	19846.60 CMSDAY
Mean	55.19	34.71	53.04	54.90	70.68	219.06	108.69	35.01	13.14	6.59	0.99	0.00	54.37 CMS
Max	72.40	67.60	92.80	82.00	103.60	348.10	228.40	65.80	23.40	8.00	5.55	0.00	348.10 CMS
Min	37.75	19.15	31.90	36.40	49.00	82.00	64.60	17.40	8.50	5.40	0.00	0.00	0.00 CMS
Runoff	143.052	92.975	137.480	147.040	189.302	567.795	291.125	90.755	35.186	17.639	2.398	0.000	1714.746 MCM

Momentary Peak 349.15 CMS, at 127.43 M (MSL), at 13.00 Hours, on Sep 25, 1993

Runoff Yield 1.31 Liters/Second/Square KM, Momentary Peak Yield 8.39 Liters/Second/Square KM

WATER YEAR 1993

CHI RIVER BASIN

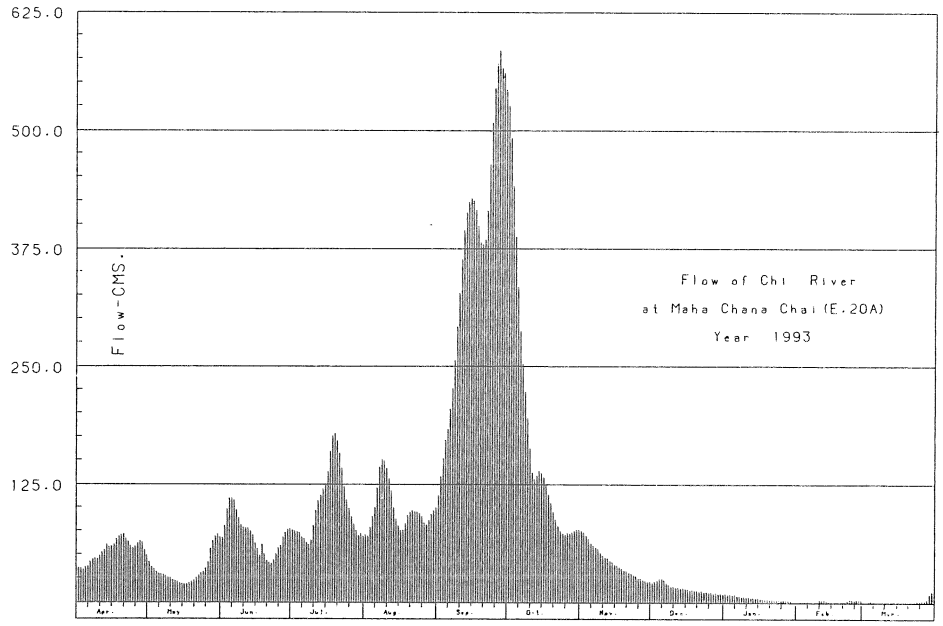
Chi River at Maha Chana Chai, Yasothon (E.20A)

Location	Lat. 15°-31'-59" N., Long. 104°-15'-24" E., on right bank about 800 meters upstream from E.20 station, Amphoe Maha Chana Chai, Yasothon.
Drainage Area	47,818 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+112.00 m. (M.S.L.)
Bench Mark	B.M.-H.D.
Location	On right bank at the abutment of the bridge.
Elevation	+127.138 m. (M.S.L.)
Gage Reading Frequency	13-time daily readings at 06.00 -18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 13 readings.
Period of Available Gage Records	1973 to date.
Rating Operation	
Period of Rating	1974 to date.
Rated by Float	-
Rated by Current Meter	1974 to date.
Stability of Channel Regimes	Fairly stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Stage-discharge relation defined by 143 discharge measurements made in 1993.

Gage Height in Meter (MSL), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	114.75	114.84	115.20	115.30	115.23	115.74	119.07	115.32	114.47	114.20	113.93	113.96	
2	114.73	114.77	115.35	115.28	115.22	115.93	118.88	115.29	114.48	114.19	113.93	113.96	
3	114.72	114.72	115.58	115.28	115.34	116.13	118.57	115.25	114.52	114.18	113.93	113.95	
4	114.75	114.68	115.70	115.26	115.47	116.30	118.20	115.19	114.54	114.18	113.93	113.93	
5	114.78	114.65	115.71	115.21	115.60	116.41	117.81	115.13	114.56	114.17	113.93	113.93	
6	114.84	114.63	115.68	115.18	115.81	116.60	117.45	115.09	114.52	114.15	113.93	113.92	
7	114.89	114.63	115.57	115.14	116.04	116.79	117.15	115.07	114.46	114.13	113.92	113.91	
8	114.89	114.60	115.45	115.10	116.12	117.01	116.89	115.04	114.42	114.12	113.91	113.90	
9	114.90	114.58	115.37	115.17	116.10	117.29	116.62	114.99	114.39	114.11	113.93	113.90	
10	114.93	114.56	115.33	115.35	116.02	117.56	116.31	114.94	114.38	114.11	114.00	113.90	
11	114.98	114.53	115.33	115.56	115.92	117.82	116.05	114.92	114.37	114.09	114.00	113.89	
12	115.03	114.51	115.32	115.67	115.78	118.02	115.97	114.90	114.36	114.09	113.98	113.89	
13	115.11	114.48	115.29	115.74	115.60	118.15	116.02	114.87	114.35	114.07	113.96	113.90	
14	115.06	114.46	115.23	115.80	115.44	118.22	116.06	114.84	114.34	114.07	113.96	113.92	
15	115.07	114.43	115.13	115.86	115.36	118.25	116.04	114.81	114.34	114.06	113.95	113.92	
16	115.11	114.42	115.04	115.99	115.29	118.23	116.00	114.79	114.32	114.05	113.94	113.91	
17	115.17	114.44	114.95	116.19	115.29	118.17	115.91	114.77	114.31	114.03	113.92	113.88	
18	115.22	114.45	115.11	116.34	115.39	118.05	115.80	114.73	114.30	114.02	113.92	113.86	
19	115.23	114.49	114.96	116.37	115.49	117.94	115.69	114.71	114.29	114.01	113.91	113.86	
20	115.25	114.51	114.87	116.30	115.54	117.92	115.58	114.69	114.28	114.01	113.91	113.86	
21	115.18	114.56	114.83	116.18	115.55	117.96	115.47	114.67	114.28	114.00	113.90	113.86	
22	115.15	114.62	114.83	116.02	115.55	118.16	115.39	114.64	114.27	113.99	113.95	113.87	
23	115.08	114.65	114.87	115.83	115.53	118.48	115.31	114.63	114.26	113.99	114.03	113.91	
24	115.06	114.69	114.97	115.68	115.52	118.75	115.28	114.60	114.25	113.99	114.00	113.95	
25	115.07	114.73	115.05	115.58	115.47	118.97	115.26	114.57	114.25	113.99	114.00	113.95	
26	115.13	114.85	115.08	115.48	115.39	119.12	115.28	114.55	114.24	113.98	114.00	113.96	
27	115.16	115.05	115.21	115.38	115.37	119.20	115.28	114.53	114.22	113.98	114.00	113.96	
28	115.13	115.15	115.26	115.29	115.43	119.23	115.29	114.50	114.22	113.97	113.98	113.99	
29	115.03	115.22	115.31	115.23	115.50	119.22	115.32	114.49	114.21	113.96		114.21	
30	114.94	115.24	115.31	115.25	115.56	119.16	115.33	114.48	114.20	113.95		114.31	
31		115.20		115.21	115.59		115.33		114.20	113.94		114.28	
Mean	115.01	114.69	115.23	115.59	115.56	117.83	116.28	114.83	114.34	114.06	113.95	113.95	
Max	115.25	115.24	115.71	116.37	116.12	119.23	119.07	115.32	114.56	114.20	114.03	114.31	119.23
Min	114.72	114.42	114.83	115.10	115.22	115.74	115.26	114.48	114.20	113.94	113.90	113.86	113.86

Annual Max Momentary Gage Height 119.23 M (MSL), at 18.00 Hours, on Sep 28, 1993
Zero Gage at Bottom Elevation 112.00 M (MSL), River Bed 112.07 M (MSL)
Left Bank Elevation 125.06 M (MSL)
Right Bank Elevation 124.94 M (MSL), Drainage Area 47818 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	37.0	42.8	69.0	77.0	71.4	114.0	526.6	76.4	21.5	9.4	1.7	2.3	
2	35.8	38.2	81.0	75.4	70.6	133.0	492.4	74.3	22.0	9.1	1.7	2.3	
3	35.2	35.2	99.4	75.4	80.2	153.3	441.2	71.5	24.0	8.7	1.7	2.1	
4	37.0	32.8	110.0	73.8	90.6	172.0	388.0	67.3	25.0	8.7	1.7	1.7	
5	38.8	31.0	111.0	69.8	101.0	184.1	334.3	63.1	26.0	8.4	1.7	1.7	
6	42.8	29.8	108.2	67.4	121.0	205.0	288.0	60.3	24.0	7.7	1.7	1.4	
7	46.3	29.8	98.6	64.2	144.0	227.8	252.5	58.9	21.0	7.0	1.4	1.2	
8	46.3	28.0	89.0	61.0	152.2	256.3	223.9	56.8	19.0	6.7	1.2	1.0	
9	47.0	27.0	82.6	66.6	150.0	292.7	195.0	53.3	17.5	6.3	1.7	1.0	
10	49.1	26.0	79.4	81.0	142.0	327.8	164.0	49.8	17.1	6.3	3.2	1.0	
11	52.6	24.5	79.4	97.8	132.0	364.0	138.0	48.4	16.6	5.7	3.2	0.9	
12	56.1	23.5	78.6	107.3	118.0	394.0	130.3	47.0	16.2	5.7	2.8	0.9	
13	61.8	22.0	76.2	114.0	101.0	413.5	135.0	44.9	15.7	5.2	2.3	1.0	
14	58.2	21.0	71.4	120.0	88.2	424.0	139.0	42.8	15.2	5.2	2.3	1.4	
15	58.9	19.5	63.4	126.0	81.8	428.5	137.0	40.7	15.2	4.9	2.1	1.4	
16	61.8	19.0	56.8	139.0	76.2	425.5	133.0	39.4	14.3	4.6	1.9	1.2	
17	66.6	20.0	50.5	159.9	76.2	416.5	124.9	38.2	13.9	4.0	1.4	0.8	
18	70.6	20.5	61.8	176.4	84.2	398.5	115.0	35.8	13.4	3.8	1.4	0.6	
19	71.4	22.5	51.2	179.7	92.2	382.0	105.2	34.6	13.0	3.5	1.2	0.6	
20	73.0	23.5	44.9	172.0	96.2	379.0	96.4	33.4	12.6	3.5	1.2	0.6	
21	67.4	26.0	42.1	158.8	97.0	385.0	87.6	32.2	12.6	3.2	1.0	0.6	
22	65.0	29.2	42.1	142.0	97.0	415.0	81.3	30.4	12.2	3.0	2.1	0.7	
23	59.6	31.0	44.9	123.0	95.4	464.8	75.7	29.8	11.8	3.0	4.0	1.2	
24	58.2	33.4	51.9	108.2	94.6	508.0	73.6	28.0	11.4	3.0	3.2	2.1	
25	58.9	35.8	57.5	99.4	90.6	544.9	72.2	26.5	11.4	3.0	3.2	2.1	
26	63.4	43.5	59.6	91.4	84.2	570.6	73.6	25.5	11.0	2.8	3.2	2.3	
27	65.8	57.5	69.8	83.4	82.6	585.0	73.6	24.5	10.2	2.8	3.2	2.3	
28	63.4	65.0	73.8	76.2	87.4	565.9	74.3	23.0	10.2	2.5	2.8	3.0	
29	56.1	70.6	77.8	71.4	93.0	560.6	76.4	22.5	9.8	2.3		9.8	
30	49.8	72.2	77.8	73.0	97.8	542.8	77.1	22.0	9.4	2.1		13.9	
31		69.0		69.8	100.2		77.1		9.4	1.9		12.6	
Total	1653.9	1069.8	2159.7	3200.3	3088.8	11234.1	5402.2	1301.3	482.6	154.0	60.2!	75.7	29882.6 CMSDAY
Mean	55.1	34.5	72.0	103.2	99.6	374.5	174.3	43.4	15.6	5.0	2.2	2.4	81.9 CMS
Max	73.0	72.2	111.0	179.7	152.2	585.0	526.6	76.4	26.0	9.4	4.0	13.9	585.0 CMS
Min	35.2	19.0	42.1	61.0	70.6	114.0	72.2	22.0	9.4	1.9	1.0	0.6	0.6 CMS
Runoff	142.90	92.43	186.60	276.51	266.87	970.63	466.75	112.43	41.70	13.31	5.20	6.54	2581.86 MCM

Momentary Peak 565.90 CMS, at 119.23 M (MSL), at 18.00 Hours, on Sep 28, 1993

Runoff Yield 1.71 Liters/Second/Square KM, Momentary Peak Yield 11.83 Liters/Second/Square KM

WATER YEAR 1993

CHI RIVER BASIN

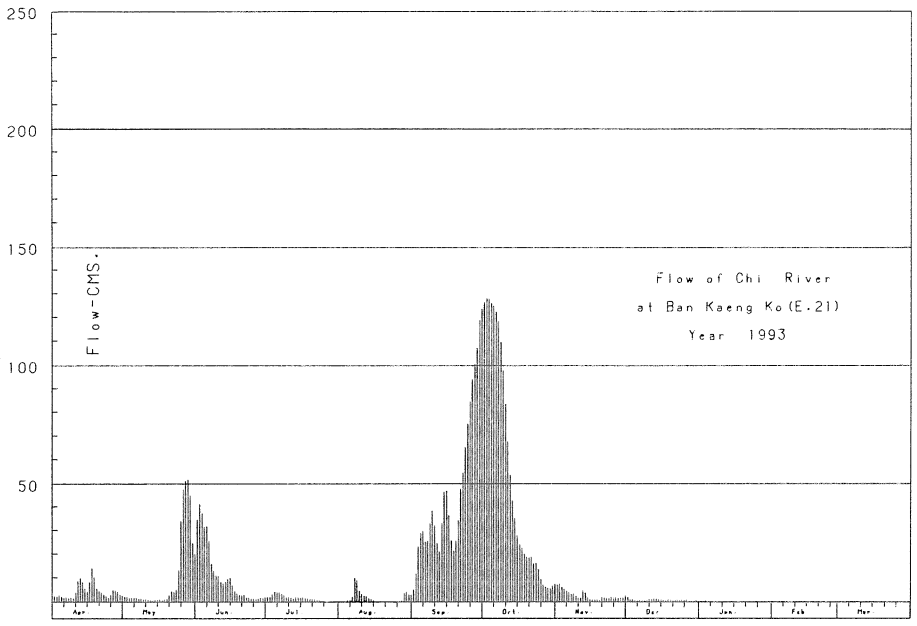
Chi River at Ban Kaeng Ko, Chaiyaphum (E.21)

Location	Lat. 15°45'07" N., Long. 102°15'24" E., on left bank about 75 meters upstream from the bridge on highway, Amphoe Muang, Chaiyaphum.
Drainage Area	8,912 sq.km.
Type of Gage	Water-stage recorder.
Zero Gage at Bottom	+0.00 m. (A.D.)
Bench Mark	B.M.-H.D.
Location	Infront of the automatic gage building.
Elevation	+9.433 m. (A.D.)
Gage Reading Frequency	Recording.
Basis of Mean Daily Gage Height	Arithmetic mean of 24 readings.
Period of Available Gage Records	1955-1957, 1967 to date.
Rating Operation	
Period of Rating	1968-1971, 1973-1974, 1982 to date.
Rated by Float	-
Rated by Current Meter	1968-1971, 1973-1974, 1982 to date.
Stability of Channel Regimes	Stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Stage-discharge relation defined by 29 discharge measurements made in 1993.

Gage Height in Meter (A.D), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	1.62	1.62	2.37	1.58	1.24	1.78	4.99	1.86	1.61	1.37	1.20	0.92	
2	1.63	1.60	2.48	1.62	1.21	1.97	5.05	1.86	1.58	1.37	1.18	0.91	
3	1.65	1.58	2.42	1.68	1.26	2.18	5.04	1.83	1.58	1.36	1.18	0.89	
4	1.62	1.56	2.32	1.75	1.37	2.28	4.99	1.80	1.50	1.34	1.18	0.87	
5	1.60	1.56	2.33	1.74	1.42	2.29	4.95	1.77	1.50	1.31	1.19	0.87	
6	1.58	1.55	2.22	1.72	1.62	2.22	4.88	1.73	1.47	1.27	1.18	0.75	
7	1.56	1.54	2.05	1.70	1.93	2.22	4.75	1.71	1.47	1.24	1.18	0.75	
8	1.56	1.52	1.99	1.64	1.90	2.35	4.49	1.70	1.47	1.21	1.16	0.76	
9	1.56	1.49	1.95	1.61	1.77	2.43	4.12	1.65	1.47	1.18	1.14	0.74	
10	1.73	1.47	1.94	1.58	1.69	2.33	3.70	1.57	1.48	1.17	1.18	0.75	
11	1.89	1.45	1.89	1.55	1.65	2.21	3.19	1.60	1.50	1.17	1.18	0.75	
12	1.93	1.42	1.86	1.54	1.62	2.14	2.73	1.77	1.52	1.17	1.18	0.74	
13	1.88	1.41	1.89	1.58	1.56	2.35	2.50	1.73	1.54	1.18	1.17	0.75	
14	1.80	1.43	1.91	1.60	1.49	2.55	2.38	1.63	1.55	1.18	1.13	0.76	
15	1.75	1.44	1.93	1.59	1.42	2.56	2.26	1.56	1.53	1.19	1.14	0.77	
16	1.88	1.44	1.84	1.58	1.34	2.40	2.20	1.53	1.51	1.20	1.14	0.78	
17	2.02	1.44	1.76	1.56	1.29	2.23	2.17	1.50	1.50	1.22	1.14	0.79	
18	1.93	1.46	1.70	1.53	1.24	2.15	2.13	1.44	1.49	1.24	1.13	0.77	
19	1.81	1.50	1.67	1.51	1.20	2.22	2.10	1.43	1.46	1.25	1.11	0.78	
20	1.76	1.65	1.65	1.49	1.15	2.37	2.10	1.60	1.44	1.26	1.09	0.78	
21	1.72	1.76	1.66	1.46	1.11	2.57	2.10	1.60	1.43	1.26	1.06	0.78	
22	1.68	1.74	1.59	1.43	1.07	2.76	2.05	1.55	1.43	1.25	1.04	0.78	
23	1.62	1.78	1.55	1.38	1.06	3.11	2.06	1.56	1.42	1.25	1.02	0.80	
24	1.58	2.00	1.53	1.34	1.07	3.44	2.01	1.60	1.44	1.24	0.99	0.86	
25	1.67	2.36	1.52	1.32	1.09	3.73	1.92	1.61	1.43	1.23	0.97	0.88	
26	1.77	2.57	1.51	1.28	1.22	4.01	1.85	1.60	1.43	1.22	0.96	0.88	
27	1.77	2.64	1.53	1.24	1.41	4.21	1.83	1.58	1.43	1.22	0.94	0.89	
28	1.73	2.67	1.55	1.22	1.72	4.41	1.81	1.56	1.42	1.22	0.93	0.90	
29	1.68	2.53	1.56	1.24	1.74	4.77	1.81	1.60	1.41	1.22		0.90	
30	1.64	2.21	1.58	1.26	1.68	4.91	1.84	1.64	1.39	1.23		0.91	
31		2.12		1.26	1.66		1.86		1.38	1.22		0.92	
Mean	1.72	1.76	1.86	1.50	1.43	2.77	2.96	1.64	1.48	1.24	1.11	0.82	
Max	2.02	2.67	2.48	1.75	1.93	4.91	5.05	1.86	1.61	1.37	1.20	0.92	5.05
Min	1.56	1.41	1.51	1.22	1.06	1.78	1.81	1.43	1.38	1.17	0.93	0.74	0.74

Annual Max Momentary Gage Height 5.08 M (A.D), at 9.00 Hours, on Oct 3, 1993
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed -1.33 M (A.D)
Left Bank Elevation 11.63 M (A.D)
Right Bank Elevation 11.65 M (A.D), Drainage Area 8912 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	2.30	2.30	34.70	1.84	0.28	5.10	126.57	7.60	2.15	0.61	0.20	0.00	
2	2.45	2.00	41.70	2.30	0.22	12.15	128.55	7.60	1.84	0.61	0.18	0.00	
3	2.75	1.84	37.80	3.20	0.32	23.40	128.22	6.55	1.84	0.58	0.18	0.00	
4	2.30	1.68	31.70	4.50	0.61	29.30	126.57	5.50	1.20	0.52	0.18	0.00	
5	2.00	1.68	32.30	4.30	0.80	29.90	125.25	4.90	1.20	0.43	0.19	0.00	
6	1.84	1.60	25.70	3.90	2.30	25.70	122.94	4.10	1.05	0.34	0.18	0.00	
7	1.68	1.52	16.25	3.50	10.35	25.70	118.65	3.70	1.05	0.28	0.18	0.00	
8	1.68	1.36	13.05	2.60	9.00	33.50	110.07	3.50	1.05	0.22	0.16	0.00	
9	1.68	1.15	11.25	2.15	4.90	38.45	97.86	2.75	1.05	0.18	0.14	0.00	
10	4.10	1.05	10.80	1.84	3.35	32.30	84.00	1.76	1.10	0.17	0.18	0.00	
11	8.65	0.95	8.65	1.60	2.75	25.10	67.89	2.00	1.20	0.17	0.18	0.00	
12	10.35	0.80	7.60	1.52	2.30	21.20	53.90	4.90	1.36	0.17	0.18	0.00	
13	8.30	0.75	8.65	1.84	1.68	33.50	43.00	4.10	1.52	0.18	0.17	0.00	
14	5.50	0.85	9.45	2.00	1.15	46.50	35.30	2.45	1.60	0.18	0.13	0.00	
15	4.50	0.90	10.35	1.92	0.80	47.20	28.10	1.68	1.44	0.19	0.14	0.00	
16	8.30	0.90	6.90	1.84	0.52	36.50	24.50	1.44	1.28	0.20	0.14	0.00	
17	14.60	0.90	4.70	1.68	0.38	26.30	22.85	1.20	1.20	0.24	0.14	0.00	
18	10.35	1.00	3.50	1.44	0.28	21.75	20.65	0.90	1.15	0.28	0.13	0.00	
19	5.85	1.20	3.05	1.28	0.20	25.70	19.00	0.85	1.00	0.30	0.11	0.00	
20	4.70	2.75	2.75	1.15	0.15	34.70	19.00	2.00	0.90	0.32	0.09	0.00	
21	3.90	4.70	2.90	1.00	0.11	47.90	19.00	2.00	0.85	0.32	0.06	0.00	
22	3.20	4.30	1.92	0.85	0.07	54.80	16.25	1.60	0.85	0.30	0.04	0.00	
23	2.30	5.10	1.60	0.64	0.06	65.41	16.80	1.68	0.80	0.30	0.02	0.00	
24	1.84	13.50	1.44	0.52	0.07	75.64	14.05	2.00	0.90	0.28	0.00	0.00	
25	3.05	34.10	1.36	0.46	0.09	84.99	9.90	2.15	0.85	0.26	0.00	0.00	
26	4.90	47.90	1.28	0.36	0.24	94.23	7.25	2.00	0.85	0.24	0.00	0.00	
27	4.90	51.20	1.44	0.28	0.75	100.83	6.55	1.84	0.85	0.24	0.00	0.00	
28	4.10	52.10	1.60	0.24	3.90	107.43	5.85	1.68	0.80	0.24	0.00	0.00	
29	3.20	45.10	1.68	0.28	4.30	119.31	5.85	2.00	0.75	0.24		0.00	
30	2.60	25.10	1.84	0.32	3.20	123.93	6.90	2.60	0.67	0.26		0.00	
31		20.10		0.32	2.90		7.60		0.64	0.24		0.00	
Total	137.87	330.38	337.91	51.67	58.03	1448.42	1618.87	89.03	34.99	9.09	3.30	0.00	4119.56 CMSDAY
Mean	4.60	10.66	11.26	1.67	1.87	48.28	52.22	2.97	1.13	0.29	0.12	0.00	11.29 CMS
Max	14.60	52.10	41.70	4.50	10.35	123.93	128.55	7.60	2.15	0.61	0.20	0.00	128.55 CMS
Min	1.68	0.75	1.28	0.24	0.06	5.10	5.85	0.85	0.64	0.17	0.00	0.00	0.00 CMS
Runoff	11.912	28.545	29.195	4.464	5.014	125.144	139.870	7.692	3.023	0.785	0.285	0.000	355.930 MCM

Momentary Peak 129.54 CMS, at 5.08 M (A.D), at 9.00 Hours, on Oct 3, 1993
Runoff Yield 1.27 Liters/Second/Square KM, Momentary Peak Yield 14.54 Liters/Second/Square KM

WATER YEAR 1993

CHI RIVER BASIN

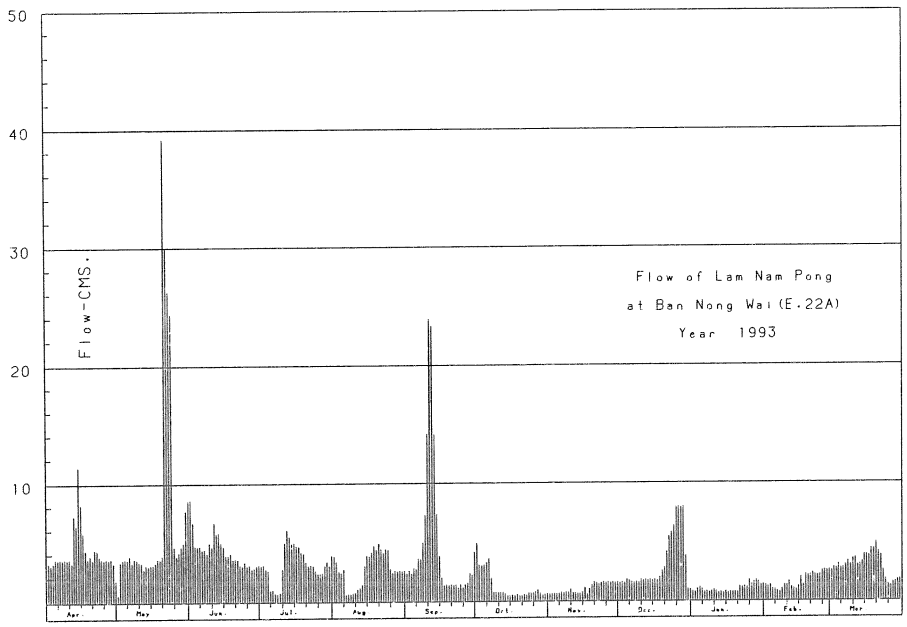
Lam Nam Phong at Ban Nong Wai, Khon Kaen (E.22A)

Location	Lat. 16°-43'-29" N., Long. 102°-48'-21" E., on left bank about 500 meters downstream from the bridge of Khon Kaen-Udon Thani Highway, Amphoe Nam Phong, Khon Kaen.
Drainage Area	13,183 sq.km.
Type of Gage	Water-stage recorder.
Zero Gage at Bottom	+150.92 m.(M.S.L.).
Bench Mark	B.M.-H.D.
Location	Behind the shrine of Pu Duang.
Elevation	+164.573 m.(M.S.L.).
Gage Reading Frequency	Recording.
Basis of Mean Daily Gage Height	Arithemetic mean of 24 readings.
Period of Available Gage Records	1965 to date.
Rating Operation	
Period of Rating	1966-1976, 1982-1987, 1992 to date.
Rated by Float	-
Rated by Current Meter	1966-1976, 1982-1987, 1992 to date.
Stability of Channel Regimes	Rather unstable.
Overbank Flow Conditions	No overbank flow.
General Description	Records fair. Flow regulated by Ubonrat Dam above gage sites. Stage-discharge relation defined by 22 discharge measurements made in 1993.

Gage Height in Meter (MSL), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	153.42	153.27	153.60	153.41	153.44	153.38	153.48	153.27	153.34	153.30	153.33	153.39	
2	153.41	153.42	153.54	153.41	153.42	153.39	153.41	153.27	153.34	153.30	153.32	153.40	
3	153.42	153.43	153.47	153.40	153.39	153.38	153.41	153.28	153.34	153.31	153.33	153.40	
4	153.43	153.43	153.47	153.39	153.38	153.40	153.41	153.27	153.35	153.32	153.31	153.41	
5	153.43	153.43	153.47	153.31	153.40	153.40	153.42	153.28	153.35	153.31	153.31	153.40	
6	153.43	153.44	153.46	153.31	153.27	153.43	153.43	153.29	153.34	153.30	153.30	153.40	
7	153.43	153.42	153.46	153.29	153.27	153.43	153.36	153.29	153.34	153.30	153.30	153.41	
8	153.43	153.43	153.45	153.27	153.28	153.48	153.30	153.29	153.34	153.30	153.31	153.42	
9	153.43	153.43	153.48	153.30	153.28	153.56	153.29	153.30	153.34	153.30	153.33	153.41	
10	153.43	153.42	153.47	153.40	153.30	153.75	153.30	153.31	153.35	153.31	153.33	153.43	
11	153.42	153.42	153.54	153.48	153.31	153.96	153.29	153.29	153.35	153.30	153.34	153.43	
12	153.56	153.40	153.51	153.52	153.32	153.95	153.30	153.28	153.35	153.29	153.32	153.41	
13	153.53	153.41	153.51	153.50	153.33	153.75	153.27	153.28	153.35	153.29	153.31	153.41	
14	153.68	153.41	153.48	153.48	153.41	153.56	153.25	153.27	153.35	153.29	153.31	153.42	
15	153.59	153.41	153.47	153.48	153.44	153.44	153.24	153.29	153.35	153.30	153.32	153.44	
16	153.51	153.41	153.44	153.47	153.44	153.36	153.25	153.32	153.35	153.29	153.36	153.44	
17	153.46	153.42	153.44	153.47	153.45	153.33	153.25	153.27	153.35	153.29	153.33	153.44	
18	153.43	153.43	153.45	153.45	153.47	153.33	153.26	153.31	153.36	153.30	153.37	153.46	
19	153.44	153.43	153.43	153.45	153.46	153.33	153.25	153.33	153.39	153.29	153.37	153.46	
20	153.43	153.44	153.43	153.42	153.48	153.33	153.25	153.34	153.40	153.30	153.37	153.48	
21	153.46	154.45	153.43	153.41	153.46	153.33	153.26	153.34	153.45	153.32	153.38	153.45	
22	153.46	154.15	153.41	153.41	153.45	153.33	153.26	153.33	153.50	153.32	153.37	153.44	
23	153.44	154.01	153.41	153.41	153.46	153.32	153.28	153.34	153.51	153.32	153.37	153.39	
24	153.43	153.97	153.42	153.39	153.46	153.33	153.29	153.34	153.53	153.32	153.37	153.35	
25	153.43	153.47	153.41	153.38	153.40	153.32	153.29	153.34	153.58	153.35	153.39	153.33	
26	153.43	153.44	153.41	153.38	153.38	153.33	153.30	153.34	153.58	153.33	153.39	153.33	
27	153.43	153.45	153.40	153.38	153.39	153.34	153.31	153.34	153.58	153.34	153.39	153.34	
28	153.43	153.47	153.40	153.41	153.39	153.38	153.28	153.34	153.58	153.35	153.39	153.34	
29	153.42	153.48	153.41	153.42	153.39	153.37	153.26	153.34	153.44	153.34		153.35	
30	153.35	153.57	153.41	153.41	153.39	153.45	153.26	153.34	153.31	153.33		153.35	
31		153.60		153.44	153.39		153.27		153.31	153.33		153.36	
Mean	153.45	153.53	153.46	153.41	153.39	153.45	153.31	153.31	153.40	153.31	153.34	153.40	
Max	153.68	154.45	153.60	153.52	153.48	153.96	153.48	153.34	153.58	153.35	153.39	153.48	154.45
Min	153.35	153.27	153.40	153.27	153.27	153.32	153.24	153.27	153.31	153.29	153.30	153.33	153.24

Annual Max Momentary Gage Height 154.65 M (MSL), at 18.00 Hours, on May 21, 1993
Zero Gage at Bottom Elevation 150.92 M (MSL), River Bed 150.79 M (MSL)
Left Bank Elevation 165.57 M (MSL)
Right Bank Elevation 165.01 M (MSL), Drainage Area 13183 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	3.34	0.62	8.60	3.07	3.88	2.40	4.96	0.62	1.60	0.80	1.40	2.60	
2	3.07	3.34	6.74	3.07	3.34	2.60	3.07	0.62	1.60	0.80	1.20	2.80	
3	3.34	3.61	4.69	2.80	2.60	2.40	3.07	0.68	1.60	1.00	1.40	2.80	
4	3.61	3.61	4.69	2.60	2.40	2.80	3.07	0.62	1.80	1.20	1.00	3.07	
5	3.61	3.61	4.69	1.00	2.80	2.80	3.34	0.68	1.80	1.00	1.00	2.80	
6	3.61	3.88	4.42	1.00	0.62	3.61	3.61	0.74	1.60	0.80	0.80	2.80	
7	3.61	3.34	4.42	0.74	0.62	3.61	2.00	0.74	1.60	0.80	0.80	3.07	
8	3.61	3.61	4.15	0.62	0.68	4.96	0.80	0.74	1.60	0.80	1.00	3.34	
9	3.61	3.61	4.96	0.80	0.68	7.36	0.74	0.80	1.60	0.80	1.40	3.07	
10	3.61	3.34	4.69	2.80	0.80	14.20	0.80	1.00	1.80	1.00	1.40	3.61	
11	3.34	3.34	6.74	4.96	1.00	23.92	0.74	0.74	1.80	0.80	1.60	3.61	
12	7.36	2.80	5.81	6.12	1.20	23.40	0.80	0.68	1.80	0.74	1.20	3.07	
13	6.43	3.07	5.81	5.50	1.40	14.20	0.62	0.68	1.80	0.74	1.00	3.07	
14	11.48	3.07	4.96	4.96	3.07	7.36	0.50	0.62	1.80	0.74	1.00	3.34	
15	8.29	3.07	4.69	4.96	3.88	3.88	0.44	0.74	1.80	0.80	1.20	3.88	
16	5.81	3.07	3.88	4.69	3.88	2.00	0.50	1.20	1.80	0.74	2.00	3.88	
17	4.42	3.34	3.88	4.69	4.15	1.40	0.50	0.62	1.80	0.74	1.40	3.88	
18	3.61	3.61	4.15	4.15	4.69	1.40	0.56	1.00	2.00	0.80	2.20	4.42	
19	3.88	3.61	3.61	4.15	4.42	1.40	0.50	1.40	2.60	0.74	2.20	4.42	
20	3.61	3.88	3.61	3.34	4.96	1.40	0.50	1.60	2.80	0.80	2.20	4.96	
21	4.42	39.15	3.61	3.07	4.42	1.40	0.56	1.60	4.15	1.20	2.40	4.15	
22	4.42	30.10	3.07	3.07	4.15	1.40	0.56	1.40	5.50	1.20	2.20	3.88	
23	3.88	26.27	3.07	3.07	4.42	1.20	0.68	1.60	5.81	1.20	2.20	2.60	
24	3.61	24.44	3.34	2.60	4.42	1.40	0.74	1.60	6.43	1.20	2.20	1.80	
25	3.61	4.69	3.07	2.40	2.80	1.20	0.74	1.60	7.98	1.80	2.60	1.40	
26	3.61	3.88	3.07	2.40	2.40	1.40	0.80	1.60	7.98	1.40	2.60	1.40	
27	3.61	4.15	2.80	2.40	2.60	1.60	1.00	1.60	7.98	1.60	2.60	1.60	
28	3.61	4.69	2.80	3.07	2.60	2.40	0.68	1.60	7.98	1.80	2.60	1.60	
29	3.34	4.96	3.07	3.34	2.60	2.20	0.56	1.60	3.88	1.60		1.80	
30	1.80	7.67	3.07	3.07	2.60	4.15	0.56	1.60	1.00	1.40		1.80	
31		8.60		3.88	2.60		0.62		1.00	1.40		2.00	
Total	129.16	224.03	130.16	98.39	86.68	145.45	38.62	32.32	96.29	32.44	46.80	92.52	1152.86 CMSDAY
Mean	4.31	7.23	4.34	3.17	2.80	4.85	1.25	1.08	3.11	1.05	1.67	2.98	3.16 CMS
Max	11.48	39.15	8.60	6.12	4.96	23.92	4.96	1.60	7.98	1.80	2.60	4.96	39.15 CMS
Min	1.80	0.62	2.80	0.62	0.62	1.20	0.44	0.62	1.00	0.74	0.80	1.40	0.44 CMS
Runoff	11.159	19.356	11.246	8.501	7.489	12.567	3.337	2.792	8.319	2.803	4.044	7.994	99.607 MCM

Momentary Peak 45.90 CMS, at 154.65 M (MSL), at 18.00 Hours, on May 21, 1993

Runoff Yield 0.24 Liters/Second/Square KM, Momentary Peak Yield 3.48 Liters/Second/Square KM

WATER YEAR 1993

CHI RIVER BASIN

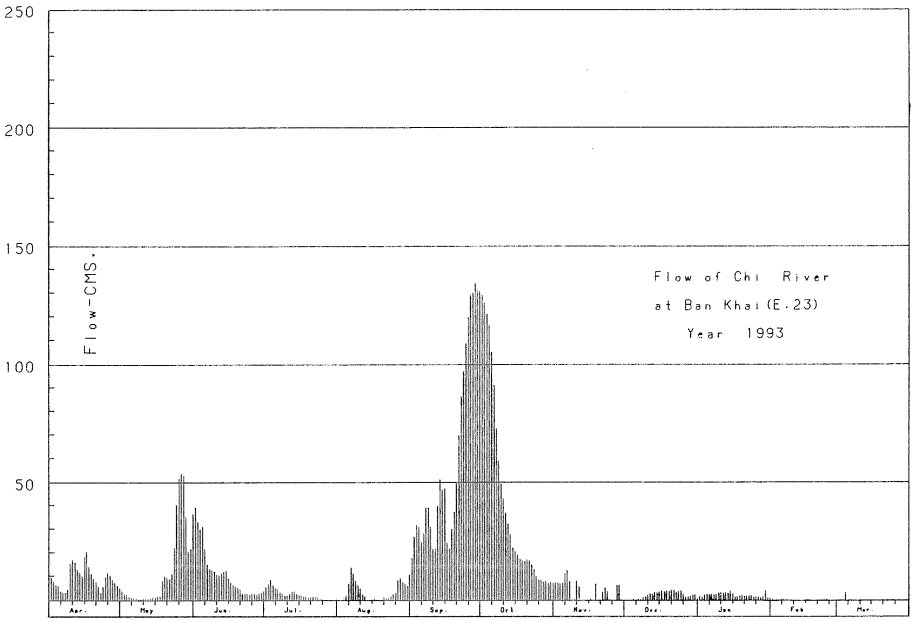
Chi River at Ban Khai, Chaiyaphum (E.23)

Location	Lat. 15°-40'-49" N., Long. 102°-00'-47" E., on left bank at the bridge on highway, Amphoe Muang, Chaiyaphum.
Drainage Area	6,835 sq.km.
Type of Gage	Water-stage recorder.
Zero Gage at Bottom	+174.00 m. (M.S.L.)
Bench Mark	B.M.-H.D.
Location	On left bank about 20 meters from the automatic gage building.
Elevation	+185.283 m. (M.S.L.)
Gage Reading Frequency	Recording.
Basis of Mean Daily Gage Height	Arithmetic mean of 24 readings.
Period of Available Gage Records	1954-1956, 1967 to date.
Rating Operation	
Period of Rating	1968-1974,1982 to date.
Rated by Float	-
Rated by Current Meter	1968-1974,1982 to date.
Stability of Channel Regimes	Fairly stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records fair. Stage-discharge relation defined by 36 discharge measurements made in 1993.

Gage Height in Meter (MSL), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	177.64	177.36	178.86	177.44	177.01	177.86	181.66	177.54	176.93	177.22	177.12	176.87	
2	177.57	177.31	178.44	177.52	177.04	178.04	181.59	177.55	176.97	177.22	177.10	176.92	
3	177.50	177.28	178.10	177.60	177.16	178.29	181.50	177.52	176.99	177.27	177.09	177.01	
4	177.47	177.23	178.24	177.50	177.25	178.20	181.40	177.55	177.00	177.31	177.10	177.33	
5	177.38	177.17	177.93	177.44	177.53	178.00	181.17	177.70	177.04	177.31	177.10	176.99	
6	177.32	177.13	177.80	177.40	177.77	178.07	180.86	177.73	177.06	177.30	177.06	176.85	
7	177.34	177.11	177.75	177.35	177.69	178.83	180.40	177.58	177.12	177.30	177.04	176.77	
8	177.39	177.11	177.73	177.31	177.58	178.84	179.92	177.03	177.18	177.29	177.06	176.88	
9	177.81	177.11	177.72	177.27	177.50	178.21	179.48	177.04	177.23	177.34	177.04	176.86	
10	177.84	177.12	177.67	177.25	177.42	177.93	179.09	177.58	177.27	177.33	177.01	176.85	
11	177.82	177.12	177.66	177.30	177.30	177.94	178.71	177.47	177.32	177.34	177.01	176.82	
12	177.74	177.13	177.70	177.36	177.22	178.87	178.35	177.00	177.31	177.33	176.99	176.71	
13	177.70	177.14	177.71	177.35	176.92	179.57	178.06	176.99	177.34	177.33	176.97	176.68	
14	177.66	177.17	177.73	177.31	176.94	179.33	177.95	177.00	177.34	177.37	177.01	176.62	
15	177.87	177.20	177.63	177.28	177.05	179.37	177.91	177.03	177.35	177.32	177.03	176.59	
16	177.91	177.21	177.55	177.26	177.08	177.99	177.88	177.08	177.37	177.22	176.99	176.54	
17	177.77	177.24	177.50	177.24	177.07	177.94	177.85	177.10	177.37	177.22	176.97	176.50	
18	177.69	177.59	177.46	177.21	177.08	178.11	177.83	177.53	177.37	177.26	176.95	176.47	
19	177.62	177.65	177.44	177.19	177.05	178.72	177.83	177.01	177.37	177.27	176.95	176.45	
20	177.57	177.63	177.40	177.20	177.20	179.47	177.84	176.82	177.39	177.25	176.94	176.40	
21	177.46	177.62	177.30	177.21	177.15	180.30	177.83	177.34	177.40	177.25	176.94	176.36	
22	177.34	177.69	177.32	177.22	177.16	180.74	177.80	177.44	177.35	177.26	176.99	176.35	
23	177.45	177.95	177.30	177.20	177.24	180.99	177.75	177.36	177.36	177.25	177.15	176.51	
24	177.65	178.91	177.30	177.12	177.29	181.25	177.65	176.94	177.38	177.22	177.04	176.80	
25	177.70	179.59	177.31	177.09	177.34	181.47	177.61	176.89	177.29	177.21	176.96	176.90	
26	177.67	179.69	177.31	177.06	177.59	181.66	177.60	176.96	177.24	177.20	176.92	176.93	
27	177.61	179.66	177.29	177.03	177.63	181.68	177.57	177.50	177.23	177.18	176.91	176.97	
28	177.54	178.56	177.32	177.01	177.56	181.76	177.57	177.49	177.23	177.23	176.89	176.99	
29	177.49	177.91	177.34	177.05	177.51	181.70	177.54	177.00	177.28	177.38		177.02	
30	177.42	177.94	177.36	177.02	177.48	181.69	177.55	176.91	177.28	177.18		177.05	
31		178.66		177.01	177.67		177.54		177.24	177.14		177.03	
Mean	177.60	177.72	177.64	177.25	177.31	179.43	178.75	177.26	177.25	177.27	177.01	176.77	
Max	177.91	179.69	178.86	177.60	177.77	181.76	181.66	177.73	177.40	177.38	177.15	177.33	181.76
Min	177.32	177.11	177.29	177.01	176.92	177.86	177.54	176.82	176.93	177.14	176.89	176.35	176.35

Annual Max Momentary Gage Height 181.72 M (MSL), at 12.00 Hours, on Sep 28, 1993
Zero Gage at Bottom Elevation 174.00 M (MSL), River Bed 174.74 M (MSL)
Left Bank Elevation 183.65 M (MSL)
Right Bank Elevation 183.62 M (MSL), Drainage Area 6835 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	9.70	3.70	39.60	5.30	0.23	18.08	129.50	7.30	0.13	1.46	0.64	0.07	
2	7.90	2.70	33.48	6.90	0.32	26.88	126.00	7.50	0.17	1.46	0.50	0.12	
3	6.50	2.24	30.00	8.50	0.92	31.90	121.50	6.90	0.19	2.11	0.47	0.23	
4	5.90	1.59	31.40	6.50	1.85	31.00	116.50	7.50	0.20	2.70	0.50	3.10	
5	4.10	0.99	21.44	5.30	7.10	24.80	105.15	11.50	0.32	2.70	0.50	0.19	
6	2.90	0.71	15.20	4.50	14.09	28.44	91.40	12.61	0.38	2.50	0.38	0.05	
7	3.30	0.57	13.35	3.50	11.20	39.15	73.00	8.10	0.64	2.50	0.32	0.00	
8	4.30	0.57	12.61	2.70	8.10	39.30	59.00	0.29	1.06	2.37	0.38	0.08	
9	15.68	0.57	12.24	2.11	6.50	31.10	49.60	0.32	1.59	3.30	0.32	0.06	
10	17.12	0.64	10.60	1.85	4.90	21.44	43.05	8.10	2.11	3.10	0.23	0.05	
11	16.16	0.64	10.30	2.50	2.50	21.92	37.35	5.90	2.90	3.30	0.23	0.02	
12	12.98	0.71	11.50	3.70	1.46	39.75	32.50	0.20	2.70	3.10	0.19	0.00	
13	11.50	0.78	11.87	3.50	0.12	51.40	27.92	0.19	3.30	3.10	0.17	0.00	
14	10.30	0.99	12.61	2.70	0.14	46.74	22.40	0.20	3.30	3.90	0.23	0.00	
15	18.56	1.20	9.40	2.24	0.35	47.46	20.48	0.29	3.50	2.90	0.29	0.00	
16	20.48	1.33	7.50	1.98	0.44	24.32	19.04	0.44	3.90	1.46	0.19	0.00	
17	14.09	1.72	6.50	1.72	0.41	21.92	17.60	0.50	3.90	1.46	0.17	0.00	
18	11.20	8.30	5.70	1.33	0.44	30.10	16.64	7.10	3.90	1.98	0.15	0.00	
19	9.10	10.00	5.30	1.13	0.35	37.50	16.64	0.23	3.90	2.11	0.15	0.00	
20	7.90	9.40	4.50	1.20	1.20	49.40	17.12	0.02	4.30	1.85	0.14	0.00	
21	5.70	9.10	2.50	1.33	0.85	70.00	16.64	3.30	4.50	1.85	0.14	0.00	
22	3.30	11.20	2.90	1.46	0.92	86.60	15.20	5.30	3.50	1.98	0.19	0.00	
23	5.50	22.40	2.50	1.20	1.72	97.05	13.35	3.70	3.70	1.85	0.85	0.00	
24	10.00	40.35	2.50	0.64	2.37	109.00	10.00	0.14	4.10	1.46	0.32	0.00	
25	11.50	51.80	2.70	0.47	3.30	120.00	8.80	0.09	2.37	1.33	0.16	0.10	
26	10.60	53.80	2.70	0.38	8.30	129.50	8.50	0.16	1.72	1.20	0.12	0.13	
27	8.80	53.20	2.37	0.29	9.40	130.50	7.90	6.50	1.59	1.06	0.11	0.17	
28	7.30	35.10	2.90	0.23	7.70	134.50	7.90	6.30	1.59	1.59	0.09	0.19	
29	6.30	20.48	3.30	0.35	6.70	131.50	7.30	0.20	2.24	4.10		0.26	
30	4.90	21.92	3.70	0.26	6.10	131.00	7.50	0.11	2.24	1.06		0.35	
31		36.60		0.23	10.60		7.30		1.72	0.78		0.29	
Total	283.57	405.30	333.17	76.00	120.58	1802.25	1252.78	110.99	71.66	67.62	8.13	5.46	4537.51 CMSDAY
Mean	9.45	13.07	11.11	2.45	3.89	60.08	40.41	3.70	2.31	2.18	0.29	0.18	12.43 CMS
Max	20.48	53.80	39.60	8.50	14.09	134.50	129.50	12.61	4.50	4.10	0.85	3.10	134.50 CMS
Min	2.90	0.57	2.37	0.23	0.12	18.08	7.30	0.02	0.13	0.78	0.09	0.00	0.00 CMS
Runoff	24.500	35.018	28.786	6.566	10.418	155.714	108.240	9.590	6.191	5.842	0.702	0.472	392.041 MCM

Momentary Peak 132.50 CMS, at 181.72 M (MSL), at 12.00 Hours, on Sep 28, 1993

Runoff Yield 1.82 Liters/Second/Square KM, Momentary Peak Yield 19.39 Liters/Second/Square KM

WATER YEAR 1993

CHI RIVER BASIN

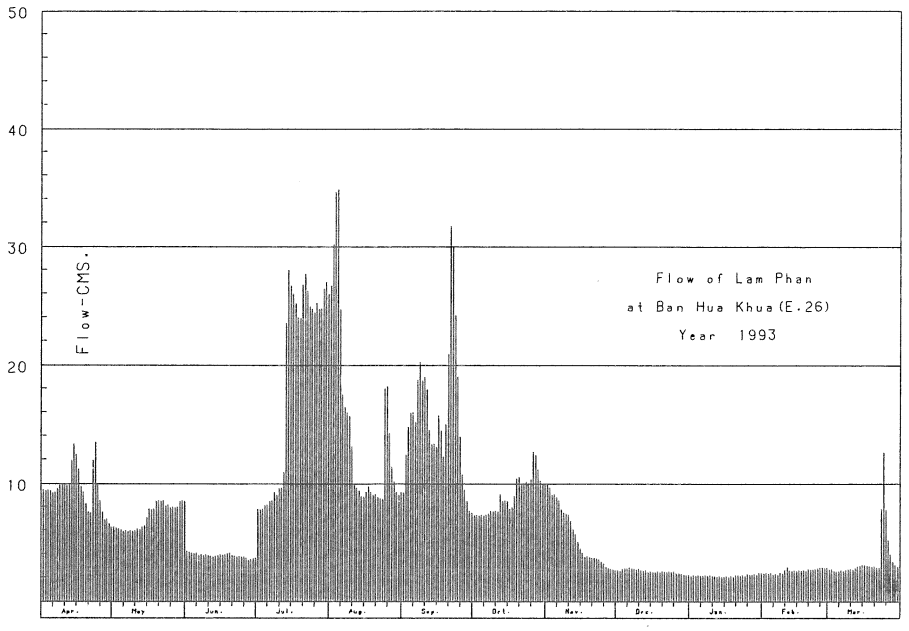
Lam Phan at Ban Hua Khua, Kalasin (E.26)

Location	Lat. 16°-24'-36" N., Long. 103°-28'-15 E., on right bank at the bridge on the road, Amphoe Yang Talat, Kalasin.
Drainage Area	6,565 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+134.633 m.(M.S.L.)
Bench Mark	B.M.-H.D.
Location	On right bank upstream side at the abutment of the bridge.
Elevation	+145.395 m.(M.S.L.)
Gage Reading Frequency	5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1954 to date.
Rating Operation	
Period of Rating	1971-1976, 1982 to date.
Rated by Float	-
Rated by Current Meter	1971-1976, 1982 to date.
Stability of Channel Regimes	Stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Flow regulated by Lam Pao Dam. Stage-discharge relation defined by 20 discharge measurements made in 1993.

Gage Height in Meter (MSL), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	134.78	134.60	134.46	134.69	135.51	134.77	134.66	134.81	134.33	134.29	134.31	134.34	
2	134.78	134.60	134.46	134.69	135.65	134.93	134.66	134.79	134.33	134.29	134.31	134.34	
3	134.78	134.59	134.45	134.69	135.82	135.03	134.66	134.76	134.34	134.29	134.31	134.33	
4	134.78	134.59	134.45	134.71	135.83	135.08	134.66	134.76	134.35	134.29	134.31	134.33	
5	134.77	134.58	134.45	134.71	135.43	135.08	134.66	134.75	134.35	134.29	134.30	134.33	
6	134.77	134.58	134.44	134.73	135.14	135.05	134.66	134.73	134.35	134.29	134.30	134.33	
7	134.79	134.58	134.44	134.73	135.10	135.19	134.67	134.69	134.35	134.29	134.30	134.33	
8	134.81	134.58	134.44	134.77	135.08	135.25	134.68	134.67	134.34	134.29	134.31	134.33	
9	134.81	134.58	134.44	134.76	135.07	135.19	134.68	134.67	134.34	134.29	134.31	134.34	
10	134.81	134.58	134.44	134.79	134.96	135.20	134.68	134.66	134.34	134.29	134.33	134.34	
11	134.80	134.59	134.43	134.79	134.81	135.16	134.68	134.63	134.33	134.28	134.36	134.34	
12	134.81	134.59	134.43	134.86	134.79	135.02	134.76	134.59	134.33	134.28	134.33	134.35	
13	134.91	134.60	134.43	135.38	134.78	134.97	134.73	134.56	134.33	134.28	134.33	134.36	
14	134.97	134.61	134.44	135.56	134.75	134.97	134.73	134.52	134.32	134.28	134.33	134.37	
15	134.93	134.65	134.44	135.51	134.75	134.96	134.73	134.48	134.32	134.28	134.33	134.37	
16	134.87	134.69	134.44	135.48	134.77	135.07	134.69	134.45	134.32	134.28	134.33	134.37	
17	134.80	134.69	134.44	135.45	134.80	135.02	134.70	134.43	134.32	134.28	134.33	134.37	
18	134.77	134.69	134.45	135.40	134.77	134.92	134.75	134.43	134.32	134.28	134.33	134.36	
19	134.72	134.73	134.45	135.40	134.76	135.04	134.83	134.43	134.32	134.28	134.33	134.36	
20	134.68	134.73	134.44	135.51	134.76	135.28	134.84	134.42	134.32	134.29	134.34	134.36	
21	134.67	134.73	134.43	135.55	134.75	135.71	134.81	134.42	134.32	134.29	134.34	134.35	
22	134.91	134.73	134.43	135.49	134.74	135.64	134.81	134.42	134.32	134.29	134.34	134.35	
23	134.98	134.71	134.43	135.44	134.74	135.41	134.82	134.41	134.32	134.29	134.34	134.69	
24	134.81	134.71	134.43	135.43	135.16	135.20	134.81	134.40	134.32	134.29	134.35	134.94	
25	134.73	134.70	134.43	135.42	135.17	135.00	134.83	134.38	134.32	134.30	134.35	134.69	
26	134.68	134.70	134.42	135.45	135.01	134.85	134.94	134.36	134.31	134.30	134.35	134.53	
27	134.64	134.70	134.41	135.43	134.88	134.78	134.93	134.35	134.31	134.30	134.35	134.44	
28	134.64	134.70	134.41	135.43	134.82	134.73	134.87	134.34	134.30	134.30	134.35	134.40	
29	134.62	134.73	134.42	135.50	134.77	134.68	134.82	134.34	134.30	134.30		134.37	
30	134.60	134.73	134.42	135.52	134.76	134.67	134.81	134.33	134.29	134.31		134.36	
31		134.73		135.48	134.77		134.81		134.29	134.31		134.36	
Mean	134.78	134.65	134.44	135.19	135.00	135.06	134.75	134.53	134.32	134.29	134.33	134.40	
Max	134.98	134.73	134.46	135.56	135.83	135.71	134.94	134.81	134.35	134.31	134.36	134.94	135.83
Min	134.60	134.58	134.41	134.69	134.74	134.67	134.66	134.33	134.29	134.28	134.30	134.33	134.28

Annual Max Momentary Gage Height 135.86 M (MSL), at 7.00 Hours, on Aug 4, 1993
Zero Gage at Bottom Elevation 134.63 M (MSL), River Bed 133.35 M (MSL)
Left Bank Elevation 140.52 M (MSL)
Right Bank Elevation 140.88 M (MSL), Drainage Area 6565 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	9.44	6.30	4.24	7.83	26.75	9.26	7.32	10.00	2.63	2.21	2.41	2.74	
2	9.44	6.30	4.24	7.83	30.25	12.46	7.32	9.62	2.63	2.21	2.41	2.74	
3	9.44	6.15	4.10	7.83	34.60	14.75	7.32	9.08	2.74	2.21	2.41	2.63	
4	9.44	6.15	4.10	8.18	34.90	16.00	7.32	9.08	2.85	2.21	2.41	2.63	
5	9.26	6.00	4.10	8.18	24.75	16.00	7.32	8.90	2.85	2.21	2.30	2.63	
6	9.26	6.00	3.96	8.54	17.50	15.25	7.32	8.54	2.85	2.21	2.30	2.63	
7	9.62	6.00	3.96	8.54	16.50	18.75	7.49	7.83	2.85	2.21	2.30	2.63	
8	10.00	6.00	3.96	9.26	16.00	20.25	7.66	7.49	2.74	2.21	2.41	2.63	
9	10.00	6.00	3.96	9.08	15.75	18.75	7.66	7.49	2.74	2.21	2.41	2.74	
10	10.00	6.00	3.96	9.62	13.12	19.00	7.66	7.32	2.74	2.21	2.63	2.74	
11	9.80	6.15	3.82	9.62	10.00	18.00	7.66	6.81	2.63	2.12	2.96	2.74	
12	10.00	6.15	3.82	11.00	9.62	14.50	9.08	6.15	2.63	2.12	2.63	2.85	
13	12.02	6.30	3.82	23.50	9.44	13.34	8.54	5.70	2.63	2.12	2.63	2.96	
14	13.34	6.47	3.96	28.00	8.90	13.34	8.54	5.10	2.52	2.12	2.63	3.07	
15	12.46	7.15	3.96	26.75	8.90	13.12	8.54	4.52	2.52	2.12	2.63	3.07	
16	11.20	7.83	3.96	26.00	9.26	15.75	7.83	4.10	2.52	2.12	2.63	3.07	
17	9.80	7.83	3.96	25.25	9.80	14.50	8.00	3.82	2.52	2.12	2.63	3.07	
18	9.26	7.83	4.10	24.00	9.26	12.24	8.90	3.82	2.52	2.12	2.63	2.96	
19	8.36	8.54	4.10	24.00	9.08	15.00	10.40	3.82	2.52	2.12	2.63	2.96	
20	7.66	8.54	3.96	26.75	9.08	21.00	10.60	3.68	2.52	2.21	2.74	2.96	
21	7.49	8.54	3.82	27.75	8.90	31.75	10.00	3.68	2.52	2.21	2.74	2.85	
22	12.02	8.54	3.82	26.25	8.72	30.00	10.00	3.68	2.52	2.21	2.74	2.85	
23	13.56	8.18	3.82	25.00	8.72	24.25	10.20	3.54	2.52	2.21	2.74	7.83	
24	10.00	8.18	3.82	24.75	18.00	19.00	10.00	3.40	2.52	2.21	2.85	12.68	
25	8.54	8.00	3.82	24.50	18.25	14.00	10.40	3.18	2.52	2.30	2.85	7.83	
26	7.66	8.00	3.68	25.25	14.25	10.80	12.68	2.96	2.41	2.30	2.85	5.25	
27	6.98	8.00	3.54	24.75	11.40	9.44	12.46	2.85	2.41	2.30	2.85	3.96	
28	6.98	8.00	3.54	24.75	10.20	8.54	11.20	2.74	2.30	2.30	2.85	3.40	
29	6.64	8.54	3.68	26.50	9.26	7.66	10.20	2.74	2.30	2.30		3.07	
30	6.30	8.54	3.68	27.00	9.08	7.49	10.00	2.63	2.21	2.41		2.96	
31		8.54		26.00	9.26		10.00		2.21	2.41		2.96	
Total	285.97	224.75	117.26	592.26	449.50	474.19	279.62	164.27	79.59	68.55	73.20	112.09	2921.25 CMSDAY
Mean	9.53	7.25	3.91	19.11	14.50	15.81	9.02	5.48	2.57	2.21	2.61	3.62	8.00 CMS
Max	13.56	8.54	4.24	28.00	34.90	31.75	12.68	10.00	2.85	2.41	2.96	12.68	34.90 CMS
Min	6.30	6.00	3.54	7.83	8.72	7.49	7.32	2.63	2.21	2.12	2.30	2.63	2.12 CMS
Runoff	24.708	19.418	10.131	51.171	38.837	40.970	24.159	14.193	6.877	5.923	6.324	9.685	252.396 MCM

Momentary Peak 35.80 CMS, at 135.86 M (MSL), at 7.00 Hours, on Aug 4, 1993
Runoff Yield 1.22 Liters/Second/Square KM, Momentary Peak Yield 5.45 Liters/Second/Square KM

WATER YEAR 1993

CHI RIVER BASIN

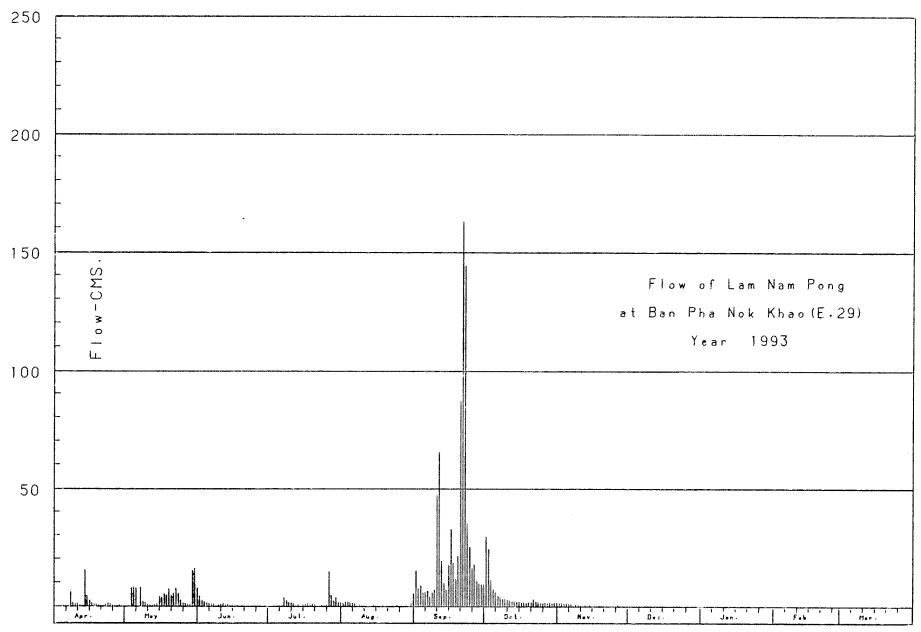
Lam Nam Phong at Ban Pha Nok Khao, Loei (E.29)

Location	Lat. 16°-50'-45" N., Long. 101°-56'-54" E., on right bank in the vicinity of the forestry office about 400 meters from the bridge on highway, Ban Pha Nok Khao, Amphoe Phu Kradung, Loei.
Drainage Area	945 sq.km.
Type of Gage	Water-stage recorder.
Zero Gage at Bottom	+225.00 m. (M.S.L.)
Bench Mark	B.M.-H.D.
Location	Infront of the automatic gage building.
Elevation	+236.945 m. (M.S.L.)
Gage Reading Frequency	Recording.
Basis of Mean Daily Gage Height	Arithmetic mean of 24 readings.
Period of Available Gage Records	1956-1958, 1967 to date.
Rating Operation	
Period of Rating	1978 to date.
Rated by Float	-
Rated by Current Meter	1978 to date.
Stability of Channel Regimes	Fairly stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Stage-discharge relation defined by 94 discharge measurements made in 1993.

Gage Height in Meter (MSL), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	225.72	225.73	226.30	225.70	225.91	227.43	228.51	225.94	225.74	225.66	226.23	226.03	
2	225.70	225.72	226.10	225.70	226.00	226.65	228.17	225.92	225.74	225.66	226.24	226.02	
3	225.70	226.71	226.00	225.70	226.02	226.81	227.02	225.91	225.74	225.66	226.23	226.01	
4	225.70	226.71	225.95	225.71	225.94	226.49	226.64	225.89	225.74	225.66	226.24	226.01	
5	225.70	226.70	225.90	225.73	225.94	226.46	226.47	225.89	225.73	225.65	226.24	226.01	
6	225.70	225.69	225.87	225.79	225.90	226.57	226.34	225.87	225.73	225.65	226.23	226.01	
7	226.51	226.70	225.85	226.21	225.86	226.26	226.24	225.84	225.72	225.64	226.21	226.01	
8	225.93	226.03	225.80	226.09	225.83	226.48	226.17	225.83	225.72	225.64	226.22	226.01	
9	225.88	225.93	225.86	226.07	225.81	226.58	226.14	225.83	225.71	225.64	226.22	226.02	
10	225.88	225.83	225.86	225.97	225.80	229.69	226.12	225.83	225.71	225.64	226.26	226.02	
11	225.81	225.82	225.89	225.88	225.77	230.62	226.08	225.82	225.69	225.64	226.41	226.03	
12	225.79	225.79	225.85	225.84	225.76	227.81	226.05	225.82	225.69	225.65	226.30	226.09	
13	227.46	225.84	225.82	225.81	225.75	226.90	226.01	225.81	225.67	225.64	226.27	226.11	
14	226.31	225.84	225.80	225.80	225.75	226.58	226.00	225.82	225.65	225.63	226.28	226.12	
15	226.09	226.29	225.78	225.80	225.74	227.68	226.00	225.82	225.64	225.64	226.31	226.33	
16	225.94	226.23	225.77	225.86	225.73	228.74	225.99	225.78	225.69	225.70	226.25	226.32	
17	225.87	226.43	225.77	225.90	225.73	227.74	225.96	225.78	225.69	226.13	226.27	226.26	
18	225.83	226.34	225.76	225.85	225.73	227.07	225.95	225.78	225.64	226.23	226.28	226.22	
19	225.81	226.62	225.75	225.86	225.72	227.95	225.95	225.76	225.64	226.12	226.26	226.21	
20	225.79	226.35	225.74	225.84	225.72	231.70	225.99	225.76	225.67	226.12	226.24	226.17	
21	225.79	226.42	225.73	225.79	225.71	234.50	226.13	225.76	225.69	226.13	226.25	226.17	
22	225.82	226.69	225.73	225.78	225.72	233.89	226.05	225.77	225.68	226.20	226.24	226.29	
23	225.94	226.45	225.72	225.77	225.72	228.87	225.99	225.76	225.67	226.22	226.24	226.24	
24	225.88	226.08	225.72	225.76	225.74	228.23	225.95	225.75	225.66	226.22	226.19	226.26	
25	225.83	225.95	225.71	225.80	225.73	227.54	225.95	225.75	225.67	226.26	226.04	226.33	
26	225.81	225.88	225.70	227.41	225.73	227.67	225.94	225.75	225.67	226.26	226.03	226.25	
27	225.78	225.86	225.70	226.33	225.76	227.00	225.94	225.75	225.67	226.25	226.04	226.18	
28	225.77	225.83	225.70	226.09	225.87	226.86	225.94	225.75	225.67	226.23	226.03	226.15	
29	225.75	227.45	225.70	226.22	225.84	226.85	225.94	225.75	225.67	226.23		226.12	
30	225.74	227.51	225.69	225.98	225.93	226.82	225.94	225.74	225.66	226.23		226.14	
31		226.72		225.94	226.41		225.94		225.66	226.23		226.22	
Mean	225.91	226.26	225.82	225.93	225.82	228.01	226.24	225.81	225.69	225.92	226.22	226.14	
Max	227.46	227.51	226.30	227.41	226.41	234.50	228.51	225.94	225.74	226.26	226.41	226.33	234.50
Min	225.70	225.69	225.69	225.70	225.71	226.26	225.94	225.74	225.64	225.63	226.03	226.01	225.63

Annual Max Momentary Gage Height 235.44 M (MSL), at 24.00 Hours, on Sep 21, 1993
Zero Gage at Bottom Elevation 225.00 M (MSL), River Bed 225.53 M (MSL)
Left Bank Elevation 236.76 M (MSL)
Right Bank Elevation 238.12 M (MSL), Drainage Area 945 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.46	0.49	4.40	0.40	1.37	15.30	29.65	1.58	0.52	0.32	0.00	0.00	
2	0.40	0.46	2.80	0.40	2.00	7.55	24.55	1.44	0.52	0.32	0.00	0.00	
3	0.40	8.10	2.00	0.40	2.16	9.10	11.20	1.37	0.52	0.32	0.00	0.00	
4	0.40	8.10	1.65	0.43	1.58	6.11	7.46	1.24	0.52	0.32	0.00	0.00	
5	0.40	8.00	1.30	0.49	1.58	5.84	5.93	1.24	0.49	0.30	0.00	0.00	
6	0.40	0.38	1.12	0.67	1.30	6.83	4.76	1.12	0.49	0.30	0.00	0.00	
7	6.29	8.00	1.00	3.68	1.06	4.08	3.92	0.94	0.46	0.28	0.00	0.00	
8	1.51	2.24	0.70	2.72	0.88	6.02	3.36	0.88	0.46	0.28	0.00	0.00	
9	1.18	1.51	1.06	2.56	0.76	6.92	3.12	0.88	0.43	0.28	0.00	0.00	
10	1.18	0.88	1.06	1.79	0.70	47.35	2.96	0.88	0.43	0.28	0.00	0.00	
11	0.76	0.82	1.24	1.18	0.61	65.40	2.64	0.82	0.38	0.28	0.00	0.00	
12	0.67	0.67	1.00	0.94	0.58	19.15	2.40	0.82	0.38	0.30	0.00	0.00	
13	15.60	0.94	0.82	0.76	0.55	10.00	2.08	0.76	0.34	0.28	0.00	0.00	
14	4.49	0.94	0.70	0.70	0.55	6.92	2.00	0.82	0.30	0.26	0.00	0.00	
15	2.72	4.32	0.64	0.70	0.52	17.80	2.00	0.82	0.28	0.00	0.00	0.00	
16	1.58	3.84	0.61	1.06	0.49	33.10	1.93	0.64	0.38	0.00	0.00	0.00	
17	1.12	5.57	0.61	1.30	0.49	18.40	1.72	0.64	0.38	0.00	0.00	0.00	
18	0.88	4.76	0.58	1.00	0.49	11.70	1.65	0.64	0.28	0.00	0.00	0.00	
19	0.76	7.28	0.55	1.06	0.46	21.25	1.65	0.58	0.28	0.00	0.00	0.00	
20	0.67	4.85	0.52	0.94	0.46	87.50	1.93	0.58	0.34	0.00	0.00	0.00	
21	0.67	5.48	0.49	0.67	0.43	163.00	3.04	0.58	0.38	0.00	0.00	0.00	
22	0.82	7.91	0.49	0.64	0.46	144.70	2.40	0.61	0.36	0.00	0.00	0.00	
23	1.58	5.75	0.46	0.61	0.46	35.05	1.93	0.58	0.34	0.00	0.00	0.00	
24	1.18	2.64	0.46	0.58	0.52	25.45	1.65	0.55	0.32	0.00	0.00	0.00	
25	0.88	1.65	0.43	0.70	0.49	16.40	1.65	0.55	0.34	0.00	0.00	0.00	
26	0.76	1.18	0.40	15.10	0.49	17.70	1.58	0.55	0.34	0.00	0.00	0.00	
27	0.64	1.06	0.40	4.67	0.58	11.00	1.58	0.55	0.34	0.00	0.00	0.00	
28	0.61	0.88	0.40	2.72	1.12	9.60	1.58	0.55	0.34	0.00	0.00	0.00	
29	0.55	15.50	0.40	3.76	0.94	9.50	1.58	0.55	0.34	0.00		0.00	
30	0.52	16.10	0.38	1.86	1.51	9.20	1.58	0.52	0.32	0.00		0.00	
31		8.20		1.58	5.39		1.58		0.32	0.00		0.00	
Total	50.08	138.50	28.67	56.07	30.98	847.92	137.06	24.28	11.92	4.12	0.00	0.00	1329.60 CMSDAY
Mean	1.67	4.47	0.96	1.81	1.00	28.26	4.42	0.81	0.38	0.13	0.00	0.00	3.64 CMS
Max	15.60	16.10	4.40	15.10	5.39	163.00	29.65	1.58	0.52	0.32	0.00	0.00	163.00 CMS
Min	0.40	0.38	0.38	0.40	0.43	4.08	1.58	0.52	0.28	0.00	0.00	0.00	0.00 CMS
Runoff	4.327	11.966	2.477	4.844	2.677	73.260	11.842	2.098	1.030	0.356	0.000	0.000	114.877 MCM

Momentary Peak 191.20 CMS, at 235.44 M (MSL), at 24.00 Hours, on Sep 21, 1993
Runoff Yield 3.85 Liters/Second/Square KM, Momentary Peak Yield 202.33 Liters/Second/Square KM

WATER YEAR 1993

CHI RIVER BASIN

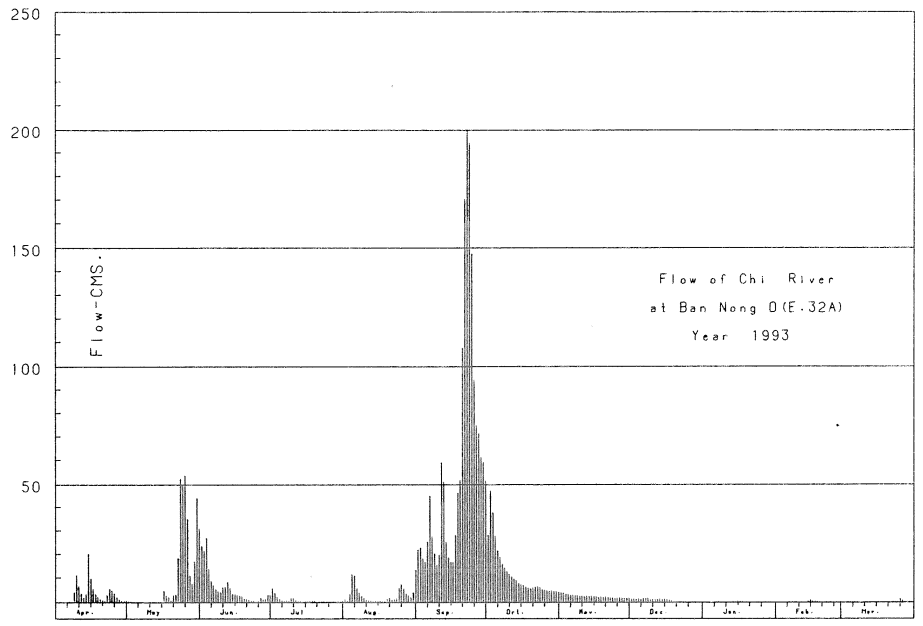
Chi River at Ban Nong O, Chaiyaphum (E.32A)

Location	Lat. 15°-54'-40" N., Long. 101°-42'-40" E., on left bank about 500 meters north of Ban Nong O, about 600 meters upstream from E.32 gaging station, Amphoe Ban Khwao, Chaiyaphum.
Drainage Area	2,905 sq.km.
Type of Gage	Water-stage recorder.
Zero Gage at Bottom	+198.00 m. (M.S.L.)
Bench Mark	B.M.-H.D.
Location	On right bank at the automatic gage building.
Elevation	+210.804 m. (M.S.L.)
Gage Reading Frequency	Recording.
Basis of Mean Daily Gage Height	Arithmetic mean of 24 readings.
Period of Available Gage Records	1966 to date.
Rating Operation	
Period of Rating	1968 to date.
Rated by Float	-
Rated by Current Meter	1968 to date.
Stability of Channel Regimes	Stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Stage-discharge relation defined by 79 discharge measurements made in 1993.

Gage Height in Meter (MSL), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	198.55	198.59	199.92	198.95	198.63	199.83	200.15	198.84	198.65	198.54	198.53	198.48	
2	198.55	198.55	199.81	198.83	198.59	199.89	201.08	198.82	198.65	198.56	198.53	198.48	
3	198.53	198.52	200.09	198.70	198.79	199.65	200.63	198.80	198.65	198.56	198.53	198.48	
4	198.53	198.50	199.42	198.65	199.31	199.56	200.12	198.78	198.65	198.56	198.53	198.48	
5	198.53	198.49	199.17	198.62	199.29	200.01	199.82	198.77	198.65	198.56	198.53	198.48	
6	198.53	198.49	199.03	198.60	198.96	200.99	199.67	198.76	198.66	198.56	198.53	198.48	
7	198.52	198.49	198.93	198.61	198.82	200.11	199.54	198.76	198.68	198.56	198.53	198.48	
8	198.85	198.49	198.86	198.61	198.74	199.76	199.44	198.75	198.67	198.56	198.54	198.48	
9	199.29	198.48	198.85	198.68	198.67	199.50	199.37	198.74	198.64	198.56	198.54	198.48	
10	199.01	198.48	198.97	198.67	198.63	199.72	199.31	198.73	198.64	198.59	198.54	198.48	
11	198.82	198.48	198.98	198.61	198.62	201.70	199.27	198.73	198.64	198.60	198.54	198.48	
12	198.70	198.48	199.14	198.59	198.61	201.27	199.22	198.73	198.65	198.61	198.54	198.49	
13	198.78	198.48	198.95	198.59	198.59	199.99	199.17	198.73	198.65	198.60	198.54	198.49	
14	199.76	198.48	198.80	198.59	198.59	199.67	199.10	198.73	198.64	198.60	198.63	198.53	
15	199.23	198.48	198.79	198.59	198.58	199.58	199.06	198.73	198.64	198.60	198.64	198.61	
16	198.93	198.89	198.76	198.59	198.58	199.56	199.03	198.72	198.64	198.59	198.57	198.51	
17	198.80	198.74	198.75	198.60	198.58	200.15	199.00	198.71	198.63	198.58	198.61	198.56	
18	198.70	198.71	198.72	198.61	198.59	201.05	198.96	198.71	198.60	198.56	198.58	198.60	
19	198.65	198.60	198.67	198.59	198.66	201.30	198.95	198.71	198.60	198.54	198.58	198.56	
20	198.61	198.80	198.64	198.59	198.68	203.77	198.96	198.71	198.60	198.54	198.58	198.56	
21	198.61	198.78	198.62	198.59	198.63	205.95	198.99	198.71	198.58	198.54	198.58	198.58	
22	198.77	199.67	198.61	198.59	198.64	206.70	199.02	198.69	198.57	198.53	198.56	198.58	
23	198.95	201.35	198.60	198.58	198.66	206.56	198.97	198.68	198.56	198.53	198.53	198.56	
24	198.89	201.22	198.57	198.58	198.97	205.26	198.93	198.68	198.56	198.53	198.51	198.59	
25	198.80	201.41	198.58	198.58	199.06	203.22	198.90	198.67	198.56	198.53	198.50	198.67	
26	198.71	200.50	198.69	198.59	198.94	202.44	198.89	198.68	198.56	198.53	198.49	198.62	
27	198.64	199.29	198.65	198.59	198.81	202.30	198.88	198.68	198.56	198.53	198.48	198.58	
28	198.60	199.07	198.64	198.59	198.74	201.80	198.88	198.67	198.56	198.53	198.48	198.57	
29	198.60	199.58	198.78	198.59	198.70	201.69	198.87	198.68	198.56	198.53		198.57	
30	198.60	200.94	198.76	198.59	198.84	201.29	198.86	198.67	198.56	198.53		198.57	
31		200.28		198.59	199.41		198.84		198.55	198.53		198.57	
Mean	198.77	199.14	198.92	198.62	198.77	201.48	199.29	198.73	198.61	198.56	198.55	198.54	
Max	199.76	201.41	200.09	198.95	199.41	206.70	201.08	198.84	198.68	198.61	198.64	198.67	206.70
Min	198.52	198.48	198.57	198.58	198.58	199.50	198.84	198.67	198.55	198.53	198.48	198.48	198.48

Annual Max Momentary Gage Height 206.76 M (MSL), at 21.00 Hours, on Sep 22, 1993
Zero Gage at Bottom Elevation 198.00 M (MSL), River Bed 197.50 M (MSL)
Left Bank Elevation 210.70 M (MSL)
Right Bank Elevation 211.01 M (MSL), Drainage Area 2905 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.25	0.45	23.90	5.75	0.95	22.10	28.50	4.10	1.25	0.20	0.15	0.00	
2	0.25	0.25	21.70	3.95	0.45	23.30	47.10	3.80	1.25	0.30	0.15	0.00	
3	0.15	0.10	27.30	2.00	3.35	18.50	38.10	3.50	1.25	0.30	0.15	0.00	
4	0.15	0.00	13.90	1.25	11.70	16.70	27.90	3.20	1.25	0.30	0.15	0.00	
5	0.15	0.00	9.05	0.80	11.30	25.70	21.90	3.05	1.25	0.30	0.15	0.00	
6	0.15	0.00	6.95	0.50	5.90	45.30	18.90	2.90	1.40	0.30	0.15	0.00	
7	0.10	0.00	5.45	0.65	3.80	27.70	16.30	2.90	1.70	0.30	0.15	0.00	
8	4.25	0.00	4.40	0.65	2.60	20.70	14.30	2.75	1.55	0.30	0.20	0.00	
9	11.30	0.00	4.25	1.70	1.55	15.50	12.90	2.60	1.10	0.30	0.20	0.00	
10	6.65	0.00	6.05	1.55	0.95	19.90	11.70	2.45	1.10	0.45	0.20	0.00	
11	3.80	0.00	6.20	0.65	0.80	59.50	10.90	2.45	1.10	0.50	0.20	0.00	
12	2.00	0.00	8.60	0.45	0.65	50.90	9.90	2.45	1.25	0.65	0.20	0.00	
13	3.20	0.00	5.75	0.45	0.45	25.30	9.05	2.45	1.25	0.50	0.20	0.00	
14	20.70	0.00	3.50	0.45	0.45	18.90	8.00	2.45	1.10	0.50	0.95	0.15	
15	10.10	0.00	3.35	0.45	0.40	17.10	7.40	2.45	1.10	0.50	1.10	0.65	
16	5.45	4.85	2.90	0.45	0.40	16.70	6.95	2.30	1.10	0.45	0.35	0.05	
17	3.50	2.60	2.75	0.50	0.40	28.50	6.50	2.15	0.95	0.40	0.65	0.30	
18	2.00	2.15	2.30	0.65	0.45	46.50	5.90	2.15	0.50	0.30	0.40	0.50	
19	1.25	0.50	1.55	0.45	1.40	51.50	5.75	2.15	0.50	0.20	0.40	0.30	
20	0.65	3.50	1.10	0.45	1.70	108.05	5.90	2.15	0.50	0.20	0.40	0.30	
21	0.65	3.20	0.80	0.45	0.95	170.75	6.35	2.15	0.40	0.20	0.40	0.40	
22	3.05	18.90	0.65	0.45	1.10	200.00	6.80	1.85	0.35	0.15	0.30	0.40	
23	5.75	52.50	0.50	0.40	1.40	194.40	6.05	1.70	0.30	0.15	0.15	0.30	
24	4.85	49.90	0.35	0.40	6.05	147.80	5.45	1.70	0.30	0.15	0.05	0.45	
25	3.50	53.70	0.40	0.40	7.40	94.30	5.00	1.55	0.30	0.15	0.00	1.55	
26	2.15	35.50	1.85	0.45	5.60	74.92	4.85	1.70	0.30	0.15	0.00	0.80	
27	1.10	11.30	1.25	0.45	3.65	71.70	4.70	1.70	0.30	0.15	0.00	0.40	
28	0.50	7.55	1.10	0.45	2.60	61.50	4.70	1.55	0.30	0.15	0.00	0.35	
29	0.50	17.10	3.20	0.45	2.00	59.30	4.55	1.70	0.30	0.15		0.35	
30	0.50	44.30	2.90	0.45	4.10	51.30	4.40	1.55	0.30	0.15		0.35	
31		31.10		0.45	13.70		4.10		0.25	0.15		0.35	
Total	98.60	339.45	173.95	28.55	98.20	1784.32	370.80	71.55	25.85	8.95	7.40	7.95	3015.57 CMSDAY
Mean	3.29	10.95	5.80	0.92	3.17	59.48	11.96	2.39	0.83	0.29	0.26	0.26	8.26 CMS
Max	20.70	53.70	27.30	5.75	13.70	200.00	47.10	4.10	1.70	0.65	1.10	1.55	200.00 CMS
Min	0.10	0.00	0.35	0.40	0.40	15.50	4.10	1.55	0.25	0.15	0.00	0.00	0.00 CMS
Runoff	8.519	29.328	15.029	2.467	8.484	154.165	32.037	6.182	2.233	0.773	0.639	0.687	260.545 MCM

Momentary Peak 202.70 CMS, at 206.76 M (MSL), at 21.00 Hours, on Sep 22, 1993

Runoff Yield 2.84 Liters/Second/Square KM, Momentary Peak Yield 69.78 Liters/Second/Square KM

WATER YEAR 1993

CHI RIVER BASIN

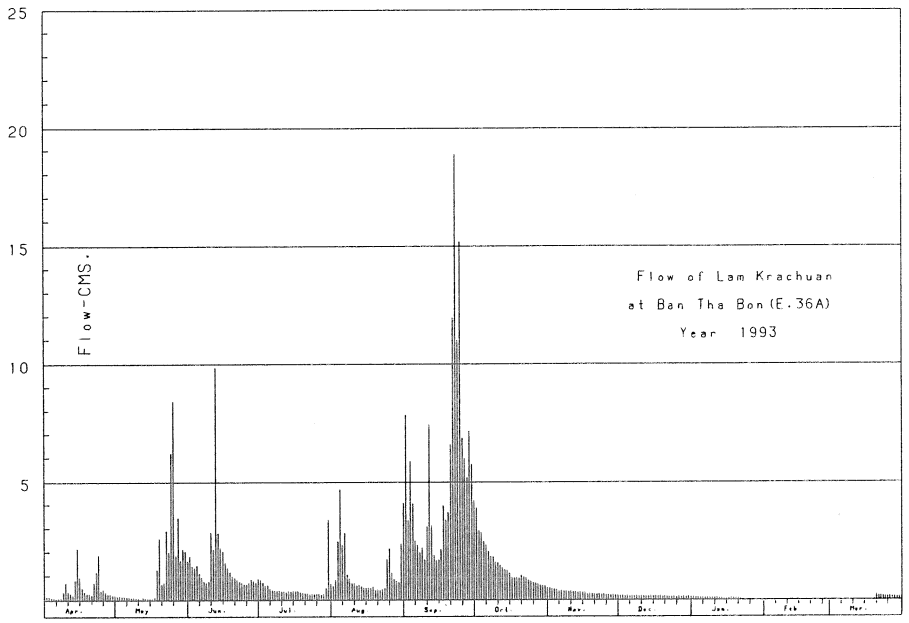
Lam Krachuan at Ban Tha Bon, Chaiyaphum (E.36A)

Location	Lat. 15°-43'-24" N., Long. 101°-40'-04" E., on right bank about 2 kilometers upstream from E.36 station at Ban Tha Bon, King Amphoe Nong Bua Raheo, Chaiyaphum.
Drainage Area	290 sq.km.
Type of Gage	Water-stage recorder.
Zero Gage at Bottom	+211.25 m. (M.S.L.)
Bench Mark	B.M.-H.D.
Location	On right bank about 10 meters from the automatic gage building.
Elevation	+218.820 m. (M.S.L.)
Gage Reading Frequency	Recording.
Basis of Mean Daily Gage Height	Arithmetic mean of 24 readings.
Period of Available Gage Records	1970 to date.
Rating Operation	
Period of Rating	1972 - 1981, 1988 to date.
Rated by Float	-
Rated by Current Meter	1972 - 1981, 1988 to date.
Stability of Channel Regimes	Stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Stage-discharge relation defined by 47 discharge measurements made in 1993.

Gage Height in Meter (MSL), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	213.16	213.17	213.59	213.41	213.35	214.19	213.85	213.33	213.20	213.14	213.03	212.89	
2	213.14	213.17	213.52	213.39	213.41	213.80	213.75	213.32	213.20	213.14	213.02	212.88	
3	213.11	213.16	213.51	213.35	213.70	214.04	213.74	213.32	213.19	213.13	213.02	212.87	
4	213.09	213.14	213.53	213.36	213.93	213.87	213.70	213.31	213.19	213.12	213.01	212.85	
5	213.07	213.13	213.47	213.32	213.67	213.70	213.67	213.30	213.18	213.11	213.00	212.84	
6	213.08	213.12	213.43	213.31	213.74	213.67	213.63	213.30	213.18	213.11	213.00	212.82	
7	213.10	213.11	213.40	213.30	213.46	213.62	213.59	213.30	213.18	213.11	212.99	212.82	
8	213.27	213.11	213.38	213.30	213.42	213.65	213.59	213.29	213.18	213.11	212.99	212.83	
9	213.38	213.10	213.40	213.30	213.38	213.57	213.55	213.29	213.18	213.11	212.99	212.86	
10	213.28	213.08	213.74	213.29	213.38	213.77	213.55	213.29	213.18	213.11	212.99	212.85	
11	213.24	213.06	213.64	213.28	213.36	214.16	213.53	213.29	213.18	213.11	212.99	212.85	
12	213.21	213.11	214.33	213.28	213.36	213.77	213.51	213.28	213.18	213.10	212.98	212.86	
13	213.41	213.08	213.74	213.29	213.35	213.60	213.50	213.27	213.18	213.09	212.96	212.83	
14	213.65	213.07	213.65	213.29	213.33	213.56	213.49	213.27	213.18	213.09	212.96	212.96	
15	213.43	213.08	213.63	213.29	213.33	213.57	213.47	213.27	213.18	213.08	212.95	212.95	
16	213.33	213.06	213.55	213.30	213.33	213.64	213.43	213.26	213.18	213.10	212.99	212.93	
17	213.27	213.13	213.51	213.29	213.33	213.86	213.43	213.24	213.18	213.11	213.00	212.82	
18	213.24	213.50	213.48	213.27	213.34	213.80	213.43	213.24	213.18	213.10	213.03	212.92	
19	213.23	213.71	213.44	213.25	213.31	213.83	213.43	213.24	213.17	213.09	213.02	213.06	
20	213.21	213.37	213.43	213.25	213.31	214.10	213.45	213.23	213.17	213.09	212.99	213.22	
21	213.38	213.38	213.41	213.24	213.31	214.46	213.44	213.23	213.16	213.07	212.95	213.20	
22	213.48	213.75	213.40	213.23	213.31	214.84	213.43	213.23	213.15	213.06	212.98	213.18	
23	213.60	213.62	213.38	213.23	213.33	214.40	213.41	213.23	213.15	213.06	212.98	213.18	
24	213.30	214.07	213.37	213.23	213.57	214.65	213.40	213.23	213.15	213.05	212.97	213.17	
25	213.31	214.23	213.37	213.24	213.65	214.12	213.39	213.22	213.15	213.05	212.94	213.16	
26	213.26	213.60	213.38	213.23	213.47	214.05	213.38	213.21	213.15	213.04	212.92	213.16	
27	213.23	213.81	213.42	213.22	213.42	213.98	213.37	213.21	213.15	213.03	212.91	213.15	
28	213.22	213.56	213.40	213.23	213.40	214.14	213.36	213.21	213.15	213.03	212.90	213.15	
29	213.21	213.64	213.39	213.33	213.39	214.03	213.35	213.21	213.15	213.03		213.14	
30	213.19	213.63	213.42	213.80	213.68	213.88	213.35	213.20	213.15	213.03		213.14	
31		213.56		213.37	213.87		213.33		213.15	213.03		213.13	
Mean	213.27	213.36	213.51	213.31	213.46	213.94	213.50	213.26	213.17	213.08	212.98	212.99	
Max	213.65	214.23	214.33	213.80	213.93	214.84	213.85	213.33	213.20	213.14	213.03	213.22	214.84
Min	213.07	213.06	213.37	213.22	213.31	213.56	213.33	213.20	213.15	213.03	212.90	212.82	212.82

Annual Max Momentary Gage Height 214.97 M (MSL), at 11.00 Hours, on Sep 22, 1993
Zero Gage at Bottom Elevation 211.25 M (MSL), River Bed 212.72 M (MSL)
Left Bank Elevation 220.97 M (MSL)
Right Bank Elevation 219.76 M (MSL), Drainage Area 290 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.16	0.17	1.84	0.85	0.60	7.86	3.90	0.52	0.20	0.14	0.03	0.00	
2	0.14	0.17	1.42	0.76	0.85	3.40	2.95	0.48	0.20	0.14	0.02	0.00	
3	0.11	0.16	1.36	0.60	2.50	5.88	2.86	0.48	0.19	0.13	0.02	0.00	
4	0.09	0.14	1.48	0.64	4.70	4.10	2.50	0.44	0.19	0.12	0.01	0.00	
5	0.07	0.13	1.15	0.48	2.32	2.50	2.32	0.40	0.18	0.11	0.00	0.00	
6	0.08	0.12	0.95	0.44	2.86	2.32	2.08	0.40	0.18	0.11	0.00	0.00	
7	0.10	0.11	0.80	0.40	1.10	2.02	1.84	0.40	0.18	0.11	0.00	0.00	
8	0.34	0.11	0.72	0.40	0.90	2.20	1.84	0.38	0.18	0.11	0.00	0.00	
9	0.72	0.10	0.80	0.40	0.72	1.72	1.60	0.38	0.18	0.11	0.00	0.00	
10	0.36	0.08	2.86	0.38	0.72	3.13	1.60	0.38	0.18	0.11	0.00	0.00	
11	0.28	0.06	2.14	0.36	0.64	7.44	1.48	0.38	0.18	0.11	0.00	0.00	
12	0.22	0.11	9.88	0.36	0.64	3.13	1.36	0.36	0.18	0.10	0.00	0.00	
13	0.85	0.08	2.86	0.38	0.60	1.90	1.30	0.34	0.18	0.09	0.00	0.00	
14	2.20	0.07	2.20	0.38	0.52	1.66	1.25	0.34	0.18	0.09	0.00	0.00	
15	0.95	0.08	2.08	0.38	0.52	1.72	1.15	0.34	0.18	0.08	0.00	0.00	
16	0.52	0.06	1.60	0.40	0.52	2.14	0.95	0.32	0.18	0.10	0.00	0.00	
17	0.34	0.13	1.36	0.38	0.52	4.00	0.95	0.28	0.18	0.11	0.00	0.00	
18	0.28	1.30	1.20	0.34	0.56	3.40	0.95	0.28	0.18	0.10	0.03	0.00	
19	0.26	2.59	1.00	0.30	0.44	3.70	0.95	0.28	0.17	0.09	0.02	0.06	
20	0.22	0.68	0.95	0.30	0.44	6.60	1.05	0.26	0.17	0.09	0.00	0.24	
21	0.72	0.72	0.85	0.28	0.44	11.96	1.00	0.26	0.16	0.07	0.00	0.20	
22	1.20	2.95	0.80	0.26	0.44	18.90	0.95	0.26	0.15	0.06	0.00	0.18	
23	1.90	2.02	0.72	0.26	0.52	11.00	0.85	0.26	0.15	0.06	0.00	0.18	
24	0.40	6.24	0.68	0.26	1.72	15.20	0.80	0.26	0.15	0.05	0.00	0.17	
25	0.44	8.42	0.68	0.28	2.20	6.88	0.76	0.24	0.15	0.05	0.00	0.16	
26	0.32	1.90	0.72	0.26	1.15	6.00	0.72	0.22	0.15	0.04	0.00	0.16	
27	0.26	3.50	0.90	0.24	0.90	5.20	0.68	0.22	0.15	0.03	0.00	0.15	
28	0.24	1.66	0.80	0.26	0.80	7.16	0.64	0.22	0.15	0.03	0.00	0.15	
29	0.22	2.14	0.76	0.52	0.76	5.76	0.60	0.22	0.15	0.03		0.14	
30	0.19	2.08	0.90	3.40	2.38	4.20	0.60	0.20	0.15	0.03		0.14	
31		1.66		0.68	4.10		0.52		0.15	0.03		0.13	
Total	14.18	39.74	46.46	15.63	38.08	163.08	43.00	9.80	5.30	2.63	0.13	2.06	380.09 CMSDAY
Mean	0.47	1.28	1.55	0.50	1.23	5.44	1.39	0.33	0.17	0.08	0.00	0.07	1.04 CMS
Max	2.20	8.42	9.88	3.40	4.70	18.90	3.90	0.52	0.20	0.14	0.03	0.24	18.90 CMS
Min	0.07	0.06	0.68	0.24	0.44	1.66	0.52	0.20	0.15	0.03	0.00	0.00	0.00 CMS
Runoff	1.225	3.434	4.014	1.350	3.290	14.090	3.715	0.847	0.458	0.227	0.011	0.178	32.840 MCM

Momentary Peak 21.57 CMS, at 214.97 M (MSL), at 11.00 Hours, on Sep 22, 1993
Runoff Yield 3.59 Liters/Second/Square KM, Momentary Peak Yield 74.38 Liters/Second/Square KM

WATER YEAR 1993

CHI RIVER BASIN

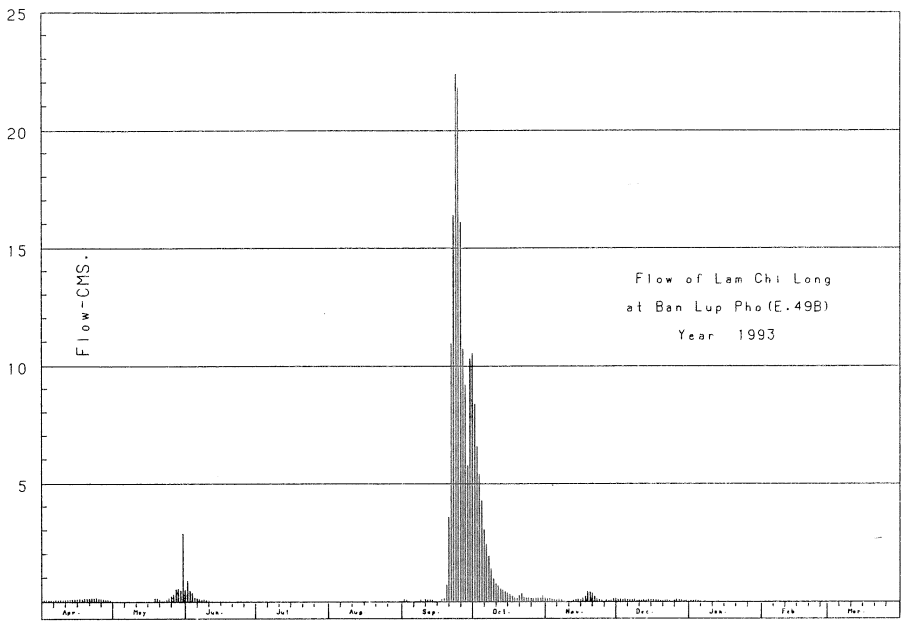
Lam Chi Long at Ban Lup Pho, Chaiyaphum (E.49B)

Location	Lat. 15°-47′-28″ N., Long. 101°-52′-20″ E., on right bank at the bridge on road, Ban Lup Pho, Tambon Talat Raeng, Amphoe Ban Khwao, Chaiyaphum.
Drainage Area	331 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+196.18 m.(M.S.L.)
Bench Mark	B.M.-H.D.
Location	On left bank upstream side at the abutment of the bridge.
Elevation	+200.251 m.(M.S.L.)
Gage Reading Frequency	5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1987 to date.
Rating Operation	
Period of Rating	1987 to date.
Rated by Float	-
Rated by Current Meter	1987 to date.
Stability of Channel Regimes	Stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records fair. Stage-discharge relation defined by 24 discharge measurements made in 1993.

Gage Height in Meter (MSL), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	197.02	196.96	197.21	196.67	196.67	197.05	197.66	197.06	197.05	197.01	196.18	196.18	
2	197.02	196.95	197.15	196.67	196.67	197.03	197.57	197.06	197.04	197.01	196.18	196.18	
3	197.02	196.94	197.13	196.67	196.67	196.92	197.51	197.05	197.04	197.01	196.18	196.18	
4	197.01	196.92	197.10	196.67	196.67	196.85	197.45	197.03	197.04	197.01	196.18	196.18	
5	197.01	196.92	197.08	196.67	196.67	196.73	197.38	197.02	197.03	196.99	196.18	196.18	
6	197.01	196.91	197.04	196.67	196.67	196.68	197.34	197.04	197.03	196.99	196.18	196.18	
7	197.02	196.90	197.03	196.67	196.67	196.93	197.31	197.03	197.03	196.98	196.18	196.18	
8	197.02	196.90	197.03	196.67	196.67	197.04	197.26	197.02	197.03	196.98	196.18	196.18	
9	197.02	196.89	197.02	196.67	196.67	196.95	197.22	196.93	197.02	196.97	196.18	196.18	
10	197.02	196.89	197.02	196.67	196.67	197.05	197.20	196.93	197.02	196.97	196.18	196.18	
11	197.03	196.88	196.96	196.67	196.67	197.03	197.18	196.95	197.02	196.96	196.18	196.18	
12	197.03	196.87	196.86	196.67	196.67	197.03	197.16	197.00	197.02	196.96	196.18	196.18	
13	197.03	196.86	196.83	196.67	196.67	197.01	197.15	197.04	197.02	196.95	196.18	196.18	
14	197.04	196.18	196.76	196.67	196.67	196.97	197.14	197.04	197.03	196.95	196.18	196.18	
15	197.04	196.18	196.76	196.67	196.67	196.94	197.13	197.03	197.03	196.94	196.18	196.18	
16	197.05	196.18	196.76	196.67	196.67	196.99	197.12	197.07	197.03	196.94	196.18	196.18	
17	197.05	196.18	196.68	196.67	196.67	197.03	197.11	197.11	197.03	196.93	196.18	196.18	
18	197.06	197.08	196.68	196.67	196.67	197.07	197.08	197.14	197.02	196.91	196.18	196.18	
19	197.06	197.06	196.68	196.67	196.67	197.19	197.08	197.14	197.02	196.89	196.18	196.18	
20	197.07	197.03	196.68	196.67	196.67	197.41	197.11	197.13	197.02	196.88	196.18	196.18	
21	197.07	196.99	196.68	196.67	196.67	197.78	197.13	197.11	197.02	196.87	196.18	196.18	
22	197.08	197.00	196.68	196.67	196.67	198.00	197.10	197.06	197.02	196.86	196.18	196.18	
23	197.08	197.03	196.68	196.67	196.67	198.40	197.09	197.04	197.02	196.86	196.18	196.18	
24	197.06	197.07	196.68	196.67	196.67	198.18	197.08	197.01	197.02	196.86	196.18	196.18	
25	197.05	197.11	196.68	196.67	196.67	197.99	197.08	196.98	197.02	196.86	196.18	196.18	
26	197.04	197.12	196.68	196.67	196.67	197.77	197.06	197.01	197.03	196.86	196.18	196.18	
27	197.03	197.16	196.68	196.67	196.67	197.70	197.07	197.01	197.03	196.86	196.18	196.18	
28	197.02	197.16	196.68	196.67	196.67	197.53	197.08	197.01	197.02	196.86	196.18	196.18	
29	197.01	197.15	196.68	196.67	196.67	197.75	197.08	197.06	197.01	196.86		196.18	
30	197.00	197.37	196.68	196.67	196.67	197.76	197.11	197.06	197.01	196.86		196.18	
31		197.15		196.67	196.67		197.07		197.01	196.86		196.18	
Mean	197.04	196.90	196.84	196.67	196.67	197.29	197.20	197.04	197.03	196.93	196.18	196.18	
Max	197.08	197.37	197.21	196.67	196.67	198.40	197.66	197.14	197.05	197.01	196.18	196.18	198.40
Min	197.00	196.18	196.68	196.67	196.67	196.68	197.06	196.93	197.01	196.86	196.18	196.18	196.18

Annual Max Momentary Gage Height 198.43 M (MSL), at 12.00 Hours, on Sep 23, 1993
Zero Gage at Bottom Elevation 196.18 M (MSL), River Bed 196.78 M (MSL)
Left Bank Elevation 199.37 M (MSL)
Right Bank Elevation 199.26 M (MSL), Drainage Area 331 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.09	0.01	0.90	0.00	0.00	0.13	8.40	0.15	0.13	0.08	0.00	0.00	
2	0.09	0.00	0.50	0.00	0.00	0.11	6.60	0.15	0.12	0.08	0.00	0.00	
3	0.09	0.00	0.38	0.00	0.00	0.00	5.40	0.13	0.12	0.08	0.00	0.00	
4	0.08	0.00	0.20	0.00	0.00	0.00	4.30	0.11	0.12	0.08	0.00	0.00	
5	0.08	0.00	0.17	0.00	0.00	0.00	3.08	0.09	0.11	0.05	0.00	0.00	
6	0.08	0.00	0.12	0.00	0.00	0.00	2.44	0.12	0.11	0.05	0.00	0.00	
7	0.09	0.00	0.11	0.00	0.00	0.00	1.96	0.11	0.11	0.04	0.00	0.00	
8	0.09	0.00	0.11	0.00	0.00	0.12	1.40	0.09	0.11	0.04	0.00	0.00	
9	0.09	0.00	0.09	0.00	0.00	0.00	1.00	0.00	0.09	0.03	0.00	0.00	
10	0.09	0.00	0.09	0.00	0.00	0.13	0.80	0.00	0.09	0.03	0.00	0.00	
11	0.11	0.00	0.01	0.00	0.00	0.11	0.68	0.00	0.09	0.01	0.00	0.00	
12	0.11	0.00	0.00	0.00	0.00	0.11	0.56	0.07	0.09	0.01	0.00	0.00	
13	0.11	0.00	0.00	0.00	0.00	0.08	0.50	0.12	0.09	0.00	0.00	0.00	
14	0.12	0.00	0.00	0.00	0.00	0.03	0.44	0.12	0.11	0.00	0.00	0.00	
15	0.12	0.00	0.00	0.00	0.00	0.00	0.38	0.11	0.11	0.00	0.00	0.00	
16	0.13	0.00	0.00	0.00	0.00	0.05	0.32	0.16	0.11	0.00	0.00	0.00	
17	0.13	0.00	0.00	0.00	0.00	0.11	0.26	0.26	0.11	0.00	0.00	0.00	
18	0.15	0.17	0.00	0.00	0.00	0.16	0.17	0.44	0.09	0.00	0.00	0.00	
19	0.15	0.15	0.00	0.00	0.00	0.74	0.17	0.44	0.09	0.00	0.00	0.00	
20	0.16	0.11	0.00	0.00	0.00	3.58	0.26	0.38	0.09	0.00	0.00	0.00	
21	0.16	0.05	0.00	0.00	0.00	10.96	0.38	0.26	0.09	0.00	0.00	0.00	
22	0.17	0.07	0.00	0.00	0.00	16.40	0.20	0.15	0.09	0.00	0.00	0.00	
23	0.17	0.11	0.00	0.00	0.00	22.40	0.19	0.12	0.09	0.00	0.00	0.00	
24	0.15	0.16	0.00	0.00	0.00	21.80	0.17	0.08	0.09	0.00	0.00	0.00	
25	0.13	0.26	0.00	0.00	0.00	16.12	0.17	0.04	0.09	0.00	0.00	0.00	
26	0.12	0.32	0.00	0.00	0.00	10.74	0.15	0.08	0.11	0.00	0.00	0.00	
27	0.11	0.56	0.00	0.00	0.00	9.20	0.16	0.08	0.11	0.00	0.00	0.00	
28	0.09	0.56	0.00	0.00	0.00	5.80	0.17	0.08	0.09	0.00	0.00	0.00	
29	0.08	0.50	0.00	0.00	0.00	10.30	0.17	0.15	0.08	0.00		0.00	
30	0.07	2.92	0.00	0.00	0.00	10.52	0.26	0.15	0.08	0.00		0.00	
31		0.50		0.00	0.00		0.16		0.08	0.00		0.00	
Total	3.41	6.45	2.68	0.00	0.00	139.70	41.30	4.24	3.09	0.58	0.00	0.00	201.45 CMSDAY
Mean	0.11	0.21	0.09	0.00	0.00	4.66	1.33	0.14	0.10	0.02	0.00	0.00	0.55 CMS
Max	0.17	2.92	0.90	0.00	0.00	22.40	8.40	0.44	0.13	0.08	0.00	0.00	22.40 CMS
Min	0.07	0.00	0.00	0.00	0.00	0.00	0.15	0.00	0.08	0.00	0.00	0.00	0.00 CMS
Runoff	0.295	0.557	0.232	0.000	0.000	12.070	3.568	0.366	0.267	0.050	0.000	0.000	17.405 MCM

Momentary Peak 22.40 CMS, at 198.43 M (MSL), at 12.00 Hours, on Sep 23, 1993
Runoff Yield 1.67 Liters/Second/Square KM, Momentary Peak Yield 67.68 Liters/Second/Square KM

WATER YEAR 1993

CHI RIVER BASIN

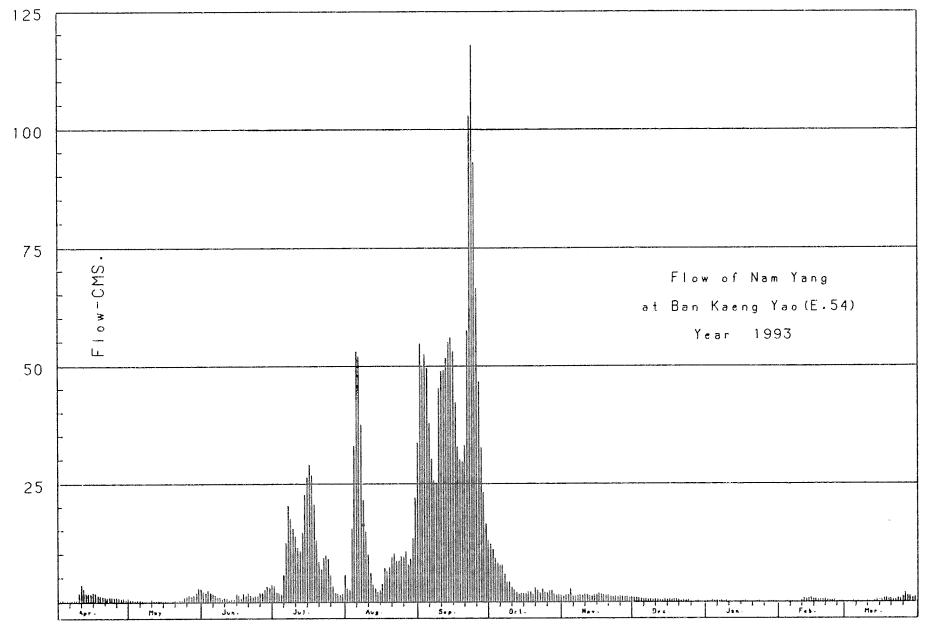
Nam Yang at Ban Kaeng Yao, Kalasin (E.54)

Location	Lat. 16°-26'-29" N., Long. 104°-02'-07" E., on left bank at Ban Kaeng Yao about 2 kilometers downstream from proposed of USBR Damsite, Amphoe Kuchinarai, Kalasin.
Drainage Area	1,511 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+0.00 m. (A.D.)
Bench Mark	B.M.-H.D.
Location	On right bank at abutment of the bridge.
Elevation	+11.648 m.(A.D.)
Gage Reading Frequency	5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1969 to date.
Rating Operation	
Period of Rating	1969 - 1977, 1983 to date.
Rated by Float	-
Rated by Current Meter	1969 - 1977, 1983 to date.
Stability of Channel Regimes	Fairly stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Stage-discharge relation defined by 98 discharge measurements made in 1993.

Gage Height in Meter (A.D), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.45	0.49	0.81	0.94	0.88	2.72	1.41	0.65	0.58	0.40	0.42	0.42	
2	0.46	0.47	0.80	0.81	0.86	2.59	1.36	0.69	0.59	0.45	0.41	0.42	
3	0.44	0.46	0.84	0.76	1.58	2.66	1.26	0.72	0.57	0.46	0.41	0.42	
4	0.41	0.45	0.80	0.74	2.17	2.59	1.22	0.87	0.56	0.45	0.43	0.41	
5	0.41	0.44	0.75	1.09	2.68	2.30	1.19	0.66	0.53	0.46	0.40	0.41	
6	0.41	0.42	0.68	1.43	2.65	2.08	1.19	0.63	0.53	0.45	0.40	0.41	
7	0.46	0.40	0.61	1.75	2.29	1.92	1.10	0.68	0.52	0.44	0.40	0.40	
8	0.46	0.42	0.58	1.65	1.79	1.91	1.01	0.67	0.51	0.46	0.40	0.40	
9	0.79	0.48	0.53	1.58	1.54	2.48	1.01	0.69	0.51	0.45	0.40	0.40	
10	0.97	0.49	0.55	1.49	1.30	2.57	0.92	0.72	0.52	0.45	0.46	0.40	
11	0.87	0.43	0.53	1.37	1.11	2.58	0.85	0.73	0.53	0.43	0.55	0.41	
12	0.77	0.44	0.48	1.34	0.96	2.64	0.81	0.66	0.50	0.42	0.54	0.41	
13	0.75	0.42	0.50	1.54	0.89	2.73	0.75	0.65	0.48	0.40	0.55	0.45	
14	0.75	0.42	0.52	1.82	0.80	2.75	0.75	0.69	0.51	0.40	0.55	0.52	
15	0.79	0.45	0.74	1.95	0.85	2.68	0.74	0.74	0.51	0.42	0.55	0.51	
16	0.75	0.42	0.65	2.04	0.97	2.41	0.76	0.75	0.51	0.42	0.52	0.51	
17	0.69	0.40	0.57	1.96	1.16	2.16	0.81	0.74	0.51	0.44	0.50	0.57	
18	0.65	0.44	0.74	1.76	1.12	2.07	0.82	0.69	0.52	0.43	0.50	0.56	
19	0.64	0.42	0.68	1.45	1.17	2.06	0.72	0.69	0.53	0.43	0.52	0.55	
20	0.61	0.46	0.76	1.22	1.28	2.17	0.89	0.67	0.48	0.43	0.52	0.54	
21	0.56	0.46	0.67	1.15	1.31	2.79	0.84	0.65	0.47	0.42	0.50	0.51	
22	0.61	0.48	0.63	1.27	1.23	3.75	0.79	0.63	0.49	0.42	0.48	0.50	
23	0.59	0.47	0.64	1.29	1.24	4.00	0.88	0.63	0.47	0.42	0.48	0.58	
24	0.59	0.58	0.66	1.26	1.28	3.56	0.80	0.63	0.47	0.42	0.47	0.53	
25	0.58	0.64	0.78	1.08	1.28	3.01	0.80	0.63	0.47	0.42	0.46	0.65	
26	0.56	0.68	0.79	0.93	1.33	2.52	0.83	0.63	0.46	0.42	0.45	0.78	
27	0.55	0.65	0.88	0.80	1.20	2.16	0.85	0.63	0.43	0.42	0.42	0.68	
28	0.55	0.67	0.92	0.73	1.25	1.84	0.72	0.62	0.42	0.42	0.42	0.64	
29	0.51	0.79	0.91	0.70	1.48	1.62	0.70	0.60	0.41	0.42		0.60	
30	0.55	0.88	0.96	0.74	1.80	1.45	0.70	0.59	0.41	0.42		0.59	
31		0.88		1.09	2.19		0.67		0.40	0.42		0.55	
Mean	0.61	0.52	0.70	1.28	1.41	2.49	0.91	0.67	0.50	0.43	0.47	0.51	
Max	0.97	0.88	0.96	2.04	2.68	4.00	1.41	0.87	0.59	0.46	0.55	0.78	4.00
Min	0.41	0.40	0.48	0.70	0.80	1.45	0.67	0.59	0.40	0.40	0.40	0.40	0.40

Annual Max Momentary Gage Height 4.04 M (A.D), at 6.00 Hours, on Sep 23, 1993
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed 0.19 M (A.D)
Left Bank Elevation 10.15 M (A.D)
Right Bank Elevation 10.46 M (A.D), Drainage Area 1511 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.35	0.47	2.10	3.40	2.80	54.80	12.20	1.25	0.90	0.20	0.26	0.26	
2	0.38	0.41	2.00	2.10	2.60	49.60	11.20	1.45	0.95	0.35	0.23	0.26	
3	0.32	0.38	2.40	1.80	15.60	52.40	9.20	1.60	0.85	0.38	0.23	0.26	
4	0.23	0.35	2.00	1.70	33.10	49.60	8.40	2.70	0.80	0.35	0.29	0.23	
5	0.23	0.32	1.75	5.80	53.20	38.00	7.80	1.30	0.65	0.38	0.20	0.23	
6	0.23	0.26	1.40	12.60	52.00	30.40	7.80	1.15	0.65	0.35	0.20	0.23	
7	0.38	0.20	1.05	20.50	37.60	25.60	6.00	1.40	0.60	0.32	0.20	0.20	
8	0.38	0.26	0.90	17.50	21.70	25.30	4.20	1.35	0.55	0.38	0.20	0.20	
9	1.95	0.44	0.65	15.60	14.80	45.20	4.20	1.45	0.55	0.35	0.20	0.20	
10	3.70	0.47	0.75	13.80	10.00	48.80	3.20	1.60	0.60	0.35	0.38	0.20	
11	2.70	0.29	0.65	11.40	6.20	49.20	2.50	1.65	0.65	0.29	0.75	0.23	
12	1.85	0.32	0.44	10.80	3.60	51.60	2.10	1.30	0.50	0.26	0.70	0.23	
13	1.75	0.26	0.50	14.80	2.90	55.20	1.75	1.25	0.44	0.20	0.75	0.35	
14	1.75	0.26	0.60	22.60	2.00	56.00	1.75	1.45	0.55	0.20	0.75	0.60	
15	1.95	0.35	1.70	26.50	2.50	53.20	1.70	1.70	0.55	0.26	0.75	0.55	
16	1.75	0.26	1.25	29.20	3.70	42.40	1.80	1.75	0.55	0.26	0.60	0.55	
17	1.45	0.20	0.85	26.80	7.20	32.80	2.10	1.70	0.55	0.32	0.50	0.85	
18	1.25	0.32	1.70	20.80	6.40	30.10	2.20	1.45	0.60	0.29	0.50	0.80	
19	1.20	0.26	1.40	13.00	7.40	29.80	1.60	1.45	0.65	0.29	0.60	0.75	
20	1.05	0.38	1.80	8.40	9.60	33.10	2.90	1.35	0.44	0.29	0.60	0.70	
21	0.80	0.38	1.35	7.00	10.20	57.60	2.40	1.25	0.41	0.26	0.50	0.55	
22	1.05	0.44	1.15	9.40	8.60	103.00	1.95	1.15	0.47	0.26	0.44	0.50	
23	0.95	0.41	1.20	9.80	8.80	118.00	2.80	1.15	0.41	0.26	0.44	0.90	
24	0.95	0.90	1.30	9.20	9.60	93.00	2.00	1.15	0.41	0.26	0.41	0.65	
25	0.90	1.20	1.90	5.60	9.60	66.40	2.00	1.15	0.41	0.26	0.38	1.25	
26	0.80	1.40	1.95	3.30	10.60	46.80	2.30	1.15	0.38	0.26	0.35	1.90	
27	0.75	1.25	2.80	2.00	8.00	32.80	2.50	1.15	0.29	0.26	0.26	1.40	
28	0.75	1.35	3.20	1.65	9.00	23.20	1.60	1.10	0.26	0.26	0.26	1.20	
29	0.55	1.95	3.10	1.50	13.60	16.60	1.50	1.00	0.23	0.26		1.00	
30	0.75	2.80	3.60	1.70	22.00	13.00	1.50	0.95	0.23	0.26		0.95	
31		2.80		5.80	33.70		1.35		0.20	0.26		0.75	
Total	33.10	21.34	47.44	336.05	438.60	1423.50	116.50	41.50	16.28	8.93	11.93	18.93	2514.10 CMSDAY
Mean	1.10	0.69	1.58	10.84	14.15	47.45	3.76	1.38	0.53	0.29	0.43	0.61	6.89 CMS
Max	3.70	2.80	3.60	29.20	53.20	118.00	12.20	2.70	0.95	0.38	0.75	1.90	118.00 CMS
Min	0.23	0.20	0.44	1.50	2.00	13.00	1.35	0.95	0.20	0.20	0.20	0.20	0.20 CMS
Runoff	2.860	1.844	4.099	29.035	37.895	122.990	10.066	3.586	1.407	0.772	1.031	1.636	217.218 MCM

Momentary Peak 120.40 CMS, at 4.04 M (A.D), at 6.00 Hours, on Sep 23, 1993

Runoff Yield 4.56 Liters/Second/Square KM, Momentary Peak Yield 79.68 Liters/Second/Square KM

WATER YEAR 1993

CHI RIVER BASIN

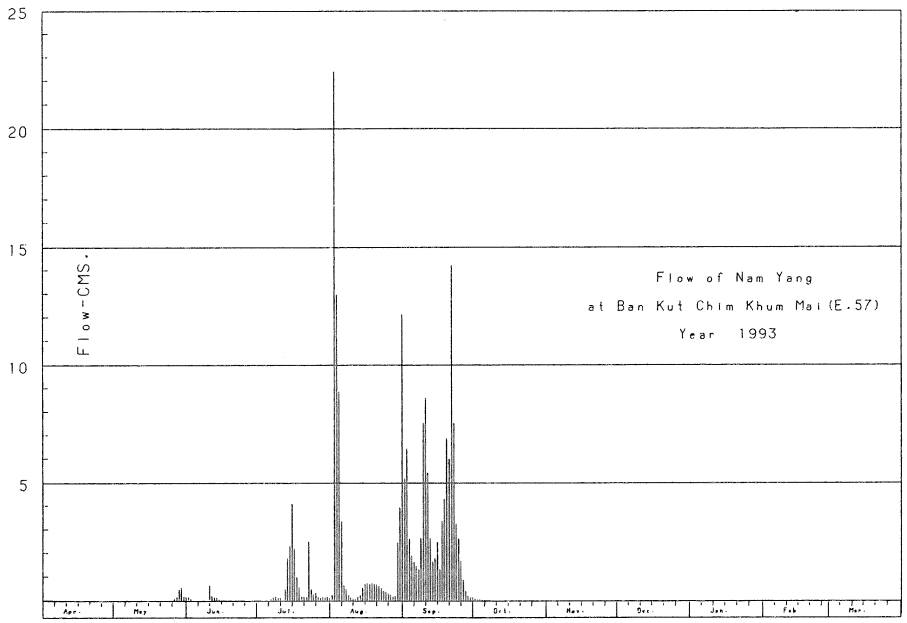
Nam Yang at Ban Kut Chim Khum Mai, Kalasin (E.57)

Location	Lat. 16°-41'-05" N., Long. 104°-05'-10" E., on right bank at the bridge on highway Ban Kut Chim Khum Mai, Amphoe Khao Wong, Kalasin.
Drainage Area	98 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+0.00 m.(A.D.)
Bench Mark	B.M.-H.D.
Location	On right bank at the abutment of the bridge.
Elevation	+7.757 m.(A.D.)
Gage Reading Frequency	5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1969-1971, 1983 to date.
Rating Operation	
Period of Rating	1969-1970, 1984 to date.
Rated by Float	-
Rated by Current Meter	1969-1970, 1984 to date.
Stability of Channel Regimes	Fairly stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records fair.Stage-discharge relation defined by 11 discharge measurements made in 1993.

Gage Height in Meter (A.D), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.00	0.01	0.09	-0.02	0.11	0.50	0.05	0.00	0.00	0.00	0.00	0.00	
2	0.00	0.01	0.04	-0.02	1.08	0.56	0.04	0.00	0.00	0.00	0.00	0.00	
3	0.00	0.01	-0.02	-0.02	0.81	0.35	0.03	0.00	0.00	0.00	0.00	0.00	
4	0.00	0.01	-0.04	-0.02	0.66	0.30	0.03	0.00	0.00	0.00	0.00	0.00	
5	0.00	0.01	-0.05	-0.02	0.40	0.28	0.03	0.00	0.00	0.00	0.00	0.00	
6	0.00	0.01	-0.07	0.05	0.18	0.26	0.02	0.00	0.00	0.00	0.00	0.00	
7	0.00	0.01	-0.10	0.08	0.15	0.25	0.02	0.00	0.00	0.00	0.00	0.00	
8	0.00	0.01	-0.13	0.09	0.11	0.35	0.02	0.00	0.00	0.00	0.00	0.00	
9	0.00	0.01	-0.06	0.07	0.07	0.61	0.01	0.00	0.00	0.00	0.00	0.00	
10	0.00	0.01	0.18	0.06	0.05	0.65	0.01	0.00	0.00	0.00	0.00	0.00	
11	0.00	0.01	0.10	0.04	0.05	0.51	-0.01	0.00	0.00	0.00	0.00	0.00	
12	0.00	0.01	0.09	0.15	0.08	0.35	-0.01	0.00	0.00	0.00	0.00	0.00	
13	0.00	0.01	0.07	0.29	0.11	0.28	-0.02	0.00	0.00	0.00	0.00	0.00	
14	0.00	0.01	0.04	0.33	0.16	0.29	-0.02	0.00	0.00	0.00	0.00	0.00	
15	0.00	0.01	0.02	0.44	0.19	0.34	-0.03	0.00	0.00	0.00	0.00	0.00	
16	0.00	0.01	0.02	0.32	0.19	0.25	-0.04	0.00	0.00	0.00	0.00	0.00	
17	0.00	0.01	0.02	0.22	0.19	0.40	-0.05	0.00	0.00	0.00	0.00	0.00	
18	0.00	0.01	0.02	0.16	0.19	0.45	-0.05	0.00	0.00	0.00	0.00	0.00	
19	0.00	0.01	0.01	0.10	0.19	0.58	-0.05	0.00	0.00	0.00	0.00	0.00	
20	0.00	0.01	0.01	0.08	0.18	0.54	-0.06	0.00	0.00	0.00	0.00	0.00	
21	0.00	0.01	0.01	0.09	0.17	0.85	-0.06	0.00	0.00	0.00	0.00	0.00	
22	0.00	0.01	0.01	0.34	0.16	0.61	-0.07	0.00	0.00	0.00	0.00	0.00	
23	0.00	0.01	0.01	0.15	0.14	0.39	-0.07	0.00	0.00	0.00	0.00	0.00	
24	0.00	0.01	0.01	0.11	0.13	0.35	-0.08	0.00	0.00	0.00	0.00	0.00	
25	0.00	0.01	0.01	0.12	0.12	0.28	-0.08	0.00	0.00	0.00	0.00	0.00	
26	0.00	0.04	0.01	0.09	0.11	0.21	-0.08	0.00	0.00	0.00	0.00	0.00	
27	0.00	0.09	0.01	0.07	0.10	0.14	-0.08	0.00	0.00	0.00	0.00	0.00	
28	0.00	0.15	0.01	0.08	0.10	0.10	-0.08	0.00	0.00	0.00	0.00	0.00	
29	0.00	0.16	0.01	0.08	0.34	0.08	-0.08	0.00	0.00	0.00		0.00	
30	0.00	0.10	0.01	0.08	0.43	0.07	-0.08	0.00	0.00	0.00		0.00	
31		0.08		0.06	0.78		-0.08		0.00	0.00		0.00	
Mean	0.00	0.03	0.01	0.12	0.25	0.37	-0.03	0.00	0.00	0.00	0.00	0.00	
Max	0.00	0.16	0.18	0.44	1.08	0.85	0.05	0.00	0.00	0.00	0.00	0.00	1.08
Min	0.00	0.01	-0.13	-0.02	0.05	0.07	-0.08	0.00	0.00	0.00	0.00	0.00	-0.13

Annual Max Momentary Gage Height 1.40 M (A.D), at 9.00 Hours, on Aug 2, 1993
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed -0.28 M (A.D)
Left Bank Elevation 6.53 M (A.D)
Right Bank Elevation 6.46 M (A.D), Drainage Area 98 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.00	0.02	0.18	0.00	0.26	5.20	0.10	0.00	0.00	0.00	0.00	0.00	
2	0.00	0.02	0.08	0.00	22.46	6.46	0.08	0.00	0.00	0.00	0.00	0.00	
3	0.00	0.02	0.00	0.00	13.01	2.65	0.06	0.00	0.00	0.00	0.00	0.00	
4	0.00	0.02	0.00	0.00	8.86	1.90	0.06	0.00	0.00	0.00	0.00	0.00	
5	0.00	0.02	0.00	0.00	3.40	1.68	0.06	0.00	0.00	0.00	0.00	0.00	
6	0.00	0.02	0.00	0.10	0.68	1.46	0.04	0.00	0.00	0.00	0.00	0.00	
7	0.00	0.02	0.00	0.16	0.50	1.35	0.04	0.00	0.00	0.00	0.00	0.00	
8	0.00	0.02	0.00	0.18	0.26	2.65	0.04	0.00	0.00	0.00	0.00	0.00	
9	0.00	0.02	0.00	0.14	0.14	7.56	0.02	0.00	0.00	0.00	0.00	0.00	
10	0.00	0.02	0.68	0.12	0.10	8.60	0.02	0.00	0.00	0.00	0.00	0.00	
11	0.00	0.02	0.20	0.08	0.10	5.41	0.00	0.00	0.00	0.00	0.00	0.00	
12	0.00	0.02	0.18	0.50	0.16	2.65	0.00	0.00	0.00	0.00	0.00	0.00	
13	0.00	0.02	0.14	1.79	0.26	1.68	0.00	0.00	0.00	0.00	0.00	0.00	
14	0.00	0.02	0.08	2.35	0.56	1.79	0.00	0.00	0.00	0.00	0.00	0.00	
15	0.00	0.02	0.04	4.12	0.74	2.50	0.00	0.00	0.00	0.00	0.00	0.00	
16	0.00	0.02	0.04	2.20	0.74	1.35	0.00	0.00	0.00	0.00	0.00	0.00	
17	0.00	0.02	0.04	1.02	0.74	3.40	0.00	0.00	0.00	0.00	0.00	0.00	
18	0.00	0.02	0.04	0.56	0.74	4.30	0.00	0.00	0.00	0.00	0.00	0.00	
19	0.00	0.02	0.02	0.20	0.74	6.88	0.00	0.00	0.00	0.00	0.00	0.00	
20	0.00	0.02	0.02	0.16	0.68	6.04	0.00	0.00	0.00	0.00	0.00	0.00	
21	0.00	0.02	0.02	0.18	0.62	14.25	0.00	0.00	0.00	0.00	0.00	0.00	
22	0.00	0.02	0.02	2.50	0.56	7.56	0.00	0.00	0.00	0.00	0.00	0.00	
23	0.00	0.02	0.02	0.50	0.44	3.25	0.00	0.00	0.00	0.00	0.00	0.00	
24	0.00	0.02	0.02	0.26	0.38	2.65	0.00	0.00	0.00	0.00	0.00	0.00	
25	0.00	0.02	0.02	0.32	0.32	1.68	0.00	0.00	0.00	0.00	0.00	0.00	
26	0.00	0.08	0.02	0.18	0.26	0.91	0.00	0.00	0.00	0.00	0.00	0.00	
27	0.00	0.18	0.02	0.14	0.20	0.44	0.00	0.00	0.00	0.00	0.00	0.00	
28	0.00	0.50	0.02	0.16	0.20	0.20	0.00	0.00	0.00	0.00	0.00	0.00	
29	0.00	0.56	0.02	0.16	2.50	0.16	0.00	0.00	0.00	0.00		0.00	
30	0.00	0.20	0.02	0.16	3.94	0.14	0.00	0.00	0.00	0.00		0.00	
31		0.16		0.12	12.14		0.00		0.00	0.00		0.00	
Total	0.00	2.18	1.94	18.36	76.69	106.75	0.52	0.00	0.00	0.00	0.00	0.00	206.44 CMSDAY
Mean	0.00	0.07	0.06	0.59	2.47	3.56	0.02	0.00	0.00	0.00	0.00	0.00	0.57 CMS
Max	0.00	0.56	0.68	4.12	22.46	14.25	0.10	0.00	0.00	0.00	0.00	0.00	22.46 CMS
Min	0.00	0.02	0.00	0.00	0.10	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00 CMS
Runoff	0.000	0.188	0.168	1.586	6.626	9.223	0.045	0.000	0.000	0.000	0.000	0.000	17.836 MCM

Momentary Peak 34.40 CMS, at 1.40 M (A.D), at 9.00 Hours, on Aug 2, 1993
Runoff Yield 5.77 Liters/Second/Square KM, Momentary Peak Yield 351.02 Liters/Second/Square KM

WATER YEAR 1993

CHI RIVER BASIN

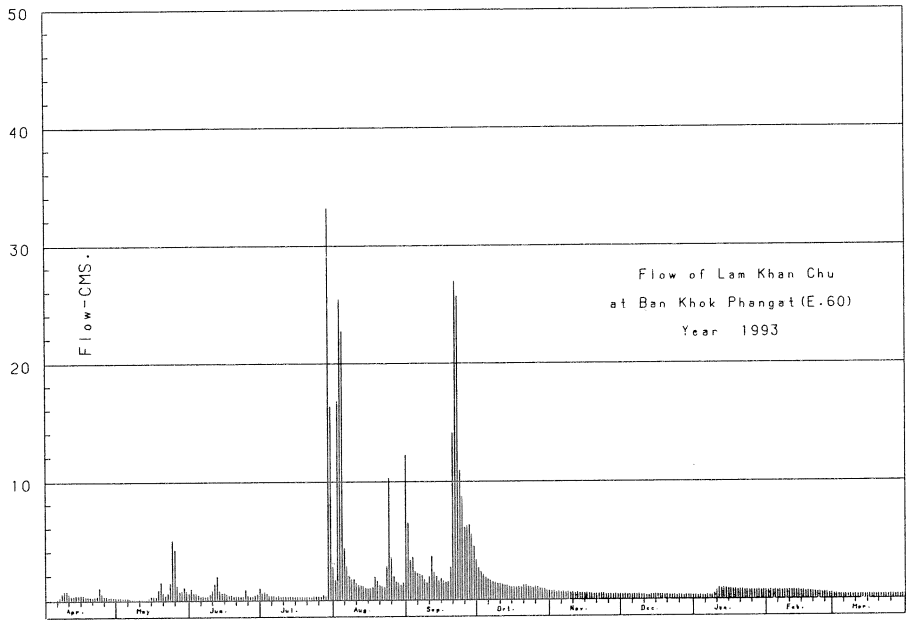
Lam Khan Chu at Ban Khok Phangat, Chaiyaphum (E.60)

Location	Lat. 15°-29'-14" N., Long. 101°-33'-32" E., on left bank about 500 meters from Ban Khok Phangat, Amphoe Bamnet Narong, Chaiyaphum.
Drainage Area	205 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+0.00 m. (A.D.)
Bench Mark	B.M.-H.D.
Location	About 8 meters from the top staff gage.
Elevation	+7.326 m. (A.D.)
Gage Reading Frequency	5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1977 to date.
Rating Operation	
Period of Rating	1978 to date.
Rated by Float	-
Rated by Current Meter	1978 to date.
Stability of Channel Regimes	Stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Stage-discharge relation defined by 62 discharge measurements made in 1993.

Gage Height in Meter (A.D), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.59	0.80	1.36	1.14	1.73	2.99	2.06	1.25	1.05	0.97	1.26	1.05	
2	0.59	0.79	1.16	1.20	4.28	2.22	1.96	1.23	1.05	0.97	1.26	1.03	
3	0.59	0.76	1.14	1.16	4.96	2.30	1.87	1.19	1.04	0.97	1.25	1.02	
4	0.59	0.73	1.07	1.00	4.77	1.96	1.80	1.20	1.04	0.97	1.25	1.00	
5	0.64	0.69	0.99	1.02	2.48	1.92	1.75	1.19	1.04	0.97	1.25	1.00	
6	0.84	0.66	1.00	1.00	2.10	1.88	1.70	1.19	1.04	0.97	1.25	1.00	
7	1.17	0.60	0.97	0.96	1.85	1.86	1.66	1.18	1.05	0.97	1.25	1.00	
8	1.28	0.60	0.97	1.02	1.74	1.73	1.61	1.19	1.04	0.96	1.25	1.00	
9	1.31	0.60	1.12	0.96	1.76	1.63	1.59	1.16	1.03	1.09	1.25	1.00	
10	1.12	0.60	1.29	0.95	1.60	1.81	1.57	1.16	1.02	1.26	1.25	1.00	
11	1.01	0.60	1.57	0.95	1.52	2.32	1.55	1.13	1.01	1.37	1.26	1.00	
12	1.02	0.60	1.85	0.94	1.51	1.93	1.51	1.16	1.01	1.36	1.26	1.00	
13	1.04	0.60	1.27	0.94	1.48	1.84	1.50	1.13	1.03	1.36	1.26	1.00	
14	1.05	0.74	1.18	0.94	1.42	1.69	1.46	1.11	1.05	1.37	1.25	1.00	
15	1.06	1.00	1.20	0.93	1.39	1.77	1.42	1.13	1.05	1.35	1.24	1.00	
16	1.04	0.94	1.09	0.93	1.38	1.69	1.42	1.12	1.05	1.33	1.22	1.00	
17	0.97	0.96	1.05	0.93	1.44	1.66	1.43	1.12	1.04	1.32	1.20	1.00	
18	0.94	1.35	1.04	0.93	1.81	1.66	1.43	1.08	1.02	1.31	1.20	1.00	
19	0.93	1.68	0.99	0.93	1.69	2.09	1.43	1.07	1.01	1.30	1.19	1.00	
20	0.91	1.17	0.99	0.93	1.53	4.01	1.50	1.07	1.01	1.30	1.18	1.00	
21	0.93	1.02	0.95	0.93	1.46	5.06	1.52	1.09	1.00	1.29	1.17	1.00	
22	1.03	1.19	0.97	0.91	1.45	4.98	1.46	1.12	0.99	1.27	1.15	1.00	
23	1.44	1.64	0.95	0.98	2.10	3.65	1.42	1.09	1.00	1.27	1.14	1.00	
24	1.11	2.63	1.35	1.00	3.56	3.36	1.40	1.06	0.98	1.26	1.13	1.00	
25	1.01	2.45	1.02	0.94	2.28	2.89	1.44	1.05	0.98	1.26	1.12	1.00	
26	0.96	1.50	0.96	0.94	1.84	2.91	1.41	1.05	0.98	1.26	1.12	1.00	
27	0.93	1.27	0.97	1.06	1.68	2.94	1.38	1.05	0.95	1.27	1.09	1.00	
28	0.91	1.26	1.03	0.96	1.60	2.74	1.35	1.05	0.98	1.27	1.07	1.00	
29	0.90	1.46	1.13	5.45	1.53	2.51	1.35	1.05	0.99	1.26		1.00	
30	0.84	1.26	1.41	4.24	1.61	2.23	1.26	1.05	0.98	1.25		1.00	
31		1.17		2.09	3.81		1.25		0.98	1.25		1.00	
Mean	0.96	1.07	1.13	1.27	2.11	2.47	1.53	1.12	1.02	1.21	1.21	1.00	
Max	1.44	2.63	1.85	5.45	4.96	5.06	2.06	1.25	1.05	1.37	1.26	1.05	5.45
Min	0.59	0.60	0.95	0.91	1.38	1.63	1.25	1.05	0.95	0.96	1.07	1.00	0.59

Annual Max Momentary Gage Height 6.25 M (A.D), at 20.00 Hours, on Jul 29, 1993
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed 0.73 M (A.D)
Left Bank Elevation 7.60 M (A.D)
Right Bank Elevation 7.39 M (A.D), Drainage Area 205 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.10	0.20	0.92	0.56	1.69	6.56	2.68	0.73	0.42	0.32	0.74	0.42	
2	0.10	0.20	0.59	0.65	16.80	3.31	2.38	0.70	0.42	0.32	0.74	0.39	
3	0.10	0.18	0.56	0.59	25.44	3.64	2.11	0.64	0.41	0.32	0.73	0.38	
4	0.10	0.17	0.46	0.35	22.78	2.38	1.90	0.65	0.41	0.32	0.73	0.35	
5	0.12	0.15	0.34	0.38	4.40	2.26	1.75	0.64	0.41	0.32	0.73	0.35	
6	0.22	0.13	0.35	0.35	2.80	2.14	1.60	0.64	0.41	0.32	0.73	0.35	
7	0.61	0.10	0.32	0.31	2.05	2.08	1.52	0.62	0.42	0.32	0.73	0.35	
8	0.77	0.10	0.32	0.38	1.72	1.69	1.42	0.64	0.41	0.31	0.73	0.35	
9	0.82	0.10	0.53	0.31	1.78	1.46	1.38	0.59	0.39	0.49	0.73	0.35	
10	0.53	0.10	0.79	0.30	1.40	1.93	1.34	0.59	0.38	0.74	0.73	0.35	
11	0.36	0.10	1.34	0.30	1.24	3.73	1.30	0.55	0.36	0.94	0.74	0.35	
12	0.38	0.10	2.05	0.29	1.22	2.29	1.22	0.59	0.36	0.92	0.74	0.35	
13	0.41	0.10	0.76	0.29	1.16	2.02	1.20	0.55	0.39	0.92	0.74	0.35	
14	0.42	0.17	0.62	0.29	1.04	1.58	1.12	0.52	0.42	0.94	0.73	0.35	
15	0.44	0.35	0.65	0.28	0.98	1.81	1.04	0.55	0.42	0.90	0.71	0.35	
16	0.41	0.29	0.49	0.28	0.96	1.58	1.04	0.53	0.42	0.86	0.68	0.35	
17	0.32	0.31	0.42	0.28	1.08	1.52	1.06	0.53	0.41	0.84	0.65	0.35	
18	0.29	0.90	0.41	0.28	1.93	1.52	1.06	0.47	0.38	0.82	0.65	0.35	
19	0.28	1.56	0.34	0.28	1.58	2.77	1.06	0.46	0.36	0.80	0.64	0.35	
20	0.26	0.61	0.34	0.28	1.26	14.10	1.20	0.46	0.36	0.80	0.62	0.35	
21	0.28	0.38	0.30	0.28	1.12	26.96	1.24	0.49	0.35	0.79	0.61	0.35	
22	0.39	0.64	0.32	0.26	1.10	25.72	1.12	0.53	0.34	0.76	0.58	0.35	
23	1.08	1.48	0.30	0.33	2.80	11.00	1.04	0.49	0.35	0.76	0.56	0.35	
24	0.52	5.04	0.90	0.35	10.28	8.68	1.00	0.44	0.33	0.74	0.55	0.35	
25	0.36	4.28	0.38	0.29	3.56	6.14	1.08	0.42	0.33	0.74	0.53	0.35	
26	0.31	1.20	0.31	0.29	2.02	6.22	1.02	0.42	0.33	0.74	0.53	0.35	
27	0.28	0.76	0.32	0.44	1.56	6.35	0.96	0.42	0.30	0.76	0.49	0.35	
28	0.26	0.74	0.39	0.31	1.40	5.50	0.90	0.42	0.33	0.76	0.46	0.35	
29	0.25	1.12	0.55	33.20	1.26	4.53	0.90	0.42	0.34	0.74		0.35	
30	0.22	0.74	1.02	16.40	1.42	3.35	0.74	0.42	0.33	0.73		0.35	
31		0.61		2.77	12.28		0.73		0.33	0.73		0.35	
Total	10.99	22.91	17.39	61.95	132.11	164.82	40.11	16.12	11.62	20.77	18.53	10.99	528.31 CMSDAY
Mean	0.37	0.74	0.58	2.00	4.26	5.49	1.29	0.54	0.37	0.67	0.66	0.35	1.45 CMS
Max	1.08	5.04	2.05	33.20	25.44	26.96	2.68	0.73	0.42	0.94	0.74	0.42	33.20 CMS
Min	0.10	0.10	0.30	0.26	0.96	1.46	0.73	0.42	0.30	0.31	0.46	0.35	0.10 CMS
Runoff	0.950	1.979	1.502	5.352	11.414	14.240	3.466	1.393	1.004	1.795	1.601	0.950	45.646 MCM

Momentary Peak 47.50 CMS, at 6.25 M (A.D), at 20.00 Hours, on Jul 29, 1993

Runoff Yield 7.06 Liters/Second/Square KM, Momentary Peak Yield 231.71 Liters/Second/Square KM

WATER YEAR 1993

CHI RIVER BASIN

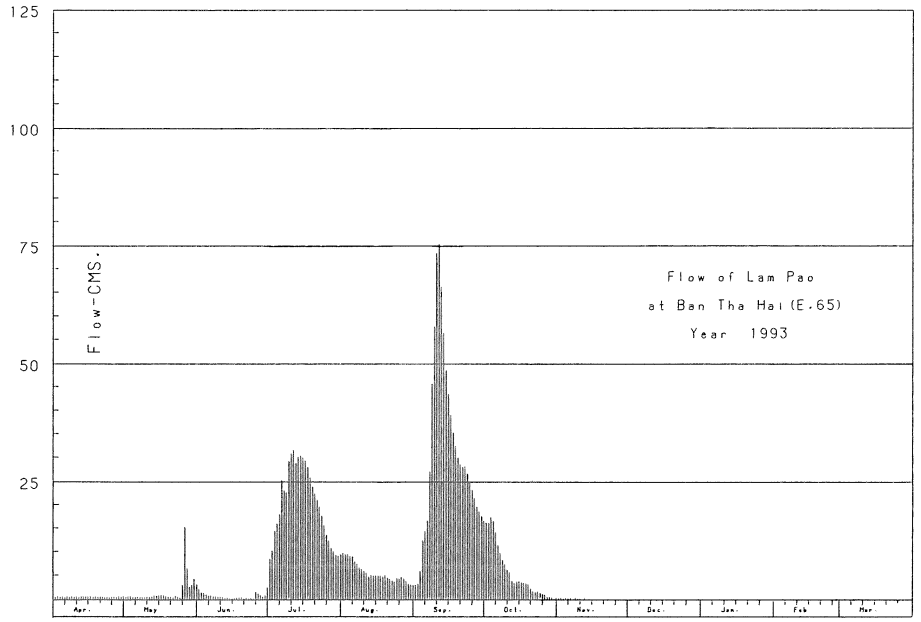
Lam Pao at Ban Tha Hai, Udon Thani (E.65)

Location	Lat. 16°-56'-54" N., Long. 103°-10'-16" E., on left bank at the bridge on highway, Ban Tha Hai, Amphoe Si That, Udon Thani.
Drainage Area	1,949 sq.km.
Type of Gage	Water-stage recorder.
Zero Gage at Bottom	+0.00 m.(A.D.)
Bench Mark	B.M.-H.D.
Location	On left bank at the abutment of the bridge.
Elevation	+10.695 m.(A.D.)
Gage Reading Frequency	Recording.
Basis of Mean Daily Gage Height	Arithmetic mean of 24 readings.
Period of Available Gage Records	1983 to date.
Rating Operation	
Period of Rating	1983 to date.
Rated by Float	-
Rated by Current Meter	1983 to date.
Stability of Channel Regimes	Fairly stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Stage-discharge relation defined by 73 discharge measurements made in 1993.

Gage Height in Meter (A.D), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	1.36	1.38	1.84	2.62	2.72	2.01	3.06	1.30	2.20	2.08	2.08	2.08	
2	1.36	1.38	1.68	2.75	2.71	2.08	3.07	1.31	2.07	2.08	2.08	2.08	
3	1.36	1.38	1.63	2.98	2.70	2.35	3.12	1.31	1.94	2.10	2.08	2.08	
4	1.36	1.36	1.54	3.05	2.66	2.88	3.09	1.30	1.91	2.10	2.08	2.08	
5	1.36	1.35	1.46	3.16	2.67	2.97	2.96	1.28	1.92	2.11	2.08	2.07	
6	1.36	1.34	1.43	3.51	2.56	3.09	2.83	1.26	1.92	2.08	2.09	2.06	
7	1.36	1.33	1.41	3.41	2.50	3.61	2.72	1.30	1.92	2.08	2.09	2.06	
8	1.36	1.33	1.38	3.38	2.43	4.29	2.60	1.31	1.93	2.08	2.08	2.06	
9	1.36	1.33	1.38	3.72	2.39	4.70	2.49	1.28	1.94	2.08	2.08	2.07	
10	1.38	1.35	1.35	3.80	2.36	5.11	2.39	1.27	1.95	2.09	2.08	2.07	
11	1.38	1.38	1.33	3.82	2.31	5.16	2.32	1.26	1.96	2.09	2.09	2.08	
12	1.38	1.40	1.30	3.70	2.24	4.93	2.15	1.28	1.97	2.10	2.08	2.08	
13	1.38	1.46	1.29	3.76	2.26	4.65	2.08	1.26	1.98	2.09	2.10	2.08	
14	1.37	1.46	1.27	3.78	2.26	4.39	2.14	1.26	1.98	2.09	2.13	2.09	
15	1.36	1.46	1.25	3.75	2.25	4.22	2.13	1.28	1.98	2.08	2.13	2.08	
16	1.38	1.51	1.28	3.72	2.26	4.07	2.12	1.30	1.98	2.09	2.13	2.08	
17	1.37	1.50	1.30	3.66	2.25	3.95	2.09	1.35	1.98	2.09	2.13	2.08	
18	1.36	1.39	1.33	3.54	2.24	3.85	2.10	1.42	2.00	2.09	2.13	2.07	
19	1.36	1.38	1.32	3.45	2.26	3.76	2.04	1.46	2.01	2.09	2.12	2.07	
20	1.36	1.37	1.29	3.37	2.22	3.68	1.88	1.50	2.01	2.09	2.11	2.07	
21	1.35	1.35	1.27	3.31	2.18	3.66	1.73	1.52	2.02	2.08	2.11	2.06	
22	1.34	1.45	1.26	3.23	2.16	3.66	1.71	1.54	2.02	2.09	2.10	2.07	
23	1.34	1.34	1.24	3.14	2.12	3.59	1.72	1.59	2.03	2.09	2.10	2.21	
24	1.34	1.30	1.25	3.03	2.21	3.50	1.67	1.68	2.04	2.09	2.10	2.42	
25	1.35	2.00	1.69	2.94	2.20	3.42	1.60	1.78	2.04	2.09	2.10	2.86	
26	1.35	3.02	1.62	2.87	2.22	3.32	1.50	1.85	2.05	2.09	2.09	2.42	
27	1.35	2.42	1.48	2.80	2.20	3.24	1.37	1.93	2.05	2.09	2.09	2.03	
28	1.37	1.96	1.35	2.74	2.13	3.18	1.33	2.04	2.05	2.08	2.08	1.78	
29	1.38	2.01	1.48	2.70	2.08	3.14	1.32	2.12	2.06	2.08		1.64	
30	1.38	2.18	1.90	2.67	2.02	3.08	1.31	2.18	2.07	2.08		1.55	
31		2.06		2.71	2.03		1.30		2.08	2.08		1.46	
Mean	1.36	1.58	1.42	3.26	2.32	3.65	2.13	1.48	2.00	2.09	2.10	2.06	
Max	1.38	3.02	1.90	3.82	2.72	5.16	3.12	2.18	2.20	2.11	2.13	2.86	5.16
Min	1.34	1.30	1.24	2.62	2.02	2.01	1.30	1.26	1.91	2.08	2.08	1.46	1.24

Annual Max Momentary Gage Height 5.20 M (A.D), at 6.00 Hours, on Sep 11, 1993
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed 0.85 M (A.D)
Left Bank Elevation 8.06 M (A.D)
Right Bank Elevation 8.22 M (A.D), Drainage Area 1949 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.58	0.64	2.20	8.70	9.80	3.05	16.20	0.40	0.00	0.00	0.00	0.00	
2	0.58	0.64	1.54	10.25	9.65	3.40	16.40	0.43	0.00	0.00	0.00	0.00	
3	0.58	0.64	1.39	14.60	9.50	6.00	17.40	0.43	0.00	0.00	0.00	0.00	
4	0.58	0.58	1.12	16.00	9.10	12.60	16.80	0.40	0.00	0.00	0.00	0.00	
5	0.58	0.55	0.88	18.20	9.20	14.40	14.20	0.36	0.00	0.00	0.00	0.00	
6	0.58	0.52	0.79	25.20	8.10	16.80	11.60	0.32	0.00	0.00	0.00	0.00	
7	0.58	0.49	0.73	23.20	7.50	27.20	9.80	0.40	0.00	0.00	0.00	0.00	
8	0.58	0.49	0.64	22.60	6.80	45.70	8.50	0.43	0.00	0.00	0.00	0.00	
9	0.58	0.49	0.64	29.40	6.40	58.00	7.40	0.36	0.00	0.00	0.00	0.00	
10	0.64	0.55	0.55	31.00	6.10	73.40	6.40	0.34	0.00	0.00	0.00	0.00	
11	0.64	0.64	0.49	31.60	5.60	75.40	5.70	0.32	0.00	0.00	0.00	0.00	
12	0.64	0.70	0.40	29.00	4.90	66.20	4.00	0.36	0.00	0.00	0.00	0.00	
13	0.64	0.88	0.38	30.20	5.10	56.50	3.40	0.32	0.00	0.00	0.00	0.00	
14	0.61	0.88	0.34	30.60	5.10	48.70	3.90	0.32	0.00	0.00	0.00	0.00	
15	0.58	0.88	0.30	30.00	5.00	43.60	3.80	0.00	0.00	0.00	0.00	0.00	
16	0.64	1.03	0.36	29.40	5.10	39.10	3.70	0.00	0.00	0.00	0.00	0.00	
17	0.61	1.00	0.40	28.20	5.00	35.50	3.45	0.00	0.00	0.00	0.00	0.00	
18	0.58	0.67	0.49	25.80	4.90	32.50	3.50	0.00	0.00	0.00	0.00	0.00	
19	0.58	0.64	0.46	24.00	5.10	30.20	3.20	0.00	0.00	0.00	0.00	0.00	
20	0.58	0.61	0.38	22.40	4.70	28.60	2.40	0.00	0.00	0.00	0.00	0.00	
21	0.55	0.55	0.34	21.20	4.30	28.20	1.72	0.00	0.00	0.00	0.00	0.00	
22	0.52	0.85	0.32	19.60	4.10	28.20	1.64	0.00	0.00	0.00	0.00	0.00	
23	0.52	0.52	0.28	17.80	3.70	26.80	1.68	0.00	0.00	0.00	0.00	0.00	
24	0.52	0.40	0.30	15.60	4.60	25.00	1.51	0.00	0.00	0.00	0.00	0.00	
25	0.55	3.00	1.57	13.80	4.50	23.40	1.30	0.00	0.00	0.00	0.00	0.00	
26	0.55	15.40	1.36	12.40	4.70	21.40	1.00	0.00	0.00	0.00	0.00	0.00	
27	0.55	6.70	0.94	11.00	4.50	19.80	0.61	0.00	0.00	0.00	0.00	0.00	
28	0.61	2.80	0.55	10.10	3.80	18.60	0.49	0.00	0.00	0.00	0.00	0.00	
29	0.64	3.05	0.94	9.50	3.40	17.80	0.46	0.00	0.00	0.00		0.00	
30	0.64	4.30	2.50	9.20	3.10	16.60	0.43	0.00	0.00	0.00		0.00	
31		3.30		9.65	3.15		0.40		0.00	0.00		0.00	
Total	17.61	54.39	23.58	630.20	176.50	942.65	172.99	5.19	0.00	0.00	0.00	0.00	2023.11 CMSDAY
Mean	0.59	1.75	0.79	20.33	5.69	31.42	5.58	0.17	0.00	0.00	0.00	0.00	5.54 CMS
Max	0.64	15.40	2.50	31.60	9.80	75.40	17.40	0.43	0.00	0.00	0.00	0.00	75.40 CMS
Min	0.52	0.40	0.28	8.70	3.10	3.05	0.40	0.00	0.00	0.00	0.00	0.00	0.00 CMS
Runoff	1.522	4.699	2.037	54.449	15.250	81.445	14.946	0.448	0.000	0.000	0.000	0.000	174.797 MCM

Momentary Peak 77.00 CMS, at 5.20 M (A.D), at 6.00 Hours, on Sep 11, 1993

Runoff Yield 2.84 Liters/Second/Square KM, Momentary Peak Yield 39.51 Liters/Second/Square KM

WATER YEAR 1993

CHI RIVER BASIN

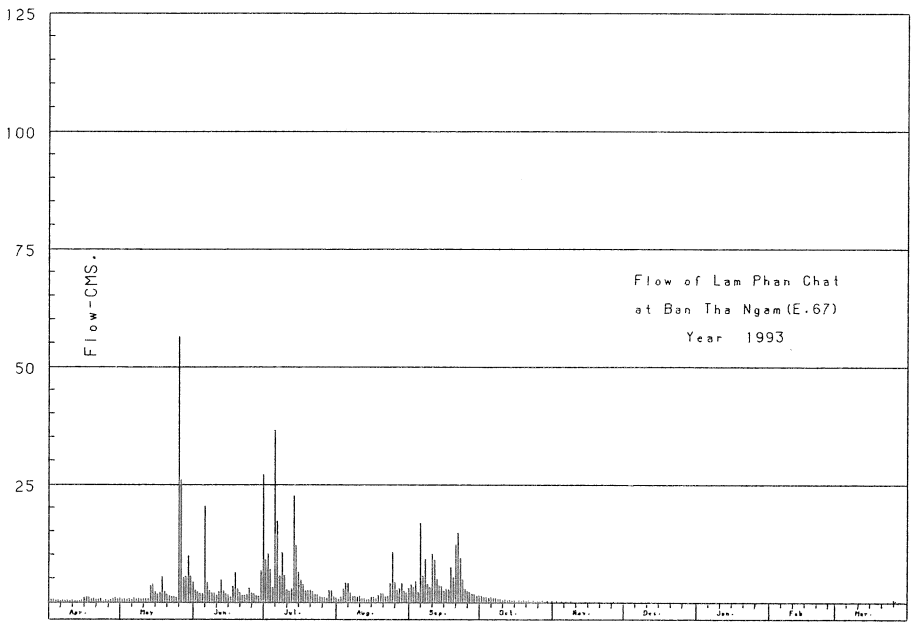
Lam Phan Chat at Ban Tha Ngam, Udon Thani (E.67)

Location	Lat. 16°-57'-17" N., Long. 103°-29'-40" E., on left bank at the bridge on road, Ban Tha Ngam, Tambon Sam Ran, Amphoe Kham Muang, Kalasin.
Drainage Area	420 sq.km.
Type of Gage	Water-stage recorder.
Zero Gage at Bottom	+0.00 m.(A.D.)
Bench Mark	B.M.-H.D.
Location	On left bank downstream side at the abutment of the bridge.
Elevation	+13.649 m.(A.D.)
Gage Reading Frequency	Recording.
Basis of Mean Daily Gage Height	Arithmetic mean of 24 readings.
Period of Available Gage Records	1983 to date.
Rating Operation	
Period of Rating	1987 to date.
Rated by Float	-
Rated by Current Meter	1987 to date.
Stability of Channel Regimes	Rather unstable.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Stage-discharge relation defined by 94 discharge measurements made in 1993.

Gage Height in Meter (A.D), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	1.15	1.16	1.55	2.16	1.17	1.69	1.28	1.03	0.94	0.88	0.86	0.85	
2	1.12	1.15	1.44	2.26	1.23	1.62	1.26	1.03	0.94	0.87	0.87	0.85	
3	1.11	1.16	1.38	2.00	1.60	1.74	1.23	1.02	0.93	0.86	0.86	0.84	
4	1.10	1.16	1.40	1.63	1.71	1.46	1.22	1.01	0.92	0.86	0.86	0.84	
5	1.10	1.15	2.83	3.50	1.72	2.64	1.22	1.01	0.92	0.89	0.86	0.84	
6	1.10	1.18	1.74	2.66	1.40	1.86	1.21	1.01	0.91	0.89	0.86	0.84	
7	1.11	1.18	1.50	1.88	1.29	2.18	1.19	1.00	0.90	0.87	0.85	0.84	
8	1.10	1.16	1.43	2.28	1.26	1.70	1.18	1.00	0.90	0.86	0.86	0.85	
9	1.10	1.17	1.39	1.87	1.26	1.62	1.15	1.00	0.92	0.89	0.87	0.86	
10	1.10	1.18	1.34	1.57	1.27	2.25	1.14	1.00	0.93	0.89	0.91	0.86	
11	1.10	1.16	1.46	1.47	1.20	2.17	1.13	1.00	0.92	0.88	0.92	0.86	
12	1.10	1.19	1.77	1.60	1.17	1.81	1.12	1.00	0.91	0.88	0.91	0.85	
13	1.10	1.67	1.52	2.94	1.15	1.66	1.11	1.00	0.92	0.88	0.92	0.84	
14	1.11	1.68	1.36	2.37	1.13	1.64	1.11	1.00	0.91	0.85	0.98	0.83	
15	1.21	1.47	1.31	1.94	1.25	1.52	1.10	0.99	0.91	0.86	1.01	0.83	
16	1.25	1.34	1.26	1.79	1.22	1.56	1.09	0.99	0.90	0.85	0.98	0.83	
17	1.22	1.46	1.64	1.68	1.20	1.58	1.09	1.00	0.89	0.85	0.96	0.82	
18	1.18	1.84	1.95	1.52	1.30	2.03	1.10	0.99	0.89	0.85	0.93	0.84	
19	1.17	1.50	1.60	1.50	1.42	1.85	1.10	1.00	0.89	0.86	0.91	0.84	
20	1.16	1.34	1.42	1.55	1.37	2.39	1.09	0.99	0.87	0.85	0.90	0.84	
21	1.16	1.32	1.33	1.47	1.28	2.53	1.08	0.99	0.87	0.85	0.90	0.84	
22	1.16	1.27	1.30	1.37	1.27	2.20	1.07	0.98	0.86	0.85	0.89	0.83	
23	1.10	1.24	1.37	1.32	1.70	1.78	1.07	0.98	0.84	0.86	0.88	0.90	
24	1.10	1.21	1.60	1.27	2.29	1.60	1.06	0.98	0.83	0.86	0.87	0.96	
25	1.11	4.16	1.43	1.24	1.74	1.50	1.06	0.98	0.85	0.86	0.86	1.14	
26	1.11	3.08	1.37	1.21	1.52	1.44	1.06	0.97	0.87	0.86	0.86	1.05	
27	1.20	1.85	1.31	1.21	1.60	1.39	1.06	0.95	0.87	0.85	0.86	1.00	
28	1.20	1.85	1.26	1.50	1.72	1.34	1.06	0.95	0.85	0.87	0.86	0.95	
29	1.18	2.23	1.99	1.53	1.51	1.31	1.04	0.96	0.86	0.86		0.94	
30	1.17	1.85	3.13	1.27	1.41	1.29	1.04	0.96	0.86	0.85		0.93	
31		1.75		1.19	1.60		1.03		0.88	0.85		0.93	
Mean	1.14	1.55	1.58	1.77	1.42	1.78	1.12	0.99	0.89	0.86	0.90	0.88	
Max	1.25	4.16	3.13	3.50	2.29	2.64	1.28	1.03	0.94	0.89	1.01	1.14	4.16
Min	1.10	1.15	1.26	1.19	1.13	1.29	1.03	0.95	0.83	0.85	0.85	0.82	0.82

Annual Max Momentary Gage Height 6.45 M (A.D), at 21.00 Hours, on May 25, 1993
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed 0.47 M (A.D)
Left Bank Elevation 12.19 M (A.D)
Right Bank Elevation 11.94 M (A.D), Drainage Area 420 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.75	0.80	2.75	9.04	0.85	3.90	1.40	0.36	0.18	0.08	0.06	0.05	
2	0.60	0.75	2.20	10.44	1.15	3.20	1.30	0.36	0.18	0.07	0.07	0.05	
3	0.55	0.80	1.90	7.00	3.00	4.40	1.15	0.34	0.16	0.06	0.06	0.04	
4	0.50	0.80	2.00	3.30	4.10	2.30	1.10	0.32	0.14	0.06	0.06	0.04	
5	0.50	0.75	20.60	36.50	4.20	16.80	1.10	0.32	0.14	0.09	0.06	0.04	
6	0.50	0.90	4.40	17.20	2.00	5.60	1.05	0.32	0.12	0.09	0.06	0.04	
7	0.55	0.90	2.50	5.80	1.45	9.32	0.95	0.30	0.10	0.07	0.05	0.04	
8	0.50	0.80	2.15	10.72	1.30	4.00	0.90	0.30	0.10	0.06	0.06	0.05	
9	0.50	0.85	1.95	5.70	1.30	3.20	0.75	0.30	0.14	0.09	0.07	0.06	
10	0.50	0.90	1.70	2.85	1.35	10.30	0.70	0.30	0.16	0.09	0.12	0.06	
11	0.50	0.80	2.30	2.35	1.00	9.18	0.65	0.30	0.14	0.08	0.14	0.06	
12	0.50	0.95	4.70	3.00	0.85	5.10	0.60	0.30	0.12	0.08	0.12	0.05	
13	0.50	3.70	2.60	22.80	0.75	3.60	0.55	0.30	0.14	0.08	0.14	0.04	
14	0.55	3.80	1.80	12.12	0.65	3.40	0.55	0.30	0.12	0.05	0.26	0.03	
15	1.05	2.35	1.55	6.40	1.25	2.60	0.50	0.28	0.12	0.06	0.32	0.03	
16	1.25	1.70	1.30	4.90	1.10	2.80	0.48	0.28	0.10	0.05	0.26	0.03	
17	1.10	2.30	3.40	3.80	1.00	2.90	0.48	0.30	0.09	0.05	0.22	0.02	
18	0.90	5.40	6.50	2.60	1.50	7.36	0.50	0.28	0.09	0.05	0.16	0.04	
19	0.85	2.50	3.00	2.50	2.10	5.50	0.50	0.30	0.09	0.06	0.12	0.04	
20	0.80	1.70	2.10	2.75	1.85	12.44	0.48	0.28	0.07	0.05	0.10	0.04	
21	0.80	1.60	1.65	2.35	1.40	14.74	0.46	0.28	0.07	0.05	0.10	0.04	
22	0.80	1.35	1.50	1.85	1.35	9.60	0.44	0.26	0.06	0.05	0.09	0.03	
23	0.50	1.20	1.85	1.60	4.00	4.80	0.44	0.26	0.04	0.06	0.08	0.10	
24	0.50	1.05	3.00	1.35	10.86	3.00	0.42	0.26	0.03	0.06	0.07	0.22	
25	0.55	56.60	2.15	1.20	4.40	2.50	0.42	0.26	0.05	0.06	0.06	0.70	
26	0.55	26.00	1.85	1.05	2.60	2.20	0.42	0.24	0.07	0.06	0.06	0.40	
27	1.00	5.50	1.55	1.05	3.00	1.95	0.42	0.20	0.07	0.05	0.06	0.30	
28	1.00	5.50	1.30	2.50	4.20	1.70	0.42	0.20	0.05	0.07	0.06	0.20	
29	0.90	10.02	6.90	2.65	2.55	1.55	0.38	0.22	0.06	0.06		0.18	
30	0.85	5.50	27.25	1.35	2.05	1.45	0.38	0.22	0.06	0.05		0.16	
31		4.50		0.95	3.00		0.36		0.08	0.05		0.16	
Total	20.90	152.27	120.40	189.67	72.16	161.39	20.25	8.54	3.14	1.99	3.09	3.34	757.14 CMSDAY
Mean	0.70	4.91	4.01	6.12	2.33	5.38	0.65	0.28	0.10	0.06	0.11	0.11	2.07 CMS
Max	1.25	56.60	27.25	36.50	10.86	16.80	1.40	0.36	0.18	0.09	0.32	0.70	56.60 CMS
Min	0.50	0.75	1.30	0.95	0.65	1.45	0.36	0.20	0.03	0.05	0.05	0.02	0.02 CMS
Runoff	1.806	13.156	10.403	16.387	6.235	13.944	1.750	0.738	0.271	0.172	0.267	0.289	65.417 MCM

Momentary Peak 162.00 CMS, at 6.45 M (A.D), at 21.00 Hours, on May 25, 1993

Runoff Yield 4.94 Liters/Second/Square KM, Momentary Peak Yield 385.71 Liters/Second/Square KM

WATER YEAR 1993

CHI RIVER BASIN

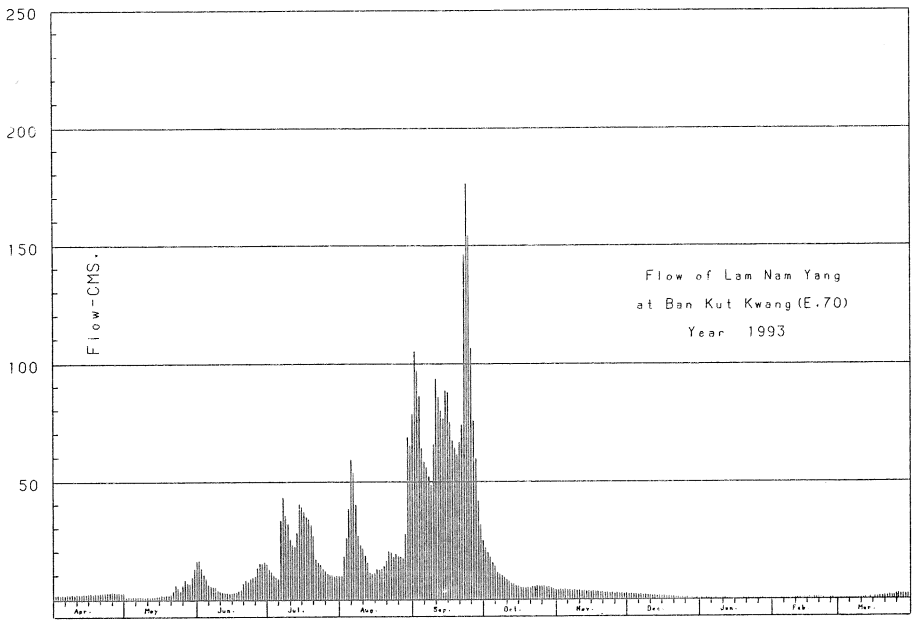
Lam Nam Yang at Ban Kut Kwang, Roi Et (E.70)

Location	Lat. 16°-17'-15" N., Long. 104°-00'-33" E., on right bank at bridge on highway, Ban Kut Kwang, Amphoe Phon Thong, Roi Et.
Drainage Area	3,168 sq.km.
Type of Gage	Water-stage recorder.
Zero Gage at Bottom	+0.00 m.(A.D.)
Bench Mark	B.M.-H.D.
Location	On right bank at the abutment of the bridge.
Elevation	+11.914 m.(A.D.)
Gage Reading Frequency	Recording.
Basis of Mean Daily Gage Height	Arithmetic mean of 24 readings.
Period of Available Gage Records	1983 to date
Rating Operation	
Period of Rating	1984 to date
Rated by Float	-
Rated by Current Meter	1984 to date
Stability of Channel Regimes	Stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Stage-discharge relation defined by 20 discharge measurements made in 1993.

Gage Height in Meter (A.D), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.20	0.12	0.95	0.84	0.71	3.03	1.13	0.41	0.25	0.07	0.06	0.07	
2	0.20	0.12	0.84	0.79	1.01	2.86	1.07	0.41	0.24	0.07	0.06	0.07	
3	0.20	0.12	0.74	0.73	1.28	2.65	1.00	0.41	0.24	0.07	0.05	0.07	
4	0.20	0.12	0.64	0.67	1.61	2.20	0.93	0.41	0.23	0.07	0.05	0.06	
5	0.20	0.12	0.51	0.65	2.10	2.08	0.87	0.41	0.22	0.07	0.05	0.06	
6	0.22	0.12	0.49	1.50	1.97	2.02	0.79	0.40	0.21	0.07	0.06	0.06	
7	0.22	0.12	0.48	1.74	1.66	1.94	0.74	0.40	0.20	0.07	0.06	0.05	
8	0.22	0.12	0.46	1.54	1.30	1.85	0.72	0.40	0.20	0.07	0.06	0.05	
9	0.22	0.12	0.40	1.46	1.18	2.24	0.67	0.39	0.19	0.07	0.07	0.06	
10	0.22	0.12	0.34	1.26	1.12	2.79	0.63	0.38	0.18	0.07	0.07	0.07	
11	0.23	0.12	0.31	1.17	1.03	2.64	0.58	0.37	0.17	0.06	0.08	0.07	
12	0.23	0.12	0.30	1.16	0.92	2.52	0.55	0.36	0.17	0.06	0.08	0.08	
13	0.23	0.12	0.29	1.34	0.78	2.46	0.52	0.35	0.16	0.06	0.08	0.09	
14	0.24	0.15	0.28	1.67	0.74	2.69	0.50	0.35	0.16	0.06	0.09	0.09	
15	0.24	0.15	0.28	1.63	0.77	2.68	0.48	0.35	0.16	0.06	0.09	0.10	
16	0.25	0.18	0.29	1.58	0.83	2.42	0.46	0.35	0.15	0.06	0.09	0.11	
17	0.25	0.20	0.33	1.53	0.83	2.27	0.45	0.34	0.15	0.06	0.10	0.11	
18	0.26	0.19	0.36	1.50	0.83	2.21	0.45	0.33	0.14	0.06	0.10	0.12	
19	0.26	0.19	0.42	1.45	0.88	2.14	0.45	0.32	0.13	0.06	0.10	0.14	
20	0.28	0.23	0.54	1.30	0.95	2.25	0.45	0.31	0.12	0.06	0.11	0.15	
21	0.28	0.35	0.61	0.97	1.08	2.40	0.47	0.30	0.11	0.06	0.11	0.16	
22	0.29	0.52	0.59	0.93	1.07	3.72	0.48	0.29	0.10	0.06	0.11	0.17	
23	0.29	0.44	0.65	0.89	1.01	4.15	0.48	0.28	0.10	0.06	0.10	0.18	
24	0.31	0.37	0.67	0.84	1.04	3.83	0.49	0.28	0.09	0.06	0.09	0.25	
25	0.31	0.50	0.71	0.80	1.02	3.05	0.49	0.27	0.09	0.06	0.08	0.24	
26	0.30	0.61	0.85	0.76	1.00	2.44	0.48	0.27	0.09	0.06	0.07	0.24	
27	0.30	0.56	0.92	0.73	0.99	2.11	0.47	0.26	0.08	0.06	0.06	0.23	
28	0.29	0.53	0.91	0.71	1.32	1.70	0.46	0.26	0.08	0.06	0.05	0.22	
29	0.29	0.69	0.94	0.70	2.30	1.44	0.45	0.25	0.08	0.06		0.22	
30	0.28	0.85	0.90	0.70	2.22	1.24	0.42	0.25	0.07	0.06		0.21	
31		0.95		0.69	2.49		0.39		0.07	0.06		0.21	
Mean	0.25	0.30	0.57	1.10	1.23	2.47	0.60	0.34	0.15	0.06	0.08	0.13	
Max	0.31	0.95	0.95	1.74	2.49	4.15	1.13	0.41	0.25	0.07	0.11	0.25	4.15
Min	0.20	0.12	0.28	0.65	0.71	1.24	0.39	0.25	0.07	0.06	0.05	0.05	0.05

Annual Max Momentary Gage Height 4.17 M (A.D), at 6.00 Hours, on Sep 23, 1993
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed -1.79 M (A.D)
Left Bank Elevation 11.19 M (A.D)
Right Bank Elevation 9.94 M (A.D), Drainage Area 3168 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	2.00	1.20	16.50	13.20	10.20	105.50	21.90	4.20	2.50	0.70	0.60	0.70	
2	2.00	1.20	13.20	11.80	18.30	97.00	20.10	4.20	2.40	0.70	0.60	0.70	
3	2.00	1.20	10.80	10.60	26.40	86.50	18.00	4.20	2.40	0.70	0.50	0.70	
4	2.00	1.20	8.80	9.40	38.40	64.00	15.90	4.20	2.30	0.70	0.50	0.60	
5	2.00	1.20	6.20	9.00	59.50	58.60	14.10	4.20	2.20	0.70	0.50	0.60	
6	2.20	1.20	5.80	34.00	53.65	55.90	11.80	4.00	2.10	0.70	0.60	0.60	
7	2.20	1.20	5.60	43.60	40.40	52.30	10.80	4.00	2.00	0.70	0.60	0.50	
8	2.20	1.20	5.20	35.60	27.00	48.25	10.40	4.00	2.00	0.70	0.60	0.50	
9	2.20	1.20	4.00	32.40	23.40	66.00	9.40	3.90	1.90	0.70	0.70	0.60	
10	2.20	1.20	3.40	25.80	21.60	93.50	8.60	3.80	1.80	0.70	0.70	0.70	
11	2.30	1.20	3.10	23.10	18.90	86.00	7.60	3.70	1.70	0.60	0.80	0.70	
12	2.30	1.20	3.00	22.80	15.60	80.00	7.00	3.60	1.70	0.60	0.80	0.80	
13	2.30	1.20	2.90	28.20	11.60	77.00	6.40	3.50	1.60	0.60	0.80	0.90	
14	2.40	1.50	2.80	40.80	10.80	88.50	6.00	3.50	1.60	0.60	0.90	0.90	
15	2.40	1.50	2.80	39.20	11.40	88.00	5.60	3.50	1.60	0.60	0.90	1.00	
16	2.50	1.80	2.90	37.20	12.90	75.00	5.20	3.50	1.50	0.60	0.90	1.10	
17	2.50	2.00	3.30	35.20	12.90	67.50	5.00	3.40	1.50	0.60	1.00	1.10	
18	2.60	1.90	3.60	34.00	12.90	64.50	5.00	3.30	1.40	0.60	1.00	1.20	
19	2.60	1.90	4.40	32.00	14.40	61.30	5.00	3.20	1.30	0.60	1.00	1.40	
20	2.80	2.30	6.80	27.00	16.50	66.50	5.00	3.10	1.20	0.60	1.10	1.50	
21	2.80	3.50	8.20	17.10	20.40	74.00	5.40	3.00	1.10	0.60	1.10	1.60	
22	2.90	6.40	7.80	15.90	20.10	146.40	5.60	2.90	1.00	0.60	1.10	1.70	
23	2.90	4.80	9.00	14.70	18.30	176.50	5.60	2.80	1.00	0.60	1.00	1.80	
24	3.10	3.70	9.40	13.20	19.20	154.10	5.80	2.80	0.90	0.60	0.90	2.50	
25	3.10	6.00	10.20	12.00	18.60	106.50	5.80	2.70	0.90	0.60	0.80	2.40	
26	3.00	8.20	13.50	11.20	18.00	76.00	5.60	2.70	0.90	0.60	0.70	2.40	
27	3.00	7.20	15.60	10.60	17.70	59.95	5.40	2.60	0.80	0.60	0.60	2.30	
28	2.90	6.60	15.30	10.20	27.60	42.00	5.20	2.60	0.80	0.60	0.50	2.20	
29	2.90	9.80	16.20	10.00	69.00	31.60	5.00	2.50	0.80	0.60		2.20	
30	2.80	13.50	15.00	10.00	65.00	25.20	4.40	2.50	0.70	0.60		2.10	
31		16.50		9.80	78.50		3.90		0.70	0.60		2.10	
Total	75.10	114.70	235.30	679.60	829.15	2374.10	256.50	102.10	46.30	19.60	21.80	40.10	4794.35 CMSDAY
Mean	2.50	3.70	7.84	21.92	26.75	79.14	8.27	3.40	1.49	0.63	0.78	1.29	13.14 CMS
Max	3.10	16.50	16.50	43.60	78.50	176.50	21.90	4.20	2.50	0.70	1.10	2.50	176.50 CMS
Min	2.00	1.20	2.80	9.00	10.20	25.20	3.90	2.50	0.70	0.60	0.50	0.50	0.50 CMS
Runoff	6.489	9.910	20.330	58.717	71.639	205.122	22.162	8.821	4.000	1.693	1.884	3.465	414.232 MCM

Momentary Peak 177.90 CMS, at 4.17 M (A.D), at 6.00 Hours, on Sep 23, 1993

Runoff Yield 4.15 Liters/Second/Square KM, Momentary Peak Yield 56.16 Liters/Second/Square KM

WATER YEAR 1993

CHI RIVER BASIN

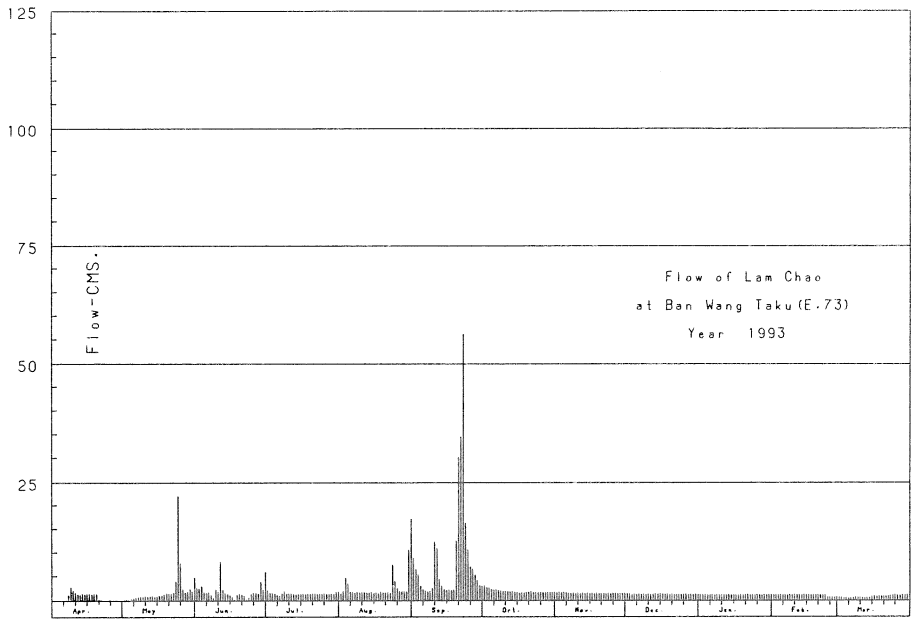
Lam Chao at Ban Wang Taku, Chaiyaphum (E.73)

Location	Lat. 15-57-02 N., Long. 101-26-46 E., on left bank at Ban Wang Taku, Tambon Ban Chiang, Amphoe Nong Bua Daeng, Chaiyaphum.
Drainage Area	267 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+0.00 m.(A.D.)
Bench Mark	B.M.-H.D.
Location	On left bank in the vicinity of the station office.
Elevation	+12.487 m.(A.D.)
Gage Reading Frequency	5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1984 to date.
Rating Operation	
Period of Rating	1987 to date.
Rated by Float	-
Rated by Current Meter	1987 to date.
Stability of Channel Regimes	Stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records fair. Stage-discharge relation defined by 11 discharge measurements made in 1993.

Gage Height in Meter (A.D), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	1.59	2.24	2.50	2.45	2.39	3.09	2.55	2.41	2.39	2.36	2.36	2.31	
2	1.57	2.24	2.49	2.40	2.43	2.90	2.52	2.41	2.38	2.36	2.36	2.30	
3	1.56	2.25	2.55	2.39	2.72	2.78	2.50	2.41	2.37	2.36	2.36	2.29	
4	1.55	2.27	2.42	2.39	2.59	2.55	2.48	2.41	2.37	2.36	2.36	2.28	
5	1.55	2.29	2.41	2.36	2.43	2.48	2.47	2.41	2.37	2.36	2.36	2.28	
6	2.08	2.29	2.41	2.33	2.41	2.44	2.46	2.39	2.37	2.36	2.36	2.28	
7	2.36	2.31	2.36	2.39	2.41	2.43	2.46	2.39	2.37	2.36	2.36	2.30	
8	2.53	2.32	2.27	2.43	2.41	2.43	2.44	2.39	2.37	2.36	2.36	2.31	
9	2.45	2.32	2.48	2.39	2.41	2.51	2.44	2.39	2.37	2.36	2.36	2.31	
10	2.40	2.33	2.42	2.38	2.41	3.34	2.43	2.39	2.37	2.36	2.36	2.30	
11	2.38	2.33	3.04	2.38	2.41	3.25	2.43	2.39	2.37	2.36	2.36	2.30	
12	2.37	2.33	2.47	2.38	2.41	2.68	2.43	2.39	2.38	2.36	2.36	2.30	
13	2.38	2.33	2.39	2.36	2.41	2.54	2.43	2.39	2.38	2.36	2.36	2.30	
14	2.38	2.32	2.38	2.38	2.41	2.48	2.42	2.39	2.38	2.36	2.36	2.30	
15	2.38	2.32	2.36	2.38	2.40	2.46	2.41	2.39	2.38	2.36	2.36	2.32	
16	2.38	2.34	2.31	2.38	2.40	2.46	2.40	2.39	2.38	2.36	2.36	2.33	
17	2.38	2.35	2.23	2.38	2.39	2.46	2.40	2.39	2.38	2.36	2.36	2.33	
18	2.38	2.37	2.36	2.38	2.42	2.46	2.41	2.39	2.37	2.36	2.36	2.33	
19	2.38	2.40	2.38	2.38	2.41	3.36	2.41	2.39	2.37	2.36	2.36	2.33	
20	2.23	2.38	2.37	2.38	2.40	4.52	2.42	2.39	2.37	2.36	2.36	2.33	
21	2.03	2.38	2.33	2.38	2.40	4.75	2.43	2.39	2.37	2.36	2.36	2.33	
22	1.90	2.41	2.25	2.38	2.40	5.88	2.42	2.39	2.37	2.36	2.36	2.34	
23	2.12	2.65	2.30	2.38	3.00	3.62	2.41	2.39	2.37	2.36	2.35	2.34	
24	2.10	4.01	2.38	2.38	2.64	3.22	2.41	2.39	2.37	2.36	2.32	2.36	
25	2.00	3.02	2.40	2.38	2.50	2.96	2.41	2.39	2.37	2.36	2.31	2.36	
26	2.04	2.47	2.39	2.38	2.43	2.90	2.41	2.39	2.37	2.36	2.31	2.35	
27	2.12	2.41	2.39	2.38	2.43	2.79	2.41	2.39	2.37	2.36	2.31	2.35	
28	2.16	2.42	2.64	2.38	2.43	2.66	2.41	2.39	2.37	2.36	2.31	2.36	
29	2.17	2.49	2.46	2.38	2.43	2.56	2.41	2.39	2.37	2.36		2.36	
30	2.20	2.43	2.85	2.41	3.22	2.54	2.41	2.39	2.37	2.36		2.36	
31		2.73		2.42	3.69		2.41		2.37	2.36		2.36	
Mean	2.14	2.44	2.43	2.39	2.52	2.98	2.43	2.39	2.37	2.36	2.35	2.32	
Max	2.53	4.01	3.04	2.45	3.69	5.88	2.55	2.41	2.39	2.36	2.36	2.36	5.88
Min	1.55	2.24	2.23	2.33	2.39	2.43	2.40	2.39	2.37	2.36	2.31	2.28	1.55

Annual Max Momentary Gage Height 6.62 M (A.D), at 6.00 Hours, on Sep 22, 1993
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed 0.72 M (A.D)
Left Bank Elevation 7.60 M (A.D)
Right Bank Elevation 7.39 M (A.D), Drainage Area 267 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.00	0.24	2.60	2.10	1.50	8.86	3.10	1.70	1.50	1.20	1.20	0.70	
2	0.00	0.24	2.50	1.60	1.90	6.60	2.80	1.70	1.40	1.20	1.20	0.60	
3	0.00	0.30	3.10	1.50	4.80	5.40	2.60	1.70	1.30	1.20	1.20	0.54	
4	0.00	0.42	1.80	1.50	3.50	3.10	2.40	1.70	1.30	1.20	1.20	0.48	
5	0.00	0.54	1.70	1.20	1.90	2.40	2.30	1.70	1.30	1.20	1.20	0.48	
6	0.00	0.54	1.70	0.90	1.70	2.00	2.20	1.50	1.30	1.20	1.20	0.48	
7	1.20	0.70	1.20	1.50	1.70	1.90	2.20	1.50	1.30	1.20	1.20	0.60	
8	2.90	0.80	0.42	1.90	1.70	1.90	2.00	1.50	1.30	1.20	1.20	0.70	
9	2.10	0.80	2.40	1.50	1.70	2.70	2.00	1.50	1.30	1.20	1.20	0.70	
10	1.60	0.90	1.80	1.40	1.70	12.36	1.90	1.50	1.30	1.20	1.20	0.60	
11	1.40	0.90	8.16	1.40	1.70	11.10	1.90	1.50	1.30	1.20	1.20	0.60	
12	1.30	0.90	2.30	1.40	1.70	4.40	1.90	1.50	1.40	1.20	1.20	0.60	
13	1.40	0.90	1.50	1.20	1.70	3.00	1.90	1.50	1.40	1.20	1.20	0.60	
14	1.40	0.80	1.40	1.40	1.70	2.40	1.80	1.50	1.40	1.20	1.20	0.60	
15	1.40	0.80	1.20	1.40	1.60	2.20	1.70	1.50	1.40	1.20	1.20	0.80	
16	1.40	1.00	0.70	1.40	1.60	2.20	1.60	1.50	1.40	1.20	1.20	0.90	
17	1.40	1.10	0.18	1.40	1.50	2.20	1.60	1.50	1.40	1.20	1.20	0.90	
18	1.40	1.30	1.20	1.40	1.80	2.20	1.70	1.50	1.30	1.20	1.20	0.90	
19	1.40	1.60	1.40	1.40	1.70	12.64	1.70	1.50	1.30	1.20	1.20	0.90	
20	0.18	1.40	1.30	1.40	1.60	30.36	1.80	1.50	1.30	1.20	1.20	0.90	
21	0.00	1.40	0.90	1.40	1.60	34.57	1.90	1.50	1.30	1.20	1.20	0.90	
22	0.00	1.70	0.30	1.40	1.60	56.41	1.80	1.50	1.30	1.20	1.20	1.00	
23	0.00	4.10	0.60	1.40	7.60	16.28	1.70	1.50	1.30	1.20	1.10	1.00	
24	0.00	22.16	1.40	1.40	4.00	10.68	1.70	1.50	1.30	1.20	0.80	1.20	
25	0.00	7.88	1.60	1.40	2.60	7.20	1.70	1.50	1.30	1.20	0.70	1.20	
26	0.00	2.30	1.50	1.40	1.90	6.60	1.70	1.50	1.30	1.20	0.70	1.10	
27	0.00	1.70	1.50	1.40	1.90	5.50	1.70	1.50	1.30	1.20	0.70	1.10	
28	0.00	1.80	4.00	1.40	1.90	4.20	1.70	1.50	1.30	1.20	0.70	1.20	
29	0.00	2.50	2.20	1.40	1.90	3.20	1.70	1.50	1.30	1.20		1.20	
30	0.00	1.90	6.10	1.70	10.68	3.00	1.70	1.50	1.30	1.20		1.20	
31		4.90		1.80	17.26		1.70		1.30	1.20		1.20	
Total	20.48	68.52	58.66	45.00	91.64	267.56	60.10	46.00	41.20	37.20	31.10	25.88	793.34 CMSDAY
Mean	0.68	2.21	1.96	1.45	2.96	8.92	1.94	1.53	1.33	1.20	1.11	0.83	2.17 CMS
Max	2.90	22.16	8.16	2.10	17.26	56.41	3.10	1.70	1.50	1.20	1.20	1.20	56.41 CMS
Min	0.00	0.24	0.18	0.90	1.50	1.90	1.60	1.50	1.30	1.20	0.70	0.48	0.00 CMS
Runoff	1.769	5.920	5.068	3.888	7.918	23.117	5.193	3.974	3.560	3.214	2.687	2.236	68.545 MCM

Momentary Peak 72.64 CMS, at 6.62 M (A.D), at 6.00 Hours, on Sep 22, 1993
Runoff Yield 8.14 Liters/Second/Square KM, Momentary Peak Yield 272.06 Liters/Second/Square KM

WATER YEAR 1993

CHI RIVER BASIN

Lam Pao at Ban Nong Muang, Kalasin (E.75)

Location — Lat. 16°-34'-36" N., Long. 103°-26'-32" E., on left bank about 3 kilometers downstream from Lam Pao Damsite, Tambon Lam Pao, Amphoe Muang, Kalasin.

Drainage Area — 6,054 sq.km.

Type of Gage — Staff gage.

Zero Gage at Bottom — +138.02 m.(M.S.L.)

Bench Mark — B.M.-H.D.

Location — On left bank about 50 meters from the top staff gage.

Elevation — +149.762 m.(M.S.L.)

Gage Reading Frequency — 5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.

Basis of Mean Daily Gage Height — Arithmetic mean of 5 readings.

Period of Available Gage Records — 1987 to date.

Rating Operation

Period of Rating — 1987 to date.

Rated by Float — -

Rated by Current Meter — 1987 to date.

Stability of Channel Regimes — Stable.

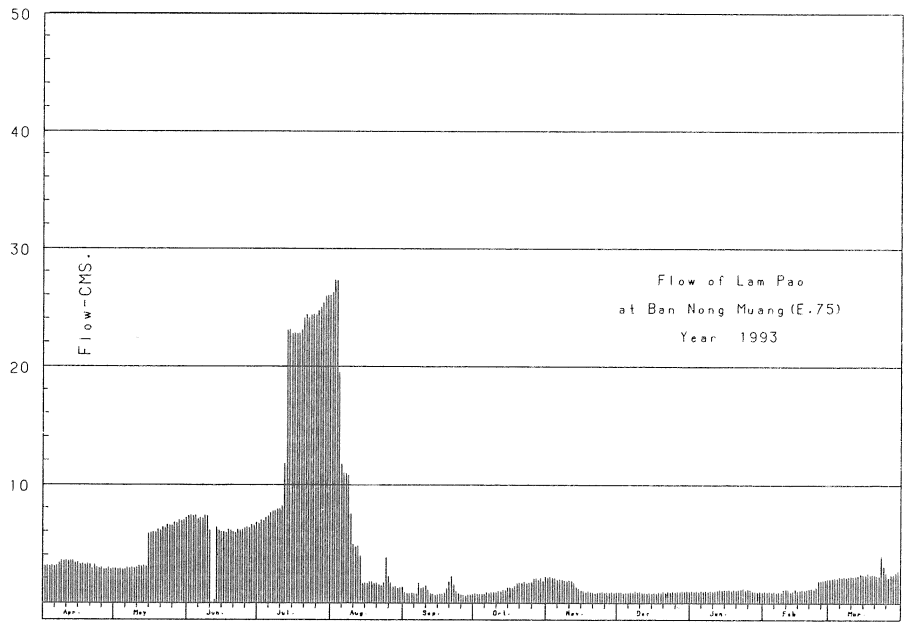
Overbank Flow Conditions — No overbank flow.

General Description — Records good. Stage-discharge relation defined by 32 discharge measurements made in 1993.

Gage Height in Meter (MSL), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	139.01	138.99	139.27	139.24	140.02	138.78	138.76	138.92	138.79	138.80	138.79	138.90	
2	139.01	138.99	139.27	139.25	140.05	138.77	138.76	138.92	138.78	138.80	138.79	138.91	
3	139.01	138.99	139.27	139.25	140.05	138.76	138.75	138.92	138.77	138.80	138.79	138.91	
4	139.01	138.99	139.27	139.26	139.80	138.78	138.76	138.91	138.77	138.80	138.79	138.91	
5	139.01	138.99	139.26	139.27	139.49	138.76	138.76	138.90	138.78	138.80	138.79	138.92	
6	139.01	139.00	139.26	139.28	139.45	138.76	138.78	138.90	138.78	138.80	138.78	138.92	
7	139.03	139.00	139.26	139.29	139.45	138.87	138.77	138.90	138.78	138.80	138.78	138.92	
8	139.04	139.00	139.27	139.29	139.44	138.83	138.78	138.89	138.80	138.80	138.78	138.92	
9	139.04	139.00	139.27	139.30	139.28	138.83	138.79	138.89	138.79	138.80	138.81	138.92	
10	139.04	139.00	139.21	139.30	139.13	138.85	138.79	138.89	138.79	138.80	138.82	138.93	
11	139.04	139.01	138.52	139.31	139.12	138.81	138.80	138.89	138.78	138.80	138.81	138.92	
12	139.04	139.01	138.64	139.49	139.12	138.77	138.80	138.87	138.77	138.81	138.79	138.93	
13	139.04	139.01	139.22	139.92	139.07	138.75	138.81	138.84	138.77	138.81	138.79	138.93	
14	139.03	139.01	139.21	139.92	138.87	138.74	138.81	138.82	138.77	138.81	138.82	138.95	
15	139.03	139.19	139.20	139.91	138.87	138.74	138.83	138.81	138.77	138.81	138.80	138.94	
16	139.02	139.20	139.20	139.91	138.87	138.76	138.83	138.80	138.77	138.81	138.81	138.94	
17	139.02	139.20	139.20	139.91	138.88	138.75	138.83	138.79	138.77	138.81	138.81	138.95	
18	139.02	139.20	139.21	139.91	138.88	138.78	138.84	138.80	138.78	138.81	138.81	138.94	
19	139.02	139.21	139.21	139.92	138.87	138.82	138.87	138.79	138.78	138.81	138.81	138.94	
20	139.02	139.21	139.20	139.95	138.87	138.88	138.87	138.78	138.79	138.81	138.82	138.94	
21	138.99	139.22	139.20	139.96	138.86	138.93	138.87	138.77	138.78	138.81	138.82	138.93	
22	139.02	139.22	139.21	139.95	138.85	138.86	138.88	138.77	138.79	138.82	138.82	138.93	
23	139.00	139.23	139.21	139.96	138.87	138.80	138.87	138.79	138.79	138.82	138.83	139.07	
24	139.00	139.23	139.21	139.96	139.06	138.77	138.87	138.79	138.79	138.81	138.89	139.01	
25	139.00	139.23	139.22	139.96	138.93	138.75	138.88	138.78	138.79	138.82	138.89	138.95	
26	138.99	139.24	139.22	139.97	138.87	138.73	138.91	138.78	138.79	138.81	138.89	138.93	
27	138.99	139.24	139.22	139.98	138.84	138.73	138.91	138.78	138.80	138.80	138.90	138.94	
28	139.00	139.25	139.23	139.99	138.84	138.74	138.90	138.78	138.80	138.79	138.90	138.94	
29	138.99	139.25	139.23	140.01	138.83	138.75	138.91	138.78	138.80	138.79		138.96	
30	138.99	139.25	139.24	140.01	138.83	138.75	138.89	138.78	138.80	138.79		138.97	
31		139.26		140.01	138.84		138.92		138.80	138.79		138.97	
Mean	139.02	139.12	139.19	139.70	139.14	138.79	138.83	138.83	138.78	138.80	138.82	138.94	
Max	139.04	139.26	139.27	140.01	140.05	138.93	138.92	138.92	138.80	138.82	138.90	139.07	140.05
Min	138.99	138.99	138.52	139.24	138.83	138.73	138.75	138.77	138.77	138.79	138.78	138.90	138.52

Annual Max Momentary Gage Height 140.06 M (MSL), at 9.00 Hours, on Aug 3, 1993
Zero Gage at Bottom Elevation 138.02 M (MSL), River Bed 137.19 M (MSL)
Left Bank Elevation 149.44 M (MSL)
Right Bank Elevation 145.77 M (MSL), Drainage Area 6054 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	3.15	2.90	7.40	6.80	26.36	0.90	0.80	2.20	0.95	1.00	0.95	2.00	
2	3.15	2.90	7.40	7.00	27.35	0.85	0.80	2.20	0.90	1.00	0.95	2.10	
3	3.15	2.90	7.40	7.00	27.35	0.80	0.75	2.20	0.85	1.00	0.95	2.10	
4	3.15	2.90	7.40	7.20	19.50	0.90	0.80	2.10	0.85	1.00	0.95	2.10	
5	3.15	2.90	7.20	7.40	11.80	0.80	0.80	2.00	0.90	1.00	0.95	2.20	
6	3.15	3.00	7.20	7.60	11.00	0.80	0.90	2.00	0.90	1.00	0.90	2.20	
7	3.45	3.00	7.20	7.80	11.00	1.70	0.85	2.00	0.90	1.00	0.90	2.20	
8	3.60	3.00	7.40	7.80	10.80	1.30	0.90	1.90	1.00	1.00	0.90	2.20	
9	3.60	3.00	7.40	8.00	7.60	1.30	0.95	1.90	0.95	1.00	1.10	2.20	
10	3.60	3.00	6.20	8.00	4.95	1.50	0.95	1.90	0.95	1.00	1.20	2.30	
11	3.60	3.15	0.04	8.20	4.80	1.10	1.00	1.90	0.90	1.00	1.10	2.20	
12	3.60	3.15	0.32	11.80	4.80	0.85	1.00	1.70	0.85	1.10	0.95	2.30	
13	3.60	3.15	6.40	23.14	4.05	0.75	1.10	1.40	0.85	1.10	0.95	2.30	
14	3.45	3.15	6.20	23.14	1.70	0.70	1.10	1.20	0.85	1.10	1.20	2.50	
15	3.45	5.85	6.00	22.82	1.70	0.70	1.30	1.10	0.85	1.10	1.00	2.40	
16	3.30	6.00	6.00	22.82	1.70	0.80	1.30	1.00	0.85	1.10	1.10	2.40	
17	3.30	6.00	6.00	22.82	1.80	0.75	1.30	0.95	0.85	1.10	1.10	2.50	
18	3.30	6.00	6.20	22.82	1.80	0.90	1.40	1.00	0.90	1.10	1.10	2.40	
19	3.30	6.20	6.20	23.14	1.70	1.20	1.70	0.95	0.90	1.10	1.10	2.40	
20	3.30	6.20	6.00	24.10	1.70	1.80	1.70	0.90	0.95	1.10	1.20	2.40	
21	2.90	6.40	6.00	24.42	1.60	2.30	1.70	0.85	0.90	1.10	1.20	2.30	
22	3.30	6.40	6.20	24.10	1.50	1.60	1.80	0.85	0.95	1.20	1.20	2.30	
23	3.00	6.60	6.20	24.42	1.70	1.00	1.70	0.95	0.95	1.20	1.30	4.05	
24	3.00	6.60	6.20	24.42	3.90	0.85	1.70	0.95	0.95	1.10	1.90	3.15	
25	3.00	6.60	6.40	24.42	2.30	0.75	1.80	0.90	0.95	1.20	1.90	2.50	
26	2.90	6.80	6.40	24.74	1.70	0.65	2.10	0.90	0.95	1.10	1.90	2.30	
27	2.90	6.80	6.40	25.06	1.40	0.65	2.10	0.90	1.00	1.00	2.00	2.40	
28	3.00	7.00	6.60	25.38	1.40	0.70	2.00	0.90	1.00	0.95	2.00	2.40	
29	2.90	7.00	6.60	26.03	1.30	0.75	2.10	0.90	1.00	0.95		2.60	
30	2.90	7.00	6.80	26.03	1.30	0.75	1.90	0.90	1.00	0.95		2.70	
31		7.20		26.03	1.40		2.20		1.00	0.95		2.70	
Total	97.15	152.75	185.36	554.45	202.96	30.40	42.50	41.50	28.55	32.60	33.95	74.80	1476.97 CMSDAY
Mean	3.24	4.93	6.18	17.89	6.55	1.01	1.37	1.38	0.92	1.05	1.21	2.41	4.05 CMS
Max	3.60	7.20	7.40	26.03	27.35	2.30	2.20	2.20	1.00	1.20	2.00	4.05	27.35 CMS
Min	2.90	2.90	0.04	6.80	1.30	0.65	0.75	0.85	0.85	0.95	0.90	2.00	0.04 CMS
Runoff	8.394	13.198	16.015	47.904	17.536	2.627	3.672	3.586	2.467	2.817	2.933	6.463	127.610 MCM

Momentary Peak 27.68 CMS, at 140.06 M (MSL), at 9.00 Hours, on Aug 3, 1993

Runoff Yield 0.67 Liters/Second/Square KM, Momentary Peak Yield 4.57 Liters/Second/Square KM

WATER YEAR 1993

CHI RIVER BASIN

Huai Sang Ka at Ban Kham Phimun, Kalasin (E.76)

Location — Lat. 16°-55'-16" N., Long. 103°-35'-30" E., on left bank at the bridge on road near Ban Kham Phimun, Tambon Thung Khlong, Amphoe Kham Muang, Kalasin.

Drainage Area — 163 sq.km.

Type of Gage — Staff gage.

Zero Gage at Bottom — +0.00 m.(A.D.)

Bench Mark — B.M.-H.D.

Location — On left bank downstream side at the abutment of the bridge.

Elevation — +8.404 m.(A.D.)

Gage Reading Frequency — 5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.

Basis of Mean Daily Gage Height — Arithmetic mean of 5 readings.

Period of Available Gage Records — 1987 to date.

Rating Operation

Period of Rating — 1987 to date.

Rated by Float — -

Rated by Current Meter — 1987 to date.

Stability of Channel Regimes — Stable.

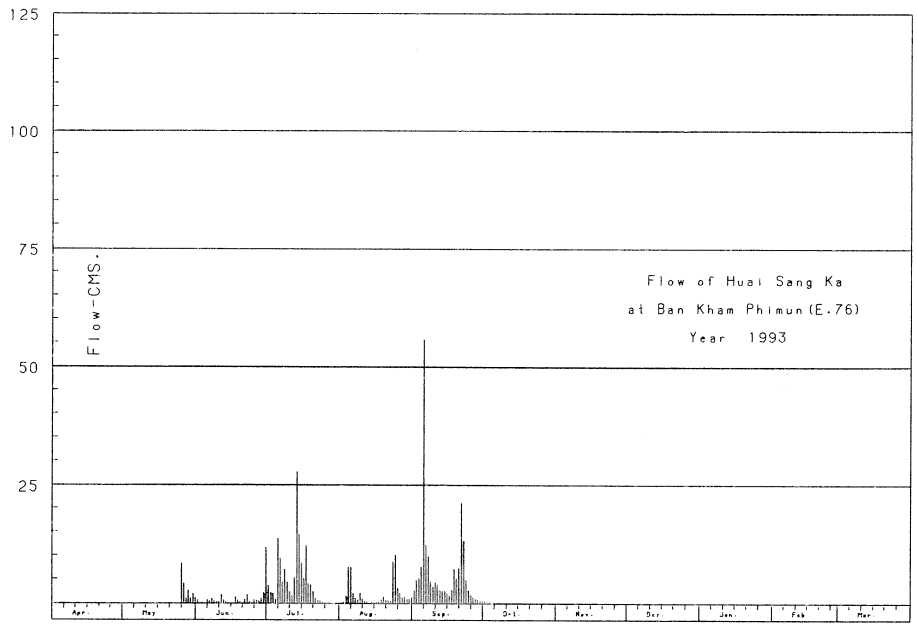
Overbank Flow Conditions — No overbank flow.

General Description — Records good. Stage-discharge relation defined by 59 discharge measurements made in 1993.

Gage Height in Meter (A.D), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.00	0.00	0.34	0.74	0.20	0.59	0.30	0.05	0.04	0.02	0.00	0.00	
2	0.00	0.00	0.28	0.52	0.24	0.91	0.28	0.03	0.04	0.02	0.00	0.00	
3	0.00	0.00	0.24	0.48	0.45	0.99	0.28	0.03	0.04	0.04	0.00	0.00	
4	0.00	0.00	0.18	0.38	1.25	1.25	0.26	0.03	0.03	0.03	0.00	0.00	
5	0.00	0.00	0.36	1.85	1.26	4.73	0.26	0.03	0.03	0.03	0.00	0.00	
6	0.00	0.00	0.28	1.45	0.50	1.71	0.24	0.05	0.03	0.02	0.00	0.00	
7	0.00	0.00	0.40	0.85	0.40	1.49	0.23	0.05	0.03	0.02	0.00	0.00	
8	0.00	0.00	0.30	1.19	0.36	0.87	0.19	0.06	0.03	0.02	0.00	0.00	
9	0.00	0.00	0.25	0.87	0.50	0.73	0.16	0.05	0.02	0.02	0.00	0.00	
10	0.00	0.00	0.24	0.55	0.38	0.87	0.14	0.07	0.02	0.04	0.00	0.00	
11	0.00	0.00	0.47	0.44	0.32	0.77	0.11	0.06	0.02	0.02	0.02	0.00	
12	0.00	0.00	0.35	0.99	0.30	0.61	0.07	0.05	0.02	0.02	0.03	0.00	
13	0.00	0.00	0.29	3.00	0.27	0.55	0.11	0.05	0.03	0.02	0.03	0.02	
14	0.00	0.00	0.23	1.92	0.25	0.58	0.10	0.05	0.03	0.02	0.04	0.03	
15	0.00	0.00	0.20	1.35	0.24	0.48	0.10	0.05	0.03	0.01	0.04	0.01	
16	0.00	0.00	0.16	0.98	0.25	0.44	0.09	0.06	0.03	0.01	0.03	0.00	
17	0.00	0.00	0.43	1.71	0.25	0.61	0.11	0.06	0.03	0.01	0.03	0.00	
18	0.00	0.00	0.33	0.79	0.37	1.22	0.08	0.06	0.02	0.01	0.03	0.00	
19	0.00	0.00	0.25	0.76	0.43	0.97	0.09	0.05	0.02	0.01	0.02	0.00	
20	0.00	0.00	0.22	0.56	0.35	1.22	0.11	0.05	0.02	0.00	0.02	0.00	
21	0.00	0.00	0.35	0.43	0.32	2.50	0.07	0.05	0.02	0.00	0.01	0.00	
22	0.00	0.00	0.47	0.34	0.32	1.81	0.05	0.05	0.01	0.00	0.01	0.00	
23	0.00	0.00	0.30	0.29	1.36	0.91	0.05	0.05	0.01	0.00	0.01	0.00	
24	0.00	0.00	0.27	0.25	1.52	0.59	0.05	0.05	0.01	0.00	0.00	0.01	
25	0.00	1.34	0.35	0.20	0.68	0.47	0.04	0.04	0.01	0.00	0.00	0.01	
26	0.00	0.83	0.34	0.22	0.49	0.41	0.04	0.04	0.01	0.00	0.00	0.00	
27	0.00	0.40	0.31	0.21	0.42	0.40	0.03	0.04	0.01	0.00	0.00	0.00	
28	0.00	0.57	0.39	0.18	0.42	0.35	0.02	0.05	0.01	0.00	0.00	0.00	
29	0.00	0.39	0.52	0.19	0.38	0.32	0.03	0.04	0.01	0.00		0.00	
30	0.00	0.49	1.66	0.24	0.37	0.31	0.04	0.04	0.01	0.00		0.00	
31		0.40		0.20	0.41		0.02		0.01	0.00		0.00	
Mean	0.00	0.14	0.36	0.78	0.49	0.99	0.12	0.05	0.02	0.01	0.01	0.00	
Max	0.00	1.34	1.66	3.00	1.52	4.73	0.30	0.07	0.04	0.04	0.04	0.03	4.73
Min	0.00	0.00	0.16	0.18	0.20	0.31	0.02	0.03	0.01	0.00	0.00	0.00	0.00

Annual Max Momentary Gage Height 5.67 M (A.D), at 5.00 Hours, on Sep 5, 1993
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed 0.02 M (A.D)
Left Bank Elevation 6.60 M (A.D)
Right Bank Elevation 6.46 M (A.D), Drainage Area 163 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.00	0.00	0.74	3.76	0.16	2.82	0.50	0.02	0.02	0.01	0.00	0.00	
2	0.00	0.00	0.43	2.42	0.30	4.89	0.43	0.01	0.02	0.01	0.00	0.00	
3	0.00	0.00	0.30	2.06	1.70	5.43	0.43	0.01	0.02	0.02	0.00	0.00	
4	0.00	0.00	0.14	0.98	7.70	7.70	0.36	0.01	0.01	0.01	0.00	0.00	
5	0.00	0.00	0.86	13.85	7.80	55.94	0.36	0.01	0.01	0.01	0.00	0.00	
6	0.00	0.00	0.43	9.70	2.30	12.31	0.30	0.02	0.01	0.01	0.00	0.00	
7	0.00	0.00	1.10	4.49	1.10	10.10	0.26	0.02	0.01	0.01	0.00	0.00	
8	0.00	0.00	0.50	7.11	0.86	4.62	0.15	0.02	0.01	0.01	0.00	0.00	
9	0.00	0.00	0.33	4.62	2.30	3.70	0.11	0.02	0.01	0.01	0.00	0.00	
10	0.00	0.00	0.30	2.59	0.98	4.62	0.09	0.03	0.01	0.02	0.00	0.00	
11	0.00	0.00	1.94	1.58	0.62	3.96	0.05	0.02	0.01	0.01	0.01	0.00	
12	0.00	0.00	0.80	5.43	0.50	2.94	0.03	0.02	0.01	0.01	0.01	0.00	
13	0.00	0.00	0.47	28.00	0.40	2.59	0.05	0.02	0.01	0.01	0.01	0.01	
14	0.00	0.00	0.26	14.62	0.33	2.76	0.04	0.02	0.01	0.01	0.02	0.01	
15	0.00	0.00	0.16	8.70	0.30	2.06	0.04	0.02	0.01	0.00	0.02	0.00	
16	0.00	0.00	0.11	5.36	0.33	1.58	0.04	0.02	0.01	0.00	0.01	0.00	
17	0.00	0.00	1.46	12.31	0.33	2.94	0.05	0.02	0.01	0.00	0.01	0.00	
18	0.00	0.00	0.68	4.09	0.92	7.40	0.03	0.02	0.01	0.00	0.01	0.00	
19	0.00	0.00	0.33	3.89	1.46	5.30	0.04	0.02	0.01	0.00	0.01	0.00	
20	0.00	0.00	0.23	2.65	0.80	7.40	0.05	0.02	0.01	0.00	0.01	0.00	
21	0.00	0.00	0.80	1.46	0.62	21.40	0.03	0.02	0.01	0.00	0.00	0.00	
22	0.00	0.00	1.94	0.74	0.62	13.41	0.02	0.02	0.00	0.00	0.00	0.00	
23	0.00	0.00	0.50	0.47	8.80	4.89	0.02	0.02	0.00	0.00	0.00	0.00	
24	0.00	0.00	0.40	0.33	10.40	2.82	0.02	0.02	0.00	0.00	0.00	0.00	
25	0.00	8.60	0.80	0.16	3.38	1.94	0.02	0.02	0.00	0.00	0.00	0.00	
26	0.00	4.35	0.74	0.23	2.18	1.22	0.02	0.02	0.00	0.00	0.00	0.00	
27	0.00	1.10	0.56	0.19	1.34	1.10	0.01	0.02	0.00	0.00	0.00	0.00	
28	0.00	2.71	1.04	0.14	1.34	0.80	0.01	0.02	0.00	0.00	0.00	0.00	
29	0.00	1.04	2.42	0.15	0.98	0.62	0.01	0.02	0.00	0.00		0.00	
30	0.00	2.18	11.80	0.30	0.92	0.56	0.02	0.02	0.00	0.00		0.00	
31		1.10		0.16	1.22		0.01		0.00	0.00		0.00	
Total	0.00	21.08	32.57	142.54	62.99	199.82	3.60	0.57	0.24	0.16	0.12	0.02	463.71 CMSDAY
Mean	0.00	0.68	1.09	4.60	2.03	6.66	0.12	0.02	0.01	0.01	0.00	0.00	1.27 CMS
Max	0.00	8.60	11.80	28.00	10.40	55.94	0.50	0.03	0.02	0.02	0.02	0.01	55.94 CMS
Min	0.00	0.00	0.11	0.14	0.16	0.56	0.01	0.01	0.00	0.00	0.00	0.00	0.00 CMS
Runoff	0.000	1.821	2.814	12.315	5.442	17.264	0.311	0.049	0.021	0.014	0.010	0.002	40.065 MCM

Momentary Peak 73.73 CMS, at 5.67 M (A.D), at 5.00 Hours, on Sep 5, 1993

Runoff Yield 7.79 Liters/Second/Square KM, Momentary Peak Yield 452.33 Liters/Second/Square KM

WATER YEAR 1993

MUN RIVER BASIN

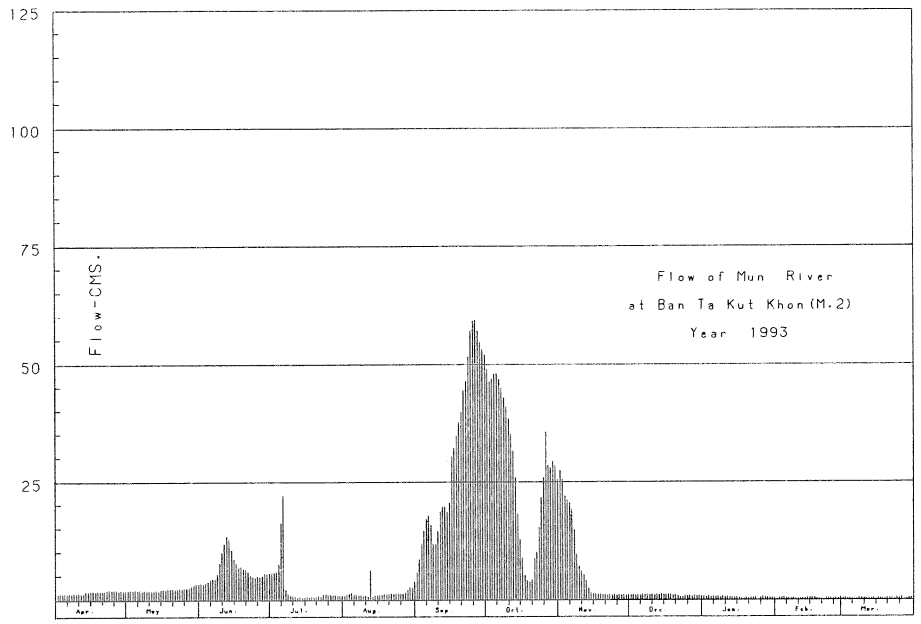
Mun River at Ban Ta Kut Khon, Nakhon Ratchasima (M.2)

Location	Lat. 15°00'03" N., Long. 105°15'57" E., on right bank at about 100 meters west of Ban Tha Chang School, and about 30 meters south of pumping railway station, Amphoe Chakkarat, Nakhon Ratchasima.
Drainage Area	4,800 sq.km.
Type of Gage	Water-stage recorder.
Zero Gage at Bottom	+157.85 m.(M.S.L.)
Bench Mark	B.M.-H.D.
Location	Near the automatic gage building.
Elevation	+165.802 m.(M.S.L.)
Gage Reading Frequency	Recording.
Basis of Mean Daily Gage Height	Arithmetic mean of 24 readings.
Period of Available Gage Records	1950 to date.
Rating Operation	
Period of Rating	1960, 1969-1971, 1982 to date.
Rated by Float	-
Rated by Current Meter	1960, 1969-1971, 1982 to date.
Stability of Channel Regimes	Fairly stable because of backwater effect.
Overbank Flow Conditions	No overbank flow.
General Description	Records fair. Stage-discharge relation defined by 17 discharge measurements made in 1993.

Gage Height in Meter (MSL), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	160.27	160.51	160.66	160.81	160.02	160.82	162.76	161.35	160.15	159.87	159.47	159.46	
2	160.31	160.51	160.66	160.82	160.15	160.92	162.60	161.31	160.17	159.84	159.48	159.47	
3	160.34	160.51	160.66	160.82	160.41	161.02	162.63	161.24	160.14	159.91	159.64	159.47	
4	160.35	160.51	160.70	160.89	160.43	161.08	162.70	161.22	160.15	159.78	159.60	159.47	
5	160.38	160.51	160.73	161.12	160.27	161.14	162.71	161.21	160.20	159.78	159.56	159.47	
6	160.38	160.51	160.73	161.24	160.21	161.15	162.63	161.18	160.28	159.85	159.53	159.47	
7	160.38	160.50	160.74	160.54	160.16	161.11	162.51	161.09	160.23	159.86	159.50	159.56	
8	160.41	160.50	160.80	160.32	160.08	161.02	162.39	160.96	160.22	159.81	159.46	159.52	
9	160.41	160.50	160.90	160.10	160.00	161.02	162.26	160.87	160.26	159.79	159.43	159.50	
10	160.41	160.50	160.97	159.83	159.92	161.08	162.09	160.83	160.24	159.77	159.43	159.48	
11	160.41	160.50	161.02	159.74	159.88	161.17	161.83	160.80	160.19	159.75	159.42	159.47	
12	160.41	160.50	161.06	159.70	160.84	161.19	161.55	160.71	160.23	159.72	159.42	159.47	
13	160.46	160.50	161.04	159.68	159.89	161.19	161.32	160.59	160.25	159.68	159.46	159.46	
14	160.46	160.50	160.99	159.67	160.01	161.17	161.16	160.43	160.29	159.63	159.57	159.46	
15	160.48	160.52	160.93	159.66	160.12	161.21	161.04	160.37	160.27	159.63	159.62	159.43	
16	160.48	160.53	160.89	159.69	160.12	161.45	160.93	160.37	160.22	159.64	159.61	159.44	
17	160.48	160.54	160.86	159.69	160.23	161.59	160.79	160.32	160.31	159.64	159.60	159.47	
18	160.48	160.55	160.86	159.70	160.27	161.81	160.71	160.24	160.27	159.63	159.56	159.51	
19	160.48	160.56	160.85	159.72	160.28	162.02	160.69	160.20	160.16	159.69	159.53	159.51	
20	160.47	160.55	160.84	159.70	160.33	162.20	160.72	160.20	160.11	159.62	159.51	159.53	
21	160.47	160.55	160.82	159.93	160.34	162.48	160.93	160.16	160.08	159.62	159.51	159.52	
22	160.52	160.55	160.79	159.81	160.39	162.61	160.97	160.16	160.02	159.63	159.49	159.54	
23	160.52	160.56	160.76	160.17	160.40	162.93	161.10	160.16	160.02	159.67	159.47	159.56	
24	160.52	160.56	160.76	160.32	160.42	163.25	161.23	160.21	160.01	159.68	159.46	159.58	
25	160.51	160.56	160.77	160.23	160.38	163.37	161.32	160.18	159.98	159.67	159.46	159.61	
26	160.51	160.56	160.76	160.24	160.38	163.37	161.87	160.15	159.93	159.72	159.47	159.64	
27	160.50	160.59	160.78	160.11	160.46	163.26	161.37	160.13	159.86	159.65	159.46	159.64	
28	160.50	160.61	160.81	160.08	160.54	163.12	161.36	160.13	159.99	159.61	159.60	159.59	
29	160.50	160.64	160.80	160.04	160.59	163.02	161.39	160.14	159.95	159.57		159.55	
30	160.49	160.65	160.81	159.99	160.60	162.96	161.37	160.17	159.91	159.52		159.54	
31		160.66		159.93	160.69		161.31		159.88	159.49		159.53	
Mean	160.44	160.54	160.82	160.14	160.28	161.86	161.62	160.57	160.13	159.70	159.51	159.51	
Max	160.52	160.66	161.06	161.24	160.84	163.37	162.76	161.35	160.31	159.91	159.64	159.64	163.37
Min	160.27	160.50	160.66	159.66	159.88	160.82	160.69	160.13	159.86	159.49	159.42	159.43	159.42

Annual Max Momentary Gage Height 163.39 M (MSL), at 5.00 Hours, on Sep 26, 1993
Zero Gage at Bottom Elevation 157.85 M (MSL), River Bed 158.95 M (MSL)
Left Bank Elevation 168.47 M (MSL)
Right Bank Elevation 168.77 M (MSL), Drainage Area 4800 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	1.27	2.08	3.52	5.75	1.02	6.00	48.96	27.55	1.15	0.87	0.47	0.46	
2	1.31	2.08	3.52	6.00	1.15	8.60	46.40	25.59	1.17	0.84	0.48	0.47	
3	1.34	2.08	3.52	6.00	1.46	11.90	46.88	22.16	1.14	0.91	0.64	0.47	
4	1.35	2.08	4.00	7.75	1.58	14.60	48.00	21.18	1.15	0.78	0.60	0.47	
5	1.38	2.08	4.45	16.44	1.27	17.38	48.16	20.69	1.20	0.78	0.56	0.47	
6	1.38	2.08	4.45	22.16	1.21	17.85	46.88	19.26	1.28	0.85	0.53	0.47	
7	1.38	2.00	4.60	2.32	1.16	15.97	44.96	15.05	1.23	0.86	0.50	0.56	
8	1.46	2.00	5.50	1.32	1.08	11.90	43.04	9.80	1.22	0.81	0.46	0.52	
9	1.46	2.00	8.00	1.10	1.00	11.90	40.96	7.25	1.26	0.79	0.43	0.50	
10	1.46	2.00	10.10	0.83	0.92	14.60	38.57	6.25	1.24	0.77	0.43	0.48	
11	1.46	2.00	11.90	0.74	0.88	18.79	35.19	5.50	1.19	0.75	0.42	0.47	
12	1.46	2.00	13.70	0.70	6.50	19.73	31.70	4.15	1.23	0.72	0.42	0.47	
13	1.76	2.00	12.80	0.68	0.89	19.73	26.08	2.72	1.25	0.68	0.46	0.46	
14	1.76	2.00	10.70	0.67	1.01	18.79	18.32	1.58	1.29	0.63	0.57	0.46	
15	1.88	2.16	8.90	0.66	1.12	20.69	12.80	1.37	1.27	0.63	0.62	0.43	
16	1.88	2.24	7.75	0.69	1.12	30.55	8.90	1.37	1.22	0.64	0.61	0.44	
17	1.88	2.32	7.00	0.69	1.23	32.18	5.35	1.32	1.31	0.64	0.60	0.47	
18	1.88	2.40	7.00	0.70	1.27	34.93	4.15	1.24	1.27	0.63	0.56	0.51	
19	1.88	2.48	6.75	0.72	1.28	37.66	3.88	1.20	1.16	0.69	0.53	0.51	
20	1.82	2.40	6.50	0.70	1.33	40.00	4.30	1.20	1.11	0.62	0.51	0.53	
21	1.82	2.40	6.00	0.93	1.34	44.48	8.90	1.16	1.08	0.62	0.51	0.52	
22	2.16	2.40	5.35	0.81	1.39	46.56	10.10	1.16	1.02	0.63	0.49	0.54	
23	2.16	2.48	4.90	1.17	1.40	51.68	15.50	1.16	1.02	0.67	0.47	0.56	
24	2.16	2.48	4.90	1.32	1.52	57.05	21.67	1.21	1.01	0.68	0.46	0.58	
25	2.08	2.48	5.05	1.23	1.38	59.40	26.08	1.18	0.98	0.67	0.46	0.61	
26	2.08	2.48	4.90	1.24	1.38	59.40	35.71	1.15	0.93	0.72	0.47	0.64	
27	2.00	2.72	5.20	1.11	1.76	57.24	28.53	1.13	0.86	0.65	0.46	0.64	
28	2.00	2.92	5.75	1.08	2.32	54.74	28.04	1.13	0.99	0.61	0.60	0.59	
29	2.00	3.28	5.50	1.04	2.72	53.12	29.51	1.14	0.95	0.57		0.55	
30	1.94	3.40	5.75	0.99	2.80	52.16	28.53	1.17	0.91	0.52		0.54	
31		3.52		0.93	3.88		25.59		0.88	0.49		0.53	
Total	51.85	73.04	197.96	88.47	50.37	939.58	861.64	208.02	34.97	21.72	14.32	15.92	2557.86 CMSDAY
Mean	1.73	2.36	6.60	2.85	1.62	31.32	27.79	6.93	1.13	0.70	0.51	0.51	7.01 CMS
Max	2.16	3.52	13.70	22.16	6.50	59.40	48.96	27.55	1.31	0.91	0.64	0.64	59.40 CMS
Min	1.27	2.00	3.52	0.66	0.88	6.00	3.88	1.13	0.86	0.49	0.42	0.43	0.42 CMS
Runoff	4.480	6.311	17.104	7.644	4.352	81.180	74.446	17.973	3.021	1.877	1.237	1.375	220.999 MCM

Momentary Peak 59.80 CMS, at 163.39 M (MSL), at 5.00 Hours, on Sep 26, 1993

Runoff Yield 1.46 Liters/Second/Square KM, Momentary Peak Yield 12.46 Liters/Second/Square KM

WATER YEAR 1993

MUN RIVER BASIN

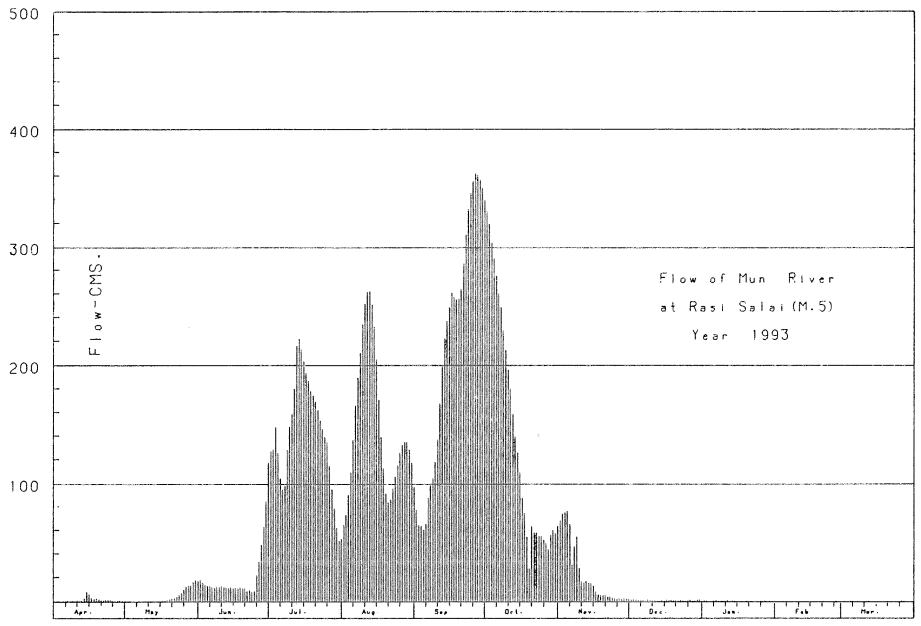
Mun River at Rasi Salai, Si Sa Ket (M.5)

Location	Lat. 15°-20'-16" N., Long. 104°-09'-29" E., on left bank infront of Amphoe Rasi Salai Office, Si Sa Ket.
Drainage Area	44,275 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+110.00 m. (M.S.L.)
Bench Mark	B.M.-H.D.
Location	On left bank about 2.5 meters from the top staff gage.
Elevation	+122.385 m. (M.S.L.)
Gage Reading Frequency	5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1955 to date.
Rating Operation	
Period of Rating	1972 to date.
Rated by Float	-
Rated by Current Meter	1972 to date.
Stability of Channel Regimes	Stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Stage-discharge relation defined by 26 discharge measurements made in 1993.

Gage Height in Meter (MSL), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	110.07	110.06	110.58	111.95	111.27	111.42	113.64	111.32	110.15	110.13	110.08	110.07	
2	110.07	110.04	110.55	111.96	111.37	111.26	113.56	111.38	110.15	110.12	110.08	110.08	
3	110.06	110.04	110.50	112.15	111.56	111.25	113.45	111.40	110.15	110.11	110.07	110.08	
4	110.07	110.04	110.50	111.93	111.77	111.22	113.35	111.41	110.16	110.11	110.07	110.08	
5	110.08	110.04	110.49	111.72	112.04	111.28	113.24	111.28	110.16	110.12	110.07	110.08	
6	110.09	110.04	110.45	111.61	112.31	111.54	113.12	110.80	110.16	110.14	110.07	110.08	
7	110.10	110.03	110.45	111.65	112.53	111.65	113.03	111.02	110.15	110.13	110.07	110.08	
8	110.10	110.03	110.46	111.96	112.71	111.72	112.86	111.14	110.14	110.13	110.07	110.08	
9	110.10	110.03	110.47	112.15	112.91	111.85	112.73	110.77	110.13	110.11	110.08	110.08	
10	110.10	110.03	110.48	112.25	113.05	112.05	112.59	110.56	110.13	110.11	110.08	110.08	
11	110.11	110.04	110.47	112.44	113.13	112.33	112.44	110.55	110.13	110.12	110.08	110.09	
12	110.11	110.04	110.45	112.76	113.14	112.61	112.25	110.57	110.13	110.11	110.08	110.09	
13	110.20	110.04	110.45	112.81	113.05	112.81	112.07	110.55	110.13	110.11	110.08	110.09	
14	110.37	110.05	110.45	112.73	112.89	112.93	111.94	110.53	110.12	110.11	110.07	110.09	
15	110.30	110.09	110.44	112.65	112.66	113.03	111.77	110.50	110.12	110.10	110.06	110.09	
16	110.20	110.10	110.44	112.56	112.36	113.13	111.54	110.36	110.12	110.09	110.06	110.08	
17	110.18	110.10	110.44	112.50	112.07	113.10	111.39	110.31	110.13	110.09	110.05	110.08	
18	110.18	110.12	110.45	112.42	111.80	113.08	111.14	110.28	110.12	110.09	110.05	110.08	
19	110.16	110.16	110.44	112.39	111.58	113.09	110.76	110.30	110.12	110.09	110.05	110.08	
20	110.13	110.18	110.43	112.34	111.49	113.15	111.25	110.28	110.12	110.09	110.05	110.08	
21	110.12	110.20	110.37	112.28	111.52	113.32	111.19	110.25	110.12	110.09	110.05	110.08	
22	110.12	110.25	110.40	112.20	111.62	113.50	111.18	110.24	110.12	110.10	110.05	110.08	
23	110.13	110.28	110.35	112.13	111.73	113.65	111.15	110.22	110.12	110.10	110.06	110.08	
24	110.12	110.34	110.38	112.07	111.83	113.75	111.14	110.20	110.12	110.10	110.06	110.09	
25	110.11	110.40	110.66	112.02	111.93	113.82	111.11	110.18	110.12	110.10	110.07	110.09	
26	110.11	110.46	110.84	111.82	112.00	113.87	111.06	110.17	110.13	110.10	110.07	110.10	
27	110.10	110.50	111.05	111.62	112.03	113.86	110.99	110.17	110.15	110.09	110.08	110.10	
28	110.10	110.48	111.25	111.44	112.02	113.83	111.16	110.18	110.15	110.08	110.08	110.09	
29	110.10	110.56	111.50	111.23	111.96	113.78	111.21	110.18	110.15	110.08		110.09	
30	110.08	110.58	111.85	111.09	111.85	113.71	111.18	110.17	110.14	110.08		110.09	
31		110.58		111.11	111.64		111.25		110.14	110.08		110.08	
Mean	110.13	110.19	110.60	112.06	112.12	112.72	111.96	110.58	110.13	110.10	110.07	110.08	
Max	110.37	110.58	111.85	112.81	113.14	113.87	113.64	111.41	110.16	110.14	110.08	110.10	113.87
Min	110.06	110.03	110.35	111.09	111.27	111.22	110.76	110.17	110.12	110.08	110.05	110.07	110.03

Annual Max Momentary Gage Height 113.87 M (MSL), at 12.00 Hours, on Sep 27, 1993
Zero Gage at Bottom Elevation 110.00 M (MSL), River Bed 109.11 M (MSL)
Left Bank Elevation 124.07 M (MSL)
Right Bank Elevation 122.13 M (MSL), Drainage Area 44275 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.70	0.60	18.00	128.00	65.60	77.80	330.60	69.60	2.00	1.60	0.80	0.70	
2	0.70	0.40	16.50	129.00	73.60	64.80	319.40	74.40	2.00	1.40	0.80	0.80	
3	0.60	0.40	14.00	148.50	90.40	64.00	304.00	76.00	2.00	1.20	0.70	0.80	
4	0.70	0.40	14.00	126.00	110.00	61.60	290.50	76.90	2.20	1.20	0.70	0.80	
5	0.80	0.40	13.60	105.00	137.00	66.40	276.20	66.40	2.20	1.40	0.70	0.80	
6	0.90	0.40	12.00	94.90	166.10	88.60	260.60	31.00	2.20	1.80	0.70	0.80	
7	1.00	0.30	12.00	98.50	190.30	98.50	249.60	46.50	2.00	1.60	0.70	0.80	
8	1.00	0.30	12.40	129.00	211.20	105.00	229.20	55.50	1.80	1.60	0.70	0.80	
9	1.00	0.30	12.80	148.50	235.20	118.00	213.60	29.20	1.60	1.20	0.80	0.80	
10	1.00	0.30	13.20	159.50	252.00	138.00	196.90	17.00	1.60	1.20	0.80	0.80	
11	1.20	0.40	12.80	180.40	261.90	168.30	180.40	16.50	1.60	1.40	0.80	0.90	
12	1.20	0.40	12.00	217.20	263.20	199.20	159.50	17.50	1.60	1.20	0.80	0.90	
13	3.00	0.40	12.00	223.20	252.00	223.20	140.00	16.50	1.60	1.20	0.80	0.90	
14	8.80	0.50	12.00	213.60	232.80	237.60	127.00	15.50	1.40	1.20	0.70	0.90	
15	6.00	0.90	11.60	204.00	205.20	249.60	110.00	14.00	1.40	1.00	0.60	0.90	
16	3.00	1.00	11.60	193.60	171.60	261.90	88.60	8.40	1.40	0.90	0.60	0.80	
17	2.60	1.00	11.60	187.00	140.00	258.00	75.20	6.40	1.60	0.90	0.50	0.80	
18	2.60	1.40	12.00	178.20	113.00	255.60	55.50	5.40	1.40	0.90	0.50	0.80	
19	2.20	2.20	11.60	174.90	92.20	256.80	28.60	6.00	1.40	0.90	0.50	0.80	
20	1.60	2.60	11.20	169.40	84.10	264.50	64.00	5.40	1.40	0.90	0.50	0.80	
21	1.40	3.00	8.80	162.80	86.80	286.60	59.25	4.50	1.40	0.90	0.50	0.80	
22	1.40	4.50	10.00	154.00	95.80	311.00	58.50	4.20	1.40	1.00	0.50	0.80	
23	1.60	5.40	8.00	146.30	106.00	332.00	56.25	3.60	1.40	1.00	0.60	0.80	
24	1.40	7.60	9.20	140.00	116.00	346.00	55.50	3.00	1.40	1.00	0.60	0.90	
25	1.20	10.00	22.60	135.00	126.00	355.80	53.25	2.60	1.40	1.00	0.70	0.90	
26	1.20	12.40	33.80	115.00	133.00	362.80	49.50	2.40	1.60	1.00	0.70	1.00	
27	1.00	14.00	48.75	95.80	136.00	361.40	44.30	2.40	2.00	0.90	0.80	1.00	
28	1.00	13.20	64.00	79.60	135.00	357.20	57.00	2.60	2.00	0.80	0.80	0.90	
29	1.00	17.00	85.00	62.40	129.00	350.20	60.80	2.60	2.00	0.80		0.90	
30	0.80	18.00	118.00	51.75	118.00	340.40	58.50	2.40	1.80	0.80		0.90	
31		18.00		53.25	97.60		64.00		1.80	0.80		0.80	
Total	52.60	137.70	665.05	4404.30	4626.60	6660.80	4316.25	684.40	52.60	34.70	18.90	26.10	21680.00 CMSDAY
Mean	1.75	4.44	22.17	142.07	149.25	222.03	139.23	22.81	1.70	1.12	0.68	0.84	59.40 CMS
Max	8.80	18.00	118.00	223.20	263.20	362.80	330.60	76.90	2.20	1.80	0.80	1.00	362.80 CMS
Min	0.60	0.30	8.00	51.75	65.60	61.60	28.60	2.40	1.40	0.80	0.50	0.70	0.30 CMS
Runoff	4.545	11.897	57.460	380.532	399.738	575.493	372.924	59.132	4.545	2.998	1.633	2.255	1873.152 MCM

Momentary Peak 362.80 CMS, at 113.87 M (MSL), at 12.00 Hours, on Sep 27, 1993
Runoff Yield 1.34 Liters/Second/Square KM, Momentary Peak Yield 8.19 Liters/Second/Square KM

WATER YEAR 1993

MUN RIVER BASIN

Mun River at Satuk, Buri Ram (M.6A)

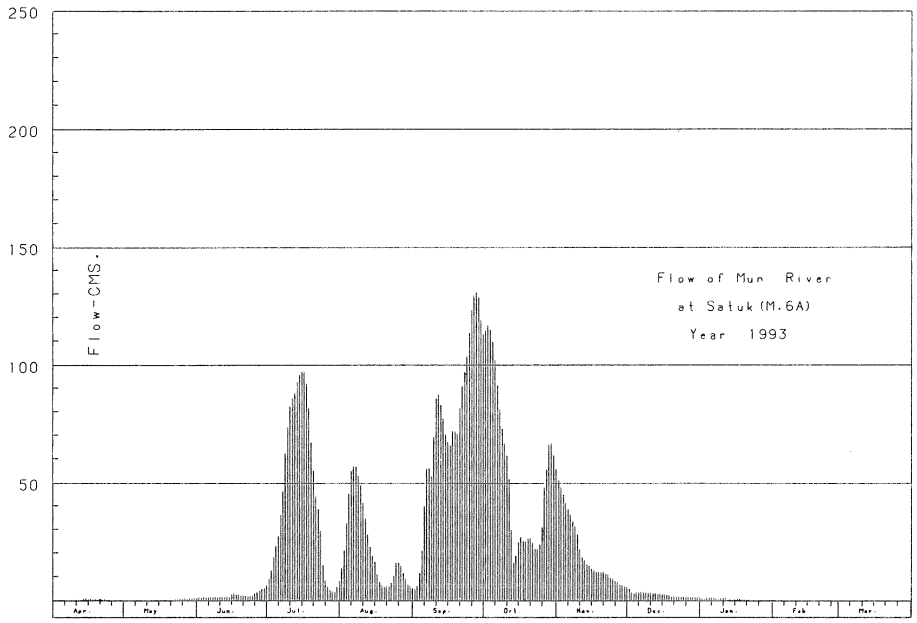
Location — Lat. 15°-17'-44" N., Long. 103°-17'-51" E., on right bank at Satuk, Buri Ram.

Drainage Area	28,275 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+124.00 m. (M.S.L.)
Bench Mark	B.M.-B.M.P.1383
Location	Infront of the post office and about 80 meters from staff gage line.
Elevation	+132.328 m.(M.S.L.)
Gage Reading Frequency	5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1964 to date.
Rating Operation	
Period of Rating	1976 to date.
Rated by Float	-
Rated by Current Meter	1976 to date.
Stability of Channel Regimes	Stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Stage-discharge relation defined by 30 discharge measurements made in 1993.

Gage Height in Meter (MSL), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	124.29	124.26	124.46	125.10	125.25	124.86	127.00	126.05	124.88	124.49	124.28	124.18	
2	124.28	124.25	124.49	125.22	125.46	124.95	127.03	125.99	124.74	124.48	124.27	124.18	
3	124.27	124.25	124.50	125.39	125.70	125.19	127.01	125.94	124.71	124.47	124.27	124.18	
4	124.26	124.25	124.50	125.50	125.94	125.46	126.94	125.87	124.75	124.47	124.27	124.17	
5	124.25	124.24	124.50	125.59	126.12	125.84	126.83	125.82	124.77	124.47	124.26	124.17	
6	124.24	124.23	124.50	125.77	126.15	126.13	126.68	125.77	124.78	124.47	124.26	124.18	
7	124.23	124.23	124.50	125.96	126.15	126.14	126.53	125.72	124.77	124.47	124.25	124.18	
8	124.28	124.23	124.50	126.24	126.08	126.08	126.41	125.67	124.75	124.47	124.24	124.17	
9	124.30	124.22	124.50	126.42	126.01	126.35	126.31	125.61	124.74	124.46	124.24	124.17	
10	124.30	124.22	124.52	126.55	125.87	126.60	126.23	125.47	124.73	124.45	124.24	124.17	
11	124.30	124.22	124.52	126.60	125.74	126.62	126.06	125.39	124.73	124.44	124.24	124.17	
12	124.30	124.22	124.52	126.63	125.60	126.56	125.64	125.35	124.71	124.43	124.24	124.16	
13	124.38	124.22	124.52	126.70	125.50	126.47	125.33	125.31	124.71	124.42	124.24	124.17	
14	124.37	124.22	124.51	126.74	125.40	126.37	125.40	125.28	124.70	124.41	124.24	124.20	
15	124.36	124.22	124.68	126.76	125.34	126.32	125.54	125.25	124.69	124.39	124.25	124.20	
16	124.35	124.22	124.72	126.76	125.16	126.30	125.58	125.22	124.67	124.38	124.26	124.19	
17	124.34	124.24	124.68	126.69	125.05	126.39	125.55	125.21	124.66	124.36	124.25	124.19	
18	124.33	124.25	124.65	126.54	124.96	126.39	125.54	125.20	124.64	124.35	124.25	124.20	
19	124.33	124.25	124.63	126.32	124.93	126.37	125.57	125.20	124.57	124.34	124.24	124.19	
20	124.33	124.25	124.61	126.12	124.93	126.54	125.57	125.20	124.55	124.33	124.24	124.18	
21	124.33	124.26	124.59	125.92	124.95	126.67	125.53	125.18	124.55	124.32	124.23	124.17	
22	124.32	124.33	124.57	125.82	125.02	126.76	125.48	125.16	124.54	124.32	124.22	124.16	
23	124.30	124.34	124.56	125.63	125.14	126.85	125.47	125.12	124.54	124.31	124.21	124.17	
24	124.29	124.35	124.61	125.30	125.32	126.99	125.52	125.09	124.54	124.30	124.20	124.18	
25	124.29	124.36	124.70	125.06	125.33	127.12	125.67	125.06	124.52	124.30	124.19	124.18	
26	124.28	124.37	124.74	124.92	125.28	127.20	125.99	125.03	124.52	124.30	124.19	124.18	
27	124.27	124.37	124.83	124.83	125.19	127.22	126.13	125.00	124.51	124.29	124.18	124.17	
28	124.27	124.38	124.85	124.78	125.09	127.19	126.30	124.97	124.51	124.29	124.18	124.19	
29	124.26	124.40	124.90	124.78	125.00	127.06	126.31	124.95	124.50	124.29		124.20	
30	124.26	124.42	124.96	124.91	124.94	126.98	126.23	124.92	124.50	124.29		124.20	
31		124.44		125.06	124.88		126.13		124.49	124.29		124.20	
Mean	124.30	124.28	124.61	125.83	125.40	126.40	126.05	125.37	124.64	124.38	124.24	124.18	
Max	124.38	124.44	124.96	126.76	126.15	127.22	127.03	126.05	124.88	124.49	124.28	124.20	127.22
Min	124.23	124.22	124.46	124.78	124.88	124.86	125.33	124.92	124.49	124.29	124.18	124.16	124.16

Annual Max Momentary Gage Height 127.22 M (MSL), at 6.00 Hours, on Sep 27, 1993
Zero Gage at Bottom Elevation 124.00 M (MSL), River Bed 120.96 M (MSL)
Left Bank Elevation 132.50 M (MSL)
Right Bank Elevation 133.11 M (MSL), Drainage Area 28275 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.45	0.30	1.30	9.50	13.70	4.90	114.50	51.25	5.20	1.45	0.40	0.00	
2	0.40	0.25	1.45	12.80	21.40	6.25	116.75	47.95	3.40	1.40	0.35	0.00	
3	0.35	0.25	1.50	18.62	33.00	11.93	115.25	45.20	3.10	1.35	0.35	0.00	
4	0.30	0.25	1.50	23.00	45.20	21.40	110.00	41.50	3.50	1.35	0.35	0.00	
5	0.25	0.20	1.50	27.50	55.20	40.00	102.10	39.00	3.70	1.35	0.30	0.00	
6	0.20	0.15	1.50	36.50	57.00	55.80	91.60	36.50	3.80	1.35	0.30	0.00	
7	0.15	0.15	1.50	46.30	57.00	56.40	81.10	34.00	3.70	1.35	0.25	0.00	
8	0.40	0.15	1.50	62.40	52.90	52.90	73.15	31.50	3.50	1.35	0.20	0.00	
9	0.50	0.10	1.50	73.80	49.05	69.25	66.65	28.50	3.40	1.30	0.20	0.00	
10	0.50	0.10	1.60	82.50	41.50	86.00	61.80	21.80	3.30	1.25	0.20	0.00	
11	0.50	0.10	1.60	86.00	35.00	87.40	51.80	18.62	3.30	1.20	0.20	0.00	
12	0.50	0.10	1.60	88.10	28.00	83.20	30.00	17.10	3.10	1.15	0.20	0.00	
13	0.90	0.10	1.60	93.00	23.00	77.05	16.34	15.58	3.10	1.10	0.20	0.00	
14	0.85	0.10	1.55	95.80	19.00	70.55	19.00	14.60	3.00	1.05	0.20	0.00	
15	0.80	0.10	2.80	97.20	16.72	67.30	25.00	13.70	2.90	0.95	0.25	0.00	
16	0.75	0.10	3.20	97.20	11.12	66.00	27.00	12.80	2.70	0.90	0.30	0.00	
17	0.70	0.20	2.80	92.30	8.25	71.85	25.50	12.50	2.60	0.80	0.25	0.00	
18	0.65	0.25	2.50	81.80	6.40	71.85	25.00	12.20	2.40	0.75	0.25	0.00	
19	0.65	0.25	2.30	67.30	5.95	70.55	26.50	12.20	1.85	0.70	0.20	0.00	
20	0.65	0.25	2.10	55.20	5.95	81.80	26.50	12.20	1.75	0.65	0.20	0.00	
21	0.65	0.30	1.95	44.10	6.25	90.90	24.50	11.66	1.75	0.60	0.15	0.00	
22	0.60	0.65	1.85	39.00	7.50	97.20	22.20	11.12	1.70	0.60	0.10	0.00	
23	0.50	0.70	1.80	29.50	10.58	103.50	21.80	10.04	1.70	0.55	0.05	0.00	
24	0.45	0.75	2.10	15.20	15.96	113.75	24.00	9.25	1.70	0.50	0.00	0.00	
25	0.45	0.80	3.00	8.50	16.34	123.50	31.50	8.50	1.60	0.50	0.00	0.00	
26	0.40	0.85	3.40	5.80	14.60	129.50	47.95	7.75	1.60	0.50	0.00	0.00	
27	0.35	0.85	4.45	4.45	11.93	131.00	55.80	7.00	1.55	0.45	0.00	0.00	
28	0.35	0.90	4.75	3.80	9.25	128.75	66.00	6.55	1.55	0.45	0.00	0.00	
29	0.30	1.00	5.50	3.80	7.00	119.00	66.65	6.25	1.50	0.45		0.00	
30	0.30	1.10	6.40	5.65	6.10	113.00	61.80	5.80	1.50	0.45		0.00	
31		1.20		8.50	5.20		55.80		1.45	0.45		0.00	
Total	14.80	12.55	72.10	1415.12	696.05	2302.48	1683.54	602.62	80.90	28.25	5.45	0.00	6913.86 CMSDAY
Mean	0.49	0.40	2.40	45.65	22.45	76.75	54.31	20.09	2.61	0.91	0.19	0.00	18.94 CMS
Max	0.90	1.20	6.40	97.20	57.00	131.00	116.75	51.25	5.20	1.45	0.40	0.00	131.00 CMS
Min	0.15	0.10	1.30	3.80	5.20	4.90	16.34	5.80	1.45	0.45	0.00	0.00	0.00 CMS
Runoff	1.279	1.084	6.229	122.266	60.139	198.934	145.458	52.066	6.990	2.441	0.471	0.000	597.358 MCM

Momentary Peak 131.00 CMS, at 127.22 M (MSL), at 6.00 Hours, on Sep 27, 1993

Runoff Yield 0.67 Liters/Second/Square KM, Momentary Peak Yield 4.63 Liters/Second/Square KM

WATER YEAR 1993

MUN RIVER BASIN

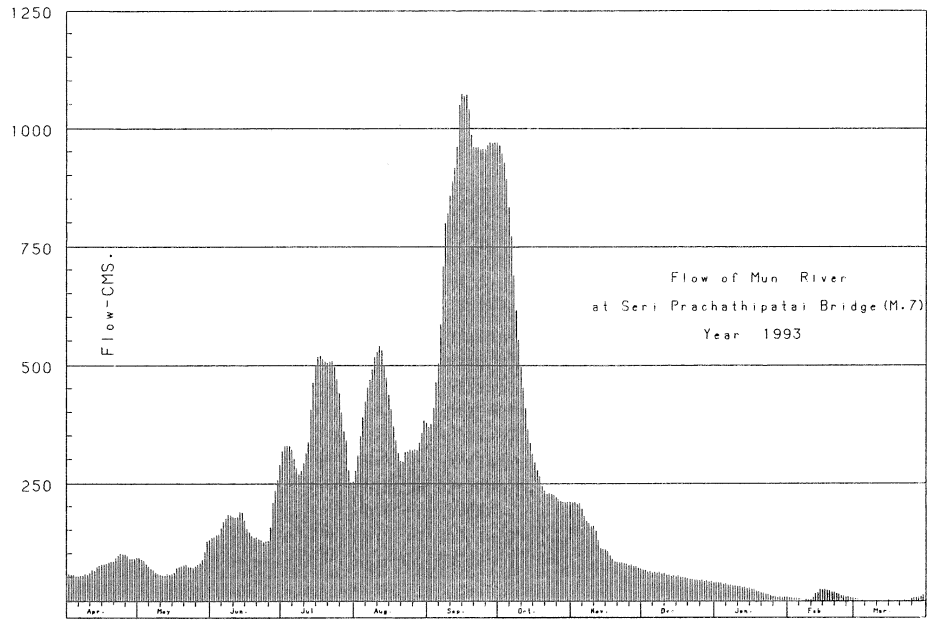
Mun River at Seri Prachathipatai Bridge, Ubon Ratchathani (M.7)

Location	Lat. 15°-13'-17" N., Long. 104°-51'-39" E., on left bank at the Seri Prachathipatai Bridge, Amphoe Muang, Ubon Ratchathani.
Drainage Area	106,673 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+105.00 m.(M.S.L.)
Bench Mark	B.M.-Department of Lands.
Location	On left bank at the abutment of 200 years Krung Ratanakosin Bridge.
Elevation	+117.645 m.(M.S.L.)
Gage Reading Frequency	3-5 time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1944 to date.
Rating Operation	
Period of Rating	1956 - 1958, 1964 - 1981, 1983 to date.
Rated by Float	-
Rated by Current Meter	1956 - 1958, 1964 - 1981, 1983 to date.
Stability of Channel Regimes	Stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Stage-discharge relation defined by 21 discharge measurements made in 1993.

Gage Height in Meter (MSL), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	106.61	106.78	106.95	107.56	107.42	107.71	109.20	107.20	106.66	106.50	106.29	106.26	
2	106.61	106.77	106.95	107.60	107.53	107.73	109.16	107.20	106.65	106.50	106.28	106.25	
3	106.60	106.75	106.97	107.60	107.66	107.83	109.12	107.19	106.64	106.49	106.27	106.24	
4	106.59	106.72	106.97	107.60	107.77	107.98	109.04	107.19	106.64	106.48	106.27	106.23	
5	106.59	106.69	107.02	107.57	107.87	108.10	108.91	107.16	106.63	106.48	106.26	106.22	
6	106.59	106.67	107.06	107.51	107.95	108.30	108.77	107.10	106.63	106.47	106.25	106.22	
7	106.60	106.65	107.09	107.44	108.00	108.61	108.56	107.07	106.63	106.46	106.24	106.22	
8	106.61	106.63	107.11	107.40	108.06	108.83	108.38	107.05	106.63	106.46	106.24	106.22	
9	106.61	106.61	107.11	107.42	108.13	108.88	108.22	107.03	106.62	106.45	106.24	106.22	
10	106.62	106.61	107.10	107.48	108.16	108.96	108.08	107.03	106.62	106.45	106.25	106.22	
11	106.65	106.59	107.09	107.55	108.19	109.03	107.95	107.00	106.61	106.44	106.29	106.21	
12	106.65	106.60	107.10	107.62	108.17	109.09	107.83	106.93	106.60	106.43	106.34	106.21	
13	106.69	106.61	107.13	107.82	108.09	109.19	107.70	106.87	106.59	106.43	106.36	106.21	
14	106.70	106.61	107.13	107.98	108.01	109.39	107.62	106.86	106.59	106.42	106.40	106.21	
15	106.71	106.61	107.07	108.09	107.91	109.44	107.54	106.86	106.59	106.42	106.40	106.21	
16	106.72	106.63	107.01	108.13	107.82	109.43	107.48	106.84	106.59	106.41	106.40	106.21	
17	106.72	106.67	106.99	108.14	107.72	109.44	107.43	106.81	106.58	106.40	106.39	106.21	
18	106.74	106.69	106.96	108.12	107.63	109.37	107.38	106.77	106.57	106.38	106.38	106.22	
19	106.74	106.69	106.95	108.11	107.55	109.25	107.32	106.75	106.57	106.37	106.37	106.22	
20	106.75	106.71	106.95	108.10	107.49	109.19	107.28	106.74	106.55	106.36	106.36	106.23	
21	106.78	106.71	106.94	108.11	107.49	109.19	107.26	106.74	106.55	106.35	106.35	106.23	
22	106.81	106.69	106.93	108.11	107.55	109.19	107.26	106.73	106.54	106.34	106.33	106.23	
23	106.82	106.68	106.92	108.08	107.56	109.18	107.26	106.73	106.54	106.33	106.32	106.25	
24	106.82	106.68	106.92	108.00	107.57	109.18	107.25	106.72	106.53	106.32	106.31	106.25	
25	106.82	106.70	106.93	107.92	107.57	109.18	107.24	106.71	106.53	106.31	106.30	106.26	
26	106.80	106.71	107.02	107.80	107.57	109.20	107.22	106.71	106.53	106.30	106.29	106.27	
27	106.78	106.73	107.20	107.69	107.57	109.21	107.21	106.70	106.52	106.29	106.28	106.28	
28	106.77	106.76	107.28	107.63	107.62	109.21	107.20	106.69	106.52	106.29	106.27	106.29	
29	106.78	106.84	107.36	107.43	107.68	109.21	107.20	106.68	106.51	106.29		106.31	
30	106.78	106.92	107.46	107.34	107.75	109.21	107.20	106.67	106.51	106.29		106.32	
31		106.93		107.35	107.74		107.20		106.50	106.29		106.32	
Mean	106.70	106.70	107.06	107.75	107.77	108.92	107.82	106.89	106.58	106.39	106.31	106.24	
Max	106.82	106.93	107.46	108.14	108.19	109.44	109.20	107.20	106.66	106.50	106.40	106.32	109.44
Min	106.59	106.59	106.92	107.34	107.42	107.71	107.20	106.67	106.50	106.29	106.24	106.21	106.21

Annual Max Momentary Gage Height 109.45 M (MSL), at 18.00 Hours, on Sep 15, 1993
Zero Gage at Bottom Elevation 105.00 M (MSL), River Bed 100.51 M (MSL)
Left Bank Elevation 120.29 M (MSL)
Right Bank Elevation 116.53 M (MSL), Drainage Area 106673 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	57.0	91.0	135.0	318.0	276.0	368.5	965.0	210.0	67.0	40.0	9.0	6.0	
2	57.0	89.0	135.0	330.0	309.0	375.5	947.0	210.0	65.0	40.0	8.0	5.0	
3	55.0	85.0	141.0	330.0	351.0	410.5	929.0	207.0	63.0	38.5	7.0	4.0	
4	53.5	79.0	141.0	330.0	389.5	463.0	893.0	207.0	63.0	37.0	7.0	3.0	
5	53.5	73.0	156.0	321.0	424.5	505.0	834.5	198.0	61.0	37.0	6.0	2.0	
6	53.5	69.0	168.0	303.0	452.5	585.0	773.0	180.0	61.0	35.5	5.0	2.0	
7	55.0	65.0	177.0	282.0	470.0	709.0	689.0	171.0	61.0	34.0	4.0	2.0	
8	57.0	61.0	183.0	270.0	491.0	798.5	617.0	165.0	61.0	34.0	4.0	2.0	
9	57.0	57.0	183.0	276.0	517.0	821.0	553.0	159.0	59.0	32.5	4.0	2.0	
10	59.0	57.0	180.0	294.0	529.0	857.0	498.0	159.0	59.0	32.5	5.0	2.0	
11	65.0	53.5	177.0	315.0	541.0	888.5	452.5	150.0	57.0	31.0	9.0	1.0	
12	65.0	55.0	180.0	337.0	533.0	915.5	410.5	129.0	55.0	29.5	16.0	1.0	
13	73.0	57.0	189.0	407.0	501.5	960.5	365.0	112.5	53.5	29.5	19.0	1.0	
14	75.0	57.0	189.0	463.0	473.5	1050.5	337.0	110.0	53.5	28.0	25.0	1.0	
15	77.0	57.0	171.0	501.5	438.5	1073.0	312.0	110.0	53.5	28.0	25.0	1.0	
16	79.0	61.0	153.0	517.0	407.0	1068.5	294.0	105.0	53.5	26.5	25.0	1.0	
17	79.0	69.0	147.0	521.0	372.0	1073.0	279.0	97.5	52.0	25.0	23.5	1.0	
18	83.0	73.0	138.0	513.0	340.5	1041.5	264.0	89.0	50.5	22.0	22.0	2.0	
19	83.0	73.0	135.0	509.0	315.0	987.5	246.0	85.0	50.5	20.5	20.5	2.0	
20	85.0	77.0	135.0	505.0	297.0	960.5	234.0	83.0	47.5	19.0	19.0	3.0	
21	91.0	77.0	132.0	509.0	297.0	960.5	228.0	83.0	47.5	17.5	17.5	3.0	
22	97.5	73.0	129.0	509.0	315.0	960.5	228.0	81.0	46.0	16.0	14.5	3.0	
23	100.0	71.0	126.0	498.0	318.0	956.0	228.0	81.0	46.0	14.5	13.0	5.0	
24	100.0	71.0	126.0	470.0	321.0	956.0	225.0	79.0	44.5	13.0	11.5	5.0	
25	100.0	75.0	129.0	442.0	321.0	956.0	222.0	77.0	44.5	11.5	10.0	6.0	
26	95.0	77.0	156.0	400.0	321.0	965.0	216.0	77.0	44.5	10.0	9.0	7.0	
27	91.0	81.0	210.0	361.5	321.0	969.5	213.0	75.0	43.0	9.0	8.0	8.0	
28	89.0	87.0	234.0	340.5	337.0	969.5	210.0	73.0	43.0	9.0	7.0	9.0	
29	91.0	105.0	258.0	279.0	358.0	969.5	210.0	71.0	41.5	9.0		11.5	
30	91.0	126.0	288.0	252.0	382.5	969.5	210.0	69.0	41.5	9.0		13.0	
31		129.0		255.0	379.0		210.0		40.0	9.0		13.0	
Total	2267.0	2330.5	5001.0	11958.5	12099.0	25544.0	13292.5	3703.0	1628.5	747.5	353.5	127.5	79052.5 CMSDAY
Mean	75.6	75.2	166.7	385.8	390.3	851.5	428.8	123.4	52.5	24.1	12.6	4.1	216.6 CMS
Max	100.0	129.0	288.0	521.0	541.0	1073.0	965.0	210.0	67.0	40.0	25.0	13.0	1073.0 CMS
Min	53.5	53.5	126.0	252.0	276.0	368.5	210.0	69.0	40.0	9.0	4.0	1.0	1.0 CMS
Runoff	195.87	201.36	432.09	1033.21	1045.35	2207.00	1148.47	319,94	140.70	64.58	30.54	11.02	6830.14 MCM

Momentary Peak 1077.50 CMS, at 109.45 M (MSL), at 18.00 Hours, on Sep 15, 1993

Runoff Yield 2.03 Liters/Second/Square KM, Momentary Peak Yield 10.10 Liters/Second/Square KM

WATER YEAR 1993

MUN RIVER BASIN

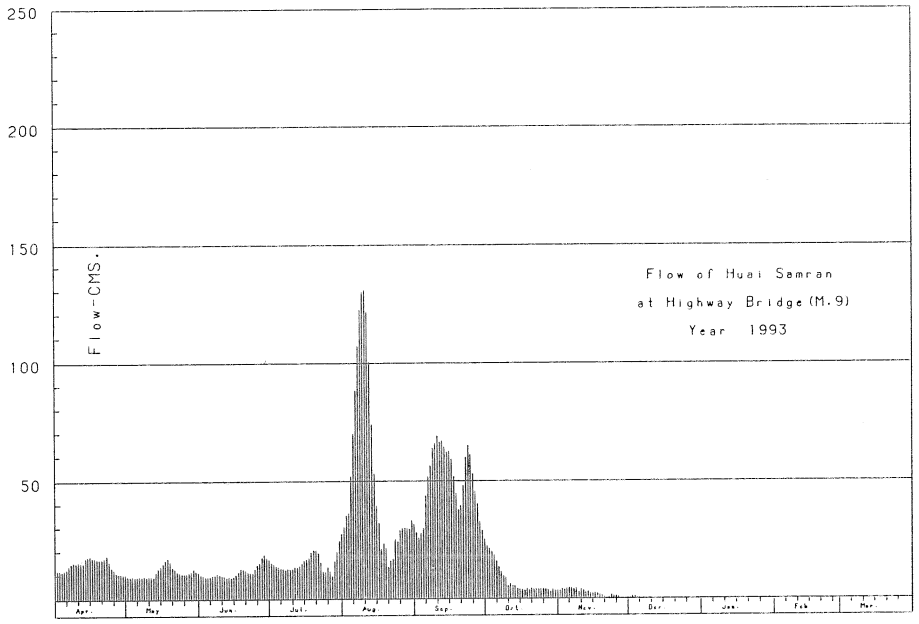
Huai Samran at Muang, Si Sa Ket (M.9)

Location	Lat. 15°-07'-00" N., Long. 104°-19'-20" E., on right bank at the bridge on highway, Amphoe Muang, Si Sa Ket.
Drainage Area	3,026 sq.km.
Type of Gage	Water-stage recorder.
Zero Gage at Bottom	+109.00 m.(M.S.L.)
Bench Mark	B.M.-H.D.
Location	On right bank at the top staff gage.
Elevation	+122.055 m.(M.S.L.)
Gage Reading Frequency	Recording.
Basis of Mean Daily Gage Height	Arithmetic mean of 24 readings.
Period of Available Gage Records	1954 to date.
Rating Operation	
Period of Rating	1954, 1972 - 1981, 1987 to date.
Rated by Float	-
Rated by Current Meter	1954, 1972 - 1981, 1987 to date.
Stability of Channel Regimes	Fairly stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Stage-discharge relation defined by 24 discharge measurements made in 1993.

Gage Height in Meter (MSL), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	111.20	110.95	111.03	111.44	112.23	112.14	111.87	110.06	109.26	108.96	108.95	108.97	
2	111.18	110.95	110.98	111.38	112.44	112.03	111.79	110.14	109.45	108.98	108.94	108.97	
3	111.16	110.95	110.94	111.33	112.48	112.12	111.73	110.14	109.47	108.97	108.95	108.97	
4	111.18	110.94	110.92	111.30	113.06	112.21	111.63	110.19	109.44	108.96	108.94	108.96	
5	111.24	110.94	110.96	111.26	113.63	112.77	111.48	110.30	109.26	108.96	108.93	108.96	
6	111.33	110.94	110.99	111.24	114.14	113.05	111.30	110.23	109.16	108.95	108.93	108.95	
7	111.41	110.95	111.02	111.22	114.59	113.21	111.13	110.16	109.11	108.95	108.96	108.95	
8	111.43	110.95	111.06	111.23	114.91	113.45	110.99	110.19	109.13	108.95	108.96	108.95	
9	111.42	110.94	111.04	111.23	115.06	113.51	110.89	109.92	109.09	108.98	109.12	108.97	
10	111.44	110.94	111.00	111.25	115.08	113.61	110.45	110.13	109.11	108.98	109.03	108.97	
11	111.41	110.94	110.95	111.29	114.89	113.53	110.54	110.10	109.13	108.97	108.99	108.97	
12	111.42	110.94	110.92	111.30	114.43	113.54	110.46	109.84	109.11	108.96	108.97	108.96	
13	111.58	111.13	110.92	111.32	113.75	113.46	110.39	109.98	109.09	108.95	108.97	108.96	
14	111.60	111.24	110.91	111.42	113.10	113.40	110.22	109.80	109.07	108.95	108.96	108.95	
15	111.62	111.31	110.93	111.49	112.60	113.41	110.11	109.79	109.04	108.94	108.97	108.95	
16	111.58	111.42	111.02	111.52	112.31	113.30	110.10	109.83	109.02	108.93	108.98	108.96	
17	111.56	111.49	111.15	111.57	111.78	113.06	110.07	109.78	109.02	108.95	108.97	108.97	
18	111.55	111.57	111.24	111.70	111.92	112.80	110.17	109.63	109.03	108.96	108.97	108.96	
19	111.52	111.45	111.24	111.77	111.80	112.54	110.10	109.57	109.01	108.94	108.97	108.96	
20	111.53	111.30	111.18	111.75	111.31	112.60	110.20	109.39	109.00	108.94	108.98	108.95	
21	111.55	111.23	111.13	111.70	111.47	112.92	110.14	109.26	109.01	108.96	108.99	108.95	
22	111.64	111.15	111.10	111.43	111.55	113.33	110.14	109.23	109.02	108.95	108.98	108.95	
23	111.45	111.10	111.10	111.16	112.01	113.49	110.18	109.67	109.01	108.95	108.97	108.97	
24	111.29	111.08	111.23	111.12	111.97	113.36	110.16	109.63	109.01	108.94	108.97	108.97	
25	111.20	111.07	111.38	111.30	112.18	113.10	110.21	109.56	109.00	108.94	108.96	108.94	
26	111.11	111.06	111.41	111.15	112.21	112.83	110.15	109.36	108.99	108.95	108.96	109.01	
27	111.07	111.11	111.59	110.98	112.23	112.64	110.07	109.23	108.98	108.95	108.98	108.99	
28	111.06	111.13	111.65	111.48	112.21	112.33	109.96	109.21	108.98	108.94	108.98	108.97	
29	111.04	111.24	111.58	111.71	112.21	112.18	110.10	109.31	108.97	108.94		108.96	
30	111.02	111.15	111.51	111.99	112.35	112.01	110.06	109.21	108.97	108.94		108.96	
31		111.11		112.11	112.28		110.02		108.96	108.95		109.11	
Mean	111.36	111.12	111.14	111.42	112.84	112.93	110.54	109.76	109.09	108.95	108.97	108.97	
Max	111.64	111.57	111.65	112.11	115.08	113.61	111.87	110.30	109.47	108.98	109.12	109.11	115.08
Min	111.02	110.94	110.91	110.98	111.31	112.01	109.96	109.21	108.96	108.93	108.93	108.94	108.93

Annual Max Momentary Gage Height 115.11 M (MSL), at 6.00 Hours, on Aug 10, 1993
Zero Gage at Bottom Elevation 109.00 M (MSL), River Bed 108.97 M (MSL)
Left Bank Elevation 122.32 M (MSL)
Right Bank Elevation 124.12 M (MSL), Drainage Area 3026 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	12.30	9.55	10.33	15.60	30.42	28.26	22.76	3.60	0.52	0.10	0.09	0.10	
2	12.06	9.55	9.82	14.72	35.50	25.76	21.32	4.00	1.05	0.10	0.09	0.10	
3	11.82	9.55	9.46	14.02	36.50	27.78	20.24	4.00	1.11	0.10	0.09	0.10	
4	12.06	9.46	9.28	13.60	52.10	29.94	18.51	4.25	1.02	0.10	0.09	0.10	
5	12.82	9.46	9.64	13.08	70.05	43.89	16.20	4.80	0.52	0.10	0.09	0.10	
6	14.02	9.46	9.91	12.82	88.60	51.80	13.60	4.45	0.32	0.09	0.09	0.09	
7	15.15	9.55	10.22	12.56	107.27	56.60	11.46	4.10	0.22	0.09	0.10	0.09	
8	15.45	9.55	10.66	12.69	122.50	64.10	9.91	4.25	0.26	0.09	0.10	0.09	
9	15.30	9.46	10.44	12.69	130.00	66.03	9.02	2.90	0.19	0.10	0.24	0.10	
10	15.60	9.46	10.00	12.95	131.00	69.35	5.65	3.95	0.22	0.10	0.13	0.10	
11	15.15	9.46	9.55	13.47	121.50	66.69	6.28	3.80	0.26	0.10	0.10	0.10	
12	15.30	9.46	9.28	13.60	100.46	67.02	5.72	2.50	0.22	0.10	0.10	0.10	
13	17.70	11.46	9.28	13.88	74.25	64.42	5.25	3.20	0.19	0.09	0.10	0.10	
14	18.00	12.82	9.19	15.30	53.30	62.50	4.40	2.30	0.17	0.09	0.10	0.09	
15	18.34	13.74	9.37	16.35	39.50	62.82	3.85	2.26	0.14	0.09	0.10	0.09	
16	17.70	15.30	10.22	16.80	32.34	59.30	3.80	2.45	0.12	0.09	0.10	0.10	
17	17.40	16.35	11.70	17.55	21.14	52.10	3.65	2.22	0.12	0.09	0.10	0.10	
18	17.25	17.55	12.82	19.70	23.66	44.70	4.15	1.62	0.13	0.10	0.10	0.10	
19	16.80	15.75	12.82	20.96	21.50	38.00	3.80	1.41	0.11	0.09	0.10	0.10	
20	16.95	13.60	12.06	20.60	13.74	39.50	4.30	0.87	0.10	0.09	0.10	0.09	
21	17.25	12.69	11.46	19.70	16.05	48.06	4.00	0.52	0.11	0.10	0.10	0.09	
22	18.68	11.70	11.10	15.45	17.25	60.26	4.00	0.46	0.12	0.09	0.10	0.09	
23	15.75	11.10	11.10	11.82	25.32	65.38	4.20	1.78	0.11	0.09	0.10	0.10	
24	13.47	10.88	12.69	11.34	24.56	61.22	4.10	1.62	0.11	0.09	0.10	0.10	
25	12.30	10.77	14.72	13.60	29.22	53.30	4.35	1.38	0.10	0.09	0.10	0.09	
26	11.22	10.66	15.15	11.70	29.94	45.54	4.05	0.78	0.10	0.09	0.10	0.11	
27	10.77	11.22	17.85	9.82	30.42	40.50	3.65	0.46	0.10	0.09	0.10	0.10	
28	10.66	11.46	18.85	16.20	29.94	32.82	3.10	0.42	0.10	0.09	0.10	0.10	
29	10.44	12.82	17.70	19.88	29.94	29.22	3.80	0.63	0.10	0.09		0.10	
30	10.22	11.70	16.65	24.92	33.30	25.32	3.60	0.42	0.10	0.09		0.10	
31		11.22		27.54	31.62		3.40		0.10	0.09		0.22	
Total	437.93	356.76	353.32	484.91	1602.89	1482.18	236.12	71.40	8.14	2.90	2.91	3.14	5042.60 CMSDAY
Mean	14.60	11.51	11.78	15.64	51.71	49.41	7.62	2.38	0.26	0.09	0.10	0.10	13.82 CMS
Max	18.68	17.55	18.85	27.54	131.00	69.35	22.76	4.80	1.11	0.10	0.24	0.22	131.00 CMS
Min	10.22	9.46	9.19	9.82	13.74	25.32	3.10	0.42	0.10	0.09	0.09	0.09	0.09 CMS
Runoff	37.837	30.824	30.527	41.896	138.490	128.060	20.401	6.169	0.703	0.251	0.251	0.271	435.681 MCM

Momentary Peak 132.52 CMS, at 115.11 M (MSL), at 6.00 Hours, on Aug 10, 1993
Runoff Yield 4.57 Liters/Second/Square KM, Momentary Peak Yield 43.79 Liters/Second/Square KM

WATER YEAR 1993

MUN RIVER BASIN

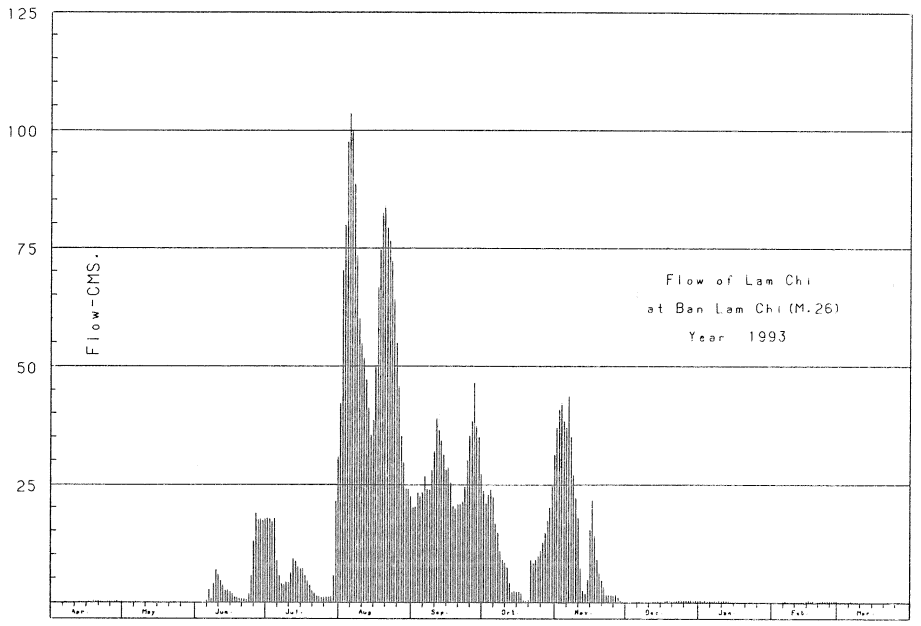
Lam Chi at Ban Lam Chi, Surin (M.26)

Location	Lat. 14°-54'-03" N., Long. 103°-24'-21" E., on left bank at railway bridge, Ban Lam Chi, Amphoe Muang, Surin.
Drainage Area	2,927 sq.km.
Type of Gage	Water-stage recorder.
Zero Gage at Bottom	+127.00 m. (M.S.L.)
Bench Mark	B.M.-H.D.
Location	Near the automatic gage building.
Elevation	+135.010 m. (M.S.L.)
Gage Reading Frequency	Recording.
Basis of Mean Daily Gage Height	Arithmetic mean of 24 readings.
Period of Available Gage Records	1954 to date.
Rating Operation	
Period of Rating	1967-1968, 1978 to date.
Rated by Float	-
Rated by Current Meter	1967-1968, 1978 to date.
Stability of Channel Regimes	Stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Stage-discharge relation defined by 52 discharge measurements made in 1993.

Gage Height in Meter (MSL), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	127.48	127.45	127.46	129.29	130.47	129.41	129.58	130.25	127.50	127.60	127.50	127.46	
2	127.48	127.43	127.48	129.29	131.43	129.41	129.45	130.42	127.49	127.60	127.49	127.47	
3	127.46	127.43	127.49	129.25	131.75	129.57	129.54	130.47	127.48	127.58	127.48	127.48	
4	127.46	127.43	127.50	129.30	132.29	129.52	129.60	130.32	127.48	127.58	127.48	127.48	
5	127.45	127.44	127.65	128.78	132.44	129.57	129.52	130.25	127.48	127.58	127.48	127.47	
6	127.44	127.44	128.14	128.48	132.35	129.74	129.23	130.53	127.49	127.58	127.49	127.47	
7	127.43	127.44	127.82	128.30	132.04	129.60	129.14	130.16	127.50	127.57	127.53	127.47	
8	127.47	127.44	128.30	128.26	131.53	129.60	128.92	129.75	127.50	127.57	127.53	127.40	
9	127.50	127.44	128.60	128.33	131.09	129.80	128.79	129.51	127.50	127.57	127.50	127.41	
10	127.50	127.44	128.49	128.33	130.91	130.00	128.73	129.30	127.50	127.58	127.51	127.41	
11	127.51	127.44	128.37	128.52	130.81	130.34	128.65	128.62	127.50	127.58	127.51	127.41	
12	127.51	127.44	128.25	128.80	130.66	130.23	128.32	128.08	127.52	127.59	127.51	127.40	
13	127.51	127.44	128.11	128.77	130.43	130.12	128.04	127.99	127.55	127.56	127.53	127.40	
14	127.55	127.44	128.10	128.65	130.18	129.97	128.06	128.39	127.58	127.49	127.55	127.40	
15	127.54	127.44	128.07	128.62	130.33	129.81	128.03	129.17	127.52	127.49	127.55	127.40	
16	127.44	127.44	127.97	128.61	130.75	129.83	128.05	129.48	127.53	127.50	127.56	127.40	
17	127.53	127.45	127.85	128.48	131.31	129.67	127.97	129.10	127.55	127.51	127.56	127.41	
18	127.56	127.48	127.80	128.35	131.57	129.42	127.61	128.80	127.57	127.51	127.56	127.42	
19	127.56	127.48	127.76	128.27	131.83	129.39	127.54	128.52	127.60	127.51	127.56	127.42	
20	127.56	127.48	127.74	128.09	131.88	129.44	127.66	128.38	127.60	127.51	127.57	127.43	
21	127.51	127.49	127.72	127.99	131.73	129.44	128.78	128.20	127.60	127.51	127.57	127.43	
22	127.51	127.48	127.69	127.90	131.64	129.47	128.73	127.93	127.60	127.48	127.58	127.43	
23	127.50	127.48	127.99	127.86	131.49	129.62	128.78	127.91	127.62	127.48	127.58	127.47	
24	127.56	127.48	128.48	127.83	131.22	129.91	128.85	127.93	127.62	127.48	127.58	127.48	
25	127.51	127.47	129.05	127.81	130.92	130.17	128.93	127.89	127.62	127.48	127.58	127.48	
26	127.51	127.45	129.35	127.86	130.61	130.32	129.03	127.93	127.62	127.49	127.58	127.48	
27	127.52	127.46	129.28	127.85	130.17	130.64	129.14	127.82	127.62	127.50	127.58	127.48	
28	127.52	127.46	129.28	127.85	129.88	130.27	129.27	127.58	127.61	127.50	127.59	127.48	
29	127.52	127.46	129.27	128.48	129.61	130.16	129.40	127.51	127.61	127.48		127.44	
30	127.52	127.47	129.28	129.48	129.60	129.76	129.64	127.50	127.61	127.47		127.44	
31		127.47		129.94	129.52		129.97		127.61	127.47		127.45	
Mean	127.50	127.45	128.21	128.50	131.05	129.81	128.80	128.86	127.55	127.53	127.54	127.44	
Max	127.56	127.49	129.35	129.94	132.44	130.64	129.97	130.53	127.62	127.60	127.59	127.48	132.44
Min	127.43	127.43	127.46	127.81	129.52	129.39	127.54	127.50	127.48	127.47	127.48	127.40	127.40

Annual Max Momentary Gage Height 132.45 M (MSL), at 24.00 Hours, on Aug 5, 1993
Zero Gage at Bottom Elevation 127.00 M (MSL), River Bed 127.07 M (MSL)
Left Bank Elevation 138.70 M (MSL)
Right Bank Elevation 138.72 M (MSL), Drainage Area 2927 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.16	0.10	0.12	17.80	42.25	20.20	23.60	37.00	0.20	0.40	0.20	0.12	
2	0.16	0.06	0.16	17.80	70.40	20.20	21.00	41.00	0.18	0.40	0.18	0.14	
3	0.12	0.06	0.18	17.00	80.00	23.40	22.80	42.25	0.16	0.36	0.16	0.16	
4	0.12	0.06	0.20	18.00	97.60	22.40	24.00	38.50	0.16	0.36	0.16	0.16	
5	0.10	0.08	0.50	8.96	103.60	23.40	22.40	37.00	0.16	0.36	0.16	0.14	
6	0.08	0.08	2.84	5.80	100.00	26.80	16.60	43.75	0.18	0.36	0.18	0.14	
7	0.06	0.08	1.08	4.00	88.70	24.00	14.80	35.20	0.20	0.34	0.26	0.14	
8	0.14	0.08	4.00	3.68	73.40	24.00	10.80	27.00	0.20	0.34	0.26	0.00	
9	0.20	0.08	7.00	4.30	60.20	28.00	9.08	22.20	0.20	0.34	0.20	0.02	
10	0.20	0.08	5.90	4.30	54.80	32.00	8.36	18.00	0.20	0.36	0.22	0.02	
11	0.22	0.08	4.70	6.20	51.80	39.00	7.50	7.20	0.20	0.36	0.22	0.02	
12	0.22	0.08	3.60	9.20	47.30	36.60	4.20	2.48	0.24	0.38	0.22	0.00	
13	0.22	0.08	2.66	8.84	41.25	34.40	2.24	1.94	0.30	0.32	0.26	0.00	
14	0.30	0.08	2.60	7.50	35.60	31.40	2.36	4.90	0.36	0.18	0.30	0.00	
15	0.28	0.08	2.42	7.20	38.75	28.20	2.18	15.40	0.24	0.18	0.30	0.00	
16	0.08	0.08	1.82	7.10	50.00	28.60	2.30	21.60	0.26	0.20	0.32	0.00	
17	0.26	0.10	1.20	5.80	66.80	25.40	1.82	14.00	0.30	0.22	0.32	0.02	
18	0.32	0.16	1.00	4.50	74.60	20.40	0.42	9.20	0.34	0.22	0.32	0.04	
19	0.32	0.16	0.84	3.76	82.40	19.80	0.28	6.20	0.40	0.22	0.32	0.04	
20	0.32	0.16	0.76	2.54	83.90	20.80	0.52	4.80	0.40	0.22	0.34	0.06	
21	0.22	0.18	0.68	1.94	79.40	20.80	8.96	3.20	0.40	0.22	0.34	0.06	
22	0.22	0.16	0.58	1.40	76.70	21.40	8.36	1.58	0.40	0.16	0.36	0.06	
23	0.20	0.16	1.94	1.24	72.20	24.40	8.96	1.46	0.44	0.16	0.36	0.14	
24	0.32	0.16	5.80	1.12	64.10	30.20	9.85	1.58	0.44	0.16	0.36	0.16	
25	0.22	0.14	13.00	1.04	55.10	35.40	10.95	1.36	0.44	0.16	0.36	0.16	
26	0.22	0.10	19.00	1.24	45.80	38.50	12.60	1.58	0.44	0.18	0.36	0.16	
27	0.24	0.12	17.60	1.20	35.40	46.70	14.80	1.08	0.44	0.20	0.36	0.16	
28	0.24	0.12	17.60	1.20	29.60	37.40	17.40	0.36	0.42	0.20	0.38	0.16	
29	0.24	0.12	17.40	5.80	24.20	35.20	20.00	0.22	0.42	0.16		0.08	
30	0.24	0.14	17.60	21.60	24.00	27.20	24.80	0.20	0.42	0.14		0.08	
31		0.14		30.80	22.40		31.40		0.42	0.14		0.10	
Total	6.24	3.36	154.78	232.86	1872.25	846.20	365.34	442.24	9.56	8.00	7.78	2.54	3951.15 CMSDAY
Mean	0.21	0.11	5.16	7.51	60.40	28.21	11.79	14.74	0.31	0.26	0.28	0.08	10.83 CMS
Max	0.32	0.18	19.00	30.80	103.60	46.70	31.40	43.75	0.44	0.40	0.38	0.16	103.60 CMS
Min	0.06	0.06	0.12	1.04	22.40	19.80	0.28	0.20	0.16	0.14	0.16	0.00	0.00 CMS
Runoff	0.539	0.290	13.373	20.119	161.762	73.112	31.565	38.210	0.826	0.691	0.672	0.219	341.379 MCM

Momentary Peak 104.00 CMS, at 132.45 M (MSL), at 24.00 Hours, on Aug 5, 1993

Runoff Yield 3.70 Liters/Second/Square KM, Momentary Peak Yield 35.53 Liters/Second/Square KM

WATER YEAR 1993

MUN RIVER BASIN

Lam Takhong at Ban Khlong Phai, Nakhon Ratchasima (M.38C)

Location — Lat. 14°-52'-06" N., Long. 101°-33'-53" E., on left bank about 500 meters downstream from Lam Takhong Dam, Tambon Khlong Phai, Amphoe Sikhiu, Nakhon Ratchasima.

Drainage Area — 1,292 sq.km.

Type of Gage — Water-stage recorder.

Zero Gage at Bottom — +242.00 m. (M.S.L.)

Bench Mark — B.M.-H.D.

Location — On left bank about 20 meters from the measuring line.

Elevation — +251.841 m. (M.S.L.)

Gage Reading Frequency — Recording.

Basis of Mean Daily Gage Height — Arithmetic mean of 24 readings.

Period of Available Gage Records — 1962 to date.

Rating Operation

Period of Rating — 1962-1965, 1967 - 1974, 1979 - 1981, 1983 to date.

Rated by Float — -

Rated by Current Meter — 1962-1965, 1967 - 1974, 1979 - 1981, 1983 to date.

Stability of Channel Regimes — Stable.

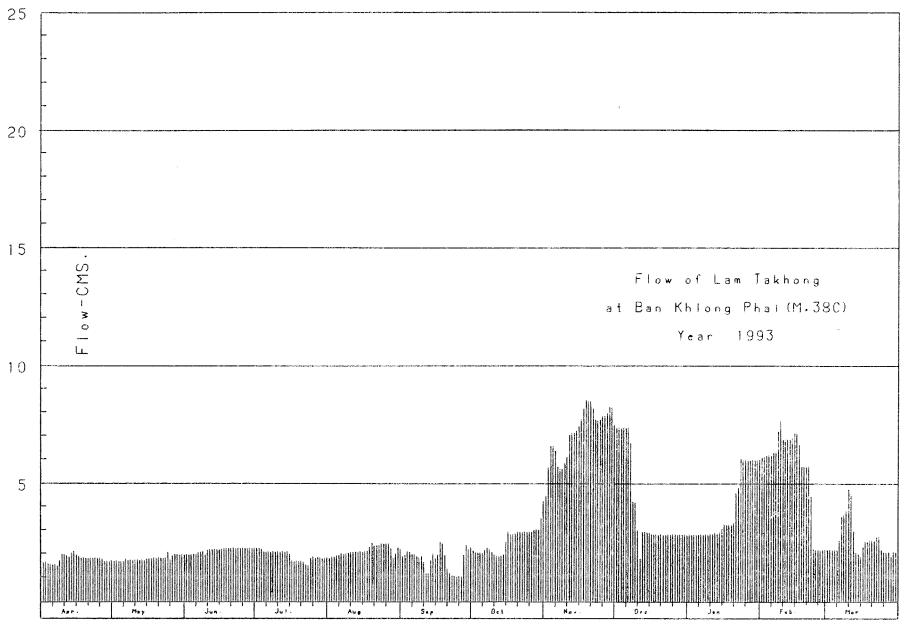
Overbank Flow Conditions — No overbank flow.

General Description — Records fair. Flow regulated by Lam Takhong Reservoir diverted for irrigation of about 62,080 hectares. Stage-discharge relation defined by 36 discharge measurements made in 1993.

Gage Height in Meter (MSL), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	244.76	244.77	244.83	244.89	244.80	244.81	244.87	245.30	245.74	245.01	245.56	244.88	
2	244.76	244.77	244.83	244.89	244.81	244.83	244.85	245.49	245.74	245.01	245.56	244.88	
3	244.75	244.77	244.83	244.88	244.81	244.86	244.85	245.63	245.74	245.01	245.57	244.88	
4	244.74	244.76	244.84	244.86	244.82	244.86	244.85	245.63	245.74	245.01	245.57	244.88	
5	244.74	244.77	244.84	244.86	244.83	244.84	244.85	245.60	245.74	245.01	245.57	244.88	
6	244.74	244.79	244.85	244.86	244.84	244.83	244.87	245.50	245.74	245.01	245.59	244.96	
7	244.73	244.78	244.86	244.86	244.84	244.82	244.90	245.48	245.65	245.01	245.59	245.15	
8	244.77	244.78	244.86	244.86	244.84	244.80	244.88	245.48	245.26	245.01	245.72	245.16	
9	244.84	244.78	244.83	244.86	244.85	244.82	244.86	245.52	245.25	245.01	245.79	245.19	
10	244.83	244.78	244.87	244.86	244.85	244.76	244.83	245.56	245.04	245.01	245.67	245.35	
11	244.82	244.79	244.88	244.86	244.85	244.65	244.82	245.70	244.80	245.02	245.67	245.32	
12	244.81	244.78	244.88	244.86	244.86	244.65	244.82	245.71	245.03	245.02	245.67	245.04	
13	244.85	244.78	244.88	244.86	244.86	244.78	244.82	245.71	245.03	245.02	245.67	244.85	
14	244.86	244.78	244.88	244.86	244.86	244.84	244.84	245.72	245.03	245.03	245.68	244.84	
15	244.83	244.79	244.88	244.84	244.86	244.80	244.95	245.75	245.02	245.06	245.71	244.81	
16	244.81	244.79	244.88	244.77	244.86	244.83	245.03	245.79	245.01	245.09	245.71	244.91	
17	244.80	244.80	244.89	244.77	244.87	244.95	245.01	245.86	245.01	245.09	245.64	244.95	
18	244.80	244.80	244.89	244.77	244.90	244.93	245.01	245.91	245.01	245.09	245.50	244.95	
19	244.80	244.80	244.89	244.77	244.94	244.83	245.02	245.90	245.01	245.09	245.50	244.96	
20	244.80	244.80	244.89	244.77	244.91	244.70	245.03	245.90	245.01	245.10	245.50	244.96	
21	244.80	244.80	244.89	244.76	244.92	244.65	245.03	245.86	245.01	245.32	245.50	244.96	
22	244.80	244.80	244.89	244.74	244.92	244.63	245.03	245.79	245.01	245.36	245.30	244.99	
23	244.80	244.80	244.89	244.73	244.93	244.62	245.03	245.78	245.01	245.55	244.89	244.99	
24	244.80	244.86	244.89	244.80	244.93	244.62	245.03	245.79	245.01	245.54	244.88	244.88	
25	244.80	244.78	244.89	244.81	244.93	244.62	245.03	245.81	245.01	245.54	244.88	244.85	
26	244.79	244.82	244.89	244.80	244.93	244.62	245.03	245.81	245.01	245.54	244.88	244.85	
27	244.77	244.84	244.89	244.81	244.89	244.83	245.05	245.83	245.01	245.54	244.88	244.86	
28	244.77	244.83	244.89	244.80	244.80	244.92	245.05	245.87	245.01	245.54	244.88	244.82	
29	244.77	244.83	244.89	244.80	244.84	244.88	245.05	245.86	245.01	245.54		244.86	
30	244.77	244.83	244.89	244.80	244.90	244.90	245.14	245.76	245.01	245.54		244.86	
31		244.83		244.80	244.88		245.26		245.01	245.54		244.86	
Mean	244.79	244.80	244.87	244.82	244.87	244.78	244.96	245.71	245.18	245.20	245.45	244.95	
Max	244.86	244.86	244.89	244.89	244.94	244.95	245.26	245.91	245.74	245.55	245.79	245.35	245.91
Min	244.73	244.76	244.83	244.73	244.80	244.62	244.82	245.30	244.80	245.01	244.88	244.81	244.62

Annual Max Momentary Gage Height 246.01 M (MSL), at 1.00 Hours, on Feb 9, 1993
Zero Gage at Bottom Elevation 242.00 M (MSL), River Bed 243.62 M (MSL)
Left Bank Elevation 248.43 M (MSL)
Right Bank Elevation 248.59 M (MSL), Drainage Area 1292 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	1.67	1.72	1.99	2.26	1.85	1.90	2.17	4.48	7.38	2.85	6.14	2.21	
2	1.67	1.72	1.99	2.26	1.90	1.99	2.08	5.69	7.38	2.85	6.14	2.21	
3	1.63	1.72	1.99	2.21	1.90	2.12	2.08	6.61	7.38	2.85	6.21	2.21	
4	1.58	1.67	2.03	2.12	1.94	2.12	2.08	6.61	7.38	2.85	6.21	2.21	
5	1.58	1.72	2.03	2.12	1.99	2.03	2.08	6.40	7.38	2.85	6.21	2.21	
6	1.58	1.80	2.08	2.12	2.03	1.99	2.17	5.75	7.38	2.85	6.33	2.60	
7	1.53	1.76	2.12	2.12	2.03	1.94	2.30	5.62	6.75	2.85	6.33	3.61	
8	1.72	1.76	2.12	2.12	2.03	1.85	2.21	5.62	4.25	2.85	7.24	3.67	
9	2.03	1.76	1.99	2.12	2.08	1.94	2.12	5.88	4.19	2.85	7.73	3.84	
10	1.99	1.76	2.17	2.12	2.08	1.67	1.99	6.14	3.01	2.85	6.89	4.79	
11	1.94	1.80	2.21	2.12	2.08	1.20	1.94	7.10	1.85	2.90	6.89	4.60	
12	1.90	1.76	2.21	2.12	2.12	1.20	1.94	7.17	2.96	2.90	6.89	3.01	
13	2.08	1.76	2.21	2.12	2.12	1.76	1.94	7.17	2.96	2.90	6.89	2.08	
14	2.12	1.76	2.21	2.12	2.12	2.03	2.03	7.24	2.96	2.96	6.96	2.03	
15	1.99	1.80	2.21	2.03	2.12	1.85	2.55	7.45	2.90	3.11	7.17	1.90	
16	1.90	1.80	2.21	1.72	2.12	1.99	2.96	7.73	2.85	3.27	7.17	2.35	
17	1.85	1.85	2.26	1.72	2.17	2.55	2.85	8.22	2.85	3.27	6.68	2.55	
18	1.85	1.85	2.26	1.72	2.30	2.45	2.85	8.57	2.85	3.27	5.75	2.55	
19	1.85	1.85	2.26	1.72	2.50	1.99	2.90	8.50	2.85	3.27	5.75	2.60	
20	1.85	1.85	2.26	1.72	2.35	1.40	2.96	8.50	2.85	3.32	5.75	2.60	
21	1.85	1.85	2.26	1.67	2.40	1.20	2.96	8.22	2.85	4.60	5.75	2.60	
22	1.85	1.85	2.26	1.58	2.40	1.12	2.96	7.73	2.85	4.85	4.48	2.75	
23	1.85	1.85	2.26	1.53	2.45	1.08	2.96	7.66	2.85	6.08	2.26	2.75	
24	1.85	2.12	2.26	1.85	2.45	1.08	2.96	7.73	2.85	6.01	2.21	2.21	
25	1.85	1.76	2.26	1.90	2.45	1.08	2.96	7.87	2.85	6.01	2.21	2.08	
26	1.80	1.94	2.26	1.85	2.45	1.08	2.96	7.87	2.85	6.01	2.21	2.08	
27	1.72	2.03	2.26	1.90	2.26	1.99	3.06	8.01	2.85	6.01	2.21	2.12	
28	1.72	1.99	2.26	1.85	1.85	2.40	3.06	8.29	2.85	6.01	2.21	1.94	
29	1.72	1.99	2.26	1.85	2.03	2.21	3.06	8.22	2.85	6.01		2.12	
30	1.72	1.99	2.26	1.85	2.30	2.30	3.55	7.52	2.85	6.01		2.12	
31		1.99		1.85	2.21		4.25		2.85	6.01		2.12	
Total	54.24	56.83	65.41	60.36	67.08	53.51	80.94	215.57	121.71	123.28	154.87	80.72	1134.52 CMSDAY
Mean	1.81	1.83	2.18	1.95	2.16	1.78	2.61	7.19	3.93	3.98	5.53	2.60	3.11 CMS
Max	2.12	2.12	2.26	2.26	2.50	2.55	4.25	8.57	7.38	6.08	7.73	4.79	8.57 CMS
Min	1.53	1.67	1.99	1.53	1.85	1.08	1.94	4.48	1.85	2.85	2.21	1.90	1.08 CMS
Runoff	4.686	4.910	5.651	5.215	5.796	4.623	6.993	18.625	10.516	10.651	13.381	6.974	98.023 MCM

Momentary Peak 9.27 CMS, at 246.01 M (MSL), at 1.00 Hours, on Feb 9, 1993

Runoff Yield 2.41 Liters/Second/Square KM, Momentary Peak Yield 7.17 Liters/Second/Square KM

WATER YEAR 1993

MUN RIVER BASIN

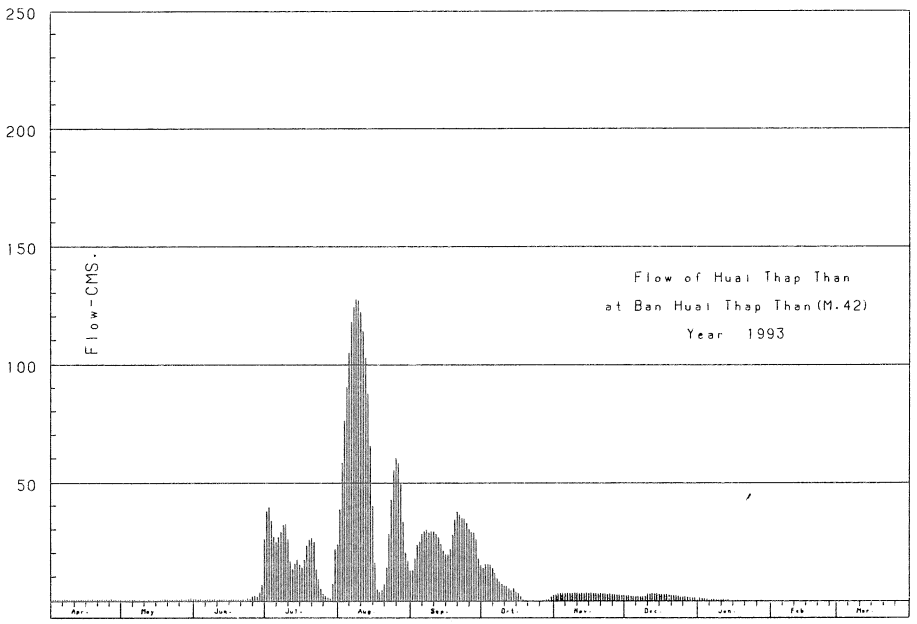
Huai Thap Than at Ban Huai Thap Than, Si Sa Ket (M.42)

Location	Lat. 15-02-42 N., Long. 104-01-29 E., on left bank at the bridge on highway, Amphoe Uthumphon Phisai, Si Sa Ket.
Drainage Area	1,794 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+0.00 m. (A.D.)
Bench Mark	B.M.-H.D.
Location	On left bank at the footpath of the bridge.
Elevation	+11.591 m.(A.D.)
Gage Reading Frequency	5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1972 to date.
Rating Operation	
Period of Rating	1972 - 1981, 1987 to date.
Rated by Float	-
Rated by Current Meter	1972 - 1981, 1987 to date.
Stability of Channel Regimes	Fairly stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Stage-discharge relation defined by 19 discharge measurements made in 1993.

Gage Height in Meter (A.D), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	2.73	2.61	2.88	5.29	5.32	4.26	4.31	3.27	3.20	2.98	2.40	2.10	
2	2.72	2.61	2.84	5.37	6.05	4.50	4.38	3.33	3.19	2.95	2.40	2.07	
3	2.72	2.60	2.80	5.14	6.64	4.72	4.39	3.42	3.16	2.94	2.40	2.05	
4	2.71	2.60	2.77	4.86	7.09	4.79	4.37	3.41	3.13	2.92	2.39	2.03	
5	2.71	2.58	2.77	4.78	7.53	4.91	4.31	3.41	3.12	2.89	2.37	2.02	
6	2.71	2.58	2.80	4.85	7.93	4.96	4.18	3.41	3.12	2.88	2.36	2.00	
7	2.72	2.58	2.80	4.95	8.12	4.98	4.04	3.40	3.11	2.86	2.35	1.97	
8	2.72	2.57	2.84	5.07	8.21	4.94	3.92	3.41	3.10	2.83	2.34	1.97	
9	2.72	2.56	2.82	5.08	8.20	4.95	3.84	3.44	3.15	2.81	2.34	1.96	
10	2.72	2.55	2.80	4.82	8.05	4.96	3.78	3.43	3.36	2.78	2.35	1.94	
11	2.71	2.55	2.79	4.44	7.81	4.91	3.75	3.39	3.37	2.77	2.35	1.93	
12	2.71	2.55	2.78	4.28	7.47	4.86	3.66	3.39	3.38	2.76	2.35	1.90	
13	2.72	2.57	2.75	4.40	7.00	4.74	3.55	3.39	3.37	2.70	2.35	1.89	
14	2.72	2.55	2.75	4.47	6.29	4.63	3.66	3.43	3.37	2.69	2.33	1.88	
15	2.72	2.55	2.74	4.38	5.39	4.56	3.47	3.41	3.35	2.67	2.33	1.85	
16	2.72	2.55	2.73	4.31	4.41	4.56	3.39	3.40	3.32	2.65	2.30	1.84	
17	2.72	2.72	2.73	4.48	3.61	4.66	3.15	3.39	3.31	2.64	2.30	1.83	
18	2.72	2.83	2.78	4.71	3.45	4.90	2.82	3.38	3.30	2.63	2.30	1.82	
19	2.72	2.83	2.78	4.82	3.58	5.15	2.20	3.37	3.27	2.63	2.30	1.80	
20	2.72	2.81	2.76	4.84	3.81	5.29	1.79	3.37	3.23	2.60	2.27	1.77	
21	2.72	2.79	2.75	4.78	4.32	5.24	1.60	3.37	3.23	2.58	2.25	1.76	
22	2.72	2.77	2.75	4.28	4.91	5.18	1.44	3.35	3.20	2.56	2.23	1.74	
23	2.71	2.77	2.94	4.01	5.49	5.17	1.38	3.33	3.18	2.54	2.20	2.07	
24	2.71	2.76	2.94	3.64	5.94	5.10	1.26	3.33	3.15	2.53	2.19	2.15	
25	2.71	2.75	3.10	3.30	6.11	5.00	1.22	3.33	3.12	2.50	2.16	2.18	
26	2.71	2.74	3.15	3.13	6.04	4.94	1.96	3.27	3.10	2.49	2.13	2.18	
27	2.70	2.73	3.13	3.03	5.74	4.94	2.51	3.27	3.08	2.47	2.12	2.17	
28	2.65	2.73	3.47	2.95	5.12	4.82	2.76	3.24	3.02	2.45	2.10	2.17	
29	2.64	2.91	3.79	3.84	4.60	4.50	2.85	3.23	3.02	2.45		2.16	
30	2.62	2.95	4.82	4.65	4.46	4.36	3.12	3.23	3.01	2.43		2.15	
31		2.92		4.74	4.24		3.22		3.00	2.43		2.19	
Mean	2.71	2.68	2.95	4.44	5.90	4.85	3.11	3.36	3.19	2.68	2.30	1.99	
Max	2.73	2.95	4.82	5.37	8.21	5.29	4.39	3.44	3.38	2.98	2.40	2.19	8.21
Min	2.62	2.55	2.73	2.95	3.45	4.26	1.22	3.23	3.00	2.43	2.10	1.74	1.22

Annual Max Momentary Gage Height 8.22 M (A.D), at 18.00 Hours, on Aug 8, 1993
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed 0.41 M (A.D)
Left Bank Elevation 10.81 M (A.D)
Right Bank Elevation 10.76 M (A.D), Drainage Area 1794 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.79	0.67	0.97	37.95	38.70	13.28	14.20	2.85	2.50	1.40	0.46	0.18	
2	0.78	0.67	0.92	39.95	58.70	18.20	15.60	3.15	2.45	1.25	0.46	0.16	
3	0.78	0.66	0.86	34.20	76.40	23.70	15.80	3.60	2.30	1.20	0.46	0.14	
4	0.77	0.66	0.83	27.20	90.68	25.45	15.40	3.55	2.15	1.10	0.45	0.12	
5	0.77	0.64	0.83	25.20	105.09	28.45	14.20	3.55	2.10	0.99	0.43	0.12	
6	0.77	0.64	0.86	26.95	118.29	29.70	11.86	3.55	2.10	0.97	0.42	0.10	
7	0.78	0.64	0.86	29.45	124.56	30.20	9.66	3.50	2.05	0.94	0.41	0.08	
8	0.78	0.63	0.92	32.45	127.53	29.20	8.22	3.55	2.00	0.90	0.40	0.08	
9	0.78	0.62	0.89	32.70	127.20	29.45	7.40	3.70	2.25	0.87	0.40	0.07	
10	0.78	0.61	0.86	26.20	122.25	29.70	6.80	3.65	3.30	0.84	0.41	0.06	
11	0.77	0.61	0.85	16.88	114.33	28.45	6.50	3.45	3.35	0.83	0.41	0.05	
12	0.77	0.61	0.84	13.64	103.11	27.20	5.60	3.45	3.40	0.82	0.41	0.03	
13	0.78	0.63	0.81	16.00	87.80	24.20	4.50	3.45	3.35	0.76	0.41	0.03	
14	0.78	0.61	0.81	17.54	65.90	21.45	5.60	3.65	3.35	0.75	0.39	0.03	
15	0.78	0.61	0.80	15.60	40.45	19.70	3.85	3.55	3.25	0.73	0.39	0.03	
16	0.78	0.61	0.79	14.20	16.22	19.70	3.45	3.50	3.10	0.71	0.36	0.03	
17	0.78	0.78	0.79	17.76	5.10	22.20	2.25	3.45	3.05	0.70	0.36	0.03	
18	0.78	0.90	0.84	23.45	3.75	28.20	0.89	3.40	3.00	0.69	0.36	0.03	
19	0.78	0.90	0.84	26.20	4.80	34.45	0.26	3.35	2.85	0.69	0.36	0.02	
20	0.78	0.87	0.82	26.70	7.10	37.95	0.02	3.35	2.65	0.66	0.33	0.02	
21	0.78	0.85	0.81	25.20	14.40	36.70	0.01	3.35	2.65	0.64	0.31	0.02	
22	0.78	0.83	0.81	13.64	28.45	35.20	0.01	3.25	2.50	0.62	0.29	0.02	
23	0.77	0.83	1.20	9.24	42.95	34.95	0.01	3.15	2.40	0.60	0.26	0.16	
24	0.77	0.82	1.20	5.40	55.52	33.20	0.01	3.15	2.25	0.59	0.25	0.22	
25	0.77	0.81	2.00	3.00	60.50	30.70	0.01	3.15	2.10	0.56	0.23	0.24	
26	0.77	0.80	2.25	2.15	58.40	29.20	0.07	2.85	2.00	0.55	0.20	0.24	
27	0.76	0.79	2.15	1.65	49.92	29.20	0.57	2.85	1.90	0.53	0.20	0.24	
28	0.71	0.79	3.85	1.25	33.70	26.20	0.82	2.70	1.60	0.51	0.18	0.24	
29	0.70	1.05	6.90	7.40	20.70	18.20	0.93	2.65	1.60	0.51		0.23	
30	0.68	1.25	26.20	21.95	17.32	15.20	2.10	2.65	1.55	0.49		0.22	
31		1.10		24.20	12.92		2.60		1.50	0.49		0.25	
Total	23.05	23.49	64.36	615.30	1832.74	809.58	159.20	99.00	76.60	23.89	10.00	3.49	3740.70 CMSDAY
Mean	0.77	0.76	2.15	19.85	59.12	26.99	5.14	3.30	2.47	0.77	0.36	0.11	10.25 CMS
Max	0.79	1.25	26.20	39.95	127.53	37.95	15.80	3.70	3.40	1.40	0.46	0.25	127.53 CMS
Min	0.68	0.61	0.79	1.25	3.75	13.28	0.01	2.65	1.50	0.49	0.18	0.02	0.01 CMS
Runoff	1.992	2.030	5.561	53.162	158.349	69.948	13.755	8.554	6.618	2.064	0.864	0.302	323.197 MCM

Momentary Peak 127.86 CMS, at 8.22 M (A.D), at 18.00 Hours, on Aug 8, 1993

Runoff Yield 5.71 Liters/Second/Square KM, Momentary Peak Yield 71.27 Liters/Second/Square KM

WATER YEAR 1993

MUN RIVER BASIN

Lam Takhong at Ban Mu Si, Nakhon Ratchasima (M.43A)

Location — Lat. 14°-30'-43" N., Long. 101°-22'-49" E., on left bank about 2 kilometers downstream from M.43, Amphoe Pak Chong, Nakhon Ratchasima.

Drainage Area — 173 sq.km.

Type of Gage — Water-stage recorder.

Zero Gage at Bottom — +0.00 m.(A.D.)

Bench Mark — B.M.-H.D.

Location — On left bank downstream side at the abutment of the bridge.

Elevation — +6.135 m.(A.D.)

Gage Reading Frequency — Recording.

Basis of Mean Daily Gage Height — Arithmetic mean of 24 readings.

Period of Available Gage Records — 1989 to date.

Rating Operation

Period of Rating — 1989 to date.

Rated by Float — -

Rated by Current Meter — 1989 to date.

Stability of Channel Regimes — Fairly stable.

Overbank Flow Conditions — No overbank flow.

General Description — Records fair. Stage-discharge relation defined by 20 discharge measurements made in 1993.

Gage Height in Meter (A.D), Water Year April 1, 1993 to March 31, 1994

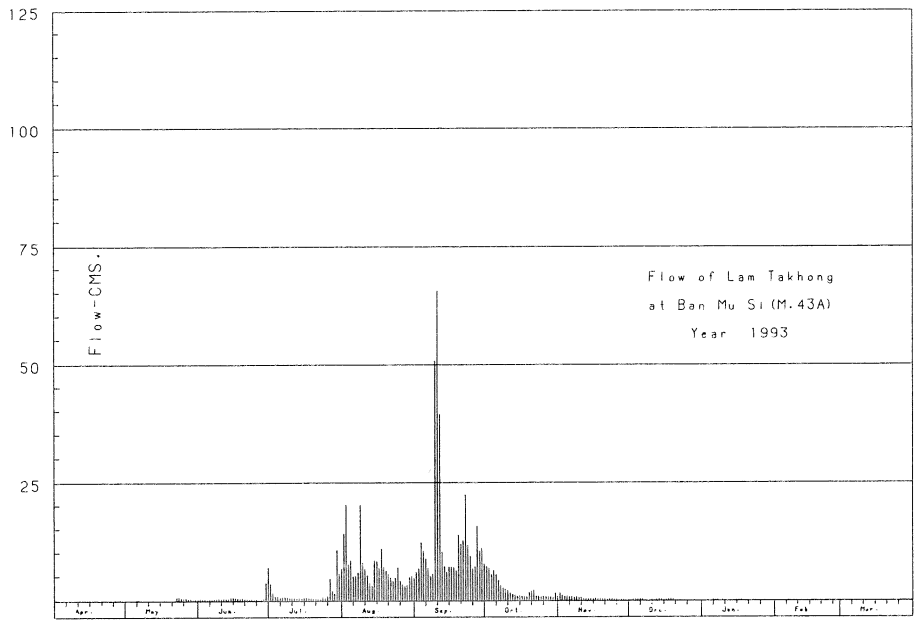
Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.03	0.06	0.15	0.47	0.91	0.60	0.66	0.35	0.11	0.08	0.02	0.02	
2	0.02	0.06	0.15	0.34	1.07	0.64	0.64	0.31	0.16	0.08	0.02	0.02	
3	0.01	0.07	0.13	0.29	0.68	0.85	0.58	0.30	0.16	0.08	0.02	0.02	
4	0.01	0.07	0.12	0.26	0.71	0.79	0.62	0.29	0.15	0.10	0.02	0.02	
5	0.01	0.06	0.12	0.24	0.56	0.73	0.58	0.28	0.15	0.12	0.02	0.02	
6	0.01	0.05	0.13	0.23	0.56	0.64	0.52	0.26	0.13	0.12	0.02	0.02	
7	0.01	0.05	0.13	0.26	0.60	0.56	0.45	0.26	0.12	0.12	0.02	0.02	
8	0.01	0.04	0.18	0.23	1.07	0.58	0.42	0.26	0.12	0.12	0.02	0.02	
9	0.01	0.03	0.17	0.22	0.69	1.61	0.40	0.24	0.12	0.11	0.02	0.02	
10	0.01	0.03	0.17	0.21	0.63	1.83	0.38	0.22	0.12	0.10	0.02	0.02	
11	0.01	0.02	0.17	0.20	0.57	1.44	0.35	0.20	0.12	0.10	0.02	0.02	
12	0.01	0.02	0.17	0.20	0.48	0.78	0.33	0.18	0.13	0.10	0.02	0.02	
13	0.01	0.02	0.18	0.20	0.45	0.66	0.31	0.18	0.15	0.10	0.02	0.02	
14	0.02	0.02	0.24	0.20	0.71	0.60	0.30	0.19	0.14	0.10	0.02	0.02	
15	0.04	0.02	0.24	0.22	0.71	0.65	0.30	0.18	0.14	0.10	0.02	0.02	
16	0.08	0.02	0.21	0.22	0.64	0.65	0.29	0.18	0.14	0.10	0.02	0.02	
17	0.07	0.02	0.20	0.21	0.81	0.65	0.27	0.17	0.16	0.10	0.02	0.02	
18	0.05	0.02	0.20	0.20	0.65	0.62	0.27	0.18	0.16	0.09	0.02	0.02	
19	0.05	0.02	0.20	0.19	0.62	0.90	0.36	0.17	0.16	0.09	0.02	0.02	
20	0.04	0.02	0.18	0.18	0.58	0.84	0.37	0.16	0.14	0.08	0.02	0.02	
21	0.07	0.04	0.13	0.15	0.54	0.86	0.39	0.15	0.10	0.08	0.02	0.02	
22	0.05	0.25	0.13	0.15	0.51	1.12	0.30	0.16	0.10	0.08	0.02	0.02	
23	0.05	0.25	0.14	0.25	0.54	0.83	0.29	0.17	0.08	0.08	0.02	0.02	
24	0.07	0.20	0.14	0.21	0.65	0.75	0.28	0.15	0.08	0.07	0.02	0.02	
25	0.10	0.19	0.14	0.29	0.51	0.63	0.28	0.15	0.09	0.07	0.02	0.02	
26	0.10	0.19	0.14	0.54	0.46	0.66	0.28	0.13	0.09	0.07	0.02	0.02	
27	0.10	0.17	0.14	0.38	0.44	0.95	0.27	0.12	0.09	0.06	0.02	0.02	
28	0.10	0.15	0.18	0.33	0.45	0.79	0.24	0.12	0.09	0.02	0.02	0.02	
29	0.09	0.13	0.49	0.80	0.55	0.81	0.24	0.12	0.09	0.02		0.02	
30	0.09	0.13	0.65	0.58	0.56	0.68	0.35	0.10	0.08	0.02		0.02	
31		0.14		0.63	0.54		0.27		0.08	0.02		0.02	
Mean	0.04	0.08	0.19	0.29	0.63	0.82	0.37	0.20	0.12	0.08	0.02	0.02	
Max	0.10	0.25	0.65	0.80	1.07	1.83	0.66	0.35	0.16	0.12	0.02	0.02	1.83
Min	0.01	0.02	0.12	0.15	0.44	0.56	0.24	0.10	0.08	0.02	0.02	0.02	0.01

Annual Max Momentary Gage Height — 2.56 M (A.D), at 8.00 Hours, on Sep 10, 1993

Zero Gage at Bottom Elevation — 0.00 M (A.D), River Bed -0.07 M (A.D)

Left Bank Elevation — 5.49 M (A.D)

Right Bank Elevation — 5.40 M (A.D), Drainage Area 173 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.06	0.12	0.35	3.52	14.36	6.00	7.32	1.70	0.23	0.16	0.04	0.04	
2	0.04	0.12	0.35	1.56	20.40	6.88	6.88	1.14	0.38	0.16	0.04	0.04	
3	0.02	0.14	0.29	0.95	7.76	12.40	5.60	1.00	0.38	0.16	0.04	0.04	
4	0.02	0.14	0.26	0.80	8.46	10.54	6.44	0.95	0.35	0.20	0.04	0.04	
5	0.02	0.12	0.26	0.70	5.20	8.98	5.60	0.90	0.35	0.26	0.04	0.04	
6	0.02	0.10	0.29	0.65	5.20	6.88	4.40	0.80	0.29	0.26	0.04	0.04	
7	0.02	0.10	0.29	0.80	6.00	5.20	3.20	0.80	0.26	0.26	0.04	0.04	
8	0.02	0.08	0.44	0.65	20.40	5.60	2.72	0.80	0.26	0.26	0.04	0.04	
9	0.02	0.06	0.41	0.60	7.98	50.86	2.40	0.70	0.26	0.23	0.04	0.04	
10	0.02	0.06	0.41	0.55	6.66	65.70	2.12	0.60	0.26	0.20	0.04	0.04	
11	0.02	0.04	0.41	0.50	5.40	39.64	1.70	0.50	0.26	0.20	0.04	0.04	
12	0.02	0.04	0.41	0.50	3.68	10.28	1.42	0.44	0.29	0.20	0.04	0.04	
13	0.02	0.04	0.44	0.50	3.20	7.32	1.14	0.44	0.35	0.20	0.04	0.04	
14	0.04	0.04	0.70	0.50	8.46	6.00	1.00	0.47	0.32	0.20	0.04	0.04	
15	0.08	0.04	0.70	0.60	8.46	7.10	1.00	0.44	0.32	0.20	0.04	0.04	
16	0.16	0.04	0.55	0.60	6.88	7.10	0.95	0.44	0.32	0.20	0.04	0.04	
17	0.14	0.04	0.50	0.55	11.12	7.10	0.85	0.41	0.38	0.20	0.04	0.04	
18	0.10	0.04	0.50	0.50	7.10	6.44	0.85	0.44	0.38	0.18	0.04	0.04	
19	0.10	0.04	0.50	0.47	6.44	14.00	1.84	0.41	0.38	0.18	0.04	0.04	
20	0.08	0.04	0.44	0.44	5.60	12.08	1.98	0.38	0.32	0.16	0.04	0.04	
21	0.14	0.08	0.29	0.35	4.80	12.72	2.26	0.35	0.20	0.16	0.04	0.04	
22	0.10	0.75	0.29	0.35	4.20	22.48	1.00	0.38	0.20	0.16	0.04	0.04	
23	0.10	0.75	0.32	0.75	4.80	11.76	0.95	0.41	0.16	0.16	0.04	0.04	
24	0.14	0.50	0.32	0.55	7.10	9.50	0.90	0.35	0.16	0.14	0.04	0.04	
25	0.20	0.47	0.32	0.95	4.20	6.66	0.90	0.35	0.18	0.14	0.04	0.04	
26	0.20	0.47	0.32	4.80	3.36	7.32	0.90	0.29	0.18	0.14	0.04	0.04	
27	0.20	0.41	0.32	2.12	3.04	15.80	0.85	0.26	0.18	0.12	0.04	0.04	
28	0.20	0.35	0.44	1.42	3.20	10.54	0.70	0.26	0.18	0.04	0.04	0.04	
29	0.18	0.29	3.84	10.80	5.00	11.12	0.70	0.26	0.18	0.04		0.04	
30	0.18	0.29	7.10	5.60	5.20	7.76	1.70	0.20	0.16	0.04		0.04	
31		0.32		6.66	4.80		0.85		0.16	0.04		0.04	
Total	2.66	6.12	22.06	50.29	218.46	411.76	71.12	16.87	8.28	5.25	1.12	1.24	815.23 CMSDAY
Mean	0.09	0.20	0.74	1.62	7.05	13.73	2.29	0.56	0.27	0.17	0.04	0.04	2.23 CMS
Max	0.20	0.75	7.10	10.80	20.40	65.70	7.32	1.70	0.38	0.26	0.04	0.04	65.70 CMS
Min	0.02	0.04	0.26	0.35	3.04	5.20	0.70	0.20	0.16	0.04	0.04	0.04	0.02 CMS
Runoff	0.230	0.529	1.906	4.345	18.875	35.576	6.145	1.458	0.715	0.454	0.097	0.107	70.436 MCM

Momentary Peak 128.00 CMS, at 2.56 M (A.D), at 8.00 Hours, on Sep 10, 1993
Runoff Yield 12.91 Liters/Second/Square KM, Momentary Peak Yield 739.88 Liters/Second/Square KM

WATER YEAR 1993

MUN RIVER BASIN

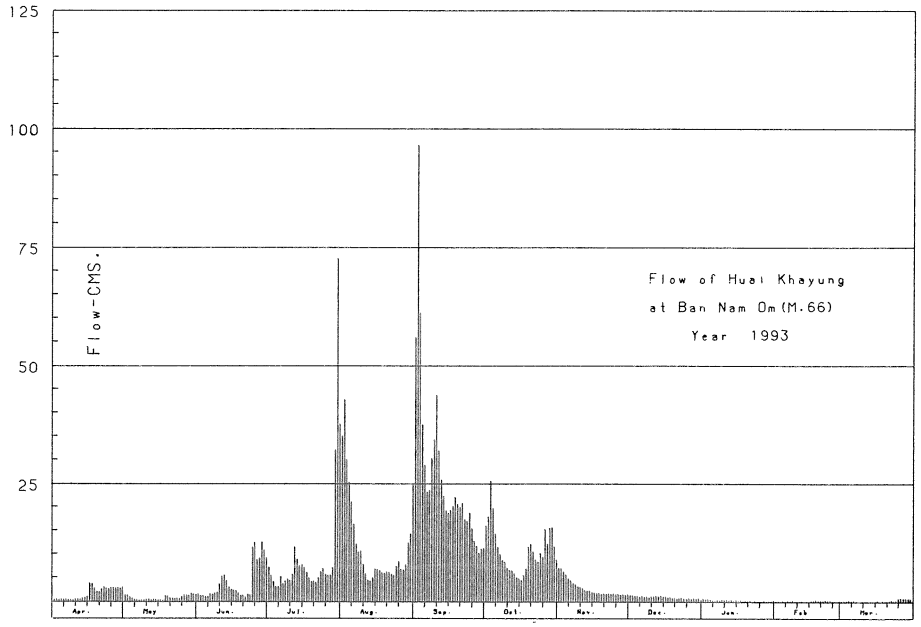
Huai Khayung at Ban Nam Om, Si Sa Ket (M.66)

Location	Lat. 14-38-23 N., Long. 104-39-45 E., on right bank about 50 meters upstream from the bridge of Kantharalak-Det Udom Road, Ban Nam Om, Amphoe Kantharalak, Si Sa Ket.
Drainage Area	586 sq.km.
Type of Gage	Water-stage recorder.
Zero Gage at Bottom	+0.00 m. (A.D.)
Bench Mark	B.M.-H.D.
Location	At the automatic gage building.
Elevation	+6.581 m. (A.D.)
Gage Reading Frequency	Recording.
Basis of Mean Daily Gage Height	Arithmetic mean of 24 readings.
Period of Available Gage Records	1965 to date.
Rating Operation	
Period of Rating	1965-1968, 1972 - 1981, 1987 to date.
Rated by Float	-
Rated by Current Meter	1965-1968, 1972 - 1981, 1987 to date.
Stability of Channel Regimes	Stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records fair. Stage-discharge relation defined by 26 discharge discharge measurements made in 1993.

Gage Height in Meter (A.D), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	-0.30	-0.10	-0.07	0.36	1.49	2.22	0.74	0.35	-0.10	-0.26	-0.33	-0.33	
2	-0.30	-0.12	-0.13	0.26	1.77	3.46	0.82	0.34	-0.12	-0.27	-0.33	-0.32	
3	-0.30	-0.18	-0.15	0.19	1.30	2.39	1.13	0.31	-0.13	-0.28	-0.34	-0.32	
4	-0.30	-0.25	-0.16	0.11	1.12	1.58	0.90	0.27	-0.15	-0.29	-0.35	-0.33	
5	-0.30	-0.29	-0.16	0.11	0.95	1.26	0.67	0.23	-0.15	-0.30	-0.35	-0.33	
6	-0.30	-0.32	-0.06	0.25	0.76	1.04	0.55	0.20	-0.15	-0.31	-0.35	-0.34	
7	-0.31	-0.32	-0.06	0.15	0.58	1.05	0.48	0.17	-0.17	-0.32	-0.34	-0.34	
8	-0.31	-0.32	-0.04	0.19	0.50	1.31	0.43	0.14	-0.18	-0.31	-0.34	-0.34	
9	-0.31	-0.31	0.01	0.22	0.51	1.46	0.41	0.12	-0.19	-0.31	-0.35	-0.35	
10	-0.30	-0.30	0.15	0.20	0.39	1.80	0.35	0.10	-0.18	-0.31	-0.35	-0.35	
11	-0.28	-0.28	0.25	0.28	0.28	1.37	0.32	0.09	-0.15	-0.32	-0.36	-0.36	
12	-0.28	-0.30	0.27	0.55	0.21	1.14	0.32	0.04	-0.15	-0.32	-0.36	-0.36	
13	-0.25	-0.28	0.20	0.44	0.19	1.00	0.28	0.04	-0.15	-0.32	-0.36	-0.36	
14	-0.20	-0.31	0.11	0.37	0.24	0.88	0.24	0.03	-0.14	-0.32	-0.36	-0.35	
15	-0.18	-0.31	0.07	0.39	0.34	0.86	0.22	0.01	-0.15	-0.33	-0.36	-0.35	
16	0.16	-0.32	0.04	0.35	0.33	0.88	0.21	-0.01	-0.17	-0.33	-0.35	-0.35	
17	0.16	-0.32	0.04	0.30	0.32	0.92	0.26	-0.01	-0.19	-0.33	-0.33	-0.35	
18	0.08	-0.12	-0.03	0.23	0.29	0.99	0.34	-0.03	-0.20	-0.34	-0.32	-0.35	
19	0.02	-0.17	-0.11	0.19	0.29	0.93	0.55	-0.05	-0.22	-0.34	-0.32	-0.35	
20	0.02	-0.24	-0.12	0.19	0.30	0.91	0.58	-0.05	-0.23	-0.35	-0.31	-0.35	
21	0.06	-0.24	-0.19	0.17	0.30	0.94	0.51	-0.05	-0.24	-0.35	-0.31	-0.33	
22	0.11	-0.25	-0.06	0.24	0.28	0.80	0.43	-0.05	-0.24	-0.35	-0.32	-0.32	
23	0.08	-0.25	-0.12	0.31	0.26	0.78	0.42	-0.05	-0.24	-0.35	-0.33	-0.31	
24	0.08	-0.25	0.55	0.34	0.37	0.86	0.49	-0.05	-0.25	-0.36	-0.33	-0.30	
25	0.09	-0.18	0.59	0.28	0.42	0.72	0.46	-0.06	-0.25	-0.36	-0.35	-0.24	
26	0.09	-0.11	0.43	0.26	0.33	0.60	0.71	-0.07	-0.25	-0.36	-0.36	-0.24	
27	0.09	-0.11	0.45	0.27	0.33	0.56	0.58	-0.08	-0.26	-0.35	-0.36	-0.24	
28	0.09	-0.13	0.60	0.35	0.38	0.49	0.72	-0.08	-0.25	-0.35	-0.34	-0.25	
29	0.09	-0.02	0.52	1.38	0.59	0.53	0.73	-0.09	-0.25	-0.34		-0.24	
30	0.10	-0.07	0.45	2.74	0.67	0.54	0.55	-0.09	-0.25	-0.34		-0.27	
31		-0.07		1.58	1.10		0.43		-0.25	-0.33		-0.30	
Mean	-0.10	-0.22	0.11	0.43	0.55	1.14	0.51	0.05	-0.19	-0.33	-0.34	-0.32	
Max	0.16	-0.02	0.60	2.74	1.77	3.46	1.13	0.35	-0.10	-0.26	-0.31	-0.24	3.46
Min	-0.31	-0.32	-0.19	0.11	0.19	0.49	0.21	-0.09	-0.26	-0.36	-0.36	-0.36	-0.36

Annual Max Momentary Gage Height 3.70 M (A.D), at 8.00 Hours, on Sep 2, 1993
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed -0.42 M (A.D)
Left Bank Elevation 7.97 M (A.D)
Right Bank Elevation 7.99 M (A.D), Drainage Area 586 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.50	1.50	1.65	7.44	35.23	56.10	16.06	7.25	1.50	0.70	0.35	0.35	
2	0.50	1.40	1.35	5.58	42.96	96.60	17.98	7.06	1.40	0.65	0.35	0.40	
3	0.50	1.10	1.25	4.36	30.10	61.20	25.68	6.49	1.35	0.60	0.30	0.40	
4	0.50	0.75	1.20	3.24	25.42	37.66	19.90	5.76	1.25	0.55	0.25	0.35	
5	0.50	0.55	1.20	3.24	21.15	29.06	14.41	5.04	1.25	0.50	0.25	0.35	
6	0.50	0.40	1.70	5.40	16.54	23.40	11.65	4.50	1.25	0.45	0.25	0.30	
7	0.45	0.40	1.70	3.80	12.34	23.65	10.04	4.08	1.15	0.40	0.30	0.30	
8	0.45	0.40	1.80	4.36	10.50	30.37	8.89	3.66	1.10	0.45	0.30	0.30	
9	0.45	0.45	2.11	4.86	10.73	34.42	8.43	3.38	1.05	0.45	0.25	0.25	
10	0.50	0.50	3.80	4.50	8.01	43.80	7.25	3.10	1.10	0.45	0.25	0.25	
11	0.60	0.60	5.40	5.94	5.94	31.99	6.68	2.99	1.25	0.40	0.20	0.20	
12	0.60	0.50	5.76	11.65	4.68	25.94	6.68	2.44	1.25	0.40	0.20	0.20	
13	0.75	0.60	4.50	9.12	4.36	22.40	5.94	2.44	1.25	0.40	0.20	0.20	
14	1.00	0.45	3.24	7.63	5.22	19.42	5.22	2.33	1.30	0.40	0.20	0.25	
15	1.10	0.45	2.77	8.01	7.06	18.94	4.86	2.11	1.25	0.35	0.20	0.25	
16	3.94	0.40	2.44	7.25	6.87	19.42	4.68	1.95	1.15	0.35	0.25	0.25	
17	3.94	0.40	2.44	6.30	6.68	20.40	5.58	1.95	1.05	0.35	0.35	0.25	
18	2.88	1.40	1.85	5.04	6.12	22.15	7.06	1.85	1.00	0.30	0.40	0.25	
19	2.22	1.15	1.45	4.36	6.12	20.65	11.65	1.75	0.90	0.30	0.40	0.25	
20	2.22	0.80	1.40	4.36	6.30	20.15	12.34	1.75	0.85	0.25	0.45	0.25	
21	2.66	0.80	1.05	4.08	6.30	20.90	10.73	1.75	0.80	0.25	0.45	0.35	
22	3.24	0.75	1.70	5.22	5.94	17.50	8.89	1.75	0.80	0.25	0.40	0.40	
23	2.88	0.75	1.40	6.49	5.58	17.02	8.66	1.75	0.80	0.25	0.35	0.45	
24	2.88	0.75	11.65	7.06	7.63	18.94	10.27	1.75	0.75	0.20	0.35	0.50	
25	2.99	1.10	12.57	5.94	8.66	15.58	9.58	1.70	0.75	0.20	0.25	0.80	
26	2.99	1.45	8.89	5.58	6.87	12.80	15.34	1.65	0.75	0.20	0.20	0.80	
27	2.99	1.45	9.35	5.76	6.87	11.88	12.34	1.60	0.70	0.25	0.20	0.80	
28	2.99	1.35	12.80	7.25	7.82	10.27	15.58	1.60	0.75	0.25	0.30	0.75	
29	2.99	1.90	10.96	32.26	12.57	11.19	15.82	1.55	0.75	0.30		0.80	
30	3.10	1.65	9.35	72.62	14.41	11.42	11.65	1.55	0.75	0.30		0.65	
31		1.65		37.66	24.90		8.89		0.75	0.35		0.50	
Total	53.81	27.80	128.73	306.36	379.88	805.22	338.73	88.53	32.00	11.50	8.20	12.40	2193.16 CMSDAY
Mean	1.79	0.90	4.29	9.88	12.25	26.84	10.93	2.95	1.03	0.37	0.29	0.40	6.01 CMS
Max	3.94	1.90	12.80	72.62	42.96	96.60	25.68	7.25	1.50	0.70	0.45	0.80	96.60 CMS
Min	0.45	0.40	1.05	3.24	4.36	10.27	4.68	1.55	0.70	0.20	0.20	0.20	0.20 CMS
Runoff	4.649	2.402	11.122	26.470	32.822	69.571	29.266	7.649	2.765	0.994	0.708	1.071	189.489 MCM

Momentary Peak 105.00 CMS, at 3.70 M (A.D), at 8.00 Hours, on Sep 2, 1993
Runoff Yield 10.25 Liters/Second/Square KM, Momentary Peak Yield 179.18 Liters/Second/Square KM

WATER YEAR 1993

MUN RIVER BASIN

Lam Se Bok at Ban Tha Bo Baeng, Ubon Ratchathani (M.69)

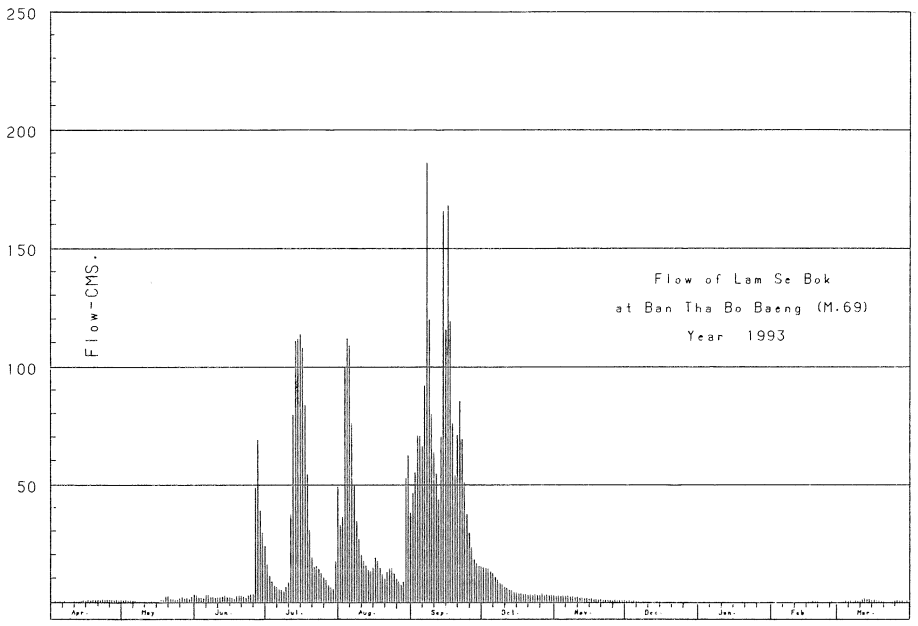
Location — Lat. 15°-30'-11" N., Long. 104°-58'-01" E., On left bank about 100 meters upstream from the bridge of Ubon-Trakan Phutphon Highway, Amphoe Trakan Phutphon, Ubon Ratchathani.

Drainage Area	2,132 sq.km.
Type of Gage	Water-stage recorder.
Zero Gage at Bottom	+0.00 m.(A.D.)
Bench Mark	B.M.-H.D.
Location	Beside the automatic gage building.
Elevation	+9.985 m.(A.D.)
Gage Reading Frequency	Recording.
Basis of Mean Daily Gage Height	Arithmetic mean of 24 readings.
Period of Available Gage Records	1969 to date
Rating Operation	
Period of Rating	1971, 1973 to date.
Rated by Float	-
Rated by Current Meter	1971, 1973 to date.
Stability of Channel Regimes	Fairly stable because of backwater effect.
Overbank Flow Conditions	No overbank flow.
General Description	Records fair. Stage-discharge relation defined by 20 discharge measurements made in 1993.

Gage Height in Meter (A.D), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.59	0.70	1.05	1.84	2.37	2.74	2.50	1.07	0.69	0.54	0.49	0.63	
2	0.59	0.70	0.93	1.62	2.46	2.95	2.50	1.07	0.68	0.54	0.49	0.64	
3	0.58	0.68	0.87	1.49	3.92	3.31	2.46	1.07	0.67	0.54	0.49	0.64	
4	0.58	0.66	0.87	1.41	4.15	3.30	2.38	1.07	0.66	0.54	0.49	0.65	
5	0.57	0.64	1.12	1.36	4.09	3.21	2.30	1.07	0.64	0.54	0.48	0.65	
6	0.58	0.62	1.07	1.31	3.42	3.76	2.19	1.06	0.64	0.54	0.48	0.65	
7	0.57	0.60	0.96	1.28	2.82	5.36	2.05	1.02	0.63	0.54	0.48	0.66	
8	0.56	0.58	0.93	1.25	2.42	5.33	1.91	0.98	0.62	0.53	0.48	0.67	
9	0.56	0.57	0.91	1.36	2.19	4.89	1.80	0.96	0.62	0.52	0.48	0.68	
10	0.57	0.57	0.90	1.48	2.01	4.59	1.70	0.96	0.62	0.52	0.48	0.68	
11	0.60	0.56	0.91	2.49	1.90	4.37	1.59	0.93	0.61	0.52	0.48	0.77	
12	0.61	0.56	1.01	3.50	1.82	4.05	1.53	0.89	0.61	0.52	0.48	0.84	
13	0.65	0.60	1.04	4.13	1.74	4.73	1.46	0.86	0.61	0.52	0.52	0.81	
14	0.66	0.58	0.98	4.14	1.70	5.62	1.38	0.85	0.61	0.52	0.62	0.77	
15	0.66	0.57	0.91	4.18	1.80	5.29	1.33	0.84	0.60	0.52	0.63	0.74	
16	0.68	0.57	0.87	4.07	1.97	5.63	1.28	0.82	0.59	0.52	0.65	0.73	
17	0.69	0.73	0.84	3.60	1.90	5.32	1.25	0.81	0.58	0.52	0.65	0.70	
18	0.69	0.71	1.01	2.94	1.79	4.83	1.22	0.79	0.56	0.52	0.65	0.68	
19	0.70	1.02	1.08	2.30	1.64	4.35	1.19	0.77	0.56	0.52	0.63	0.66	
20	0.70	1.01	1.04	1.96	1.56	4.74	1.16	0.76	0.56	0.52	0.63	0.64	
21	0.71	0.84	0.97	1.81	1.69	4.98	1.15	0.74	0.56	0.52	0.62	0.63	
22	0.73	0.75	0.91	1.81	1.78	4.71	1.17	0.72	0.55	0.51	0.61	0.64	
23	0.73	0.71	1.09	1.77	1.77	4.27	1.16	0.73	0.54	0.50	0.60	0.65	
24	0.73	0.76	1.10	1.67	1.67	3.83	1.15	0.72	0.54	0.50	0.59	0.65	
25	0.73	0.83	1.16	1.59	1.56	3.46	1.14	0.71	0.54	0.50	0.59	0.67	
26	0.72	0.93	2.79	1.52	1.49	3.11	1.24	0.71	0.54	0.50	0.59	0.69	
27	0.71	0.86	3.27	1.42	1.43	2.79	1.14	0.70	0.54	0.50	0.60	0.69	
28	0.71	0.86	2.55	1.35	1.48	2.64	1.14	0.69	0.54	0.50	0.62	0.68	
29	0.70	0.80	2.27	1.32	2.90	2.57	1.13	0.69	0.54	0.50		0.67	
30	0.71	0.96	2.12	1.90	3.12	2.53	1.11	0.69	0.54	0.50		0.66	
31		1.15		2.80	2.51		1.08		0.54	0.49		0.65	
Mean	0.65	0.73	1.25	2.15	2.23	4.11	1.54	0.86	0.59	0.52	0.56	0.68	
Max	0.73	1.15	3.27	4.18	4.15	5.63	2.50	1.07	0.69	0.54	0.65	0.84	5.63
Min	0.56	0.56	0.84	1.25	1.43	2.53	1.08	0.69	0.54	0.49	0.48	0.63	0.48

Annual Max Momentary Gage Height 5.71 M (A.D), at 1.00 Hours, on Sep 14, 1993
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed 0.32 M (A.D)
Left Bank Elevation 9.39 M (A.D)
Right Bank Elevation 10.51 M (A.D), Drainage Area 2132 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.47	1.00	2.87	16.00	32.95	46.60	14.75	2.85	0.95	0.35	0.22	0.65	
2	0.47	1.00	2.15	11.40	36.10	55.00	14.75	2.85	0.90	0.35	0.22	0.70	
3	0.45	0.90	1.85	8.80	100.00	70.95	14.25	2.85	0.85	0.35	0.22	0.70	
4	0.45	0.80	1.85	7.20	112.25	70.50	13.25	2.85	0.80	0.35	0.22	0.75	
5	0.42	0.70	3.40	6.40	108.95	66.45	12.25	2.85	0.70	0.35	0.20	0.75	
6	0.45	0.60	3.03	5.65	75.90	92.00	10.90	2.80	0.70	0.35	0.20	0.75	
7	0.42	0.50	2.30	5.20	49.80	186.40	9.50	2.60	0.65	0.35	0.20	0.80	
8	0.40	0.45	2.15	4.75	34.70	120.30	8.32	2.40	0.60	0.32	0.20	0.85	
9	0.40	0.42	2.05	6.40	26.65	79.85	7.50	2.30	0.60	0.30	0.20	0.90	
10	0.42	0.42	2.00	8.60	20.35	63.60	6.75	2.30	0.60	0.30	0.20	0.90	
11	0.50	0.40	2.05	37.15	17.50	54.80	5.93	2.15	0.55	0.30	0.20	1.35	
12	0.55	0.40	2.57	79.50	15.50	43.50	5.48	1.95	0.55	0.30	0.20	1.70	
13	0.75	0.50	2.80	111.15	13.80	70.50	4.95	1.80	0.55	0.30	0.30	1.55	
14	0.80	0.45	2.40	111.70	13.00	165.60	4.40	1.75	0.55	0.30	0.60	1.35	
15	0.80	0.42	2.05	113.90	15.00	115.90	4.15	1.70	0.50	0.30	0.65	1.20	
16	0.90	0.42	1.85	107.85	19.25	168.40	3.90	1.60	0.47	0.30	0.75	1.15	
17	0.95	1.15	1.70	84.00	17.50	119.20	3.75	1.55	0.45	0.30	0.75	1.00	
18	0.95	1.05	2.57	54.60	14.80	75.95	3.60	1.45	0.40	0.30	0.75	0.90	
19	1.00	2.65	3.10	30.50	11.80	54.00	3.45	1.35	0.40	0.30	0.65	0.80	
20	1.00	2.57	2.80	19.00	10.20	71.00	3.30	1.30	0.40	0.30	0.65	0.70	
21	1.05	1.70	2.35	15.25	12.80	85.70	3.25	1.20	0.40	0.30	0.60	0.65	
22	1.15	1.25	2.05	15.25	14.60	69.50	3.35	1.10	0.37	0.27	0.55	0.70	
23	1.15	1.05	3.18	14.40	14.40	50.80	3.30	1.15	0.35	0.25	0.50	0.75	
24	1.15	1.30	3.25	12.40	12.40	37.75	3.25	1.10	0.35	0.25	0.47	0.75	
25	1.15	1.65	3.70	10.80	10.20	29.70	3.20	1.05	0.35	0.25	0.47	0.85	
26	1.10	2.15	48.60	9.40	8.80	23.15	3.70	1.05	0.35	0.25	0.47	0.95	
27	1.05	1.80	69.15	7.40	7.60	18.37	3.20	1.00	0.35	0.25	0.50	0.95	
28	1.05	1.80	39.25	6.25	8.60	16.50	3.20	0.95	0.35	0.25	0.60	0.90	
29	1.00	1.50	29.45	5.80	53.00	15.62	3.15	0.95	0.35	0.25		0.85	
30	1.05	2.30	24.20	17.50	62.40	15.13	3.05	0.95	0.35	0.25		0.80	
31		3.62		49.00	37.85		2.90		0.35	0.22		0.75	
Total	23.45	36.92	272.72	993.20	988.65	2152.72	190.68	53.75	16.09	9.16	11.74	28.35	4777.43 CMSDAY
Mean	0.78	1.19	9.09	32.04	31.89	71.76	6.15	1.79	0.52	0.30	0.42	0.91	13.09 CMS
Max	1.15	3.62	69.15	113.90	112.25	186.40	14.75	2.85	0.95	0.35	0.75	1.70	186.40 CMS
Min	0.40	0.40	1.70	4.75	7.60	15.13	2.90	0.95	0.35	0.22	0.20	0.65	0.20 CMS
Runoff	2.026	3.190	23.563	85.812	85.419	185.995	16.475	4.644	1.390	0.791	1.014	2.449	412.770 MCM

Momentary Peak 190.80 CMS, at 5.71 M (A.D), at 1.00 Hours, on Sep 14, 1993

Runoff Yield 6.14 Liters/Second/Square KM, Momentary Peak Yield 89.49 Liters/Second/Square KM

WATER YEAR 1993

MUN RIVER BASIN

Lam Dom Yai at Det Udom, Ubon Ratchathani (M.80)

Location — Lat. 14-53-53 N., Long. 105-05-08 E., on left bank about 20 meters downstream from the bridge on road, Amphoe Det Udom, Ubon Ratchathani.

Drainage Area — 3,363 sq.km.

Type of Gage — Water-stage recorder.

Zero Gage at Bottom — +117.262 m.(M.S.L.)

Bench Mark — B.M.-H.D.

Location — Near the automatic gage building.

Elevation — +130.912 m.(M.S.L.)

Gage Reading Frequency — Recording.

Basis of Mean Daily Gage Height — Arithmetic mean of 24 readings.

Period of Available Gage Records — 1965 to date.

Rating Operation

Period of Rating — 1965 to date.

Rated by Float — -

Rated by Current Meter — 1965 to date.

Stability of Channel Regimes — Fairly stable because of backwater effect.

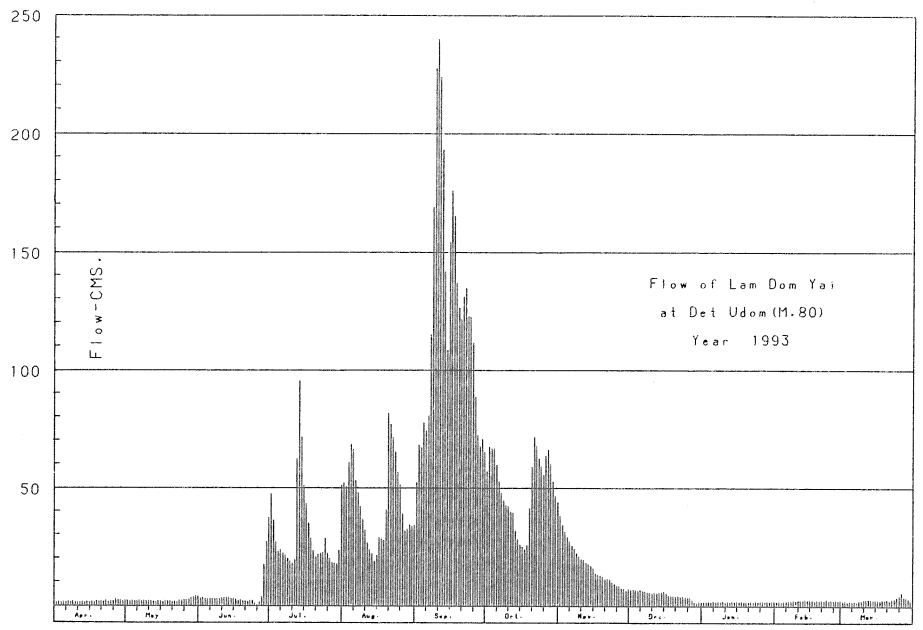
Overbank Flow Conditions — No overbank flow.

General Description — Records good. Stage-discharge relation defined by 20 discharge measurements made in 1993.

Gage Height in Meter (MSL), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	121.38	121.41	121.46	119.56	119.68	119.69	119.80	119.33	121.54	121.38	121.40	121.41	
2	121.38	121.41	121.46	119.29	119.64	120.05	120.03	119.24	121.55	121.39	121.40	121.41	
3	121.38	121.41	121.45	119.05	119.89	120.03	120.02	119.16	121.54	121.39	121.40	121.40	
4	121.38	121.41	121.44	118.96	120.06	120.26	120.02	119.11	121.54	121.39	121.40	121.40	
5	121.39	121.41	121.45	118.97	120.01	120.19	119.87	119.06	121.54	121.40	121.41	121.40	
6	121.39	121.41	121.44	118.94	119.71	120.33	119.70	119.02	121.54	121.40	121.41	121.40	
7	121.39	121.41	121.45	118.91	119.58	121.09	119.57	118.98	121.53	121.40	121.41	121.39	
8	121.39	121.41	121.44	118.88	119.43	122.18	119.50	118.94	121.53	121.40	121.42	121.41	
9	121.38	121.41	121.45	118.83	119.30	123.32	119.44	118.90	121.52	121.40	121.42	121.42	
10	121.37	121.41	121.46	118.81	119.18	123.54	119.43	118.87	121.52	121.39	121.42	121.43	
11	121.38	121.40	121.46	118.86	119.05	123.25	119.38	118.85	121.52	121.39	121.42	121.43	
12	121.38	121.40	121.47	119.92	118.97	122.67	119.36	118.82	121.52	121.40	121.42	121.44	
13	121.38	121.39	121.46	120.66	118.93	121.63	119.18	118.79	121.52	121.40	121.43	121.43	
14	121.38	121.40	121.45	120.13	118.84	120.95	119.08	118.78	121.53	121.40	121.43	121.43	
15	121.38	121.40	121.44	119.65	118.92	121.89	119.03	119.30	121.53	121.40	121.42	121.42	
16	121.39	121.40	121.43	119.46	119.10	122.32	119.00	121.17	121.52	121.40	121.42	121.42	
17	121.39	121.41	121.42	119.26	119.09	122.11	118.98	121.64	121.50	121.40	121.42	121.42	
18	121.40	121.41	121.42	119.09	119.07	121.54	119.02	121.64	121.50	121.40	121.42	121.42	
19	121.40	121.40	121.41	118.96	119.40	121.33	119.41	121.63	121.49	121.39	121.42	121.43	
20	121.40	121.40	121.40	118.90	120.35	121.23	119.85	121.62	121.49	121.39	121.42	121.43	
21	121.40	121.39	121.40	118.92	120.25	121.42	120.13	121.62	121.49	121.40	121.42	121.42	
22	121.41	121.40	121.41	118.94	120.12	121.50	120.04	121.62	121.49	121.40	121.43	121.43	
23	121.40	121.41	121.42	118.94	119.99	121.26	119.93	121.60	121.48	121.40	121.42	121.45	
24	121.40	121.42	121.34	119.10	119.79	121.25	119.85	121.59	121.48	121.40	121.42	121.47	
25	121.41	121.43	121.31	118.94	119.66	121.02	119.77	121.58	121.47	121.40	121.42	121.50	
26	121.43	121.42	121.39	118.87	119.36	120.51	119.95	121.57	121.46	121.40	121.42	121.52	
27	121.43	121.44	120.52	118.82	119.18	120.14	120.01	121.56	121.43	121.40	121.42	121.48	
28	121.42	121.46	120.30	118.80	119.19	120.04	119.87	121.55	121.37	121.40	121.42	121.46	
29	121.41	121.48	120.97	118.80	119.24	120.11	119.70	121.54	121.37	121.40		121.45	
30	121.41	121.49	120.15	118.96	119.22	119.98	119.54	121.55	121.38	121.40		121.44	
31		121.48		119.66	119.23		119.48		121.39	121.40		121.44	
Mean	121.39	121.42	121.30	119.16	119.47	121.23	119.61	120.29	121.49	121.40	121.42	121.43	
Max	121.43	121.49	121.47	120.66	120.35	123.54	120.13	121.64	121.55	121.40	121.43	121.52	123.54
Min	121.37	121.39	120.15	118.80	118.84	119.69	118.98	118.78	121.37	121.38	121.40	121.39	118.78

Annual Max Momentary Gage Height 123.58 M (MSL), at 6.00 Hours, on Sep 10, 1993
Zero Gage at Bottom Elevation 117.26 M (MSL), River Bed 117.80 M (MSL)
Left Bank Elevation 129.42 M (MSL)
Right Bank Elevation 127.68 M (MSL), Drainage Area 3363 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	1.70	2.25	3.50	47.40	52.20	52.60	57.00	38.20	6.70	1.70	2.00	2.25	
2	1.70	2.25	3.50	36.60	50.60	68.25	67.35	34.60	7.25	1.85	2.00	2.25	
3	1.70	2.25	3.25	27.00	61.05	67.35	66.90	31.40	6.70	1.85	2.00	2.00	
4	1.70	2.25	3.00	23.40	68.70	77.70	66.90	29.40	6.70	1.85	2.00	2.00	
5	1.85	2.25	3.25	23.80	66.45	74.55	60.15	27.40	6.70	2.00	2.25	2.00	
6	1.85	2.25	3.00	22.60	53.40	80.85	53.00	25.80	6.70	2.00	2.25	2.00	
7	1.85	2.25	3.25	21.40	48.20	115.05	47.80	24.20	6.15	2.00	2.25	1.85	
8	1.85	2.25	3.00	20.40	42.20	169.00	45.00	22.60	6.15	2.00	2.50	2.25	
9	1.70	2.25	3.25	18.90	37.00	227.60	42.60	21.00	5.60	2.00	2.50	2.50	
10	1.55	2.25	3.50	18.30	32.20	239.70	42.20	20.10	5.60	1.85	2.50	2.75	
11	1.70	2.00	3.50	19.80	27.00	223.75	40.20	19.50	5.60	1.85	2.50	2.75	
12	1.70	2.00	3.75	62.40	23.80	193.50	39.40	18.60	5.60	2.00	2.50	3.00	
13	1.70	1.85	3.50	95.70	22.20	141.50	32.20	17.70	5.60	2.00	2.75	2.75	
14	1.70	2.00	3.25	71.85	19.20	108.75	28.20	17.40	6.15	2.00	2.75	2.75	
15	1.70	2.00	3.00	51.00	21.80	154.50	26.20	16.00	6.15	2.00	2.50	2.50	
16	1.85	2.00	2.75	43.40	29.00	176.00	25.00	14.00	5.60	2.00	2.50	2.50	
17	1.85	2.25	2.50	35.40	28.60	165.50	24.20	13.20	4.50	2.00	2.50	2.50	
18	2.00	2.25	2.50	28.60	27.80	137.00	25.80	13.20	4.50	2.00	2.50	2.50	
19	2.00	2.00	2.25	23.40	41.00	126.50	41.40	12.40	4.25	1.85	2.50	2.75	
20	2.00	2.00	2.00	21.00	81.75	121.50	59.25	11.60	4.25	1.85	2.50	2.75	
21	2.00	1.85	2.00	21.80	77.25	131.00	71.85	11.60	4.25	2.00	2.50	2.50	
22	2.25	2.00	2.25	22.60	71.40	135.00	67.80	11.60	4.25	2.00	2.75	2.75	
23	2.00	2.25	2.50	22.60	65.55	123.00	62.85	10.00	4.00	2.00	2.50	3.25	
24	2.00	2.50	1.10	29.00	56.60	122.50	59.25	9.45	4.00	2.00	2.50	3.75	
25	2.25	2.75	0.65	22.60	51.40	111.90	55.80	8.90	3.75	2.00	2.50	4.50	
26	2.75	2.50	1.85	20.10	39.40	88.95	63.75	8.35	3.50	2.00	2.50	5.60	
27	2.75	3.00	4.00	18.60	32.20	72.30	66.45	7.80	2.75	2.00	2.50	4.00	
28	2.50	3.50	17.50	18.00	32.60	67.80	60.15	7.25	1.55	2.00	2.50	3.50	
29	2.25	4.00	27.50	18.00	34.60	70.95	53.00	6.70	1.55	2.00		3.25	
30	2.25	4.25	37.50	23.40	33.80	65.10	46.60	7.25	1.70	2.00		3.00	
31		4.00		51.40	34.20		44.20		1.85	2.00		3.00	
Total	58.65	75.45	158.35	980.45	1363.15	3709.65	1542.45	517.20	149.60	60.65	68.00	87.70	8771.30 CMSDAY
Mean	1.96	2.43	5.28	31.63	43.97	123.66	49.76	17.24	4.83	1.96	2.43	2.83	24.03 CMS
Max	2.75	4.25	37.50	95.70	81.75	239.70	71.85	38.20	7.25	2.00	2.75	5.60	239.70 CMS
Min	1.55	1.85	0.65	18.00	19.20	52.60	24.20	6.70	1.55	1.70	2.00	1.85	0.65 CMS
Runoff	5.067	6.519	13.681	84.711	117.776	320.514	133.268	44.686	12.925	5.240	5.875	7.577	757.840 MCM

Momentary Peak 241.90 CMS. at 123.58 M (MSL), at 6.00 Hours, on Sep 10, 1993

Runoff Yield 7.15 Liters/Second/Square KM, Momentary Peak Yield 71.93 Liters/Second/Square KM

WATER YEAR 1993

MUN RIVER BASIN

Lam Chi at Ban Charok Yai, Buri Ram (M.85)

Location — Lat. 14-37-54 N., Long. 103-14-03 E., on right bank at the bridge of Prasat-Prakhonchai Highway near guidepost 104 at Ban Charok Yai, Tambon Lavia, Amphoe Prakhon Chai, Buri Ram.

Drainage Area — 1,046 sq.km.

Type of Gage — Staff gage.

Zero Gage at Bottom — +0.00 m.(A.D.)

Bench Mark — B.M.-H.D.

Location — On right bank at the abutment of the bridge.

Elevation — +6.546 m.(A.D.)

Gage Reading Frequency — 3-5 time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.

Basis of Mean Daily Gage Height — Arithmetic mean of 3-5 readings.

Period of Available Gage Records — 1969 - 1971, 1979 to date.

Rating Operation

Period of Rating — 1969 - 1971, 1979, 1981 to date.

Rated by Float — -

Rated by Current Meter — 1969 - 1971, 1979, 1981 to date.

Stability of Channel Regimes — Fairly Stable because of backwater effect.

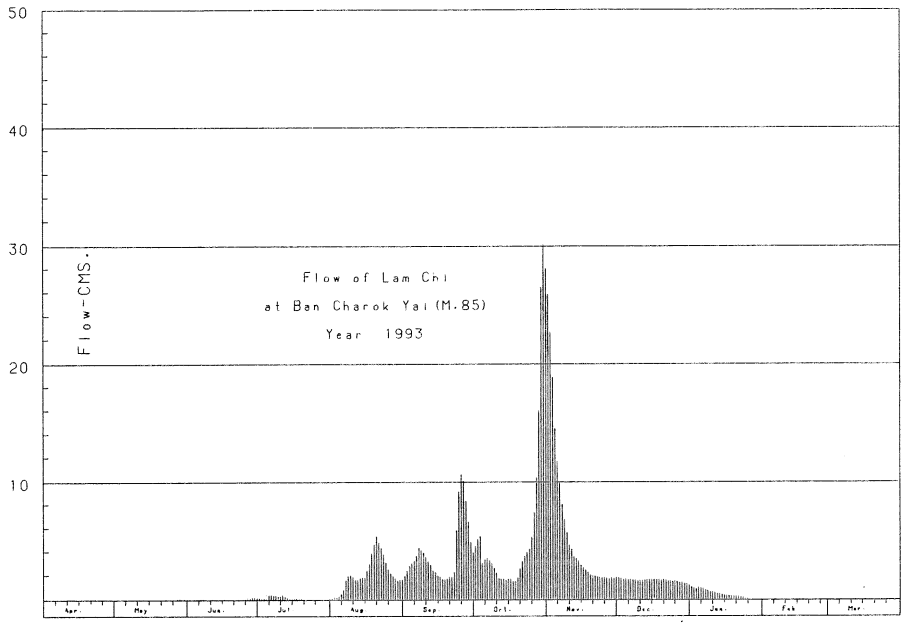
Overbank Flow Conditions — No overbank flow.

General Description — Records fair. Stage-discharge relation defined by 3 discharge measurements made in 1993.

Gage Height in Meter (A.D), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.32	0.32	0.37	0.43	0.42	1.41	1.70	3.07	1.37	1.16	0.31	0.33	
2	0.32	0.32	0.37	0.42	0.47	1.47	1.76	2.91	1.34	1.12	0.30	0.32	
3	0.32	0.32	0.37	0.41	0.49	1.53	1.79	2.72	1.33	1.12	0.30	0.32	
4	0.31	0.31	0.37	0.73	0.54	1.55	1.55	2.47	1.33	1.14	0.29	0.32	
5	0.30	0.30	0.36	0.71	0.80	1.58	1.59	2.28	1.33	1.14	0.29	0.32	
6	0.30	0.30	0.38	0.69	1.11	1.62	1.60	2.16	1.32	1.11	0.29	0.32	
7	0.31	0.29	0.38	0.66	1.32	1.69	1.58	2.04	1.32	1.07	0.29	0.32	
8	0.31	0.29	0.38	0.64	1.39	1.67	1.55	1.93	1.31	1.02	0.29	0.32	
9	0.31	0.29	0.37	0.59	1.42	1.65	1.51	1.82	1.30	0.97	0.29	0.32	
10	0.31	0.30	0.37	0.57	1.37	1.61	1.44	1.71	1.30	0.93	0.29	0.32	
11	0.31	0.29	0.36	0.68	1.32	1.57	1.35	1.68	1.31	0.87	0.29	0.32	
12	0.32	0.29	0.36	0.57	1.31	1.54	1.34	1.61	1.32	0.83	0.29	0.32	
13	0.33	0.34	0.36	0.44	1.36	1.47	1.33	1.60	1.32	0.79	0.29	0.32	
14	0.34	0.33	0.35	0.40	1.36	1.46	1.32	1.57	1.33	0.74	0.29	0.32	
15	0.34	0.32	0.35	0.41	1.37	1.41	1.33	1.54	1.33	0.69	0.30	0.32	
16	0.34	0.33	0.35	0.40	1.47	1.38	1.33	1.51	1.33	0.65	0.30	0.32	
17	0.33	0.38	0.35	0.41	1.55	1.34	1.29	1.49	1.33	0.63	0.31	0.32	
18	0.33	0.37	0.34	0.41	1.64	1.32	1.28	1.45	1.32	0.61	0.32	0.32	
19	0.32	0.37	0.34	0.40	1.72	1.35	1.37	1.42	1.32	0.60	0.32	0.32	
20	0.32	0.36	0.34	0.38	1.79	1.38	1.50	1.40	1.32	0.59	0.33	0.32	
21	0.32	0.35	0.33	0.37	1.73	1.38	1.57	1.40	1.31	0.56	0.33	0.32	
22	0.37	0.35	0.33	0.31	1.69	1.46	1.62	1.39	1.30	0.55	0.33	0.32	
23	0.39	0.35	0.32	0.31	1.63	1.84	1.65	1.37	1.29	0.51	0.33	0.33	
24	0.37	0.38	0.44	0.31	1.56	2.11	1.68	1.37	1.29	0.44	0.33	0.34	
25	0.36	0.40	0.45	0.30	1.49	2.21	1.78	1.36	1.29	0.37	0.33	0.36	
26	0.36	0.40	0.45	0.30	1.44	2.17	1.99	1.35	1.29	0.34	0.33	0.35	
27	0.35	0.40	0.44	0.30	1.40	2.06	2.19	1.35	1.27	0.34	0.33	0.35	
28	0.35	0.39	0.50	0.29	1.34	1.91	2.57	1.36	1.26	0.33	0.33	0.35	
29	0.34	0.39	0.47	0.41	1.31	1.74	3.10	1.36	1.25	0.33		0.35	
30	0.32	0.38	0.46	0.44	1.31	1.65	3.28	1.37	1.23	0.32		0.35	
31		0.38		0.42	1.32		3.18		1.20	0.32		0.35	
Mean	0.33	0.34	0.38	0.46	1.30	1.62	1.75	1.74	1.31	0.72	0.31	0.33	
Max	0.39	0.40	0.50	0.73	1.79	2.21	3.28	3.07	1.37	1.16	0.33	0.36	3.28
Min	0.30	0.29	0.32	0.29	0.42	1.32	1.28	1.35	1.20	0.32	0.29	0.32	0.29

Annual Max Momentary Gage Height 3.28 M (A.D), at 6.00 Hours, on Oct 30, 1993
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed -2.16 M (A.D)
Left Bank Elevation 5.95 M (A.D)
Right Bank Elevation 5.95 M (A.D), Drainage Area 1046 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.02	0.02	0.07	0.13	0.12	2.06	4.50	25.90	1.88	1.08	0.01	0.03	
2	0.02	0.02	0.07	0.12	0.17	2.42	5.10	22.70	1.76	0.96	0.00	0.02	
3	0.02	0.02	0.07	0.11	0.19	2.87	5.40	18.90	1.72	0.96	0.00	0.02	
4	0.01	0.01	0.07	0.43	0.24	3.05	3.05	14.55	1.72	1.02	0.00	0.02	
5	0.00	0.00	0.06	0.41	0.50	3.32	3.41	11.70	1.72	1.02	0.00	0.02	
6	0.00	0.00	0.08	0.39	0.93	3.70	3.50	9.90	1.68	0.93	0.00	0.02	
7	0.01	0.00	0.08	0.36	1.68	4.40	3.32	8.10	1.68	0.84	0.00	0.02	
8	0.01	0.00	0.08	0.34	1.96	4.20	3.05	6.80	1.64	0.74	0.00	0.02	
9	0.01	0.00	0.07	0.29	2.12	4.00	2.69	5.70	1.60	0.67	0.00	0.02	
10	0.01	0.00	0.07	0.27	1.88	3.60	2.24	4.60	1.60	0.63	0.00	0.02	
11	0.01	0.00	0.06	0.38	1.68	3.23	1.80	4.30	1.64	0.57	0.00	0.02	
12	0.02	0.00	0.06	0.27	1.64	2.96	1.76	3.60	1.68	0.53	0.00	0.02	
13	0.03	0.04	0.06	0.14	1.84	2.42	1.72	3.50	1.68	0.49	0.00	0.02	
14	0.04	0.03	0.05	0.10	1.84	2.36	1.68	3.23	1.72	0.44	0.00	0.02	
15	0.04	0.02	0.05	0.11	1.88	2.06	1.72	2.96	1.72	0.39	0.00	0.02	
16	0.04	0.03	0.05	0.10	2.42	1.92	1.72	2.69	1.72	0.35	0.00	0.02	
17	0.03	0.08	0.05	0.11	3.05	1.76	1.56	2.54	1.72	0.33	0.01	0.02	
18	0.03	0.07	0.04	0.11	3.90	1.68	1.52	2.30	1.68	0.31	0.02	0.02	
19	0.02	0.07	0.04	0.10	4.70	1.80	1.88	2.12	1.68	0.30	0.02	0.02	
20	0.02	0.06	0.04	0.08	5.40	1.92	2.60	2.00	1.68	0.29	0.03	0.02	
21	0.02	0.05	0.03	0.07	4.80	1.92	3.23	2.00	1.64	0.26	0.03	0.02	
22	0.07	0.05	0.03	0.01	4.40	2.36	3.70	1.96	1.60	0.25	0.03	0.02	
23	0.09	0.05	0.02	0.01	3.80	5.90	4.00	1.88	1.56	0.21	0.03	0.03	
24	0.07	0.08	0.14	0.01	3.14	9.15	4.30	1.88	1.56	0.14	0.03	0.04	
25	0.06	0.10	0.15	0.00	2.54	10.65	5.30	1.84	1.56	0.07	0.03	0.06	
26	0.06	0.10	0.15	0.00	2.24	10.05	7.40	1.80	1.56	0.04	0.03	0.05	
27	0.05	0.10	0.14	0.00	2.00	8.40	10.35	1.80	1.48	0.04	0.03	0.05	
28	0.05	0.09	0.20	0.00	1.76	6.60	16.05	1.84	1.44	0.03	0.03	0.05	
29	0.04	0.09	0.17	0.11	1.64	4.90	26.50	1.84	1.40	0.03		0.05	
30	0.02	0.08	0.16	0.14	1.64	4.00	30.10	1.88	1.32	0.02		0.05	
31		0.08		0.12	1.68		28.10		1.20	0.02		0.05	
Total	0.92	1.34	2.41	4.82	67.78	119.66	193.25	176.81	50.24	13.96	0.33	0.88	632.40 CMSDAY
Mean	0.03	0.04	0.08	0.16	2.19	3.99	6.23	5.89	1.62	0.45	0.01	0.03	1.73 CMS
Max	0.09	0.10	0.20	0.43	5.40	10.65	30.10	25.90	1.88	1.08	0.03	0.06	30.10 CMS
Min	0.00	0.00	0.02	0.00	0.12	1.68	1.52	1.80	1.20	0.02	0.00	0.02	0.00 CMS
Runoff	0.079	0.116	0.208	0.416	5.856	10.339	16.697	15.276	4.341	1.206	0.029	0.076	54.639 MCM

Momentary Peak 30.10 CMS, at 3.28 M (A.D), at 6.00 Hours, on Oct 30, 1993
Runoff Yield 1.66 Liters/Second/Square KM, Momentary Peak Yield 28.78 Liters/Second/Square KM

WATER YEAR 1993

MUN RIVER BASIN

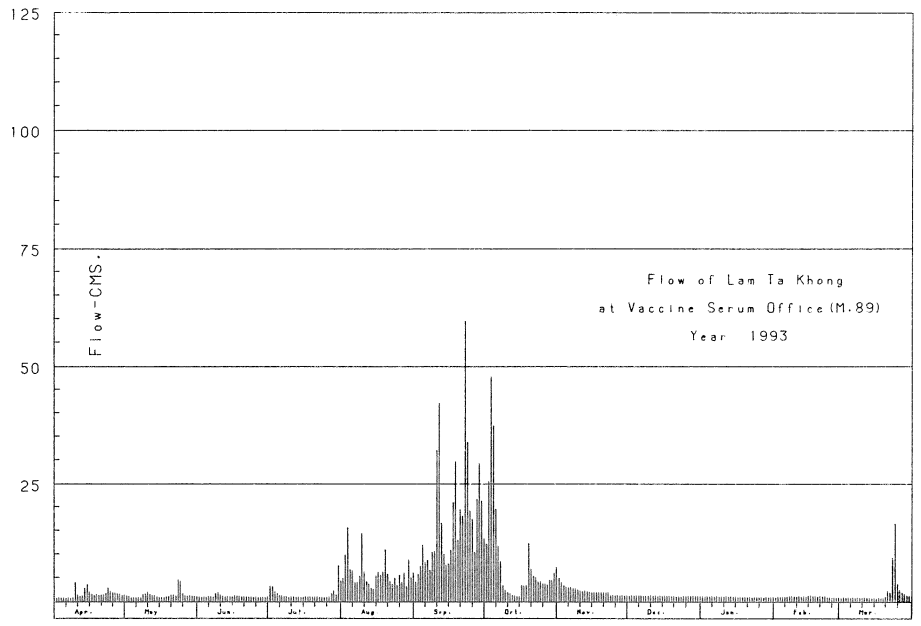
Lam Takhong at Vaccine Serum Office, Nakhon Ratchasima (M.89)

Location	Lat. 14°-41'-46" N., Long. 101°-25'-07" E., on left bank at the bridge infront of Vaccine Serum Office, Amphoe Pak Chong, Nakhon Ratchasima.
Drainage Area	665 sq.km.
Type of Gage	Water-stage recorder.
Zero Gage at Bottom	+0.00 m.(A.D.)
Bench Mark	B.M.-H.D.
Location	On left bank at the abutment of the bridge.
Elevation	+8.909 m.(A.D.)
Gage Reading Frequency	Recording.
Basis of Mean Daily Gage Height	Arithmetic mean of 24 readings.
Period of Available Gage Records	1970 to date.
Rating Operation	
Period of Rating	1971 to date.
Rated by Float	-
Rated by Current Meter	1971 to date.
Stability of Channel Regimes	Stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Stage-discharge relation defined by 24 discharge measurements made in 1993.

Gage Height in Meter (A.D), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	1.08	1.19	1.12	1.32	1.40	1.36	1.76	1.41	1.19	1.16	1.11	1.10	
2	1.08	1.14	1.13	1.32	1.65	1.45	2.33	1.36	1.19	1.16	1.14	1.11	
3	1.09	1.10	1.12	1.25	1.92	1.53	3.18	1.33	1.19	1.16	1.14	1.11	
4	1.09	1.09	1.12	1.23	1.50	1.75	2.81	1.31	1.19	1.16	1.14	1.10	
5	1.08	1.09	1.16	1.20	1.48	1.57	2.09	1.31	1.19	1.16	1.14	1.10	
6	1.08	1.09	1.13	1.18	1.36	1.60	1.74	1.31	1.18	1.16	1.14	1.10	
7	1.08	1.10	1.14	1.15	1.36	1.49	1.58	1.30	1.18	1.16	1.17	1.10	
8	1.08	1.21	1.22	1.14	1.43	1.68	1.33	1.29	1.18	1.15	1.16	1.10	
9	1.36	1.22	1.24	1.12	1.86	1.69	1.27	1.28	1.18	1.15	1.16	1.10	
10	1.20	1.24	1.20	1.13	1.47	2.61	1.24	1.26	1.19	1.15	1.16	1.10	
11	1.16	1.21	1.15	1.13	1.37	2.99	1.22	1.26	1.19	1.15	1.16	1.10	
12	1.16	1.19	1.14	1.13	1.34	1.96	1.20	1.26	1.18	1.15	1.15	1.10	
13	1.29	1.17	1.15	1.12	1.30	1.66	1.17	1.26	1.18	1.15	1.15	1.10	
14	1.34	1.14	1.14	1.12	1.28	1.54	1.15	1.24	1.18	1.14	1.15	1.09	
15	1.24	1.10	1.14	1.12	1.43	1.56	1.14	1.24	1.18	1.14	1.19	1.09	
16	1.21	1.10	1.19	1.12	1.47	1.70	1.33	1.24	1.18	1.13	1.19	1.10	
17	1.20	1.11	1.18	1.14	1.44	2.15	1.32	1.24	1.18	1.13	1.18	1.09	
18	1.21	1.12	1.15	1.14	1.47	2.51	1.33	1.24	1.17	1.13	1.17	1.09	
19	1.20	1.16	1.14	1.14	1.71	1.80	1.77	1.24	1.17	1.13	1.16	1.09	
20	1.20	1.20	1.13	1.13	1.45	2.08	1.50	1.24	1.16	1.12	1.16	1.14	
21	1.21	1.20	1.13	1.13	1.37	2.02	1.43	1.24	1.15	1.12	1.16	1.26	
22	1.23	1.17	1.12	1.12	1.34	3.59	1.41	1.24	1.15	1.12	1.15	1.24	
23	1.30	1.39	1.12	1.11	1.41	2.68	1.37	1.20	1.15	1.12	1.13	1.62	
24	1.25	1.37	1.12	1.10	1.33	2.07	1.37	1.20	1.16	1.12	1.12	1.96	
25	1.24	1.23	1.12	1.11	1.44	2.00	1.35	1.20	1.17	1.12	1.11	1.35	
26	1.23	1.19	1.12	1.13	1.36	1.68	1.34	1.20	1.17	1.12	1.11	1.27	
27	1.22	1.17	1.11	1.23	1.46	2.18	1.34	1.20	1.17	1.12	1.10	1.24	
28	1.21	1.18	1.11	1.26	1.32	2.49	1.39	1.20	1.17	1.12	1.10	1.22	
29	1.20	1.17	1.11	1.21	1.60	2.16	1.38	1.20	1.17	1.12		1.20	
30	1.20	1.15	1.13	1.54	1.41	1.81	1.46	1.19	1.16	1.12		1.19	
31		1.15		1.38	1.46		1.52		1.16	1.12		1.18	
Mean	1.19	1.17	1.14	1.18	1.46	1.98	1.54	1.26	1.17	1.14	1.15	1.19	
Max	1.36	1.39	1.24	1.54	1.92	3.59	3.18	1.41	1.19	1.16	1.19	1.96	3.59
Min	1.08	1.09	1.11	1.10	1.28	1.36	1.14	1.19	1.15	1.12	1.10	1.09	1.08

Annual Max Momentary Gage Height 4.28 M (A.D), at 19.00 Hours, on Oct 3, 1993
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed 0.19 M (A.D)
Left Bank Elevation 7.67 M (A.D)
Right Bank Elevation 7.29 M (A.D), Drainage Area 665 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.90	1.45	1.10	3.40	5.00	4.20	12.32	5.20	1.45	1.30	1.05	1.00	
2	0.90	1.20	1.15	3.40	10.00	6.00	25.52	4.20	1.45	1.30	1.20	1.05	
3	0.95	1.00	1.10	2.25	15.86	7.60	47.84	3.60	1.45	1.30	1.20	1.05	
4	0.95	0.95	1.10	1.95	7.00	12.10	37.48	3.20	1.45	1.30	1.20	1.00	
5	0.90	0.95	1.30	1.50	6.60	8.40	19.77	3.20	1.45	1.30	1.20	1.00	
6	0.90	0.95	1.15	1.40	4.20	9.00	11.88	3.20	1.40	1.30	1.20	1.00	
7	0.90	1.00	1.20	1.25	4.20	6.80	8.60	3.00	1.40	1.30	1.35	1.00	
8	0.90	1.65	1.80	1.20	5.60	10.60	3.60	2.85	1.40	1.25	1.30	1.00	
9	4.20	1.80	2.10	1.10	14.52	10.80	2.55	2.70	1.40	1.25	1.30	1.00	
10	1.50	2.10	1.50	1.15	6.40	32.25	2.10	2.40	1.45	1.25	1.30	1.00	
11	1.30	1.65	1.25	1.15	4.40	42.52	1.80	2.40	1.45	1.25	1.30	1.00	
12	1.30	1.45	1.20	1.15	3.80	16.78	1.50	2.40	1.40	1.25	1.25	1.00	
13	2.85	1.35	1.25	1.10	3.00	10.20	1.35	2.40	1.40	1.25	1.25	1.00	
14	3.80	1.20	1.20	1.10	2.70	7.80	1.25	2.10	1.40	1.20	1.25	0.95	
15	2.10	1.00	1.20	1.10	5.60	8.20	1.20	2.10	1.40	1.20	1.45	0.95	
16	1.65	1.00	1.45	1.10	6.40	11.00	3.60	2.10	1.40	1.15	1.45	1.00	
17	1.50	1.05	1.40	1.20	5.80	21.20	3.40	2.10	1.40	1.15	1.40	0.95	
18	1.65	1.10	1.25	1.20	6.40	29.84	3.60	2.10	1.35	1.15	1.35	0.95	
19	1.50	1.30	1.20	1.20	11.22	13.20	12.54	2.10	1.35	1.15	1.30	0.95	
20	1.50	1.50	1.15	1.15	6.00	19.54	7.00	2.10	1.30	1.10	1.30	1.20	
21	1.65	1.50	1.15	1.15	4.40	18.16	5.60	2.10	1.25	1.10	1.30	2.40	
22	1.95	1.35	1.10	1.10	3.80	59.70	5.20	2.10	1.25	1.10	1.25	2.10	
23	3.00	4.80	1.10	1.05	5.20	34.00	4.40	1.50	1.25	1.10	1.15	9.40	
24	2.25	4.40	1.10	1.00	3.60	19.31	4.40	1.50	1.30	1.10	1.10	16.78	
25	2.10	1.95	1.10	1.05	5.80	17.70	4.00	1.50	1.35	1.10	1.05	4.00	
26	1.95	1.45	1.10	1.15	4.20	10.60	3.80	1.50	1.35	1.10	1.05	2.55	
27	1.80	1.35	1.05	1.95	6.20	21.92	3.80	1.50	1.35	1.10	1.00	2.10	
28	1.65	1.40	1.05	2.40	3.40	29.36	4.80	1.50	1.35	1.10	1.00	1.80	
29	1.50	1.35	1.05	1.65	9.00	21.44	4.60	1.50	1.35	1.10		1.50	
30	1.50	1.25	1.15	7.80	5.20	13.42	6.20	1.45	1.30	1.10		1.45	
31		1.25		4.60	6.20		7.40		1.30	1.10		1.40	
Total	51.50	47.70	37.00	54.95	191.70	533.64	263.10	71.60	42.55	36.80	34.50	65.53	1430.57 CMSDAY
Mean	1.72	1.54	1.23	1.77	6.18	17.79	8.49	2.39	1.37	1.19	1.23	2.11	3.92 CMS
Max	4.20	4.80	2.10	7.80	15.86	59.70	47.84	5.20	1.45	1.30	1.45	16.78	59.70 CMS
Min	0.90	0.95	1.05	1.00	2.70	4.20	1.20	1.45	1.25	1.10	1.00	0.95	0.90 CMS
Runoff	4.450	4.121	3.197	4.748	16.563	46.106	22.732	6.186	3.676	3.180	2.981	5.662	123.601 MCM

Momentary Peak 80.84 CMS, at 4.28 M (A.D), at 19.00 Hours, on Oct 3, 1993
Runoff Yield 5.89 Liters/Second/Square KM, Momentary Peak Yield 121.56 Liters/Second/Square KM

WATER YEAR 1993

MUN RIVER BASIN

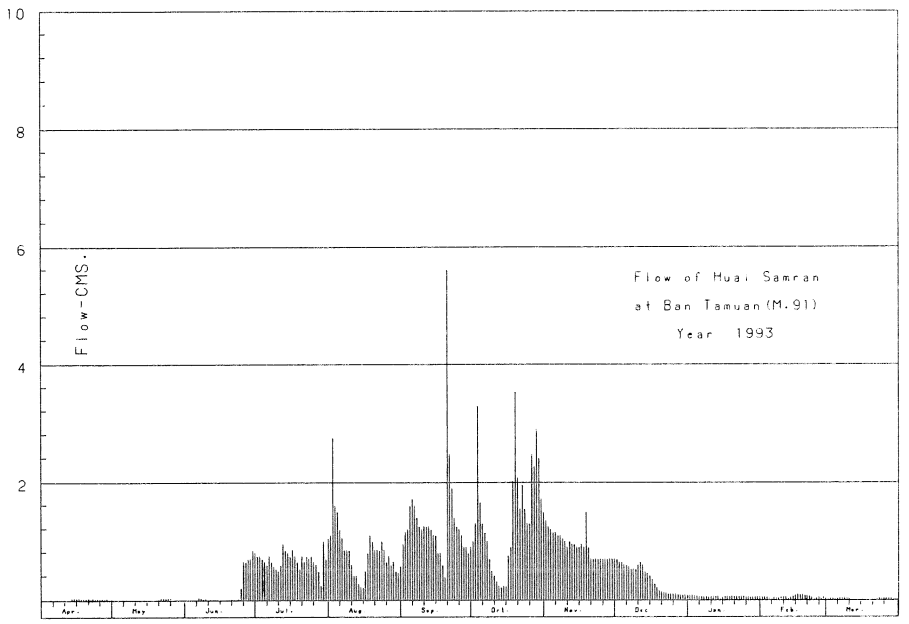
Huai Samran at Ban Tamuan, Si Sa Ket (M.91)

Location	Lat. 14°-29'-48" N., Long. 104°-03'-29" E., on right bank about 15 kilometers from the highway at Ban Tamuan, Tambon Lalom, Amphoe Khukhan, Si Sa Ket.
Drainage Area	128 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+0.00 m.(A.D.)
Bench Mark	B.M.-H.D.
Location	On right bank about 1.50 meters from the top staff gage.
Elevation	+8.051 m.(A.D.)
Gage Reading Frequency	5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1977 to date.
Rating Operation	
Period of Rating	1977 - 1978, 1983 to date.
Rated by Float	-
Rated by Current Meter	1977 - 1978, 1983 to date.
Stability of Channel Regimes	Fairly stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records fair. Stage-discharge relation defined by 47 discharge measurements made in 1993.

Gage Height in Meter (A.D), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.82	0.84	0.80	1.23	1.30	1.27	1.28	1.35	1.22	0.97	0.91	0.90	
2	0.81	0.83	0.80	1.23	1.58	1.31	1.34	1.33	1.21	0.97	0.91	0.89	
3	0.82	0.83	0.80	1.22	1.40	1.32	1.65	1.32	1.21	0.96	0.91	0.89	
4	0.82	0.83	0.79	1.21	1.38	1.40	1.41	1.31	1.20	0.96	0.90	0.89	
5	0.82	0.83	0.79	1.20	1.32	1.42	1.34	1.31	1.20	0.94	0.90	0.89	
6	0.82	0.82	0.90	1.23	1.29	1.40	1.31	1.30	1.19	0.94	0.90	0.88	
7	0.83	0.81	0.87	1.21	1.25	1.36	1.28	1.30	1.18	0.94	0.89	0.88	
8	0.83	0.81	0.86	1.19	1.25	1.33	1.22	1.29	1.18	0.94	0.87	0.87	
9	0.83	0.81	0.86	1.18	1.25	1.32	1.17	1.28	1.18	0.94	0.91	0.87	
10	0.83	0.80	0.83	1.17	1.20	1.33	1.15	1.26	1.20	0.94	0.91	0.87	
11	0.83	0.82	0.84	1.20	1.15	1.33	1.12	1.28	1.21	0.94	0.92	0.83	
12	0.83	0.81	0.84	1.27	1.15	1.33	1.09	1.27	1.20	0.93	0.93	0.82	
13	0.88	0.81	0.84	1.25	1.11	1.32	1.08	1.27	1.17	0.93	0.92	0.81	
14	0.88	0.81	0.84	1.24	1.08	1.30	1.09	1.26	1.16	0.94	0.98	0.82	
15	0.88	0.81	0.83	1.23	1.08	1.30	1.09	1.26	1.15	0.91	1.01	0.82	
16	0.87	0.81	0.82	1.25	1.17	1.24	1.23	1.27	1.13	0.93	0.99	0.83	
17	0.86	0.82	0.82	1.23	1.24	1.24	1.26	1.26	1.11	0.93	0.99	0.82	
18	0.86	0.84	0.84	1.21	1.30	1.20	1.47	1.38	1.08	0.93	0.99	0.83	
19	0.86	0.83	0.85	1.18	1.28	1.14	1.68	1.26	1.05	0.93	0.98	0.83	
20	0.86	0.83	0.84	1.23	1.25	1.91	1.48	1.22	1.03	0.94	0.96	0.83	
21	0.86	0.89	0.83	1.21	1.25	1.54	1.39	1.22	1.03	0.93	0.96	0.82	
22	0.86	0.89	0.82	1.23	1.25	1.45	1.46	1.22	1.02	0.93	0.95	0.82	
23	0.86	0.89	0.86	1.22	1.28	1.36	1.39	1.22	1.01	0.93	0.94	0.87	
24	0.86	0.88	1.07	1.23	1.25	1.33	1.34	1.22	1.01	0.93	0.93	0.88	
25	0.86	0.87	1.21	1.21	1.21	1.32	1.34	1.22	1.01	0.92	0.92	0.88	
26	0.85	0.83	1.21	1.20	1.23	1.30	1.54	1.22	1.01	0.91	0.92	0.88	
27	0.85	0.83	1.22	1.17	1.20	1.26	1.51	1.22	0.99	0.91	0.92	0.88	
28	0.85	0.82	1.22	1.10	1.21	1.26	1.60	1.22	0.98	0.91	0.91	0.88	
29	0.84	0.81	1.25	1.28	1.17	1.24	1.53	1.22	0.97	0.91		0.88	
30	0.84	0.81	1.24	1.22	1.16	1.26	1.42	1.22	0.97	0.91		0.87	
31		0.80		1.29	1.19		1.38		0.97	0.91		0.86	
Mean	0.85	0.83	0.92	1.22	1.24	1.34	1.34	1.27	1.10	0.93	0.93	0.86	
Max	0.88	0.89	1.25	1.29	1.58	1.91	1.68	1.38	1.22	0.97	1.01	0.90	1.91
Min	0.81	0.80	0.79	1.10	1.08	1.14	1.08	1.22	0.97	0.91	0.87	0.81	0.79

Annual Max Momentary Gage Height 2.29 M (A.D), at 17.00 Hours, on Sep 20, 1993
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed -0.50 M (A.D)
Left Bank Elevation 5.97 M (A.D)
Right Bank Elevation 6.01 M (A.D), Drainage Area 128 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.01	0.02	0.00	0.75	1.10	0.95	1.00	1.35	0.70	0.09	0.06	0.05	
2	0.00	0.01	0.00	0.75	2.76	1.15	1.30	1.25	0.65	0.09	0.06	0.04	
3	0.01	0.01	0.00	0.70	1.60	1.20	3.30	1.20	0.65	0.08	0.06	0.04	
4	0.01	0.01	0.00	0.65	1.50	1.60	1.66	1.15	0.60	0.08	0.05	0.04	
5	0.01	0.01	0.00	0.60	1.20	1.72	1.30	1.15	0.60	0.07	0.05	0.04	
6	0.01	0.01	0.05	0.75	1.05	1.60	1.15	1.10	0.57	0.07	0.05	0.04	
7	0.01	0.00	0.04	0.65	0.85	1.40	1.00	1.10	0.53	0.07	0.04	0.04	
8	0.01	0.00	0.03	0.57	0.85	1.25	0.70	1.05	0.53	0.07	0.04	0.04	
9	0.01	0.00	0.03	0.53	0.85	1.20	0.49	1.00	0.53	0.07	0.06	0.04	
10	0.01	0.00	0.01	0.49	0.60	1.25	0.42	0.90	0.60	0.07	0.06	0.04	
11	0.01	0.01	0.02	0.60	0.42	1.25	0.32	1.00	0.65	0.07	0.06	0.01	
12	0.01	0.00	0.02	0.95	0.42	1.25	0.24	0.95	0.60	0.07	0.07	0.01	
13	0.04	0.00	0.02	0.85	0.28	1.20	0.22	0.95	0.49	0.07	0.06	0.00	
14	0.04	0.00	0.02	0.80	0.22	1.10	0.24	0.90	0.46	0.07	0.09	0.01	
15	0.04	0.00	0.01	0.75	0.22	1.10	0.24	0.90	0.42	0.06	0.11	0.01	
16	0.04	0.00	0.01	0.85	0.49	0.80	0.75	0.95	0.35	0.07	0.10	0.01	
17	0.03	0.01	0.01	0.75	0.80	0.80	0.90	0.90	0.28	0.07	0.10	0.01	
18	0.03	0.02	0.02	0.65	1.10	0.60	2.02	1.50	0.22	0.07	0.10	0.01	
19	0.03	0.01	0.03	0.53	1.00	0.39	3.54	0.90	0.17	0.07	0.09	0.01	
20	0.03	0.01	0.02	0.75	0.85	5.61	2.08	0.70	0.14	0.07	0.08	0.01	
21	0.03	0.04	0.01	0.65	0.85	2.48	1.55	0.70	0.14	0.07	0.08	0.01	
22	0.03	0.04	0.01	0.75	0.85	1.90	1.96	0.70	0.13	0.07	0.08	0.01	
23	0.03	0.04	0.03	0.70	1.00	1.40	1.55	0.70	0.11	0.07	0.07	0.04	
24	0.03	0.04	0.21	0.75	0.85	1.25	1.30	0.70	0.11	0.07	0.07	0.04	
25	0.03	0.04	0.65	0.65	0.65	1.20	1.30	0.70	0.11	0.06	0.06	0.04	
26	0.03	0.01	0.65	0.60	0.75	1.10	2.48	0.70	0.11	0.06	0.06	0.04	
27	0.03	0.01	0.70	0.49	0.60	0.90	2.27	0.70	0.10	0.06	0.06	0.04	
28	0.03	0.01	0.70	0.25	0.65	0.90	2.90	0.70	0.09	0.06	0.06	0.04	
29	0.02	0.00	0.85	1.00	0.49	0.80	2.41	0.70	0.09	0.06		0.04	
30	0.02	0.00	0.80	0.70	0.46	0.90	1.72	0.70	0.09	0.06		0.04	
31		0.00		1.05	0.57		1.50		0.09	0.06		0.03	
Total	0.67	0.36	4.95	21.51	25.88	40.25	43.81	27.90	10.91	2.15	1.93	0.87	181.19 CMSDAY
Mean	0.02	0.01	0.17	0.69	0.83	1.34	1.41	0.93	0.35	0.07	0.07	0.03	0.50 CMS
Max	0.04	0.04	0.85	1.05	2.76	5.61	3.54	1.50	0.70	0.09	0.11	0.05	5.61 CMS
Min	0.00	0.00	0.00	0.25	0.22	0.39	0.22	0.70	0.09	0.06	0.04	0.00	0.00 CMS
Runoff	0.058	0.031	0.428	1.858	2.236	3.478	3.785	2.411	0.943	0.186	0.167	0.075	15.655 MCM

Momentary Peak 10.45 CMS, at 2.29 M (A.D), at 17.00 Hours, on Sep 20, 1993
Runoff Yield 3.88 Liters/Second/Square KM, Momentary Peak Yield 81.64 Liters/Second/Square KM

WATER YEAR 1993

MUN RIVER BASIN

Huai Tha at Ban Alang, Si Sa Ket (M.98)

Location — Lat. 14°-52'-39" N., Long. 104°-26'-16" E., on left bank at the bridge of Si Sa Ket-Kantharalak Highway near guidepost 27+734, Tambon Tam Yae, Amphoe Muang, Si Sa Ket.

Drainage Area — 1,092 sq.km.

Type of Gage — Water-stage recorder.

Zero Gage at Bottom — +0.00 m.(A.D.)

Bench Mark — B.M.-H.D.

Location — On right bank at the abutment of the bridge.

Elevation — +8.568 m.(A.D.)

Gage Reading Frequency — Recording.

Basis of Mean Daily Gage Height — Arithmetic mean of 24 readings.

Period of Available Gage Records — 1978 to date.

Rating Operation

Period of Rating — 1979 - 1981, 1987 to date.

Rated by Float — -

Rated by Current Meter — 1979 - 1981, 1987 to date.

Stability of Channel Regimes — Fairly stable.

Overbank Flow Conditions — No overbank flow.

General Description — Records fair. Stage-discharge relation defined by 27 discharge measurements made in 1993.

Gage Height in Meter (A.D), Water Year April 1, 1993 to March 31, 1994

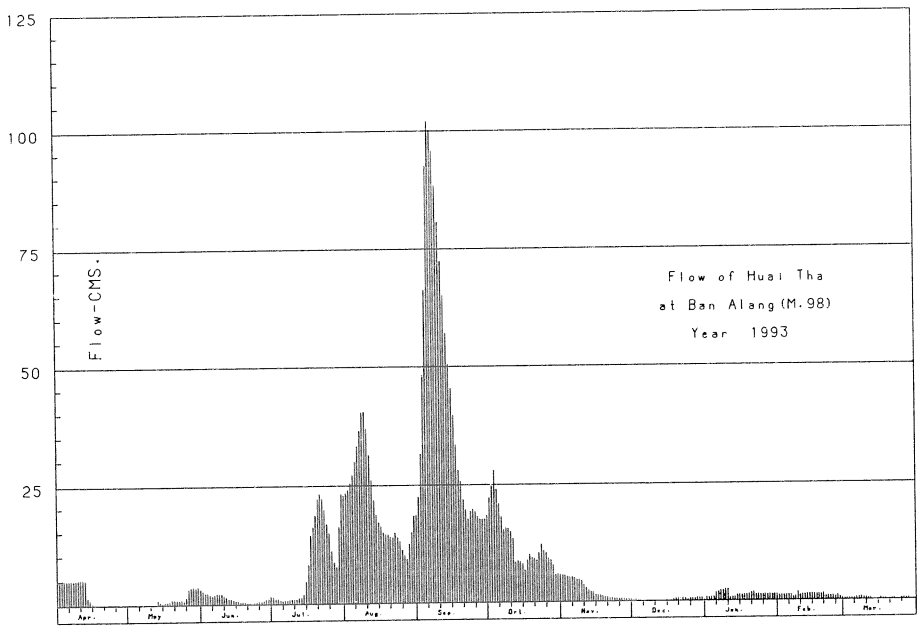
Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.98	0.07	0.73	0.56	2.31	2.25	2.23	1.06	0.29	0.40	0.50	0.28	
2	0.98	0.06	0.69	0.49	2.34	2.75	2.38	1.04	0.29	0.40	0.50	0.25	
3	0.99	0.05	0.68	0.47	2.43	3.55	2.57	1.03	0.26	0.41	0.50	0.29	
4	1.00	0.05	0.65	0.41	2.52	4.36	2.35	1.00	0.20	0.44	0.50	0.32	
5	1.00	0.05	0.62	0.36	2.67	5.47	2.15	1.02	0.19	0.62	0.52	0.33	
6	1.00	0.08	0.64	0.39	2.83	5.85	1.98	0.99	0.16	0.64	0.51	0.33	
7	1.00	0.07	0.68	0.41	3.00	5.78	1.79	0.95	0.16	0.67	0.40	0.36	
8	1.00	0.10	0.67	0.42	3.18	5.60	1.82	0.95	0.16	0.68	0.41	0.37	
9	1.02	0.20	0.67	0.46	3.19	5.30	1.81	0.93	0.16	0.70	0.62	0.33	
10	1.01	0.14	0.61	0.43	3.02	4.98	1.77	0.82	0.16	0.71	0.51	0.35	
11	1.02	0.13	0.56	0.46	2.74	4.63	1.67	0.77	0.16	0.46	0.51	0.30	
12	1.01	0.13	0.51	0.51	2.46	4.31	1.32	0.70	0.15	0.40	0.53	0.30	
13	0.58	0.47	0.49	0.54	2.22	3.96	1.35	0.67	0.15	0.40	0.53	0.23	
14	0.44	0.31	0.46	0.64	2.01	3.66	1.33	0.64	0.17	0.52	0.55	0.22	
15	0.29	0.27	0.40	0.96	1.91	3.42	1.29	0.58	0.24	0.52	0.54	0.30	
16	0.24	0.30	0.37	1.31	1.85	3.15	1.16	0.55	0.18	0.52	0.54	0.29	
17	0.13	0.32	0.31	1.73	1.77	2.84	1.36	0.55	0.20	0.53	0.54	0.27	
18	0.11	0.36	0.30	1.85	1.74	2.57	1.44	0.50	0.29	0.54	0.54	0.26	
19	0.08	0.45	0.29	2.01	1.74	2.44	1.40	0.46	0.35	0.54	0.54	0.26	
20	0.13	0.46	0.26	2.24	1.70	2.21	1.38	0.45	0.37	0.61	0.56	0.25	
21	0.14	0.46	0.24	2.30	1.70	2.07	1.36	0.40	0.37	0.62	0.44	0.25	
22	0.13	0.45	0.22	2.24	1.76	1.95	1.46	0.40	0.37	0.54	0.45	0.25	
23	0.08	0.45	0.25	2.08	1.70	2.06	1.59	0.37	0.36	0.54	0.45	0.24	
24	0.05	0.41	0.30	1.90	1.64	2.08	1.49	0.36	0.36	0.54	0.45	0.25	
25	0.04	0.56	0.33	1.76	1.52	2.05	1.47	0.36	0.35	0.54	0.41	0.28	
26	0.05	0.78	0.32	1.51	1.44	1.98	1.38	0.34	0.35	0.54	0.45	0.29	
27	0.12	0.82	0.40	1.35	1.39	1.95	1.36	0.34	0.35	0.54	0.37	0.28	
28	0.15	0.83	0.45	1.25	1.60	1.94	1.26	0.32	0.38	0.54	0.27	0.28	
29	0.22	0.82	0.49	1.85	1.77	1.95	1.06	0.31	0.39	0.54		0.27	
30	0.23	0.83	0.59	2.30	1.99	1.99	1.07	0.29	0.39	0.54		0.25	
31		0.79		2.27	2.01		1.06		0.36	0.53		0.21	
Mean	0.51	0.36	0.47	1.21	2.13	3.30	1.58	0.64	0.27	0.54	0.49	0.28	
Max	1.02	0.83	0.73	2.30	3.19	5.85	2.57	1.06	0.39	0.71	0.62	0.37	5.85
Min	0.04	0.05	0.22	0.36	1.39	1.94	1.06	0.29	0.15	0.40	0.27	0.21	0.04

Annual Max Momentary Gage Height — 5.86 M (A.D), at 12.00 Hours, on Sep 6, 1993

Zero Gage at Bottom Elevation — 0.00 M (A.D), River Bed -0.20 M (A.D)

Left Bank Elevation — 7.82 M (A.D)

Right Bank Elevation — 7.83 M (A.D), Drainage Area 1092 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	5.02	0.00	2.77	1.50	23.37	22.42	22.10	5.80	0.47	0.80	1.20	0.44	
2	5.02	0.00	2.42	1.16	23.90	31.60	24.60	5.60	0.47	0.80	1.20	0.35	
3	5.11	0.00	2.34	1.08	25.48	48.15	28.03	5.50	0.38	0.84	1.20	0.47	
4	5.20	0.00	2.10	0.84	27.08	66.18	24.07	5.20	0.20	0.96	1.20	0.56	
5	5.20	0.00	1.86	0.68	30.00	92.55	20.85	5.40	0.18	1.86	1.30	0.59	
6	5.20	0.00	2.02	0.77	33.20	102.05	18.20	5.11	0.12	2.02	1.25	0.59	
7	5.20	0.00	2.34	0.84	36.60	100.30	15.35	4.75	0.12	2.26	0.80	0.68	
8	5.20	0.00	2.26	0.88	40.38	95.80	15.80	4.75	0.12	2.34	0.84	0.71	
9	5.40	0.20	2.26	1.04	40.59	88.40	15.65	4.57	0.12	2.50	1.86	0.59	
10	5.30	0.08	1.78	0.92	37.02	80.72	15.05	3.58	0.12	2.59	1.25	0.65	
11	5.40	0.06	1.50	1.04	31.40	72.39	13.55	3.13	0.12	1.04	1.25	0.50	
12	5.30	0.06	1.25	1.25	26.00	65.03	8.46	2.50	0.10	0.80	1.35	0.50	
13	1.60	1.08	1.16	1.40	21.95	57.12	8.85	2.26	0.10	0.80	1.35	0.29	
14	0.96	0.53	1.04	2.02	18.66	50.52	8.59	2.02	0.14	1.30	1.45	0.26	
15	0.47	0.41	0.80	4.84	17.15	45.42	8.10	1.60	0.32	1.30	1.40	0.50	
16	0.32	0.50	0.71	8.33	16.25	39.75	6.80	1.45	0.16	1.30	1.40	0.47	
17	0.06	0.56	0.53	14.45	15.05	33.40	8.98	1.45	0.20	1.35	1.40	0.41	
18	0.02	0.68	0.50	16.25	14.60	28.03	10.10	1.20	0.47	1.40	1.40	0.38	
19	0.00	1.00	0.47	18.66	14.60	25.65	9.50	1.04	0.65	1.40	1.40	0.38	
20	0.06	1.04	0.38	22.26	14.00	21.79	9.24	1.00	0.71	1.78	1.50	0.35	
21	0.08	1.04	0.32	23.20	14.00	19.60	8.98	0.80	0.71	1.86	0.96	0.35	
22	0.06	1.00	0.26	22.26	14.90	17.75	10.40	0.80	0.71	1.40	1.00	0.35	
23	0.00	1.00	0.35	19.75	14.00	19.44	12.35	0.71	0.68	1.40	1.00	0.32	
24	0.00	0.84	0.50	17.00	13.10	19.75	10.85	0.68	0.68	1.40	1.00	0.35	
25	0.00	1.50	0.59	14.90	11.30	19.28	10.55	0.68	0.65	1.40	0.84	0.44	
26	0.00	3.22	0.56	11.15	10.10	18.20	9.24	0.62	0.65	1.40	1.00	0.47	
27	0.04	3.58	0.80	8.85	9.37	17.75	8.98	0.62	0.65	1.40	0.71	0.44	
28	0.10	3.67	1.00	7.70	12.50	17.60	7.80	0.56	0.74	1.40	0.41	0.44	
29	0.26	3.58	1.16	16.25	15.05	17.75	5.80	0.53	0.77	1.40		0.41	
30	0.29	3.67	1.65	23.20	18.35	18.35	5.90	0.47	0.77	1.40		0.35	
31		3.31		22.73	18.66		5.80		0.68	1.35		0.23	
Total	66.87	32.61	37.68	287.20	658.61	1352.74	388.52	74.38	12.96	45.25	32.92	13.82	3003.56 CMSDAY
Mean	2.23	1.05	1.26	9.26	21.25	45.09	12.53	2.48	0.42	1.46	1.18	0.45	8.23 CMS
Max	5.40	3.67	2.77	23.20	40.59	102.05	28.03	5.80	0.77	2.59	1.86	0.71	102.05 CMS
Min	0.00	0.00	0.26	0.68	9.37	17.60	5.80	0.47	0.10	0.80	0.41	0.23	0.00 CMS
Runoff	5.778	2.818	3.256	24.814	56.904	116.877	33.568	6.426	1.120	3.910	2.844	1.194	259.508 MCM

Momentary Peak 102.30 CMS, at 5.86 M (A.D), at 12.00 Hours, on Sep 6, 1993
Runoff Yield 7.54 Liters/Second/Square KM, Momentary Peak Yield 93.68 Liters/Second/Square KM

WATER YEAR 1993

MUN RIVER BASIN

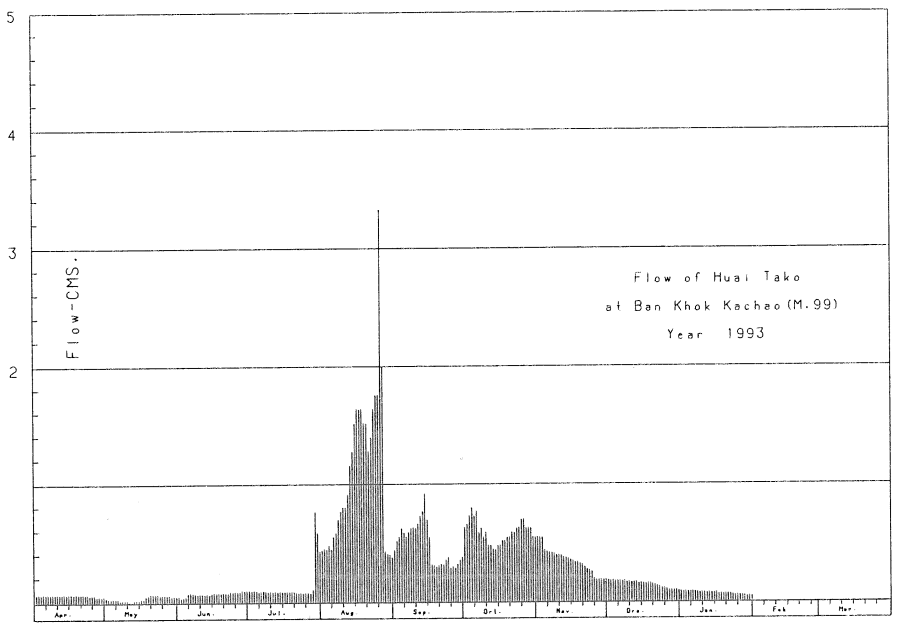
Huai Tako at Ban Khok Kachao, Buri Ram (M.99)

Location	Lat. 14-36-22 N., Long. 103-06-30 E., on left bank at the bridge of Chokchai-Det Udom Highway near guidepost 103-104 and about 2.5 kilometers from Amphoe Prakhon Chai, Ban Khok Kachao, Amphoe Prakhon Chai, Buri Ram.
Drainage Area	88 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+0.00 m.(A.D.)
Bench Mark	B.M. of Highways Dept.
Location	On right bank at the abutment of the bridge.
Elevation	+3.606 m.(A.D.)
Gage Reading Frequency	5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1979 to date.
Rating Operation	
Period of Rating	1980 to date.
Rated by Float	-
Rated by Current Meter	1980 to date.
Stability of Channel Regimes	Rather unstable by some silting.
Overbank Flow Conditions	No overbank flow.
General Description	Records poor. Stage-discharge relation defined by 1 discharge measurements made in 1993.

Gage Height in Meter (A.D), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.50	0.35	0.38	0.64	1.39	1.39	1.45	1.43	0.96	0.62	0.00	0.00	
2	0.50	0.32	0.37	0.63	1.40	1.42	1.46	1.43	0.93	0.62	0.00	0.00	
3	0.50	0.29	0.37	0.63	1.40	1.43	1.48	1.43	0.95	0.60	0.00	0.00	
4	0.50	0.29	0.42	0.63	1.41	1.45	1.50	1.39	0.94	0.59	0.00	0.00	
5	0.50	0.28	0.54	0.62	1.40	1.44	1.48	1.38	0.94	0.59	0.00	0.00	
6	0.50	0.28	0.53	0.62	1.43	1.43	1.49	1.37	0.93	0.59	0.00	0.00	
7	0.50	0.27	0.53	0.63	1.44	1.44	1.44	1.37	0.93	0.58	0.00	0.00	
8	0.50	0.26	0.52	0.62	1.47	1.45	1.45	1.36	0.93	0.57	0.00	0.00	
9	0.50	0.25	0.50	0.62	1.49	1.45	1.43	1.35	0.91	0.57	0.00	0.00	
10	0.50	0.23	0.50	0.61	1.50	1.45	1.44	1.35	0.91	0.57	0.00	0.00	
11	0.50	0.21	0.51	0.61	1.50	1.46	1.41	1.35	0.90	0.56	0.00	0.00	
12	0.50	0.21	0.51	0.60	1.51	1.48	1.41	1.33	0.90	0.56	0.00	0.00	
13	0.50	0.23	0.51	0.60	1.53	1.49	1.40	1.33	0.89	0.55	0.00	0.00	
14	0.50	0.23	0.52	0.60	1.54	1.51	1.39	1.32	0.88	0.54	0.00	0.00	
15	0.50	0.27	0.53	0.60	1.56	1.47	1.41	1.31	0.87	0.54	0.00	0.00	
16	0.50	0.29	0.53	0.60	1.57	1.43	1.41	1.30	0.86	0.53	0.00	0.00	
17	0.50	0.31	0.53	0.59	1.57	1.26	1.42	1.28	0.86	0.52	0.00	0.00	
18	0.50	0.40	0.54	0.59	1.57	1.24	1.42	1.28	0.85	0.51	0.00	0.00	
19	0.50	0.44	0.54	0.58	1.56	1.23	1.43	1.27	0.85	0.51	0.00	0.00	
20	0.50	0.50	0.56	0.58	1.56	1.24	1.43	1.26	0.83	0.50	0.00	0.00	
21	0.50	0.50	0.56	0.57	1.54	1.25	1.44	1.23	0.83	0.49	0.00	0.00	
22	0.50	0.49	0.57	0.57	1.55	1.26	1.44	1.20	0.80	0.48	0.00	0.00	
23	0.49	0.48	0.58	0.56	1.57	1.31	1.45	1.18	0.75	0.46	0.00	0.00	
24	0.47	0.47	0.58	0.56	1.58	1.33	1.45	1.16	0.74	0.46	0.00	0.00	
25	0.45	0.47	0.59	0.55	1.58	1.21	1.47	0.99	0.73	0.45	0.00	0.00	
26	0.43	0.46	0.59	0.54	1.67	1.23	1.47	0.98	0.69	0.43	0.00	0.00	
27	0.42	0.45	0.61	0.54	1.60	1.21	1.45	0.97	0.67	0.43	0.00	0.00	
28	0.40	0.44	0.63	0.69	1.38	1.26	1.45	0.97	0.66	0.42	0.00	0.00	
29	0.39	0.40	0.64	1.49	1.36	1.31	1.45	0.96	0.65	0.41		0.00	
30	0.38	0.40	0.64	1.44	1.35	1.33	1.43	0.96	0.63	0.40		0.00	
31		0.39		1.38	1.33		1.43		0.63	0.40		0.00	
Mean	0.48	0.35	0.53	0.68	1.49	1.36	1.44	1.25	0.83	0.52	0.00	0.00	
Max	0.50	0.50	0.64	1.49	1.67	1.51	1.50	1.43	0.96	0.62	0.00	0.00	1.67
Min	0.38	0.21	0.37	0.54	1.33	1.21	1.39	0.96	0.63	0.40	0.00	0.00	0.00

Annual Max Momentary Gage Height 1.69 M (A.D), at 6.00 Hours, on Aug 26, 1993
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed -0.03 M (A.D)
Left Bank Elevation 3.04 M (A.D)
Right Bank Elevation 3.05 M (A.D), Drainage Area 88 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.07	0.04	0.05	0.10	0.44	0.44	0.63	0.55	0.19	0.09	0.00	0.00	
2	0.07	0.03	0.04	0.10	0.45	0.52	0.66	0.55	0.18	0.09	0.00	0.00	
3	0.07	0.03	0.04	0.10	0.45	0.55	0.73	0.55	0.19	0.09	0.00	0.00	
4	0.07	0.03	0.05	0.10	0.48	0.63	0.80	0.44	0.18	0.09	0.00	0.00	
5	0.07	0.03	0.08	0.09	0.45	0.59	0.73	0.43	0.18	0.09	0.00	0.00	
6	0.07	0.03	0.08	0.09	0.55	0.55	0.77	0.42	0.18	0.09	0.00	0.00	
7	0.07	0.02	0.08	0.10	0.59	0.59	0.59	0.42	0.18	0.09	0.00	0.00	
8	0.07	0.02	0.07	0.09	0.70	0.63	0.63	0.41	0.18	0.08	0.00	0.00	
9	0.07	0.02	0.07	0.09	0.77	0.63	0.55	0.40	0.17	0.08	0.00	0.00	
10	0.07	0.02	0.07	0.09	0.80	0.63	0.59	0.40	0.17	0.08	0.00	0.00	
11	0.07	0.01	0.07	0.09	0.80	0.66	0.48	0.40	0.17	0.08	0.00	0.00	
12	0.07	0.01	0.07	0.09	0.92	0.73	0.48	0.38	0.17	0.08	0.00	0.00	
13	0.07	0.02	0.07	0.09	1.16	0.77	0.45	0.38	0.17	0.08	0.00	0.00	
14	0.07	0.02	0.07	0.09	1.28	0.92	0.44	0.37	0.16	0.08	0.00	0.00	
15	0.07	0.02	0.08	0.09	1.52	0.70	0.48	0.36	0.16	0.08	0.00	0.00	
16	0.07	0.03	0.08	0.09	1.64	0.55	0.48	0.35	0.16	0.08	0.00	0.00	
17	0.07	0.03	0.08	0.09	1.64	0.32	0.52	0.34	0.16	0.07	0.00	0.00	
18	0.07	0.05	0.08	0.09	1.64	0.31	0.52	0.34	0.16	0.07	0.00	0.00	
19	0.07	0.06	0.08	0.09	1.52	0.30	0.55	0.33	0.16	0.07	0.00	0.00	
20	0.07	0.07	0.08	0.09	1.52	0.31	0.55	0.32	0.15	0.07	0.00	0.00	
21	0.07	0.07	0.08	0.08	1.28	0.32	0.59	0.30	0.15	0.07	0.00	0.00	
22	0.07	0.07	0.08	0.08	1.40	0.32	0.59	0.28	0.14	0.07	0.00	0.00	
23	0.07	0.07	0.09	0.08	1.64	0.36	0.63	0.27	0.13	0.06	0.00	0.00	
24	0.06	0.06	0.09	0.08	1.76	0.38	0.63	0.26	0.12	0.06	0.00	0.00	
25	0.06	0.06	0.09	0.08	1.76	0.29	0.70	0.20	0.12	0.06	0.00	0.00	
26	0.06	0.06	0.09	0.08	3.33	0.30	0.70	0.19	0.11	0.06	0,00	0.00	
27	0.05	0.06	0.09	0.08	2.00	0.29	0.63	0.19	0.10	0.06	0.00	0.00	
28	0.05	0.06	0.10	0.11	0.43	0.32	0.63	0.19	0.10	0.05	0.00	0.00	
29	0.05	0.05	0.10	0.77	0.41	0.36	0.63	0.19	0.10	0.05		0.00	
30	0.05	0.05	0.10	0.59	0.40	0.38	0.55	0.19	0.10	0.05		0.00	
31		0.05		0.43	0.38		0.55		0.10	0.05		0.00	
Total	1.99	1.25	2.30	4.31	34.11	14.65	18.46	10.40	4.69	2.27	0.00	0.00	94.43 CMSDAY
Mean	0.07	0.04	0.08	0.14	1.10	0.49	0.60	0.35	0.15	0.07	0.00	0.00	0.26 CMS
Max	0.07	0.07	0.10	0.77	3.33	0.92	0.80	0.55	0.19	0.09	0.00	0.00	3.33 CMS
Min	0.05	0.01	0.04	0.08	0.38	0.29	0.44	0.19	0.10	0.05	0.00	0.00	0.00 CMS
Runoff	0.172	0.108	0.199	0.372	2.947	1.266	1.595	0.899	0.405	0.196	0.000	0.000	8.159 MCM

Momentary Peak 3.71 CMS, at 1.69 M (A.D), at 6.00 Hours, on Aug 26, 1993
Runoff Yield 2.94 Liters/Second/Square KM, Momentary Peak Yield 42.16 Liters/Second/Square KM

WATER YEAR 1993

MUN RIVER BASIN

Huai Saneng at Ban Bu Chek, Surin (M.100)

Location — Lat. 14°-37'-01" N., Long. 103°-28'-44" E., on left bank at the bridge of Chokchai-Det Udom Highway near guidepost 145-146 and about 8 kilometers from Amphoe Prasat, Tambon Ta Bao, Amphoe Prasat, Surin.

Drainage Area — 131 sq.km.

Type of Gage — Staff gage.

Zero Gage at Bottom — +0.00 m.(A.D.)

Bench Mark — B.M.-Highways Dept.

Location — On right bank at the abutment of the bridge.

Elevation — +3.332 m.(A.D.)

Gage Reading Frequency — 5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.

Basis of Mean Daily Gage Height — Arithmetic mean of 5 readings.

Period of Available Gage Records — 1979 to date.

Rating Operation

Period of Rating — 1979 to date.

Rated by Float — -

Rated by Current Meter — 1979 to date.

Stability of Channel Regimes — Fairly stable.

Overbank Flow Conditions — No overbank flow.

General Description — Records fair. Stage-discharge relation defined by 6 discharge measurements made in 1993.

Gage Height in Meter (A.D), Water Year April 1, 1993 to March 31, 1994

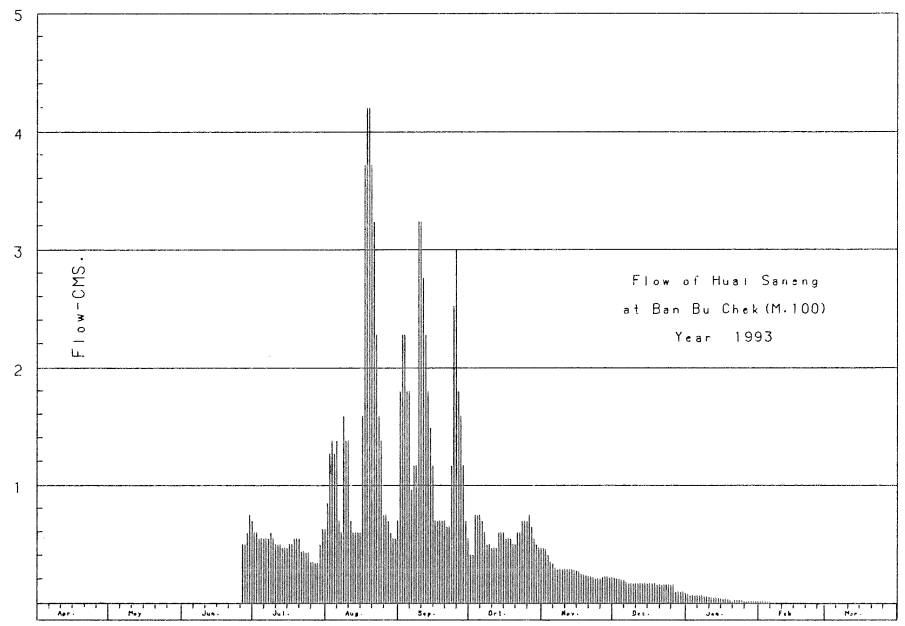
Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.38	0.42	0.24	1.44	1.51	1.60	1.34	1.38	1.04	0.76	0.54	0.40	
2	0.38	0.42	0.24	1.44	1.55	1.62	1.34	1.37	1.02	0.74	0.54	0.40	
3	0.38	0.40	0.24	1.42	1.56	1.62	1.50	1.34	1.02	0.74	0.54	0.38	
4	0.36	0.40	0.24	1.42	1.55	1.60	1.50	1.30	1.00	0.74	0.54	0.38	
5	0.36	0.40	0.22	1.42	1.56	1.60	1.50	1.28	0.99	0.74	0.54	0.38	
6	0.36	0.38	0.30	1.42	1.48	1.52	1.48	1.20	0.96	0.74	0.52	0.38	
7	0.36	0.38	0.30	1.42	1.44	1.54	1.44	1.18	0.94	0.74	0.52	0.38	
8	0.38	0.38	0.30	1.44	1.58	1.54	1.40	1.18	0.94	0.72	0.52	0.38	
9	0.38	0.38	0.32	1.42	1.56	1.66	1.40	1.18	0.94	0.72	0.52	0.38	
10	0.40	0.36	0.32	1.40	1.56	1.66	1.38	1.18	0.94	0.72	0.52	0.40	
11	0.40	0.32	0.32	1.40	1.48	1.64	1.38	1.18	0.94	0.70	0.52	0.40	
12	0.40	0.32	0.32	1.40	1.44	1.62	1.38	1.18	0.94	0.68	0.50	0.40	
13	0.40	0.32	0.32	1.38	1.44	1.60	1.44	1.18	0.94	0.68	0.50	0.40	
14	0.40	0.34	0.30	1.38	1.44	1.57	1.44	1.16	0.94	0.68	0.48	0.40	
15	0.40	0.34	0.30	1.38	1.44	1.54	1.44	1.16	0.94	0.67	0.48	0.40	
16	0.40	0.36	0.30	1.40	1.58	1.48	1.42	1.14	0.94	0.65	0.48	0.40	
17	0.40	0.36	0.30	1.40	1.68	1.48	1.42	1.10	0.94	0.65	0.46	0.40	
18	0.38	0.38	0.30	1.42	1.70	1.48	1.42	1.08	0.94	0.64	0.46	0.38	
19	0.38	0.38	0.30	1.42	1.70	1.48	1.40	1.08	0.92	0.64	0.46	0.26	
20	0.38	0.38	0.30	1.42	1.68	1.48	1.40	1.06	0.92	0.62	0.46	0.26	
21	0.38	0.38	0.28	1.36	1.66	1.46	1.44	1.06	0.92	0.60	0.46	0.24	
22	0.36	0.36	0.28	1.36	1.62	1.46	1.44	1.04	0.92	0.60	0.46	0.24	
23	0.36	0.36	0.30	1.35	1.58	1.54	1.48	1.02	0.92	0.60	0.46	0.40	
24	0.36	0.38	0.28	1.35	1.56	1.63	1.48	1.02	0.92	0.58	0.44	0.40	
25	0.34	0.38	0.28	1.30	1.50	1.65	1.48	1.02	0.92	0.56	0.44	0.40	
26	0.46	0.38	1.40	1.30	1.50	1.60	1.50	1.04	0.92	0.55	0.42	0.38	
27	0.46	0.38	1.40	1.28	1.48	1.58	1.46	1.06	0.80	0.55	0.42	0.38	
28	0.46	0.38	1.44	1.28	1.44	1.54	1.42	1.06	0.80	0.54	0.42	0.36	
29	0.46	0.38	1.50	1.40	1.42	1.48	1.40	1.04	0.80	0.54		0.36	
30	0.44	0.38	1.48	1.45	1.42	1.42	1.38	1.04	0.80	0.54		0.36	
31		0.38		1.45	1.48		1.38		0.78	0.54		0.36	
Mean	0.39	0.37	0.48	1.39	1.54	1.56	1.43	1.14	0.92	0.65	0.49	0.37	
Max	0.46	0.42	1.50	1.45	1.70	1.66	1.50	1.38	1.04	0.76	0.54	0.40	1.70
Min	0.34	0.32	0.22	1.28	1.42	1.42	1.34	1.02	0.78	0.54	0.42	0.24	0.22

Annual Max Momentary Gage Height — 1.70 M (A.D), at 6.00 Hours, on Aug 18, 1993

Zero Gage at Bottom Elevation — 0.00 M (A.D), River Bed — 0.22 M (A.D)

Left Bank Elevation — 2.74 M (A.D)

Right Bank Elevation — 2.73 M (A.D), Drainage Area — 131 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.00	0.00	0.00	0.60	0.85	1.80	0.41	0.47	0.22	0.08	0.02	0.00	
2	0.00	0.00	0.00	0.60	1.27	2.28	0.41	0.46	0.21	0.07	0.02	0.00	
3	0.00	0.00	0.00	0.55	1.38	2.28	0.75	0.41	0.21	0.07	0.02	0.00	
4	0.00	0.00	0.00	0.55	1.27	1.80	0.75	0.35	0.20	0.07	0.02	0.00	
5	0.00	0.00	0.00	0.55	1.38	1.80	0.75	0.34	0.20	0.07	0.02	0.00	
6	0.00	0.00	0.00	0.55	0.70	0.96	0.70	0.30	0.18	0.07	0.01	0.00	
7	0.00	0.00	0.00	0.55	0.60	1.17	0.60	0.29	0.17	0.07	0.01	0.00	
8	0.00	0.00	0.00	0.60	1.59	1.17	0.50	0.29	0.17	0.06	0.01	0.00	
9	0.00	0.00	0.00	0.55	1.38	3.24	0.50	0.29	0.17	0.06	0.01	0.00	
10	0.00	0.00	0.00	0.50	1.38	3.24	0.47	0.29	0.17	0.06	0.01	0.00	
11	0.00	0.00	0.00	0.50	0.70	2.76	0.47	0.29	0.17	0.05	0.01	0.00	
12	0.00	0.00	0.00	0.50	0.60	2.28	0.47	0.29	0.17	0.05	0.01	0.00	
13	0.00	0.00	0.00	0.47	0.60	1.80	0.60	0.29	0.17	0.05	0.01	0.00	
14	0.00	0.00	0.00	0.47	0.60	1.49	0.60	0.28	0.17	0.05	0.01	0.00	
15	0.00	0.00	0.00	0.47	0.60	1.17	0.60	0.28	0.17	0.04	0.01	0.00	
16	0.00	0.00	0.00	0.50	1.59	0.70	0.55	0.27	0.17	0.04	0.01	0.00	
17	0.00	0.00	0.00	0.50	3.72	0.70	0.55	0.25	0.17	0.04	0.01	0.00	
18	0.00	0.00	0.00	0.55	4.20	0.70	0.55	0.24	0.17	0.04	0.01	0.00	
19	0.00	0.00	0.00	0.55	4.20	0.70	0.50	0.24	0.16	0.04	0.01	0.00	
20	0.00	0.00	0.00	0.55	3.72	0.70	0.50	0.23	0.16	0.03	0.01	0.00	
21	0.00	0.00	0.00	0.44	3.24	0.65	0.60	0.23	0.16	0.03	0.01	0.00	
22	0.00	0.00	0.00	0.44	2.28	0.65	0.60	0.22	0.16	0.03	0.01	0.00	
23	0.00	0.00	0.00	0.43	1.59	1.17	0.70	0.21	0.16	0.03	0.01	0.00	
24	0.00	0.00	0.00	0.43	1.38	2.52	0.70	0.21	0.16	0.03	0.00	0.00	
25	0.00	0.00	0.00	0.35	0.75	3.00	0.70	0.21	0.16	0.02	0.00	0.00	
26	0.01	0.00	0.50	0.35	0.75	1.80	0.75	0.22	0.16	0.02	0.00	0.00	
27	0.01	0.00	0.50	0.34	0.70	1.59	0.65	0.23	0.10	0.02	0.00	0.00	
28	0.01	0.00	0.60	0.34	0.60	1.17	0.55	0.23	0.10	0.02	0.00	0.00	
29	0.01	0.00	0.75	0.50	0.55	0.70	0.50	0.22	0.10	0.02		0.00	
30	0.00	0.00	0.70	0.63	0.55	0.55	0.47	0.22	0.10	0.02		0.00	
31		0.00		0.63	0.70		0.47		0.09	0.02		0.00	
Total	0.04	0.00	3.05	15.54	45.42	46.54	17.92	8.35	5.03	1.37	0.28	0.00	143.54 CMSDAY
Mean	0.00	0.00	0.10	0.50	1.47	1.55	0.58	0.28	0.16	0.04	0.01	0.00	0.39 CMS
Max	0.01	0.00	0.75	0.63	4.20	3.24	0.75	0.47	0.22	0.08	0.02	0.00	4.20 CMS
Min	0.00	0.00	0.00	0.34	0.55	0.55	0.41	0.21	0.09	0.02	0.00	0.00	0.00 CMS
Runoff	0.003	0.000	0.264	1.343	3.924	4.021	1.548	0.721	0.435	0.118	0.024	0.000	12.402 MCM

Momentary Peak 4.20 CMS, at 1.70 M (A.D), at 6.00 Hours, on Aug 18, 1993
Runoff Yield 3.00 Liters/Second/Square KM, Momentary Peak Yield 32.06 Liters/Second/Square KM

WATER YEAR 1993

MUN RIVER BASIN

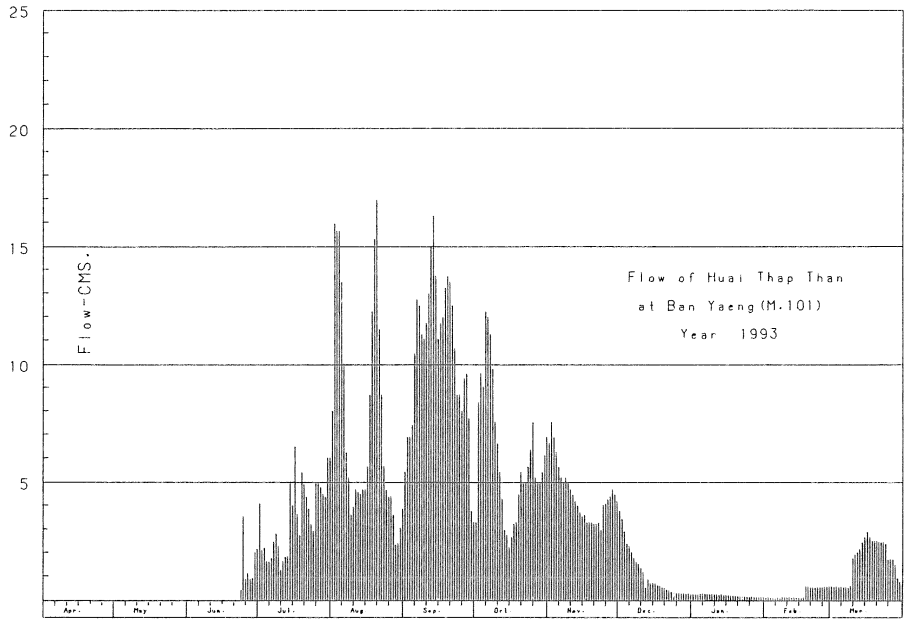
Huai Thap Than at Ban Yaeng, Surin (M.101)

Location	Lat. 14°-37'-42" N., Long. 103°-42'-12" E., on left bank at the bride of Chokchai-Det Udom Highway near guidepost 170-171 and about 17 kilometers from Amphoe Sangkha, Ban Yaeng, Tambon Kra Thiam, Amphoe Sangkha, Surin.
Drainage Area	390 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+0.00 m.(A.D.)
Bench Mark	B.M.-Highways Dept.
Location	On right bank at the abutment of the bridge.
Elevation	+8.945 m.(A.D.)
Gage Reading Frequency	5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1979 to date.
Rating Operation	
Period of Rating	1980 to date.
Rated by Float	-
Rated by Current Meter	1980 to date.
Stability of Channel Regimes	Fairly stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records fair. Stage-discharge relation defined by 6 discharge measurements made in 1993.

Gage Height in Meter (A.D), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	5.01	4.90	4.80	6.09	6.42	6.22	5.99	6.32	6.05	5.24	5.14	5.40	
2	5.01	4.90	4.80	5.82	6.76	6.34	6.44	6.39	6.01	5.24	5.14	5.40	
3	5.00	4.89	4.79	5.84	6.75	6.34	6.51	6.34	5.94	5.23	5.13	5.40	
4	4.99	4.89	4.79	5.73	6.75	6.38	6.48	6.29	5.87	5.25	5.13	5.39	
5	4.98	4.89	4.79	5.73	6.68	6.55	6.63	6.24	5.85	5.25	5.12	5.39	
6	4.97	4.88	4.81	5.76	6.53	6.65	6.62	6.20	5.81	5.25	5.12	5.39	
7	4.97	4.87	4.82	5.88	6.29	6.64	6.59	6.18	5.76	5.24	5.11	5.38	
8	4.96	4.87	4.82	5.93	6.20	6.59	6.52	6.20	5.73	5.24	5.16	5.38	
9	4.95	4.86	4.81	5.85	6.03	6.58	6.39	6.18	5.71	5.24	5.16	5.41	
10	4.95	4.86	4.81	5.66	6.07	6.61	6.32	6.15	5.68	5.24	5.15	5.76	
11	4.94	4.85	4.80	5.73	6.15	6.66	6.22	6.13	5.64	5.23	5.15	5.79	
12	4.94	4.84	4.80	5.77	6.14	6.73	6.11	6.10	5.38	5.23	5.14	5.81	
13	4.98	4.83	4.79	5.77	6.13	6.77	5.95	6.08	5.56	5.23	5.14	5.83	
14	4.99	4.82	4.79	6.18	6.15	6.69	5.92	6.04	5.46	5.22	5.13	5.88	
15	5.00	4.81	4.78	6.08	6.15	6.58	5.84	6.02	5.48	5.22	5.13	5.91	
16	5.00	4.80	4.78	6.31	6.24	6.61	5.91	6.03	5.46	5.22	5.12	5.94	
17	4.99	4.79	4.78	6.03	6.46	6.62	5.98	5.99	5.43	5.21	5.14	5.91	
18	4.99	4.79	4.80	5.92	6.63	6.67	5.99	5.99	5.41	5.21	5.41	5.89	
19	4.98	4.79	4.79	6.22	6.74	6.69	6.13	5.99	5.39	5.20	5.40	5.89	
20	4.98	4.80	4.79	6.17	6.79	6.68	6.22	5.98	5.37	5.20	5.39	5.89	
21	4.97	4.80	4.80	6.12	6.60	6.64	6.18	5.98	5.34	5.19	5.38	5.88	
22	4.97	4.80	4.80	6.06	6.46	6.56	6.18	5.99	5.31	5.19	5.38	5.88	
23	4.96	4.79	5.32	5.98	6.24	6.46	6.24	5.95	5.29	5.18	5.38	5.88	
24	4.95	4.79	6.02	5.94	6.15	6.46	6.30	6.08	5.28	5.18	5.39	5.87	
25	4.94	4.81	5.56	6.18	6.12	6.42	6.39	6.09	5.27	5.17	5.39	5.75	
26	4.93	4.81	5.63	6.18	6.12	6.50	6.20	6.11	5.26	5.17	5.39	5.75	
27	4.92	4.80	5.56	6.16	6.03	6.51	6.18	6.12	5.26	5.16	5.40	5.75	
28	4.92	4.79	5.57	6.13	5.86	6.40	6.18	6.15	5.25	5.16	5.40	5.70	
29	4.91	4.79	5.81	6.12	5.87	6.05	6.22	6.13	5.25	5.15		5.58	
30	4.91	4.81	5.83	6.27	5.96	5.99	6.28	6.10	5.25	5.15		5.49	
31		4.81		6.27	6.06		6.34		5.24	5.15		5.44	
Mean	4.97	4.83	5.03	6.00	6.31	6.52	6.24	6.12	5.52	5.21	5.24	5.68	
Max	5.01	4.90	6.02	6.31	6.79	6.77	6.63	6.39	6.05	5.25	5.41	5.94	6.79
Min	4.91	4.79	4.78	5.66	5.86	5.99	5.84	5.95	5.24	5.15	5.11	5.38	4.78

Annual Max Momentary Gage Height 6.82 M (A.D), at 18.00 Hours, on Aug 2, 1993
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed 2.41 M (A.D)
Left Bank Elevation 8.39 M (A.D)
Right Bank Elevation 8.41 M (A.D), Drainage Area 390 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.01	0.00	0.00	4.12	8.04	5.44	3.32	6.66	3.80	0.28	0.14	0.60	
2	0.01	0.00	0.00	2.12	15.98	6.92	8.38	7.57	3.48	0.28	0.14	0.60	
3	0.00	0.00	0.00	2.24	15.65	6.92	9.61	6.92	2.92	0.26	0.13	0.60	
4	0.00	0.00	0.00	1.65	15.65	7.44	9.06	6.28	2.42	0.30	0.13	0.58	
5	0.00	0.00	0.00	1.65	13.50	10.45	12.25	5.68	2.30	0.30	0.12	0.58	
6	0.00	0.00	0.00	1.80	10.03	12.75	12.00	5.20	2.06	0.30	0.12	0.58	
7	0.00	0.00	0.00	2.48	6.28	12.50	11.29	5.00	1.80	0.28	0.11	0.56	
8	0.00	0.00	0.00	2.84	5.20	11.29	9.82	5.20	1.65	0.28	0.16	0.56	
9	0.00	0.00	0.00	2.30	3.64	11.08	7.57	5.00	1.55	0.28	0.16	0.62	
10	0.00	0.00	0.00	1.30	3.96	11.75	6.66	4.70	1.40	0.28	0.15	1.80	
11	0.00	0.00	0.00	1.65	4.70	13.00	5.44	4.50	1.20	0.26	0.15	1.95	
12	0.00	0.00	0.00	1.85	4.60	14.99	4.30	4.20	0.56	0.26	0.14	2.06	
13	0.00	0.00	0.00	1.85	4.50	16.31	3.00	4.04	0.92	0.26	0.14	2.18	
14	0.00	0.00	0.00	5.00	4.70	13.75	2.76	3.72	0.72	0.24	0.13	2.48	
15	0.00	0.00	0.00	4.04	4.70	11.08	2.24	3.56	0.76	0.24	0.13	2.68	
16	0.00	0.00	0.00	6.53	5.68	11.75	2.68	3.64	0.72	0.24	0.12	2.92	
17	0.00	0.00	0.00	3.64	8.72	12.00	3.24	3.32	0.66	0.22	0.14	2.68	
18	0.00	0.00	0.00	2.76	12.25	13.25	3.32	3.32	0.62	0.22	0.62	2.54	
19	0.00	0.00	0.00	5.44	15.32	13.75	4.50	3.32	0.58	0.20	0.60	2.54	
20	0.00	0.00	0.00	4.90	16.97	13.50	5.44	3.24	0.54	0.20	0.58	2.54	
21	0.00	0.00	0.00	4.40	11.50	12.50	5.00	3.24	0.48	0.19	0.56	2.48	
22	0.00	0.00	0.00	3.88	8.72	10.66	5.00	3.32	0.42	0.19	0.56	2.48	
23	0.00	0.00	0.44	3.24	5.68	8.72	5.68	3.00	0.38	0.18	0.56	2.48	
24	0.00	0.00	3.56	2.92	4.70	8.72	6.40	4.04	0.36	0.18	0.58	2.42	
25	0.00	0.00	0.92	5.00	4.40	8.04	7.57	4.12	0.34	0.17	0.58	1.75	
26	0.00	0.00	1.15	5.00	4.40	9.40	5.20	4.30	0.32	0.17	0.58	1.75	
27	0.00	0.00	0.92	4.80	3.64	9.61	5.00	4.40	0.32	0.16	0.60	1.75	
28	0.00	0.00	0.94	4.50	2.36	7.70	5.00	4.70	0.30	0.16	0.60	1.50	
29	0.00	0.00	2.06	4.40	2.42	3.80	5.44	4.50	0.30	0.15		0.96	
30	0.00	0.00	2.18	6.04	3.08	3.32	6.16	4.20	0.30	0.15		0.78	
31		0.00		6.04	3.88		6.92		0.28	0.15		0.68	
Total	0.02	0.00	12.17	110.38	234.85	312.39	190.25	134.89	34.46	7.03	8.73	50.68	1095.85 CMSDAY
Mean	0.00	0.00	0.41	3.56	7.58	10.41	6.14	4.50	1.11	0.23	0.31	1.63	3.00 CMS
Max	0.01	0.00	3.56	6.53	16.97	16.31	12.25	7.57	3.80	0.30	0.62	2.92	16.97 CMS
Min	0.00	0.00	0.00	1.30	2.36	3.32	2.24	3.00	0.28	0.15	0.11	0.56	0.00 CMS
Runoff	0.002	0.000	1.051	9.537	20.291	26.990	16.438	11.654	2.977	0.607	0.754	4.379	94.681 MCM

Momentary Peak 18.14 CMS, at 6.82 M (A.D), at 18.00 Hours, on Aug 2, 1993
Runoff Yield 7.70 Liters/Second/Square KM, Momentary Peak Yield 46.51 Liters/Second/Square KM

WATER YEAR 1993

MUN RIVER BASIN

Huai Sen at Ban Phon Chai, Surin (M.102)

Location — Lat. 14°-36'-50" N., Long. 103°-53'-24" E., on left bank at the bridge of Chokchai-Det Udom Highway near guidepost 192-193 and about 4 kilometers from Amphoe Sangkha, Ban Phon Chai, Tambon Sangkha, Amphoe Sangkha, Surin.

Drainage Area — 207 sq.km.

Type of Gage — Staff gage.

Zero Gage at Bottom — +0.00 m. (A.D.)

Bench Mark — B.M. of Highways Dept.

Location — On right bank at the abutment of the bridge.

Elevation — +3.511 m. (A.D.)

Gage Reading Frequency — 5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.

Basis of Mean Daily Gage Height — Arithmetic mean of 5 readings.

Period of Available Gage Records — 1979 to date.

Rating Operation

Period of Rating — 1980 to date.

Rated by Float — -

Rated by Current Meter — 1980 to date.

Stability of Channel Regimes — Stable.

Overbank Flow Conditions — No overbank flow.

General Description — Records fair. Stage-discharge relation defined by 7 discharge measurements made in 1993.

Gage Height in Meter (A.D), Water Year April 1, 1993 to March 31, 1994

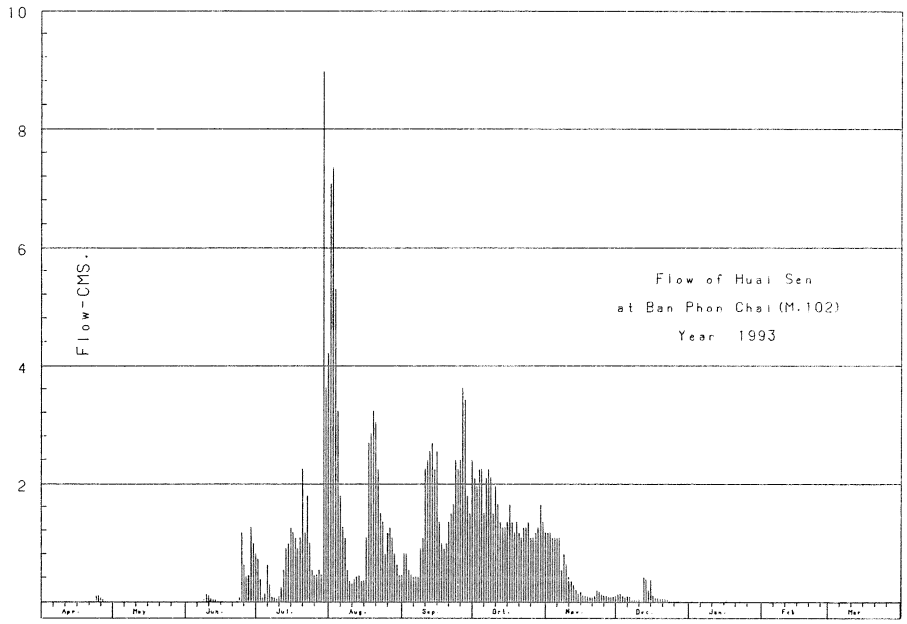
Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	-0.02	0.65	0.36	0.93	1.29	0.94	1.05	0.98	0.81	0.38	0.48	0.60	
2	-0.03	0.63	0.35	0.88	1.30	0.94	1.04	0.98	0.81	0.34	0.49	0.60	
3	-0.04	0.61	0.34	0.77	1.22	0.91	1.06	0.97	0.80	0.13	0.49	0.59	
4	-0.05	0.60	0.33	0.81	1.12	0.90	1.06	0.97	0.77	0.23	0.50	0.59	
5	-0.06	0.58	0.32	0.92	1.03	0.89	1.01	0.97	0.80	0.22	0.51	0.59	
6	-0.07	0.57	0.37	0.85	0.99	0.89	1.05	0.97	0.78	0.30	0.51	0.59	
7	-0.07	0.56	0.50	0.78	0.97	0.89	1.06	0.91	0.73	0.32	0.51	0.59	
8	-0.08	0.55	0.74	0.76	0.91	0.95	1.05	0.94	0.73	0.26	0.52	0.59	
9	-0.09	0.54	0.81	0.75	0.87	0.97	1.01	0.92	0.73	0.16	0.41	0.59	
10	-0.10	0.53	0.80	0.78	0.86	1.06	1.04	0.89	0.74	0.12	0.41	0.58	
11	-0.12	0.52	0.78	0.84	0.88	1.07	1.02	0.87	0.73	0.08	0.42	0.58	
12	-0.12	0.51	0.74	0.91	0.89	1.08	1.00	0.85	0.89	0.17	0.42	0.58	
13	0.06	0.50	0.73	0.95	0.90	1.09	0.99	0.83	0.88	0.30	0.43	0.58	
14	0.06	0.49	0.71	0.96	0.87	1.06	0.99	0.81	0.83	0.32	0.43	0.57	
15	0.05	0.48	0.69	0.99	0.87	1.08	1.00	0.82	0.88	0.34	0.43	0.57	
16	0.05	0.47	0.67	0.98	0.97	1.00	1.02	0.80	0.80	0.38	0.43	0.57	
17	0.04	0.46	0.66	0.97	1.09	0.96	1.00	0.80	0.77	0.39	0.43	0.57	
18	0.04	0.45	0.64	0.95	1.10	0.95	0.98	0.79	0.76	0.40	0.44	0.58	
19	0.03	0.44	0.64	0.97	1.12	0.96	1.00	0.78	0.75	0.40	0.44	0.58	
20	0.02	0.43	0.63	1.06	1.11	1.00	0.98	0.77	0.75	0.40	0.44	0.58	
21	0.04	0.41	0.63	0.98	1.06	1.01	0.97	0.80	0.74	0.41	0.44	0.59	
22	0.43	0.40	0.61	1.03	1.01	1.02	0.99	0.83	0.74	0.41	0.44	0.59	
23	0.80	0.39	0.77	0.96	1.00	1.07	0.99	0.82	0.71	0.41	0.45	0.40	
24	0.80	0.39	0.98	0.91	0.94	1.06	1.00	0.81	0.67	0.41	0.45	0.41	
25	0.77	0.38	0.92	0.90	0.98	1.07	0.97	0.80	0.59	0.42	0.45	0.42	
26	0.74	0.37	0.89	0.90	0.99	1.14	0.97	0.80	0.50	0.43	0.45	0.43	
27	0.70	0.37	0.90	0.91	0.97	1.13	0.98	0.79	0.42	0.44	0.45	0.44	
28	0.68	0.37	0.99	0.90	0.94	1.03	0.99	0.78	0.41	0.45	0.45	0.45	
29	0.67	0.36	0.96	1.35	0.92	1.01	1.02	0.79	0.40	0.46		0.46	
30	0.66	0.38	0.94	1.14	0.90	1.07	1.00	0.80	0.38	0.47		0.47	
31		0.36		1.17	0.90		0.98		0.38	0.47		0.48	
Mean	0.19	0.48	0.68	0.93	1.00	1.01	1.01	0.85	0.70	0.34	0.45	0.54	
Max	0.80	0.65	0.99	1.35	1.30	1.14	1.06	0.98	0.89	0.47	0.52	0.60	1.35
Min	-0.12	0.36	0.32	0.75	0.86	0.89	0.97	0.77	0.38	0.08	0.41	0.40	-0.12

Annual Max Momentary Gage Height — 1.38 M (A.D), at 6.00 Hours, on Jul 29, 1993

Zero Gage at Bottom Elevation — 0.00 M (A.D), River Bed -0.64 M (A.D)

Left Bank Elevation — 2.87 M (A.D)

Right Bank Elevation — 2.87 M (A.D), Drainage Area 207 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.00	0.00	0.00	0.72	7.09	0.81	2.10	1.17	0.13	0.00	0.00	0.00	
2	0.00	0.00	0.00	0.38	7.35	0.81	1.95	1.17	0.13	0.00	0.00	0.00	
3	0.00	0.00	0.00	0.07	5.31	0.54	2.25	1.08	0.10	0.00	0.00	0.00	
4	0.00	0.00	0.00	0.13	3.24	0.45	2.25	1.08	0.07	0.00	0.00	0.00	
5	0.00	0.00	0.00	0.63	1.80	0.42	1.50	1.08	0.10	0.00	0.00	0.00	
6	0.00	0.00	0.00	0.28	1.26	0.42	2.10	1.08	0.08	0.00	0.00	0.00	
7	0.00	0.00	0.00	0.08	1.08	0.42	2.25	0.54	0.03	0.00	0.00	0.00	
8	0.00	0.00	0.04	0.06	0.54	0.90	2.10	0.81	0.03	0.00	0.00	0.00	
9	0.00	0.00	0.13	0.05	0.35	1.08	1.50	0.63	0.03	0.00	0.00	0.00	
10	0.00	0.00	0.10	0.08	0.31	2.25	1.95	0.42	0.04	0.00	0.00	0.00	
11	0.00	0.00	0.08	0.24	0.38	2.40	1.65	0.35	0.03	0.00	0.00	0.00	
12	0.00	0.00	0.04	0.54	0.42	2.55	1.35	0.28	0.42	0.00	0.00	0.00	
13	0.00	0.00	0.03	0.90	0.45	2.70	1.26	0.20	0.38	0.00	0.00	0.00	
14	0.00	0.00	0.01	0.99	0.35	2.25	1.26	0.13	0.20	0.00	0.00	0.00	
15	0.00	0.00	0.00	1.26	0.35	2.55	1.35	0.17	0.38	0.00	0.00	0.00	
16	0.00	0.00	0.00	1.17	1.08	1.35	1.65	0.10	0.10	0.00	0.00	0.00	
17	0.00	0.00	0.00	1.08	2.70	0.99	1.35	0.10	0.07	0.00	0.00	0.00	
18	0.00	0.00	0.00	0.90	2.85	0.90	1.17	0.09	0.06	0.00	0.00	0.00	
19	0.00	0.00	0.00	1.08	3.24	0.99	1.35	0.08	0.05	0.00	0.00	0.00	
20	0.00	0.00	0.00	2.25	3.04	1.35	1.17	0.07	0.05	0.00	0.00	0.00	
21	0.00	0.00	0.00	1.17	2.25	1.50	1.08	0.10	0.04	0.00	0.00	0.00	
22	0.00	0.00	0.00	1.80	1.50	1.65	1.26	0.20	0.04	0.00	0.00	0.00	
23	0.10	0.00	0.07	0.99	1.35	2.40	1.26	0.17	0.01	0.00	0.00	0.00	
24	0.10	0.00	1.17	0.54	0.81	2.25	1.35	0.13	0.00	0.00	0.00	0.00	
25	0.07	0.00	0.63	0.45	1.17	2.40	1.08	0.10	0.00	0.00	0.00	0.00	
26	0.04	0.00	0.42	0.45	1.26	3.63	1.08	0.10	0.00	0.00	0.00	0.00	
27	0.00	0.00	0.45	0.54	1.08	3.43	1.17	0.09	0.00	0.00	0.00	0.00	
28	0.00	0.00	1.26	0.45	0.81	1.80	1.26	0.08	0.00	0.00	0.00	0.00	
29	0.00	0.00	0.99	8.98	0.63	1.50	1.65	0.09	0.00	0.00		0.00	
30	0.00	0.00	0.81	3.63	0.45	2.40	1.35	0.10	0.00	0.00		0.00	
31		0.00		4.21	0.45		1.17		0.00	0.00		0.00	
Total	0.31	0.00	6.23	36.10	54.95	49.09	47.22	11.79	2.57	0.00	0.00	0.00	208.26 CMSDAY
Mean	0.01	0.00	0.21	1.16	1.77	1.64	1.52	0.39	0.08	0.00	0.00	0.00	0.57 CMS
Max	0.10	0.00	1.26	8.98	7.35	3.63	2.25	1.17	0.42	0.00	0.00	0.00	8.98 CMS
Min	0.00	0.00	0.00	0.05	0.31	0.42	1.08	0.07	0.00	0.00	0.00	0.00	0.00 CMS
Runoff	0.027	0.000	0.538	3.119	4.748	4.241	4.080	1.019	0.222	0.000	0.000	0.000	17.994 MCM

Momentary Peak 9.95 CMS, at 1.38 M (A.D), at 6.00 Hours, on Jul 29, 1993
Runoff Yield 2.76 Liters/Second/Square KM, Momentary Peak Yield 48.07 Liters/Second/Square KM

WATER YEAR 1993

MUN RIVER BASIN

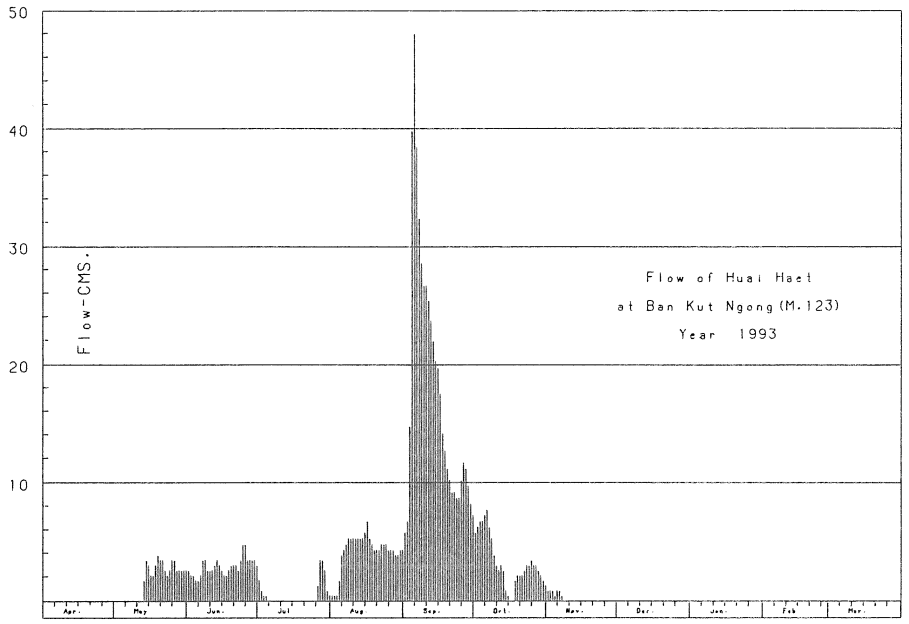
Huai Haet at Ban Kut Ngong, Si Sa Ket (M.123)

Location	Lat. 15-03-53 N., Long. 104-20-56 E., on right bank at the bridge of Si Sa Ket- Kantharalak Highway, Amphoe Muang, Si Sa Ket.
Drainage Area	387 sq.km.
Type of Gage	Water-stage recorder.
Zero Gage at Bottom	+0.00 m.(A.D.)
Bench Mark	B.M.-Highway Department.
Location	On right bank at the abutment of the bridge.
Elevation	+7.887 m.(A.D.)
Gage Reading Frequency	Recording.
Basis of Mean Daily Gage Height	Arithmetic mean 0f 24 readings.
Period of Available Gage Records	1983 to date.
Rating Operation	
Period of Rating	1984 to date.
Rated by Float	-
Rated by Current Meter	1984 to date.
Stability of Channel Regimes	Stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Stage-discharge relation defined by 11 discharge measurements made in 1993.

Gage Height in Meter (A.D), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	3.68	3.82	3.96	3.94	3.91	4.03	4.03	3.92	3.85	3.75	3.62	3.50	
2	3.67	3.82	3.95	3.92	3.91	4.05	4.04	3.92	3.84	3.74	3.61	3.49	
3	3.66	3.81	3.95	3.91	3.91	4.21	4.05	3.92	3.84	3.73	3.61	3.48	
4	3.65	3.80	3.94	3.91	3.94	4.62	4.05	3.91	3.84	3.73	3.60	3.46	
5	3.65	3.79	3.94	3.90	3.99	4.74	4.06	3.92	3.84	3.73	3.60	3.45	
6	3.65	3.78	3.95	3.90	4.00	4.60	4.07	3.92	3.84	3.72	3.60	3.45	
7	3.65	3.78	3.98	3.90	4.01	4.51	4.04	3.91	3.84	3.72	3.60	3.45	
8	3.64	3.77	3.98	3.90	4.02	4.45	4.02	3.90	3.84	3.72	3.61	3.45	
9	3.64	3.76	3.96	3.89	4.02	4.42	3.99	3.89	3.84	3.72	3.62	3.44	
10	3.65	3.75	3.96	3.88	4.02	4.42	3.97	3.89	3.83	3.72	3.62	3.43	
11	3.62	3.75	3.96	3.88	4.02	4.40	3.96	3.88	3.83	3.71	3.62	3.42	
12	3.61	3.82	3.97	3.88	4.02	4.37	3.97	3.90	3.83	3.71	3.62	3.42	
13	3.63	3.94	3.98	3.88	4.02	4.34	3.96	3.90	3.83	3.70	3.62	3.42	
14	3.64	3.98	3.97	3.88	4.02	4.31	3.92	3.90	3.83	3.70	3.61	3.42	
15	3.64	3.97	3.96	3.88	4.03	4.30	3.91	3.90	3.83	3.70	3.61	3.42	
16	3.64	3.95	3.95	3.88	4.05	4.26	3.90	3.90	3.83	3.70	3.61	3.41	
17	3.64	3.95	3.95	3.88	4.02	4.20	3.89	3.90	3.83	3.69	3.60	3.40	
18	3.64	3.97	3.96	3.88	4.01	4.17	3.94	3.90	3.80	3.67	3.60	3.40	
19	3.64	3.99	3.97	3.88	4.00	4.14	3.95	3.90	3.80	3.66	3.58	3.40	
20	3.64	3.98	3.97	3.88	4.00	4.12	3.95	3.90	3.80	3.66	3.58	3.38	
21	3.64	3.98	3.97	3.88	4.00	4.10	3.95	3.89	3.80	3.66	3.58	3.38	
22	3.73	3.96	3.96	3.88	4.01	4.10	3.96	3.87	3.80	3.66	3.56	3.42	
23	3.84	3.95	3.98	3.88	4.01	4.09	3.97	3.87	3.80	3.66	3.55	3.43	
24	3.86	3.96	4.01	3.88	4.01	4.09	3.97	3.87	3.79	3.64	3.55	3.43	
25	3.86	3.98	4.01	3.88	4.00	4.12	3.98	3.87	3.78	3.63	3.54	3.43	
26	3.86	3.98	3.98	3.93	4.00	4.15	3.97	3.86	3.78	3.63	3.54	3.43	
27	3.86	3.96	3.98	3.98	4.00	4.14	3.97	3.85	3.76	3.63	3.50	3.43	
28	3.86	3.96	3.98	3.98	3.99	4.11	3.96	3.85	3.76	3.63	3.50	3.43	
29	3.85	3.96	3.98	3.96	3.99	4.08	3.95	3.85	3.76	3.63		3.42	
30	3.85	3.96	3.97	3.92	4.00	4.06	3.94	3.85	3.75	3.62		3.41	
31		3.96		3.91	4.00		3.93		3.75	3.61		3.40	
Mean	3.70	3.90	3.97	3.90	4.00	4.26	3.97	3.89	3.81	3.68	3.59	3.43	
Max	3.86	3.99	4.01	3.98	4.05	4.74	4.07	3.92	3.85	3.75	3.62	3.50	4.74
Min	3.61	3.75	3.94	3.88	3.91	4.03	3.89	3.85	3.75	3.61	3.50	3.38	3.38

Annual Max Momentary Gage Height 4.83 M (A.D), at 24.00 Hours, on Sep 4, 1993
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed 0.30 M (A.D)
Left Bank Elevation 7.09 M (A.D)
Right Bank Elevation 7.14 M (A.D), Drainage Area 387 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.00	0.00	2.58	1.72	0.43	5.77	5.77	0.86	0.00	0.00	0.00	0.00	
2	0.00	0.00	2.15	0.86	0.43	6.75	6.26	0.86	0.00	0.00	0.00	0.00	
3	0.00	0.00	2.15	0.43	0.43	14.75	6.75	0.86	0.00	0.00	0.00	0.00	
4	0.00	0.00	1.72	0.43	1.72	39.76	6.75	0.43	0.00	0.00	0.00	0.00	
5	0.00	0.00	1.72	0.00	3.87	48.04	7.24	0.86	0.00	0.00	0.00	0.00	
6	0.00	0.00	2.15	0.00	4.30	38.40	7.73	0.86	0.00	0.00	0.00	0.00	
7	0.00	0.00	3.44	0.00	4.79	32.37	6.26	0.43	0.00	0.00	0.00	0.00	
8	0.00	0.00	3.44	0.00	5.28	28.55	5.28	0.00	0.00	0.00	0.00	0.00	
9	0.00	0.00	2.58	0.00	5.28	26.66	3.87	0.00	0.00	0.00	0.00	0.00	
10	0.00	0.00	2.58	0.00	5.28	26.66	3.01	0.00	0.00	0.00	0.00	0.00	
11	0.00	0.00	2.58	0.00	5.28	25.40	2.58	0.00	0.00	0.00	0.00	0.00	
12	0.00	0.00	3.01	0.00	5.28	23.69	3.01	0.00	0.00	0.00	0.00	0.00	
13	0.00	1.72	3.44	0.00	5.28	21.98	2.58	0.00	0.00	0.00	0.00	0.00	
14	0.00	3.44	3.01	0.00	5.28	20.27	0.86	0.00	0.00	0.00	0.00	0.00	
15	0.00	3.01	2.58	0.00	5.77	19.70	0.43	0.00	0.00	0.00	0.00	0.00	
16	0.00	2.15	2.15	0.00	6.75	17.50	0.00	0.00	0.00	0.00	0.00	0.00	
17	0.00	2.15	2.15	0.00	5.28	14.20	0.00	0.00	0.00	0.00	0.00	0.00	
18	0.00	3.01	2.58	0.00	4.79	12.70	1.72	0.00	0.00	0.00	0.00	0.00	
19	0.00	3.87	3.01	0.00	4.30	11.20	2.15	0.00	0.00	0.00	0.00	0.00	
20	0.00	3.44	3.01	0.00	4.30	10.20	2.15	0.00	0.00	0.00	0.00	0.00	
21	0.00	3.44	3.01	0.00	4.30	9.20	2.15	0.00	0.00	0.00	0.00	0.00	
22	0.00	2.58	2.58	0.00	4.79	9.20	2.58	0.00	0.00	0.00	0.00	0.00	
23	0.00	2.15	3.44	0.00	4.79	8.71	3.01	0.00	0.00	0.00	0.00	0.00	
24	0.00	2.58	4.79	0.00	4.79	8.71	3.01	0.00	0.00	0.00	0.00	0.00	
25	0.00	3.44	4.79	0.00	4.30	10.20	3.44	0.00	0.00	0.00	0.00	0.00	
26	0.00	3.44	3.44	1.29	4.30	11.70	3.01	0.00	0.00	0.00	0.00	0.00	
27	0.00	2.58	3.44	3.44	4.30	11.20	3.01	0.00	0.00	0.00	0.00	0.00	
28	0.00	2.58	3.44	3.44	3.87	9.70	2.58	0.00	0.00	0.00	0.00	0.00	
29	0.00	2.58	3.44	2.58	3.87	8.22	2.15	0.00	0.00	0.00		0.00	
30	0.00	2.58	3.01	0.86	4.30	7.24	1.72	0.00	0.00	0.00		0.00	
31		2.58		0.43	4.30		1.29		0.00	0.00		0.00	
Total	0.00	53.32	87.41	15.48	132.03	538.63	102.35	5.16	0.00	0.00	0.00	0.00	934.38 CMSDAY
Mean	0.00	1.72	2.91	0.50	4.26	17.95	3.30	0.17	0.00	0.00	0.00	0.00	2.56 CMS
Max	0.00	3.87	4.79	3.44	6.75	48.04	7.73	0.86	0.00	0.00	0.00	0.00	48.04 CMS
Min	0.00	0.00	1.72	0.00	0.43	5.77	0.00	0.00	0.00	0.00	0.00	0.00	0.00 CMS
Runoff	0.000	4.607	7.552	1.337	11.407	46.538	8.843	0.446	0.000	0.000	0.000	0.000	80.730 MCM

Momentary Peak 54.49 CMS, at 4.83 M (A.D), at 24.00 Hours, on Sep 4, 1993

Runoff Yield 6.61 Liters/Second/Square KM, Momentary Peak Yield 140.80 Liters/Second/Square KM

WATER YEAR 1993

MUN RIVER BASIN

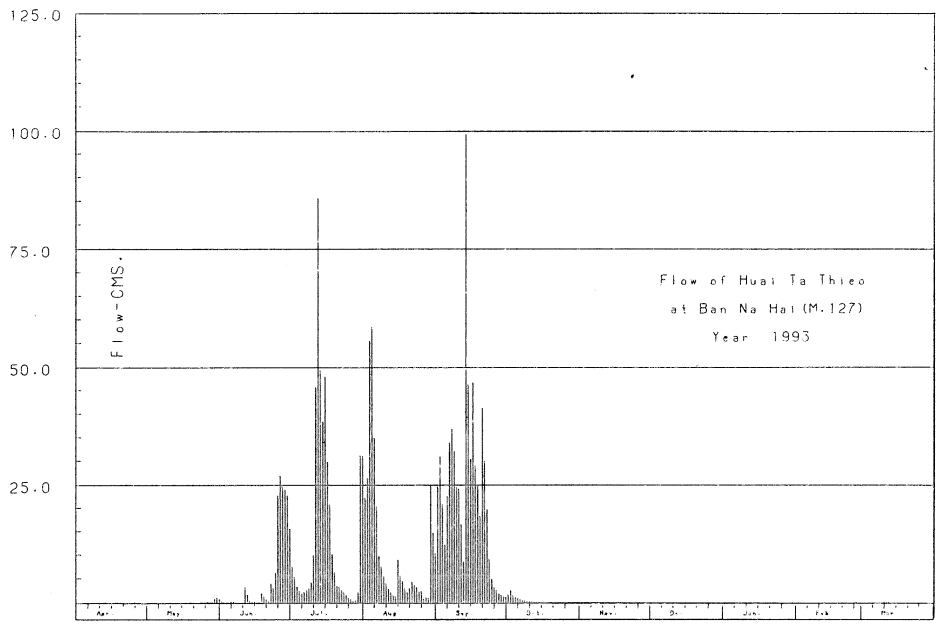
Huai Ta Thieo at Ban Na Hai, Ubon Ratchathani (M.127)

Location	Lat. 15-38-37 N., Long. 104-55-57 E., on left bank at the bridge on road, Ban Na Hai, Tambon Na Samai, Amphoe Trakan Phutphon, Ubon Ratchathani.
Drainage Area	414 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+0.00 m.(A.D.)
Bench Mark	B.M.-H.D.
Location	On left bank downstream side at the abutment of the bridge.
Elevation	+11.514 m.(A.D.)
Gage Reading Frequency	5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1984 to date.
Rating Operation	
Period of Rating	1987 to date.
Rated by Float	-
Rated by Current Meter	1987 to date.
Stability of Channel Regimes	Rather unstable.
Overbank Flow Conditions	No overbank flow.
General Description	Records fair. Stage-discharge relation defined by 15 discharge measurements made in 1993.

Gage Height in Meter (A.D), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	1.19	1.12	1.39	1.90	2.15	2.20	1.54	1.29	1.22	1.12	1.07	1.31	
2	1.18	1.11	1.35	1.81	2.24	2.33	1.64	1.30	1.22	1.11	1.06	1.31	
3	1.17	1.10	1.32	1.70	2.74	2.12	1.53	1.29	1.22	1.10	1.06	1.31	
4	1.16	1.09	1.30	1.61	2.78	2.01	1.50	1.28	1.22	1.10	1.05	1.31	
5	1.16	1.08	1.36	1.57	2.40	2.16	1.47	1.28	1.21	1.10	1.05	1.31	
6	1.15	1.08	1.33	1.59	2.11	2.38	1.44	1.28	1.21	1.09	1.04	1.31	
7	1.15	1.06	1.31	1.64	1.96	2.43	1.42	1.27	1.20	1.08	1.04	1.32	
8	1.14	1.06	1.30	1.66	1.90	2.35	1.40	1.27	1.20	1.08	1.03	1.32	
9	1.14	1.05	1.29	1.75	1.82	2.20	1.40	1.26	1.20	1.11	1.03	1.33	
10	1.14	1.09	1.28	1.96	1.73	2.19	1.39	1.26	1.20	1.14	1.02	1.34	
11	1.13	1.17	1.68	2.58	1.67	2.06	1.37	1.25	1.20	1.15	1.02	1.34	
12	1.13	1.23	1.55	3.10	1.59	1.93	1.36	1.25	1.20	1.16	1.02	1.34	
13	1.13	1.22	1.39	2.64	1.53	3.25	1.35	1.25	1.20	1.16	1.01	1.32	
14	1.21	1.21	1.33	2.46	1.50	2.59	1.34	1.25	1.19	1.16	1.06	1.30	
15	1.21	1.21	1.33	2.62	1.94	2.32	1.34	1.24	1.19	1.15	1.06	1.28	
16	1.21	1.20	1.29	2.31	1.82	2.60	1.32	1.24	1.19	1.15	1.06	1.27	
17	1.20	1.21	1.28	2.12	1.77	2.29	1.32	1.24	1.18	1.14	1.05	1.24	
18	1.19	1.21	1.58	1.97	1.66	2.21	1.31	1.23	1.17	1.14	1.04	1.23	
19	1.18	1.26	1.49	1.85	1.60	2.08	1.30	1.23	1.17	1.14	1.10	1.22	
20	1.17	1.30	1.44	1.71	1.66	2.51	1.30	1.24	1.17	1.13	1.33	1.21	
21	1.16	1.29	1.35	1.69	1.76	2.31	1.29	1.25	1.16	1.12	1.32	1.21	
22	1.19	1.29	1.74	1.64	1.72	2.10	1.29	1.26	1.16	1.12	1.33	1.21	
23	1.19	1.31	1.66	1.59	1.68	1.94	1.29	1.25	1.15	1.11	1.33	1.37	
24	1.18	1.30	1.85	1.54	1.61	1.80	1.29	1.25	1.15	1.10	1.33	1.28	
25	1.17	1.33	2.16	1.48	1.61	1.69	1.29	1.24	1.14	1.10	1.32	1.28	
26	1.17	1.31	2.25	1.43	1.44	1.63	1.29	1.23	1.14	1.09	1.32	1.28	
27	1.16	1.30	2.20	1.37	1.48	1.58	1.29	1.23	1.13	1.09	1.32	1.27	
28	1.15	1.31	2.19	1.41	1.46	1.53	1.30	1.23	1.13	1.08	1.32	1.27	
29	1.14	1.45	2.16	1.60	2.21	1.51	1.28	1.23	1.12	1.08		1.26	
30	1.13	1.47	2.05	2.33	2.04	1.48	1.28	1.23	1.12	1.07		1.25	
31		1.45		2.33	1.97		1.29		1.12	1.07		1.24	
Mean	1.17	1.22	1.57	1.90	1.86	2.13	1.36	1.25	1.18	1.11	1.14	1.29	
Max	1.21	1.47	2.25	3.10	2.78	3.25	1.64	1.30	1.22	1.16	1.33	1.37	3.25
Min	1.13	1.05	1.28	1.37	1.44	1.48	1.28	1.23	1.12	1.07	1.01	1.21	1.01

Annual Max Momentary Gage Height 3.65 M (A.D), at 18.00 Hours, on Sep 13, 1993
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed -1.21 M (A.D)
Left Bank Elevation 10.11 M (A.D)
Right Bank Elevation 10.15 M (A.D), Drainage Area 414 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.00	0.00	0.57	7.70	22.35	24.70	1.83	0.22	0.05	0.00	0.00	0.28	
2	0.00	0.00	0.43	5.54	26.66	31.28	2.88	0.25	0.05	0.00	0.00	0.28	
3	0.00	0.00	0.32	3.60	55.80	20.94	1.73	0.22	0.05	0.00	0.00	0.28	
4	0.00	0.00	0.25	2.52	58.60	12.53	1.45	0.20	0.05	0.00	0.00	0.28	
5	0.00	0.00	0.46	2.12	35.20	22.82	1.20	0.20	0.03	0.00	0.00	0.28	
6	0.00	0.00	0.36	2.31	20.47	34.08	0.94	0.20	0.03	0.00	0.00	0.28	
7	0.00	0.00	0.28	2.88	10.10	36.94	0.77	0.18	0.00	0.00	0.00	0.32	
8	0.00	0.00	0.25	3.12	7.70	32.40	0.60	0.18	0.00	0.00	0.00	0.32	
9	0.00	0.00	0.22	4.45	5.78	24.70	0.60	0.15	0.00	0.00	0.00	0.36	
10	0.00	0.00	0.20	10.10	4.11	24.23	0.57	0.15	0.00	0.00	0.00	0.39	
11	0.00	0.00	3.36	45.80	3.24	16.68	0.50	0.13	0.00	0.00	0.00	0.39	
12	0.00	0.08	1.92	86.00	2.31	8.90	0.46	0.13	0.00	0.00	0.00	0.39	
13	0.00	0.05	0.57	49.40	1.73	99.50	0.43	0.13	0.00	0.00	0.00	0.32	
14	0.03	0.03	0.36	38.68	1.45	46.40	0.39	0.13	0.00	0.00	0.00	0.25	
15	0.03	0.03	0.36	48.20	9.30	30.72	0.39	0.10	0.00	0.00	0.00	0.20	
16	0.03	0.00	0.22	30.16	5.78	47.00	0.32	0.10	0.00	0.00	0.00	0.18	
17	0.00	0.03	0.20	20.94	4.79	29.11	0.32	0.10	0.00	0.00	0.00	0.10	
18	0.00	0.03	2.21	10.50	3.12	25.19	0.28	0.08	0.00	0.00	0.00	0.08	
19	0.00	0.15	1.37	6.50	2.40	18.34	0.25	0.08	0.00	0.00	0.00	0.05	
20	0.00	0.25	0.94	3.77	3.12	41.60	0.25	0.10	0.00	0.00	0.36	0.03	
21	0.00	0.22	0.43	3.48	4.62	30.16	0.22	0.13	0.00	0.00	0.32	0.03	
22	0.00	0.22	4.28	2.88	3.94	20.00	0.22	0.15	0.00	0.00	0.36	0.03	
23	0.00	0.28	3.12	2.31	3.36	9.30	0.22	0.13	0.00	0.00	0.36	0.50	
24	0.00	0.25	6.50	1.83	2.52	5.30	0.22	0.13	0.00	0.00	0.36	0.20	
25	0.00	0.36	22.82	1.28	2.52	3.48	0.22	0.10	0.00	0.00	0.32	0.20	
26	0.00	0.28	27.15	0.85	0.94	2.76	0.22	0.08	0.00	0.00	0.32	0.20	
27	0.00	0.25	24.70	0.50	1.28	2.21	0.22	0.08	0.00	0.00	0.32	0.18	
28	0.00	0.28	24.23	0.68	1.11	1.73	0.25	0.08	0.00	0.00	0.32	0.18	
29	0.00	1.03	22.82	2.40	25.19	1.54	0.20	0.08	0.00	0.00		0.15	
30	0.00	1.20	15.85	31.28	15.02	1.28	0.20	0.08	0.00	0.00		0.13	
31		1.03		31.28	10.50		0.22		0.00	0.00		0.10	
Total	0.09	6.05	166.75	463.06	355.01	705.82	18.57	4.07	0.26	0.00	3.04	6.96	1729.68 CMSDAY
Mean	0.00	0.20	5.56	14.94	11.45	23.53	0.60	0.14	0.01	0.00	0.11	0.22	4.74 CMS
Max	0.03	1.20	27.15	86.00	58.60	99.50	2.88	0.25	0.05	0.00	0.36	0.50	99.50 CMS
Min	0.00	0.00	0.20	0.50	0.94	1.28	0.20	0.08	0.00	0.00	0.00	0.03	0.00 CMS
Runoff	0.008	0.523	14.407	40.008	30.673	60.983	1.604	0.352	0.022	0.000	0.263	0.601	149.444 MCM

Momentary Peak 140.00 CMS, at 3.65 M (A.D), at 18.00 Hours, on Sep 13, 1993
Runoff Yield 11.45 Liters/Second/Square KM. Momentary Peak Yield 338.16 Liters/Second/Square KM

WATER YEAR 1993

MUN RIVER BASIN

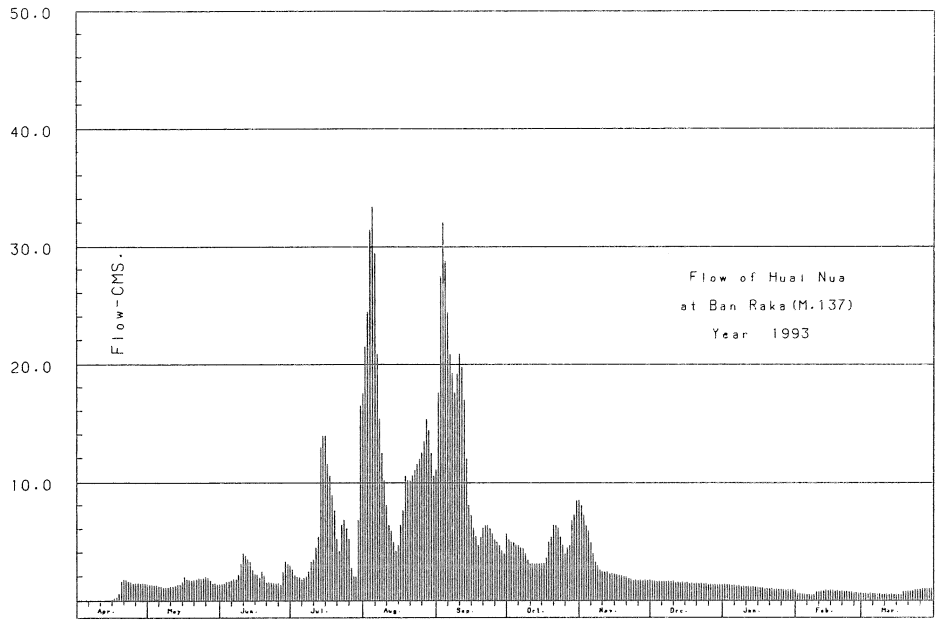
Huai Nua at Ban Raka, Si Sa Ket (M.137)

Location	Lat. 14°-47'-31" N., Long. 104°-10'-40" E., on right bank at the bridge on road, Ban Raka, Tambon Khok Phet, Amphoe Khu Khan, Si Sa Ket.
Drainage Area	397 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+0.00 m.(A.D.)
Bench Mark	B.M.-H.D.
Location	On right bank upstream side at the abutment of the bridge.
Elevation	+4.625 m.(A.D.)
Gage Reading Frequency	5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1987 to date.
Rating Operation	
Period of Rating	1987 to date.
Rated by Float	-
Rated by Current Meter	1987 to date.
Stability of Channel Regimes	Stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Stage-discharge relation defined by 10 discharge measurements made in 1993.

Gage Height in Meter (A.D), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.72	1.20	1.20	1.32	1.81	1.74	1.45	1.54	1.24	1.20	1.01	1.02	
2	0.71	1.19	1.21	1.29	1.86	1.91	1.44	1.52	1.23	1.20	1.01	1.01	
3	0.69	1.19	1.22	1.27	1.97	1.98	1.44	1.50	1.23	1.19	1.00	1.00	
4	0.68	1.18	1.23	1.27	2.00	1.93	1.43	1.48	1.23	1.19	0.99	1.02	
5	0.66	1.17	1.24	1.25	1.94	1.86	1.43	1.44	1.23	1.19	0.98	1.02	
6	0.65	1.16	1.25	1.26	1.80	1.80	1.42	1.40	1.23	1.18	0.97	1.01	
7	0.65	1.15	1.25	1.28	1.70	1.77	1.42	1.36	1.23	1.18	0.97	1.00	
8	0.66	1.14	1.29	1.31	1.64	1.74	1.40	1.34	1.23	1.17	0.96	1.00	
9	0.66	1.15	1.35	1.36	1.59	1.77	1.37	1.32	1.23	1.17	1.06	0.99	
10	0.65	1.16	1.40	1.37	1.54	1.80	1.35	1.31	1.23	1.17	1.07	0.99	
11	0.64	1.17	1.39	1.42	1.50	1.78	1.35	1.31	1.22	1.17	1.08	0.99	
12	0.61	1.18	1.37	1.46	1.48	1.73	1.35	1.31	1.22	1.16	1.09	0.98	
13	0.67	1.19	1.36	1.65	1.44	1.63	1.35	1.30	1.22	1.16	1.10	0.98	
14	0.70	1.20	1.32	1.67	1.41	1.54	1.35	1.30	1.22	1.16	1.10	0.98	
15	0.74	1.22	1.30	1.67	1.43	1.52	1.35	1.30	1.22	1.15	1.10	0.97	
16	0.81	1.27	1.29	1.62	1.50	1.49	1.35	1.29	1.22	1.15	1.10	0.97	
17	0.88	1.25	1.27	1.60	1.53	1.46	1.38	1.29	1.21	1.14	1.09	0.97	
18	0.99	1.24	1.31	1.56	1.60	1.43	1.44	1.28	1.21	1.13	1.09	1.06	
19	1.23	1.24	1.28	1.53	1.59	1.46	1.46	1.28	1.21	1.13	1.08	1.07	
20	1.25	1.24	1.22	1.45	1.59	1.49	1.50	1.27	1.21	1.13	1.08	1.07	
21	1.24	1.25	1.22	1.41	1.60	1.50	1.50	1.26	1.21	1.13	1.07	1.08	
22	1.23	1.26	1.22	1.50	1.61	1.50	1.49	1.25	1.21	1.12	1.06	1.08	
23	1.22	1.25	1.21	1.51	1.62	1.49	1.46	1.24	1.21	1.12	1.06	1.11	
24	1.21	1.26	1.21	1.49	1.63	1.47	1.43	1.24	1.21	1.12	1.05	1.11	
25	1.21	1.27	1.21	1.45	1.64	1.45	1.40	1.24	1.20	1.12	1.04	1.12	
26	1.21	1.26	1.20	1.33	1.66	1.44	1.42	1.24	1.20	1.11	1.03	1.12	
27	1.21	1.24	1.31	1.28	1.70	1.43	1.43	1.24	1.20	1.11	1.03	1.13	
28	1.21	1.21	1.36	1.27	1.68	1.41	1.51	1.24	1.20	1.11	1.02	1.13	
29	1.21	1.21	1.35	1.51	1.64	1.40	1.52	1.24	1.20	1.11		1.13	
30	1.20	1.20	1.34	1.72	1.60	1.47	1.55	1.24	1.20	1.11		1.13	
31		1.20		1.74	1.61		1.55		1.20	1.10		1.12	
Mean	0.91	1.21	1.28	1.45	1.64	1.61	1.43	1.32	1.22	1.15	1.05	1.04	
Max	1.25	1.27	1.40	1.74	2.00	1.98	1.55	1.54	1.24	1.20	1.10	1.13	2.00
Min	0.61	1.14	1.20	1.25	1.41	1.40	1.35	1.24	1.20	1.10	0.96	0.97	0.61

Annual Max Momentary Gage Height 2.01 M (A.D), at 9.00 Hours, on Aug 4, 1993
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed 0.08 M (A.D)
Left Bank Elevation 4.06 M (A.D)
Right Bank Elevation 4.07 M (A.D), Drainage Area 397 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.12	1.40	1.40	2.64	21.49	17.60	5.20	8.08	1.76	1.40	0.63	0.66	
2	0.11	1.35	1.49	2.21	24.44	27.46	4.96	7.24	1.67	1.40	0.63	0.63	
3	0.09	1.35	1.58	2.03	31.42	32.08	4.96	6.40	1.67	1.35	0.60	0.60	
4	0.08	1.30	1.67	2.03	33.40	28.78	4.72	5.92	1.67	1.35	0.58	0.66	
5	0.06	1.25	1.76	1.85	29.44	24.44	4.72	4.96	1.67	1.35	0.56	0.66	
6	0.05	1.20	1.85	1.94	20.90	20.90	4.48	4.00	1.67	1.30	0.53	0.63	
7	0.05	1.15	1.85	2.12	15.40	19.25	4.48	3.32	1.67	1.30	0.53	0.60	
8	0.06	1.10	2.21	2.47	12.52	17.60	4.00	2.98	1.67	1.25	0.51	0.60	
9	0.06	1.15	3.15	3.32	10.18	19.25	3.49	2.64	1.67	1.25	0.78	0.58	
10	0.05	1.20	4.00	3.49	8.08	20.90	3.15	2.47	1.67	1.25	0.81	0.58	
11	0.04	1.25	3.83	4.48	6.40	19.80	3.15	2.47	1.58	1.25	0.84	0.58	
12	0.01	1.30	3.49	5.44	5.92	17.05	3.15	2.47	1.58	1.20	0.87	0.56	
13	0.07	1.35	3.32	13.00	4.96	12.04	3.15	2.30	1.58	1.20	0.90	0.56	
14	0.10	1.40	2.64	13.96	4.24	8.08	3.15	2.30	1.58	1.20	0.90	0.56	
15	0.14	1.58	2.30	13.96	4.72	7.24	3.15	2.30	1.58	1.15	0.90	0.53	
16	0.22	2.03	2.21	11.56	6.40	6.16	3.15	2.21	1.58	1.15	0.90	0.53	
17	0.34	1.85	2.03	10.60	7.66	5.44	3.66	2.21	1.49	1.10	0.87	0.53	
18	0.58	1.76	2.47	8.92	10.60	4.72	4.96	2.12	1.49	1.05	0.87	0.78	
19	1.67	1.76	2.12	7.66	10.18	5.44	5.44	2.12	1.49	1.05	0.84	0.81	
20	1.85	1.76	1.58	5.20	10.18	6.16	6.40	2.03	1.49	1.05	0.84	0.81	
21	1.76	1.85	1.58	4.24	10.60	6.40	6.40	1.94	1.49	1.05	0.81	0.84	
22	1.67	1.94	1.58	6.40	11.08	6.40	6.16	1.85	1.49	1.00	0.78	0.84	
23	1.58	1.85	1.49	6.82	11.56	6.16	5.44	1.76	1.49	1.00	0.78	0.95	
24	1.49	1.94	1.49	6.16	12.04	5.68	4.72	1.76	1.49	1.00	0.75	0.95	
25	1.49	2.03	1.49	5.20	12.52	5.20	4.00	1.76	1.40	1.00	0.72	1.00	
26	1.49	1.94	1.40	2.81	13.48	4.96	4.48	1.76	1.40	0.95	0.69	1.00	
27	1.49	1.76	2.47	2.12	15.40	4.72	4.72	1.76	1.40	0.95	0.69	1.05	
28	1.49	1.49	3.32	2.03	14.44	4.24	6.82	1.76	1.40	0.95	0.66	1.05	
29	1.49	1.49	3.15	6.82	12.52	4.00	7.24	1.76	1.40	0.95		1.05	
30	1.40	1.40	2.98	16.50	10.60	5.68	8.50	1.76	1.40	0.95		1.05	
31		1.40		17.60	11.08		8.50		1.40	0.90		1.00	
Total	21.10	47.58	67.90	195.58	413.85	373.83	150.50	88.41	47.99	35.30	20.77	23.23	1486.04 CMSDAY
Mean	0.70	1.53	2.26	6.31	13.35	12.46	4.85	2.95	1.55	1.14	0.74	0.75	4.07 CMS
Max	1.85	2.03	4.00	17.60	33.40	32.08	8.50	8.08	1.76	1.40	0.90	1.05	33.40 CMS
Min	0.01	1.10	1.40	1.85	4.24	4.00	3.15	1.76	1.40	0.90	0.51	0.53	0.01 CMS
Runoff	1.823	4.111	5.867	16.898	35.757	32.299	13.003	7.639	4.146	3.050	1.795	2.007	128.394 MCM

Momentary Peak 34.20 CMS, at 2.01 M (A.D), at 9.00 Hours, on Aug 4, 1993
Runoff Yield 10.26 Liters/Second/Square KM, Momentary Peak Yield 86.15 Liters/Second/Square KM

WATER YEAR 1993

MUN RIVER BASIN

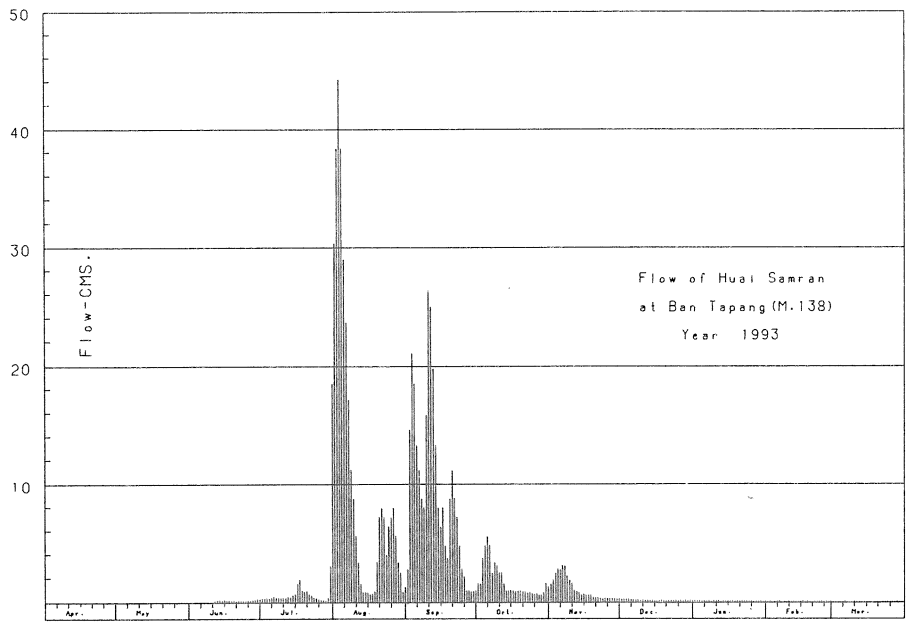
Huai Samran at Ban Tapang, Si Sa Ket (M.138)

Location	Lat. 14-46-54 N., Long. 104-07-32 E., on right bank at the bridge on road, Ban Tapang, Tambon Khok Phet, Amphoe Khu Khan, Si Sa Ket.
Drainage Area	1,038 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+0.00 m.(A.D.)
Bench Mark	B.M.-Highways Department.
Location	On right bank downstream side at the abutment of the bridge.
Elevation	+5.108 m.(A.D.)
Gage Reading Frequency	3-time daily readings at 06.00, 12.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 3 readings.
Period of Available Gage Records	1987 to date.
Rating Operation	
Period of Rating	1987 to date.
Rated by Float	-
Rated by Current Meter	1987 to date.
Stability of Channel Regimes	Fairly stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Stage-discharge relation defined by 9 discharge measurements made in 1993.

Gage Height in Meter (A.D), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.97	0.89	1.10	2.36	2.84	2.56	2.52	2.52	2.33	2.14	1.92	1.83	
2	0.96	0.88	1.10	2.37	2.90	2.72	2.52	2.53	2.33	2.13	1.91	1.83	
3	0.95	0.89	1.15	2.37	2.93	2.77	2.59	2.55	2.33	2.13	1.90	1.82	
4	0.94	0.86	1.15	2.37	2.90	2.75	2.61	2.56	2.33	2.12	1.89	1.81	
5	0.93	0.85	1.15	2.40	2.83	2.71	2.62	2.56	2.32	2.11	1.88	1.80	
6	0.93	0.84	1.20	2.41	2.79	2.69	2.61	2.57	2.30	2.10	1.87	1.79	
7	0.92	0.85	1.22	2.40	2.74	2.66	2.55	2.57	2.29	2.09	1.87	1.78	
8	0.90	0.84	1.32	2.39	2.69	2.65	2.58	2.54	2.26	2.09	1.87	1.77	
9	0.89	0.85	1.33	2.38	2.66	2.73	2.57	2.53	2.25	2.08	1.92	1.77	
10	0.88	0.88	1.64	2.37	2.62	2.81	2.55	2.52	2.25	2.08	1.94	1.76	
11	0.88	0.87	2.11	2.40	2.58	2.80	2.55	2.50	2.24	2.07	1.96	1.76	
12	0.87	0.91	2.30	2.41	2.52	2.76	2.52	2.49	2.23	2.06	1.97	1.75	
13	0.89	1.07	2.29	2.41	2.47	2.71	2.50	2.47	2.21	2.05	1.97	1.74	
14	0.98	1.07	2.27	2.43	2.48	2.65	2.49	2.44	2.20	2.04	1.97	1.75	
15	0.97	1.07	2.27	2.45	2.47	2.63	2.50	2.45	2.19	2.03	1.97	1.75	
16	0.98	1.07	2.23	2.52	2.45	2.65	2.50	2.43	2.19	2.02	1.96	1.75	
17	0.97	1.09	2.19	2.53	2.45	2.61	2.48	2.44	2.19	2.02	1.96	1.75	
18	0.96	1.08	2.18	2.50	2.49	2.59	2.50	2.43	2.19	2.01	1.95	1.81	
19	0.95	1.10	2.17	2.48	2.58	2.66	2.49	2.41	2.19	2.01	1.94	1.80	
20	0.94	1.08	2.15	2.49	2.64	2.69	2.49	2.40	2.19	2.01	1.94	1.79	
21	0.94	1.08	2.13	2.45	2.65	2.66	2.48	2.39	2.18	2.00	1.93	1.79	
22	0.95	1.10	2.08	2.43	2.64	2.64	2.47	2.38	2.18	1.99	1.91	1.79	
23	0.95	1.10	2.07	2.39	2.60	2.61	2.47	2.36	2.17	1.98	1.90	1.79	
24	0.95	1.10	2.10	2.38	2.63	2.56	2.46	2.36	2.17	1.98	1.88	1.79	
25	0.94	1.11	2.15	2.31	2.64	2.54	2.44	2.36	2.16	1.97	1.87	1.79	
26	0.93	1.12	2.23	2.30	2.65	2.50	2.46	2.36	2.16	1.96	1.87	1.78	
27	0.93	1.12	2.28	2.28	2.62	2.50	2.44	2.36	2.16	1.96	1.86	1.78	
28	0.93	1.11	2.31	2.25	2.58	2.48	2.43	2.35	2.15	1.95	1.85	1.77	
29	0.92	1.11	2.34	2.40	2.55	2.49	2.48	2.35	2.15	1.94		1.77	
30	0.91	1.11	2.35	2.57	2.48	2.49	2.52	2.34	2.15	1.94		1.77	
31		1.11		2.75	2.51		2.51		2.15	1.93		1.77	
Mean	0.93	1.01	1.89	2.42	2.63	2.64	2.51	2.45	2.22	2.03	1.92	1.78	
Max	0.98	1.12	2.35	2.75	2.93	2.81	2.62	2.57	2.33	2.14	1.97	1.83	2.93
Min	0.87	0.84	1.10	2.25	2.45	2.48	2.43	2.34	2.15	1.93	1.85	1.74	0.84

Annual Max Momentary Gage Height 2.93 M (A.D), at 6.00 Hours, on Aug 3, 1993
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed -0.72 M (A.D)
Left Bank Elevation 4.50 M (A.D)
Right Bank Elevation 4.45 M (A.D), Drainage Area 1038 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.00	0.00	0.01	0.32	30.36	2.80	1.60	1.60	0.26	0.15	0.10	0.09	
2	0.00	0.00	0.01	0.34	38.40	14.60	1.60	1.90	0.26	0.15	0.10	0.09	
3	0.00	0.00	0.01	0.34	44.28	21.10	3.70	2.50	0.26	0.15	0.10	0.08	
4	0.00	0.00	0.01	0.34	38.40	18.50	4.80	2.80	0.26	0.14	0.10	0.08	
5	0.00	0.00	0.01	0.40	29.02	13.30	5.60	2.80	0.24	0.14	0.10	0.08	
6	0.00	0.00	0.02	0.46	23.70	11.20	4.80	3.10	0.20	0.14	0.09	0.08	
7	0.00	0.00	0.02	0.40	17.20	8.80	2.50	3.10	0.20	0.14	0.09	0.08	
8	0.00	0.00	0.03	0.38	11.20	8.00	3.40	2.20	0.18	0.14	0.09	0.08	
9	0.00	0.00	0.03	0.36	8.80	15.90	3.10	1.90	0.18	0.14	0.10	0.08	
10	0.00	0.00	0.06	0.34	5.60	26.34	2.50	1.60	0.18	0.14	0.11	0.08	
11	0.00	0.00	0.14	0.40	3.40	25.00	2.50	1.00	0.18	0.13	0.11	0.08	
12	0.00	0.00	0.20	0.46	1.60	19.80	1.60	0.94	0.17	0.13	0.11	0.08	
13	0.00	0.01	0.20	0.46	0.82	13.30	1.00	0.82	0.16	0.13	0.11	0.07	
14	0.00	0.01	0.19	0.58	0.88	8.00	0.94	0.64	0.16	0.13	0.11	0.08	
15	0.00	0.01	0.19	0.70	0.82	6.40	1.00	0.70	0.16	0.13	0.11	0.08	
16	0.00	0.01	0.17	1.60	0.70	8.00	1.00	0.58	0.16	0.12	0.11	0.08	
17	0.00	0.01	0.16	1.90	0.70	4.80	0.88	0.64	0.16	0.12	0.11	0.08	
18	0.00	0.01	0.16	1.00	0.94	3.70	1.00	0.58	0.16	0.12	0.11	0.08	
19	0.00	0.01	0.15	0.88	3.40	8.80	0.94	0.46	0.16	0.12	0.11	0.08	
20	0.00	0.01	0.15	0.94	7.20	11.20	0.94	0.40	0.16	0.12	0.11	0.08	
21	0.00	0.01	0.15	0.70	8.00	8.80	0.88	0.38	0.16	0.12	0.11	0.08	
22	0.00	0.01	0.14	0.58	7.20	7.20	0.82	0.36	0.16	0.12	0.10	0.08	
23	0.00	0.01	0.13	0.38	4.00	4.80	0.82	0.32	0.15	0.12	0.10	0.08	
24	0.00	0.01	0.14	0.36	6.40	2.80	0.76	0.32	0.15	0.12	0.10	0.08	
25	0.00	0.01	0.15	0.22	7.20	2.20	0.64	0.32	0.15	0.11	0.09	0.08	
26	0.00	0.01	0.17	0.20	8.00	1.00	0.76	0.32	0.15	0.11	0.09	0.08	
27	0.00	0.01	0.19	0.19	5.60	1.00	0.64	0.32	0.15	0.11	0.09	0.08	
28	0.00	0.01	0.22	0.18	3.40	0.88	0.58	0.30	0.15	0.11	0.09	0.08	
29	0.00	0.01	0.28	0.40	2.50	0.94	0.88	0.30	0.15	0.11		0.08	
30	0.00	0.01	0.30	3.10	0.88	0.94	1.60	0.28	0.15	0.11		0.08	
31		0.01		18.50	1.30		1.30		0.15	0.11		0.08	
Total	0.00	0.19	3.79	37.41	321.90	280.10	55.08	33.48	5.52	3.93	2.85	2.49	746.74 CMSDAY
Mean	0.00	0.01	0.13	1.21	10.38	9.34	1.78	1.12	0.18	0.13	0.10	0.08	2.05 CMS
Max	0.00	0.01	0.30	18.50	44.28	26.34	5.60	3.10	0.26	0.15	0.11	0.09	44.28 CMS
Min	0.00	0.00	0.01	0.18	0.70	0.88	0.58	0.28	0.15	0.11	0.09	0.07	0.00 CMS
Runoff	0.000	0.016	0.327	3.232	27.812	24.201	4.759	2.893	0.477	0.340	0.246	0.215	64.518 MCM

Momentary Peak 44.28 CMS, at 2.93 M (A.D), at 6.00 Hours, on Aug 3, 1993
Runoff Yield 1.97 Liters/Second/Square KM, Momentary Peak Yield 42.66 Liters/Second/Square KM

WATER YEAR 1993

MUN RIVER BASIN

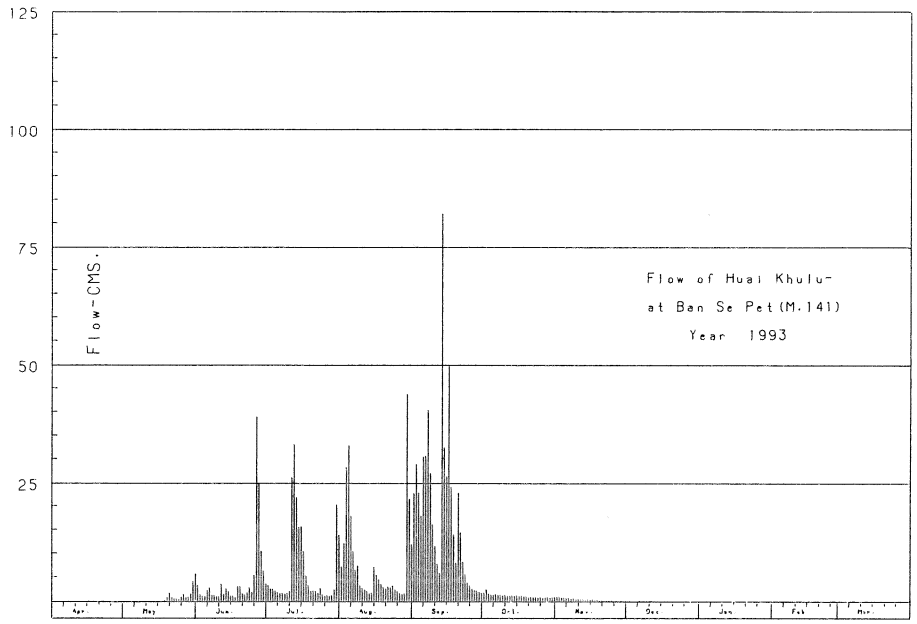
Huai Khulu at Ban Se Pet, Ubon Ratchathani (M.141)

Location	Lat. 15-32-24 N., Long. 104-58-46 E., on left bank at the bridge on road, Ban Se Pet, Amphoe Trakan Phutpon, Ubon Ratchathani.
Drainage Area	382 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+0.00 m.(A.D.)
Bench Mark	B.M.-Highway Department.
Location	On left bank downstream side at the abutment of the bridge.
Elevation	+7.494 m.(A.D.)
Gage Reading Frequency	5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1987 to date.
Rating Operation	
Period of Rating	1987 to date.
Rated by Float	-
Rated by Current Meter	1987 to date.
Stability of Channel Regimes	Stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Stage-discharge relation defined by 15 discharge measurements made in 1993.

Gage Height in Meter (A.D), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	1.21	1.25	1.89	1.89	2.20	2.82	1.73	1.60	1.31	1.25	1.22	1.12	
2	1.19	1.25	1.71	1.83	2.44	3.00	1.81	1.59	1.30	1.25	1.21	1.12	
3	1.18	1.25	1.61	1.81	2.98	2.83	1.71	1.58	1.30	1.25	1.21	1.12	
4	1.17	1.25	1.63	1.79	3.12	2.66	1.70	1.56	1.30	1.25	1.20	1.12	
5	1.17	1.25	1.80	1.74	2.66	3.05	1.70	1.55	1.30	1.24	1.20	1.12	
6	1.17	1.25	1.84	1.73	2.35	3.05	1.70	1.54	1.30	1.24	1.19	1.12	
7	1.17	1.25	1.69	1.72	2.14	3.31	1.69	1.53	1.29	1.24	1.19	1.12	
8	1.17	1.25	1.66	1.72	2.21	2.95	1.68	1.52	1.29	1.24	1.21	1.12	
9	1.17	1.25	1.64	1.72	1.90	2.59	1.67	1.51	1.29	1.25	1.22	1.12	
10	1.17	1.25	1.61	1.78	1.83	2.41	1.67	1.50	1.28	1.25	1.22	1.12	
11	1.17	1.25	1.92	2.92	1.81	2.22	1.66	1.49	1.28	1.25	1.22	1.12	
12	1.17	1.25	1.72	3.12	1.77	2.11	1.66	1.47	1.27	1.25	1.22	1.12	
13	1.35	1.26	1.83	2.80	1.73	4.07	1.65	1.47	1.26	1.25	1.22	1.12	
14	1.34	1.26	1.76	2.57	1.73	3.10	1.65	1.46	1.26	1.24	1.22	1.12	
15	1.33	1.25	1.66	2.58	2.18	2.93	1.65	1.46	1.26	1.24	1.22	1.12	
16	1.31	1.24	1.63	2.35	2.07	3.50	1.64	1.45	1.26	1.24	1.22	1.12	
17	1.30	1.35	1.59	2.07	2.02	2.86	1.64	1.43	1.25	1.24	1.22	1.12	
18	1.29	1.52	1.88	1.89	1.92	2.52	1.63	1.43	1.25	1.24	1.22	1.12	
19	1.28	1.61	1.86	1.78	1.85	2.23	1.61	1.42	1.25	1.24	1.20	1.12	
20	1.28	1.73	1.73	1.77	1.83	2.83	1.59	1.41	1.25	1.23	1.19	1.12	
21	1.27	1.60	1.68	1.76	1.86	2.53	1.59	1.41	1.25	1.23	1.15	1.28	
22	1.26	1.54	1.75	1.74	1.86	2.25	1.59	1.40	1.25	1.23	1.15	1.27	
23	1.26	1.51	1.84	1.84	1.88	2.08	1.58	1.39	1.25	1.22	1.15	1.25	
24	1.25	1.51	1.76	1.69	1.81	1.96	1.58	1.38	1.25	1.22	1.15	1.23	
25	1.25	1.62	2.07	1.65	1.76	1.88	1.57	1.37	1.25	1.22	1.14	1.22	
26	1.25	1.70	3.28	1.66	1.72	1.83	1.57	1.36	1.25	1.22	1.13	1.19	
27	1.25	1.59	2.89	1.65	1.71	1.80	1.58	1.35	1.25	1.22	1.13	1.17	
28	1.25	1.59	2.36	1.65	1.71	1.77	1.57	1.34	1.25	1.22	1.13	1.15	
29	1.25	1.73	2.13	1.81	3.38	1.76	1.57	1.33	1.25	1.22		1.15	
30	1.25	1.98	1.94	2.74	2.79	1.73	1.57	1.32	1.25	1.22		1.14	
31		2.10		2.51	2.42		1.58		1.25	1.22		1.13	
Mean	1.24	1.44	1.88	2.01	2.12	2.55	1.64	1.45	1.27	1.24	1.19	1.15	
Max	1.35	2.10	3.28	3.12	3.38	4.07	1.81	1.60	1.31	1.25	1.22	1.28	4.07
Min	1.17	1.24	1.59	1.65	1.71	1.73	1.57	1.32	1.25	1.22	1.13	1.12	1.12

Annual Max Momentary Gage Height 4.46 M (A.D), at 13.00 Hours, on Sep 13, 1993
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed 1.56 M (A.D)
Left Bank Elevation 6.03 M (A.D)
Right Bank Elevation 6.10 M (A.D), Drainage Area 382 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.00	0.00	3.40	3.40	7.50	22.78	1.80	1.00	0.12	0.00	0.00	0.00	
2	0.00	0.00	1.60	2.80	12.44	29.00	2.60	0.95	0.10	0.00	0.00	0.00	
3	0.00	0.00	1.05	2.60	28.30	23.12	1.60	0.90	0.10	0.00	0.00	0.00	
4	0.00	0.00	1.15	2.40	33.20	18.18	1.50	0.80	0.10	0.00	0.00	0.00	
5	0.00	0.00	2.50	1.90	18.18	30.75	1.50	0.75	0.10	0.00	0.00	0.00	
6	0.00	0.00	2.90	1.80	10.55	30.75	1.50	0.70	0.10	0.00	0.00	0.00	
7	0.00	0.00	1.45	1.70	6.60	40.50	1.45	0.65	0.08	0.00	0.00	0.00	
8	0.00	0.00	1.30	1.70	7.70	27.25	1.40	0.60	0.08	0.00	0.00	0.00	
9	0.00	0.00	1.20	1.70	3.50	16.22	1.35	0.55	0.08	0.00	0.00	0.00	
10	0.00	0.00	1.05	2.30	2.80	11.81	1.35	0.50	0.06	0.00	0.00	0.00	
11	0.00	0.00	3.70	26.20	2.60	7.90	1.30	0.48	0.06	0.00	0.00	0.00	
12	0.00	0.00	1.70	33.20	2.20	6.15	1.30	0.44	0.04	0.00	0.00	0.00	
13	0.20	0.02	2.80	22.10	1.80	82.20	1.25	0.44	0.02	0.00	0.00	0.00	
14	0.18	0.02	2.10	15.66	1.80	32.50	1.25	0.42	0.02	0.00	0.00	0.00	
15	0.16	0.00	1.30	15.94	7.20	26.55	1.25	0.42	0.02	0.00	0.00	0.00	
16	0.12	0.00	1.15	10.55	5.55	50.00	1.20	0.40	0.02	0.00	0.00	0.00	
17	0.10	0.20	0.95	5.55	4.80	24.14	1.20	0.36	0.00	0.00	0.00	0.00	
18	0.08	0.60	3.30	3.40	3.70	14.26	1.15	0.36	0.00	0.00	0.00	0.00	
19	0.06	1.05	3.10	2.30	3.00	8.10	1.05	0.34	0.00	0.00	0.00	0.00	
20	0.06	1.80	1.80	2.20	2.80	23.12	0.95	0.32	0.00	0.00	0.00	0.00	
21	0.04	1.00	1.40	2.10	3.10	14.54	0.95	0.32	0.00	0.00	0.00	0.06	
22	0.02	0.70	2.00	1.90	3.10	8.50	0.95	0.30	0.00	0.00	0.00	0.04	
23	0.02	0.55	2.90	2.90	3.30	5.70	0.90	0.28	0.00	0.00	0.00	0.00	
24	0.00	0.55	2.10	1.45	2.60	4.10	0.90	0.26	0.00	0.00	0.00	0.00	
25	0.00	1.10	5.55	1.25	2.10	3.30	0.85	0.24	0.00	0.00	0.00	0.00	
26	0.00	1.50	39.20	1.30	1.70	2.80	0.85	0.22	0.00	0.00	0.00	0.00	
27	0.00	0.95	25.16	1.25	1.60	2.50	0.90	0.20	0.00	0.00	0.00	0.00	
28	0.00	0.95	10.76	1.25	1.60	2.20	0.85	0.18	0.00	0.00	0.00	0.00	
29	0.00	1.80	6.45	2.60	44.00	2.10	0.85	0.16	0.00	0.00		0.00	
30	0.00	4.30	3.90	20.42	21.82	1.80	0.85	0.14	0.00	0.00		0.00	
31		6.00		13.98	12.02		0.90		0.00	0.00		0.00	
Total	1.04	23.09	138.92	209.80	263.16	572.82	37.70	13.68	1.10	0.00	0.00	0.10	1261.41 CMSDAY
Mean	0.03	0.74	4.63	6.77	8.49	19.09	1.22	0.46	0.04	0.00	0.00	0.00	3.46 CMS
Max	0.20	6.00	39.20	33.20	44.00	82.20	2.60	1.00	0.12	0.00	0.00	0.06	82.20 CMS
Min	0.00	0.00	0.95	1.25	1.60	1.80	0.85	0.14	0.00	0.00	0.00	0.00	0.00 CMS
Runoff	0.090	1.995	12.003	18.127	22.737	49.492	3.257	1.182	0.095	0.000	0.000	0.009	108.986 MCM

Momentary Peak 109.80 CMS, at 4.46 M (A.D), at 13.00 Hours, on Sep 13, 1993

Runoff Yield 9.05 Liters/Second/Square KM, Momentary Peak Yield 287.43 Liters/Second/Square KM

WATER YEAR 1993

MUN RIVER BASIN

Huai Khayung at Ban Ta Nuad Hua Saphan, Si Sa Ket (M.142)

Location — Lat. 14-30-32 N., Long. 104-37-28 E.,on left bank at the bridge on road, Ban Ta Nuad Hua Saphan, Amphoe Kantharalak, Si Sa Ket.

Drainage Area — 241 sq.km.

Type of Gage — Staff gage.

Zero Gage at Bottom — +0.00 m.(A.D.)

Bench Mark — B.M.-Highways Dept.

- Location — On left bank downstream side at the abutment of the bridge.
- Elevation — +10.184 m.(A.D.)

Gage Reading Frequency — 3-time daily readings at 06.00, 12.00 and 18.00 hours.

Basis of Mean Daily Gage Height — Arithmetic mean of 3 readings.

Period of Available Gage Records — 1990 to date.

Rating Operation

- Period of Rating — 1990 to date.
- Rated by Float — -
- Rated by Current Meter — 1990 to date.

Stability of Channel Regimes — Stable.

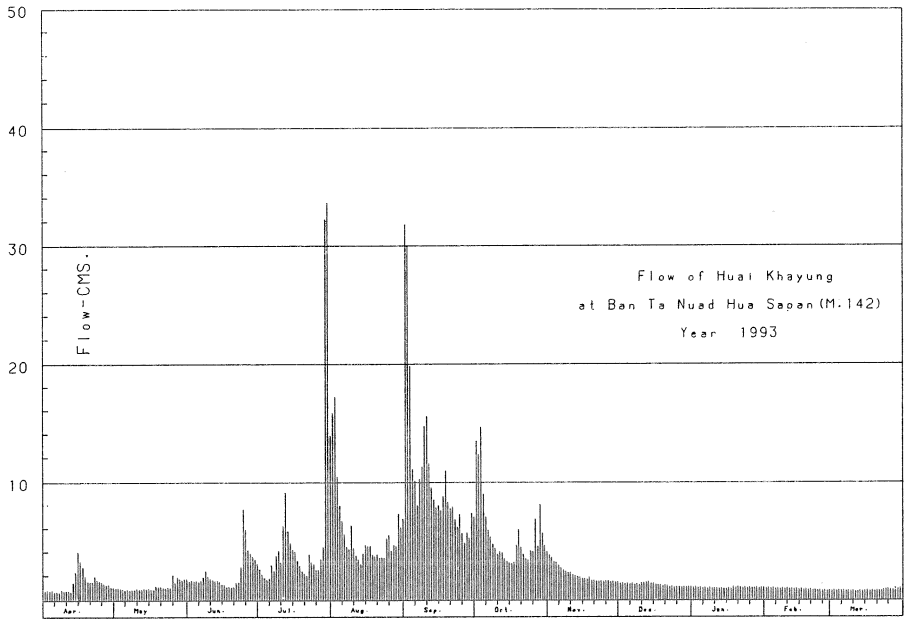
Overbank Flow Conditions — No overbank flow.

General Description — Records good. Stage-discharge relation defined by 24 discharge measurements made in 1993.

Gage Height in Meter (A.D), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.34	0.41	0.56	0.74	2.23	3.49	2.02	0.94	0.51	0.43	0.41	0.34	
2	0.34	0.40	0.56	0.66	2.36	3.36	1.91	0.90	0.51	0.43	0.41	0.34	
3	0.34	0.40	0.56	0.62	1.74	2.58	2.12	0.85	0.50	0.42	0.41	0.34	
4	0.34	0.37	0.55	0.57	1.48	1.80	1.60	0.83	0.50	0.42	0.41	0.34	
5	0.31	0.36	0.54	0.61	1.31	1.71	1.36	0.80	0.50	0.42	0.40	0.34	
6	0.30	0.36	0.56	0.79	1.17	1.48	1.22	0.75	0.50	0.41	0.40	0.34	
7	0.29	0.35	0.63	0.72	1.04	1.72	1.14	0.73	0.49	0.41	0.40	0.34	
8	0.35	0.35	0.72	0.92	1.01	1.82	1.07	0.70	0.49	0.41	0.40	0.33	
9	0.33	0.38	0.63	1.00	1.27	2.13	1.02	0.69	0.48	0.41	0.40	0.33	
10	0.32	0.38	0.59	0.83	1.02	2.21	0.95	0.69	0.51	0.40	0.40	0.33	
11	0.32	0.38	0.59	1.26	0.93	1.84	0.98	0.66	0.52	0.40	0.40	0.33	
12	0.31	0.38	0.55	1.61	0.87	1.65	0.97	0.64	0.54	0.40	0.39	0.33	
13	0.53	0.39	0.58	1.21	0.81	1.54	0.88	0.64	0.54	0.40	0.39	0.33	
14	0.69	0.39	0.53	1.08	0.95	1.45	0.85	0.62	0.51	0.40	0.39	0.33	
15	0.98	0.39	0.50	1.01	1.06	1.48	0.82	0.61	0.50	0.40	0.38	0.33	
16	0.84	0.36	0.47	0.98	1.04	1.42	0.82	0.60	0.49	0.40	0.38	0.34	
17	0.77	0.37	0.44	0.86	1.05	1.57	0.83	0.60	0.48	0.40	0.37	0.34	
18	0.63	0.44	0.43	0.78	0.94	1.79	1.06	0.62	0.47	0.43	0.37	0.34	
19	0.55	0.44	0.43	0.71	0.91	1.51	1.22	0.57	0.46	0.43	0.37	0.34	
20	0.54	0.43	0.42	0.67	0.94	1.45	1.03	0.56	0.46	0.43	0.37	0.34	
21	0.53	0.42	0.51	0.64	0.90	1.46	0.95	0.56	0.45	0.42	0.36	0.34	
22	0.64	0.41	0.54	0.95	0.90	1.33	0.89	0.56	0.44	0.42	0.35	0.35	
23	0.57	0.42	0.77	0.83	0.89	1.25	0.86	0.55	0.44	0.42	0.35	0.36	
24	0.56	0.42	1.44	0.81	1.13	1.38	1.00	0.55	0.43	0.42	0.34	0.39	
25	0.52	0.66	1.22	0.72	1.16	1.18	0.98	0.55	0.43	0.42	0.34	0.38	
26	0.49	0.51	1.00	0.72	0.99	1.08	1.33	0.55	0.44	0.42	0.34	0.39	
27	0.48	0.63	0.96	0.88	1.06	1.19	1.05	0.54	0.43	0.42	0.34	0.39	
28	0.47	0.59	0.91	1.04	1.04	1.13	1.49	0.54	0.43	0.42	0.34	0.41	
29	0.43	0.58	0.88	3.52	1.39	1.39	1.19	0.54	0.44	0.42		0.40	
30	0.41	0.59	0.81	3.61	1.24	1.35	1.05	0.53	0.43	0.41		0.40	
31		0.59		2.06	1.33		0.98		0.43	0.41		0.37	
Mean	0.48	0.44	0.66	1.08	1.17	1.69	1.15	0.65	0.48	0.41	0.38	0.35	
Max	0.98	0.66	1.44	3.61	2.36	3.49	2.12	0.94	0.54	0.43	0.41	0.41	3.61
Min	0.29	0.35	0.42	0.57	0.81	1.08	0.82	0.53	0.43	0.40	0.34	0.33	0.29

Annual Max Momentary Gage Height — 5.13 M (A.D), at 18.00 Hours, on Jul 29, 1993
Zero Gage at Bottom Elevation — 0.00 M (A.D), River Bed -0.15 M (A.D)
Left Bank Elevation — 7.88 M (A.D)
Right Bank Elevation — 8.68 M (A.D), Drainage Area 241 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.82	1.04	1.64	2.64	15.83	31.86	13.52	3.84	1.44	1.12	1.04	0.82	
2	0.82	1.00	1.64	2.16	17.26	30.04	12.31	3.60	1.44	1.12	1.04	0.82	
3	0.82	1.00	1.64	1.92	10.44	19.86	14.62	3.30	1.40	1.08	1.04	0.82	
4	0.82	0.91	1.60	1.68	8.04	11.10	9.00	3.18	1.40	1.08	1.04	0.82	
5	0.73	0.88	1.56	1.86	6.68	10.11	7.08	3.00	1.40	1.08	1.00	0.82	
6	0.70	0.88	1.64	2.94	5.56	8.04	5.96	2.70	1.40	1.04	1.00	0.82	
7	0.67	0.85	1.98	2.52	4.52	10.22	5.32	2.58	1.36	1.04	1.00	0.82	
8	0.85	0.85	2.52	3.72	4.28	11.32	4.76	2.40	1.36	1.04	1.00	0.79	
9	0.79	0.94	1.98	4.20	6.36	14.73	4.36	2.34	1.32	1.04	1.00	0.79	
10	0.76	0.94	1.76	3.18	4.36	15.61	3.90	2.34	1.44	1.00	1.00	0.79	
11	0.76	0.94	1.76	6.28	3.78	11.54	4.08	2.16	1.48	1.00	1.00	0.79	
12	0.73	0.94	1.60	9.10	3.42	9.50	4.02	2.04	1.56	1.00	0.97	0.79	
13	1.52	0.97	1.72	5.88	3.06	8.52	3.48	2.04	1.56	1.00	0.97	0.79	
14	2.34	0.97	1.52	4.84	3.90	7.80	3.30	1.92	1.44	1.00	0.97	0.79	
15	4.08	0.97	1.40	4.28	4.68	8.04	3.12	1.86	1.40	1.00	0.94	0.79	
16	3.24	0.88	1.28	4.08	4.52	7.56	3.12	1.80	1.36	1.00	0.94	0.82	
17	2.82	0.91	1.16	3.36	4.60	8.76	3.18	1.80	1.32	1.00	0.91	0.82	
18	1.98	1.16	1.12	2.88	3.84	10.99	4.68	1.92	1.28	1.12	0.91	0.82	
19	1.60	1.16	1.12	2.46	3.66	8.28	5.96	1.68	1.24	1.12	0.91	0.82	
20	1.56	1.12	1.08	2.22	3.84	7.80	4.44	1.64	1.24	1.12	0.91	0.82	
21	1.52	1.08	1.44	2.04	3.60	7.88	3.90	1.64	1.20	1.08	0.88	0.82	
22	2.04	1.04	1.56	3.90	3.60	6.84	3.54	1.64	1.16	1.08	0.85	0.85	
23	1.68	1.08	2.82	3.18	3.54	6.20	3.36	1.60	1.16	1.08	0.85	0.88	
24	1.64	1.08	7.72	3.06	5.24	7.24	4.20	1.60	1.12	1.08	0.82	0.97	
25	1.48	2.16	5.96	2.52	5.48	5.64	4.08	1.60	1.12	1.08	0.82	0.94	
26	1.36	1.44	4.20	2.52	4.14	4.84	6.84	1.60	1.16	1.08	0.82	0.97	
27	1.32	1.98	3.96	3.48	4.68	5.72	4.60	1.56	1.12	1.08	0.82	0.97	
28	1.28	1.76	3.66	4.52	4.52	5.24	8.12	1.56	1.12	1.08	0.82	1.04	
29	1.12	1.72	3.48	32.30	7.32	7.32	5.72	1.56	1.16	1.08		1.00	
30	1.04	1.76	3.06	33.65	6.12	7.00	4.60	1.52	1.12	1.04		1.00	
31		1.76		13.96	6.84		4.08		1.12	1.04		0.91	
Total	42.89	36.17	69.58	177.33	177.71	315.60	173.25	64.02	40.40	32.80	26.27	26.51	1182.53 CMSDAY
Mean	1.43	1.17	2.32	5.72	5.73	10.52	5.59	2.13	1.30	1.06	0.94	0.86	3.24 CMS
Max	4.08	2.16	7.72	33.65	17.26	31.86	14.62	3.84	1.56	1.12	1.04	1.04	33.65 CMS
Min	0.67	0.85	1.08	1.68	3.06	4.84	3.12	1.52	1.12	1.00	0.82	0.79	0.67 CMS
Runoff	3.706	3.125	6.012	15.321	15.354	27.268	14.969	5.531	3.491	2.834	2.270	2.290	102.171 MCM

Momentary Peak 59.34 CMS, at 5.13 M (A.D), at 18.00 Hours, on Jul 29, 1993

Runoff Yield 13.44 Liters/Second/Square KM, Momentary Peak Yield 246.22 Liters/Second/Square KM

WATER YEAR 1993

MUN RIVER BASIN

Huai Sang Kot at Ban Nong Udom, Si Sa Ket (M.143)

Location — Lat. 14°-29'-03" N., Long. 104°-39'-50" E., on left bank at the bridge on road, Ban Nong Udom, Amphoe Kantharalak, Si Sa Ket.

Drainage Area — 46 sq.km.

Type of Gage — Staff gage.

Zero Gage at Bottom — +0.00 m.(A.D.)

Bench Mark — B.M.-H.D.

Location — On left bank upstream side on the bridge.

Elevation — +6.919 m.(A.D.)

Gage Reading Frequency — 3-time daily readings at 06.00, 12.00 and 18.00 hours.

Basis of Mean Daily Gage Height — Arithmetic mean of 3 readings.

Period of Available Gage Records — 1990 to date.

Rating Operation

Period of Rating — 1990 to date.

Rated by Float — -

Rated by Current Meter — 1990 to date.

Stability of Channel Regimes — Stable.

Overbank Flow Conditions — Overbank flow starts at elevation +4.06 m.(A.D.), records are channel flow only.

General Description — Records fair. Stage-discharge relation defined by 21 discharge measurements made in 1993.

Gage Height in Meter (A.D), Water Year April 1, 1993 to March 31, 1994

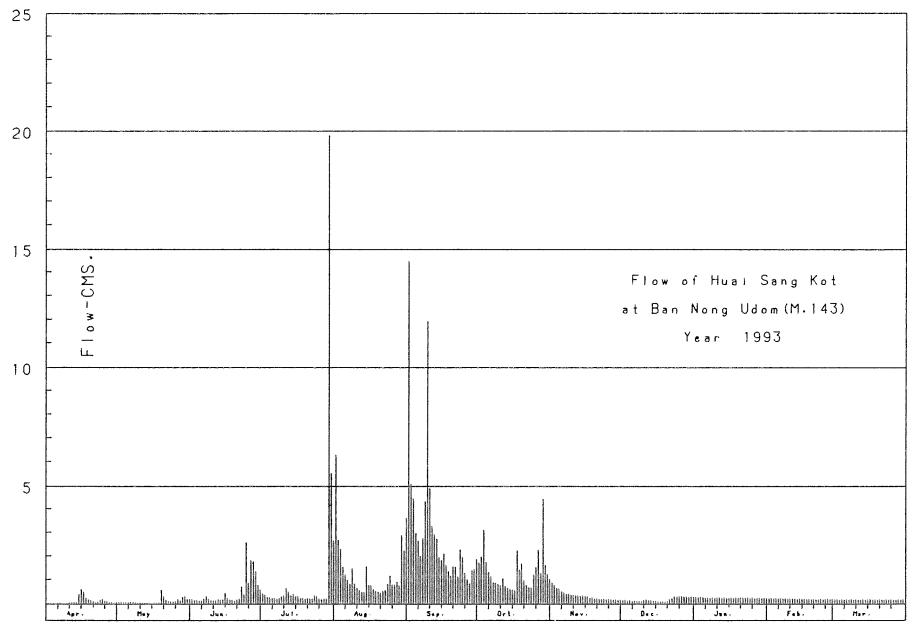
Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.47	0.53	0.63	0.82	2.48	3.88	1.35	1.04	0.61	0.72	0.68	0.64	
2	0.47	0.53	0.60	0.77	1.64	2.23	1.43	0.99	0.60	0.72	0.68	0.63	
3	0.47	0.52	0.59	0.73	1.54	2.09	1.77	0.94	0.59	0.72	0.68	0.63	
4	0.47	0.52	0.59	0.70	1.29	1.73	1.35	0.91	0.58	0.72	0.68	0.63	
5	0.47	0.52	0.59	0.70	1.18	1.64	1.22	0.87	0.57	0.71	0.68	0.63	
6	0.47	0.52	0.65	0.68	1.08	1.44	1.14	0.83	0.57	0.70	0.67	0.63	
7	0.47	0.52	0.75	0.66	1.02	1.66	1.05	0.81	0.57	0.70	0.67	0.63	
8	0.47	0.52	0.64	0.67	1.26	2.07	1.03	0.80	0.56	0.70	0.66	0.63	
9	0.47	0.51	0.61	0.74	1.02	3.46	1.02	0.79	0.56	0.70	0.66	0.63	
10	0.47	0.50	0.58	0.76	0.94	2.19	0.98	0.77	0.59	0.70	0.66	0.63	
11	0.53	0.50	0.57	0.94	0.88	1.81	1.12	0.77	0.62	0.70	0.66	0.63	
12	0.53	0.50	0.65	0.85	0.85	1.71	0.98	0.76	0.61	0.70	0.66	0.63	
13	0.53	0.50	0.60	0.77	0.84	1.66	0.93	0.76	0.59	0.70	0.66	0.63	
14	0.79	0.50	0.65	0.80	1.30	1.42	0.91	0.76	0.57	0.70	0.66	0.63	
15	0.91	0.50	0.83	0.75	1.00	1.39	0.89	0.75	0.56	0.70	0.65	0.63	
16	0.85	0.51	0.68	0.73	0.99	1.48	0.87	0.73	0.55	0.70	0.65	0.63	
17	0.69	0.51	0.64	0.70	0.91	1.31	1.52	0.71	0.55	0.70	0.65	0.63	
18	0.64	0.50	0.60	0.68	0.86	1.23	1.25	0.70	0.54	0.70	0.64	0.63	
19	0.59	0.90	0.58	0.67	0.86	1.15	1.33	0.68	0.54	0.70	0.64	0.63	
20	0.55	0.73	0.62	0.66	0.83	1.29	1.07	0.67	0.56	0.70	0.64	0.63	
21	0.53	0.62	0.65	0.65	0.86	1.29	1.00	0.66	0.63	0.70	0.64	0.63	
22	0.53	0.57	0.98	0.67	0.89	1.14	0.95	0.65	0.69	0.70	0.64	0.63	
23	0.63	0.54	0.80	0.77	1.02	1.53	0.93	0.65	0.73	0.70	0.64	0.63	
24	0.64	0.56	1.62	0.73	1.16	1.42	1.18	0.64	0.74	0.70	0.64	0.63	
25	0.59	0.55	1.03	0.66	1.00	1.20	1.28	0.63	0.74	0.70	0.64	0.63	
26	0.55	0.63	1.38	0.64	1.00	1.09	1.52	0.63	0.74	0.69	0.64	0.63	
27	0.53	0.60	1.37	0.67	1.06	1.03	1.20	0.63	0.74	0.69	0.64	0.63	
28	0.51	0.73	1.23	0.66	0.98	1.24	2.09	0.62	0.73	0.69	0.64	0.63	
29	0.51	0.74	0.99	4.61	1.70	1.25	1.32	0.61	0.73	0.69		0.63	
30	0.53	0.65	0.89	2.33	1.52	1.39	1.18	0.61	0.73	0.69		0.63	
31		0.65		1.63	1.90		1.09		0.73	0.68		0.63	
Mean	0.56	0.57	0.79	0.93	1.16	1.65	1.19	0.75	0.63	0.70	0.66	0.63	
Max	0.91	0.90	1.62	4.61	2.48	3.88	2.09	1.04	0.74	0.72	0.68	0.64	4.61
Min	0.47	0.50	0.57	0.64	0.83	1.03	0.87	0.61	0.54	0.68	0.64	0.63	0.47

Annual Max Momentary Gage Height — 5.74 M (A.D), at 6.00 Hours, on Jul 29, 1993

Zero Gage at Bottom Elevation — 0.00 M (A.D), River Bed — 0.31 M (A.D)

Left Bank Elevation — 5.36 M (A.D)

Right Bank Elevation — 4.05 M (A.D), Drainage Area — 46 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.04	0.08	0.18	0.44	6.30	14.48	1.75	0.90	0.16	0.28	0.23	0.19	
2	0.04	0.08	0.15	0.36	2.69	5.09	1.99	0.78	0.15	0.28	0.23	0.18	
3	0.04	0.07	0.14	0.30	2.34	4.46	3.15	0.68	0.14	0.28	0.23	0.18	
4	0.04	0.07	0.14	0.25	1.57	3.01	1.75	0.62	0.13	0.28	0.23	0.18	
5	0.04	0.07	0.14	0.25	1.25	2.69	1.36	0.54	0.12	0.26	0.23	0.18	
6	0.04	0.07	0.20	0.23	1.00	2.02	1.15	0.46	0.12	0.25	0.22	0.18	
7	0.04	0.07	0.33	0.21	0.85	2.76	0.92	0.42	0.12	0.25	0.22	0.18	
8	0.04	0.07	0.19	0.22	1.48	4.36	0.87	0.40	0.11	0.25	0.21	0.18	
9	0.04	0.06	0.16	0.31	0.85	11.96	0.85	0.39	0.11	0.25	0.21	0.18	
10	0.04	0.05	0.13	0.34	0.68	4.91	0.76	0.36	0.14	0.25	0.21	0.18	
11	0.08	0.05	0.12	0.68	0.56	3.29	1.10	0.36	0.17	0.25	0.21	0.18	
12	0.08	0.05	0.20	0.50	0.50	2.94	0.76	0.34	0.16	0.25	0.21	0.16	
13	0.08	0.05	0.15	0.36	0.48	2.76	0.66	0.34	0.14	0.25	0.21	0.18	
14	0.39	0.05	0.20	0.40	1.60	1.96	0.62	0.34	0.12	0.25	0.21	0.18	
15	0.62	0.05	0.46	0.33	0.80	1.87	0.58	0.33	0.11	0.25	0.20	0.18	
16	0.50	0.06	0.23	0.30	0.78	2.14	0.54	0.30	0.10	0.25	0.20	0.18	
17	0.24	0.06	0.19	0.25	0.62	1.63	2.27	0.26	0.10	0.25	0.20	0.18	
18	0.19	0.05	0.15	0.23	0.52	1.39	1.45	0.25	0.09	0.25	0.19	0.18	
19	0.14	0.60	0.13	0.22	0.52	1.17	1.69	0.23	0.09	0.25	0.19	0.18	
20	0.10	0.30	0.17	0.21	0.46	1.57	0.98	0.22	0.11	0.25	0.19	0.18	
21	0.08	0.17	0.20	0.20	0.52	1.57	0.80	0.21	0.18	0.25	0.19	0.18	
22	0.08	0.12	0.76	0.22	0.58	1.15	0.70	0.20	0.24	0.25	0.19	0.18	
23	0.18	0.09	0.40	0.36	0.85	2.31	0.66	0.20	0.30	0.25	0.19	0.18	
24	0.19	0.11	2.62	0.30	1.20	1.96	1.25	0.19	0.31	0.25	0.19	0.18	
25	0.14	0.10	0.87	0.21	0.80	1.30	1.54	0.18	0.31	0.25	0.19	0.18	
26	0.10	0.18	1.84	0.19	0.80	1.02	2.27	0.18	0.31	0.24	0.19	0.18	
27	0.08	0.15	1.81	0.22	0.95	0.87	1.30	0.18	0.31	0.24	0.19	0.18	
28	0.06	0.30	1.39	0.21	0.76	1.42	4.46	0.17	0.30	0.24	0.19	0.18	
29	0.06	0.31	0.78	19.83	2.90	1.45	1.66	0.16	0.30	0.24		0.18	
30	0.08	0.20	0.58	5.55	2.27	1.87	1.25	0.16	0.30	0.24		0.18	
31		0.20		2.66	3.65		1.02		0.30	0.23		0.18	
Total	3.87	3.94	15.01	36.34	41.13	91.38	42.11	10.35	5.65	7.81	5.75	5.59	268.93 CMSDAY
Mean	0.13	0.13	0.50	1.17	1.33	3.05	1.36	0.35	0.18	0.25	0.21	0.18	0.74 CMS
Max	0.62	0.60	2.62	19.83	6.30	14.48	4.46	0.90	0.31	0.28	0.23	0.19	19.83 CMS
Min	0.04	0.05	0.12	0.19	0.46	0.87	0.54	0.16	0.09	0.23	0.19	0.18	0.04 CMS
Runoff	0.334	0.340	1.297	3.140	3.554	7.895	3.638	0.894	0.488	0.675	0.497	0.483	23.236 MCM

Momentary Peak 28.62 CMS, at 5.74 M (A.D), at 6.00 Hours, on Jul 29, 1993
Runoff Yield 16.02 Liters/Second/Square KM, Momentary Peak Yield 622.17 Liters/Second/Square KM

WATER YEAR 1993

MUN RIVER BASIN

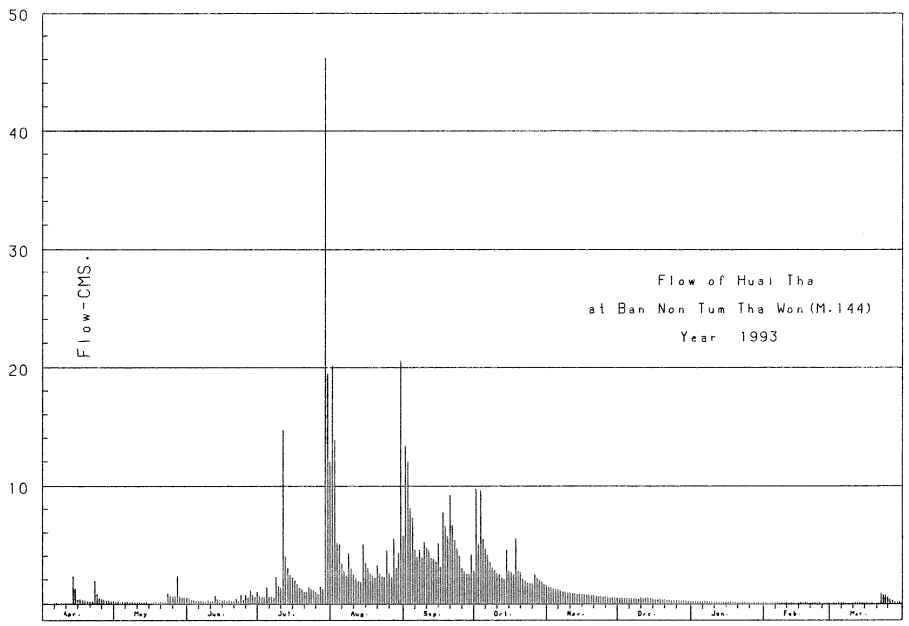
Huai Tha at Ban Non Tum Tha Won, Si Sa Ket (M.144)

Location	Lat. 14°-30'-44" N., Long. 104°-27'-28" E., on left bank at the bridge on road, Ban Non Tum Tha Won, Amphoe Khun Han, Si Sa Ket.
Drainage Area	124 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+0.00 m.(A.D.)
Bench Mark	B.M.-H.D.
Location	On left bank about 10 meters from the top staff gage.
Elevation	+13.954 m.(A.D.)
Gage Reading Frequency	5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1990 to date.
Rating Operation	
Period of Rating	1990 to date.
Rated by Float	-
Rated by Current Meter	1990 to date.
Stability of Channel Regimes	Fairly stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records fair. Stage-discharge relation defined by 27 discharge measurements made in 1993.

Gage Height in Meter (A.D), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.79	0.89	1.01	1.09	4.40	3.65	3.16	1.46	1.03	0.92	0.84	0.82	
2	0.79	0.88	0.96	1.06	3.72	3.48	2.40	1.43	1.03	0.92	0.84	0.82	
3	0.79	0.88	0.93	1.04	2.41	2.90	3.15	1.39	1.03	0.91	0.84	0.82	
4	0.79	0.87	0.92	1.42	2.40	2.77	2.47	1.36	1.02	0.91	0.84	0.82	
5	0.79	0.86	0.92	1.07	2.07	2.30	2.32	1.35	1.02	0.91	0.84	0.82	
6	0.79	0.85	0.91	1.06	1.91	2.17	2.20	1.29	1.01	0.90	0.84	0.81	
7	0.79	0.85	0.90	1.05	1.80	2.29	2.09	1.27	1.01	0.90	0.84	0.81	
8	0.79	0.85	0.88	1.75	2.23	2.17	1.99	1.24	1.00	0.89	0.84	0.81	
9	0.79	0.85	0.94	1.48	1.97	2.42	1.94	1.23	1.00	0.89	0.84	0.81	
10	0.79	0.84	0.92	1.40	1.84	2.34	1.85	1.22	1.04	0.89	0.84	0.81	
11	0.78	0.84	0.90	3.82	1.71	2.29	1.83	1.21	1.03	0.88	0.83	0.86	
12	0.78	0.84	1.12	2.18	1.64	2.16	1.75	1.20	1.03	0.88	0.83	0.84	
13	1.78	0.84	0.98	2.00	1.61	2.14	1.68	1.18	1.03	0.88	0.83	0.84	
14	1.38	0.84	0.96	1.81	2.40	2.10	2.30	1.18	1.02	0.87	0.83	0.83	
15	0.98	0.84	0.94	1.75	2.08	2.41	1.92	1.17	1.00	0.87	0.83	0.83	
16	0.97	0.87	0.94	1.67	1.98	2.00	1.89	1.16	0.96	0.87	0.83	0.83	
17	0.95	0.85	0.93	1.55	1.86	2.85	1.84	1.15	0.98	0.87	0.83	0.82	
18	0.93	0.85	0.93	1.42	1.79	2.65	2.47	1.14	0.98	0.87	0.83	0.82	
19	0.91	0.84	0.91	1.34	1.74	2.50	1.92	1.13	0.97	0.86	0.83	0.82	
20	0.90	0.84	0.90	1.26	2.03	3.09	1.88	1.12	0.97	0.86	0.83	0.81	
21	0.90	0.84	0.99	1.25	1.85	2.66	1.69	1.11	0.96	0.86	0.83	0.81	
22	1.65	0.84	0.92	1.45	1.78	2.46	1.65	1.10	0.96	0.86	0.83	1.22	
23	1.18	1.20	1.14	1.35	1.75	2.31	1.58	1.09	0.94	0.86	0.83	1.16	
24	1.03	1.10	0.96	1.31	2.29	2.20	1.58	1.08	0.95	0.86	0.83	1.14	
25	0.98	1.09	1.13	1.24	1.87	1.99	1.55	1.07	0.94	0.86	0.83	1.08	
26	0.96	1.09	1.05	1.18	1.75	1.91	1.84	1.06	0.93	0.85	0.82	0.98	
27	0.94	1.79	1.33	1.47	2.47	1.85	1.74	1.05	0.93	0.85	0.82	0.95	
28	0.93	1.07	1.13	1.35	1.99	1.84	1.66	1.05	0.93	0.85	0.82	0.90	
29	0.91	1.04	1.09	6.03	2.24	2.21	1.64	1.04	0.92	0.85		0.89	
30	0.90	1.04	1.25	4.33	4.44	1.92	1.54	1.03	0.92	0.85		0.86	
31		1.04		3.47	2.52		1.50		0.92	0.85		0.85	
Mean	0.95	0.94	0.99	1.80	2.21	2.40	1.97	1.19	0.98	0.88	0.83	0.88	
Max	1.78	1.79	1.33	6.03	4.44	3.65	3.16	1.46	1.04	0.92	0.84	1.22	6.03
Min	0.78	0.84	0.88	1.04	1.61	1.84	1.50	1.03	0.92	0.85	0.82	0.81	0.78

Annual Max Momentary Gage Height 6.46 M (A.D), at 6.00 Hours, on Jul 29, 1993
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed 0.49 M (A.D)
Left Bank Elevation 11.64 M (A.D)
Right Bank Elevation 10.38 M (A.D), Drainage Area 124 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.09	0.19	0.45	0.63	20.20	13.40	9.74	1.48	0.50	0.25	0.14	0.12	
2	0.09	0.18	0.34	0.57	13.96	12.11	5.10	1.41	0.50	0.25	0.14	0.12	
3	0.09	0.18	0.27	0.52	5.16	8.10	9.67	1.32	0.50	0.22	0.14	0.12	
4	0.09	0.17	0.25	1.39	5.10	7.32	5.52	1.25	0.47	0.22	0.14	0.12	
5	0.09	0.16	0.25	0.59	3.45	4.60	4.70	1.23	0.47	0.22	0.14	0.12	
6	0.09	0.15	0.22	0.57	2.74	3.95	4.10	1.09	0.45	0.20	0.14	0.11	
7	0.09	0.15	0.20	0.54	2.40	4.55	3.55	1.05	0.45	0.20	0.14	0.11	
8	0.09	0.15	0.18	2.25	4.25	3.95	3.06	0.98	0.43	0.19	0.14	0.11	
9	0.09	0.15	0.29	1.53	2.98	5.22	2.86	0.95	0.43	0.19	0.14	0.11	
10	0.09	0.14	0.25	1.34	2.52	4.80	2.55	0.93	0.52	0.19	0.14	0.11	
11	0.08	0.14	0.20	14.76	2.13	4.55	2.49	0.91	0.50	0.18	0.13	0.16	
12	0.08	0.14	0.70	4.00	1.92	3.90	2.25	0.89	0.50	0.18	0.13	0.14	
13	2.34	0.14	0.38	3.10	1.83	3.80	2.04	0.84	0.50	0.18	0.13	0.14	
14	1.30	0.14	0.34	2.43	5.10	3.60	4.60	0.84	0.47	0.17	0.13	0.13	
15	0.38	0.14	0.29	2.25	3.50	5.16	2.78	0.82	0.43	0.17	0.13	0.13	
16	0.36	0.17	0.29	2.01	3.02	3.10	2.67	0.79	0.34	0.17	0.13	0.13	
17	0.31	0.15	0.27	1.69	2.58	7.80	2.52	0.77	0.38	0.17	0.13	0.12	
18	0.27	0.15	0.27	1.39	2.37	6.60	5.52	0.75	0.38	0.17	0.13	0.12	
19	0.22	0.14	0.22	1.21	2.22	5.70	2.78	0.73	0.36	0.16	0.13	0.12	
20	0.20	0.14	0.20	1.02	3.25	9.24	2.64	0.70	0.36	0.16	0.13	0.11	
21	0.20	0.14	0.41	1.00	2.55	6.66	2.07	0.68	0.34	0.16	0.13	0.11	
22	1.95	0.14	0.25	1.46	2.34	5.46	1.95	0.66	0.34	0.16	0.13	0.93	
23	0.84	0.89	0.75	1.23	2.25	4.65	1.75	0.63	0.29	0.16	0.13	0.79	
24	0.50	0.66	0.34	1.14	4.55	4.10	1.75	0.61	0.31	0.16	0.13	0.75	
25	0.38	0.63	0.73	0.98	2.61	3.06	1.69	0.59	0.29	0.16	0.13	0.61	
26	0.34	0.63	0.54	0.84	2.25	2.74	2.52	0.57	0.27	0.15	0.12	0.38	
27	0.29	2.37	1.18	1.50	5.52	2.55	2.22	0.54	0.27	0.15	0.12	0.31	
28	0.27	0.59	0.73	1.23	3.06	2.52	1.98	0.54	0.27	0.15	0.12	0.20	
29	0.22	0.52	0.63	46.20	4.30	4.15	1.92	0.52	0.25	0.15		0.19	
30	0.20	0.52	1.00	19.50	20.60	2.78	1.66	0.50	0.25	0.15		0.16	
31		0.52		12.04	5.82		1.57		0.25	0.15		0.15	
Total	11.63	10.68	12.42	130.91	146.53	160.12	102.22	25.57	12.07	5.54	3.71	7.03	628.43 CMSDAY
Mean	0.39	0.34	0.41	4.22	4.73	5.34	3.30	0.85	0.39	0.18	0.13	0.23	1.72 CMS
Max	2.34	2.37	1.18	46.20	20.60	13.40	9.74	1.48	0.52	0.25	0.14	0.93	46.20 CMS
Min	0.08	0.14	0.18	0.52	1.83	2.52	1.57	0.50	0.25	0.15	0.12	0.11	0.08 CMS
Runoff	1.005	0.923	1.073	11.311	12.660	13.834	8.832	2.209	1.043	0.479	0.321	0.607	54.296 MCM

Momentary Peak 59.22 CMS, at 6.46 M (A.D), at 6.00 Hours, on Jul 29, 1993

Runoff Yield 13.88 Liters/Second/Square KM, Momentary Peak Yield 477.58 Liters/Second/Square KM

WATER YEAR 1993

MUN RIVER BASIN

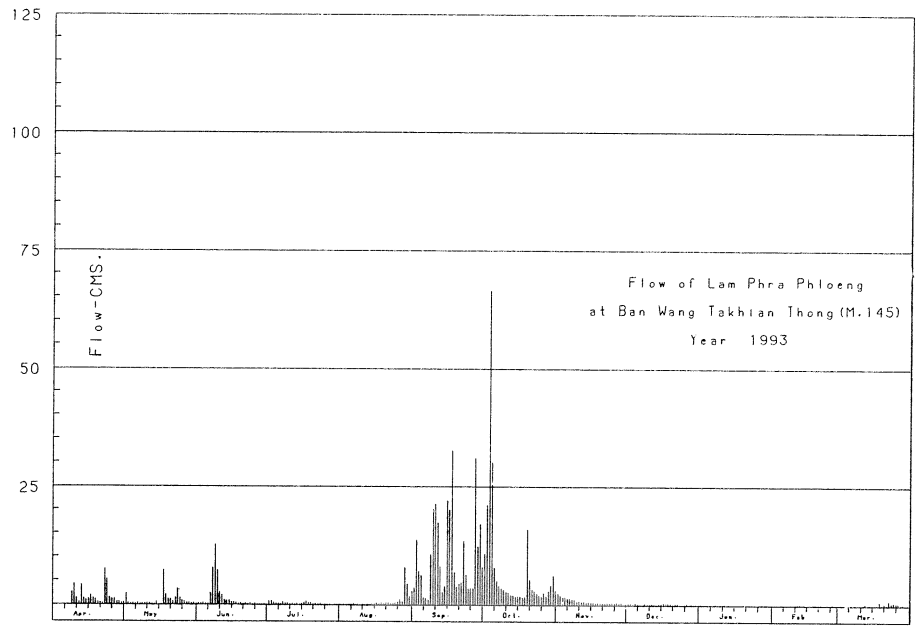
Lam Phra Phloeng at Ban Wang Takhian Thong, Nakhon Ratchasima (M.145)

Location	Lat. 14°-29'-57" N., Long. 101°-41'-34" E., on right bank at Ban Wang Takhian Thong, Tambon Wang Ka Tha, Amphoe Pak Chong, Nakhon Ratchasima.
Drainage Area	335 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+0.00 m.(A.D.)
Bench Mark	B.M.-H.D.
Location	On right bank about 12 meters from the top staff gage.
Elevation	+7.980 m.(A.D.)
Gage Reading Frequency	5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1990 to date.
Rating Operation	
Period of Rating	1990 to date.
Rated by Float	-
Rated by Current Meter	1990 to date.
Stability of Channel Regimes	Fairly stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records fair. Stage-discharge relation defined by 56 discharge measurements made in 1993.

Gage Height in Meter (A.D), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	-0.06	0.45	0.06	0.15	0.01	0.56	1.24	0.45	0.08	0.02	-0.03	-0.14	
2	-0.07	0.08	0.07	0.20	0.01	1.44	1.91	0.39	0.08	0.02	-0.03	-0.16	
3	-0.07	0.06	0.07	0.10	0.01	0.91	3.50	0.35	0.08	0.02	-0.03	-0.20	
4	-0.07	0.05	0.06	0.09	0.01	0.84	2.35	0.33	0.08	0.02	-0.03	-0.23	
5	-0.09	0.05	0.07	0.08	0.01	0.33	1.00	0.30	0.08	0.02	-0.03	-0.22	
6	-0.09	0.07	0.46	0.06	0.04	0.27	0.72	0.28	0.07	0.02	-0.03	-0.21	
7	-0.09	0.05	0.98	0.13	0.00	0.22	0.60	0.26	0.06	0.02	-0.03	-0.20	
8	0.48	0.03	1.38	0.08	0.00	1.23	0.56	0.24	0.06	0.02	-0.04	-0.19	
9	0.64	0.07	0.95	0.06	0.00	1.87	0.52	0.16	0.06	0.01	-0.04	-0.18	
10	0.28	0.05	0.47	0.05	-0.02	1.92	0.49	0.16	0.06	0.01	0.01	-0.17	
11	0.13	0.08	0.41	0.04	0.00	1.69	0.46	0.16	0.07	0.01	0.06	0.03	
12	0.63	0.05	0.22	0.04	-0.01	1.01	0.42	0.14	0.08	0.01	0.05	0.05	
13	0.29	0.04	0.17	0.04	-0.02	0.48	0.40	0.13	0.10	0.01	0.02	0.01	
14	0.19	0.14	0.22	0.04	0.01	0.59	0.38	0.13	0.10	0.00	0.00	-0.02	
15	0.28	0.06	0.14	0.05	0.04	1.96	0.36	0.12	0.09	0.00	-0.02	-0.06	
16	0.39	0.03	0.12	0.13	0.05	1.85	0.35	0.11	0.09	-0.01	-0.02	-0.08	
17	0.30	0.95	0.10	0.15	0.05	2.45	0.33	0.11	0.08	-0.01	-0.03	-0.11	
18	0.22	0.42	0.08	0.11	0.07	0.90	0.33	0.10	0.08	-0.01	-0.04	0.17	
19	0.14	0.27	0.07	0.07	0.06	0.58	1.60	0.10	0.07	-0.01	-0.04	0.09	
20	0.09	0.23	0.06	0.05	0.08	0.66	0.75	0.10	0.07	-0.01	-0.05	0.14	
21	0.08	0.14	0.06	0.04	0.07	0.67	0.54	0.10	0.06	-0.01	-0.05	0.10	
22	0.97	0.33	0.06	0.03	0.06	1.42	0.49	0.10	0.04	-0.02	-0.06	0.20	
23	0.74	0.54	0.06	0.03	0.07	0.85	0.45	0.10	0.04	0.02	-0.06	0.11	
24	0.32	0.32	0.05	0.02	0.06	0.55	0.40	0.09	0.03	-0.02	-0.07	0.19	
25	0.25	0.18	0.04	0.01	0.14	0.55	0.38	0.09	0.03	-0.02	-0.07	0.12	
26	0.26	0.14	0.04	0.01	0.22	0.56	0.45	0.09	0.03	-0.02	-0.08	0.08	
27	0.15	0.11	0.03	0.01	0.16	2.38	0.39	0.09	0.03	-0.02	-0.09	0.05	
28	0.12	0.09	0.03	0.01	1.00	1.35	0.50	0.09	0.03	-0.02	-0.12	0.03	
29	0.08	0.08	0.03	0.01	0.66	1.67	0.61	0.09	0.03	-0.02		0.02	
30	0.10	0.07	0.03	0.01	0.34	1.00	0.83	0.09	0.03	-0.02		0.01	
31		0.06		0.01	0.50		0.50		0.02	-0.02		-0.01	
Mean	0.22	0.17	0.22	0.06	0.12	1.09	0.77	0.17	0.06	0.00	-0.03	-0.03	
Max	0.97	0.95	1.38	0.20	1.00	2.45	3.50	0.45	0.10	0.02	0.06	0.20	3.50
Min	-0.09	0.03	0.03	0.01	-0.02	0.22	0.33	0.09	0.02	-0.02	-0.12	-0.23	-0.23

Annual Max Momentary Gage Height 4.68 M (A.D), at 5.00 Hours, on Oct 3, 1993
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed -0.19 M (A.D)
Left Bank Elevation 7.93 M (A.D)
Right Bank Elevation 7.91 M (A.D), Drainage Area 335 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.14	2.50	0.38	0.75	0.23	3.60	10.80	2.50	0.44	0.26	0.17	0.06	
2	0.13	0.44	0.41	1.00	0.23	13.80	21.20	1.95	0.44	0.26	0.17	0.04	
3	0.13	0.38	0.41	0.50	0.23	7.10	66.50	1.75	0.44	0.26	0.17	0.00	
4	0.13	0.35	0.38	0.47	0.23	6.40	30.25	1.65	0.44	0.26	0.17	0.00	
5	0.11	0.35	0.41	0.44	0.23	1.65	8.00	1.50	0.44	0.26	0.17	0.00	
6	0.11	0.41	2.60	0.38	0.32	1.35	5.20	1.40	0.41	0.26	0.17	0.00	
7	0.11	0.35	7.80	0.65	0.20	1.10	4.00	1.30	0.38	0.26	0.17	0.00	
8	2.80	0.29	12.90	0.44	0.20	10.65	3.60	1.20	0.38	0.26	0.16	0.01	
9	4.40	0.41	7.50	0.38	0.20	20.46	3.20	0.80	0.38	0.23	0.16	0.02	
10	1.40	0.35	2.70	0.35	0.18	21.40	2.90	0.80	0.38	0.23	0.23	0.03	
11	0.65	0.44	2.10	0.32	0.20	17.55	2.60	0.80	0.41	0.23	0.38	0.29	
12	4.30	0.35	1.10	0.32	0.19	8.10	2.20	0.70	0.44	0.23	0.35	0.35	
13	1.45	0.32	0.85	0.32	0.18	2.80	2.00	0.65	0.50	0.23	0.26	0.23	
14	0.95	0.70	1.10	0.32	0.23	3.90	1.90	0.65	0.50	0.20	0.20	0.18	
15	1.40	0.38	0.70	0.35	0.32	22.20	1.80	0.60	0.47	0.20	0.18	0.14	
16	1.95	0.29	0.60	0.65	0.35	20.10	1.75	0.55	0.47	0.19	0.18	0.12	
17	1.50	7.50	0.50	0.75	0.35	32.75	1.65	0.55	0.44	0.19	0.17	0.09	
18	1.10	2.20	0.44	0.55	0.41	7.00	1.65	0.50	0.44	0.19	0.16	0.85	
19	0.70	1.35	0.41	0.41	0.38	3.80	16.20	0.50	0.41	0.19	0.16	0.47	
20	0.47	1.15	0.38	0.35	0.44	4.60	5.50	0.50	0.41	0.19	0.15	0.70	
21	0.44	0.70	0.38	0.32	0.41	4.70	3.40	0.50	0.38	0.19	0.15	0.50	
22	7.70	1.65	0.38	0.29	0.38	13.50	2.90	0.50	0.32	0.18	0.14	1.00	
23	5.40	3.40	0.38	0.29	0.41	6.50	2.50	0.50	0.32	0.26	0.14	0.55	
24	1.60	1.60	0.35	0.26	0.38	3.50	2.00	0.47	0.29	0.18	0.13	0.95	
25	1.25	0.90	0.32	0.23	0.70	3.50	1.90	0.47	0.29	0.18	0.13	0.60	
26	1.30	0.70	0.32	0.23	1.10	3.60	2.50	0.47	0.29	0.18	0.12	0.44	
27	0.75	0.55	0.29	0.23	0.80	31.00	1.95	0.47	0.29	0.18	0.11	0.35	
28	0.60	0.47	0.29	0.23	8.00	12.45	3.00	0.47	0.29	0.18	0.08	0.29	
29	0.44	0.44	0.29	0.23	4.60	17.25	4.10	0.47	0.29	0.18		0.26	
30	0.50	0.41	0.29	0.23	1.70	8.00	6.30	0.47	0.29	0.18		0.23	
31		0.38		0.23	3.00		3.00		0.26	0.18		0.19	
Total	43.91	31.71	46.96	12.47	26.78	314.31	226.45	25.64	11.93	6.65	4.93	8.94	760.68 CMSDAY
Mean	1.46	1.02	1.57	0.40	0.86	10.48	7.30	0.85	0.38	0.21	0.18	0.29	2.08 CMS
Max	7.70	7.50	12.90	1.00	8.00	32.75	66.50	2.50	0.50	0.26	0.38	1.00	66.50 CMS
Min	0.11	0.29	0.29	0.23	0.18	1.10	1.65	0.47	0.26	0.18	0.08	0.00	0.00 CMS
Runoff	3.794	2.740	4.057	1.077	2.314	27.156	19.565	2.215	1.031	0.575	0.426	0.772	65.723 MCM

Momentary Peak 125.80 CMS, at 4.68 M (A.D), at 5.00 Hours, on Oct 3, 1993
Runoff Yield 6.22 Liters/Second/Square KM, Momentary Peak Yield 375.52 Liters/Second/Square KM

WATER YEAR 1993

MUN RIVER BASIN

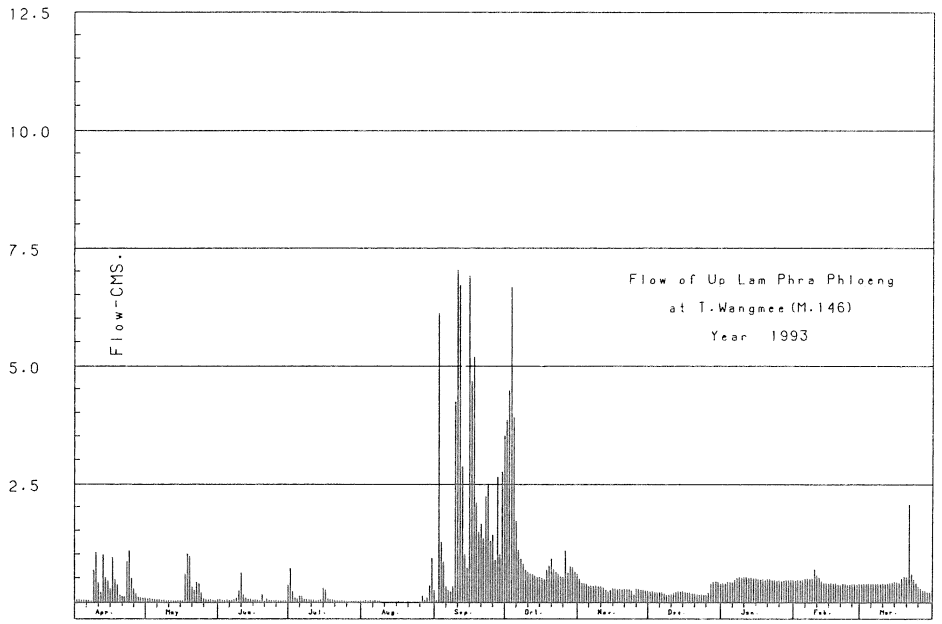
Lam Phra Phloeng at Ban Tha Wang Sai, Nakhon Ratchasima (M.146)

Location	Lat. 14°-29'-28" n., Long. 101°-40'-43" E., on left bank at the bridge on road, Ban Tha Wang Sai, Tambon Wang Mi, King Amphoe Wang Nam Khieo, Nakhon Ratchasima.
Drainage Area	82 sq.km.
Type of Gage	Water-stage recorder.
Zero Gage at Bottom	+0.00 m.(A.D.)
Bench Mark	B.M.-H.D.
Location	On left bank about 10 meters from the top staff gage.
Elevation	+4.410 m.(A.D.)
Gage Reading Frequency	Recording.
Basis of Mean Daily Gage Height	Arithmetic mean of 24 readings.
Period of Available Gage Records	1992 to date.
Rating Operation	
Period of Rating	1992 to date.
Rated by Float	-
Rated by Current Meter	1992 to date.
Stability of Channel Regimes	Fairly stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records fair. Stage-discharge relation defined by 7 discharge measurements made in 1993.

Gage Height in Meter (A.D), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.62	0.66	0.62	1.33	0.55	0.56	2.92	1.09	0.83	1.00	1.07	0.99	
2	0.61	0.66	0.60	0.82	0.55	3.53	3.12	1.01	0.83	1.00	1.07	0.99	
3	0.60	0.65	0.58	0.69	0.55	1.79	3.67	1.00	0.82	1.03	1.07	0.99	
4	0.59	0.63	0.62	0.64	0.55	1.45	2.94	1.00	0.80	1.03	1.07	0.99	
5	0.59	0.61	0.59	0.74	0.56	0.94	2.01	0.95	0.82	1.03	1.10	0.99	
6	0.58	0.61	0.59	0.73	0.58	0.85	1.70	0.95	0.81	1.08	1.10	0.99	
7	0.57	0.60	0.63	0.65	0.56	0.83	1.52	0.95	0.79	1.12	1.10	0.99	
8	1.28	0.59	0.69	0.62	0.52	0.93	1.41	0.95	0.75	1.13	1.10	0.99	
9	1.65	0.58	0.85	0.61	0.49	3.05	1.29	0.94	0.76	1.13	1.31	0.99	
10	1.01	0.57	1.23	0.59	0.54	3.76	1.24	0.93	0.77	1.13	1.17	0.99	
11	0.82	0.57	0.76	0.59	0.50	3.68	1.21	0.91	0.80	1.13	1.13	0.99	
12	1.61	0.57	0.67	0.58	0.49	2.59	1.20	0.87	0.82	1.12	1.04	1.00	
13	1.12	0.56	0.64	0.58	0.48	1.61	1.16	0.82	0.83	1.12	1.01	1.01	
14	1.06	0.56	0.65	0.60	0.47	1.33	1.14	0.86	0.83	1.11	1.00	1.02	
15	0.88	0.55	0.63	0.91	0.50	3.73	1.13	0.90	0.83	1.11	1.00	1.03	
16	1.54	0.55	0.60	0.86	0.49	3.17	1.11	0.88	0.82	1.09	1.00	1.02	
17	1.08	1.21	0.59	0.66	0.40	3.30	1.09	0.88	0.81	1.09	1.00	1.01	
18	0.98	1.63	0.57	0.62	0.50	2.20	1.28	0.88	0.80	1.09	1.00	1.10	
19	0.76	1.57	0.77	0.63	0.50	1.89	1.38	0.88	0.79	1.08	0.98	1.15	
20	0.73	0.93	0.54	0.60	0.50	1.98	1.53	0.88	0.78	1.09	0.96	1.13	
21	0.71	0.85	0.64	0.56	0.50	1.82	1.30	0.88	0.77	1.09	1.00	2.19	
22	1.47	1.02	0.60	0.56	0.50	2.27	1.25	0.88	0.76	1.07	0.99	1.20	
23	1.69	1.00	0.58	0.55	0.50	2.40	1.20	0.84	0.76	1.07	0.96	1.08	
24	1.12	0.80	0.56	0.55	0.50	1.80	1.15	0.77	0.76	1.06	0.98	1.01	
25	0.88	0.66	0.56	0.54	0.50	1.86	1.13	0.88	0.75	1.06	0.98	0.93	
26	0.78	0.63	0.56	0.54	0.74	1.50	1.69	0.88	0.80	1.06	0.98	0.88	
27	0.71	0.63	0.56	0.54	0.60	2.48	1.23	0.87	1.00	1.07	0.98	0.85	
28	0.70	0.61	0.56	0.54	0.69	1.60	1.37	0.86	1.03	1.07	0.99	0.84	
29	0.69	0.59	0.57	0.54	0.96	2.53	1.34	0.85	1.05	1.07		0.82	
30	0.68	0.58	0.97	0.54	1.54	2.81	1.25	0.84	1.03	1.07		0.80	
31		0.62		0.54	0.85		1.20		1.00	1.07		0.85	
Mean	0.94	0.74	0.65	0.65	0.59	2.14	1.55	0.90	0.83	1.08	1.04	1.03	
Max	1.69	1.63	1.23	1.33	1.54	3.76	3.67	1.09	1.05	1.13	1.31	2.19	3.76
Min	0.57	0.55	0.54	0.54	0.40	0.56	1.09	0.77	0.75	1.00	0.96	0.80	0.40

Annual Max Momentary Gage Height 4.05 M (A.D), at 12.00 Hours, on Sep 15, 1993
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed 0.31 M (A.D)
Left Bank Elevation 4.43 M (A.D)
Right Bank Elevation 4.43 M (A.D), Drainage Area Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.06	0.08	0.06	0.73	0.04	0.04	3.86	0.49	0.23	0.40	0.47	0.39	
2	0.06	0.08	0.05	0.22	0.04	6.12	4.48	0.41	0.23	0.40	0.47	0.39	
3	0.05	0.07	0.04	0.10	0.04	1.28	6.68	0.40	0.22	0.43	0.47	0.39	
4	0.05	0.06	0.06	0.07	0.04	0.85	3.92	0.40	0.20	0.43	0.47	0.39	
5	0.05	0.06	0.05	0.14	0.04	0.34	1.72	0.35	0.22	0.43	0.50	0.39	
6	0.04	0.06	0.05	0.13	0.04	0.25	1.10	0.35	0.21	0.48	0.50	0.39	
7	0.04	0.05	0.06	0.07	0.04	0.23	0.92	0.35	0.19	0.52	0.50	0.39	
8	0.68	0.05	0.10	0.06	0.03	0.33	0.81	0.35	0.15	0.53	0.50	0.39	
9	1.05	0.04	0.25	0.06	0.02	4.25	0.69	0.34	0.16	0.53	0.71	0.39	
10	0.41	0.04	0.63	0.05	0.03	7.04	0.64	0.33	0.17	0.53	0.57	0.39	
11	0.22	0.04	0.16	0.05	0.02	6.72	0.61	0.31	0.20	0.53	0.53	0.39	
12	1.01	0.04	0.09	0.04	0.02	2.88	0.60	0.27	0.22	0.52	0.44	0.40	
13	0.52	0.04	0.07	0.04	0.02	1.01	0.56	0.22	0.23	0.52	0.41	0.41	
14	0.46	0.04	0.07	0.05	0.01	0.73	0.54	0.26	0.23	0.51	0.40	0.42	
15	0.28	0.04	0.06	0.31	0.02	6.92	0.53	0.30	0.23	0.51	0.40	0.43	
16	0.94	0.04	0.05	0.26	0.02	4.68	0.51	0.28	0.22	0.49	0.40	0.42	
17	0.48	0.61	0.05	0.08	0.00	5.20	0.49	0.28	0.21	0.49	0.40	0.41	
18	0.38	1.03	0.04	0.06	0.02	2.10	0.68	0.28	0.20	0.49	0.40	0.50	
19	0.16	0.97	0.17	0.06	0.02	1.48	0.78	0.28	0.19	0.48	0.38	0.55	
20	0.13	0.33	0.03	0.05	0.02	1.66	0.93	0.28	0.18	0.49	0.36	0.53	
21	0.11	0.25	0.07	0.04	0.02	1.34	0.70	0.28	0.17	0.49	0.40	2.08	
22	0.87	0.42	0.05	0.04	0.02	2.24	0.65	0.28	0.16	0.47	0.39	0.60	
23	1.09	0.40	0.04	0.04	0.02	2.50	0.60	0.24	0.16	0.47	0.36	0.48	
24	0.52	0.20	0.04	0.04	0.02	1.30	0.55	0.17	0.16	0.46	0.38	0.41	
25	0.28	0.08	0.04	0.03	0.02	1.42	0.53	0.28	0.15	0.46	0.38	0.33	
26	0.18	0.06	0.04	0.03	0.14	0.90	1.09	0.28	0.20	0.46	0.38	0.28	
27	0.11	0.06	0.04	0.03	0.05	2.66	0.63	0.27	0.40	0.47	0.38	0.25	
28	0.10	0.06	0.04	0.03	0.10	1.00	0.77	0.26	0.43	0.47	0.39	0.24	
29	0.10	0.05	0.04	0.03	0.36	2.76	0.74	0.25	0.45	0.47		0.22	
30	0.09	0.04	0.37	0.03	0.94	3.53	0.65	0.24	0.43	0.47		0.20	
31		0.06		0.03	0.25		0.60		0.40	0.47		0.25	
Total	10.52	5.45	2.91	3.00	2.47	73.76	38.56	9.08	7.20	14.87	12.34	13.70	193.86 CMSDAY
Mean	0.35	0.18	0.10	0.10	0.08	2.46	1.24	0.30	0.23	0.48	0.44	0.44	0.53 CMS
Max	1.09	1.03	0.63	0.73	0.94	7.04	6.68	0.49	0.45	0.53	0.71	2.08	7.04 CMS
Min	0.04	0.04	0.03	0.03	0.00	0.04	0.49	0.17	0.15	0.40	0.36	0.20	0.00 CMS
Runoff	0.909	0.471	0.251	0.259	0.213	6.373	3.332	0.785	0.622	1.285	1.066	1.184	16.750 MCM

Momentary Peak 8.45 CMS, at 4.05 M (A.D), at 12.00 Hours, on Sep 15, 1993
Runoff Yield ********* Liters/Second/Square KM, Momentary Peak Yield ********* Liters/Second/Square KM

WATER YEAR 1993

MUN RIVER BASIN

Khlong Sai at Ban Wang Mi, Nakhon Ratchasima (M.147)

Location — Lat. 14°-28'-10" N., Long. 101°-39'-45" E., on right bank at the bridge on road, Ban Wang Mi, Tambon Wang Mi, King Amphoe Wang Nam Khieo, Nakhon Ratchasima.

Drainage Area — 2 sq.km.

Type of Gage — Water-stage recorder.

Zero Gage at Bottom — +0.00 m.(A.D.)

Bench Mark — B.M.-H.D.

Location — On right bank about 10 meters from the top staff gage.

Elevation — +6.003 m.(A.D.)

Gage Reading Frequency — Recording.

Basis of Mean Daily Gage Height — Arithmetic mean of 24 readings.

Period of Available Gage Records — 1992 to date.

Rating Operation

Period of Rating — 1992 to date.

Rated by Float — -

Rated by Current Meter — 1992 to date.

Stability of Channel Regimes — Rather unstable.

Overbank Flow Conditions — No overbank flow.

General Description — Records poor. Stage-discharge relation defined by 5 discharge measurements made in 1993.

Gage Height in Meter (A.D), Water Year April 1, 1993 to March 31, 1994

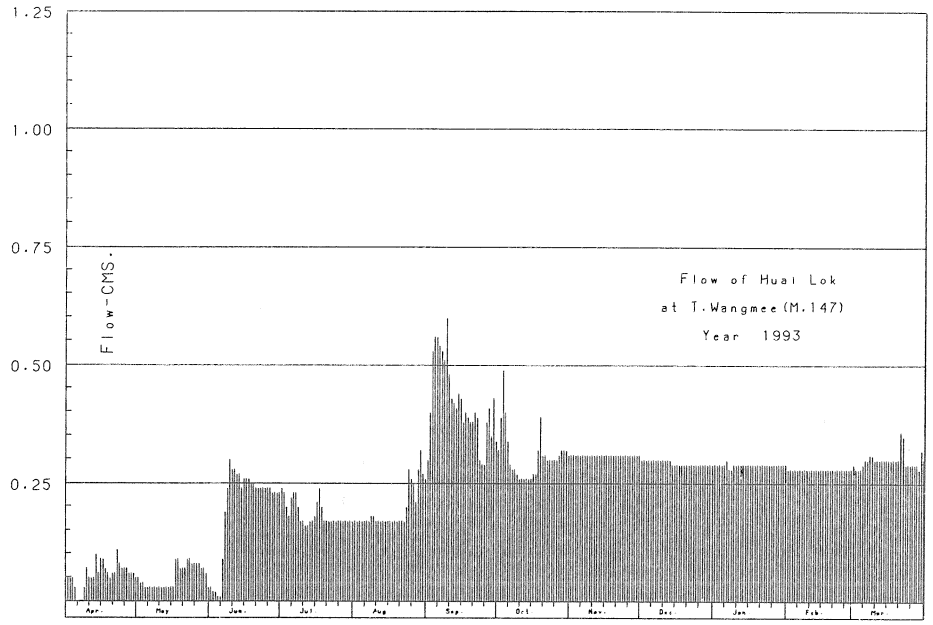
Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.81	0.82	0.79	1.12	1.02	1.20	1.22	1.21	1.20	1.19	1.17	1.19	
2	0.81	0.80	0.78	1.11	1.02	1.30	1.29	1.21	1.20	1.19	1.17	1.18	
3	0.82	0.80	0.77	1.06	1.02	1.43	1.39	1.21	1.20	1.19	1.17	1.18	
4	0.79	0.79	0.76	1.03	1.02	1.46	1.30	1.21	1.20	1.19	1.17	1.18	
5	0.74	0.79	0.76	1.10	1.02	1.46	1.24	1.21	1.20	1.19	1.17	1.19	
6	0.71	0.79	0.89	1.11	1.02	1.44	1.19	1.21	1.20	1.20	1.17	1.20	
7	0.70	0.79	1.05	1.11	1.02	1.43	1.18	1.21	1.20	1.18	1.17	1.20	
8	0.79	0.79	1.12	1.07	1.04	1.41	1.17	1.21	1.20	1.18	1.17	1.21	
9	0.85	0.79	1.20	1.02	1.03	1.50	1.16	1.21	1.20	1.19	1.17	1.21	
10	0.82	0.79	1.18	1.01	1.02	1.38	1.15	1.21	1.20	1.19	1.17	1.20	
11	0.82	0.79	1.17	1.00	1.02	1.33	1.15	1.21	1.20	1.19	1.17	1.20	
12	0.82	0.79	1.16	1.00	1.02	1.32	1.15	1.21	1.20	1.19	1.17	1.20	
13	0.90	0.79	1.16	1.01	1.02	1.31	1.15	1.21	1.20	1.19	1.17	1.20	
14	0.84	0.79	1.13	1.01	1.02	1.34	1.15	1.21	1.19	1.19	1.17	1.20	
15	0.89	0.79	1.15	1.03	1.02	1.33	1.15	1.21	1.19	1.19	1.17	1.20	
16	0.88	0.79	1.15	1.08	1.01	1.28	1.16	1.21	1.19	1.19	1.17	1.20	
17	0.85	0.88	1.15	1.13	1.01	1.30	1.16	1.21	1.19	1.19	1.17	1.20	
18	0.83	0.88	1.14	1.07	1.01	1.29	1.22	1.21	1.19	1.19	1.17	1.20	
19	0.82	0.85	1.14	1.02	1.01	1.28	1.29	1.21	1.19	1.19	1.17	1.20	
20	0.83	0.85	1.13	1.02	1.01	1.28	1.21	1.21	1.19	1.19	1.17	1.20	
21	0.83	0.85	1.13	1.02	1.01	1.30	1.21	1.21	1.19	1.19	1.17	1.26	
22	0.91	0.89	1.12	1.02	1.01	1.29	1.20	1.21	1.19	1.19	1.17	1.25	
23	0.86	0.88	1.12	1.02	1.06	1.20	1.20	1.21	1.19	1.19	1.17	1.19	
24	0.85	0.86	1.12	1.02	1.17	1.19	1.20	1.21	1.19	1.19	1.17	1.19	
25	0.85	0.86	1.12	1.02	1.15	1.19	1.20	1.21	1.19	1.19	1.17	1.19	
26	0.85	0.86	1.12	1.02	1.14	1.28	1.20	1.21	1.19	1.19	1.17	1.19	
27	0.84	0.86	1.11	1.02	1.08	1.31	1.21	1.21	1.19	1.19	1.17	1.19	
28	0.84	0.85	1.11	1.02	1.17	1.25	1.22	1.21	1.19	1.19	1.17	1.19	
29	0.84	0.85	1.11	1.02	1.22	1.33	1.22	1.21	1.19	1.19		1.17	
30	0.82	0.84	1.11	1.02	1.16	1.24	1.22	1.21	1.19	1.19		1.22	
31		0.79		1.02	1.15		1.21		1.19	1.19		1.20	
Mean	0.83	0.82	1.07	1.04	1.05	1.32	1.21	1.21	1.19	1.19	1.17	1.20	
Max	0.91	0.89	1.20	1.13	1.22	1.50	1.39	1.21	1.20	1.20	1.17	1.26	1.50
Min	0.70	0.79	0.76	1.00	1.01	1.19	1.15	1.21	1.19	1.18	1.17	1.17	0.70

Annual Max Momentary Gage Height — 2.21 M (A.D), at 18.00 Hours, on Sep 29, 1993

Zero Gage at Bottom Elevation — 0.00 M (A.D), River Bed — 1.14 M (A.D)

Left Bank Elevation — 5.54 M (A.D)

Right Bank Elevation — 5.55 M (A.D), Drainage Area — 2 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.05	0.05	0.03	0.24	0.17	0.30	0.32	0.31	0.30	0.29	0.28	0.29	
2	0.05	0.04	0.02	0.23	0.17	0.40	0.39	0.31	0.30	0.29	0.28	0.28	
3	0.05	0.04	0.02	0.20	0.17	0.53	0.49	0.31	0.30	0.29	0.28	0.28	
4	0.03	0.03	0.01	0.18	0.17	0.56	0.40	0.31	0.30	0.29	0.28	0.28	
5	0.00	0.03	0.01	0.22	0.17	0.56	0.34	0.31	0.30	0.29	0.28	0.29	
6	0.00	0.03	0.09	0.23	0.17	0.54	0.29	0.31	0.30	0.30	0.28	0.30	
7	0.00	0.03	0.19	0.23	0.17	0.53	0.28	0.31	0.30	0.28	0.28	0.30	
8	0.03	0.03	0.24	0.20	0.18	0.51	0.28	0.31	0.30	0.28	0.28	0.31	
9	0.07	0.03	0.30	0.17	0.18	0.60	0.27	0.31	0.30	0.29	0.28	0.31	
10	0.05	0.03	0.28	0.17	0.17	0.48	0.26	0.31	0.30	0.29	0.28	0.30	
11	0.05	0.03	0.28	0.16	0.17	0.43	0.26	0.31	0.30	0.29	0.28	0.30	
12	0.05	0.03	0.27	0.16	0.17	0.42	0.26	0.31	0.30	0.29	0.28	0.30	
13	0.10	0.03	0.27	0.17	0.17	0.41	0.26	0.31	0.30	0.29	0.28	0.30	
14	0.06	0.03	0.24	0.17	0.17	0.44	0.26	0.31	0.29	0.29	0.28	0.30	
15	0.09	0.03	0.26	0.18	0.17	0.43	0.26	0.31	0.29	0.29	0.28	0.30	
16	0.09	0.03	0.26	0.21	0.17	0.38	0.27	0.31	0.29	0.29	0.28	0.30	
17	0.07	0.09	0.26	0.24	0.17	0.40	0.27	0.31	0.29	0.29	0.28	0.30	
18	0.06	0.09	0.25	0.20	0.17	0.39	0.32	0.31	0.29	0.29	0.28	0.30	
19	0.05	0.07	0.25	0.17	0.17	0.38	0.39	0.31	0.29	0.29	0.28	0.30	
20	0.06	0.07	0.24	0.17	0.17	0.38	0.31	0.31	0.29	0.29	0.28	0.30	
21	0.06	0.07	0.24	0.17	0.17	0.40	0.31	0.31	0.29	0.29	0.28	0.36	
22	0.11	0.09	0.24	0.17	0.17	0.39	0.30	0.31	0.29	0.29	0.28	0.35	
23	0.08	0.09	0.24	0.17	0.20	0.30	0.30	0.31	0.29	0.29	0.28	0.29	
24	0.07	0.08	0.24	0.17	0.28	0.29	0.30	0.31	0.29	0.29	0.28	0.29	
25	0.07	0.08	0.24	0.17	0.26	0.29	0.30	0.31	0.29	0.29	0.28	0.29	
26	0.07	0.08	0.24	0.17	0.25	0.38	0.30	0.31	0.29	0.29	0.28	0.29	
27	0.06	0.08	0.23	0.17	0.21	0.41	0.31	0.31	0.29	0.29	0.28	0.29	
28	0.06	0.07	0.23	0.17	0.28	0.35	0.32	0.31	0.29	0.29	0.28	0.29	
29	0.06	0.07	0.23	0.17	0.32	0.43	0.32	0.31	0.29	0.29		0.28	
30	0.05	0.06	0.23	0.17	0.27	0.34	0.32	0.31	0.29	0.29		0.32	
31		0.03		0.17	0.26		0.31		0.29	0.29		0.30	
Total	1.70	1.64	6.13	5.77	6.09	12.65	9.57	9.30	9.12	8.98	7.84	9.29	88.08 CMSDAY
Mean	0.06	0.05	0.20	0.19	0.20	0.42	0.31	0.31	0.29	0.29	0.28	0.30	0.24 CMS
Max	0.11	0.09	0.30	0.24	0.32	0.60	0.49	0.31	0.30	0.30	0.28	0.36	0.60 CMS
Min	0.00	0.03	0.01	0.16	0.17	0.29	0.26	0.31	0.29	0.28	0.28	0.28	0.00 CMS
Runoff	0.147	0.142	0.530	0.499	0.526	1.093	0.827	0.804	0.788	0.776	0.677	0.803	7.610 MCM

Momentary Peak 1.62 CMS, at 2.21 M (A.D), at 18.00 Hours, on Sep 29, 1993
Runoff Yield 120.66 Liters/Second/Square KM, Momentary Peak Yield 810.00 Liters/Second/Square KM

WATER YEAR 1993

MUN RIVER BASIN

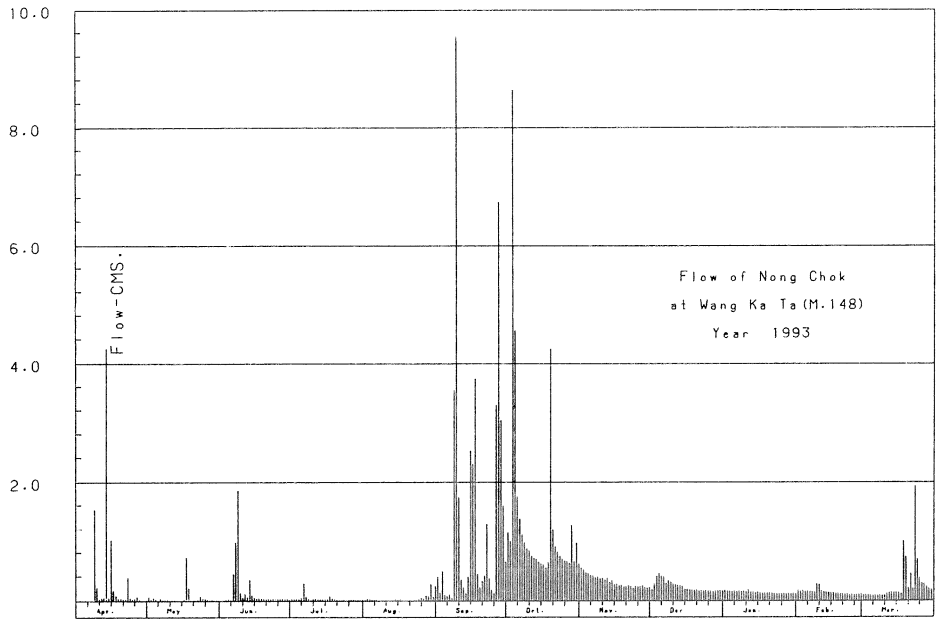
Huai Chok at Ban Khlong Phlu, Nakhon Ratchasima (M.148)

Location	Lat. 14°-28'-52" N., Long. 101°-39'-32" E., on left bank at the bridge on road, Ban Khlong Phlu, Tambon Wang Ka Tha, Amphoe Pak Chong, Nakhon Ratchasima.
Drainage Area	48 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+0.00 m.(A.D.)
Bench Mark	B.M.-H.D.
Location	On left bank about 8.00 meters from the top staff gage.
Elevation	+4.893 m.(A.D.)
Gage Reading Frequency	3-times daily readings at 06.00, 12.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 3 readings.
Period of Available Gage Records	1992 to date.
Rating Operation	
Period of Rating	1992 to date.
Rated by Float	-
Rated by Current Meter	1992 to date.
Stability of Channel Regimes	Rather unstable.
Overbank Flow Conditions	Overbank flow starts at elevation +4.59 m.(A.D.), records are channel flow only.
General Description	Records poor. Stage-discharge relation defined by 6 discharge measurements made in 1993.

Gage Height in Meter (A.D), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.54	0.72	0.61	0.66	0.63	1.00	1.35	1.08	0.89	0.87	0.87	0.80	
2	0.55	0.63	0.61	0.65	0.64	0.83	1.30	1.06	0.94	0.87	0.87	0.80	
3	0.54	0.71	0.60	0.64	0.64	1.05	2.64	1.04	1.01	0.86	0.87	0.79	
4	0.54	0.62	0.65	0.64	0.63	0.77	2.16	1.03	1.03	0.86	0.86	0.78	
5	0.54	0.61	0.60	0.68	0.63	0.76	1.55	1.02	1.01	0.86	0.86	0.78	
6	0.53	0.64	1.03	0.95	0.63	0.79	1.43	1.01	1.00	0.86	0.86	0.78	
7	0.52	0.62	1.29	0.73	0.62	0.70	1.34	1.00	0.95	0.86	0.85	0.78	
8	1.48	0.60	1.59	0.67	0.61	1.97	1.29	1.00	0.97	0.86	0.85	0.78	
9	0.91	0.66	0.83	0.65	0.61	2.72	1.24	0.99	0.96	0.86	0.94	0.78	
10	0.66	0.60	0.72	0.65	0.61	1.55	1.22	0.99	0.94	0.86	0.94	0.78	
11	0.71	0.60	0.81	0.64	0.61	0.98	1.18	0.98	0.94	0.88	0.86	0.82	
12	0.71	0.60	0.72	0.64	0.61	0.91	1.16	0.99	0.93	0.85	0.85	0.84	
13	2.11	0.58	0.98	0.63	0.61	0.83	1.15	0.96	0.93	0.84	0.84	0.84	
14	0.71	0.58	0.76	0.64	0.62	1.00	1.13	0.97	0.92	0.84	0.84	0.84	
15	1.31	0.60	0.70	0.65	0.62	1.76	1.11	0.94	0.90	0.84	0.83	0.84	
16	0.87	0.58	0.68	0.64	0.63	1.70	1.10	0.94	0.89	0.83	0.83	0.83	
17	0.77	1.17	0.68	0.73	0.62	2.01	1.08	0.93	0.89	0.83	0.83	0.82	
18	0.66	0.91	0.67	0.68	0.61	1.03	1.12	0.93	0.88	0.83	0.82	1.30	
19	0.68	0.61	0.66	0.65	0.61	0.91	2.11	0.92	0.88	0.83	0.82	1.17	
20	0.65	0.60	0.66	0.63	0.61	0.97	1.37	0.92	0.88	0.83	0.81	0.91	
21	0.64	0.60	0.66	0.63	0.61	1.01	1.26	0.93	0.87	0.83	0.81	1.03	
22	1.00	0.59	0.65	0.63	0.61	1.40	1.21	0.92	0.87	0.82	0.81	0.90	
23	0.69	0.73	0.65	0.63	0.62	0.99	1.18	0.91	0.87	0.82	0.80	1.61	
24	0.66	0.68	0.65	0.63	0.62	0.88	1.15	0.92	0.87	0.82	0.80	1.15	
25	0.64	0.65	0.66	0.63	0.70	0.83	1.14	0.92	0.87	0.82	0.80	0.99	
26	0.73	0.63	0.66	0.63	0.66	1.92	1.13	0.92	0.86	0.82	0.80	0.95	
27	0.64	0.63	0.66	0.62	0.77	2.46	1.12	0.93	0.86	0.82	0.81	0.94	
28	0.62	0.62	0.65	0.62	0.74	1.87	1.39	0.91	0.86	0.82	0.81	0.92	
29	0.61	0.62	0.65	0.63	0.94	1.50	1.13	0.91	0.87	0.82		0.90	
30	0.60	0.61	0.66	0.63	0.74	1.13	1.29	0.91	0.87	0.82		0.89	
31		0.61		0.63	0.92		1.11		0.87	0.82		0.93	
Mean	0.76	0.65	0.75	0.66	0.66	1.27	1.33	0.96	0.91	0.84	0.84	0.91	
Max	2.11	1.17	1.59	0.95	0.94	2.72	2.64	1.08	1.03	0.88	0.94	1.61	2.72
Min	0.52	0.58	0.60	0.62	0.61	0.70	1.08	0.91	0.86	0.82	0.80	0.78	0.52

Annual Max Momentary Gage Height 5.00 M (A.D), at 18.00 Hours, on Sep 27, 1993
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed 0.81 M (A.D)
Left Bank Elevation 4.58 M (A.D)
Right Bank Elevation 4.59 M (A.D), Drainage Area Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.00	0.06	0.01	0.03	0.02	0.40	1.15	0.56	0.19	0.17	0.17	0.10	
2	0.01	0.02	0.01	0.03	0.03	0.13	1.00	0.52	0.28	0.17	0.17	0.10	
3	0.00	0.05	0.01	0.03	0.03	0.50	8.64	0.48	0.42	0.16	0.17	0.10	
4	0.00	0.02	0.03	0.03	0.02	0.09	4.56	0.46	0.46	0.16	0.16	0.09	
5	0.00	0.01	0.01	0.04	0.02	0.08	1.75	0.44	0.42	0.16	0.16	0.09	
6	0.00	0.03	0.46	0.30	0.02	0.10	1.39	0.42	0.40	0.16	0.16	0.09	
7	0.00	0.02	0.98	0.07	0.02	0.05	1.12	0.40	0.30	0.16	0.15	0.09	
8	1.54	0.01	1.87	0.04	0.01	3.55	0.98	0.40	0.34	0.16	0.15	0.09	
9	0.22	0.03	0.13	0.03	0.01	9.56	0.88	0.38	0.32	0.16	0.28	0.09	
10	0.03	0.01	0.06	0.03	0.01	1.75	0.84	0.38	0.28	0.16	0.28	0.09	
11	0.05	0.01	0.11	0.03	0.01	0.36	0.76	0.36	0.28	0.18	0.16	0.12	
12	0.05	0.01	0.06	0.03	0.01	0.22	0.72	0.38	0.26	0.15	0.15	0.14	
13	4.26	0.01	0.36	0.02	0.01	0.13	0.70	0.32	0.26	0.14	0.14	0.14	
14	0.05	0.01	0.08	0.03	0.02	0.40	0.66	0.34	0.24	0.14	0.14	0.14	
15	1.03	0.01	0.05	0.03	0.02	2.54	0.62	0.28	0.20	0.14	0.13	0.14	
16	0.17	0.01	0.04	0.03	0.02	2.30	0.60	0.28	0.19	0.13	0.13	0.13	
17	0.09	0.74	0.04	0.07	0.02	3.75	0.56	0.26	0.19	0.13	0.13	0.12	
18	0.03	0.22	0.04	0.04	0.01	0.46	0.64	0.26	0.18	0.13	0.12	1.00	
19	0.04	0.01	0.03	0.03	0.01	0.22	4.26	0.24	0.18	0.13	0.12	0.74	
20	0.03	0.01	0.03	0.02	0.01	0.34	1.21	0.24	0.18	0.13	0.11	0.22	
21	0.03	0.01	0.03	0.02	0.01	0.42	0.92	0.26	0.17	0.13	0.11	0.46	
22	0.40	0.01	0.03	0.02	0.01	1.30	0.82	0.24	0.17	0.12	0.11	0.20	
23	0.05	0.07	0.03	0.02	0.02	0.38	0.76	0.22	0.17	0.12	0.10	1.94	
24	0.03	0.04	0.03	0.02	0.02	0.18	0.70	0.24	0.17	0.12	0.10	0.70	
25	0.03	0.03	0.03	0.02	0.05	0.13	0.68	0.24	0.17	0.12	0.10	0.38	
26	0.07	0.02	0.03	0.02	0.03	3.30	0.66	0.24	0.16	0.12	0.10	0.30	
27	0.03	0.02	0.03	0.02	0.09	6.74	0.64	0.26	0.16	0.12	0.11	0.28	
28	0.02	0.02	0.03	0.02	0.07	3.05	1.27	0.22	0.16	0.12	0.11	0.24	
29	0.01	0.02	0.03	0.02	0.28	1.60	0.66	0.22	0.17	0.12		0.20	
30	0.01	0.01	0.03	0.02	0.07	0.66	0.98	0.22	0.17	0.12		0.19	
31		0.01		0.02	0.24		0.62		0.17	0.12		0.26	
Total	8.28	1.56	4.71	1.18	1.22	44.69	41.75	9.76	7.41	4.35	4.02	8.97	137.90 CMSDAY
Mean	0.28	0.05	0.16	0.04	0.04	1.49	1.35	0.33	0.24	0.14	0.14	0.29	0.38 CMS
Max	4.26	0.74	1.87	0.30	0.28	9.56	8.64	0.56	0.46	0.18	0.28	1.94	9.56 CMS
Min	0.00	0.01	0.01	0.02	0.01	0.05	0.56	0.22	0.16	0.12	0.10	0.09	0.00 CMS
Runoff	0.715	0.135	0.407	0.102	0.105	3.861	3.607	0.843	0.640	0.376	0.347	0.775	11.915 MCM

Momentary Peak 56.60 CMS, at 5.00 M (A.D), at 18.00 Hours, on Sep 27, 1993

Runoff Yield ********* Liters/Second/Square KM, Momentary Peak Yield ********* Liters/Second/Square KM

WATER YEAR 1993

TONLE SAP BASIN

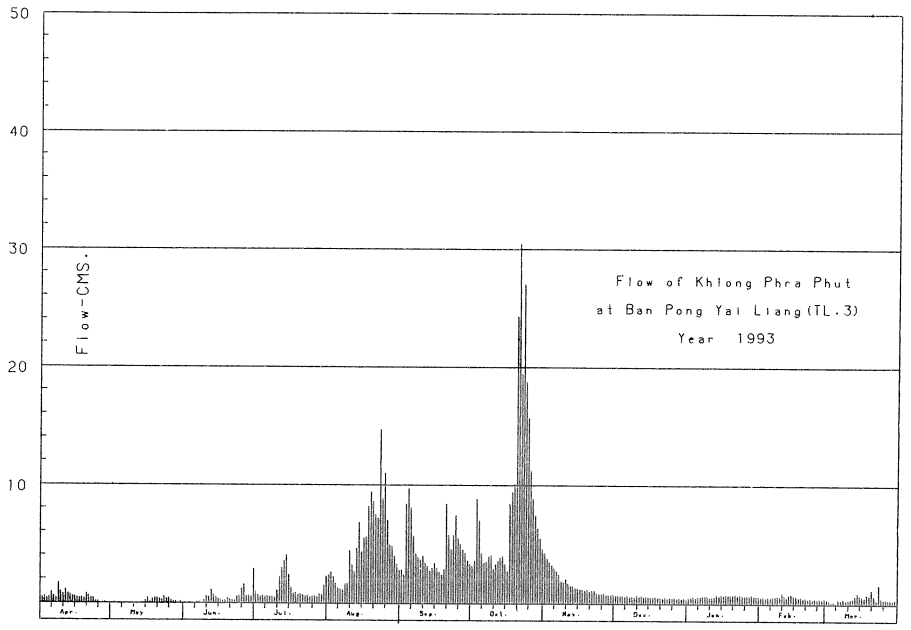
Khlong Phra Phut at Ban Pong Yai Liang, Chanthaburi (TL.3)

Location	Lat. 12°58'05" N., Long. 102°17'20" E., on left bank downstream from the bridge of Pong Nam Ron - Wang Nam Yen Highway, Ban Pong Yai Liang, Amphoe Pong Nam Ron, Chanthaburi.
Drainage Area	79 sq.km.
Type of Gage	Water-stage recorder.
Zero Gage at Bottom	+190.67 m.(M.S.L.)
Bench Mark	B.M.-H.D.
Location	On left bank about 6 meters from the top staff gage.
Elevation	+195.973 m.(M.S.L.)
Gage Reading Frequency	Recording.
Basis of Mean Daily Gage Height	Arithmetic mean of 24 readings.
Period of Available Gage Records	1983 to date.
Rating Operation	
Period of Rating	1986 to date.
Rated by Float	-
Rated by Current Meter	1986 to date.
Stability of Channel Regimes	Fairly stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records fair. Stage-discharge relation defined by 41 discharge measurements made in 1993.

Gage Height in Meter (MSL), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	191.04	190.93	190.93	191.12	191.24	191.26	191.28	191.34	191.09	191.02	191.05	191.01	
2	191.04	190.93	190.91	191.08	191.25	191.24	191.31	191.32	191.08	191.05	191.05	190.98	
3	191.02	190.91	190.92	191.06	191.23	191.55	191.57	191.30	191.08	191.05	191.04	190.96	
4	191.02	190.91	190.89	191.06	191.19	191.61	191.49	191.29	191.07	191.05	191.04	190.95	
5	191.12	190.88	190.88	191.06	191.16	191.54	191.34	191.27	191.07	191.05	191.05	190.94	
6	191.05	190.91	190.94	191.05	191.14	191.42	191.30	191.26	191.07	191.06	191.05	190.99	
7	191.03	190.85	190.93	191.06	191.14	191.34	191.30	191.24	191.06	191.06	191.07	191.00	
8	191.20	190.89	190.92	191.04	191.19	191.32	191.33	191.21	191.05	191.08	191.06	191.01	
9	191.12	190.86	190.98	191.04	191.19	191.31	191.33	191.20	191.05	191.06	191.07	190.99	
10	191.09	190.90	191.05	191.13	191.35	191.33	191.27	191.22	191.08	191.05	191.12	191.00	
11	191.14	190.85	191.03	191.23	191.29	191.30	191.29	191.19	191.07	191.03	191.07	191.00	
12	191.11	190.77	191.14	191.27	191.25	191.28	191.31	191.18	191.07	191.06	191.05	191.03	
13	191.08	190.82	191.08	191.31	191.36	191.26	191.32	191.17	191.05	191.09	191.09	191.07	
14	191.07	190.81	191.05	191.33	191.48	191.27	191.33	191.16	191.05	191.08	191.11	191.12	
15	191.04	190.97	191.00	191.24	191.35	191.30	191.29	191.15	191.06	191.09	191.07	191.08	
16	191.02	191.02	190.98	191.16	191.41	191.27	191.26	191.15	191.04	191.09	191.06	191.06	
17	191.03	190.96	190.97	191.11	191.41	191.25	191.55	191.14	191.05	191.09	191.05	191.05	
18	191.02	190.99	190.96	191.11	191.54	191.24	191.60	191.14	191.05	191.10	191.05	191.10	
19	191.02	191.03	191.03	191.10	191.60	191.27	191.62	191.14	191.05	191.08	191.03	191.09	
20	191.11	191.01	190.98	191.10	191.56	191.55	192.02	191.13	191.03	191.10	191.03	191.14	
21	191.06	191.01	190.97	191.08	191.51	191.42	192.17	191.13	191.03	191.10	191.02	191.07	
22	191.04	190.99	190.98	191.07	191.50	191.36	191.90	191.14	191.04	191.09	191.02	191.00	
23	191.01	191.04	191.06	191.06	191.77	191.42	192.09	191.11	191.03	191.09	191.01	191.19	
24	190.96	191.02	191.06	191.05	191.57	191.51	191.88	191.11	191.03	191.09	191.01	191.05	
25	190.94	191.01	191.15	191.05	191.65	191.41	191.80	191.11	191.04	191.08	191.01	191.01	
26	190.93	190.98	191.18	191.05	191.49	191.38	191.66	191.11	191.03	191.07	191.01	191.00	
27	190.94	190.96	191.07	191.05	191.38	191.36	191.57	191.10	191.03	191.08	191.01	191.00	
28	190.93	190.94	191.06	191.10	191.37	191.34	191.51	191.09	191.02	191.09	191.01	190.98	
29	190.92	190.94	191.05	191.10	191.33	191.31	191.45	191.10	191.02	191.08		190.99	
30	190.91	190.95	191.27	191.18	191.29	191.29	191.41	191.10	191.02	191.05		190.99	
31		190.93		191.23	191.26		191.36		191.01	191.05		190.99	
Mean	191.03	190.93	191.01	191.12	191.37	191.36	191.51	191.18	191.05	191.07	191.05	191.03	
Max	191.20	191.04	191.27	191.33	191.77	191.61	192.17	191.34	191.09	191.10	191.12	191.19	192.17
Min	190.91	190.77	190.88	191.04	191.14	191.24	191.26	191.09	191.01	191.02	191.01	190.94	190.77

Annual Max Momentary Gage Height 193.40 M (MSL), at 16.00 Hours, on Oct 20, 1993
Zero Gage at Bottom Elevation 190.67 M (MSL), River Bed 190.24 M (MSL)
Left Bank Elevation 195.34 M (MSL)
Right Bank Elevation 195.46 M (MSL), Drainage Area 79 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.56	0.12	0.12	1.00	2.48	2.82	3.16	4.26	0.76	0.48	0.60	0.44	
2	0.56	0.12	0.04	0.72	2.65	2.48	3.69	3.88	0.72	0.60	0.60	0.32	
3	0.48	0.04	0.08	0.64	2.31	8.40	8.84	3.50	0.72	0.60	0.56	0.24	
4	0.48	0.04	0.00	0.64	1.70	9.80	7.11	3.33	0.68	0.60	0.56	0.20	
5	1.00	0.00	0.00	0.64	1.40	8.18	4.26	2.99	0.68	0.60	0.60	0.16	
6	0.60	0.04	0.16	0.60	1.20	5.78	3.50	2.82	0.68	0.64	0.60	0.36	
7	0.52	0.00	0.12	0.64	1.20	4.26	3.50	2.48	0.64	0.64	0.68	0.40	
8	1.80	0.00	0.08	0.56	1.70	3.88	4.07	1.97	0.60	0.72	0.64	0.44	
9	1.00	0.00	0.32	0.56	1.70	3.69	4.07	1.80	0.60	0.64	0.68	0.36	
10	0.76	0.00	0.60	1.10	4.45	4.07	2.99	2.14	0.72	0.60	1.00	0.40	
11	1.20	0.00	0.52	2.31	3.33	3.50	3.33	1.70	0.68	0.52	0.68	0.40	
12	0.90	0.00	1.20	2.99	2.65	3.16	3.69	1.60	0.68	0.64	0.60	0.52	
13	0.72	0.00	0.72	3.69	4.64	2.82	3.88	1.50	0.60	0.76	0.76	0.68	
14	0.68	0.00	0.60	4.07	6.92	2.99	4.07	1.40	0.60	0.72	0.90	1.00	
15	0.56	0.28	0.40	2.48	4.45	3.50	3.33	1.30	0.64	0.76	0.68	0.72	
16	0.48	0.48	0.32	1.40	5.59	2.99	2.82	1.30	0.56	0.76	0.64	0.64	
17	0.52	0.24	0.28	0.90	5.59	2.65	8.40	1.20	0.60	0.76	0.60	0.60	
18	0.48	0.36	0.24	0.90	8.18	2.48	9.50	1.20	0.60	0.80	0.60	0.80	
19	0.48	0.52	0.52	0.80	9.50	2.99	10.10	1.20	0.60	0.72	0.52	0.76	
20	0.90	0.44	0.32	0.80	8.62	8.40	24.30	1.10	0.52	0.80	0.52	1.20	
21	0.64	0.44	0.28	0.72	7.52	5.78	30.51	1.10	0.52	0.80	0.48	0.68	
22	0.56	0.36	0.32	0.68	7.30	4.64	19.50	1.20	0.56	0.76	0.48	0.40	
23	0.44	0.56	0.64	0.64	14.81	5.78	27.10	0.90	0.52	0.76	0.44	1.70	
24	0.24	0.48	0.64	0.60	8.84	7.52	18.76	0.90	0.52	0.76	0.44	0.60	
25	0.16	0.44	1.30	0.60	11.00	5.59	15.80	0.90	0.56	0.72	0.44	0.44	
26	0.12	0.32	1.60	0.60	7.11	5.02	11.30	0.90	0.52	0.68	0.44	0.40	
27	0.16	0.24	0.68	0.60	5.02	4.64	8.84	0.80	0.52	0.72	0.44	0.40	
28	0.12	0.16	0.64	0.80	4.83	4.26	7.52	0.76	0.48	0.76	0.44	0.32	
29	0.08	0.16	0.60	0.80	4.07	3.69	6.35	0.80	0.48	0.72		0.36	
30	0.04	0.20	2.99	1.60	3.33	3.33	5.59	0.80	0.48	0.60		0.36	
31		0.12		2.31	2.82		4.64		0.44	0.60		0.36	
Total	17.24	6.16	16.33	37.39	156.91	139.09	274.52	51.73	18.48	21.24	16.62	16.66	772.37 CMSDAY
Mean	0.57	0.20	0.54	1.21	5.06	4.64	8.86	1.72	0.60	0.69	0.59	0.54	2.12 CMS
Max	1.80	0.56	2.99	4.07	14.81	9.80	30.51	4.26	0.76	0.80	1.00	1.70	30.51 CMS
Min	0.04	0.00	0.00	0.56	1.20	2.48	2.82	0.76	0.44	0.48	0.44	0.16	0.00 CMS
Runoff	1.490	0.532	1.411	3.230	13.557	12.017	23.719	4.469	1.597	1.835	1.436	1.439	66.733 MCM

Momentary Peak 150.00 CMS, at 193.40 M (MSL), at 16.00 Hours, on Oct 20, 1993

Runoff Yield 26.79 Liters/Second/Square KM, Momentary Peak Yield 1898.73 Liters/Second/Square KM

WATER YEAR 1993

TONLE SAP BASIN

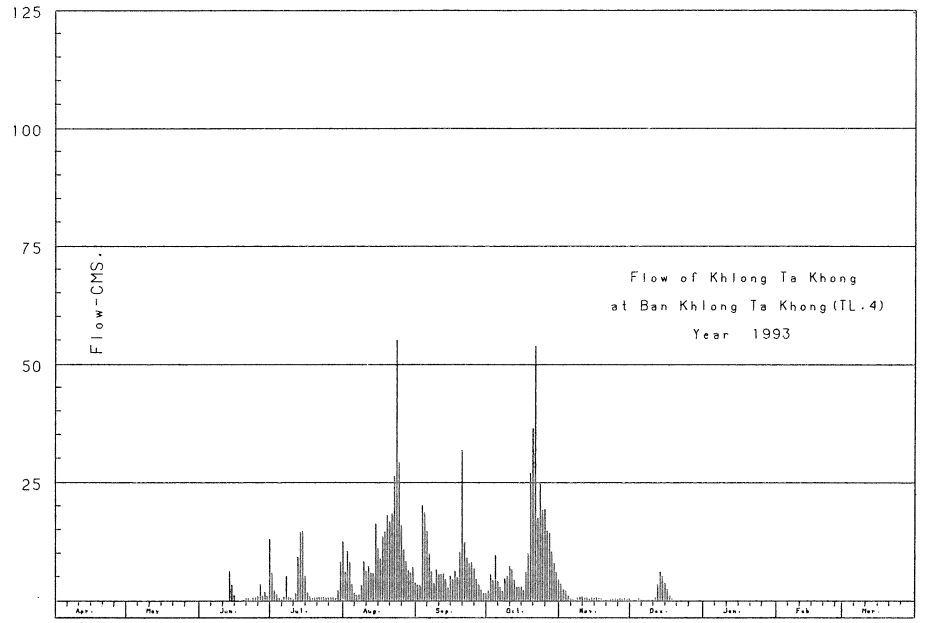
Khlong Ta Khong at Ban Khlong Ta Khong, Chanthaburi (TL.4)

Location	Lat. 12°54'57" N., Long. 102°19'30" E., on left bank downstream from the bridge of Amphoe Pong Nam Ron - Ban Pong Nam Ron Highway, Ban Ta Khong, Amphoe Pong Nam Ron, Chanthaburi.
Drainage Area	96 sq.km.
Type of Gage	Water-stage recorder.
Zero Gage at Bottom	+176.80 m.(M.S.L.)
Bench Mark	B.M.-H.D.
Location	On left bank about 30 meters from the top staff gage.
Elevation	+186.762 m.(M.S.L.)
Gage Reading Frequency	Recording.
Basis of Mean Daily Gage Height	Arithmetic mean of 24 readings.
Period of Available Gage Records	1984 to date.
Rating Operation	
Period of Rating	1986 to date.
Rated by Float	-
Rated by Current Meter	1986 to date.
Stability of Channel Regimes	Fairly stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records poor. Stage-discharge relation defined by 25 discharge measurements made in 1993.

Gage Height in Meter (MSL), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	177.35	176.95	177.46	178.61	178.64	178.30	178.12	178.34	177.62	178.66	178.40	177.92	
2	177.35	176.95	177.46	178.12	178.99	178.31	178.57	178.17	177.60	178.65	178.40	177.90	
3	177.30	176.90	177.46	177.90	178.82	179.57	178.44	178.09	177.60	178.65	178.35	177.90	
4	177.30	176.87	177.46	177.73	178.32	179.48	178.94	177.88	177.67	178.65	178.35	177.90	
5	177.30	176.87	177.46	177.64	178.02	179.27	178.43	177.70	177.64	178.60	178.30	177.88	
6	177.30	176.86	177.46	177.81	177.87	178.96	178.23	177.62	177.62	178.65	178.30	177.88	
7	177.30	176.85	177.46	178.56	177.94	178.63	178.10	177.60	177.61	178.65	178.27	177.86	
8	177.30	176.84	177.46	177.81	178.32	178.37	178.48	177.72	177.57	178.65	178.26	177.80	
9	177.30	176.84	177.46	177.68	178.83	178.67	178.56	177.82	177.52	178.64	178.22	177.80	
10	177.18	176.84	177.46	177.66	178.64	178.59	178.75	177.81	177.53	178.62	178.24	177.80	
11	177.18	176.84	177.46	177.99	178.73	178.58	178.67	177.76	177.80	178.65	178.22	177.70	
12	177.15	176.84	177.52	178.89	178.62	178.61	178.45	177.73	178.32	178.65	178.20	177.62	
13	177.15	176.84	178.66	179.26	178.60	178.46	178.26	177.70	178.65	178.65	178.17	177.60	
14	177.15	176.84	178.30	179.26	179.36	178.23	178.23	177.73	178.54	178.65	178.14	177.62	
15	177.15	176.84	177.90	178.56	179.03	178.54	178.27	177.75	178.39	178.61	178.10	177.73	
16	177.15	176.84	177.62	178.03	178.88	178.46	178.10	177.74	178.15	178.63	178.08	177.70	
17	177.14	176.84	177.50	177.81	179.20	178.66	178.64	177.74	177.89	178.64	178.05	177.70	
18	177.10	176.84	177.48	177.74	179.25	178.53	178.95	177.67	177.71	178.62	178.03	177.70	
19	177.10	176.84	177.53	177.71	179.45	178.97	179.89	177.63	177.71	178.63	178.01	177.70	
20	177.08	176.84	177.72	177.77	179.39	180.10	180.30	177.63	177.83	178.60	177.98	177.70	
21	177.04	176.84	177.70	177.74	179.48	179.13	180.91	177.63	177.89	178.58	178.00	178.52	
22	177.04	176.84	177.63	177.78	179.86	178.90	179.43	177.60	178.09	178.58	177.98	178.61	
23	177.04	176.84	177.70	177.76	180.95	178.78	179.80	177.67	178.67	178.62	178.00	178.60	
24	177.00	176.84	177.78	177.76	180.00	178.80	179.51	177.67	178.67	178.62	178.00	178.65	
25	176.96	176.84	177.80	177.71	179.33	178.71	179.53	177.67	178.67	178.62	178.00	178.66	
26	176.95	176.84	178.34	177.78	179.03	178.47	179.26	177.67	178.67	178.50	178.00	178.75	
27	176.95	176.84	177.83	177.72	178.82	178.33	179.25	177.67	178.70	178.48	177.95	178.75	
28	176.95	176.84	178.05	177.74	178.67	178.12	178.98	177.67	178.66	178.44	177.95	178.73	
29	176.98	176.84	177.82	178.09	178.61	178.01	178.80	177.67	178.65	178.42		178.62	
30	176.98	176.84	179.17	178.81	178.71	177.96	178.62	177.67	178.65	178.40		178.60	
31		176.84		179.14	178.39		178.48		178.65	178.40		178.60	
Mean	177.14	176.85	177.74	178.08	178.93	178.68	178.87	177.75	178.09	178.59	178.14	178.08	
Max	177.35	176.95	179.17	179.26	180.95	180.10	180.91	178.34	178.70	178.66	178.40	178.75	180.95
Min	176.95	176.84	177.46	177.64	177.87	177.96	178.10	177.60	177.52	178.40	177.95	177.60	176.84

Annual Max Momentary Gage Height 182.20 M (MSL), at 8.00 Hours, on Aug 23, 1993
Zero Gage at Bottom Elevation 176.80 M (MSL), River Bed 175.70 M (MSL)
Left Bank Elevation 184.62 M (MSL)
Right Bank Elevation 183.90 M (MSL), Drainage Area 96 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.00	0.00	0.06	5.91	6.24	3.30	2.30	3.58	0.36	0.00	0.00	0.00	
2	0.00	0.00	0.06	2.30	10.47	3.37	5.50	2.55	0.30	0.00	0.00	0.00	
3	0.00	0.00	0.06	1.30	8.34	20.33	4.32	2.15	0.30	0.00	0.00	0.00	
4	0.00	0.00	0.06	0.69	3.44	18.64	9.82	1.22	0.51	0.00	0.00	0.00	
5	0.00	0.00	0.06	0.42	1.80	14.91	4.24	0.60	0.42	0.00	0.00	0.00	
6	0.00	0.00	0.06	0.94	1.18	10.08	2.88	0.36	0.36	0.00	0.00	0.00	
7	0.00	0.00	0.06	5.40	1.46	6.13	2.20	0.30	0.33	0.00	0.00	0.00	
8	0.00	0.00	0.06	0.94	3.44	3.79	4.64	0.66	0.24	0.00	0.00	0.00	
9	0.00	0.00	0.06	0.54	8.46	6.57	5.40	0.98	0.14	0.00	0.00	0.00	
10	0.00	0.00	0.06	0.48	6.24	5.70	7.50	0.94	0.16	0.00	0.00	0.00	
11	0.00	0.00	0.06	1.66	7.26	5.60	6.57	0.78	0.90	0.00	0.00	0.00	
12	0.00	0.00	0.14	9.18	6.02	5.91	4.40	0.69	3.44	0.00	0.00	0.00	
13	0.00	0.00	6.46	14.74	5.80	4.48	3.06	0.60	6.35	0.00	0.00	0.00	
14	0.00	0.00	3.30	14.74	16.48	2.88	2.88	0.69	5.20	0.00	0.00	0.00	
15	0.00	0.00	1.30	5.40	11.05	5.20	3.12	0.75	3.93	0.00	0.00	0.00	
16	0.00	0.00	0.36	1.85	9.06	4.48	2.20	0.72	2.45	0.00	0.00	0.00	
17	0.00	0.00	0.10	0.94	13.75	6.46	6.24	0.72	1.26	0.00	0.00	0.00	
18	0.00	0.00	0.08	0.72	14.57	5.10	9.95	0.51	0.63	0.00	0.00	0.00	
19	0.00	0.00	0.16	0.63	18.10	10.21	26.98	0.39	0.00	0.00	0.00	0.00	
20	0.00	0.00	0.66	0.81	17.02	31.80	36.70	0.39	0.00	0.00	0.00	0.00	
21	0.00	0.00	0.60	0.72	18.64	12.59	54.11	0.39	0.00	0.00	0.00	0.00	
22	0.00	0.00	0.39	0.84	26.32	9.30	17.74	0.30	0.00	0.00	0.00	0.00	
23	0.00	0.00	0.60	0.78	55.35	7.86	25.00	0.51	0.00	0.00	0.00	0.00	
24	0.00	0.00	0.84	0.78	29.50	8.10	19.19	0.51	0.00	0.00	0.00	0.00	
25	0.00	0.00	0.90	0.63	15.94	7.02	19.57	0.51	0.00	0.00	0.00	0.00	
26	0.00	0.00	3.58	0.84	11.05	4.56	14.74	0.51	0.00	0.00	0.00	0.00	
27	0.00	0.00	1.02	0.66	8.34	3.51	14.57	0.51	0.00	0.00	0.00	0.00	
28	0.00	0.00	1.95	0.72	6.57	2.30	10.34	0.51	0.00	0.00	0.00	0.00	
29	0.00	0.00	0.98	2.15	5.91	1.75	8.10	0.51	0.00	0.00		0.00	
30	0.00	0.00	13.25	8.22	7.02	1.54	6.02	0.51	0.00	0.00		0.00	
31		0.00		12.76	3.93		4.64		0.00	0.00		0.00	
Total	0.00	0.00	37.33	98.69	358.75	233.47	344.92	24.35	27.28	0.00	0.00	0.00	1124.79 CMSDAY
Mean	0.00	0.00	1.24	3.18	11.57	7.78	11.13	0.81	0.88	0.00	0.00	0.00	3.08 CMS
Max	0.00	0.00	13.25	14.74	55.35	31.80	54.11	3.58	6.35	0.00	0.00	0.00	55.35 CMS
Min	0.00	0.00	0.06	0.42	1.18	1.54	2.20	0.30	0.00	0.00	0.00	0.00	0.00 CMS
Runoff	0.000	0.000	3.225	8.527	30.996	20.172	29.801	2.104	2.357	0.000	0.000	0.000	97.182 MCM

Momentary Peak 100.10 CMS, at 182.20 M (MSL), at 8.00 Hours, on Aug 23, 1993

Runoff Yield 32.10 Liters/Second/Square KM, Momentary Peak Yield 1042.71 Liters/Second/Square KM

WATER YEAR 1993

TONLE SAP BASIN

Khlong Thung Krang at Ban Thung Krang, Chanthaburi (TL.6)

Location — Lat. 13°01'36" N., Long. 102°16'21" E., on right bank at the bridge of Chanthaburi-Sa Kaeo Highway, Tambon Thap Sai, Amphoe Pong Nam Ron, Chanthaburi.

Drainage Area — 42 sq.km.

Type of Gage — Staff gage.

Zero Gage at Bottom — +183.10 m.(M.S.L.)

Bench Mark — B.M.-H.D.

- Location — On right bank about 20 meters from the top staff gage.
- Elevation — +187.655 m.(M.S.L.)

Gage Reading Frequency — 5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.

Basis of Mean Daily Gage Height — Arithmetic mean of 5 readings.

Period of Available Gage Records — 1987 to date.

Rating Operation

- Period of Rating — 1987 to date.
- Rated by Float — -
- Rated by Current Meter — 1987 to date.

Stability of Channel Regimes — Fairly stable.

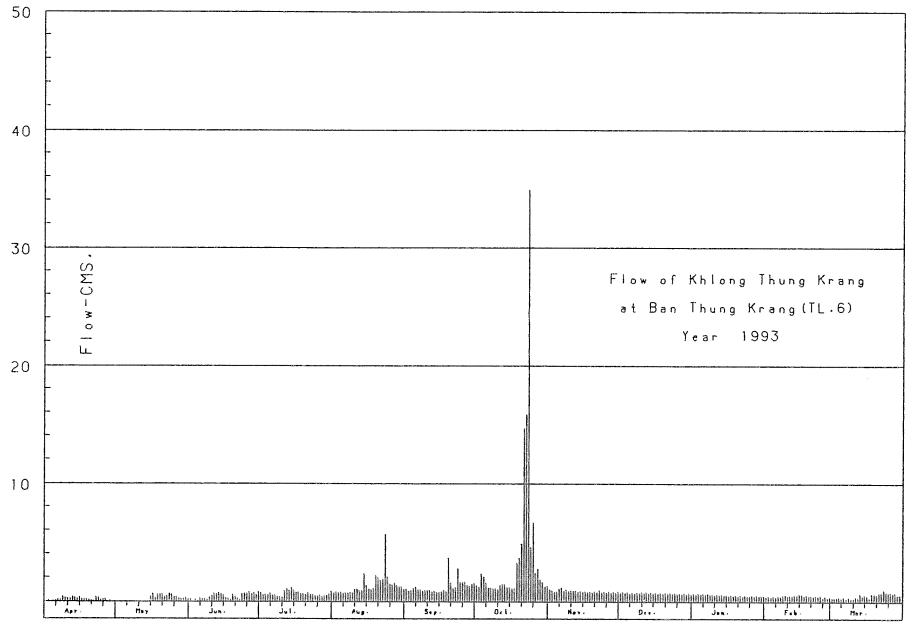
Overbank Flow Conditions — No overbank flow.

General Description — Records fair. Stage-discharge relation defined by 39 discharge measurements made in 1993.

Gage Height in Meter (MSL), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	183.59	183.56	183.64	183.92	183.95	184.05	184.13	184.07	183.96	183.89	183.77	183.72	
2	183.57	183.51	183.60	183.87	183.96	184.02	184.12	184.02	183.96	183.89	183.77	183.68	
3	183.56	183.50	183.60	183.85	183.96	184.01	184.28	184.00	183.96	183.90	183.77	183.74	
4	183.54	183.52	183.60	183.87	183.95	184.10	184.26	183.98	183.95	183.90	183.77	183.72	
5	183.61	183.54	183.68	183.91	183.93	184.11	184.18	184.09	183.93	183.89	183.77	183.72	
6	183.60	183.47	183.66	183.85	183.92	184.06	184.11	184.09	183.93	183.89	183.77	183.72	
7	183.64	183.51	183.64	183.82	183.94	184.04	184.09	184.03	183.93	183.88	183.80	183.70	
8	183.79	183.51	183.63	183.80	183.93	184.02	184.09	184.04	183.94	183.88	183.81	183.72	
9	183.68	183.49	183.70	183.74	183.96	184.02	184.07	184.02	183.95	183.86	183.87	183.68	
10	183.66	183.49	183.83	183.76	184.04	184.03	184.07	184.02	183.95	183.86	183.82	183.69	
11	183.68	183.48	183.90	184.00	184.08	184.02	184.15	184.03	183.95	183.85	183.80	183.73	
12	183.79	183.46	183.91	184.09	184.01	184.00	184.15	184.01	183.95	183.86	183.82	183.72	
13	183.69	183.50	183.91	184.01	184.03	184.00	184.15	184.00	183.94	183.85	183.82	183.88	
14	183.70	183.54	183.91	184.11	184.28	183.98	184.11	184.00	183.94	183.85	183.85	183.82	
15	183.72	183.79	183.83	184.02	184.13	183.93	184.10	183.99	183.93	183.83	183.87	183.83	
16	183.64	183.88	183.72	183.97	184.08	184.00	184.09	183.99	183.93	183.83	183.85	183.78	
17	183.66	183.72	183.66	183.95	184.06	184.02	184.07	183.98	183.93	183.83	183.82	183.73	
18	183.63	183.85	183.63	183.92	184.07	184.00	184.37	183.97	183.92	183.83	183.82	183.87	
19	183.61	183.90	183.85	183.88	184.27	184.40	184.40	183.98	183.92	183.82	183.82	183.90	
20	183.60	183.86	183.79	183.88	184.24	184.18	184.48	183.98	183.92	183.82	183.79	183.83	
21	183.59	183.78	183.66	183.92	184.21	184.09	184.89	183.98	183.92	183.82	183.80	183.95	
22	183.72	183.77	183.63	183.89	184.23	184.10	184.93	184.02	183.92	183.81	183.80	183.91	
23	183.76	183.93	183.86	183.85	184.53	184.33	185.45	183.97	183.92	183.81	183.79	184.06	
24	183.68	183.86	183.93	183.82	184.25	184.20	184.46	183.97	183.91	183.81	183.81	184.02	
25	183.65	183.78	183.94	183.82	184.17	184.20	184.58	183.97	183.90	183.81	183.73	183.96	
26	183.63	183.74	183.96	183.82	184.14	184.19	184.29	183.98	183.90	183.81	183.76	183.94	
27	183.59	183.71	183.91	183.78	184.19	184.15	184.33	183.97	183.90	183.81	183.72	183.93	
28	183.58	183.64	183.92	183.79	184.13	184.12	184.23	183.96	183.91	183.81	183.72	183.92	
29	183.55	183.70	183.87	183.84	184.12	184.17	184.19	183.96	183.90	183.81		183.85	
30	183.55	183.69	183.96	183.87	184.11	184.17	184.13	183.98	183.90	183.79		183.82	
31		183.67		183.99	184.07		184.13		183.90	183.78		183.80	
Mean	183.64	183.66	183.78	183.89	184.09	184.09	184.29	184.00	183.93	183.84	183.80	183.82	
Max	183.79	183.93	183.96	184.11	184.53	184.40	185.45	184.09	183.96	183.90	183.87	184.06	185.45
Min	183.54	183.46	183.60	183.74	183.92	183.93	184.07	183.96	183.90	183.78	183.72	183.68	183.46

Annual Max Momentary Gage Height 186.30 M (MSL), at 6.00 Hours, on Oct 23, 1993
Zero Gage at Bottom Elevation 183.10 M (MSL), River Bed 182.98 M (MSL)
Left Bank Elevation 186.45 M (MSL)
Right Bank Elevation 186.41 M (MSL), Drainage Area 42 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.15	0.10	0.23	0.74	0.80	1.05	1.35	1.11	0.82	0.68	0.45	0.37	
2	0.12	0.02	0.17	0.64	0.82	0.96	1.30	0.96	0.82	0.68	0.45	0.30	
3	0.10	0.00	0.17	0.60	0.82	0.93	2.34	0.90	0.82	0.70	0.45	0.40	
4	0.07	0.03	0.17	0.64	0.80	1.20	2.18	0.86	0.80	0.70	0.45	0.37	
5	0.18	0.07	0.30	0.72	0.76	1.25	1.60	1.17	0.76	0.68	0.45	0.37	
6	0.17	0.00	0.27	0.60	0.74	1.08	1.25	1.17	0.76	0.68	0.45	0.37	
7	0.23	0.02	0.23	0.54	0.78	1.02	1.17	0.99	0.76	0.66	0.50	0.33	
8	0.48	0.02	0.22	0.50	0.76	0.96	1.17	1.02	0.78	0.66	0.52	0.37	
9	0.30	0.00	0.33	0.40	0.82	0.96	1.11	0.96	0.80	0.62	0.64	0.30	
10	0.27	0.00	0.56	0.43	1.02	0.99	1.11	0.96	0.80	0.62	0.54	0.32	
11	0.30	0.00	0.70	0.90	1.14	0.96	1.45	0.99	0.80	0.60	0.50	0.38	
12	0.48	0.00	0.72	1.17	0.93	0.90	1.45	0.93	0.80	0.62	0.54	0.37	
13	0.32	0.00	0.72	0.93	0.99	0.90	1.45	0.90	0.78	0.60	0.54	0.66	
14	0.33	0.07	0.72	1.25	2.34	0.86	1.25	0.90	0.78	0.60	0.60	0.54	
15	0.37	0.48	0.56	0.96	1.35	0.76	1.20	0.88	0.76	0.56	0.64	0.56	
16	0.23	0.66	0.37	0.84	1.14	0.90	1.17	0.88	0.76	0.56	0.60	0.47	
17	0.27	0.37	0.27	0.80	1.08	0.96	1.11	0.86	0.76	0.56	0.54	0.38	
18	0.22	0.60	0.22	0.74	1.11	0.90	3.34	0.84	0.74	0.56	0.54	0.64	
19	0.18	0.70	0.60	0.66	2.26	3.70	3.70	0.86	0.74	0.54	0.54	0.70	
20	0.17	0.62	0.48	0.66	2.02	1.60	4.90	0.86	0.74	0.54	0.48	0.56	
21	0.15	0.47	0.27	0.74	1.78	1.17	14.70	0.86	0.74	0.54	0.50	0.80	
22	0.37	0.45	0.22	0.68	1.94	1.20	15.96	0.96	0.74	0.52	0.50	0.72	
23	0.43	0.76	0.62	0.60	5.80	2.86	35.00	0.84	0.74	0.52	0.48	1.08	
24	0.30	0.62	0.76	0.54	2.10	1.70	4.60	0.84	0.72	0.52	0.52	0.96	
25	0.25	0.47	0.78	0.54	1.55	1.70	6.80	0.84	0.70	0.52	0.38	0.82	
26	0.22	0.40	0.82	0.54	1.40	1.65	2.42	0.86	0.70	0.52	0.43	0.78	
27	0.15	0.35	0.72	0.47	1.65	1.45	2.86	0.84	0.70	0.52	0.37	0.76	
28	0.13	0.23	0.74	0.48	1.35	1.30	1.94	0.82	0.72	0.52	0.37	0.74	
29	0.08	0.33	0.64	0.58	1.30	1.55	1.65	0.82	0.70	0.52		0.60	
30	0.08	0.32	0.82	0.64	1.25	1.55	1.35	0.86	0.70	0.48		0.54	
31		0.28		0.88	1.11		1.35		0.70	0.47		0.50	
Total	7.10	8.44	14.40	21.41	43.71	38.97	124.23	27.54	23.44	18.07	13.97	17.06	358.34 CMSDAY
Mean	0.24	0.27	0.48	0.69	1.41	1.30	4.01	0.92	0.76	0.58	0.50	0.55	0.98 CMS
Max	0.48	0.76	0.82	1.25	5.80	3.70	35.00	1.17	0.82	0.70	0.64	1.08	35.00 CMS
Min	0.07	0.00	0.17	0.40	0.74	0.76	1.11	0.82	0.70	0.47	0.37	0.30	0.00 CMS
Runoff	0.613	0.729	1.244	1.850	3.777	3.367	10.733	2.379	2.025	1.561	1.207	1.474	30.961 MCM

Momentary Peak 102.50 CMS, at 186.30 M (MSL), at 6.00 Hours, on Oct 23, 1993

Runoff Yield 23.38 Liters/Second/Square KM, Momentary Peak Yield 2440.48 Liters/Second/Square KM

WATER YEAR 1993

THA CHIN RIVER BASIN

Huai Krasieo at Ban Thap Khlai, Uthai Thani (T.7)

Location — Lat. 15°-03'-06" N., Long. 99°-35'-18" E., on right bank in the vicinity of Wat Thap Khlai at Ban Thap Khlai, Amphoe Ban Rai, Uthai Thani.

Drainage Area — 607 sq.km.

Type of Gage — Staff gage.

Zero Gage at Bottom — +0.00 m.(A.D.)

Bench Mark — B.M.-H.D.

Location — On right bank under the coconut tree and about 50 meters from the top staff gage.

Elevation — +3.689 m.(A.D.)

Gage Reading Frequency — 13-time daily readings at 06.00 - 18.00 hours.

Basis of Mean Daily Gage Height — Arithmetic mean of 13 readings.

Period of Available Gage Records — 1982 to date.

Rating Operation

Period of Rating — 1984 to date.

Rated by Float — -

Rated by Current Meter — 1984 to date.

Stability of Channel Regimes — Stable.

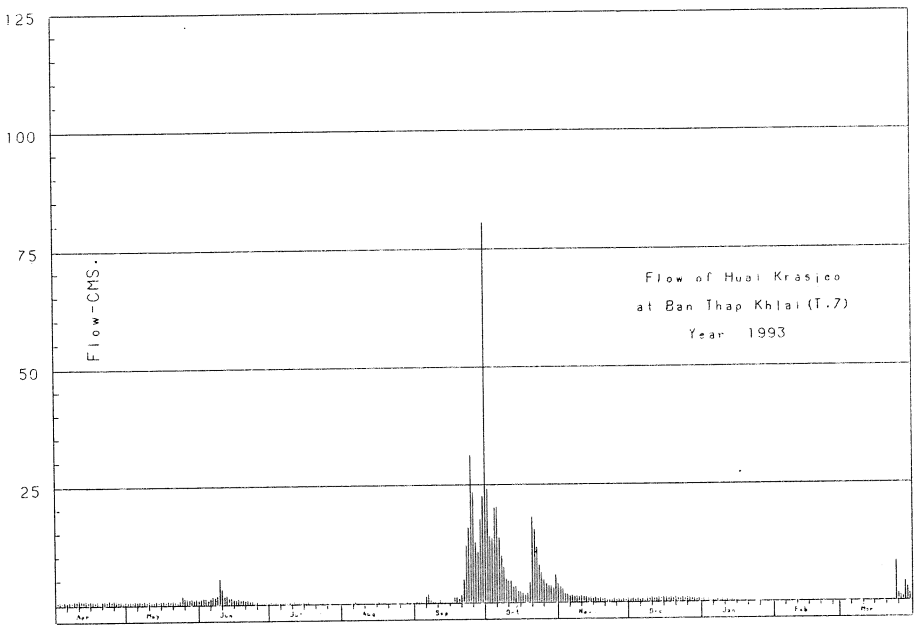
Overbank Flow Conditions — No overbank flow.

General Description — Records good. Stage-discharge relation defined by 85 discharge measurements made in 1993.

Gage Height in Meter (A.D), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.10	0.08	0.18	0.01	-0.03	0.05	1.61	0.54	0.11	0.07	-0.04	-0.07	
2	0.10	0.09	0.27	0.01	-0.03	0.05	1.17	0.48	0.10	0.05	-0.04	-0.07	
3	0.10	0.09	0.21	0.01	-0.02	-0.01	1.15	0.39	0.09	0.05	-0.04	-0.08	
4	0.09	0.09	0.18	0.01	-0.01	-0.02	1.45	0.32	0.10	0.04	-0.04	-0.08	
5	0.08	0.09	0.27	0.01	-0.02	0.29	1.45	0.29	0.09	0.03	-0.04	-0.06	
6	0.08	0.09	0.30	0.01	-0.02	0.35	1.17	0.27	0.07	0.03	-0.04	-0.07	
7	0.09	0.09	0.31	0.01	-0.03	0.11	0.98	0.26	0.05	0.03	-0.04	-0.07	
8	0.12	0.10	0.34	0.01	-0.03	-0.01	0.83	0.23	0.14	0.03	-0.04	-0.07	
9	0.15	0.09	0.72	0.06	-0.03	-0.02	0.69	0.24	0.14	0.04	-0.04	-0.06	
10	0.17	0.09	0.51	0.04	-0.03	0.05	0.63	0.23	0.14	0.04	-0.04	-0.06	
11	0.16	0.08	0.35	0.03	-0.03	0.05	0.65	0.25	0.14	0.03	-0.05	-0.06	
12	0.14	0.08	0.35	0.02	-0.03	-0.01	0.54	0.20	0.15	0.03	-0.06	-0.06	
13	0.13	0.09	0.28	0.02	-0.03	-0.03	0.53	0.17	0.15	0.02	-0.07	-0.06	
14	0.13	0.09	0.22	0.02	-0.03	-0.03	0.45	0.17	0.16	0.01	-0.06	-0.07	
15	0.12	0.09	0.21	0.03	-0.04	-0.03	0.42	0.16	0.15	0.02	-0.06	-0.07	
16	0.09	0.10	0.19	0.03	-0.04	0.00	0.37	0.15	0.14	0.02	-0.06	-0.07	
17	0.10	0.10	0.20	0.01	-0.04	0.23	0.34	0.14	0.14	0.01	-0.06	-0.07	
18	0.10	0.10	0.18	-0.01	-0.04	0.19	0.38	0.12	0.14	-0.03	-0.07	-0.08	
19	0.09	0.11	0.15	-0.02	-0.04	0.17	0.63	0.11	0.14	-0.03	-0.07	-0.08	
20	0.12	0.10	0.14	-0.02	-0.04	0.29	1.36	0.08	0.14	-0.04	-0.07	-0.08	
21	0.11	0.10	0.12	-0.02	-0.04	0.68	1.25	0.07	0.14	-0.04	-0.07	-0.07	
22	0.12	0.07	0.11	-0.02	-0.04	1.09	1.06	0.05	0.14	-0.04	-0.07	-0.07	
23	0.14	0.09	0.08	-0.02	-0.04	1.26	0.87	0.07	0.14	-0.04	-0.07	-0.07	
24	0.14	0.38	0.04	-0.02	-0.04	1.88	0.76	0.09	0.13	-0.04	-0.07	0.90	
25	0.13	0.21	0.04	-0.02	-0.04	1.57	0.65	0.09	0.13	-0.04	-0.07	0.33	
26	0.12	0.19	0.03	-0.02	-0.03	1.11	0.60	0.06	0.13	-0.04	-0.07	0.18	
27	0.10	0.20	0.02	-0.03	-0.03	1.02	0.56	0.06	0.13	-0.04	-0.07	0.18	
28	0.09	0.18	0.02	-0.03	-0.03	1.35	0.54	0.06	0.10	-0.04	-0.07	0.62	
29	0.07	0.19	0.02	-0.03	-0.03	1.54	0.52	0.07	0.10	-0.04		0.50	
30	0.07	0.18	0.02	-0.03	-0.03	3.22	0.73	0.10	0.09	-0.04		0.27	
31		0.18		-0.03	-0.03		0.58		0.08	-0.04		0.21	
Mean	0.11	0.12	0.20	0.00	-0.03	0.55	0.80	0.18	0.12	0.00	-0.06	0.05	
Max	0.17	0.38	0.72	0.06	-0.01	3.22	1.61	0.54	0.16	0.07	-0.04	0.90	3.22
Min	0.07	0.07	0.02	-0.03	-0.04	-0.03	0.34	0.05	0.05	-0.04	-0.07	-0.08	-0.08

Annual Max Momentary Gage Height 3.57 M (A.D), at 8.00 Hours, on Sep 30, 1993
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed -0.12 M (A.D)
Left Bank Elevation 4.10 M (A.D)
Right Bank Elevation 3.95 M (A.D), Drainage Area 607 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.70	0.62	1.05	0.34	0.21	0.50	24.32	3.46	0.74	0.58	0.18	0.09	
2	0.70	0.66	1.44	0.34	0.21	0.50	13.97	2.80	0.70	0.50	0.18	0.09	
3	0.70	0.66	1.18	0.34	0.24	0.27	13.55	1.96	0.66	0.50	0.18	0.06	
4	0.66	0.66	1.05	0.34	0.27	0.24	20.25	1.65	0.70	0.46	0.18	0.06	
5	0.62	0.66	1.44	0.34	0.24	1.52	20.25	1.52	0.66	0.42	0.18	0.12	
6	0.62	0.66	1.57	0.34	0.24	1.78	13.97	1.44	0.58	0.42	0.18	0.09	
7	0.66	0.66	1.61	0.34	0.21	0.74	10.12	1.39	0.50	0.42	0.18	0.09	
8	0.79	0.70	1.74	0.34	0.21	0.27	7.41	1.26	0.87	0.42	0.18	0.09	
9	0.92	0.66	5.62	0.54	0.21	0.24	5.19	1.31	0.87	0.46	0.18	0.12	
10	1.00	0.66	3.12	0.46	0.21	0.50	4.50	1.26	0.87	0.46	0.18	0.12	
11	0.96	0.62	1.78	0.42	0.21	0.50	4.73	1.35	0.87	0.42	0.15	0.12	
12	0.87	0.62	1.78	0.38	0.21	0.27	3.46	1.13	0.92	0.42	0.12	0.12	
13	0.83	0.66	1.48	0.38	0.21	0.21	3.34	1.00	0.92	0.38	0.09	0.12	
14	0.83	0.66	1.22	0.38	0.21	0.21	2.50	1.00	0.96	0.34	0.12	0.09	
15	0.79	0.66	1.18	0.42	0.18	0.21	2.20	0.96	0.92	0.38	0.12	0.09	
16	0.66	0.70	1.09	0.42	0.18	0.30	1.87	0.92	0.87	0.38	0.12	0.09	
17	0.70	0.70	1.13	0.34	0.18	1.26	1.74	0.87	0.87	0.34	0.12	0.09	
18	0.70	0.70	1.05	0.27	0.18	1.09	1.91	0.79	0.87	0.21	0.09	0.06	
19	0.66	0.74	0.92	0.24	0.18	1.00	4.50	0.74	0.87	0.21	0.09	0.06	
20	0.79	0.70	0.87	0.24	0.18	1.52	18.08	0.62	0.87	0.18	0.09	0.06	
21	0.74	0.70	0.79	0.24	0.18	5.07	15.65	0.58	0.87	0.18	0.09	0.09	
22	0.79	0.58	0.74	0.24	0.18	12.30	11.70	0.50	0.87	0.18	0.09	0.09	
23	0.87	0.66	0.62	0.24	0.18	15.86	8.09	0.58	0.87	0.18	0.09	0.09	
24	0.87	1.91	0.46	0.24	0.18	31.44	6.26	0.66	0.83	0.18	0.09	8.60	
25	0.83	1.18	0.46	0.24	0.18	23.30	4.73	0.66	0.83	0.18	0.09	1.70	
26	0.79	1.09	0.42	0.24	0.21	12.71	4.15	0.54	0.83	0.18	0.09	1.05	
27	0.70	1.13	0.38	0.21	0.21	10.90	3.69	0.54	0.83	0.18	0.09	1.05	
28	0.66	1.05	0.38	0.21	0.21	17.85	3.46	0.54	0.70	0.18	0.09	4.38	
29	0.58	1.09	0.38	0.21	0.21	22.53	3.23	0.58	0.70	0.18		3.00	
30	0.58	1.05	0.38	0.21	0.21	80.72	5.78	0.70	0.66	0.18		1.44	
31		1.05		0.21	0.21		3.92		0.62	0.18		1.18	
Total	22.57	24.85	37.33	9.70	6.33	245.81	248.52	33.31	24.70	9.88	3.63	24.50	691.13 CMSDAY
Mean	0.75	0.80	1.24	0.31	0.20	8.19	8.02	1.11	0.80	0.32	0.13	0.79	1.89 CMS
Max	1.00	1.91	5.62	0.54	0.27	80.72	24.32	3.46	0.96	0.58	0.18	8.60	80.72 CMS
Min	0.58	0.58	0.38	0.21	0.18	0.21	1.74	0.50	0.50	0.18	0.09	0.06	0.06 CMS
Runoff	1.950	2.147	3.225	0.838	0.547	21.238	21.472	2.878	2.134	0.854	0.314	2.117	59.714 MCM

Momentary Peak 98.41 CMS, at 3.57 M (A.D), at 8.00 Hours, on Sep 30, 1993
Runoff Yield 3.12 Liters/Second/Square KM, Momentary Peak Yield 162.13 Liters/Second/Square KM

WATER YEAR 1993

NAKHON NAYOK RIVER BASIN

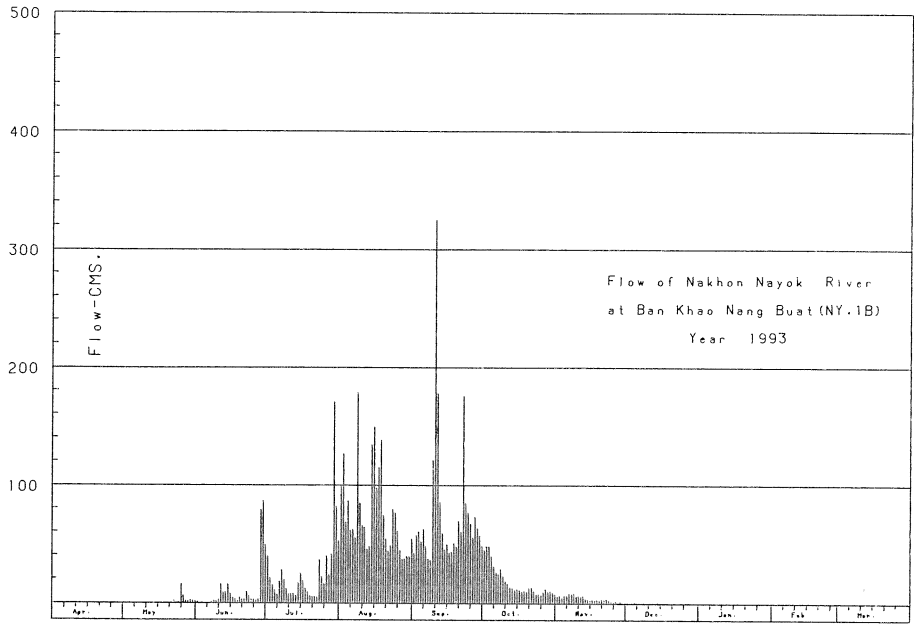
Nakhon Nayok River at Khao Nang Buat, Nakhon Nayok (NY.1B)

Location	Lat. 14-14-45 N., Long. 101-12-38 E., on right bank about 700 meters upstream from NY.1, Amphoe Muang, Nakhon Nayok.
Drainage Area	519 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+0.00 m.(M.S.L.)
Bench Mark	B.M.-H.D.
Location	On right bank about 200 meters from the staff gage.
Elevation	+8.758 m.(M.S.L.)
Gage Reading Frequency	5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1973 to date.
Rating Operation	
Period of Rating	1973 - 1980, 1991 to date.
Rated by Float	-
Rated by Current Meter	1973 - 1980, 1991 to date.
Stability of Channel Regimes	Stable.
Overbank Flow Conditions	Overbank flow starts at elevation + 8.83 m.(M.S.L.) and is included.
General Description	Records good. Stage-discharge relation defined by 30 discharge measurements made in 1993.

Gage Height in Meter (MSL), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	3.40	3.40	3.78	5.18	6.48	5.23	5.32	4.00	3.63	3.51	3.45	3.41	
2	3.41	3.40	3.66	4.58	6.94	5.61	5.38	3.99	3.63	3.51	3.45	3.41	
3	3.41	3.40	3.60	4.40	5.84	5.67	5.40	3.93	3.62	3.51	3.45	3.43	
4	3.41	3.40	3.57	4.20	6.21	5.49	5.16	3.99	3.62	3.51	3.44	3.42	
5	3.42	3.40	3.56	4.07	5.69	5.73	4.92	4.03	3.62	3.51	3.44	3.40	
6	3.42	3.40	3.55	4.48	5.72	5.38	4.75	4.08	3.61	3.50	3.44	3.40	
7	3.48	3.40	3.61	4.79	5.57	5.12	4.68	4.10	3.60	3.50	3.45	3.39	
8	3.50	3.41	3.75	4.55	7.73	5.06	4.82	4.09	3.59	3.51	3.45	3.39	
9	3.48	3.42	3.67	4.27	6.19	6.85	4.65	4.01	3.58	3.50	3.45	3.38	
10	3.45	3.42	3.83	4.06	5.80	9.65	4.51	3.98	3.58	3.50	3.45	3.37	
11	3.44	3.44	4.39	4.06	5.75	7.72	4.41	4.00	3.58	3.49	3.44	3.36	
12	3.44	3.41	4.14	4.07	5.34	6.19	4.32	3.99	3.59	3.49	3.44	3.37	
13	3.49	3.40	4.12	4.02	5.38	5.65	4.27	3.89	3.59	3.49	3.44	3.37	
14	3.47	3.40	4.41	4.46	7.05	5.31	4.23	3.82	3.59	3.48	3.44	3.36	
15	3.45	3.41	4.07	4.72	7.30	5.44	4.24	3.80	3.59	3.48	3.44	3.36	
16	3.46	3.40	3.92	4.49	6.42	5.27	4.21	3.80	3.59	3.48	3.44	3.36	
17	3.44	3.40	3.81	4.29	6.75	5.26	4.19	3.80	3.59	3.48	3.43	3.35	
18	3.41	3.40	3.74	4.14	7.11	5.44	4.17	3.78	3.58	3.48	3.43	3.35	
19	3.40	3.40	3.90	4.01	5.98	5.39	4.18	3.79	3.57	3.48	3.43	3.34	
20	3.40	3.46	3.78	3.94	5.53	5.86	4.28	3.83	3.56	3.48	3.43	3.34	
21	3.40	3.55	3.84	3.94	5.30	5.66	4.33	3.83	3.56	3.48	3.43	3.34	
22	3.60	3.72	4.17	3.95	5.40	7.70	4.17	3.83	3.56	3.47	3.43	3.34	
23	3.62	3.67	3.97	5.09	6.07	6.17	4.09	3.79	3.55	3.47	3.43	3.41	
24	3.51	3.57	3.84	4.61	6.02	6.03	4.06	3.75	3.55	3.47	3.43	3.47	
25	3.48	4.43	3.80	4.43	5.68	5.83	4.06	3.70	3.55	3.47	3.42	3.50	
26	3.46	3.98	3.78	5.17	5.32	5.57	4.16	3.68	3.54	3.47	3.42	3.49	
27	3.44	3.75	3.81	4.68	5.11	5.94	4.24	3.68	3.53	3.47	3.42	3.47	
28	3.42	3.66	6.08	5.21	5.11	5.75	4.17	3.66	3.52	3.46	3.42	3.46	
29	3.42	3.79	6.21	7.64	5.16	5.59	4.17	3.64	3.52	3.46		3.55	
30	3.41	3.71	5.41	6.12	5.17	5.39	4.15	3.64	3.51	3.46		3.57	
31		3.75		5.52	5.53		4.06		3.51	3.46		3.50	
Mean	3.45	3.54	4.06	4.62	5.96	5.90	4.44	3.86	3.57	3.48	3.44	3.41	
Max	3.62	4.43	6.21	7.64	7.73	9.65	5.40	4.10	3.63	3.51	3.45	3.57	9.65
Min	3.40	3.40	3.55	3.94	5.11	5.06	4.06	3.64	3.51	3.46	3.42	3.34	3.34

Annual Max Momentary Gage Height 10.06 M (MSL), at 11.00 Hours, on Sep 10, 1993
Zero Gage at Bottom Elevation 0.00 M (MSL), River Bed 2.73 M (MSL)
Left Bank Elevation 9.75 M (MSL)
Right Bank Elevation 8.82 M (MSL), Drainage Area 519 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.00	0.00	2.74	40.20	100.54	42.04	45.50	6.30	1.07	0.35	0.15	0.03	
2	0.03	0.00	1.34	21.20	127.28	57.85	47.90	6.12	1.07	0.35	0.15	0.03	
3	0.03	0.00	0.80	15.90	68.38	60.55	48.70	5.04	0.98	0.35	0.15	0.09	
4	0.03	0.00	0.65	10.70	86.51	52.57	39.50	6.12	0.98	0.35	0.12	0.06	
5	0.06	0.00	0.60	7.77	61.45	63.28	31.72	6.93	0.98	0.35	0.12	0.00	
6	0.06	0.00	0.55	18.22	62.82	47.90	26.45	7.98	0.89	0.30	0.12	0.00	
7	0.24	0.00	0.89	27.69	56.08	38.10	24.28	8.40	0.80	0.30	0.15	0.00	
8	0.30	0.03	2.35	20.30	178.60	36.12	28.62	8.19	0.75	0.35	0.15	0.00	
9	0.24	0.06	1.43	12.45	85.50	121.75	23.35	6.51	0.70	0.30	0.15	0.00	
10	0.15	0.06	3.45	7.56	66.50	325.50	19.10	5.94	0.70	0.30	0.15	0.00	
11	0.12	0.12	15.63	7.56	64.20	177.90	16.19	6.30	0.70	0.27	0.12	0.00	
12	0.12	0.03	9.32	7.77	46.30	85.50	13.74	6.12	0.75	0.27	0.12	0.00	
13	0.27	0.00	8.86	6.72	47.90	59.65	12.45	4.35	0.75	0.27	0.12	0.00	
14	0.21	0.00	16.19	17.64	134.15	45.10	11.45	3.30	0.75	0.24	0.12	0.00	
15	0.15	0.03	7.77	25.52	150.20	50.42	11.70	3.00	0.75	0.24	0.12	0.00	
16	0.18	0.00	4.86	18.51	97.36	43.56	10.95	3.00	0.75	0.24	0.12	0.00	
17	0.12	0.00	3.15	12.95	115.70	43.18	10.47	3.00	0.75	0.24	0.09	0.00	
18	0.03	0.00	2.22	9.32	137.94	50.42	10.01	2.74	0.70	0.24	0.09	0.00	
19	0.00	0.00	4.50	6.51	75.04	48.30	10.24	2.87	0.65	0.24	0.09	0.00	
20	0.00	0.18	2.74	5.22	54.32	69.32	12.70	3.45	0.60	0.24	0.09	0.00	
21	0.00	0.55	3.60	5.22	44.70	60.10	14.01	3.45	0.60	0.24	0.09	0.00	
22	0.80	1.96	10.01	5.40	48.70	176.50	10.01	3.45	0.60	0.21	0.09	0.00	
23	0.98	1.43	5.76	37.08	79.50	84.50	8.19	2.87	0.55	0.21	0.09	0.03	
24	0.35	0.65	3.60	22.11	77.00	77.50	7.56	2.35	0.55	0.21	0.09	0.21	
25	0.24	16.77	3.00	16.77	61.00	67.91	7.56	1.70	0.55	0.21	0.06	0.30	
26	0.18	5.94	2.74	39.85	45.50	56.08	9.78	1.52	0.50	0.21	0.06	0.27	
27	0.12	2.35	3.15	24.28	37.75	73.12	11.70	1.52	0.45	0.21	0.06	0.21	
28	0.06	1.34	80.00	41.28	37.75	64.20	10.01	1.34	0.40	0.18	0.06	0.18	
29	0.06	2.87	86.51	171.22	39.50	56.96	10.01	1.16	0.40	0.18		0.55	
30	0.03	1.83	49.13	82.00	39.85	48.30	9.55	1.16	0.35	0.18		0.65	
31		2.35		53.88	54.32		7.56		0.35	0.18		0.30	
Total	5.16	38.55	337.54	798.80	2382.34	2284.18	560.96	126.18	21.37	8.01	3.09	2.91	6569.09 CMSDAY
Mean	0.17	1.24	11.25	25.77	76.85	76.14	18.10	4.21	0.69	0.26	0.11	0.09	18.00 CMS
Max	0.98	16.77	86.51	171.22	178.60	325.50	48.70	8.40	1.07	0.35	0.15	0.65	325.50 CMS
Min	0.00	0.00	0.55	5.22	37.75	36.12	7.56	1.16	0.35	0.18	0.06	0.00	0.00 CMS
Runoff	0.446	3.331	29.163	69.016	205.834	197.353	48.467	10.902	1.846	0.692	0.267	0.251	567.569 MCM

Momentary Peak 359.48 CMS, at 10.06 M (MSL), at 11.00 Hours, on Sep 10, 1993

Runoff Yield 34.68 Liters/Second/Square KM, Momentary Peak Yield 692.64 Liters/Second/Square KM

WATER YEAR 1993

NAKHON NAYOK RIVER BASIN

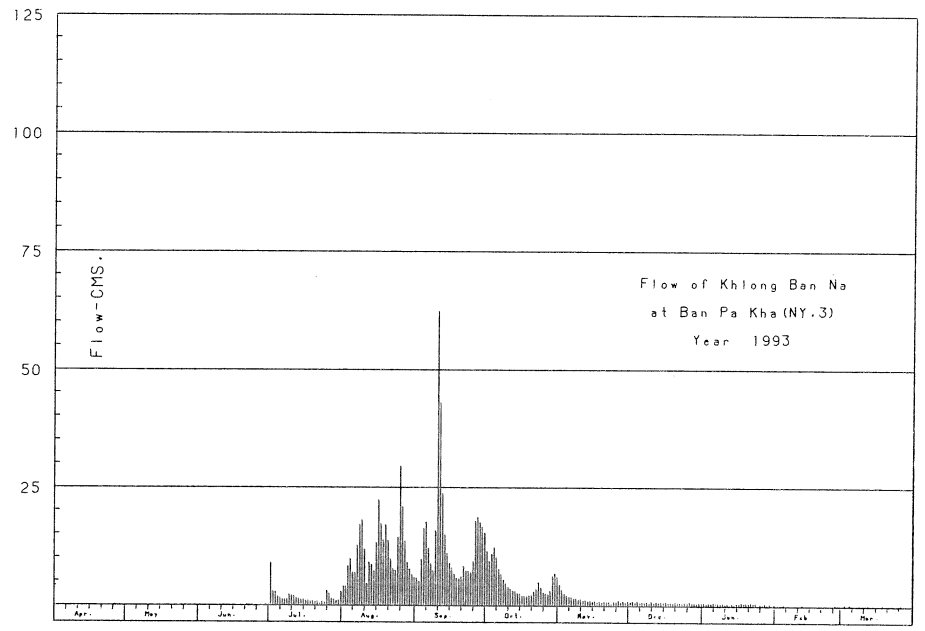
Khlong Ban Na at Ban Pa Kha, Nakhon Nayok (Ny.3)

Location	Lat. 14°17'07" N., Long. 101°04'26" E., on left bank near Wat Ban Pa Kha, Tambon Pa Kha, Amphoe Ban Na, Nakhon Nayok.
Drainage Area	203 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+0.00 m. (A.D.)
Bench Mark	B.M.-H.D.
Location	About 10 meters from the top staff gage.
Elevation	+5.168 m. (A.D.)
Gage Reading Frequency	5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1977 to date.
Rating Operation	
Period of Rating	1977 - 1978, 1980, 1988 to date.
Rated by Float	-
Rated by Current Meter	1977 - 1978, 1980, 1988 to date.
Stability of Channel Regimes	Stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records fair. Stage-discharge relation defined by 28 discharge measurements made in 1993.

Gage Height in Meter (A.D), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.48	0.47	0.70	2.46	1.80	2.03	2.71	1.86	1.10	0.94	0.75	0.75	
2	0.48	0.44	0.67	1.62	1.77	1.95	2.48	1.66	1.06	0.91	0.69	0.75	
3	0.46	0.45	0.81	1.56	2.36	2.52	2.68	1.54	1.03	0.87	0.74	0.75	
4	0.45	0.41	0.48	1.40	2.55	3.15	2.82	1.43	1.06	0.94	0.72	0.75	
5	0.46	0.40	0.48	1.29	2.21	3.24	2.57	1.40	1.02	0.94	0.70	0.75	
6	0.41	0.37	0.50	1.22	2.18	2.80	2.32	1.35	0.99	0.94	0.69	0.73	
7	0.38	0.41	0.51	1.17	2.83	2.44	2.14	1.32	1.02	0.89	0.69	0.72	
8	0.35	0.43	0.51	1.23	3.21	2.24	2.00	1.28	1.00	0.88	0.69	0.71	
9	0.41	0.45	0.51	1.45	3.27	3.10	1.86	1.25	0.98	0.87	0.67	0.70	
10	0.45	0.48	0.51	1.45	2.77	5.68	1.78	1.22	1.05	0.87	0.65	0.70	
11	0.42	0.49	0.51	1.38	1.88	4.85	1.70	1.19	1.00	0.83	0.63	0.68	
12	0.42	0.50	0.51	1.33	2.45	3.72	1.65	1.16	1.02	0.81	0.67	0.68	
13	0.43	0.50	0.51	1.22	2.42	3.05	1.60	1.14	1.01	0.82	0.65	0.68	
14	0.51	0.50	0.52	1.21	2.23	2.67	1.55	1.10	0.98	0.85	0.63	0.65	
15	0.52	0.50	0.51	1.17	2.91	2.45	1.50	1.11	1.00	0.88	0.63	0.64	
16	0.52	0.52	0.50	1.13	3.60	2.33	1.45	1.09	0.98	0.91	0.63	0.64	
17	0.52	0.50	0.50	1.11	3.22	2.17	1.40	1.05	0.98	0.95	0.62	0.63	
18	0.53	0.51	0.50	1.09	2.94	2.02	1.42	1.05	0.95	0.94	0.62	0.63	
19	0.51	0.52	0.51	1.07	3.19	2.03	1.42	1.05	0.99	0.93	0.61	0.63	
20	0.50	0.52	0.51	1.04	2.93	2.06	1.47	1.05	1.01	0.95	0.61	0.63	
21	0.54	0.57	0.54	1.02	2.54	2.36	1.59	1.10	0.97	0.95	0.59	0.73	
22	0.51	0.61	0.53	0.89	2.32	2.27	1.72	0.99	0.92	0.94	0.58	0.66	
23	0.56	0.62	0.52	0.98	2.25	2.23	1.91	0.89	0.95	0.92	0.61	0.61	
24	0.58	0.61	0.52	1.00	3.01	2.22	1.77	1.01	0.94	0.88	0.64	0.60	
25	0.60	0.61	0.51	1.65	4.13	2.50	1.59	1.10	0.96	0.84	0.66	0.62	
26	0.61	0.55	0.51	1.50	3.51	3.27	1.50	1.14	0.98	0.85	0.68	0.59	
27	0.59	0.53	0.51	1.30	2.92	3.32	1.51	1.07	0.97	0.87	0.71	0.56	
28	0.57	0.55	0.51	1.18	2.48	3.25	1.63	1.06	0.91	0.83	0.72	0.54	
29	0.51	0.53	0.55	1.15	2.29	3.16	2.12	1.01	0.94	0.81		0.53	
30	0.49	0.54	0.54	1.12	2.15	3.08	2.17	1.03	0.93	0.79		0.53	
31		0.70		1.58	2.04		2.06		0.96	0.77		0.52	
Mean	0.49	0.51	0.53	1.29	2.66	2.81	1.87	1.19	0.99	0.88	0.66	0.65	
Max	0.61	0.70	0.81	2.46	4.13	5.68	2.82	1.86	1.10	0.95	0.75	0.75	5.68
Min	0.35	0.37	0.48	0.89	1.77	1.95	1.40	0.89	0.91	0.77	0.58	0.52	0.35

Annual Max Momentary Gage Height 5.81 M (A.D), at 6.00 Hours, on Sep 10, 1993
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed -0.39 M (A.D)
Left Bank Elevation 5.01 M (A.D)
Right Bank Elevation 5.00 M (A.D), Drainage Area 203 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.08	0.07	0.30	9.14	4.20	5.81	11.40	4.62	1.00	0.68	0.35	0.35	
2	0.08	0.04	0.27	3.10	3.99	5.25	9.32	3.30	0.92	0.62	0.29	0.35	
3	0.06	0.05	0.42	2.80	8.24	9.68	11.12	2.70	0.86	0.54	0.34	0.35	
4	0.05	0.01	0.08	2.00	9.95	16.45	12.50	2.15	0.92	0.68	0.32	0.35	
5	0.06	0.00	0.08	1.57	7.07	17.62	10.13	2.00	0.84	0.68	0.30	0.35	
6	0.01	0.00	0.10	1.36	6.86	12.30	7.88	1.80	0.78	0.68	0.29	0.33	
7	0.00	0.01	0.11	1.21	12.60	8.96	6.58	1.68	0.84	0.58	0.29	0.32	
8	0.00	0.03	0.11	1.39	17.23	7.28	5.60	1.54	0.80	0.56	0.29	0.31	
9	0.01	0.05	0.11	2.25	18.01	15.80	4.62	1.45	0.76	0.54	0.27	0.30	
10	0.05	0.08	0.11	2.25	12.00	62.56	4.06	1.36	0.90	0.54	0.25	0.30	
11	0.02	0.09	0.11	1.92	4.76	43.00	3.50	1.27	0.80	0.46	0.23	0.28	
12	0.02	0.10	0.11	1.72	9.05	23.86	3.25	1.18	0.84	0.42	0.27	0.28	
13	0.03	0.10	0.11	1.36	8.78	15.15	3.00	1.12	0.82	0.44	0.25	0.28	
14	0.11	0.10	0.12	1.33	7.21	11.03	2.75	1.00	0.76	0.50	0.23	0.25	
15	0.12	0.10	0.11	1.21	13.42	9.05	2.50	1.03	0.80	0.56	0.23	0.24	
16	0.12	0.12	0.10	1.09	22.30	7.97	2.25	0.98	0.76	0.62	0.23	0.24	
17	0.12	0.10	0.10	1.03	17.36	6.79	2.00	0.90	0.76	0.70	0.22	0.23	
18	0.13	0.11	0.10	0.98	13.78	5.74	2.10	0.90	0.70	0.68	0.22	0.23	
19	0.11	0.12	0.11	0.94	16.97	5.81	2.10	0.90	0.78	0.66	0.21	0.23	
20	0.10	0.12	0.11	0.88	13.66	6.02	2.35	0.90	0.82	0.70	0.21	0.23	
21	0.14	0.17	0.14	0.84	9.86	8.24	2.95	1.00	0.74	0.70	0.19	0.33	
22	0.11	0.21	0.13	0.58	7.88	7.49	3.64	0.78	0.64	0.68	0.18	0.26	
23	0.16	0.22	0.12	0.76	7.35	7.21	4.97	0.58	0.70	0.64	0.21	0.21	
24	0.18	0.21	0.12	0.80	14.63	7.14	3.99	0.82	0.68	0.56	0.24	0.20	
25	0.20	0.21	0.11	3.25	29.74	9.50	2.95	1.00	0.72	0.48	0.26	0.22	
26	0.21	0.15	0.11	2.50	21.13	18.01	2.50	1.12	0.76	0.50	0.28	0.19	
27	0.19	0.13	0.11	1.60	13.54	18.66	2.55	0.94	0.74	0.54	0.31	0.16	
28	0.17	0.15	0.11	1.24	9.32	17.75	3.15	0.92	0.62	0.46	0.32	0.14	
29	0.11	0.13	0.15	1.15	7.63	16.58	6.44	0.82	0.68	0.42		0.13	
30	0.09	0.14	0.14	1.06	6.65	15.54	6.79	0.86	0.66	0.39		0.13	
31		0.30		2.90	5.88		6.02		0.72	0.37		0.12	
Total	2.84	3.42	4.01	56.21	361.05	422.25	154.96	41.62	24.12	17.58	7.28	7.89	1103.23 CMSDAY
Mean	0.09	0.11	0.13	1.81	11.65	14.07	5.00	1.39	0.78	0.57	0.26	0.25	3.02 CMS
Max	0.21	0.30	0.42	9.14	29.74	62.56	12.50	4.62	1.00	0.70	0.35	0.35	62.56 CMS
Min	0.00	0.00	0.08	0.58	3.99	5.25	2.00	0.58	0.62	0.37	0.18	0.12	0.00 CMS
Runoff	0.245	0.295	0.346	4.857	31.195	36.482	13.389	3.596	2.084	1.519	0.629	0.682	95.319 MCM

Momentary Peak 66.29 CMS, at 5.81 M (A.D), at 6.00 Hours, on Sep 10, 1993

Runoff Yield 14.89 Liters/Second/Square KM, Momentary Peak Yield 326.55 Liters/Second/Square KM

WATER YEAR 1993

NAKHON NAYOK RIVER BASIN

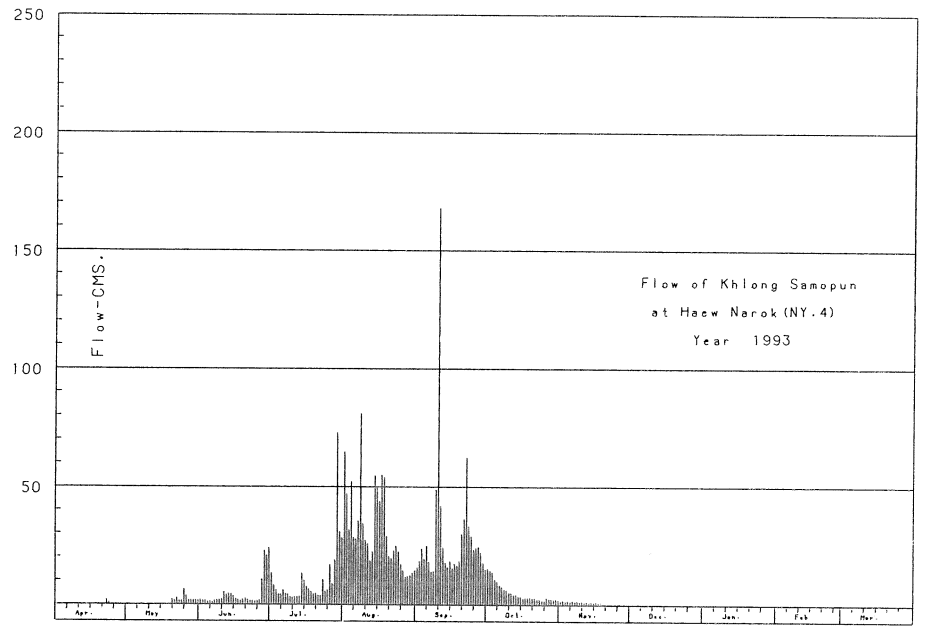
Khlong Samo Pun at Haew Narok, Prachin Buri (Ny.4)

Location	Lat. 14°-17'-23" N., Long. 101°-24'-16" E., on left bank at the bridge of Chanthaburi-Khao Yai Highway, Amphoe Muang, Prachin Buri.
Drainage Area	128 sq.km.
Type of Gage	Water-stage recorder.
Zero Gage at Bottom	+376.10 m.(M.S.L.)
Bench Mark	B.M.-H.D.
Location	On left bank at the abutment of the bridge.
Elevation	+382.580 m.(M.S.L.)
Gage Reading Frequency	Recording.
Basis of Mean Daily Gage Height	Arithmetic mean of 24 readings.
Period of Available Gage Records	1986 to date.
Rating Operation	
Period of Rating	1986 to date.
Rated by Float	-
Rated by Current Meter	1986 to date.
Stability of Channel Regimes	Fairly stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records fair. Stage-discharge relation defined by 73 discharge measurements made in 1993.

Gage Height in Meter (MSL), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	376.40	376.44	376.75	377.30	378.26	377.37	377.34	376.74	376.52	376.42	376.36	376.27	
2	376.40	376.43	376.75	377.14	377.99	377.43	377.33	376.72	376.50	376.42	376.36	376.27	
3	376.40	376.43	376.71	377.04	377.73	377.56	377.30	376.71	376.51	376.41	376.35	376.27	
4	376.39	376.43	376.67	376.97	378.08	377.46	377.22	376.70	376.52	376.41	376.35	376.27	
5	376.39	376.43	376.65	376.94	377.67	377.60	377.18	376.70	376.51	376.41	376.35	376.26	
6	376.40	376.42	376.65	377.04	377.65	377.42	377.14	376.70	376.50	376.41	376.35	376.26	
7	376.39	376.42	376.69	376.98	377.79	377.32	377.10	376.69	376.49	376.41	376.35	376.25	
8	376.38	376.41	376.78	376.94	378.46	377.31	377.07	376.68	376.49	376.41	376.34	376.25	
9	376.38	376.41	376.75	376.90	377.77	378.02	377.04	376.67	376.48	376.40	376.34	376.24	
10	376.39	376.40	376.83	376.88	377.64	379.16	377.01	376.66	376.48	376.39	376.34	376.24	
11	376.39	376.40	377.00	376.88	377.61	377.90	376.98	376.64	376.48	376.39	376.34	376.23	
12	376.40	376.39	376.96	376.91	377.44	377.58	376.95	376.64	376.50	376.38	376.34	376.22	
13	376.43	376.39	376.96	376.89	377.53	377.42	376.93	376.64	376.50	376.38	376.33	376.27	
14	376.43	376.39	376.98	377.30	378.12	377.36	376.91	376.63	376.49	376.38	376.33	376.27	
15	376.44	376.39	376.89	377.20	378.03	377.44	376.88	376.63	376.49	376.38	376.33	376.28	
16	376.44	376.39	376.84	377.12	377.94	377.36	376.86	376.62	376.48	376.38	376.33	376.28	
17	376.44	376.39	376.76	377.06	378.12	377.40	376.85	376.62	376.47	376.38	376.33	376.29	
18	376.43	376.40	376.75	377.01	378.11	377.39	376.87	376.62	376.47	376.38	376.33	376.43	
19	376.42	376.43	376.77	376.97	377.68	377.43	376.86	376.60	376.46	376.38	376.32	376.43	
20	376.41	376.78	376.85	376.97	377.48	377.69	376.86	376.60	376.46	376.38	376.32	376.40	
21	376.41	376.76	376.78	376.94	377.47	377.81	376.84	376.59	376.45	376.38	376.31	376.40	
22	376.75	376.84	376.75	376.91	377.55	378.23	376.82	376.58	376.45	376.38	376.31	376.40	
23	376.62	376.75	376.69	377.22	377.59	377.75	376.80	376.58	376.44	376.38	376.30	376.40	
24	376.57	376.69	376.71	377.03	377.54	377.68	376.78	376.57	376.44	376.38	376.29	376.39	
25	376.53	377.07	376.74	377.04	377.41	377.56	376.77	376.56	376.43	376.38	376.29	376.39	
26	376.51	376.90	376.75	377.39	377.32	377.57	376.85	376.55	376.43	376.37	376.29	376.38	
27	376.49	376.79	377.21	377.16	377.25	377.59	376.84	376.55	376.43	376.37	376.29	376.38	
28	376.48	376.72	377.55	377.45	377.25	377.52	376.81	376.55	376.43	376.37	376.28	376.45	
29	376.46	376.78	377.49	378.36	377.27	377.42	376.81	376.54	376.42	376.36		376.45	
30	376.45	376.71	377.57	377.72	377.29	377.33	376.79	376.53	376.42	376.36		376.44	
31		376.78		377.66	377.32		376.76		376.42	376.36		376.43	
Mean	376.45	376.56	376.87	377.14	377.69	377.60	376.95	376.63	376.47	376.39	376.33	376.33	
Max	376.75	377.07	377.57	378.36	378.46	379.16	377.34	376.74	376.52	376.42	376.36	376.45	379.16
Min	376.38	376.39	376.65	376.88	377.25	377.31	376.76	376.53	376.42	376.36	376.28	376.22	376.22

Annual Max Momentary Gage Height 379.80 M (MSL), at 3.00 Hours, on Sep 10, 1993
Zero Gage at Bottom Elevation 376.10 M (MSL), River Bed 375.62 M (MSL)
Left Bank Elevation 381.51 M (MSL)
Right Bank Elevation 384.18 M (MSL), Drainage Area 128 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.00	0.08	1.90	13.70	65.18	16.15	15.10	1.84	0.28	0.04	0.00	0.00	
2	0.00	0.06	1.90	8.58	47.02	18.40	14.75	1.72	0.20	0.04	0.00	0.00	
3	0.00	0.06	1.66	6.12	31.94	23.60	13.70	1.66	0.24	0.02	0.00	0.00	
4	0.00	0.06	1.42	4.72	52.48	19.60	10.90	1.60	0.28	0.02	0.00	0.00	
5	0.00	0.06	1.30	4.24	28.70	25.20	9.66	1.60	0.24	0.02	0.00	0.00	
6	0.00	0.04	1.30	6.12	27.70	18.00	8.58	1.60	0.20	0.02	0.00	0.00	
7	0.00	0.04	1.54	4.88	35.42	14.40	7.50	1.54	0.18	0.02	0.00	0.00	
8	0.00	0.02	2.08	4.24	81.44	14.05	6.81	1.48	0.18	0.02	0.00	0.00	
9	0.00	0.02	1.90	3.60	34.26	48.82	6.12	1.42	0.16	0.00	0.00	0.00	
10	0.00	0.00	2.62	3.32	27.20	168.20	5.43	1.36	0.16	0.00	0.00	0.00	
11	0.00	0.00	5.20	3.32	25.70	41.80	4.88	1.24	0.16	0.00	0.00	0.00	
12	0.00	0.00	4.56	3.76	18.80	24.40	4.40	1.24	0.20	0.00	0.00	0.00	
13	0.06	0.00	4.56	3.46	22.40	18.00	4.08	1.24	0.20	0.00	0.00	0.00	
14	0.06	0.00	4.88	13.70	55.06	15.80	3.76	1.18	0.18	0.00	0.00	0.00	
15	0.08	0.00	3.46	10.20	49.43	18.80	3.32	1.18	0.18	0.00	0.00	0.00	
16	0.08	0.00	2.76	8.04	44.12	15.80	3.04	1.12	0.16	0.00	0.00	0.00	
17	0.08	0.00	1.96	6.58	55.06	17.20	2.90	1.12	0.14	0.00	0.00	0.00	
18	0.06	0.00	1.90	5.43	54.38	16.85	3.18	1.12	0.14	0.00	0.00	0.06	
19	0.04	0.06	2.02	4.72	29.20	18.40	3.04	0.60	0.12	0.00	0.00	0.06	
20	0.02	2.08	2.90	4.72	20.40	29.70	3.04	0.60	0.12	0.00	0.00	0.00	
21	0.02	1.96	2.08	4.24	20.00	36.58	2.76	0.56	0.10	0.00	0.00	0.00	
22	1.90	2.76	1.90	3.76	23.20	62.84	2.48	0.52	0.10	0.00	0.00	0.00	
23	1.12	1.90	1.54	10.90	24.80	33.10	2.20	0.52	0.08	0.00	0.00	0.00	
24	0.48	1.54	1.66	5.89	22.80	29.20	2.08	0.48	0.08	0.00	0.00	0.00	
25	0.32	6.81	1.84	6.12	17.60	23.60	2.02	0.44	0.06	0.00	0.00	0.00	
26	0.24	3.60	1.90	16.85	14.40	24.00	2.90	0.40	0.06	0.00	0.00	0.00	
27	0.18	2.14	10.55	9.12	11.95	24.80	2.76	0.40	0.06	0.00	0.00	0.00	
28	0.16	1.72	23.20	19.20	11.95	22.00	2.34	0.40	0.06	0.00	0.00	0.10	
29	0.12	2.08	20.80	72.98	12.65	18.00	2.34	0.36	0.04	0.00		0.10	
30	0.10	1.66	24.00	31.36	13.35	14.75	2.14	0.32	0.04	0.00		0.08	
31		2.08		28.20	14.40		1.96		0.04	0.00		0.06	
Total	5.12	30.83	141.29	332.07	992.99	872.04	160.17	30.86	4.44	0.20	0.00	0.46	2570.47 CMSDAY
Mean	0.17	0.99	4.71	10.71	32.03	29.07	5.17	1.03	0.14	0.01	0.00	0.01	7.04 CMS
Max	1.90	6.81	24.00	72.98	81.44	168.20	15.10	1.84	0.28	0.04	0.00	0.10	168.20 CMS
Min	0.00	0.00	1.30	3.32	11.95	14.05	1.96	0.32	0.04	0.00	0.00	0.00	0.00 CMS
Runoff	0.442	2.664	12.207	28.691	85.794	75.344	13.839	2.666	0.384	0.017	0.000	0.040	222.089 MCM

Momentary Peak 289.00 CMS, at 379.80 M (MSL), at 3.00 Hours, on Sep 10, 1993

Runoff Yield 55.02 Liters/Second/Square KM, Momentary Peak Yield 2257.81 Liters/Second/Square KM

WATER YEAR 1993

NAKHON NAYOK RIVER BASIN

Khlong Ban Na at Ban Cha Om, Saraburi (Ny.6)

Location — Lat. 14°-24'-34" N., Long. 101°-07'-30" E., on right bank at the bridge of Ban Cha Om-Ban Kariang Kho Ma road, Tambon Cha Om, Amphoe Kaeng Khoi, Saraburi.

Drainage Area — 116 sq.km.

Type of Gage — Staff gage.

Zero Gage at Bottom — +0.00 m.(A.D.)

Bench Mark — B.M.-H.D.

Location — On right bank about 50 meters from the top staff gage.

Elevation — +4.405 m.(A.D.)

Gage Reading Frequency — 5-time daily readings at 06.00, 09.00, 12.00, 15.00, and 18.00 hours.

Basis of Mean Daily Gage Height — Arithmetic mean of 5 readings.

Period of Available Gage Records — 1988 to date.

Rating Operation

Period of Rating — 1988 to date.

Rated by Float — -

Rated by Current Meter — 1988 to date.

Stability of Channel Regimes — Fairly stable because of backwater effect.

Overbank Flow Conditions — Overbank flow starts at elevation + 3.93 m.(A.D.) and is included.

General Description — Records fair. Stage-discharge relaton defined by 36 discharge measurements made in 1993.

Gage Height in Meter (A.D), Water Year April 1, 1993 to March 31, 1994

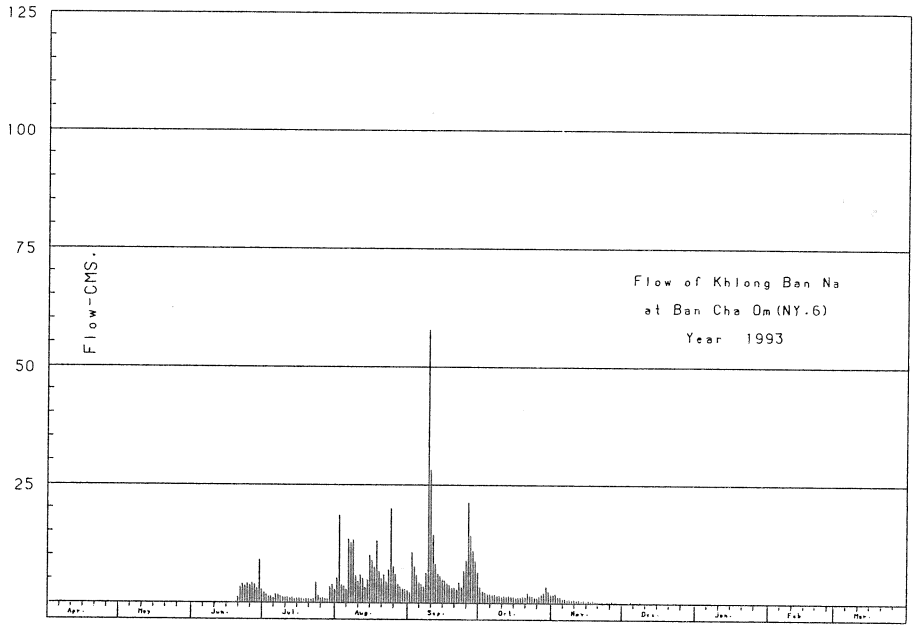
Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.14	0.11	0.18	0.88	1.15	0.87	0.98	0.83	0.48	0.21	0.08	0.00	
2	0.14	0.11	0.14	0.80	1.94	1.51	0.91	0.83	0.47	0.20	0.08	0.00	
3	0.14	0.10	0.13	0.76	1.04	1.34	0.86	0.75	0.46	0.20	0.08	0.00	
4	0.14	0.10	0.12	0.74	1.00	1.20	0.84	0.72	0.46	0.19	0.08	0.00	
5	0.14	0.10	0.11	0.71	0.95	1.09	0.82	0.68	0.45	0.19	0.08	0.00	
6	0.14	0.10	0.10	0.81	1.67	1.04	0.81	0.65	0.45	0.18	0.08	0.00	
7	0.14	0.09	0.41	0.82	1.64	1.00	0.81	0.64	0.45	0.18	0.08	0.00	
8	0.14	0.09	0.22	0.75	1.66	1.23	0.79	0.63	0.44	0.17	0.08	0.00	
9	0.14	0.09	0.18	0.74	1.20	3.51	0.77	0.62	0.42	0.17	0.08	0.00	
10	0.14	0.08	0.14	0.73	1.09	2.37	0.76	0.62	0.40	0.16	0.08	0.00	
11	0.14	0.17	0.11	0.71	1.20	1.73	0.76	0.61	0.39	0.15	0.08	0.00	
12	0.14	0.15	0.11	0.71	1.14	1.36	0.76	0.60	0.39	0.15	0.08	0.00	
13	0.14	0.14	0.12	0.70	0.99	1.23	0.76	0.59	0.38	0.14	0.08	0.00	
14	0.14	0.13	0.15	0.67	1.14	1.18	0.76	0.58	0.38	0.13	0.08	0.00	
15	0.14	0.13	0.14	0.67	1.49	1.14	0.73	0.57	0.37	0.13	0.08	0.00	
16	0.13	0.13	0.14	0.66	1.41	1.11	0.72	0.56	0.37	0.13	0.08	0.00	
17	0.13	0.13	0.14	0.65	1.33	1.07	0.71	0.55	0.36	0.13	0.08	0.00	
18	0.13	0.12	0.13	0.65	1.65	1.02	0.74	0.55	0.35	0.13	0.08	0.00	
19	0.13	0.12	0.50	0.65	1.27	0.98	0.74	0.54	0.34	0.13	0.07	0.00	
20	0.13	0.11	0.71	0.64	1.14	0.97	0.75	0.53	0.33	0.13	0.07	0.03	
21	0.13	0.11	1.00	0.64	1.20	0.95	0.85	0.51	0.30	0.12	0.07	0.03	
22	0.32	0.11	1.04	0.64	1.10	1.07	0.80	0.50	0.28	0.12	0.07	0.02	
23	0.20	0.10	1.02	1.09	1.28	1.00	0.76	0.50	0.27	0.11	0.03	0.01	
24	0.18	0.10	1.05	0.80	2.01	1.26	0.73	0.50	0.24	0.11	0.02	0.03	
25	0.17	0.10	1.04	0.71	1.34	1.42	0.72	0.50	0.22	0.10	0.02	0.00	
26	0.16	0.10	1.06	0.70	1.21	2.07	0.74	0.50	0.21	0.10	0.02	0.00	
27	0.15	0.10	1.05	0.68	1.06	1.71	0.83	0.50	0.20	0.10	0.01	0.00	
28	0.14	0.10	0.95	0.63	0.99	1.54	0.85	0.50	0.20	0.10	0.01	0.00	
29	0.13	0.13	1.43	1.00	0.96	1.40	1.01	0.49	0.20	0.09		0.00	
30	0.12	0.16	0.93	1.03	0.94	1.25	0.89	0.49	0.20	0.09		0.00	
31		0.22		0.95	0.93		0.80		0.20	0.09		0.00	
Mean	0.15	0.12	0.49	0.75	1.26	1.35	0.80	0.59	0.34	0.14	0.07	0.00	
Max	0.32	0.22	1.43	1.09	2.01	3.51	1.01	0.83	0.48	0.21	0.08	0.03	3.51
Min	0.12	0.08	0.10	0.63	0.93	0.87	0.71	0.49	0.20	0.09	0.01	0.00	0.00

Annual Max Momentary Gage Height — 4.54 M (A.D), at 6.00 Hours, on Sep 9, 1993

Zero Gage at Bottom Elevation — 0.00 M (A.D), River Bed 0.03 M (A.D)

Left Bank Elevation — 3.71 M (A.D)

Right Bank Elevation — 1.45 M (A.D), Drainage Area 116 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.06	0.04	0.07	2.34	5.25	2.26	3.30	1.94	0.35	0.09	0.03	0.00	
2	0.06	0.04	0.06	1.70	18.74	10.67	2.60	1.94	0.34	0.08	0.03	0.00	
3	0.06	0.04	0.05	1.46	3.94	7.90	2.18	1.40	0.32	0.08	0.03	0.00	
4	0.06	0.04	0.05	1.34	3.50	5.90	2.02	1.22	0.32	0.08	0.03	0.00	
5	0.06	0.04	0.04	1.16	3.00	4.49	1.86	1.00	0.31	0.08	0.03	0.00	
6	0.06	0.04	0.04	1.78	13.46	3.94	1.78	0.86	0.31	0.07	0.03	0.00	
7	0.06	0.04	0.25	1.86	12.92	3.50	1.78	0.81	0.31	0.07	0.03	0.00	
8	0.06	0.04	0.10	1.40	13.28	6.32	1.64	0.76	0.30	0.07	0.03	0.00	
9	0.06	0.04	0.07	1.34	5.90	57.99	1.52	0.72	0.27	0.07	0.03	0.00	
10	0.06	0.03	0.06	1.28	4.49	28.11	1.46	0.72	0.24	0.06	0.03	0.00	
11	0.06	0.07	0.04	1.16	5.90	14.57	1.46	0.67	0.23	0.06	0.03	0.00	
12	0.06	0.06	0.04	1.16	5.12	8.20	1.46	0.62	0.23	0.06	0.03	0.00	
13	0.06	0.06	0.05	1.10	3.40	6.32	1.46	0.60	0.22	0.06	0.03	0.00	
14	0.06	0.05	0.06	0.96	5.12	5.64	1.46	0.57	0.22	0.05	0.03	0.00	
15	0.06	0.05	0.06	0.96	10.33	5.12	1.28	0.55	0.22	0.05	0.03	0.00	
16	0.05	0.05	0.06	0.91	8.97	4.73	1.22	0.52	0.22	0.05	0.03	0.00	
17	0.05	0.05	0.06	0.86	7.75	4.27	1.16	0.50	0.21	0.05	0.03	0.00	
18	0.05	0.05	0.05	0.86	13.10	3.72	1.34	0.50	0.20	0.05	0.03	0.00	
19	0.05	0.05	0.38	0.86	6.88	3.30	1.34	0.48	0.19	0.05	0.03	0.00	
20	0.05	0.04	1.16	0.81	5.12	3.20	1.40	0.45	0.18	0.05	0.03	0.01	
21	0.05	0.04	3.50	0.81	5.90	3.00	2.10	0.40	0.16	0.05	0.03	0.01	
22	0.18	0.04	3.94	0.81	4.60	4.27	1.70	0.38	0.14	0.05	0.03	0.01	
23	0.08	0.04	3.72	4.49	7.02	3.50	1.46	0.38	0.14	0.04	0.01	0.00	
24	0.07	0.04	4.05	1.70	20.21	6.74	1.28	0.38	0.11	0.04	0.01	0.01	
25	0.07	0.04	3.94	1.16	7.90	9.14	1.22	0.38	0.10	0.04	0.01	0.00	
26	0.06	0.04	4.16	1.10	6.04	21.47	1.34	0.38	0.09	0.04	0.01	0.00	
27	0.06	0.04	4.05	1.00	4.16	14.19	1.94	0.38	0.08	0.04	0.00	0.00	
28	0.06	0.04	3.00	0.76	3.40	11.18	2.10	0.38	0.08	0.04	0.00	0.00	
29	0.05	0.05	9.31	3.50	3.10	8.80	3.61	0.37	0.08	0.04		0.00	
30	0.05	0.06	2.80	3.83	2.90	6.60	2.42	0.37	0.08	0.04		0.00	
31		0.10		3.00	2.80		1.70		0.08	0.04		0.00	
Total	1.88	1.45	45.22	47.46	224.20	279.04	54.59	20.63	6.33	1.74	0.70	0.04	683.28 CMSDAY
Mean	0.06	0.05	1.51	1.53	7.23	9.30	1.76	0.69	0.20	0.06	0.02	0.00	1.87 CMS
Max	0.18	0.10	9.31	4.49	20.21	57.99	3.61	1.94	0.35	0.09	0.03	0.01	57.99 CMS
Min	0.05	0.03	0.04	0.76	2.80	2.26	1.16	0.37	0.08	0.04	0.00	0.00	0.00 CMS
Runoff	0.162	0.125	3.907	4.101	19.371	24.109	4.717	1.782	0.547	0.150	0.060	0.003	59.035 MCM

Momentary Peak 91.36 CMS, at 4.54 M (A.D), at 6.00 Hours, on Sep 9, 1993

Runoff Yield 16.14 Liters/Second/Square KM, Momentary Peak Yield 787.59 Liters/Second/Square KM

WATER YEAR 1993

LOPBURI RIVER BASIN

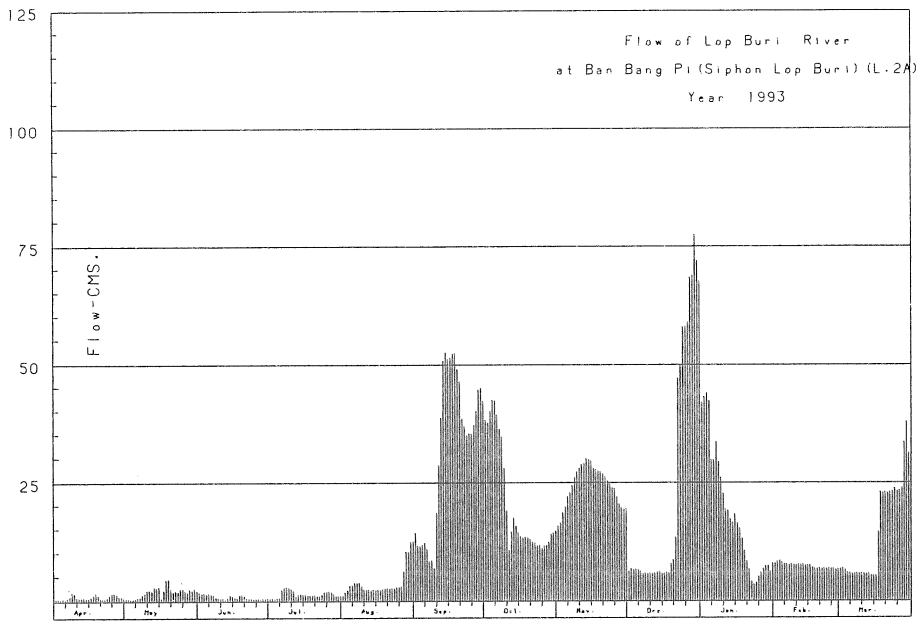
Lopburi River at Siphon Lopburi, Lopburi (L.2A)

Location	Lat. 14°-47'-37" N., Long. 100°-36'-34" E., on left bank about 100 meters downstream from Wat Pho Ngam (L.2), Amphoe Muang, Lopburi.
Drainage Area	Flood plain.
Type of Gage	Staff gage.
Zero Gage at Bottom	+0.00 m.(M.S.L.)
Bench Mark	B.M.-H.D.
Location	On left bank near the top staff gage.
Elevation	+10.978 m.(M.S.L.)
Gage Reading Frequency	3-time daily readings at 06.00, 12.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 3 readings.
Period of Available Gage Records	1962 - 1986, 1993 to date.
Rating Operation	
Period of Rating	1993 to date.
Rated by Float	-
Rated by Current Meter	1993 to date.
Stability of Channel Regimes	Fairly stable because of backwater effect.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Stage-discharge relation defined by 10 discharge measurements made in 1993.

Gage Height in Meter (MSL), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	1.51	1.53	1.87	1.53	1.74	3.06	4.31	3.15	2.45	4.48	2.61	2.50	
2	1.47	1.53	1.85	1.53	1.87	2.88	4.29	3.20	2.49	4.53	2.63	2.50	
3	1.46	1.51	1.84	1.54	1.98	2.88	4.40	3.33	2.49	4.57	2.66	2.48	
4	1.46	1.49	1.83	1.54	2.12	2.89	4.50	3.42	2.48	4.50	2.62	2.41	
5	1.48	1.53	1.82	1.58	2.15	2.93	4.50	3.53	2.48	3.93	2.60	2.40	
6	1.54	1.58	1.81	1.97	2.20	2.84	4.36	3.58	2.44	3.93	2.58	2.40	
7	1.69	1.64	1.77	2.08	2.21	2.63	4.23	3.65	2.40	4.11	2.58	2.40	
8	1.86	1.75	1.63	2.08	2.20	2.65	4.15	3.75	2.40	3.92	2.58	2.40	
9	1.85	1.86	1.56	2.08	2.13	2.51	3.85	3.80	2.40	3.74	2.58	2.40	
10	1.59	1.95	1.56	2.03	1.98	3.34	3.37	3.85	2.40	3.57	2.58	2.40	
11	1.59	1.95	1.53	1.94	2.00	3.88	2.82	3.88	2.40	3.38	2.58	2.40	
12	1.58	1.95	1.47	1.69	1.98	4.33	3.07	3.90	2.40	3.37	2.58	2.39	
13	1.57	2.11	1.57	1.77	1.98	4.84	3.26	3.94	2.44	3.26	2.58	2.39	
14	1.56	2.05	1.76	1.83	1.98	4.91	3.16	3.94	2.44	3.20	2.57	2.36	
15	1.52	2.09	1.67	1.77	1.98	4.85	3.06	3.92	2.40	3.31	2.56	2.34	
16	1.60	1.57	1.63	1.75	1.98	4.86	3.01	3.85	2.40	3.20	2.56	2.34	
17	1.78	1.98	1.55	1.76	1.98	4.90	3.00	3.83	2.42	3.12	2.53	3.08	
18	1.85	2.26	1.79	1.72	1.99	4.90	3.00	3.82	2.41	2.99	2.49	3.58	
19	1.76	2.29	1.78	1.76	2.04	4.77	3.00	3.81	2.61	2.81	2.50	3.58	
20	1.53	2.01	1.72	1.73	2.04	4.66	2.97	3.79	2.66	2.65	2.50	3.58	
21	1.49	1.91	1.54	1.71	2.04	4.33	2.94	3.75	3.01	2.48	2.50	3.58	
22	1.50	1.92	1.56	1.67	2.04	4.25	2.92	3.71	4.69	2.24	2.50	3.58	
23	1.61	1.93	1.54	1.80	2.04	4.17	2.89	3.67	4.80	2.15	2.50	3.60	
24	1.74	2.00	1.53	1.88	2.07	4.18	2.89	3.64	5.11	2.21	2.50	3.62	
25	1.86	2.04	1.53	1.92	2.10	4.18	2.85	3.62	5.12	2.34	2.50	3.60	
26	1.84	1.94	1.52	1.92	2.10	4.27	2.88	3.54	5.15	2.41	2.49	3.60	
27	1.82	1.90	1.52	1.90	2.45	4.40	2.90	3.45	5.48	2.50	2.49	3.64	
28	1.65	1.99	1.52	1.80	2.80	4.59	2.93	3.40	5.50	2.54	2.48	4.10	
29	1.65	1.98	1.54	1.72	2.80	4.61	3.05	3.39	5.78	2.56		4.30	
30	1.53	2.02	1.53	1.68	2.93	4.49	3.06	3.39	5.60	2.43		4.00	
31		1.96		1.68	2.95		3.09		5.45	2.60		3.90	
Mean	1.63	1.88	1.64	1.79	2.16	3.97	3.38	3.65	3.38	3.19	2.55	3.03	
Max	1.86	2.29	1.87	2.08	2.95	4.91	4.50	3.94	5.78	4.57	2.66	4.30	5.78
Min	1.46	1.49	1.47	1.53	1.74	2.51	2.82	3.15	2.40	2.15	2.48	2.34	1.46

Annual Max Momentary Gage Height 5.88 M (MSL), at 6.00 Hours, on Dec 29, 1993
Zero Gage at Bottom Elevation 0.00 M (MSL), River Bed 1.08 M (MSL)
Left Bank Elevation 11.34 M (MSL)
Right Bank Elevation 11.05 M (MSL), Drainage Area Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.53	0.60	1.85	0.60	1.30	14.46	38.28	15.85	6.45	42.06	8.12	6.97	
2	0.48	0.60	1.75	0.60	1.85	11.70	37.84	16.62	6.86	43.22	8.36	6.97	
3	0.47	0.53	1.70	0.63	2.44	11.70	40.28	18.62	6.86	44.18	8.72	6.76	
4	0.47	0.49	1.65	0.63	3.26	11.85	42.50	20.06	6.76	42.50	8.24	6.04	
5	0.48	0.60	1.60	0.77	3.50	12.46	42.50	22.07	6.76	29.86	8.00	5.93	
6	0.63	0.77	1.55	2.39	3.90	11.10	39.39	23.02	6.35	29.86	7.79	5.93	
7	1.13	0.97	1.40	2.99	4.00	8.36	36.51	24.37	5.93	33.84	7.79	5.93	
8	1.80	1.33	0.93	2.99	3.90	8.60	34.73	26.30	5.93	29.64	7.79	5.93	
9	1.75	1.80	0.70	2.99	3.34	7.07	28.23	27.27	5.93	26.11	7.79	5.93	
10	0.80	2.28	0.70	2.72	2.44	18.78	19.24	28.23	5.93	22.83	7.79	5.93	
11	0.80	2.28	0.60	2.22	2.55	28.81	10.80	28.81	5.93	19.39	7.79	5.93	
12	0.77	2.28	0.48	1.13	2.44	38.73	14.62	29.20	5.93	19.24	7.79	5.83	
13	0.73	3.18	0.73	1.40	2.44	50.95	17.54	30.08	6.35	17.54	7.79	5.83	
14	0.70	2.83	1.37	1.65	2.44	52.72	16.00	30.08	6.35	16.62	7.69	5.52	
15	0.57	3.05	1.07	1.40	2.44	51.20	14.46	29.64	5.93	18.31	7.59	5.31	
16	0.83	0.73	0.93	1.33	2.44	51.45	13.69	28.23	5.93	16.62	7.59	5.31	
17	1.43	2.44	0.67	1.37	2.44	52.47	13.54	27.85	6.14	15.39	7.28	14.77	
18	1.75	4.50	1.47	1.23	2.50	52.47	13.54	27.65	6.04	13.39	6.86	23.02	
19	1.37	4.80	1.43	1.37	2.77	49.17	13.54	27.46	8.12	10.65	6.97	23.02	
20	0.60	2.61	1.23	1.27	2.77	46.40	13.08	27.07	8.72	8.60	6.97	23.02	
21	0.49	2.06	0.63	1.20	2.77	38.73	12.62	26.30	13.69	6.76	6.97	23.02	
22	0.50	2.11	0.70	1.07	2.77	36.95	12.31	25.53	47.15	4.30	6.97	23.02	
23	0.87	2.17	0.63	1.50	2.77	35.17	11.85	24.75	49.93	3.50	6.97	23.40	
24	1.30	2.55	0.60	1.90	2.94	35.40	11.85	24.17	57.98	4.00	6.97	23.79	
25	1.80	2.77	0.60	2.11	3.10	35.40	11.25	23.79	58.25	5.31	6.97	23.40	
26	1.70	2.22	0.57	2.11	3.10	37.39	11.70	22.26	59.08	6.04	6.86	23.40	
27	1.60	2.00	0.57	2.00	6.45	40.28	12.00	20.60	68.42	6.97	6.86	24.17	
28	1.00	2.50	0.57	1.50	10.50	44.66	12.46	19.70	69.00	7.38	6.76	33.62	
29	1.00	2.44	0.63	1.23	10.50	45.15	14.31	19.55	77.54	7.59		38.06	
30	0.60	2.66	0.60	1.10	12.46	42.28	14.46	19.55	72.05	6.24		31.40	
31		2.33		1.10	12.77		14.93		67.55	8.00		29.20	
Total	28.95	64.48	29.91	48.50	125.29	981.86	640.05	734.68	769.84	565.94	210.04	476.36	4675.90 CMSDAY
Mean	0.97	2.08	1.00	1.56	4.04	32.73	20.65	24.49	24.83	18.26	7.50	15.37	12.81 CMS
Max	1.80	4.80	1.85	2.99	12.77	52.72	42.50	30.08	77.54	44.18	8.72	38.06	77.54 CMS
Min	0.47	0.49	0.48	0.60	1.30	7.07	10.80	15.85	5.93	3.50	6.76	5.31	0.47 CMS
Runoff	2.501	5.571	2.584	4.190	10.825	84.833	55.300	63.476	66.514	48.897	18.147	41.158	403.998 MCM

Momentary Peak 80.59 CMS, at 5.88 M (MSL), at 6.00 Hours, on Dec 29, 1993

Runoff Yield ********** Liters/Second/Square KM, Momentary Peak Yield ********** Liters/Second/Square KM

WATER YEAR 1993

PRACHIN BURI RIVER BASIN

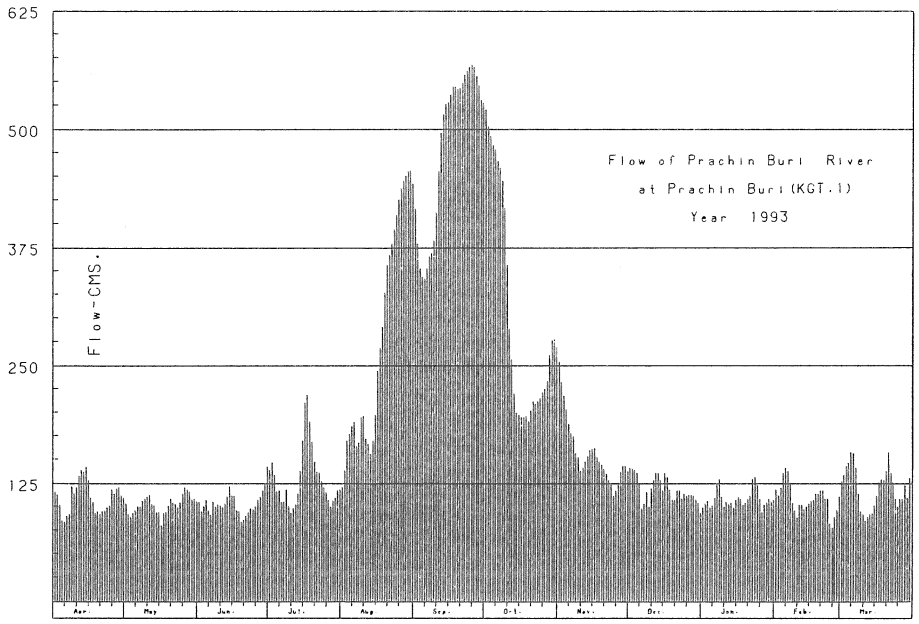
Prachin Buri River at Muang, Prachin Buri (Kgt.1)

Location	Lat. 14°-03'-01" N., Long. 101°-22'-03" E., on left bank behind the climatic station of Meteorological Department, Amphoe Muang, Prachin Buri.
Drainage Area	9,209 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+1.30 m.(M.S.L.)
Bench Mark	B.M.-H.D.
Location	On left bank in the vicinity of Meteorological station.
Elevation	+4.100 m.(M.S.L.)
Gage Reading Frequency	5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1926 to date.
Rating Operation	
Period of Rating	1967, 1988 to date.
Rated by Float	-
Rated by Current Meter	1966 - 1969, 1988 to date.
Stability of Channel Regimes	Fairly stable because of backwater effect.
Overbank Flow Conditions	No overbank flow.
General Description	Records fair. Stage-discharge relation defined by 23 discharge measurements made in 1993.

Gage Height in Meter (MSL), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.20	0.08	0.09	0.40	0.23	2.65	3.39	1.39	0.42	0.03	0.21	0.30	
2	0.16	-0.04	0.00	0.48	0.40	2.39	3.27	1.20	0.42	0.08	0.16	0.35	
3	0.07	-0.06	0.04	0.36	0.68	2.19	3.19	1.09	0.40	0.10	0.24	0.45	
4	-0.11	-0.03	0.12	0.19	0.75	2.11	3.13	0.96	0.38	0.04	0.37	0.47	
5	-0.11	0.01	0.01	0.21	0.81	2.10	3.09	0.84	0.26	0.05	0.42	0.57	
6	-0.06	0.04	-0.05	0.10	0.85	2.18	3.01	0.75	0.03	0.14	0.40	0.57	
7	-0.03	0.05	0.09	0.09	0.64	2.29	2.95	0.73	0.07	0.26	0.29	0.43	
8	0.25	0.10	0.05	0.22	0.66	2.31	2.86	0.56	0.20	0.32	0.09	0.18	
9	0.17	0.13	0.06	0.05	0.90	2.42	2.65	0.53	0.05	0.14	0.00	-0.01	
10	0.23	0.14	0.06	-0.03	0.90	2.62	2.22	0.39	0.22	0.05	-0.06	-0.03	
11	0.35	0.17	0.03	0.02	0.70	2.93	1.68	0.43	0.31	0.09	0.06	-0.11	
12	0.40	0.08	0.08	0.07	0.65	3.21	1.40	0.48	0.37	0.08	0.07	-0.06	
13	0.38	0.05	0.14	0.17	0.56	3.36	1.11	0.54	0.38	0.08	0.01	-0.04	
14	0.44	-0.01	0.25	0.39	0.69	3.43	0.93	0.59	0.30	0.04	0.04	-0.02	
15	0.31	-0.02	0.16	0.69	0.92	3.45	0.92	0.60	0.21	0.11	0.08	0.05	
16	0.13	-0.15	0.15	1.03	1.30	3.50	0.89	0.62	0.37	0.15	0.10	0.15	
17	0.10	-0.03	0.01	1.09	1.51	3.57	0.90	0.53	0.34	0.12	0.12	0.29	
18	-0.02	-0.02	-0.01	0.86	1.69	3.56	0.90	0.48	0.21	0.07	0.17	0.31	
19	-0.01	0.06	-0.11	0.67	1.98	3.55	0.86	0.46	0.12	0.08	0.18	0.31	
20	-0.03	0.13	-0.10	0.49	2.21	3.55	0.95	0.41	0.11	0.13	0.20	0.39	
21	-0.01	0.08	-0.06	0.38	2.30	3.60	1.04	0.37	0.20	0.15	0.21	0.57	
22	0.01	0.08	-0.01	0.38	2.39	3.65	1.01	0.30	0.21	0.31	0.12	0.38	
23	0.03	0.03	0.02	0.30	2.50	3.69	1.04	0.26	0.13	0.34	0.13	0.28	
24	0.06	0.08	0.02	0.23	2.60	3.71	1.06	0.16	0.17	0.26	-0.14	0.13	
25	0.21	0.18	0.04	0.19	2.71	3.73	1.12	0.20	0.16	0.13	-0.17	0.05	
26	0.17	0.23	0.11	0.11	2.80	3.71	1.14	0.29	0.16	-0.02	-0.05	0.12	
27	0.23	0.22	0.15	0.05	2.86	3.65	1.22	0.39	0.17	0.06	0.01	0.12	
28	0.23	0.19	0.21	0.11	2.89	3.57	1.44	0.44	0.15	0.09	0.14	0.26	
29	0.16	0.12	0.27	0.13	2.93	3.47	1.58	0.44	0.12	0.12		0.14	
30	0.13	0.12	0.43	0.20	2.93	3.44	1.58	0.40	0.08	0.10		0.32	
31		0.10		0.22	2.83		1.51		-0.02	0.11		0.29	
Mean	0.13	0.07	0.08	0.32	1.57	3.12	1.74	0.56	0.22	0.12	0.12	0.23	
Max	0.44	0.23	0.43	1.09	2.93	3.73	3.39	1.39	0.42	0.34	0.42	0.57	3.73
Min	-0.11	-0.15	-0.11	-0.03	0.23	2.10	0.86	0.16	-0.02	-0.02	-0.17	-0.11	-0.17

Annual Max Momentary Gage Height 3.73 M (MSL), at 6.00 Hours, on Sep 25, 1993
Zero Gage at Bottom Elevation -1.30 M (MSL), River Bed -6.83 M (MSL)
Left Bank Elevation 6.47 M (MSL)
Right Bank Elevation 7.12 M (MSL), Drainage Area 9209 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	117.0	104.0	105.0	139.0	120.3	416.7	520.6	254.8	141.2	99.0	118.1	128.0	
2	112.6	92.0	96.0	147.8	139.0	378.7	503.8	232.0	141.2	104.0	112.6	133.5	
3	103.0	90.0	100.0	134.6	169.8	353.7	492.6	218.8	139.0	106.0	121.4	144.5	
4	85.0	93.0	108.2	115.9	178.0	343.7	484.2	203.2	136.8	100.0	135.7	146.7	
5	85.0	97.0	97.0	118.1	185.2	342.5	478.6	188.8	123.6	101.0	141.2	157.7	
6	90.0	100.0	91.0	106.0	190.0	352.5	467.4	178.0	99.0	110.4	139.0	157.7	
7	93.0	101.0	105.0	105.0	165.4	366.2	459.0	175.6	103.0	123.6	126.9	142.3	
8	122.5	106.0	101.0	119.2	167.6	368.7	446.4	156.6	117.0	130.2	105.0	114.8	
9	113.7	109.3	102.0	101.0	196.0	382.9	416.7	153.3	101.0	110.4	96.0	95.0	
10	120.3	110.4	102.0	93.0	196.0	412.3	357.5	137.9	119.2	101.0	90.0	93.0	
11	133.5	113.7	99.0	98.0	172.0	456.2	289.6	142.3	129.1	105.0	102.0	85.0	
12	139.0	104.0	104.0	103.0	166.5	495.4	256.0	147.8	135.7	104.0	103.0	90.0	
13	136.8	101.0	110.4	113.7	156.6	516.4	221.2	154.4	136.8	104.0	97.0	92.0	
14	143.4	95.0	122.5	137.9	170.9	526.2	199.6	159.9	128.0	100.0	100.0	94.0	
15	129.1	94.0	112.6	170.9	198.4	529.0	198.4	161.0	118.1	107.1	104.0	101.0	
16	109.3	81.0	111.5	211.6	244.0	536.0	194.8	163.2	135.7	111.5	106.0	111.5	
17	106.0	93.0	97.0	218.8	269.2	545.8	196.0	153.3	132.4	108.2	108.2	126.9	
18	94.0	94.0	95.0	191.2	290.8	544.4	196.0	147.8	118.1	103.0	113.7	129.1	
19	95.0	102.0	85.0	168.7	327.5	543.0	191.2	145.6	108.2	104.0	114.8	129.1	
20	93.0	109.3	86.0	148.9	356.2	543.0	202.0	140.1	107.1	109.3	117.0	137.9	
21	95.0	104.0	90.0	136.8	367.5	550.0	212.8	135.7	117.0	111.5	118.1	157.7	
22	97.0	104.0	95.0	136.8	378.7	557.0	209.2	128.0	118.1	129.1	108.2	136.8	
23	99.0	99.0	98.0	128.0	394.7	562.6	212.8	123.6	109.3	132.4	109.3	125.8	
24	102.0	104.0	98.0	120.3	409.3	565.5	215.2	112.6	113.7	123.6	82.0	109.3	
25	118.1	114.8	100.0	115.9	425.4	568.5	222.4	117.0	112.6	109.3	79.0	101.0	
26	113.7	120.3	107.1	107.1	438.0	565.5	224.8	126.9	112.6	94.0	91.0	108.2	
27	120.3	119.2	111.5	101.0	446.4	557.0	234.4	137.9	113.7	102.0	97.0	108.2	
28	120.3	115.9	118.1	107.1	450.6	545.8	260.8	143.4	111.5	105.0	110.4	123.6	
29	112.6	108.2	124.7	109.3	456.2	531.8	277.6	143.4	108.2	108.2		110.4	
30	109.3	108.2	142.3	117.0	456.2	527.6	277.6	139.0	104.0	106.0		130.2	
31		106.0		119.2	442.2		269.2		94.0	107.1		126.9	
Total	3308.5	3193.3	3114.9	4040.8	8724.6	14484.6	9388.4	4721.9	3684.9	3369.9	3046.6	3747.8	64826.2 CMSDAY
Mean	110.3	103.0	103.8	130.3	281.4	482.8	302.9	157.4	118.9	108.7	108.8	120.9	177.6 CMS
Max	143.4	120.3	142.3	218.8	456.2	568.5	520.6	254.8	141.2	132.4	141.2	157.7	568.5 CMS
Min	85.0	81.0	85.0	93.0	120.3	342.5	191.2	112.6	94.0	94.0	79.0	85.0	79.0 CMS
Runoff	285.85	275.90	269.13	349.13	753.81	1251.47	811.16	407.97	318.38	291.16	263.23	323.81	5600.98 MCM

Momentary Peak 568.50 CMS, at 3.73 M (MSL), at 6.00 Hours, on Sep 25, 1993

Runoff Yield 19.29 Liters/Second/Square KM, Momentary Peak Yield 61.73 Liters/Second/Square KM

WATER YEAR 1993

PRACHIN BURI RIVER BASIN

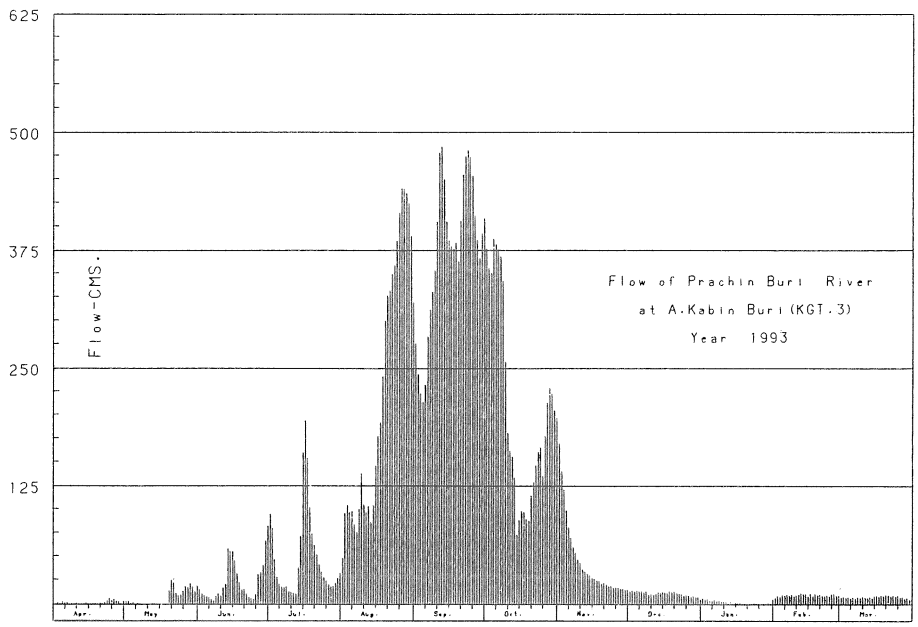
Prachin Buri River at Kabin Buri, Prachin Buri (Kgt.3)

Location	Lat. 13°-59'-05" N., Long. 101°-42'-32" E., on left bank infront of Amphoe Kabin Buri Office and about 500 meters downstream from the confluence of Lam Prong and Lam Hanuman, Amphoe Kabin Buri, Prachin Buri.
Drainage Area	7,502 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+0.00 m.(M.S.L.)
Bench Mark	B.M.-H.D.
Location	On left bank about 5 meters from the top staff gage.
Elevation	+11.410 m. (M.S.L.)
Gage Reading Frequency	5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1941 to date.
Rating Operation	
Period of Rating	1941-1943, 1945, 1964 to date.
Rated by Float	-
Rated by Current Meter	1941-1943, 1945, 1964 to date.
Stability of Channel Regimes	Stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records fair. Stage-discharge relation defined by 26 discharge measurements made in 1993.

Gage Height in Meter (MSL), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.26	0.53	1.12	3.28	2.23	6.11	7.37	4.62	1.07	0.68	0.77	0.78	
2	0.37	0.47	0.96	2.94	3.27	5.69	7.12	4.14	1.07	0.68	0.81	0.76	
3	0.39	0.40	0.83	2.16	3.48	5.38	7.07	3.77	1.07	0.64	0.82	0.78	
4	0.47	0.37	0.80	1.65	3.29	5.27	7.50	3.36	1.07	0.58	0.86	0.74	
5	0.44	0.33	0.73	1.35	3.34	5.51	7.44	2.98	1.07	0.56	0.88	0.74	
6	0.37	0.30	0.63	1.26	3.03	6.22	7.36	2.71	1.03	0.56	0.87	0.74	
7	0.32	0.27	0.59	1.26	2.87	6.59	7.28	2.51	1.02	0.54	0.87	0.74	
8	0.32	0.24	0.86	1.25	3.36	6.81	6.95	2.34	1.02	0.52	0.88	0.75	
9	0.41	0.21	0.92	1.07	4.08	7.10	5.86	2.18	0.92	0.50	0.85	0.77	
10	0.35	0.20	0.85	0.98	3.48	7.72	4.79	2.06	0.88	0.45	0.85	0.77	
11	0.34	0.18	1.20	0.94	3.29	8.57	4.48	1.90	0.92	0.45	0.93	0.77	
12	0.32	0.19	1.37	0.95	3.42	8.64	4.40	1.81	0.95	0.44	0.95	0.76	
13	0.32	0.20	2.48	1.94	3.10	8.27	4.00	1.76	0.98	0.44	0.95	0.76	
14	0.37	0.25	2.38	2.75	3.46	7.73	2.80	1.68	0.98	0.43	0.92	0.76	
15	0.42	0.22	2.40	4.47	4.24	7.49	3.13	1.61	0.98	0.42	0.85	0.81	
16	0.43	0.21	2.13	4.99	4.72	7.40	3.32	1.55	0.98	0.36	0.93	0.83	
17	0.38	0.20	1.77	4.35	4.96	7.38	3.32	1.52	0.98	0.35	0.86	0.83	
18	0.34	0.23	1.41	3.42	5.64	7.45	3.15	1.46	1.03	0.34	0.91	0.84	
19	0.32	1.11	1.15	2.81	6.44	7.22	3.14	1.40	1.02	0.34	0.91	0.86	
20	0.34	1.55	1.13	2.54	6.76	7.73	3.65	1.39	1.02	0.33	0.88	0.87	
21	0.37	1.40	0.91	2.32	6.84	8.31	3.93	1.38	0.99	0.33	0.87	0.89	
22	0.40	0.99	0.79	2.05	7.04	8.54	4.22	1.31	0.97	0.33	0.85	0.85	
23	0.57	0.82	0.67	1.79	7.17	8.61	4.48	1.27	0.89	0.33	0.85	0.84	
24	0.70	0.91	0.69	1.62	7.47	8.52	4.54	1.23	0.86	0.33	0.85	0.84	
25	0.62	1.04	0.89	1.47	7.85	8.31	4.03	1.21	0.84	0.31	0.90	0.84	
26	0.62	1.25	1.71	1.37	8.16	7.80	4.74	1.21	0.83	0.30	0.91	0.78	
27	0.55	1.26	1.82	1.29	8.14	7.48	5.24	1.19	0.80	0.30	0.87	0.75	
28	0.45	1.41	2.03	1.27	8.10	7.26	5.48	1.14	0.80	0.33	0.83	0.73	
29	0.42	1.24	2.66	1.43	7.96	7.58	5.38	1.13	0.79	0.37		0.71	
30	0.48	1.06	2.99	1.58	7.55	7.78	5.14	1.10	0.73	0.44		0.66	
31		1.31		1.76	6.67		5.01		0.68	0.61		0.64	
Mean	0.42	0.66	1.36	2.07	5.21	7.35	5.04	1.96	0.94	0.44	0.87	0.78	
Max	0.70	1.55	2.99	4.99	8.16	8.64	7.50	4.62	1.07	0.68	0.95	0.89	8.64
Min	0.26	0.18	0.59	0.94	2.23	5.27	2.80	1.10	0.68	0.30	0.77	0.64	0.18

Annual Max Momentary Gage Height 8.68 M (MSL), at 18.00 Hours, on Sep 11, 1993
Zero Gage at Bottom Elevation 0.00 M (MSL), River Bed -1.35 M (MSL)
Left Bank Elevation 9.85 M (MSL)
Right Bank Elevation 9.46 M (MSL), Drainage Area 7502 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.4	3.2	14.8	96.0	49.4	275.7	376.0	170.8	13.7	5.5	7.2	7.4	
2	1.4	2.5	11.3	79.8	95.5	244.3	355.5	141.4	13.7	5.5	8.0	7.0	
3	1.6	1.7	8.5	46.6	106.0	222.6	351.4	120.9	13.7	4.9	8.2	7.4	
4	2.5	1.4	7.8	29.0	96.5	214.9	386.7	100.0	13.7	4.0	9.1	6.6	
5	2.1	0.9	6.4	20.6	99.0	231.7	381.8	81.6	13.7	3.7	9.6	6.6	
6	1.4	0.6	4.8	18.2	83.9	284.0	375.2	69.5	12.9	3.7	9.3	6.6	
7	0.8	0.4	4.1	18.2	76.7	312.7	368.7	60.6	12.6	3.4	9.3	6.6	
8	0.8	0.2	9.1	17.9	100.0	330.3	341.6	53.8	12.6	3.1	9.6	6.8	
9	1.8	0.1	10.4	13.7	137.9	353.9	257.0	47.4	10.4	2.8	8.9	7.2	
10	1.1	0.0	8.9	11.8	106.0	404.7	181.8	42.7	9.6	2.2	8.9	7.2	
11	1.0	0.0	16.6	10.9	96.5	478.0	161.8	37.0	10.4	2.2	10.7	7.2	
12	0.8	0.0	21.2	11.1	103.0	484.3	157.0	33.9	11.1	2.1	11.1	7.0	
13	0.8	0.0	59.4	38.4	87.0	451.0	133.5	32.3	11.8	2.1	11.1	7.0	
14	1.4	0.3	55.4	71.3	105.0	405.6	73.5	29.8	11.8	2.0	10.4	7.0	
15	1.9	0.1	56.2	161.2	147.4	385.9	88.5	27.9	11.8	1.9	8.9	8.0	
16	2.0	0.1	45.5	195.3	177.3	378.5	98.0	26.2	11.8	1.3	10.7	8.5	
17	1.5	0.0	32.6	154.0	193.2	376.9	98.0	25.4	11.8	1.1	9.1	8.5	
18	1.0	0.2	22.3	103.0	240.8	382.6	89.5	23.7	12.9	1.0	10.2	8.7	
19	0.8	14.6	15.5	74.0	300.7	363.7	89.0	22.0	12.6	1.0	10.2	9.1	
20	1.0	26.2	15.1	61.9	326.3	405.6	114.5	21.7	12.6	0.9	9.6	9.3	
21	1.4	22.0	10.2	53.0	332.7	454.6	129.7	21.4	12.0	0.9	9.3	9.8	
22	1.7	12.0	7.6	42.4	349.0	475.3	146.2	19.5	11.5	0.9	8.9	8.9	
23	3.9	8.2	5.4	33.3	359.6	481.6	161.8	18.4	9.8	0.9	8.9	8.7	
24	5.8	10.2	5.7	28.2	384.2	473.5	165.6	17.4	9.1	0.9	8.9	8.7	
25	4.6	13.1	9.8	24.0	415.4	454.6	135.2	16.9	8.7	0.7	10.0	8.7	
26	4.6	17.9	30.7	21.2	441.2	411.3	178.6	16.9	8.5	0.6	10.2	7.4	
27	3.6	18.2	34.3	18.9	439.4	385.1	212.8	16.4	7.8	0.6	9.3	6.8	
28	2.2	22.3	41.6	18.4	435.9	367.0	229.6	15.3	7.8	0.9	8.5	6.4	
29	1.9	17.6	67.2	22.8	424.4	393.3	222.6	15.1	7.6	1.4		6.0	
30	2.6	13.5	82.1	27.0	390.8	409.7	205.8	14.4	6.4	2.1		5.2	
31		19.5		32.3	319.1		196.7		5.5	4.5		4.9	
Total	58.4	227.0	720.5	1554.4	7019.8	11292.9	6463.6	1340.3	339.9	68.8	264.1	231.2	29580.9 CMSDAY
Mean	1.9	7.3	24.0	50.1	226.4	376.4	208.5	44.7	11.0	2.2	9.4	7.5	81.0 CMS
Max	5.8	26.2	82.1	195.3	441.2	484.3	386.7	170.8	13.7	5.5	11.1	9.8	484.3 CMS
Min	0.4	0.0	4.1	10.9	49.4	214.9	73.5	14.4	5.5	0.6	7.2	4.9	0.0 CMS
Runoff	5.05	19.61	62.25	134.30	606.51	975.71	558.46	115.80	29.37	5.94	22.82	19.98	2555.79 MCM

Momentary Peak 487.90 CMS, at 8.68 M (MSL), at 18.00 Hours, on Sep 11, 1993

Runoff Yield 10.80 Liters/Second/Square KM, Momentary Peak Yield 65.04 Liters/Second/Square KM

WATER YEAR 1993

PRACHIN BURI RIVER BASIN

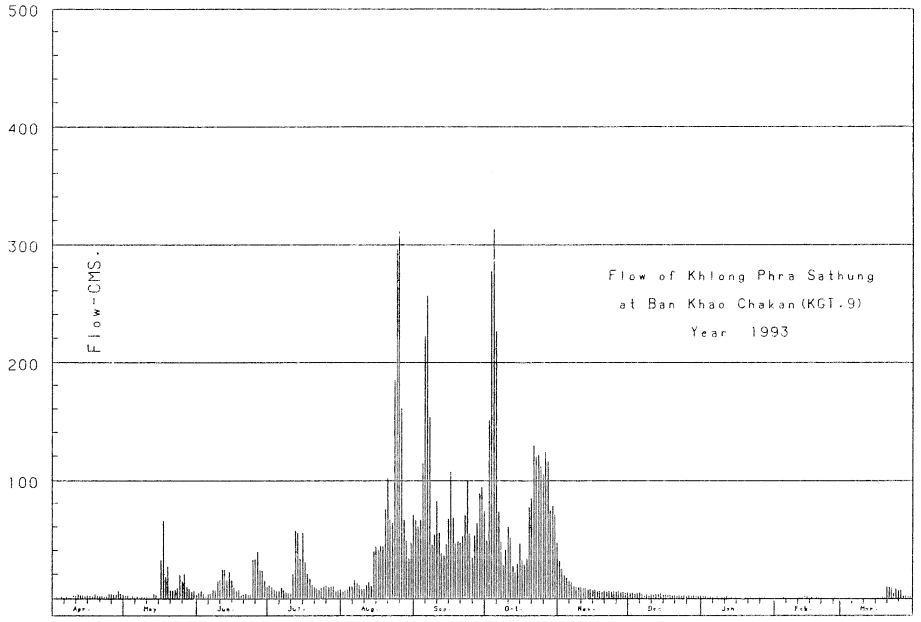
Khlong Phra Sathung at Ban Khao Chakan, Prachin Buri (Kgt.9)

Location	Lat. 13-40-10 N., Long. 102-04-35 E., on right bank near Wat Khao Chakan, Tambon Khao Chakan, Amphoe Sa Kaeo, Prachin Buri.
Drainage Area	2,279 sq.km.
Type of Gage	Water-stage recorder.
Zero Gage at Bottom	+0.00 m.(A.D.)
Bench Mark	B.M.-H.D.
Location	On right bank about 10 meters from the automatic gage building.
Elevation	+9.020 m.(A.D.)
Gage Reading Frequency	Recording.
Basis of Mean Daily Gage Height	Arithmetic mean of 24 readings.
Period of Available Gage Records	1967-1970, 1972 to date.
Rating Operation	
Period of Rating	1969-1970, 1989 to date.
Rated by Float	-
Rated by Current Meter	1969-1970, 1989 to date.
Stability of Channel Regimes	Fairly stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records fair. Stage-discharge relation defined by 28 discharge measurements made in 1993.

Gage Height in Meter (A.D), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.31	0.47	0.66	1.13	0.78	3.11	2.61	2.04	0.70	0.44	0.28	0.08	
2	0.30	0.44	0.81	0.98	0.79	2.96	5.09	1.75	0.68	0.42	0.27	0.08	
3	0.29	0.39	0.59	0.88	0.89	3.14	7.31	1.56	0.66	0.42	0.26	0.08	
4	0.28	0.34	0.44	0.77	0.99	4.31	7.90	1.41	0.65	0.39	0.26	0.20	
5	0.27	0.32	0.65	0.82	1.14	6.39	6.48	1.32	0.74	0.38	0.26	0.19	
6	0.25	0.32	0.61	1.00	1.31	6.97	3.32	1.21	0.61	0.37	0.25	0.18	
7	0.24	0.31	0.88	0.82	1.22	5.14	2.56	1.15	0.50	0.36	0.24	0.17	
8	0.23	0.30	0.80	0.75	1.15	2.50	1.89	0.98	0.55	0.35	0.23	0.16	
9	0.53	0.30	1.30	0.65	0.90	2.76	2.34	1.02	0.54	0.35	0.22	0.15	
10	0.43	0.30	1.31	0.68	0.88	3.52	2.97	0.97	0.57	0.35	0.21	0.13	
11	0.64	0.29	1.76	1.56	1.12	2.83	2.67	0.96	0.57	0.35	0.30	0.14	
12	0.57	0.29	1.73	2.88	1.21	2.24	1.87	0.93	0.58	0.35	0.25	0.12	
13	0.49	0.64	1.30	2.80	1.15	2.18	1.62	0.89	0.63	0.35	0.47	0.10	
14	0.47	0.51	1.67	2.07	2.32	2.52	1.91	0.88	0.62	0.34	0.37	0.09	
15	0.46	0.35	1.35	2.83	2.43	3.14	2.54	0.86	0.59	0.34	0.33	0.08	
16	0.45	2.06	0.94	2.00	2.35	4.12	2.02	0.85	0.56	0.33	0.31	0.38	
17	0.43	3.12	0.81	1.56	2.45	3.19	1.91	0.80	0.55	0.32	0.38	0.35	
18	0.57	1.49	0.84	1.41	2.43	2.51	2.09	0.78	0.54	0.30	0.33	0.37	
19	0.49	1.83	0.57	1.19	3.36	2.60	3.41	0.78	0.52	0.28	0.31	0.36	
20	0.45	0.85	0.56	1.02	4.01	2.53	3.57	0.78	0.50	0.28	0.33	1.00	
21	0.41	0.78	0.62	0.90	3.12	2.71	4.66	0.78	0.48	0.31	0.35	1.05	
22	0.40	0.87	0.60	0.87	3.07	3.24	4.42	0.78	0.47	0.30	0.32	0.95	
23	0.38	0.93	0.56	0.93	5.74	3.97	4.48	0.78	0.50	0.30	0.29	0.70	
24	0.66	1.56	2.07	1.06	7.62	2.77	4.23	0.78	0.49	0.30	0.24	1.02	
25	0.58	1.30	2.05	1.05	7.85	2.13	4.09	0.78	0.47	0.30	0.20	0.85	
26	0.54	1.57	2.32	1.04	5.27	2.73	4.51	0.76	0.46	0.29	0.20	0.83	
27	0.60	1.09	1.74	1.10	3.14	3.04	4.35	0.74	0.46	0.28	0.15	0.49	
28	0.82	0.88	1.68	1.00	2.59	3.69	3.32	0.72	0.45	0.30	0.09	0.45	
29	0.60	0.77	1.32	0.80	2.10	3.80	3.44	0.72	0.45	0.29		0.44	
30	0.50	0.77	1.05	0.79	2.55	3.31	3.23	0.71	0.45	0.28		0.39	
31		0.59		0.85	3.23		2.54		0.45	0.29		0.37	
Mean	0.45	0.84	1.12	1.23	2.55	3.33	3.53	0.98	0.55	0.33	0.28	0.39	
Max	0.82	3.12	2.32	2.88	7.85	6.97	7.90	2.04	0.74	0.44	0.47	1.05	7.90
Min	0.23	0.29	0.44	0.65	0.78	2.13	1.62	0.71	0.45	0.28	0.09	0.08	0.08

Annual Max Momentary Gage Height 8.10 M (A.D), at 6.00 Hours, on Aug 25, 1993
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed -0.33 M (A.D)
Left Bank Elevation 8.75 M (A.D)
Right Bank Elevation 11.11 M (A.D), Drainage Area 2279 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	1.66	2.69	4.68	11.10	6.40	66.18	49.52	32.88	5.20	2.48	1.48	0.40	
2	1.60	2.48	6.86	9.67	6.55	60.94	151.89	25.15	4.94	2.34	1.42	0.40	
3	1.54	2.14	3.80	8.02	8.18	67.32	277.52	20.62	4.68	2.34	1.36	0.40	
4	1.48	1.84	2.48	6.25	9.84	115.23	314.10	17.50	4.55	2.14	1.36	1.00	
5	1.42	1.72	4.55	7.03	11.19	222.03	227.16	15.78	5.80	2.08	1.36	0.95	
6	1.30	1.72	4.03	10.00	15.59	256.44	74.42	13.69	4.03	2.02	1.30	0.90	
7	1.24	1.66	8.02	7.03	13.88	154.44	47.96	11.27	2.90	1.96	1.24	0.85	
8	1.18	1.60	6.70	5.95	11.27	46.10	28.83	9.67	3.40	1.90	1.18	0.80	
9	3.20	1.60	15.40	4.55	8.35	54.32	41.20	10.17	3.30	1.90	1.12	0.75	
10	2.41	1.60	15.59	4.94	8.02	82.62	61.28	9.51	3.60	1.90	1.06	0.65	
11	4.42	1.54	25.40	20.62	11.02	56.59	51.44	9.34	3.60	1.90	1.60	0.70	
12	3.60	1.54	24.65	58.24	13.69	38.32	28.29	8.85	3.70	1.90	1.30	0.60	
13	2.83	4.42	15.40	55.60	11.27	36.66	21.98	8.18	4.29	1.90	2.69	0.50	
14	2.69	3.00	23.18	33.69	40.60	46.72	29.37	8.02	4.16	1.84	2.02	0.45	
15	2.62	1.90	16.35	56.59	43.93	67.32	47.34	7.69	3.80	1.84	1.78	0.40	
16	2.55	33.42	9.01	31.80	41.50	107.24	32.34	7.53	3.50	1.78	1.66	2.08	
17	2.41	66.56	6.86	20.62	44.55	69.22	29.37	6.70	3.40	1.72	2.08	1.90	
18	3.60	19.10	7.36	17.50	43.93	46.41	34.23	6.40	3.30	1.60	1.78	2.02	
19	2.83	27.21	3.60	11.61	76.06	49.20	78.11	6.40	3.10	1.48	1.66	1.96	
20	2.55	7.53	3.50	10.17	102.71	47.03	84.67	6.40	2.90	1.48	1.78	10.00	
21	2.27	6.40	4.16	8.35	66.56	52.72	130.76	6.40	2.76	1.66	1.90	10.42	
22	2.20	7.86	3.90	7.86	64.75	71.20	119.98	6.40	2.69	1.60	1.72	9.18	
23	2.08	8.85	3.50	8.85	185.90	101.07	122.62	6.40	2.90	1.60	1.54	5.20	
24	4.68	20.62	33.69	10.51	296.74	54.64	111.86	6.40	2.83	1.60	1.24	10.17	
25	3.70	15.40	33.15	10.42	311.00	35.31	105.99	6.40	2.69	1.60	1.00	7.53	
26	3.30	20.84	40.60	10.34	161.07	53.36	123.95	6.10	2.62	1.54	1.00	7.19	
27	3.90	10.77	24.90	10.85	67.32	63.70	116.95	5.80	2.62	1.48	0.75	2.83	
28	7.03	8.02	23.42	10.00	48.89	89.59	74.42	5.50	2.55	1.60	0.45	2.55	
29	3.90	6.25	15.78	6.70	34.50	94.10	79.34	5.50	2.55	1.54		2.48	
30	2.90	6.25	10.42	6.55	47.65	74.01	70.80	5.35	2.55	1.48		2.14	
31		3.80		7.53	70.80		47.34		2.55	1.54		2.02	
Total	83.09	300.33	400.94	488.94	1883.71	2380.03	2815.03	302.00	107.46	55.74	40.83	89.42	8947.52 CMSDAY
Mean	2.77	9.69	13.36	15.77	60.76	79.33	90.81	10.07	3.47	1.80	1.46	2.88	24.51 CMS
Max	7.03	66.56	40.60	58.24	311.00	256.44	314.10	32.88	5.80	2.48	2.69	10.42	314.10 CMS
Min	1.18	1.54	2.48	4.55	6.40	35.31	21.98	5.35	2.55	1.48	0.45	0.40	0.40 CMS
Runoff	7.179	25.949	34.641	42.244	162.753	205.635	243.219	26.093	9.285	4.816	3.528	7.726	773.066 MCM

Momentary Peak 326.60 CMS, at 8.10 M (A.D), at 6.00 Hours, on Aug 25, 1993

Runoff Yield 10.76 Liters/Second/Square KM, Momentary Peak Yield 143.31 Liters/Second/Square KM

WATER YEAR 1993

PRACHIN BURI RIVER BASIN

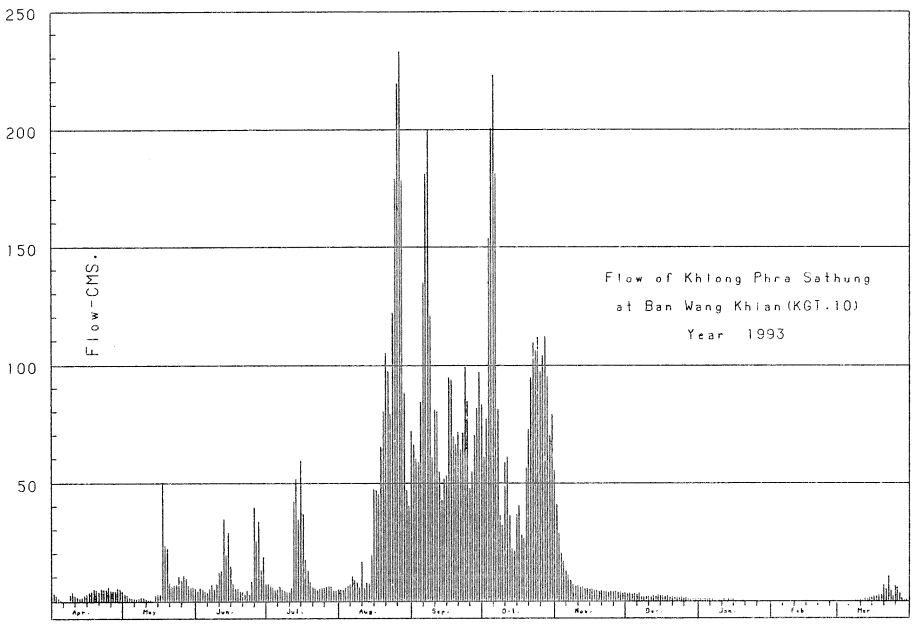
Khlong Phra Sathung at Ban Wang Khian, Prachin Buri (Kgt.10)

Location	Lat. 13-48-29 N., Long. 102-03-35 E., on left bank near Saha Charoen Sawmill, Ban Wang Khian, Amphoe Sa Kaeo, Prachin Buri.
Drainage Area	2,523 sq.km.
Type of Gage	Water-stage recorder.
Zero Gage at Bottom	+23.741 m. (M.S.L.)
Bench Mark	B.M.-H.D.
Location	On left bank about 10 meters from the automatic gage building.
Elevation	+34.652 m. (M.S.L.)
Gage Reading Frequency	Recording.
Basis of Mean Daily Gage Height	Arithmetic mean of 24 readings.
Period of Available Gage Records	1966 to date.
Rating Operation	
Period of Rating	1966 to date.
Rated by Float	-
Rated by Current Meter	1966 to date.
Stability of Channel Regimes	Fairly stable because of backwater effect.
Overbank Flow Conditions	Overbank flow starts at elevation +34.36 m.(M.S.L.), records are channel flow only.
General Description	Records fair. Stage-discharge relation defined by 101 discharge measurements made in 1993.

Gage Height in Meter (MSL), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	25.81	25.75	25.95	26.23	25.96	29.83	29.58	28.51	25.78	25.39	25.07	24.98	
2	25.62	25.64	26.05	26.17	26.00	29.53	30.30	27.80	25.78	25.39	25.05	24.96	
3	25.48	25.52	26.03	26.08	26.06	29.48	33.08	27.26	25.76	25.38	25.03	25.00	
4	25.29	25.43	25.86	25.99	26.20	30.60	34.14	26.99	25.75	25.38	24.98	25.04	
5	25.14	25.42	25.83	25.97	26.22	32.54	34.57	26.72	25.74	25.38	25.01	25.07	
6	25.07	25.34	26.00	26.15	26.56	33.75	33.75	26.57	25.77	25.38	25.02	25.12	
7	25.02	25.43	26.19	25.97	26.39	34.14	30.49	26.42	25.58	25.35	24.98	25.16	
8	25.72	25.46	26.03	25.94	26.33	32.07	28.25	26.22	25.51	25.23	25.07	25.20	
9	25.82	25.50	26.26	25.82	26.09	29.55	27.98	26.19	25.62	25.25	25.10	25.25	
10	25.62	25.37	26.67	25.85	26.97	30.48	29.48	26.17	25.57	25.29	25.10	25.30	
11	25.57	25.23	26.69	26.05	26.08	30.43	29.57	26.14	25.59	25.33	25.05	25.34	
12	25.49	25.26	28.16	28.56	26.29	29.26	28.24	26.11	25.60	25.33	25.02	25.38	
13	25.47	25.28	27.17	29.07	26.29	28.60	27.36	26.07	25.63	25.36	25.06	25.41	
14	25.68	25.66	27.81	28.12	27.19	29.08	27.32	26.04	25.67	25.38	25.27	25.47	
15	25.69	25.70	26.85	29.51	28.84	29.15	28.24	26.04	25.67	25.32	25.25	25.52	
16	25.87	25.72	26.24	28.27	28.83	31.03	28.45	26.01	25.61	25.25	25.19	25.56	
17	25.85	29.03	26.05	27.03	28.72	31.01	27.78	26.00	25.60	25.25	25.20	25.62	
18	26.05	27.46	26.02	26.73	29.79	29.99	27.66	25.95	25.62	25.26	25.29	25.66	
19	25.97	27.40	25.91	26.32	30.45	29.82	29.37	25.92	25.57	25.24	25.22	25.70	
20	25.86	26.28	25.82	26.13	31.47	30.07	30.12	25.91	25.56	25.25	25.15	26.19	
21	26.04	26.14	25.73	26.04	31.16	29.73	31.03	25.91	25.52	25.24	25.12	26.01	
22	25.97	26.17	25.91	25.98	30.39	30.05	31.67	25.90	25.49	25.20	25.18	26.57	
23	26.02	26.24	25.73	26.00	32.10	31.24	31.53	25.88	25.48	25.24	25.15	25.98	
24	26.09	26.52	26.33	26.08	33.71	30.62	31.74	25.87	25.50	25.21	25.08	25.70	
25	25.96	26.41	28.43	26.11	34.50	28.87	31.16	25.91	25.46	25.12	25.06	26.21	
26	25.89	26.56	27.59	26.11	34.75	29.24	31.42	25.88	25.44	25.02	25.02	26.08	
27	25.93	26.49	28.07	26.17	33.68	30.02	31.76	25.88	25.40	24.86	25.01	25.82	
28	26.04	26.17	26.74	26.11	30.78	30.49	31.05	25.84	25.32	24.90	25.00	25.40	
29	26.02	26.10	27.11	25.94	28.83	31.13	30.01	25.81	25.39	25.01		25.33	
30	25.89	26.09	26.27	25.90	28.44	30.57	30.40	25.80	25.35	25.03		25.28	
31		26.02		26.03	30.09		29.28		25.40	25.08		25.27	
Mean	25.73	26.03	26.52	26.53	28.88	30.41	30.22	26.26	25.57	25.24	25.10	25.50	
Max	26.09	29.03	28.43	29.51	34.75	34.14	34.57	28.51	25.78	25.39	25.29	26.57	34.75
Min	25.02	25.23	25.73	25.82	25.96	28.60	27.32	25.80	25.32	24.86	24.98	24.96	24.86

Annual Max Momentary Gage Height 34.79 M (MSL), at 12.00 Hours, on Aug 26, 1993
Zero Gage at Bottom Elevation 23.74 M (MSL), River Bed 23.99 M (MSL)
Left Bank Elevation 34.61 M (MSL)
Right Bank Elevation 34.35 M (MSL), Drainage Area 2523 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	3.77	3.35	4.75	7.20	4.82	66.63	61.38	41.58	3.56	1.25	0.14	0.00	
2	2.44	2.58	5.55	6.63	5.10	60.33	77.10	28.80	3.56	1.25	0.10	0.00	
3	1.70	1.90	5.37	5.82	5.64	59.28	154.20	20.74	3.42	1.20	0.06	0.00	
4	0.76	1.45	4.12	5.03	6.90	84.30	200.42	16.96	3.35	1.20	0.00	0.08	
5	0.28	1.40	3.91	4.89	7.10	135.30	223.35	13.18	3.28	1.20	0.02	0.14	
6	0.14	1.00	5.10	6.45	10.94	181.00	181.00	11.08	3.49	1.20	0.04	0.24	
7	0.04	1.45	6.81	4.89	8.89	200.42	81.66	9.22	2.20	1.05	0.00	0.32	
8	3.14	1.60	5.37	4.68	8.23	121.20	36.90	7.10	1.85	0.52	0.14	0.40	
9	3.84	1.80	7.50	3.84	5.91	60.75	32.04	6.81	2.44	0.60	0.20	0.60	
10	2.44	1.15	12.48	4.05	16.68	81.42	59.28	6.63	2.15	0.76	0.20	0.80	
11	2.15	0.52	12.76	5.55	5.82	80.22	61.17	6.36	2.25	0.95	0.10	1.00	
12	1.75	0.64	35.28	42.48	7.80	55.08	36.72	6.09	2.30	0.95	0.04	1.20	
13	1.65	0.72	19.48	51.66	7.80	43.20	22.14	5.73	2.51	1.10	0.12	1.35	
14	2.86	2.72	28.98	34.56	19.76	51.84	21.58	5.46	2.79	1.20	0.68	1.65	
15	2.93	3.00	15.00	59.91	47.52	53.10	36.72	5.46	2.79	0.90	0.60	1.90	
16	4.19	3.14	7.30	37.26	47.34	94.62	40.50	5.19	2.37	0.60	0.38	2.10	
17	4.05	50.94	5.55	17.52	45.36	94.14	28.44	5.10	2.30	0.60	0.40	2.44	
18	5.55	23.54	5.28	13.32	65.79	69.99	26.40	4.75	2.44	0.64	0.76	2.72	
19	4.89	22.70	4.47	8.12	80.70	66.42	57.06	4.54	2.15	0.56	0.48	3.00	
20	4.12	7.70	3.84	6.27	105.18	71.67	72.78	4.47	2.10	0.60	0.30	6.81	
21	5.46	6.36	3.21	5.46	97.74	64.53	94.62	4.47	1.90	0.56	0.24	5.19	
22	4.89	6.63	4.47	4.96	79.26	71.25	109.98	4.40	1.75	0.40	0.36	11.08	
23	5.28	7.30	3.21	5.10	122.10	99.66	106.62	4.26	1.70	0.56	0.30	4.96	
24	5.91	10.38	8.23	5.82	179.40	84.78	111.82	4.19	1.80	0.44	0.16	3.00	
25	4.82	9.11	40.14	6.09	219.50	48.06	97.74	4.47	1.60	0.24	0.12	7.00	
26	4.33	10.94	25.36	6.09	233.25	54.72	103.98	4.26	1.50	0.04	0.04	5.82	
27	4.61	9.99	33.66	6.63	178.20	70.62	112.38	4.26	1.30	0.00	0.02	3.84	
28	5.46	6.63	13.46	6.09	88.62	81.66	95.10	3.98	0.90	0.00	0.00	1.30	
29	5.28	6.00	18.64	4.68	47.34	97.02	70.41	3.77	1.25	0.02		0.95	
30	4.33	5.91	7.60	4.40	40.32	83.58	79.50	3.70	1.05	0.06		0.72	
31		5.28		5.37	72.09		55.44		1.30	0.16		0.68	
Total	103.06	217.83	356.88	390.82	1871.10	2486.79	2548.43	257.01	69.35	20.81	6.00	71.29	8399.37 CMSDAY
Mean	3.44	7.03	11.90	12.61	60.36	82.89	82.21	8.57	2.24	0.67	0.21	2.30	23.01 CMS
Max	5.91	50.94	40.14	59.91	233.25	200.42	223.35	41.58	3.56	1.25	0.76	11.08	233.25 CMS
Min	0.04	0.52	3.21	3.84	4.82	43.20	21.58	3.70	0.90	0.00	0.00	0.00	0.00 CMS
Runoff	8.904	18.821	30.834	33.767	161.663	214.859	220.184	22.206	5.992	1.798	0.518	6.159	725.706 MCM

Momentary Peak 235.45 CMS, at 34.79 M (MSL), at 12.00 Hours, on Aug 26, 1993

Runoff Yield 9.12 Liters/Second/Square KM, Momentary Peak Yield 93.32 Liters/Second/Square KM

WATER YEAR 1993

PRACHIN BURI RIVER BASIN

Khlong Phra Prong at Ban Kaeng, Prachin Buri (Kgt.12)

Location — Lat. 13-56-02 N., Long. 101-58-41 E., on left bank near the railway station at Ban Kaeng and about 200 meters upstream from Thot Saphon Sawmill, Amphoe Sa Kaeo, Prachin Buri.

Drainage Area — 1,540 sq.km.

Type of Gage — Water-stage recorder.

Zero Gage at Bottom — +0.00 m. (A.D.)

Bench Mark — B.M.-H.D.

Location — On left bank infront of the gage observer's house.

Elevation — +9.687 m. (A.D.)

Gage Reading Frequency — Recording.

Basis of Mean Daily Gage Height — Arithmetic mean of 24 readings.

Period of Available Gage Records — 1966 to date.

Rating Operation

Period of Rating — 1966 to date.

Rated by Float — -

Rated by Current Meter — 1966 to date.

Stability of Channel Regimes — Stable.

Overbank Flow Conditions — No overbank flow.

General Description — Records good. Stage-discharge relation defined by 75 discharge measurements made in 1993.

Gage Height in Meter (A.D), Water Year April 1, 1993 to March 31, 1994

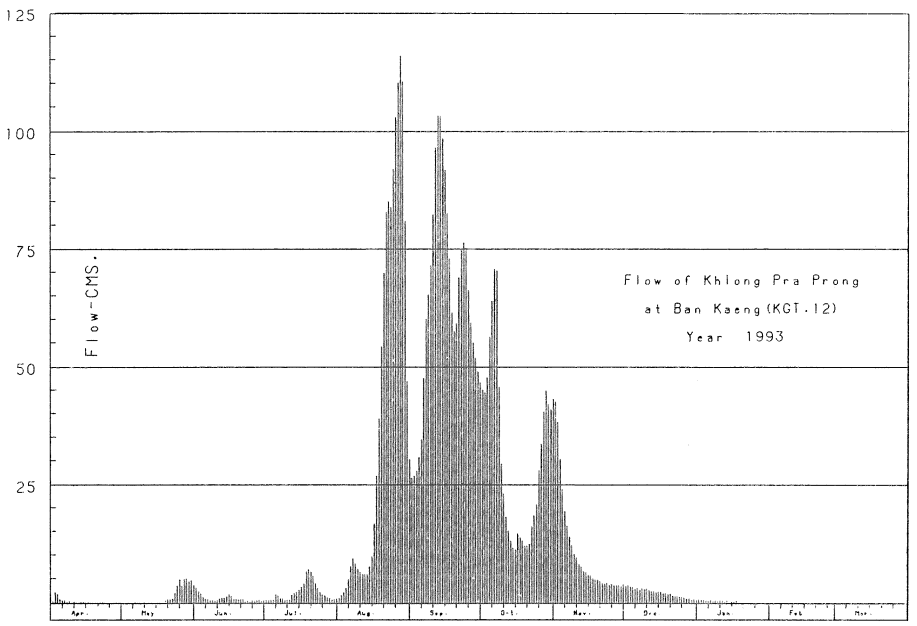
Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.15	-0.05	0.71	0.20	0.36	2.76	3.90	3.76	0.79	0.26	0.33	0.82	
2	0.60	-0.06	0.63	0.23	0.46	2.79	3.86	3.53	0.79	0.25	0.38	0.80	
3	0.50	-0.06	0.51	0.20	0.60	2.88	4.02	3.06	0.77	0.22	0.51	0.80	
4	0.31	-0.07	0.41	0.28	0.70	3.07	4.46	2.59	0.73	0.21	0.81	0.80	
5	0.23	-0.09	0.32	0.51	1.01	3.33	4.83	2.27	0.71	0.19	0.96	0.79	
6	0.18	-0.09	0.24	0.44	1.38	4.01	5.13	2.03	0.70	0.18	0.92	0.79	
7	0.12	-0.07	0.20	0.36	1.52	4.65	5.12	1.88	0.68	0.17	0.87	0.78	
8	0.09	-0.07	0.18	0.29	1.42	4.89	3.93	1.74	0.69	0.17	0.88	0.78	
9	0.04	-0.07	0.18	0.23	1.31	5.17	2.99	1.61	0.70	0.16	0.86	0.78	
10	0.01	-0.07	0.20	0.20	1.19	5.63	2.52	1.54	0.68	0.15	0.86	0.78	
11	0.02	-0.10	0.28	0.26	1.16	6.24	2.17	1.43	0.66	0.15	0.85	0.81	
12	0.02	-0.10	0.38	0.47	1.12	6.53	1.97	1.34	0.63	0.14	0.85	0.81	
13	0.04	-0.10	0.33	0.58	1.15	6.52	1.82	1.25	0.60	0.14	0.85	0.82	
14	0.04	-0.10	0.44	0.58	1.34	6.33	1.70	1.19	0.60	0.12	0.84	0.82	
15	0.01	-0.10	0.52	0.67	1.58	6.05	1.69	1.14	0.58	0.12	0.85	0.81	
16	0.01	-0.06	0.43	0.73	2.08	5.64	1.92	1.09	0.59	0.11	0.86	0.80	
17	0.00	-0.07	0.31	0.87	2.79	5.22	1.87	1.02	0.56	0.11	0.87	0.80	
18	-0.01	-0.07	0.25	1.24	3.58	4.72	1.81	0.96	0.53	0.38	0.87	0.79	
19	-0.04	0.20	0.28	1.27	4.36	4.52	1.74	0.99	0.53	0.99	0.86	0.79	
20	-0.01	0.25	0.25	1.23	5.10	4.59	1.73	0.91	0.52	1.10	0.85	0.78	
21	0.02	0.23	0.23	1.08	5.66	5.05	1.76	0.88	0.47	0.35	0.85	0.79	
22	0.00	0.34	0.13	0.88	5.75	5.31	2.04	0.86	0.45	0.28	0.85	0.80	
23	0.00	0.58	0.10	0.70	5.70	5.38	2.19	0.86	0.40	0.26	0.84	0.80	
24	-0.01	0.78	0.10	0.60	6.06	5.32	2.37	0.83	0.42	0.26	0.83	0.80	
25	-0.01	0.99	0.14	0.48	6.51	4.94	2.89	0.83	0.38	0.30	0.84	0.78	
26	-0.03	0.76	0.17	0.48	6.81	4.60	3.26	0.78	0.36	0.29	0.84	0.78	
27	-0.04	1.01	0.21	0.40	7.04	4.40	3.66	0.81	0.33	0.27	0.83	0.77	
28	-0.05	0.99	0.19	0.31	6.81	4.23	3.88	0.79	0.30	0.25	0.83	0.77	
29	-0.06	0.93	0.16	0.27	5.58	4.09	3.73	0.78	0.27	0.24		0.78	
30	-0.04	0.94	0.13	0.25	3.98	3.97	3.68	0.82	0.25	0.25		0.78	
31		0.82		0.29	3.06		3.80		0.25	0.27		0.78	
Mean	0.07	0.24	0.29	0.53	3.13	4.76	2.98	1.45	0.55	0.27	0.81	0.79	
Max	0.60	1.01	0.71	1.27	7.04	6.53	5.13	3.76	0.79	1.10	0.96	0.82	7.04
Min	-0.06	-0.10	0.10	0.20	0.36	2.76	1.69	0.78	0.25	0.11	0.33	0.77	-0.10

Annual Max Momentary Gage Height — 7.06 M (A.D), at 18.00 Hours, on Aug 27, 1993

Zero Gage at Bottom Elevation — 0.00 M (A.D), River Bed — -0.31 M (A.D)

Left Bank Elevation — 9.61 M (A.D)

Right Bank Elevation — 8.58 M (A.D), Drainage Area — 1540 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.50	0.10	3.15	0.60	1.14	26.44	45.30	42.64	3.70	0.78	0.00	0.00	
2	2.40	0.08	2.60	0.69	1.60	26.86	44.54	38.27	3.70	0.75	0.00	0.00	
3	1.80	0.08	1.86	0.60	2.40	28.12	47.70	30.64	3.56	0.66	0.00	0.00	
4	0.94	0.06	1.35	0.84	3.08	30.78	56.50	24.06	3.29	0.63	0.00	0.00	
5	0.69	0.02	0.98	1.86	5.20	34.81	63.96	19.58	3.15	0.58	0.00	0.00	
6	0.56	0.02	0.72	1.50	7.94	47.50	70.79	16.22	3.08	0.56	0.00	0.00	
7	0.44	0.06	0.60	1.14	9.34	60.30	70.56	14.12	2.95	0.54	0.00	0.00	
8	0.38	0.06	0.56	0.87	8.30	65.28	45.90	12.16	3.01	0.54	0.00	0.00	
9	0.28	0.06	0.56	0.69	7.38	71.71	29.66	10.43	3.08	0.52	0.00	0.00	
10	0.22	0.06	0.60	0.60	6.43	82.29	23.08	9.58	2.95	0.50	0.00	0.00	
11	0.24	0.00	0.84	0.78	6.23	96.46	18.18	8.40	2.81	0.50	0.00	0.00	
12	0.24	0.00	1.22	1.65	5.95	103.45	15.38	7.62	2.60	0.48	0.00	0.00	
13	0.28	0.00	1.02	2.28	6.16	103.20	13.28	6.90	2.40	0.48	0.00	0.00	
14	0.28	0.00	1.50	2.28	7.62	98.62	11.60	6.43	2.40	0.44	0.00	0.00	
15	0.22	0.00	1.92	2.88	10.06	91.95	11.47	6.09	2.28	0.44	0.00	0.00	
16	0.22	0.08	1.45	3.29	16.92	82.52	14.68	5.75	2.34	0.42	0.00	0.00	
17	0.20	0.06	0.94	4.25	26.86	72.86	13.98	5.27	2.16	0.42	0.00	0.00	
18	0.18	0.06	0.75	6.82	39.22	61.70	13.14	4.86	1.98	0.00	0.00	0.00	
19	0.12	0.60	0.84	7.06	54.50	57.70	12.16	5.07	1.98	0.00	0.00	0.00	
20	0.18	0.75	0.75	6.74	70.10	59.10	12.02	4.52	1.92	0.00	0.00	0.00	
21	0.24	0.69	0.69	5.68	82.98	68.95	12.44	4.31	1.65	0.00	0.00	0.00	
22	0.20	1.06	0.46	4.31	85.05	74.93	16.36	4.18	1.55	0.00	0.00	0.00	
23	0.20	2.28	0.40	3.08	83.90	76.54	18.46	4.18	1.30	0.00	0.00	0.00	
24	0.18	3.63	0.40	2.40	92.18	75.16	20.98	3.97	1.40	0.00	0.00	0.00	
25	0.18	5.07	0.48	1.70	102.95	66.42	28.26	3.97	1.22	0.00	0.00	0.00	
26	0.14	3.49	0.54	1.70	110.45	59.30	33.66	3.63	1.14	0.00	0.00	0.00	
27	0.12	5.20	0.63	1.30	116.20	55.30	40.74	3.84	1.02	0.00	0.00	0.00	
28	0.10	5.07	0.58	0.94	110.45	51.90	44.92	3.70	0.90	0.00	0.00	0.00	
29	0.08	4.66	0.52	0.81	81.14	49.10	42.07	3.63	0.81	0.00		0.00	
30	0.12	4.72	0.46	0.75	46.90	46.70	41.12	3.90	0.75	0.00		0.00	
31		3.90		0.87	30.64		43.40		0.75	0.00		0.00	
Total	11.93	41.92	29.37	70.96	1239.27	1925.95	976.29	317.92	67.83	9.24	0.00	0.00	4690.68 CMSDAY
Mean	0.40	1.35	0.98	2.29	39.98	64.20	31.49	10.60	2.19	0.30	0.00	0.00	12.85 CMS
Max	2.40	5.20	3.15	7.06	116.20	103.45	70.79	42.64	3.70	0.78	0.00	0.00	116.20 CMS
Min	0.08	0.00	0.40	0.60	1.14	26.44	11.47	3.63	0.75	0.00	0.00	0.00	0.00 CMS
Runoff	1.031	3.622	2.538	6.131	107.073	166.402	84.351	27.468	5.861	0.798	0.000	0.000	405.275 MCM

Momentary Peak 116.70 CMS, at 7.06 M (A.D), at 18.00 Hours, on Aug 27, 1993

Runoff Yield 8.34 Liters/Second/Square KM, Momentary Peak Yield 75.78 Liters/Second/Square KM

WATER YEAR 1993

PRACHIN BURI RIVER BASIN

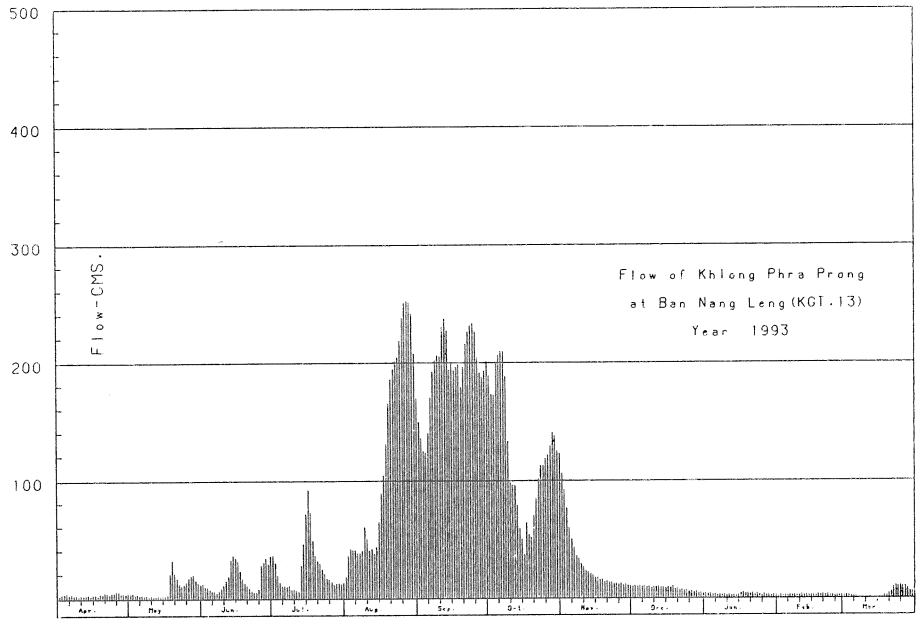
Khlong Phra Prong at Ban Nang Leng, Prachin Buri (Kgt.13)

Location	Lat. 13°-58'-04" N., Long. 101°-44'-20" E., on left bank about 40 meters upstream from the bridge on highway, at Ban Nang Leng, Amphoe Kabin Buri, Prachin Buri.
Drainage Area	5,347 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+0.16 m. (M.S.L.)
Bench Mark	B.M.-H.D.
Location	On left bank near the gage site.
Elevation	+10.712 m. (M.S.L.)
Gage Reading Frequency	5 time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1967 to date.
Rating Operation	
Period of Rating	1967-1968, 1971-1976, 1982 to date.
Rated by Float	-
Rated by Current Meter	1967-1968, 1971-1976, 1982 to date.
Stability of Channel Regimes	Fairly stable because of backwater effect.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Stage-discharge relation defined by 29 discharge measurements made in 1993.

Gage Height in Meter (MSL), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	1.17	1.35	1.97	3.33	2.42	7.20	8.28	5.89	1.82	1.29	1.03	1.12	
2	1.22	1.31	1.80	3.05	3.30	6.78	7.86	5.41	1.82	1.27	1.12	1.12	
3	1.33	1.26	1.75	2.42	3.59	6.47	7.83	4.92	1.85	1.26	1.11	1.14	
4	1.32	1.21	1.65	2.10	3.51	6.41	8.58	4.30	1.82	1.24	1.07	1.04	
5	1.26	1.16	1.51	1.88	3.56	6.93	8.75	3.96	1.82	1.20	1.11	1.02	
6	1.22	1.14	1.46	1.82	3.40	7.79	8.84	3.61	1.82	1.18	1.13	1.00	
7	1.19	1.13	1.40	1.84	3.44	8.37	8.86	3.34	1.81	1.19	1.14	0.94	
8	1.16	1.10	1.51	1.85	3.49	8.65	8.29	3.19	1.77	1.18	1.13	0.93	
9	1.13	1.06	1.73	1.65	4.36	8.74	6.72	3.00	1.75	1.16	1.13	0.89	
10	1.12	1.03	1.87	1.58	3.92	8.74	5.64	2.82	1.76	1.14	1.17	0.84	
11	1.15	1.04	2.15	1.52	3.50	9.38	5.54	2.70	1.82	1.12	1.18	0.86	
12	1.15	1.06	2.44	1.52	3.60	9.59	5.56	2.59	1.77	1.10	1.15	0.87	
13	1.16	1.07	3.18	2.95	3.41	9.33	4.98	2.55	1.79	1.11	1.13	0.86	
14	1.15	1.06	3.32	3.74	3.62	8.41	4.31	2.44	1.73	1.12	1.13	0.85	
15	1.14	1.05	3.27	4.76	4.52	8.57	3.92	2.36	1.72	1.12	1.10	0.86	
16	1.15	1.04	3.07	5.44	5.34	8.42	3.37	2.31	1.73	1.36	1.05	0.86	
17	1.17	1.24	2.68	4.78	5.81	8.50	4.45	2.24	1.76	1.36	1.14	0.87	
18	1.23	2.55	2.27	3.90	6.65	8.53	4.11	2.19	1.80	1.34	1.19	1.02	
19	1.30	3.11	2.07	3.31	7.63	8.03	3.98	2.13	1.67	1.31	1.20	1.14	
20	1.40	2.54	1.85	3.14	8.20	8.48	4.70	2.13	1.65	1.30	1.20	1.25	
21	1.32	2.34	1.67	2.98	8.45	9.02	5.16	2.10	1.59	1.31	1.20	1.45	
22	1.28	2.00	1.55	2.79	8.64	9.27	5.74	2.04	1.58	1.22	1.19	1.72	
23	1.34	1.82	1.39	2.51	8.70	9.42	6.06	2.00	1.56	1.27	1.16	1.90	
24	1.39	1.97	1.43	2.32	9.08	9.49	6.10	1.97	1.51	1.23	1.13	1.93	
25	1.47	2.06	1.63	2.21	9.61	9.30	6.26	1.97	1.50	1.15	1.09	1.91	
26	1.46	2.30	2.95	2.16	9.92	8.70	6.34	1.97	1.46	1.21	1.11	1.77	
27	1.34	2.47	3.09	1.95	9.98	8.37	6.60	1.93	1.44	1.19	1.12	1.85	
28	1.26	2.47	3.21	1.97	9.93	8.24	6.94	1.92	1.41	1.18	1.12	1.64	
29	1.32	2.22	3.01	2.05	9.69	8.39	6.83	1.91	1.36	1.15		1.50	
30	1.33	2.02	3.30	1.95	8.81	8.62	6.45	1.83	1.32	1.13		1.41	
31		1.98		2.01	7.75		6.41		1.30	1.13		1.30	
Mean	1.25	1.65	2.21	2.63	6.06	8.40	6.24	2.79	1.66	1.21	1.13	1.22	
Max	1.47	3.11	3.32	5.44	9.98	9.59	8.86	5.89	1.85	1.36	1.20	1.93	9.98
Min	1.12	1.03	1.39	1.52	2.42	6.41	3.37	1.83	1.30	1.10	1.03	0.84	0.84

Annual Max Momentary Gage Height 10.03 M (MSL), at 9.00 Hours, on Aug 27, 1993
Zero Gage at Bottom Elevation 0.17 M (MSL), River Bed 0.39 M (MSL)
Left Bank Elevation 13.79 M (MSL)
Right Bank Elevation 14.02 M (MSL), Drainage Area 5347 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	3.36	5.00	12.58	36.76	19.34	150.40	188.86	106.78	10.56	4.41	2.31	2.96	
2	3.78	4.60	10.30	31.00	36.10	135.92	173.56	91.81	10.56	4.23	2.96	2.96	
3	4.80	4.14	9.65	19.34	42.67	125.61	172.48	77.08	10.95	4.14	2.88	3.12	
4	4.70	3.69	8.40	14.40	40.83	123.63	199.96	59.60	10.56	3.96	2.59	2.38	
5	4.14	3.28	6.72	11.34	41.98	141.02	206.25	51.18	10.56	3.60	2.88	2.24	
6	3.78	3.12	6.16	10.56	38.30	171.05	209.62	43.13	10.56	3.44	3.04	2.10	
7	3.52	3.04	5.50	10.82	39.22	192.19	210.38	36.98	10.43	3.52	3.12	1.74	
8	3.28	2.80	6.72	10.95	40.37	202.55	189.23	33.80	9.91	3.44	3.04	1.68	
9	3.04	2.52	9.39	8.40	61.22	205.88	133.88	30.00	9.65	3.28	3.04	1.45	
10	2.96	2.31	11.21	7.56	50.26	205.88	98.94	26.48	9.78	3.12	3.36	1.20	
11	3.20	2.38	15.15	6.84	40.60	230.14	95.84	24.30	10.56	2.96	3.44	1.30	
12	3.20	2.52	19.68	6.84	42.90	238.12	96.46	22.32	9.91	2.80	3.20	1.35	
13	3.28	2.59	33.60	29.00	38.53	228.24	78.82	21.60	10.17	2.88	3.04	1.30	
14	3.20	2.52	36.54	46.12	43.36	193.67	59.87	19.68	9.39	2.96	3.04	1.25	
15	3.12	2.45	35.47	72.44	65.66	199.59	50.26	18.36	9.26	2.96	2.80	1.30	
16	3.20	2.38	31.40	92.74	89.64	194.04	37.64	17.56	9.39	5.10	2.45	1.30	
17	3.36	3.96	23.94	73.02	104.22	197.00	63.70	16.50	9.78	5.10	3.12	1.35	
18	3.87	21.60	16.95	49.80	131.55	198.11	54.75	15.75	10.30	4.90	3.52	2.24	
19	4.50	32.20	13.98	36.32	165.45	179.68	51.64	14.85	8.64	4.60	3.60	3.12	
20	5.50	21.42	10.95	32.80	185.90	196.26	70.70	14.85	8.40	4.50	3.60	4.05	
21	4.70	18.04	8.64	29.60	195.15	216.46	84.10	14.40	7.68	4.60	3.60	6.05	
22	4.32	13.00	7.20	25.92	202.18	225.96	102.04	13.56	7.56	3.78	3.52	9.26	
23	4.90	10.56	5.40	20.88	204.40	231.66	112.22	13.00	7.32	4.23	3.28	11.60	
24	5.40	12.58	5.83	17.72	218.74	234.32	113.50	12.58	6.72	3.87	3.04	12.02	
25	6.27	13.84	8.16	16.05	238.88	227.10	118.68	12.58	6.60	3.20	2.73	11.74	
26	6.16	17.40	29.00	15.30	250.66	204.40	121.32	12.58	6.16	3.69	2.88	9.91	
27	4.90	20.19	31.80	12.30	252.94	192.19	129.90	12.02	5.94	3.52	2.96	10.95	
28	4.14	20.19	34.21	12.58	251.04	187.38	141.36	11.88	5.61	3.44	2.96	8.28	
29	4.70	16.20	30.20	13.70	241.92	192.93	137.62	11.74	5.10	3.20		6.60	
30	4.80	13.28	36.10	12.30	208.48	201.44	124.95	10.69	4.70	3.04		5.61	
31		12.72		13.14	169.65		123.63		4.50	3.04		4.50	
Total	124.08	296.52	520.83	796.54	3752.14	5822.82	3752.16	867.64	267.21	115.51	86.00	136.91	16538.36 CMSDAY
Mean	4.14	9.57	17.36	25.69	121.04	194.09	121.04	28.92	8.62	3.73	3.07	4.42	45.31 CMS
Max	6.27	32.20	36.54	92.74	252.94	238.12	210.38	106.78	10.95	5.10	3.60	12.02	252.94 CMS
Min	2.96	2.31	5.40	6.84	19.34	123.63	37.64	10.69	4.50	2.80	2.31	1.20	1.20 CMS
Runoff	10.721	25.619	45.000	68.821	324.185	503.092	324.187	74.964	23.087	9.980	7.430	11.829	1428.914 MCM

Momentary Peak 254.84 CMS, at 10.03 M (MSL), at 9.00 Hours, on Aug 27, 1993

Runoff Yield 8.47 Liters/Second/Square KM, Momentary Peak Yield 47.66 Liters/Second/Square KM

WATER YEAR 1993

PRACHIN BURI RIVER BASIN

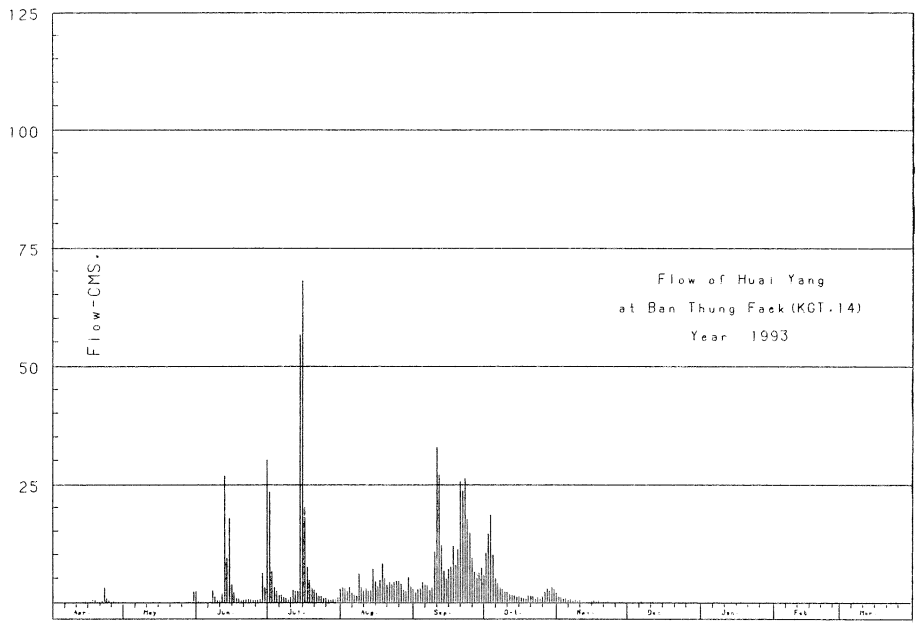
Huai Yang at Ban Thung Faek, Prachin Buri (Kgt.14)

Location	Lat. 14°-09'-30" N., Long. 101°-52'-52" E., on left bank about 2 kilometers from Kabin Buri-Nakhon Ratchasima highway, Ban Thung Faek, Amphoe Kabin Buri, Prachin Buri.
Drainage Area	336 sq.km.
Type of Gage	Water-stage recorder.
Zero Gage at Bottom	+34.60 m.(M.S.L.)
Bench Mark	B.M.-H.D.
Location	Near the automatic gage building.
Elevation	+42.429 m. (M.S.L.)
Gage Reading Frequency	Recording.
Basis of Mean Daily Gage Height	Arithmetic mean of 24 readings.
Period of Available Gage Records	1966 to date.
Rating Operation	
Period of Rating	1966 - 1981, 1986 to date.
Rated by Float	-
Rated by Current Meter	1966 - 1981, 1986 to date.
Stability of Channel Regimes	Stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Stage-discharge relation defined by 36 discharge measurements made in 1993.

Gage Height in Meter (MSL), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	34.86	34.83	35.03	36.35	35.38	35.26	35.82	35.16	34.91	34.86	34.81	34.79	
2	34.83	34.82	34.97	35.62	35.33	35.31	35.99	35.13	34.90	34.86	34.80	34.78	
3	34.80	34.82	34.95	35.39	35.29	35.35	36.16	35.11	34.90	34.86	34.80	34.79	
4	34.79	34.81	34.91	35.27	35.36	35.46	35.81	35.09	34.91	34.86	34.80	34.79	
5	34.78	34.81	34.88	35.20	35.25	35.43	35.54	35.06	34.90	34.86	34.80	34.78	
6	34.79	34.81	34.96	35.18	35.18	35.40	35.44	35.06	34.88	34.85	34.80	34.78	
7	34.79	34.80	35.31	35.15	35.18	35.31	35.37	35.04	34.88	34.85	34.80	34.78	
8	34.80	34.80	35.14	35.11	35.60	35.35	35.32	35.03	34.88	34.85	34.82	34.77	
9	34.80	34.80	35.04	35.07	35.36	35.84	35.28	35.02	34.89	34.85	34.86	34.78	
10	34.85	34.80	34.98	35.13	35.28	36.66	35.25	35.01	34.89	34.85	34.84	34.80	
11	34.91	34.80	35.25	35.32	35.35	36.47	35.22	35.00	34.90	34.85	34.83	34.79	
12	34.86	34.80	36.47	35.27	35.27	35.89	35.20	35.00	34.88	34.85	34.82	34.79	
13	34.99	34.80	35.77	35.30	35.31	35.64	35.17	35.00	34.88	34.84	34.81	34.77	
14	34.92	34.79	36.14	37.31	35.65	35.53	35.16	34.98	34.90	34.83	34.81	34.77	
15	34.90	34.79	35.44	37.61	35.49	35.65	35.15	34.97	34.89	34.83	34.81	34.77	
16	34.88	34.79	35.24	36.22	35.40	35.68	35.14	34.98	34.87	34.83	34.81	34.78	
17	35.06	34.93	35.13	35.69	35.50	35.89	35.11	34.99	34.89	34.83	34.80	34.78	
18	35.00	34.95	35.08	35.50	35.73	35.71	35.11	34.98	34.89	34.83	34.80	34.78	
19	34.97	34.90	35.04	35.37	35.52	35.85	35.17	34.96	34.88	34.83	34.80	34.78	
20	34.93	34.87	35.02	35.30	35.41	36.42	35.19	34.95	34.88	34.83	34.80	34.83	
21	35.01	34.87	35.04	35.23	35.48	36.36	35.15	34.95	34.88	34.82	34.80	34.86	
22	35.38	34.90	35.11	35.18	35.44	36.45	35.11	34.94	34.87	34.84	34.80	34.84	
23	35.10	34.94	35.03	35.15	35.46	36.12	35.13	34.94	34.88	34.85	34.80	34.84	
24	35.00	34.89	35.05	35.13	35.50	36.01	35.11	34.93	34.88	34.85	34.80	34.81	
25	34.94	34.88	35.01	35.11	35.48	35.77	35.15	34.93	34.88	34.86	34.79	34.80	
26	34.90	34.88	35.01	35.09	35.43	35.61	35.27	34.93	34.87	34.86	34.79	34.79	
27	34.87	34.86	35.10	35.06	35.32	35.54	35.35	34.92	34.87	34.87	34.79	34.78	
28	34.85	34.85	35.61	35.05	35.26	35.60	35.28	34.91	34.86	34.87	34.79	34.78	
29	34.84	34.94	35.38	35.07	35.55	35.68	35.39	34.91	34.86	34.86		34.79	
30	34.83	35.28	36.57	35.12	35.40	35.58	35.32	34.91	34.87	34.83		34.80	
31		35.27		35.32	35.32		35.23		34.86	34.82		34.80	
Mean	34.91	34.87	35.26	35.45	35.40	35.76	35.33	34.99	34.88	34.85	34.81	34.79	
Max	35.38	35.28	36.57	37.61	35.73	36.66	36.16	35.16	34.91	34.87	34.86	34.86	37.61
Min	34.78	34.79	34.88	35.05	35.18	35.26	35.11	34.91	34.86	34.82	34.79	34.77	34.77

Annual Max Momentary Gage Height 38.16 M (MSL), at 22.00 Hours, on Jul 14, 1993
Zero Gage at Bottom Elevation 34.60 M (MSL), River Bed 33.53 M (MSL)
Left Bank Elevation 41.28 M (MSL)
Right Bank Elevation 41.75 M (MSL), Drainage Area 336 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.12	0.06	0.52	23.60	3.32	2.24	10.46	1.34	0.22	0.12	0.02	0.00	
2	0.06	0.04	0.34	6.52	2.87	2.69	14.46	1.07	0.20	0.12	0.00	0.00	
3	0.00	0.04	0.30	3.41	2.51	3.05	18.54	0.89	0.20	0.12	0.00	0.00	
4	0.00	0.02	0.22	2.33	3.14	4.22	10.23	0.76	0.22	0.12	0.00	0.00	
5	0.00	0.02	0.16	1.70	2.15	3.86	5.30	0.64	0.20	0.12	0.00	0.00	
6	0.00	0.02	0.32	1.52	1.52	3.50	3.98	0.64	0.16	0.10	0.00	0.00	
7	0.00	0.00	2.69	1.25	1.52	2.69	3.23	0.56	0.16	0.10	0.00	0.00	
8	0.00	0.00	1.16	0.89	6.20	3.05	2.78	0.52	0.16	0.10	0.04	0.00	
9	0.00	0.00	0.56	0.68	3.14	10.92	2.42	0.48	0.18	0.10	0.12	0.00	
10	0.10	0.00	0.36	1.07	2.42	33.12	2.15	0.44	0.18	0.10	0.08	0.00	
11	0.22	0.00	2.15	2.78	3.05	27.10	1.88	0.40	0.20	0.10	0.06	0.00	
12	0.12	0.00	27.10	2.33	2.33	12.07	1.70	0.40	0.16	0.10	0.04	0.00	
13	0.38	0.00	9.34	2.60	2.69	6.84	1.43	0.40	0.16	0.08	0.02	0.00	
14	0.24	0.00	18.06	56.59	7.00	5.15	1.34	0.36	0.20	0.06	0.02	0.00	
15	0.20	0.00	3.98	68.31	4.58	7.00	1.25	0.34	0.18	0.06	0.02	0.00	
16	0.16	0.00	2.06	20.04	3.50	7.48	1.16	0.36	0.14	0.06	0.02	0.00	
17	0.64	0.26	1.07	7.64	4.70	12.07	0.89	0.38	0.18	0.06	0.00	0.00	
18	0.40	0.30	0.72	4.70	8.46	8.02	0.89	0.36	0.18	0.06	0.00	0.00	
19	0.34	0.20	0.56	3.23	5.00	11.15	1.43	0.32	0.16	0.06	0.00	0.00	
20	0.26	0.14	0.48	2.60	3.62	25.60	1.61	0.30	0.16	0.06	0.00	0.06	
21	0.44	0.14	0.56	1.97	4.46	23.88	1.25	0.30	0.16	0.04	0.00	0.12	
22	3.32	0.20	0.89	1.52	3.98	26.50	0.89	0.28	0.14	0.08	0.00	0.08	
23	0.80	0.28	0.52	1.25	4.22	17.58	1.07	0.28	0.16	0.10	0.00	0.08	
24	0.40	0.18	0.60	1.07	4.70	14.94	0.89	0.26	0.16	0.10	0.00	0.02	
25	0.28	0.16	0.44	0.89	4.46	9.34	1.25	0.26	0.16	0.12	0.00	0.00	
26	0.20	0.16	0.44	0.76	3.86	6.36	2.33	0.26	0.14	0.12	0.00	0.00	
27	0.14	0.12	0.80	0.64	2.78	5.30	3.05	0.24	0.14	0.14	0.00	0.00	
28	0.10	0.10	6.36	0.60	2.24	6.20	2.42	0.22	0.12	0.14	0.00	0.00	
29	0.08	0.28	3.32	0.68	5.45	7.48	3.41	0.22	0.12	0.12		0.00	
30	0.06	2.42	30.24	0.98	3.50	5.90	2.78	0.22	0.14	0.06		0.00	
31		2.33		2.78	2.78		1.97		0.12	0.04		0.00	
Total	9.06	7.47	116.32	226.93	116.15	315.30	108.44	13.50	5.16	2.86	0.44	0.36	921.99 CMSDAY
Mean	0.30	0.24	3.88	7.32	3.75	10.51	3.50	0.45	0.17	0.09	0.02	0.01	2.53 CMS
Max	3.32	2.42	30.24	68.31	8.46	33.12	18.54	1.34	0.22	0.14	0.12	0.12	68.31 CMS
Min	0.00	0.00	0.16	0.60	1.52	2.24	0.89	0.22	0.12	0.04	0.00	0.00	0.00 CMS
Runoff	0.783	0.645	10.050	19.607	10.035	27.242	9.369	1.166	0.446	0.247	0.038	0.031	79.660 MCM

Momentary Peak 91.88 CMS, at 38.16 M (MSL), at 22.00 Hours, on Jul 14, 1993

Runoff Yield 7.52 Liters/Second/Square KM, Momentary Peak Yield 273.45 Liters/Second/Square KM

WATER YEAR 1993

PRACHIN BURI RIVER BASIN

Huai Samong at Ban Kaeng Din So, Prachin Buri (Kgt.15A)

Location — Lat. 14°-03'-46" N., Long. 101°-55'-39" E., on right bank at Ban Kaeng Din So about 1 kilometer upstream from the Kgt.15 station, Amphoe Kabin Buri, Prachin Buri.

Drainage Area — 530 sq.km.

Type of Gage — Water-stage recorder.

Zero Gage at Bottom — +0.00 m. (A.D.)

Bench Mark — B.M.-H.D.

Location — Infront of the station office and near the rain gage.

Elevation — +9.615 m. (A.D.)

Gage Reading Frequency — Recording.

Basis of Mean Daily Gage Height — Arithmetic mean of 24 readings.

Period of Available Gage Records — 1968 to date.

Rating Operation

Period of Rating — 1968 to date.

Rated by Float — -

Rated by Current Meter — 1968 to date.

Stability of Channel Regimes — Fairly stable.

Overbank Flow Conditions — No overbank flow.

General Description — Records good. Stage-discharge relation defined by 53 discharge measurements made in 1993.

Gage Height in Meter (A.D), Water Year April 1, 1993 to March 31, 1994

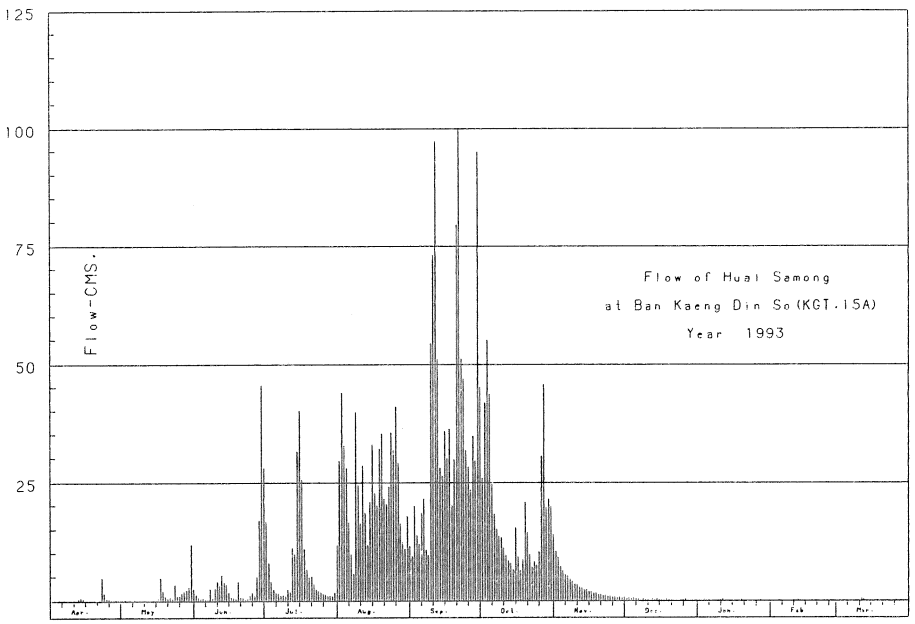
Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.63	0.56	1.02	2.08	2.62	1.69	2.47	1.76	0.88	0.69	0.61	0.57	
2	0.62	0.60	0.88	1.61	3.19	2.23	3.11	1.67	0.86	0.69	0.61	0.56	
3	0.58	0.58	0.82	1.32	2.75	1.95	3.54	1.58	0.86	0.69	0.61	0.56	
4	0.57	0.57	0.82	1.16	2.57	1.84	3.17	1.52	0.85	0.69	0.61	0.56	
5	0.56	0.56	0.81	1.07	2.07	2.17	2.42	1.48	0.84	0.69	0.61	0.56	
6	0.54	0.56	0.78	1.04	1.70	2.29	2.16	1.44	0.83	0.68	0.60	0.56	
7	0.53	0.55	1.16	0.99	1.49	1.78	2.02	1.40	0.82	0.68	0.60	0.56	
8	0.49	0.55	0.86	0.97	3.03	1.69	1.93	1.33	0.80	0.68	0.62	0.55	
9	0.56	0.55	1.19	0.96	2.42	3.52	1.93	1.29	0.79	0.67	0.72	0.55	
10	0.60	0.55	1.35	1.14	2.06	4.08	1.79	1.26	0.79	0.67	0.65	0.59	
11	0.70	0.55	1.23	1.10	2.58	4.80	1.69	1.22	0.79	0.67	0.63	0.84	
12	0.83	0.53	1.45	1.79	2.17	3.41	1.64	1.18	0.79	0.66	0.62	0.68	
13	0.85	0.55	1.33	1.71	1.84	2.57	1.60	1.16	0.79	0.66	0.61	0.64	
14	0.77	0.60	1.26	2.71	2.26	2.50	1.54	1.14	0.79	0.65	0.61	0.62	
15	0.66	0.77	1.07	3.05	2.76	2.88	2.03	1.12	0.78	0.65	0.61	0.58	
16	0.64	0.81	0.92	2.46	2.35	2.64	1.68	1.09	0.76	0.65	0.61	0.57	
17	0.62	1.42	0.84	1.79	2.23	2.89	1.52	1.07	0.75	0.65	0.61	0.57	
18	0.55	1.11	0.84	1.54	2.73	2.24	1.64	1.05	0.75	0.65	0.60	0.57	
19	0.61	0.96	1.32	1.41	2.86	2.63	2.27	1.03	0.74	0.64	0.60	0.57	
20	0.58	0.78	0.93	1.44	2.29	4.28	1.97	1.02	0.73	0.64	0.60	0.60	
21	0.56	0.89	0.83	1.27	2.25	4.87	1.70	1.00	0.73	0.64	0.60	0.62	
22	1.42	0.83	0.81	1.16	2.41	3.42	1.57	0.98	0.73	0.63	0.59	0.62	
23	1.04	1.28	0.76	1.11	2.86	3.28	1.63	0.97	0.72	0.63	0.59	0.62	
24	0.81	0.98	0.99	1.09	2.71	2.71	1.58	0.94	0.72	0.63	0.58	0.61	
25	0.69	0.99	1.06	1.05	3.08	2.58	1.75	0.93	0.72	0.63	0.57	0.61	
26	0.66	1.04	0.98	1.01	2.61	2.37	2.67	0.92	0.71	0.63	0.57	0.60	
27	0.63	1.09	1.42	0.98	2.06	2.84	3.25	0.91	0.70	0.63	0.57	0.59	
28	0.61	1.15	2.10	0.95	1.87	2.62	2.21	0.90	0.70	0.63	0.57	0.64	
29	0.60	1.20	3.24	0.96	1.78	4.74	2.30	0.89	0.70	0.62		0.63	
30	0.59	1.85	2.57	1.06	2.14	3.22	2.22	0.89	0.70	0.62		0.61	
31		1.16		1.84	1.83		1.95		0.69	0.62		0.59	
Mean	0.67	0.84	1.19	1.41	2.37	2.89	2.10	1.17	0.77	0.65	0.61	0.60	
Max	1.42	1.85	3.24	3.05	3.19	4.87	3.54	1.76	0.88	0.69	0.72	0.84	4.87
Min	0.49	0.53	0.76	0.95	1.49	1.69	1.52	0.89	0.69	0.62	0.57	0.55	0.49

Annual Max Momentary Gage Height — 4.97 M (A.D), at 9.00 Hours, on Sep 21, 1993

Zero Gage at Bottom Elevation — 0.00 M (A.D), River Bed — 0.00 M (A.D)

Left Bank Elevation — 11.61 M (A.D)

Right Bank Elevation — 9.47 M (A.D), Drainage Area — 530 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.29	0.20	1.44	16.76	29.60	9.61	25.88	10.70	0.74	0.36	0.26	0.21	
2	0.28	0.25	0.74	8.09	44.23	20.12	42.07	9.23	0.68	0.36	0.26	0.20	
3	0.22	0.22	0.56	4.00	32.85	14.00	55.32	7.52	0.68	0.36	0.26	0.20	
4	0.21	0.21	0.56	2.54	28.35	11.98	43.69	6.38	0.65	0.36	0.26	0.20	
5	0.20	0.20	0.53	1.79	16.54	18.74	24.68	5.76	0.62	0.36	0.26	0.20	
6	0.18	0.20	0.47	1.58	9.80	21.56	18.52	5.28	0.59	0.35	0.25	0.20	
7	0.16	0.19	2.54	1.25	5.88	11.00	15.44	4.80	0.56	0.35	0.25	0.20	
8	0.11	0.19	0.68	1.15	39.91	9.61	13.60	4.10	0.50	0.35	0.28	0.19	
9	0.20	0.19	2.81	1.10	24.68	54.66	13.60	3.71	0.49	0.34	0.40	0.19	
10	0.25	0.19	4.30	2.36	16.32	73.14	11.15	3.44	0.49	0.34	0.31	0.24	
11	0.37	0.19	3.17	2.00	28.60	97.40	9.61	3.08	0.49	0.34	0.29	0.62	
12	0.59	0.16	5.40	11.15	18.74	51.03	8.66	2.72	0.49	0.33	0.28	0.35	
13	0.65	0.19	4.10	9.95	11.98	28.35	7.90	2.54	0.49	0.33	0.26	0.30	
14	0.46	0.25	3.44	31.85	20.84	26.60	6.76	2.36	0.49	0.31	0.26	0.28	
15	0.33	0.46	1.79	40.45	33.10	36.10	15.66	2.18	0.47	0.31	0.26	0.22	
16	0.30	0.53	0.90	25.64	23.00	30.10	9.42	1.93	0.45	0.31	0.26	0.21	
17	0.28	5.04	0.62	11.15	20.12	36.35	6.38	1.79	0.44	0.31	0.26	0.21	
18	0.19	2.09	0.62	6.76	32.35	20.36	8.66	1.65	0.44	0.31	0.25	0.21	
19	0.26	1.10	4.00	4.92	35.60	29.85	21.08	1.51	0.43	0.30	0.25	0.21	
20	0.22	0.47	0.95	5.28	21.56	79.74	14.40	1.44	0.41	0.30	0.25	0.25	
21	0.20	0.77	0.59	3.53	20.60	99.99	9.80	1.30	0.41	0.30	0.25	0.28	
22	5.04	0.59	0.53	2.54	24.44	51.36	7.33	1.20	0.41	0.29	0.24	0.28	
23	1.58	3.62	0.45	2.09	35.60	46.90	8.47	1.15	0.40	0.29	0.24	0.28	
24	0.53	1.20	1.25	1.93	31.85	31.85	7.52	1.00	0.40	0.29	0.22	0.26	
25	0.36	1.25	1.72	1.65	41.26	28.60	10.55	0.95	0.40	0.29	0.21	0.26	
26	0.33	1.58	1.20	1.37	29.35	23.48	30.85	0.90	0.39	0.29	0.21	0.25	
27	0.29	1.93	5.04	1.20	16.32	35.10	46.00	0.85	0.37	0.29	0.21	0.24	
28	0.26	2.45	17.20	1.05	12.49	29.60	19.64	0.80	0.37	0.29	0.21	0.30	
29	0.25	2.90	45.70	1.10	11.00	95.24	21.80	0.77	0.37	0.28		0.29	
30	0.24	12.15	28.35	1.72	18.08	45.10	19.88	0.77	0.37	0.28		0.26	
31		2.54		11.98	11.81		14.00		0.36	0.28		0.24	
Total	14.83	43.50	141.65	219.93	746.85	1167.52	568.32	91.81	14.85	9.85	7.20	7.83	3034.14 CMSDAY
Mean	0.49	1.40	4.72	7.09	24.09	38.92	18.33	3.06	0.48	0.32	0.26	0.25	8.31 CMS
Max	5.04	12.15	45.70	40.45	44.23	99.99	55.32	10.70	0.74	0.36	0.40	0.62	99.99 CMS
Min	0.11	0.16	0.45	1.05	5.88	9.61	6.38	0.77	0.36	0.28	0.21	0.19	0.11 CMS
Runoff	1.281	3.758	12.239	19.002	64.528	100.874	49.103	7.932	1.283	0.851	0.622	0.677	262.150 MCM

Momentary Peak 103.69 CMS, at 4.97 M (A.D), at 9.00 Hours, on Sep 21, 1993

Runoff Yield 15.68 Liters/Second/Square KM, Momentary Peak Yield 195.64 Liters/Second/Square KM

WATER YEAR 1993

PRACHIN BURI RIVER BASIN

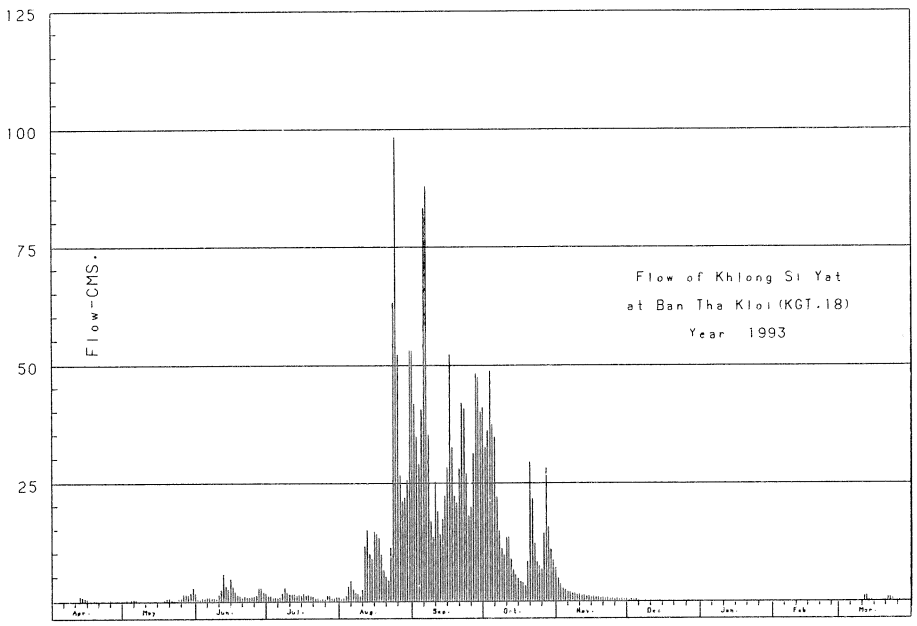
Khlong Si Yat at Ban Tha Kloi, Chachoengsao (Kgt.18)

Location	Lat. 13°28'29" N., Long. 101°37'44" E., on left bank at Ban Tha Kloi, King Amphoe Tha Takiap, Chachoengsao.
Drainage Area	951 sq.km.
Type of Gage	Water-stage recorder.
Zero Gage at Bottom	+34.20 m. (M.S.L.)
Bench Mark	B.M.-H.D.
Location	Under the coconut tree infront of the station office.
Elevation	+41.426 m. (M.S.L.)
Gage Reading Frequency	Recording.
Basis of Mean Daily Gage Height	Arithmetic mean of 24 readings.
Period of Available Gage Records	1969 to date.
Rating Operation	
Period of Rating	1969 to date.
Rated by Float	-
Rated by Current Meter	1969 to date.
Stability of Channel Regimes	Fairly stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Stage-discharge relation defined by 82 discharge measurements made in 1993.

Gage Height in Meter (MSL), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	35.12	35.33	35.37	35.71	35.48	38.47	38.08	36.37	35.41	35.17	35.10	35.06	
2	35.09	35.34	35.42	35.64	35.48	38.17	38.23	36.22	35.41	35.17	35.15	35.06	
3	35.08	35.24	35.47	35.57	35.70	37.92	38.75	36.12	35.41	35.15	35.14	35.05	
4	35.08	35.33	35.52	35.53	36.15	38.43	38.29	36.03	35.40	35.15	35.09	35.05	
5	35.06	35.40	35.55	35.56	36.29	39.81	38.18	35.99	35.36	35.15	35.08	35.05	
6	35.06	35.32	35.53	35.54	36.08	39.92	37.57	35.92	35.34	35.15	35.07	35.05	
7	35.12	35.20	35.56	35.90	35.91	38.20	37.13	35.88	35.32	35.15	35.07	35.04	
8	35.18	35.15	35.50	36.14	35.78	37.27	36.88	35.83	35.31	35.13	35.07	35.04	
9	35.15	35.12	35.51	35.89	35.68	37.04	36.77	35.80	35.30	35.13	35.06	35.03	
10	35.12	35.10	35.80	35.77	36.03	37.72	37.05	35.77	35.29	35.15	35.11	35.04	
11	35.12	35.28	36.03	35.83	36.90	37.39	37.04	35.74	35.28	35.14	35.13	35.67	
12	35.69	35.24	36.44	35.78	37.14	37.09	36.72	35.71	35.28	35.13	35.11	35.66	
13	35.54	35.18	36.19	35.74	36.80	37.30	36.54	35.68	35.28	35.12	35.10	35.38	
14	35.52	35.15	36.04	35.72	36.71	37.57	36.42	35.65	35.28	35.12	35.10	35.24	
15	35.39	35.19	36.36	35.73	37.13	37.87	36.34	35.63	35.26	35.12	35.10	35.23	
16	35.34	35.17	36.17	35.81	37.09	38.88	36.30	35.61	35.26	35.11	35.09	35.18	
17	35.28	35.23	35.93	35.72	37.04	38.08	36.24	35.61	35.24	35.11	35.09	35.15	
18	35.24	35.49	35.77	35.72	36.79	37.58	36.20	35.57	35.24	35.11	35.08	35.14	
19	35.20	35.51	35.66	35.69	36.53	37.49	36.67	35.55	35.24	35.10	35.08	35.13	
20	35.18	35.46	35.58	35.61	36.38	37.87	37.93	35.54	35.23	35.10	35.09	35.13	
21	35.17	35.38	35.61	35.53	36.32	38.48	37.55	35.53	35.22	35.10	35.08	35.61	
22	35.22	35.35	35.60	35.48	36.88	38.44	36.96	35.52	35.22	35.09	35.08	35.54	
23	35.20	35.30	35.56	35.44	39.23	37.81	36.68	35.50	35.22	35.09	35.08	35.51	
24	35.29	35.43	35.65	35.40	40.18	37.34	36.59	35.48	35.22	35.09	35.08	35.36	
25	35.42	35.55	35.62	35.47	38.87	37.44	36.55	35.48	35.20	35.08	35.08	35.29	
26	35.33	35.76	35.76	35.72	37.80	38.01	37.10	35.46	35.20	35.07	35.08	35.24	
27	35.24	35.82	36.13	35.65	37.52	38.73	37.88	35.45	35.20	35.07	35.08	35.21	
28	35.20	35.71	36.09	35.53	37.55	38.69	37.18	35.44	35.20	35.10	35.07	35.19	
29	35.19	35.92	35.96	35.47	37.74	38.41	36.87	35.43	35.19	35.10		35.18	
30	35.18	36.13	35.83	35.62	38.91	38.44	36.69	35.42	35.19	35.10		35.15	
31		35.83		35.54	38.90		36.56		35.18	35.11		35.14	
Mean	35.23	35.41	35.77	35.66	37.00	38.06	37.09	35.70	35.27	35.12	35.09	35.22	
Max	35.69	36.13	36.44	36.14	40.18	39.92	38.75	36.37	35.41	35.17	35.15	35.67	40.18
Min	35.06	35.10	35.37	35.40	35.48	37.04	36.20	35.42	35.18	35.07	35.06	35.03	35.03

Annual Max Momentary Gage Height 40.30 M (MSL), at 6.00 Hours, on Aug 24, 1993
Zero Gage at Bottom Elevation 34.20 M (MSL), River Bed 33.19 M (MSL)
Left Bank Elevation 41.63 M (MSL)
Right Bank Elevation 41.01 M (MSL), Drainage Area 951 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.12	0.36	0.44	1.33	0.66	41.68	32.76	5.10	0.52	0.17	0.10	0.06	
2	0.09	0.38	0.54	1.12	0.66	34.74	36.06	3.68	0.52	0.17	0.15	0.06	
3	0.08	0.24	0.64	0.91	1.30	29.24	48.90	2.94	0.52	0.15	0.14	0.05	
4	0.08	0.36	0.76	0.79	3.15	40.72	37.38	2.45	0.50	0.15	0.09	0.05	
5	0.06	0.50	0.85	0.88	4.31	83.40	34.96	2.26	0.42	0.15	0.08	0.05	
6	0.06	0.34	0.79	0.82	2.70	87.80	22.26	1.98	0.38	0.15	0.07	0.05	
7	0.12	0.20	0.88	1.90	1.94	35.40	14.88	1.84	0.34	0.15	0.07	0.04	
8	0.18	0.15	0.70	3.08	1.54	17.12	11.32	1.69	0.32	0.13	0.07	0.04	
9	0.15	0.12	0.73	1.87	1.24	13.56	9.78	1.60	0.30	0.13	0.06	0.03	
10	0.12	0.10	1.60	1.51	2.45	25.20	13.70	1.51	0.29	0.15	0.11	0.04	
11	0.12	0.28	2.45	1.69	11.60	19.04	13.56	1.42	0.28	0.14	0.13	1.21	
12	1.27	0.24	5.80	1.54	15.04	14.26	9.08	1.33	0.28	0.13	0.11	1.18	
13	0.82	0.18	3.43	1.42	10.20	17.60	6.88	1.24	0.28	0.12	0.10	0.46	
14	0.76	0.15	2.50	1.36	8.94	22.26	5.60	1.15	0.28	0.12	0.10	0.24	
15	0.48	0.19	5.00	1.39	14.88	28.20	4.80	1.09	0.26	0.12	0.10	0.23	
16	0.38	0.17	3.29	1.63	14.26	52.44	4.40	1.03	0.26	0.11	0.09	0.18	
17	0.28	0.23	2.02	1.36	13.56	32.76	3.86	1.03	0.24	0.11	0.09	0.15	
18	0.24	0.68	1.51	1.36	10.06	22.44	3.50	0.91	0.24	0.11	0.08	0.14	
19	0.20	0.73	1.18	1.27	6.76	20.82	8.44	0.85	0.24	0.10	0.08	0.13	
20	0.18	0.62	0.94	1.03	5.20	28.20	29.46	0.82	0.23	0.10	0.09	0.13	
21	0.17	0.46	1.03	0.79	4.60	41.92	21.90	0.79	0.22	0.10	0.08	1.03	
22	0.22	0.40	1.00	0.66	11.32	40.96	12.44	0.76	0.22	0.09	0.08	0.82	
23	0.20	0.30	0.88	0.58	63.36	27.00	8.56	0.70	0.22	0.09	0.08	0.73	
24	0.29	0.56	1.15	0.50	98.20	18.24	7.48	0.66	0.22	0.09	0.08	0.42	
25	0.54	0.85	1.06	0.64	52.16	19.92	7.00	0.66	0.20	0.08	0.08	0.29	
26	0.36	1.48	1.48	1.36	26.80	31.22	14.40	0.62	0.20	0.07	0.08	0.24	
27	0.24	1.66	3.01	1.15	21.36	48.38	28.40	0.60	0.20	0.07	0.08	0.21	
28	0.20	1.33	2.75	0.79	21.90	47.34	15.68	0.58	0.20	0.10	0.07	0.19	
29	0.19	1.98	2.14	0.64	25.60	40.24	11.18	0.56	0.19	0.10		0.18	
30	0.18	3.01	1.69	1.06	53.30	40.96	8.68	0.54	0.19	0.10		0.15	
31		1.69		0.82	53.00		7.12		0.18	0.11		0.14	
Total	8.38	19.94	52.24	37.25	562.05	1023.06	494.42	42.39	8.94	3.66	2.54	8.92	2263.79 CMSDAY
Mean	0.28	0.64	1.74	1.20	18.13	34.10	15.95	1.41	0.29	0.12	0.09	0.29	6.20 CMS
Max	1.27	3.01	5.80	3.08	98.20	87.80	48.90	5.10	0.52	0.17	0.15	1.21	98.20 CMS
Min	0.06	0.10	0.44	0.50	0.66	13.56	3.50	0.54	0.18	0.07	0.06	0.03	0.03 CMS
Runoff	0.724	1.723	4.514	3.218	48.561	88.392	42.718	3.662	0.772	0.316	0.219	0.771	195.591 MCM

Momentary Peak 103.20 CMS, at 40.30 M (MSL), at 6.00 Hours, on Aug 24, 1993

Runoff Yield 6.52 Liters/Second/Square KM, Momentary Peak Yield 108.52 Liters/Second/Square KM

WATER YEAR 1993

PRACHIN BURI RIVER BASIN

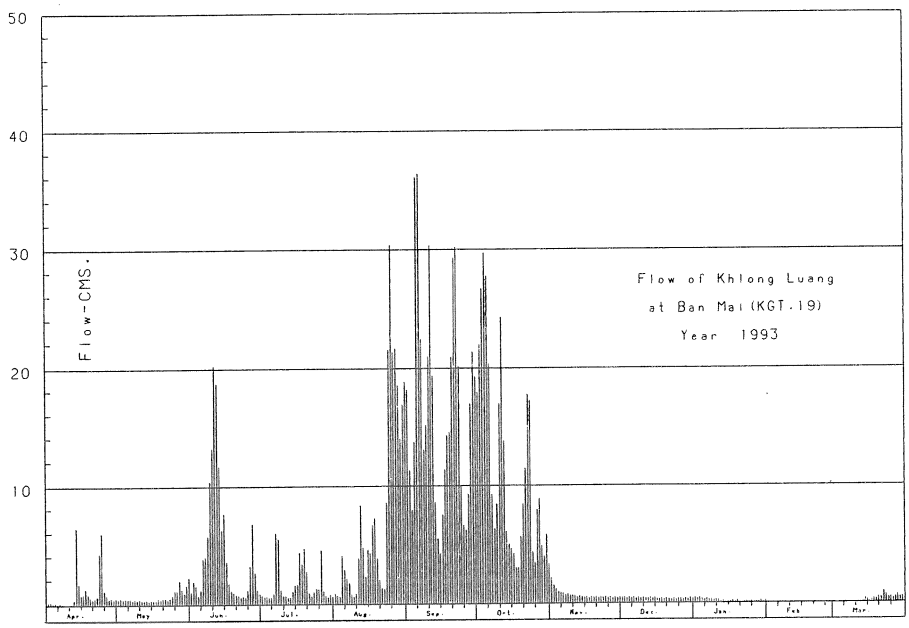
Khlong Luang at Ban Mai, Chon Buri (Kgt.19)

Location	Lat. 13°-23'-17" N., Long. 101°-20'-40" E., on left bank about 4 kilometers east of Khok Pho market and about 16 kilometers from Amphoe Phanat Nikhom, Chon Buri.
Drainage Area	535 sq.km.
Type of Gage	Water-stage recorder.
Zero Gage at Bottom	+20.12 m.(M.S.L.)
Bench Mark	B.M.-H.D.
Location	Beside the Meteorological station.
Elevation	+25.658 m. (M.S.L.)
Gage Reading Frequency	Recording.
Basis of Mean Daily Gage Height	Arithmetic mean of 24 readings.
Period of Available Gage Records	1965 to date.
Rating Operation	
Period of Rating	1965 - 1974, 1987 to date.
Rated by Float	-
Rated by Current Meter	1965 - 1974, 1987 to date.
Stability of Channel Regimes	Fairly stable.
Overbank Flow Conditions	Overbank flow starts at elevation +22.98 m.(M.S.L.), records are channel flow only.
General Description	Records good. Stage-discharge relation defined by 56 discharge measurements made in 1993.

Gage Height in Meter (MSL), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	20.82	21.05	21.30	21.20	21.27	23.69	23.67	21.55	21.09	21.01	20.65	20.50	
2	20.78	21.06	21.53	21.18	21.19	22.92	24.07	21.45	21.06	21.01	20.53	20.50	
3	20.75	21.05	21.44	21.16	21.18	22.50	24.51	21.36	21.04	21.00	20.52	20.50	
4	20.72	21.03	21.22	21.14	21.88	23.21	24.74	21.31	21.05	20.97	20.52	20.50	
5	20.70	21.04	21.38	21.12	21.69	25.12	24.60	21.28	21.05	20.94	20.52	20.50	
6	20.68	21.03	21.85	21.27	21.55	25.14	23.91	21.24	21.04	20.91	20.52	20.50	
7	20.66	21.00	21.86	22.20	21.50	24.12	22.65	21.21	21.02	20.89	20.52	20.50	
8	20.61	20.99	22.17	22.13	21.23	23.14	22.27	21.21	21.03	20.86	20.52	20.50	
9	20.58	20.99	22.81	21.35	21.17	23.37	22.55	21.20	21.02	20.86	20.52	20.48	
10	20.56	20.99	23.16	21.22	21.24	23.98	23.58	21.16	21.01	20.86	20.52	20.50	
11	20.56	20.97	23.90	21.18	21.85	24.78	24.31	21.15	21.04	20.80	20.52	20.56	
12	21.01	20.95	23.76	21.14	22.54	23.81	23.23	21.13	21.02	20.77	20.52	20.53	
13	22.29	20.93	22.96	21.12	21.99	22.57	22.21	21.13	21.02	20.75	20.52	20.52	
14	21.50	20.92	22.24	21.33	21.59	22.13	22.05	21.13	21.01	20.72	20.52	20.98	
15	21.24	20.90	22.45	21.45	21.98	21.90	21.97	21.09	21.00	20.70	20.52	20.80	
16	21.23	20.88	21.81	21.48	21.91	22.44	21.90	21.09	20.98	20.76	20.52	20.73	
17	21.38	20.96	21.48	21.92	22.32	22.93	21.71	21.07	20.96	20.76	20.52	20.83	
18	21.26	21.06	21.36	21.77	22.39	23.27	21.70	21.08	20.94	20.76	20.52	20.92	
19	21.13	21.05	21.27	21.98	21.85	23.31	22.15	21.10	20.94	20.76	20.52	20.92	
20	21.07	21.04	21.24	21.65	21.53	23.97	22.55	21.10	20.95	20.76	20.52	21.03	
21	21.05	21.04	21.20	21.29	21.39	24.71	22.93	21.08	20.95	20.72	20.52	21.07	
22	21.20	21.04	21.17	21.20	21.40	24.77	23.66	21.08	20.95	20.72	20.52	21.29	
23	21.93	21.07	21.16	21.29	22.58	23.90	23.60	21.09	20.94	20.71	20.52	21.16	
24	22.20	21.22	21.16	21.41	24.04	22.75	21.93	21.10	20.93	20.76	20.50	21.07	
25	21.36	21.36	21.35	21.37	24.79	22.30	21.78	21.09	20.91	20.76	20.50	21.02	
26	21.20	21.33	21.73	21.97	24.01	22.25	22.50	21.07	20.93	20.76	20.50	21.00	
27	21.10	21.54	22.34	21.34	24.05	22.67	22.61	21.06	20.94	20.76	20.50	21.09	
28	21.07	21.37	21.65	21.18	23.74	23.57	22.01	21.06	20.95	20.76	20.50	21.18	
29	21.06	21.29	21.35	21.16	23.24	24.02	21.87	21.05	20.96	20.76		21.08	
30	21.06	21.45	21.27	21.22	23.57	23.81	22.18	21.06	20.98	20.76		21.06	
31		21.57		21.14	23.76		21.75		21.00	20.76		20.97	
Mean	21.09	21.10	21.85	21.41	22.27	23.43	22.81	21.16	20.99	20.81	20.52	20.80	
Max	22.29	21.57	23.90	22.20	24.79	25.14	24.74	21.55	21.09	21.01	20.65	21.29	25.14
Min	20.56	20.88	21.16	21.12	21.17	21.90	21.70	21.05	20.91	20.70	20.50	20.48	20.48

Annual Max Momentary Gage Height 25.36 M (MSL), at 13.00 Hours, on Sep 5, 1993
Zero Gage at Bottom Elevation 20.12 M (MSL), River Bed 20.65 M (MSL)
Left Bank Elevation 22.97 M (MSL)
Right Bank Elevation 23.60 M (MSL), Drainage Area 535 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.22	0.45	1.00	0.70	0.91	18.10	17.90	2.10	0.49	0.41	0.05	0.00	
2	0.18	0.46	1.98	0.66	0.68	11.36	21.90	1.55	0.46	0.41	0.00	0.00	
3	0.15	0.45	1.50	0.62	0.66	8.00	26.63	1.18	0.44	0.40	0.00	0.00	
4	0.12	0.43	0.76	0.58	4.08	13.69	29.76	1.03	0.45	0.37	0.00	0.00	
5	0.10	0.44	1.24	0.54	2.94	36.08	27.80	0.94	0.45	0.34	0.00	0.00	
6	0.08	0.43	3.90	0.91	2.10	36.46	20.30	0.82	0.44	0.31	0.00	0.00	
7	0.06	0.40	3.96	6.00	1.80	22.40	9.20	0.73	0.42	0.29	0.00	0.00	
8	0.01	0.39	5.82	5.58	0.79	13.12	6.42	0.73	0.43	0.26	0.00	0.00	
9	0.00	0.39	10.48	1.15	0.64	15.13	8.40	0.70	0.42	0.26	0.00	0.00	
10	0.00	0.39	13.28	0.76	0.82	21.00	17.02	0.62	0.41	0.26	0.00	0.00	
11	0.00	0.37	20.20	0.66	3.90	30.32	24.31	0.60	0.44	0.20	0.00	0.00	
12	0.41	0.35	18.80	0.58	8.32	19.30	13.87	0.56	0.42	0.17	0.00	0.00	
13	6.54	0.33	11.68	0.54	4.74	8.56	6.06	0.56	0.42	0.15	0.00	0.00	
14	1.80	0.32	6.24	1.09	2.34	5.58	5.10	0.56	0.41	0.12	0.00	0.38	
15	0.82	0.30	7.65	1.55	4.68	4.20	4.62	0.49	0.40	0.10	0.00	0.20	
16	0.79	0.28	3.66	1.70	4.26	7.58	4.20	0.49	0.38	0.16	0.00	0.13	
17	1.24	0.36	1.70	4.32	6.74	11.44	3.06	0.47	0.36	0.16	0.00	0.23	
18	0.88	0.46	1.18	3.42	7.23	14.23	3.00	0.48	0.34	0.16	0.00	0.32	
19	0.56	0.45	0.91	4.68	3.90	14.59	5.70	0.50	0.34	0.16	0.00	0.32	
20	0.47	0.44	0.82	2.70	1.98	20.90	8.40	0.50	0.35	0.16	0.00	0.43	
21	0.45	0.44	0.70	0.97	1.27	29.34	11.44	0.48	0.35	0.12	0.00	0.47	
22	0.70	0.44	0.64	0.70	1.30	30.18	17.80	0.48	0.35	0.12	0.00	0.97	
23	4.38	0.47	0.62	0.97	8.64	20.20	17.20	0.49	0.34	0.11	0.00	0.62	
24	6.00	0.76	0.62	1.35	21.60	10.00	4.38	0.50	0.33	0.16	0.00	0.47	
25	1.18	1.18	1.15	1.21	30.46	6.60	3.48	0.49	0.31	0.16	0.00	0.42	
26	0.70	1.09	3.18	4.62	21.30	6.30	8.00	0.47	0.33	0.16	0.00	0.40	
27	0.50	2.04	6.88	1.12	21.70	9.36	8.88	0.46	0.34	0.16	0.00	0.49	
28	0.47	1.21	2.70	0.66	18.60	16.93	4.86	0.46	0.35	0.16	0.00	0.66	
29	0.46	0.97	1.15	0.62	13.96	21.40	4.02	0.45	0.36	0.16		0.48	
30	0.46	1.55	0.91	0.76	16.93	19.30	5.88	0.46	0.38	0.16		0.46	
31		2.22		0.58	18.80		3.30		0.40	0.16		0.37	
Total	29.73	20.26	135.31	52.30	238.07	501.65	352.89	20.35	12.11	6.48	0.05	7.82	1377.02 CMSDAY
Mean	0.99	0.65	4.51	1.69	7.68	16.72	11.38	0.68	0.39	0.21	0.00	0.25	3.77 CMS
Max	6.54	2.22	20.20	6.00	30.46	36.46	29.76	2.10	0.49	0.41	0.05	0.97	36.46 CMS
Min	0.00	0.28	0.62	0.54	0.64	4.20	3.00	0.45	0.31	0.10	0.00	0.00	0.00 CMS
Runoff	2.569	1.750	11.691	4.519	20.569	43.343	30.490	1.758	1.046	0.560	0.004	0.676	118.975 MCM

Momentary Peak 41.92 CMS, at 25.36 M (MSL), at 13.00 Hours, on Sep 5, 1993

Runoff Yield 7.05 Liters/Second/Square KM, Momentary Peak Yield 78.36 Liters/Second/Square KM

WATER YEAR 1993

PRACHIN BURI RIVER BASIN

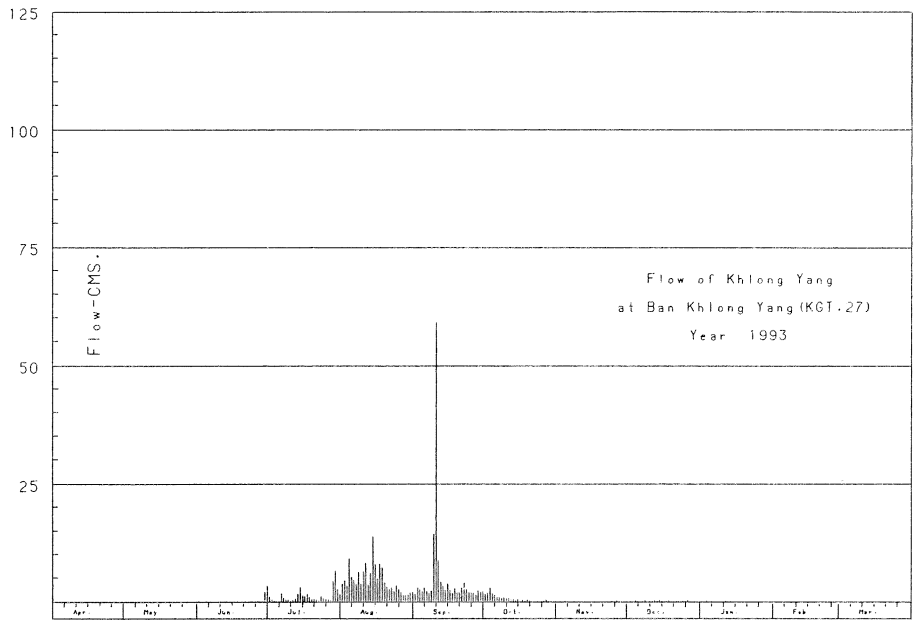
Khlong Yang at Ban Khlong Yang, Nakhon Nayok (Kgt.27)

Location	Lat. 14-12-02 N., Long. 101-22-05 E., on right bank at Ban Khlong Yang, Tambon Na Hin Lat, Amphoe Pak Phli, Nakhon Nayok.
Drainage Area	45 sq.km.
Type of Gage	Water-stage recorder.
Zero Gage at Bottom	+11.50 m.(M.S.L.)
Bench Mark	B.M.-H.D.
Location	On right bank on the top staff gage.
Elevation	+15.367 m.(M.S.L.)
Gage Reading Frequency	Recording.
Basis of Mean Daily Gage Height	Arithmetic mean of 24 readings.
Period of Available Gage Records	1982 to date.
Rating Operation	
Period of Rating	1983 to date.
Rated by Float	-
Rated by Current Meter	1983 to date.
Stability of Channel Regimes	Fairly stable.
Overbank Flow Conditions	Overbank flow starts at elevation + 15.07 m.(M.S.L.) and is included.
General Description	Records fair. Stage-discharge relation defined by 41 discharge measurements made in 1993.

Gage Height in Meter (MSL), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	11.50	11.50	11.54	12.13	12.59	12.29	12.25	11.87	11.91	11.92	11.68	11.58	
2	11.50	11.50	11.54	12.02	12.71	12.51	12.31	11.86	11.90	11.91	11.67	11.59	
3	11.50	11.50	11.54	11.91	12.57	12.42	12.51	11.85	11.90	11.90	11.66	11.60	
4	11.50	11.50	11.54	11.91	13.19	12.40	12.32	11.85	11.90	11.89	11.65	11.60	
5	11.50	11.50	11.54	11.88	12.81	12.48	12.22	11.85	11.91	11.89	11.64	11.60	
6	11.50	11.50	11.54	12.33	12.69	12.40	12.17	11.84	11.89	11.88	11.64	11.60	
7	11.50	11.50	11.54	12.08	12.61	12.30	12.12	11.84	11.91	11.88	11.64	11.60	
8	11.50	11.50	11.54	12.01	12.90	12.38	12.10	11.83	11.92	11.87	11.64	11.60	
9	11.50	11.50	11.54	11.95	12.59	13.63	12.10	11.83	11.92	11.87	11.64	11.59	
10	11.50	11.50	11.54	11.91	12.93	15.82	12.10	11.83	11.92	11.86	11.63	11.59	
11	11.50	11.50	11.54	11.90	13.10	13.15	12.06	11.83	11.93	11.86	11.62	11.58	
12	11.50	11.50	11.54	12.08	12.60	12.68	12.02	11.78	11.93	11.86	11.62	11.58	
13	11.50	11.50	11.54	12.27	12.87	12.53	11.98	11.72	11.93	11.86	11.61	11.58	
14	11.50	11.50	11.54	12.54	13.59	12.41	11.98	11.71	11.93	11.86	11.61	11.58	
15	11.50	11.50	11.54	12.24	13.10	12.63	11.98	11.78	11.93	11.83	11.60	11.57	
16	11.50	11.50	11.54	12.16	12.73	12.41	11.95	11.78	11.93	11.83	11.60	11.57	
17	11.50	11.50	11.57	12.32	13.08	12.33	11.93	11.78	11.93	11.81	11.59	11.60	
18	11.50	11.50	11.63	12.11	13.03	12.49	11.97	11.78	11.93	11.80	11.59	11.61	
19	11.50	11.50	11.67	12.03	12.65	12.32	11.95	11.77	11.93	11.79	11.58	11.62	
20	11.50	11.50	11.68	11.98	12.50	12.36	11.96	11.77	11.92	11.79	11.58	11.63	
21	11.50	11.50	11.68	11.97	12.46	12.48	11.93	11.77	11.92	11.79	11.57	11.64	
22	11.50	11.50	11.68	11.96	12.48	12.65	11.92	11.87	11.92	11.78	11.56	11.65	
23	11.50	11.50	11.73	12.20	12.39	12.43	11.91	11.89	11.91	11.77	11.55	11.65	
24	11.50	11.50	11.80	12.02	12.55	12.36	11.89	11.89	11.91	11.75	11.54	11.66	
25	11.50	11.50	11.79	11.97	12.46	12.34	11.91	11.88	11.91	11.73	11.54	11.67	
26	11.50	11.50	11.81	11.99	12.34	12.31	11.95	11.88	11.91	11.72	11.54	11.67	
27	11.50	11.50	11.81	11.96	12.25	12.26	11.94	11.88	11.90	11.71	11.55	11.67	
28	11.50	11.50	11.83	12.69	12.21	12.39	11.91	11.90	11.93	11.71	11.55	11.67	
29	11.50	11.50	12.38	12.93	12.27	12.37	11.94	11.91	11.93	11.71		11.69	
30	11.50	11.50	12.58	12.43	12.31	12.35	11.92	11.91	11.93	11.70		11.68	
31		11.50		12.29	12.34		11.89		11.93	11.69		11.67	
Mean	11.50	11.50	11.68	12.13	12.67	12.60	12.04	11.83	11.92	11.81	11.60	11.62	
Max	11.50	11.50	12.58	12.93	13.59	15.82	12.51	11.91	11.93	11.92	11.68	11.69	15.82
Min	11.50	11.50	11.54	11.88	12.21	12.26	11.89	11.71	11.89	11.69	11.54	11.57	11.50

Annual Max Momentary Gage Height 17.89 M (MSL), at 5.00 Hours, on Sep 10, 1993
Zero Gage at Bottom Elevation 11.50 M (MSL), River Bed 11.00 M (MSL)
Left Bank Elevation 16.09 M (MSL)
Right Bank Elevation 15.06 M (MSL), Drainage Area 45 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.00	0.00	0.00	1.02	3.73	1.75	1.55	0.24	0.33	0.36	0.00	0.00	
2	0.00	0.00	0.00	0.66	4.68	3.17	1.86	0.22	0.30	0.33	0.00	0.00	
3	0.00	0.00	0.00	0.33	3.59	2.54	3.17	0.20	0.30	0.30	0.00	0.00	
4	0.00	0.00	0.00	0.33	9.19	2.40	1.92	0.20	0.30	0.28	0.00	0.00	
5	0.00	0.00	0.00	0.26	5.49	2.96	1.40	0.20	0.33	0.28	0.00	0.00	
6	0.00	0.00	0.00	1.98	4.52	2.40	1.18	0.18	0.28	0.26	0.00	0.00	
7	0.00	0.00	0.00	0.84	3.88	1.80	0.98	0.18	0.33	0.26	0.00	0.00	
8	0.00	0.00	0.00	0.63	6.30	2.28	0.90	0.16	0.36	0.24	0.00	0.00	
9	0.00	0.00	0.00	0.45	3.73	14.62	0.90	0.16	0.36	0.24	0.00	0.00	
10	0.00	0.00	0.00	0.33	6.57	59.44	0.90	0.16	0.36	0.22	0.00	0.00	
11	0.00	0.00	0.00	0.30	8.20	8.75	0.78	0.16	0.39	0.22	0.00	0.00	
12	0.00	0.00	0.00	0.84	3.80	4.44	0.66	0.08	0.39	0.22	0.00	0.00	
13	0.00	0.00	0.00	1.65	6.03	3.31	0.54	0.02	0.39	0.22	0.00	0.00	
14	0.00	0.00	0.00	3.38	14.07	2.47	0.54	0.01	0.39	0.22	0.00	0.00	
15	0.00	0.00	0.00	1.50	8.20	4.04	0.54	0.08	0.39	0.16	0.00	0.00	
16	0.00	0.00	0.00	1.14	4.84	2.47	0.45	0.08	0.39	0.16	0.00	0.00	
17	0.00	0.00	0.00	1.92	8.00	1.98	0.39	0.08	0.39	0.12	0.00	0.00	
18	0.00	0.00	0.00	0.94	7.50	3.03	0.51	0.08	0.39	0.10	0.00	0.00	
19	0.00	0.00	0.00	0.69	4.20	1.92	0.45	0.07	0.39	0.09	0.00	0.00	
20	0.00	0.00	0.00	0.54	3.10	2.16	0.48	0.07	0.36	0.09	0.00	0.00	
21	0.00	0.00	0.00	0.51	2.82	2.96	0.39	0.07	0.36	0.09	0.00	0.00	
22	0.00	0.00	0.00	0.48	2.96	4.20	0.36	0.24	0.36	0.08	0.00	0.00	
23	0.00	0.00	0.03	1.30	2.34	2.61	0.33	0.28	0.33	0.07	0.00	0.00	
24	0.00	0.00	0.10	0.66	3.45	2.16	0.28	0.28	0.33	0.05	0.00	0.00	
25	0.00	0.00	0.09	0.51	2.82	2.04	0.33	0.26	0.33	0.03	0.00	0.00	
26	0.00	0.00	0.12	0.57	2.04	1.86	0.45	0.26	0.33	0.02	0.00	0.00	
27	0.00	0.00	0.12	0.48	1.55	1.60	0.42	0.26	0.30	0.01	0.00	0.00	
28	0.00	0.00	0.16	4.52	1.35	2.34	0.33	0.30	0.39	0.01	0.00	0.00	
29	0.00	0.00	2.28	6.57	1.65	2.22	0.42	0.33	0.39	0.01		0.00	
30	0.00	0.00	3.66	2.61	1.86	2.10	0.36	0.33	0.39	0.00		0.00	
31		0.00		1.75	2.04		0.28		0.39	0.00		0.00	
Total	0.00	0.00	6.56	39.69	144.50	152.02	24.05	5.24	11.02	4.74	0.00	0.00	387.82 CMSDAY
Mean	0.00	0.00	0.22	1.28	4.66	5.07	0.78	0.17	0.36	0.15	0.00	0.00	1.06 CMS
Max	0.00	0.00	3.66	6.57	14.07	59.44	3.17	0.33	0.39	0.36	0.00	0.00	59.44 CMS
Min	0.00	0.00	0.00	0.26	1.35	1.60	0.28	0.01	0.28	0.00	0.00	0.00	0.00 CMS
Runoff	0.000	0.000	0.567	3.429	12.485	13.135	2.078	0.453	0.952	0.410	0.000	0.000	33.508 MCM

Momentary Peak 126.33 CMS, at 17.89 M (MSL), at 5.00 Hours, on Sep 10, 1993

Runoff Yield 23.61 Liters/Second/Square KM, Momentary Peak Yield 2807.33 Liters/Second/Square KM

WATER YEAR 1993

PRACHIN BURI RIVER BASIN

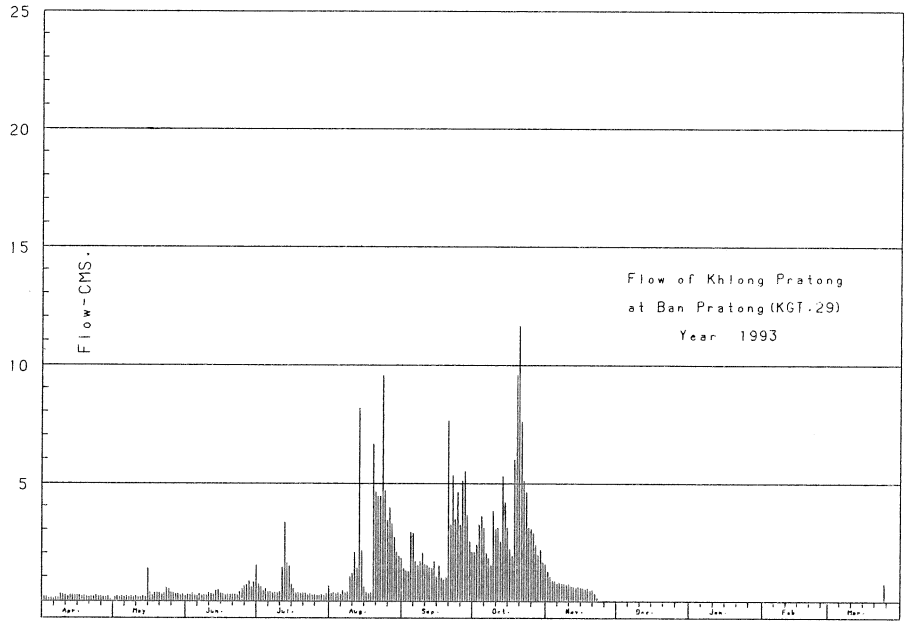
Khlong Pratong at Ban Pratong, Chanthaburi (Kgt.29)

Location	Lat. 13-07-04 N., Long. 102-13-22 E., on right bank at the bridge of Chanthaburi-Sa Kaeo Highway, Ban Pratong, Amphoe Pong Nam Ron, Chanthaburi.
Drainage Area	52 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+0.00 m.(A.D.)
Bench Mark	B.M.-H.D.
Location	On right bank about 80 meters from the top staff gage.
Elevation	+4.660 m.(A.D.)
Gage Reading Frequency	5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1986 to date.
Rating Operation	
Period of Rating	1986 to date.
Rated by Float	-
Rated by Current Meter	1986 to date.
Stability of Channel Regimes	Rather unstable because of backwater effect.
Overbank Flow Conditions	No overbank flow.
General Description	Records poor. Stage-discharge relation defined by 28 discharge measurements made in 1993.

Gage Height in Meter (A.D), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.22	0.21	0.27	0.49	0.37	0.24	0.29	0.23	-0.01	-0.09	-0.40	-0.43	
2	0.19	0.21	0.31	0.45	0.37	0.23	0.31	0.21	-0.01	-0.06	-0.40	-0.42	
3	0.15	0.21	0.34	0.42	0.35	0.23	0.36	0.20	-0.01	-0.05	-0.40	-0.42	
4	0.13	0.21	0.28	0.43	0.35	0.34	0.38	0.19	-0.01	-0.10	-0.40	-0.42	
5	0.14	0.21	0.27	0.41	0.33	0.34	0.35	0.18	-0.01	-0.11	-0.40	-0.45	
6	0.15	0.21	0.30	0.39	0.41	0.26	0.29	0.18	-0.02	-0.10	-0.41	-0.45	
7	0.18	0.21	0.27	0.38	0.38	0.25	0.27	0.18	-0.02	-0.09	-0.41	-0.46	
8	0.36	0.21	0.26	0.36	0.39	0.26	0.25	0.17	-0.02	-0.08	-0.40	-0.47	
9	0.28	0.21	0.28	0.37	0.53	0.29	0.39	0.17	-0.02	-0.10	-0.38	-0.48	
10	0.25	0.21	0.35	0.39	0.54	0.25	0.35	0.17	-0.02	-0.10	-0.37	-0.49	
11	0.23	0.21	0.31	0.57	0.63	0.25	0.35	0.16	-0.03	-0.08	-0.38	-0.47	
12	0.30	0.21	0.32	0.73	0.57	0.24	0.32	0.15	-0.03	-0.09	-0.39	-0.45	
13	0.26	0.21	0.41	0.59	0.96	0.24	0.46	0.15	-0.03	-0.05	-0.39	-0.34	
14	0.27	0.21	0.43	0.58	0.64	0.26	0.41	0.15	-0.04	-0.04	-0.25	-0.46	
15	0.25	0.57	0.37	0.49	0.45	0.21	0.35	0.15	-0.04	-0.26	-0.29	-0.41	
16	0.24	0.37	0.31	0.43	0.37	0.25	0.30	0.14	-0.04	-0.31	-0.35	-0.38	
17	0.23	0.29	0.29	0.37	0.36	0.21	0.28	0.14	-0.04	-0.35	-0.34	-0.36	
18	0.23	0.34	0.28	0.35	0.35	0.20	0.49	0.14	-0.05	-0.36	-0.32	-0.44	
19	0.23	0.40	0.32	0.35	0.52	0.21	0.64	0.13	-0.05	-0.37	-0.33	-0.31	
20	0.21	0.35	0.29	0.34	0.43	0.56	0.72	0.13	-0.02	-0.37	-0.35	-0.26	
21	0.20	0.31	0.28	0.34	0.42	0.36	0.56	0.11	0.02	-0.37	-0.38	-0.25	
22	0.24	0.34	0.29	0.30	0.42	0.46	0.45	0.06	0.02	-0.37	-0.39	-0.26	
23	0.24	0.44	0.39	0.30	0.64	0.37	0.43	0.01	0.01	-0.38	-0.39	-0.23	
24	0.24	0.44	0.44	0.29	0.43	0.43	0.35	0.01	0.01	-0.38	-0.40	0.18	
25	0.20	0.36	0.46	0.28	0.37	0.36	0.35	0.01	0.01	-0.38	-0.40	-0.27	
26	0.17	0.35	0.47	0.28	0.40	0.45	0.34	0.01	-0.01	-0.38	-0.40	-0.28	
27	0.21	0.34	0.51	0.27	0.36	0.47	0.31	0.00	-0.02	-0.39	-0.42	-0.29	
28	0.20	0.31	0.46	0.27	0.33	0.38	0.28	0.00	-0.02	-0.40	-0.43	-0.30	
29	0.12	0.29	0.50	0.28	0.29	0.32	0.30	0.00	-0.03	-0.40		-0.34	
30	0.02	0.30	0.58	0.32	0.28	0.29	0.26	0.00	-0.12	-0.40		-0.36	
31		0.27		0.46	0.27		0.25		-0.14	-0.40		-0.37	
Mean	0.21	0.29	0.35	0.40	0.44	0.31	0.37	0.12	-0.03	-0.24	-0.38	-0.36	
Max	0.36	0.57	0.58	0.73	0.96	0.56	0.72	0.23	0.02	-0.04	-0.25	0.18	0.96
Min	0.02	0.21	0.26	0.27	0.27	0.20	0.25	0.00	-0.14	-0.40	-0.43	-0.49	-0.49

Annual Max Momentary Gage Height 1.60 M (A.D), at 18.00 Hours, on Aug 13, 1993
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed -0.86 M (A.D)
Left Bank Elevation 4.71 M (A.D)
Right Bank Elevation 4.67 M (A.D), Drainage Area 52 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.22	0.21	0.27	0.76	0.37	1.42	2.07	1.29	0.00	0.00	0.00	0.00	
2	0.19	0.21	0.31	0.60	0.37	1.29	2.38	1.03	0.00	0.00	0.00	0.00	
3	0.15	0.21	0.34	0.48	0.35	1.29	3.28	0.90	0.00	0.00	0.00	0.00	
4	0.13	0.21	0.28	0.52	0.35	2.92	3.64	0.84	0.00	0.00	0.00	0.00	
5	0.14	0.21	0.27	0.44	0.33	2.92	3.10	0.78	0.00	0.00	0.00	0.00	
6	0.15	0.21	0.30	0.39	0.44	1.68	2.07	0.78	0.00	0.00	0.00	0.00	
7	0.18	0.21	0.27	0.38	0.38	1.55	1.81	0.78	0.00	0.00	0.00	0.00	
8	0.36	0.21	0.26	0.36	0.39	1.68	1.55	0.72	0.00	0.00	0.00	0.00	
9	0.28	0.21	0.28	0.37	1.07	2.07	3.82	0.72	0.00	0.00	0.00	0.00	
10	0.25	0.21	0.35	0.39	1.16	1.55	3.10	0.72	0.00	0.00	0.00	0.00	
11	0.23	0.21	0.31	1.43	2.06	1.55	3.10	0.66	0.00	0.00	0.00	0.00	
12	0.30	0.21	0.32	3.38	1.43	1.42	2.56	0.60	0.00	0.00	0.00	0.00	
13	0.26	0.21	0.44	1.61	8.16	1.42	5.32	0.60	0.00	0.00	0.00	0.00	
14	0.27	0.21	0.52	1.52	2.18	1.68	4.22	0.60	0.00	0.00	0.00	0.00	
15	0.25	1.43	0.37	0.76	0.60	1.03	3.10	0.60	0.00	0.00	0.00	0.00	
16	0.24	0.37	0.31	0.52	0.37	1.55	2.20	0.54	0.00	0.00	0.00	0.00	
17	0.23	0.29	0.29	0.37	0.36	1.03	1.94	0.54	0.00	0.00	0.00	0.00	
18	0.23	0.34	0.28	0.35	0.35	0.90	5.98	0.54	0.00	0.00	0.00	0.00	
19	0.23	0.40	0.32	0.35	6.68	1.03	9.60	0.48	0.00	0.00	0.00	0.00	
20	0.21	0.35	0.29	0.34	4.66	7.64	11.64	0.48	0.00	0.00	0.00	0.00	
21	0.20	0.31	0.28	0.34	4.44	3.28	7.64	0.36	0.06	0.00	0.00	0.00	
22	0.24	0.34	0.29	0.30	4.44	5.32	5.10	0.18	0.06	0.00	0.00	0.00	
23	0.24	0.56	0.39	0.30	9.60	3.46	4.66	0.03	0.03	0.00	0.00	0.00	
24	0.24	0.56	0.56	0.29	4.66	4.66	3.10	0.03	0.03	0.00	0.00	0.78	
25	0.20	0.36	0.64	0.28	3.46	3.28	3.10	0.03	0.03	0.00	0.00	0.00	
26	0.17	0.35	0.68	0.28	4.00	5.10	2.92	0.03	0.00	0.00	0.00	0.00	
27	0.21	0.34	0.89	0.27	3.28	5.54	2.38	0.00	0.00	0.00	0.00	0.00	
28	0.20	0.31	0.64	0.27	2.74	3.64	1.94	0.00	0.00	0.00	0.00	0.00	
29	0.12	0.29	0.80	0.28	2.07	2.56	2.20	0.00	0.00	0.00		0.00	
30	0.02	0.30	1.52	0.32	1.94	2.07	1.68	0.00	0.00	0.00		0.00	
31		0.27		0.64	1.81		1.55		0.00	0.00		0.00	
Total	6.34	10.11	13.07	18.89	74.50	76.53	112.75	14.86	0.21	0.00	0.00	0.78	328.04 CMSDAY
Mean	0.21	0.33	0.44	0.61	2.40	2.55	3.64	0.50	0.01	0.00	0.00	0.03	0.90 CMS
Max	0.36	1.43	1.52	3.38	9.60	7.64	11.64	1.29	0.06	0.00	0.00	0.78	11.64 CMS
Min	0.02	0.21	0.26	0.27	0.33	0.90	1.55	0.00	0.00	0.00	0.00	0.00	0.00 CMS
Runoff	0.548	0.874	1.129	1.632	6.437	6.612	9.742	1.284	0.018	0.000	0.000	0.067	28.343 MCM

Momentary Peak 36.50 CMS, at 1.60 M (A.D), at 18.00 Hours, on Aug 13, 1993

Runoff Yield 17.28 Liters/Second/Square KM, Momentary Peak Yield 701.92 Liters/Second/Square KM

WATER YEAR 1993

EAST COAST-GULF BASIN

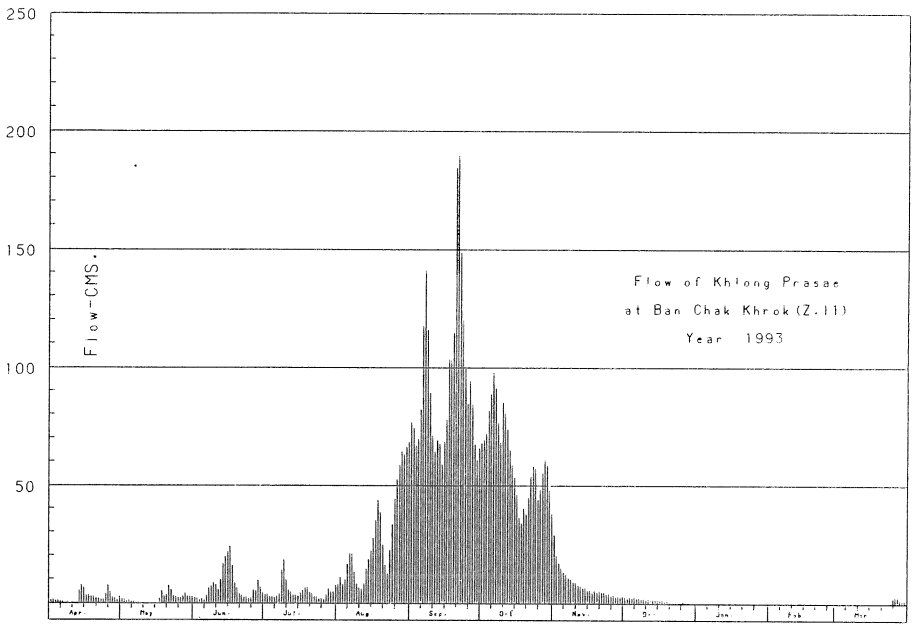
Khlong Frasae at Ban Chak Khrok, Rayong (Z.11)

Location	Lat. 12-51-20 N., Long. 101-37-10 E., on left bank near Khao Wang Sai at Ban Chak Khrok,Tambon Wang Ka Mo, Amphoe Klaeng, Rayong.
Drainage Area	1,280 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+2.63 m.(M.S.L.)
Bench Mark	B.M.-H.D.
Location	On right bank near the Meteorological Station.
Elevation	+13.420 m.(M.S.L.)
Gage Reading Frequency	5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1965-1974, 1989 to date.
Rating Operation	
Period of Rating	1989 to date.
Rated by Float	-
Rated by Current Meter	1989 to date
Stability of Channel Regimes	Stable.
Overbank Flow Conditions	Overbank flow starts at elevation + 7.95 m.(M.S.L.), records are channel flow only.
General Description	Records good. Stage-discharge relation defined by 82 discharge measurements made in 1993.

Gage Height in Meter (MSL), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	3.06	3.13	3.23	3.42	3.90	8.09	7.88	5.79	3.21	2.85	2.70	2.71	
2	3.02	3.03	3.12	3.39	4.20	8.05	7.93	5.03	3.17	2.84	2.69	2.70	
3	3.00	2.98	3.07	3.30	3.93	7.86	7.99	4.80	3.19	2.83	2.69	2.69	
4	2.98	2.96	3.07	3.23	4.14	7.93	8.19	4.58	3.20	2.83	2.69	2.69	
5	2.97	2.92	3.06	3.24	4.76	8.20	8.30	4.45	3.22	2.83	2.68	2.68	
6	2.89	2.89	3.37	3.26	5.14	8.58	8.40	4.32	3.18	2.81	2.67	2.68	
7	2.92	2.86	3.72	3.47	5.09	8.73	8.33	4.22	3.15	2.79	2.68	2.68	
8	2.89	2.87	3.87	4.54	4.43	8.57	8.09	4.12	3.12	2.77	2.68	2.68	
9	2.87	2.82	3.96	4.87	3.96	8.31	7.89	4.04	3.10	2.75	2.68	2.68	
10	2.86	2.80	3.88	4.09	3.74	7.97	8.25	3.98	3.07	2.73	2.68	2.68	
11	2.85	2.83	3.69	3.67	3.68	7.76	8.16	3.91	3.07	2.72	2.69	2.68	
12	2.86	2.83	4.09	3.52	3.97	7.93	8.04	3.82	3.05	2.72	2.69	2.68	
13	3.64	2.83	4.78	3.40	4.60	7.87	7.80	3.77	3.04	2.71	2.68	2.68	
14	3.86	2.79	4.98	3.34	4.89	7.57	7.54	3.73	3.07	2.70	2.68	2.68	
15	3.75	2.80	5.19	3.33	5.23	7.91	7.33	3.66	3.01	2.69	2.69	2.74	
16	3.37	2.83	5.35	3.52	5.64	8.11	6.94	3.63	3.01	2.68	2.70	2.76	
17	3.35	3.16	4.71	3.60	6.29	8.46	6.33	3.53	3.00	2.72	2.74	2.73	
18	3.31	3.57	4.00	3.79	6.80	8.45	6.19	3.58	2.96	2.72	2.75	2.81	
19	3.22	3.27	3.72	3.75	6.48	8.56	6.58	3.55	2.95	2.71	2.75	2.80	
20	3.17	3.41	3.46	3.56	5.44	8.93	6.45	3.58	2.94	2.71	2.76	2.80	
21	3.09	3.84	3.32	3.42	4.69	8.95	6.90	3.56	2.91	2.71	2.75	2.81	
22	3.10	3.69	3.25	3.30	4.40	8.77	7.33	3.51	2.91	2.70	2.74	2.81	
23	3.02	3.35	3.19	3.22	5.22	8.60	7.54	3.45	2.90	2.70	2.74	2.84	
24	3.45	3.23	3.15	3.16	6.17	8.42	7.48	3.43	2.89	2.70	2.74	2.95	
25	3.90	3.22	3.13	3.11	6.87	8.24	6.84	3.35	2.88	2.70	2.74	3.21	
26	3.53	3.17	3.61	3.09	7.27	8.36	7.06	3.35	2.89	2.75	2.74	3.23	
27	3.24	3.33	3.63	3.42	7.56	8.23	7.42	3.29	2.88	2.75	2.73	3.26	
28	3.13	3.45	4.11	3.69	7.76	7.88	7.64	3.26	2.83	2.70	2.72	3.00	
29	3.06	3.33	3.76	3.52	7.72	7.65	7.56	3.25	2.86	2.69		2.99	
30	3.24	3.24	3.48	3.59	7.84	7.81	7.05	3.27	2.85	2.69		2.99	
31		3.23		3.91	7.90		6.44		2.83	2.68		2.98	
Mean	3.19	3.12	3.77	3.54	5.47	8.23	7.48	3.86	3.01	2.74	2.71	2.82	
Max	3.90	3.84	5.35	4.87	7.90	8.95	8.40	5.79	3.22	2.85	2.76	3.26	8.95
Min	2.85	2.79	3.06	3.09	3.68	7.57	6.19	3.25	2.83	2.68	2.67	2.68	2.67

Annual Max Momentary Gage Height 9.03 M (MSL), at 16.00 Hours, on Sep 20, 1993
Zero Gage at Bottom Elevation 2.63 M (MSL), River Bed 2.06 M (MSL)
Left Bank Elevation 8.67 M (MSL)
Right Bank Elevation 7.94 M (MSL), Drainage Area 1280 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	1.76	2.18	2.78	4.04	8.00	76.88	67.90	29.38	2.66	0.55	0.00	0.03	
2	1.52	1.58	2.12	3.83	11.00	74.80	69.61	20.26	2.42	0.50	0.00	0.00	
3	1.40	1.28	1.82	3.20	8.30	67.30	71.83	17.50	2.54	0.45	0.00	0.00	
4	1.28	1.16	1.82	2.78	10.40	69.61	82.17	14.88	2.60	0.45	0.00	0.00	
5	1.22	0.92	1.76	2.84	17.02	82.70	88.70	13.50	2.72	0.45	0.00	0.00	
6	0.75	0.75	3.69	2.96	21.58	117.56	98.00	12.20	2.48	0.35	0.00	0.00	
7	0.92	0.60	6.38	4.39	20.98	141.00	91.49	11.20	2.30	0.27	0.00	0.00	
8	0.75	0.65	7.73	14.44	13.30	116.34	76.88	10.20	2.12	0.21	0.00	0.00	
9	0.65	0.40	8.60	18.34	8.60	89.63	68.20	9.40	2.00	0.15	0.00	0.00	
10	0.60	0.30	7.82	9.90	6.56	71.09	85.70	8.80	1.82	0.09	0.00	0.00	
11	0.55	0.45	6.12	5.96	6.04	64.34	80.58	8.10	1.82	0.06	0.00	0.00	
12	0.60	0.45	9.90	4.76	8.70	69.61	74.28	7.28	1.70	0.06	0.00	0.00	
13	5.72	0.45	17.26	3.90	15.10	67.60	65.50	6.83	1.64	0.03	0.00	0.00	
14	7.64	0.27	19.66	3.48	18.58	59.28	58.56	6.47	1.82	0.00	0.00	0.00	
15	6.65	0.30	22.18	3.41	22.66	68.87	53.83	5.88	1.46	0.00	0.00	0.12	
16	3.69	0.45	24.10	4.76	27.58	77.93	45.98	5.64	1.46	0.00	0.00	0.18	
17	3.55	2.36	16.42	5.40	35.66	103.88	36.25	4.84	1.40	0.06	0.12	0.09	
18	3.27	5.16	9.00	7.01	43.70	102.90	34.27	5.24	1.16	0.06	0.15	0.35	
19	2.72	3.02	6.38	6.65	38.58	115.12	40.18	5.00	1.10	0.03	0.15	0.30	
20	2.42	3.97	4.32	5.08	25.18	184.90	38.10	5.24	1.04	0.03	0.18	0.30	
21	1.94	7.46	3.34	4.04	16.18	189.50	45.30	5.08	0.86	0.03	0.15	0.35	
22	2.00	6.12	2.90	3.20	13.00	149.00	53.83	4.68	0.86	0.00	0.12	0.35	
23	1.52	3.55	2.54	2.72	22.54	120.00	58.56	4.25	0.80	0.00	0.12	0.50	
24	4.25	2.78	2.30	2.36	34.01	99.96	57.14	4.11	0.75	0.00	0.12	1.10	
25	8.00	2.72	2.18	2.06	44.82	85.10	44.34	3.55	0.70	0.00	0.12	2.66	
26	4.84	2.42	5.48	1.94	52.57	94.28	48.20	3.55	0.75	0.15	0.12	2.78	
27	2.84	3.41	5.64	4.04	59.04	84.50	55.76	3.14	0.70	0.15	0.09	2.96	
28	2.18	4.25	10.10	6.12	64.34	67.90	61.04	2.96	0.45	0.00	0.06	1.40	
29	1.76	3.41	6.74	4.76	63.18	61.30	59.04	2.90	0.60	0.00		1.34	
30	2.84	2.84	4.46	5.32	66.70	65.80	48.00	3.02	0.55	0.00		1.34	
31		2.78		8.10	68.50		37.94		0.45	0.00		1.28	
Total	79.83	68.44	225.54	161.79	872.40	2838.68	1897.16	245.08	45.73	4.13	1.50	17.43	6457.71 CMSDAY
Mean	2.66	2.21	7.52	5.22	28.14	94.62	61.20	8.17	1.48	0.13	0.05	0.56	17.69 CMS
Max	8.00	7.46	24.10	18.34	68.50	189.50	98.00	29.38	2.72	0.55	0.18	2.96	189.50 CMS
Min	0.55	0.27	1.76	1.94	6.04	59.28	34.27	2.90	0.45	0.00	0.00	0.00	0.00 CMS
Runoff	6.897	5.913	19.487	13.979	75.375	245.262	163.915	21.175	3.951	0.357	0.130	1.506	557.946 MCM

Momentary Peak 208.80 CMS, at 9.03 M (MSL), at 16.00 Hours, on Sep 20, 1993
Runoff Yield 13.82 Liters/Second/Square KM, Momentary Peak Yield 163.12 Liters/Second/Square KM

WATER YEAR 1993

EAST COAST-GULF BASIN

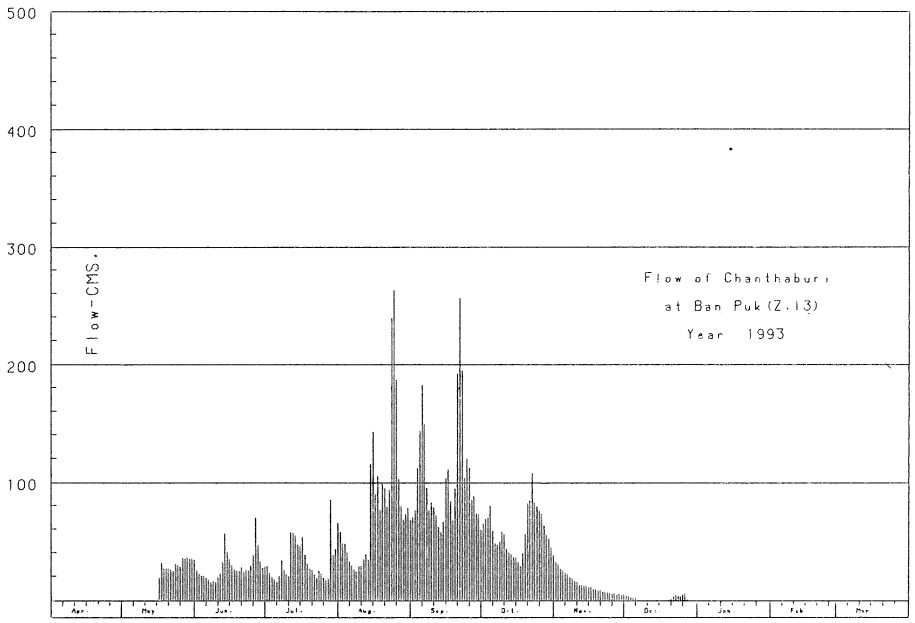
Chanthaburi River at Ban Puk, Chanthaburi (Z.13)

Location	Lat. 12°-45'-40" N., Long. 102°-18'-35" E., on left bank infront of Wat Ban Puk, Amphoe Makham, Chanthaburi.
Drainage Area	671 sq.km.
Type of Gage	Water-stage recorder.
Zero Gage at Bottom	+6.30 m.(M.S.L.)
Bench Mark	B.M.-H.D.
Location	On left bank about 20 meters from the top staff gage.
Elevation	+14.374 m.(M.S.L.)
Gage Reading Frequency	Recording.
Basis of Mean Daily Gage Height	Arithmetic mean of 24 readings.
Period of Available Gage Records	1968 to date.
Rating Operation	
Period of Rating	1973 to date.
Rated by Float	-
Rated by Current Meter	1973 to date.
Stability of Channel Regimes	Fairly stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records fair. Stage-discharge relation defined by 32 discharge measurements made in 1993.

Gage Height in Meter (MSL), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	6.76	7.64	7.61	7.69	8.47	8.73	8.61	7.82	6.74	8.05	8.41	7.71	
2	6.70	7.59	7.49	7.51	8.22	8.88	8.70	7.74	6.71	8.11	8.38	7.67	
3	6.66	7.56	7.46	7.41	8.23	9.66	8.75	7.65	6.67	8.48	8.37	7.63	
4	6.63	7.47	7.42	7.32	8.02	10.34	8.95	7.58	6.62	8.55	8.35	7.57	
5	6.60	7.44	7.39	7.27	7.83	11.11	8.49	7.53	6.63	8.54	8.32	7.51	
6	6.56	7.38	7.32	7.42	7.70	10.43	8.24	7.47	6.62	8.54	8.26	7.47	
7	6.52	7.36	7.25	7.86	7.63	9.31	8.19	7.41	6.60	8.53	8.21	7.43	
8	6.49	7.36	7.27	7.61	7.54	8.86	8.28	7.35	6.46	8.50	8.17	7.38	
9	6.47	7.35	7.27	7.47	7.71	9.01	8.46	7.31	6.53	8.48	8.12	7.34	
10	6.43	7.32	7.40	7.44	7.69	8.94	8.41	7.25	6.51	8.46	8.11	7.31	
11	6.40	7.24	7.49	8.44	7.88	8.77	8.13	7.20	6.56	8.46	8.10	7.27	
12	6.39	7.16	7.81	8.45	7.98	8.56	8.04	7.16	6.55	8.47	8.09	7.23	
13	6.40	7.07	8.42	8.38	7.87	8.46	7.98	7.15	6.52	8.50	8.07	7.20	
14	6.40	7.00	8.06	8.21	9.74	8.65	7.94	7.13	6.52	8.50	8.04	7.18	
15	6.38	7.04	7.86	8.16	10.32	9.49	7.91	7.09	6.38	8.52	8.02	7.18	
16	6.34	7.40	7.71	8.35	9.17	9.64	7.79	7.07	6.50	8.55	8.10	7.16	
17	6.78	7.80	7.62	7.99	9.53	9.05	7.72	7.02	6.45	8.58	8.19	7.14	
18	6.73	7.63	7.57	7.75	8.89	8.67	8.00	6.97	6.38	8.60	8.22	7.17	
19	6.71	7.66	7.59	7.65	9.36	9.28	8.43	6.96	6.57	8.60	8.18	7.23	
20	6.65	7.63	7.66	7.58	9.30	11.28	9.02	6.95	6.53	8.60	8.14	7.22	
21	6.59	7.60	7.55	7.46	8.93	12.51	9.05	6.91	6.71	8.60	8.09	7.30	
22	6.60	7.59	7.58	7.39	9.25	11.35	9.59	6.88	6.73	8.60	8.04	7.29	
23	6.62	7.77	7.60	7.59	12.20	9.50	9.01	6.87	6.75	8.58	7.98	7.30	
24	6.62	7.71	7.70	7.49	12.63	9.84	8.96	6.82	6.77	8.57	7.92	7.39	
25	6.64	7.67	7.99	7.38	11.18	9.69	8.88	6.81	6.79	8.55	7.88	7.63	
26	6.61	7.92	8.75	7.29	9.48	9.09	8.80	6.80	6.80	8.54	7.84	7.84	
27	6.88	7.90	8.20	7.37	8.96	9.13	8.59	6.78	6.60	8.51	7.80	8.00	
28	7.82	7.91	7.81	9.07	8.71	8.82	8.40	6.78	6.31	8.50	7.76	8.13	
29	7.74	7.90	7.67	7.99	8.80	8.79	8.34	6.78	6.42	8.47		8.21	
30	7.65	7.88	7.67	8.10	8.91	8.51	8.13	6.76	7.49	8.45		8.58	
31		7.85		8.63	8.70		7.97		8.03	8.43		8.34	
Mean	6.69	7.54	7.67	7.80	8.93	9.48	8.44	7.13	6.66	8.50	8.11	7.52	
Max	7.82	7.92	8.75	9.07	12.63	12.51	9.59	7.82	8.03	8.60	8.41	8.58	12.63
Min	6.34	7.00	7.25	7.27	7.54	8.46	7.72	6.76	6.31	8.05	7.76	7.14	6.31

Annual Max Momentary Gage Height 12.74 M (MSL), at 1.00 Hours, on Sep 22, 1993
Zero Gage at Bottom Elevation 6.30 M (MSL), River Bed 5.18 M (MSL)
Left Bank Elevation 14.36 M (MSL)
Right Bank Elevation 13.84 M (MSL), Drainage Area 671 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual	
1	0.00	0.00	26.32	28.88	58.68	70.15	64.84	33.28	4.80	0.00	0.00	0.00		
2	0.00	0.00	22.70	23.30	48.22	76.88	68.80	30.56	4.20	0.00	0.00	0.00		
3	0.00	0.00	21.80	20.30	48.63	111.90	71.05	27.60	3.40	0.00	0.00	0.00		
4	0.00	0.00	20.60	17.60	40.44	144.80	80.02	25.40	2.40	0.00	0.00	0.00		
5	0.00	0.00	19.70	16.10	33.62	183.51	59.56	23.90	2.60	0.00	0.00	0.00		
6	0.00	0.00	17.60	20.60	29.20	149.30	49.04	22.10	2.40	0.00	0.00	0.00		
7	0.00	0.00	15.50	34.64	26.96	96.19	47.00	20.30	2.00	0.00	0.00	0.00		
8	0.00	0.00	16.10	26.32	24.20	75.98	50.68	18.50	0.60	0.00	0.00	0.00		
9	0.00	0.00	16.10	22.10	29.54	82.72	58.24	17.30	1.30	0.00	0.00	0.00		
10	0.00	0.00	20.00	21.20	28.88	79.58	56.04	15.50	1.10	0.00	0.00	0.00		
11	0.00	0.00	22.70	57.36	35.32	71.94	44.60	14.00	1.60	0.00	0.00	0.00		
12	0.00	0.00	32.94	57.80	38.96	62.64	41.18	13.20	1.50	0.00	0.00	0.00		
13	0.00	0.00	56.48	54.78	34.98	58.24	38.96	13.00	1.20	0.00	0.00	0.00		
14	0.00	0.00	41.92	47.81	115.54	66.60	37.48	12.60	1.20	0.00	0.00	0.00		
15	0.00	0.00	34.64	45.80	143.80	104.27	36.37	11.80	0.00	0.00	0.00	0.00		
16	0.00	20.00	29.54	53.55	89.90	111.01	32.26	11.40	1.00	0.00	0.00	0.00		
17	0.00	32.60	26.64	39.33	106.07	84.52	29.88	10.40	0.50	0.00	0.00	0.00		
18	0.00	26.96	25.10	30.90	77.33	67.48	39.70	9.40	0.00	0.00	0.00	0.00		
19	0.00	27.92	25.70	27.60	98.43	94.84	56.92	9.20	1.70	0.00	0.00	0.00		
20	0.00	26.96	27.92	25.40	95.74	192.18	83.17	9.00	1.30	0.00	0.00	0.00		
21	0.00	26.00	24.50	21.80	79.13	257.04	84.52	8.20	4.20	0.00	0.00	0.00		
22	0.00	25.70	25.40	19.70	93.50	195.75	108.76	7.60	4.60	0.00	0.00	0.00		
23	0.00	31.58	26.00	25.70	240.30	104.72	82.72	7.40	5.00	0.00	0.00	0.00		
24	0.00	29.54	29.20	22.70	263.52	120.18	80.47	6.40	5.40	0.00	0.00	0.00		
25	0.00	28.24	39.33	19.40	187.08	113.25	76.88	6.20	5.80	0.00	0.00	0.00		
26	0.00	36.74	71.05	16.70	103.82	86.31	73.29	6.00	6.00	0.00	0.00	0.00		
27	0.00	36.00	47.40	19.10	80.47	88.11	63.96	5.60	2.00	0.00	0.00	0.00		
28	0.00	36.37	32.94	85.41	69.25	74.19	55.60	5.60	0.00	0.00	0.00	0.00		
29	0.00	36.00	28.24	39.33	73.29	72.84	53.14	5.60	0.00	0.00		0.00		
30	0.00	35.32	28.24	43.40	78.23	60.44	44.60	5.20	0.00	0.00		0.00		
31		34.30		65.72	68.80		38.59		0.00	0.00		0.00		
Total	0.00	490.23	872.30	1050.33	2541.83	3157.56	1808.32	412.24	67.80	0.00	0.00	0.00	10400.61	CMSDAY
Mean	0.00	15.81	29.08	33.88	81.99	105.25	58.33	13.74	2.19	0.00	0.00	0.00	28.49	CMS
Max	0.00	36.74	71.05	85.41	263.52	257.04	108.76	33.28	6.00	0.00	0.00	0.00	263.52	CMS
Min	0.00	0.00	15.50	16.10	24.20	58.24	29.88	5.20	0.00	0.00	0.00	0.00	0.00	CMS
Runoff	0.000	42.356	75.367	90.749	219.614	272.813	156.239	35.618	5.858	0.000	0.000	0.000	898.613	MCM

Momentary Peak 269.46 CMS, at 12.74 M (MSL), at 1.00 Hours, on Sep 22, 1993

Runoff Yield 42.47 Liters/Second/Square KM, Momentary Peak Yield 401.58 Liters/Second/Square KM

WATER YEAR 1993

EAST COAST-GULF BASIN

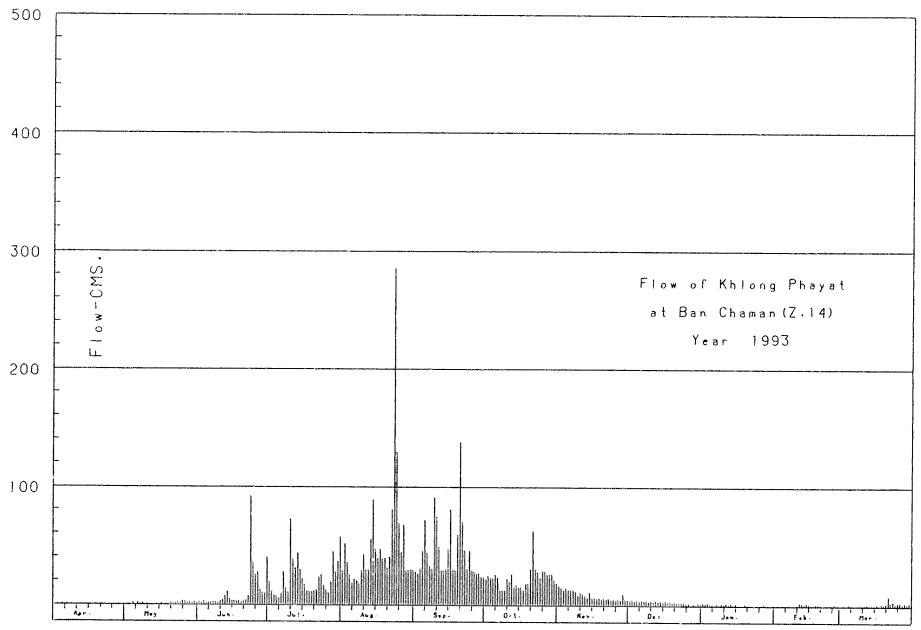
Khlong Phayat at Ban Chaman, Chanthaburi (Z.14)

Location	Lat. 12°-44'-25" N., Long. 102°-12'-39" E., on left bank at the bridge of Khlong Phayat near Wat Chaman, Amphoe Makham, Chanthaburi.
Drainage Area	245 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+0.00 m.(A.D.)
Bench Mark	B.M.-H.D.
Location	On left bank about 30 meters from the top staff gage.
Elevation	+8.170 m.(A.D.)
Gage Reading Frequency	5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1968 to date.
Rating Operation	
Period of Rating	1986 to date.
Rated by Float	-
Rated by Current Meter	1986 to date.
Stability of Channel Regimes	Fairly stable with variable water surface slope.
Overbank Flow Conditions	Overbank flow starts at elevation +6.73 m.(A.D.) and is included.
General Description	Records fair. Stage-discharge relation defined by 42 discharge measurements made in 1993.

Gage Height in Meter (A.D), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.71	0.67	0.89	2.03	2.57	2.50	2.18	1.91	1.10	0.89	0.70	0.76	
2	0.71	0.68	0.88	1.60	3.45	2.40	2.28	1.78	1.12	0.90	0.74	0.73	
3	0.74	0.69	0.96	1.43	3.04	2.80	2.24	1.72	1.10	0.88	0.71	0.74	
4	0.72	0.85	0.86	1.32	2.31	3.29	2.20	1.78	1.08	0.85	0.71	0.73	
5	0.71	0.69	0.87	1.27	2.01	3.98	2.34	1.74	1.07	0.85	0.71	0.74	
6	0.69	0.87	0.87	1.53	2.14	3.23	2.25	1.69	1.07	0.81	0.71	0.76	
7	0.66	0.83	0.97	2.57	2.11	2.95	1.71	1.74	1.05	0.83	0.71	0.75	
8	0.70	0.78	0.88	1.76	1.93	2.76	1.67	1.61	1.05	0.84	0.69	0.77	
9	0.71	0.66	0.82	1.58	2.68	4.52	1.72	1.45	1.03	0.84	0.69	0.79	
10	0.70	0.69	1.04	3.98	3.19	4.05	2.20	1.55	1.05	0.82	0.81	0.77	
11	0.70	0.68	1.06	3.09	2.67	3.36	2.03	1.53	1.04	0.85	0.99	0.78	
12	0.72	0.68	1.33	2.86	2.77	2.75	2.36	1.38	1.04	0.84	0.85	0.78	
13	0.74	0.67	1.64	3.24	3.55	2.61	1.85	1.35	1.02	0.84	0.88	0.77	
14	0.72	0.69	1.24	2.81	4.45	2.85	1.91	1.56	1.01	0.85	0.88	0.82	
15	0.69	0.73	1.06	2.20	3.31	3.31	1.85	1.30	1.01	0.84	0.87	0.81	
16	0.72	0.77	0.99	1.91	3.13	4.22	1.81	1.28	1.01	0.82	0.87	0.82	
17	0.69	0.76	1.01	1.69	3.33	2.79	1.71	1.27	0.97	0.81	0.75	0.80	
18	0.70	0.78	0.98	1.57	3.10	2.64	1.99	1.25	0.97	0.80	0.71	0.83	
19	0.70	0.77	0.95	1.63	3.13	3.65	1.96	1.25	0.96	0.79	0.83	0.82	
20	0.69	0.84	1.03	1.61	2.87	5.56	2.76	1.23	0.95	0.82	0.84	0.84	
21	0.72	0.84	1.04	1.68	3.14	3.95	3.75	1.23	0.95	0.80	0.77	1.43	
22	0.72	0.86	1.38	2.27	4.24	3.29	2.90	1.22	0.95	0.78	0.74	0.92	
23	0.73	0.90	4.54	2.32	7.99	2.78	2.50	1.19	0.92	0.76	0.80	1.11	
24	0.72	0.89	3.02	1.91	5.37	3.30	2.24	1.16	0.91	0.76	0.77	0.97	
25	0.70	0.97	2.32	1.66	3.89	2.75	2.71	1.16	0.85	0.77	0.76	0.97	
26	0.72	0.96	2.54	1.57	3.27	2.53	2.59	1.17	0.84	0.77	0.76	0.92	
27	0.69	0.90	1.73	2.05	3.87	2.48	2.38	1.16	0.81	0.74	0.75	0.88	
28	0.67	0.90	1.51	3.25	2.66	2.39	2.36	1.52	0.83	0.73	0.77	0.89	
29	0.67	0.89	1.52	2.49	2.68	2.28	2.39	1.13	0.85	0.72		0.88	
30	0.69	0.90	3.15	3.06	2.83	2.23	2.11	1.13	0.87	0.72		0.92	
31		0.88		3.58	2.63		1.98		0.90	0.73		0.90	
Mean	0.70	0.80	1.44	2.18	3.24	3.14	2.22	1.41	0.98	0.81	0.78	0.85	
Max	0.74	0.97	4.54	3.98	7.99	5.56	3.75	1.91	1.12	0.90	0.99	1.43	7.99
Min	0.66	0.66	0.82	1.27	1.93	2.23	1.67	1.13	0.81	0.72	0.69	0.73	0.66

Annual Max Momentary Gage Height 8.35 M (A.D), at 9.00 Hours, on Aug 23, 1993
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed 0.31 M (A.D)
Left Bank Elevation 6.72 M (A.D)
Right Bank Elevation 8.15 M (A.D), Drainage Area 245 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	1.05	0.85	2.40	19.60	28.53	27.90	22.60	17.20	4.50	2.40	1.00	1.30	
2	1.05	0.90	2.30	11.50	52.40	27.00	24.60	14.60	4.70	2.50	1.20	1.15	
3	1.20	0.95	3.10	8.95	36.82	30.60	23.80	13.40	4.50	2.30	1.05	1.20	
4	1.10	2.00	2.10	7.30	25.20	46.32	23.00	14.60	4.30	2.00	1.05	1.15	
5	1.05	0.95	2.20	6.55	19.20	72.30	25.80	13.80	4.20	2.00	1.05	1.20	
6	0.95	2.20	2.20	10.45	21.80	44.04	24.00	12.85	4.20	1.60	1.05	1.30	
7	0.80	1.80	3.20	28.53	21.20	33.40	13.20	13.80	4.00	1.80	1.05	1.25	
8	1.00	1.40	2.30	14.20	17.60	30.24	12.55	11.65	4.00	1.90	0.95	1.35	
9	1.05	0.80	1.70	11.20	29.52	91.80	13.40	9.25	3.80	1.90	0.95	1.45	
10	1.00	0.95	3.90	72.30	42.52	74.75	23.00	10.75	4.00	1.70	1.60	1.35	
11	1.00	0.90	4.10	38.72	29.43	48.98	19.60	10.45	3.90	2.00	3.40	1.40	
12	1.10	0.90	7.45	31.14	30.33	30.15	26.20	8.20	3.90	1.90	2.00	1.40	
13	1.20	0.85	12.10	44.42	56.20	28.89	16.00	7.75	3.70	1.90	2.30	1.35	
14	1.10	0.95	6.10	30.69	89.00	31.05	17.20	10.90	3.60	2.00	2.30	1.70	
15	0.95	1.15	4.10	23.00	47.08	47.08	16.00	7.00	3.60	1.90	2.20	1.60	
16	1.10	1.35	3.40	17.20	40.24	80.70	15.20	6.70	3.60	1.70	2.20	1.70	
17	0.95	1.30	3.60	12.85	47.84	30.51	13.20	6.55	3.20	1.60	1.25	1.50	
18	1.00	1.40	3.30	11.05	39.10	29.16	18.80	6.25	3.20	1.50	1.05	1.80	
19	1.00	1.35	3.00	11.95	40.24	60.00	18.20	6.25	3.10	1.45	1.80	1.70	
20	0.95	1.90	3.80	11.65	31.23	139.00	30.24	5.95	3.00	1.70	1.90	1.90	
21	1.10	1.90	3.90	12.70	40.62	71.25	63.80	5.95	3.00	1.50	1.35	8.95	
22	1.10	2.10	8.20	24.40	81.40	46.32	31.50	5.80	3.00	1.40	1.20	2.70	
23	1.15	2.50	92.60	25.40	286.30	30.42	27.90	5.40	2.70	1.30	1.50	4.60	
24	1.10	2.40	36.06	17.20	129.50	46.70	23.80	5.10	2.60	1.30	1.35	3.20	
25	1.00	3.20	25.40	12.40	69.12	30.15	29.79	5.10	2.00	1.35	1.30	3.20	
26	1.10	3.10	28.26	11.05	45.56	28.17	28.71	5.20	1.90	1.35	1.30	2.70	
27	0.95	2.50	13.60	20.00	68.36	27.72	26.60	5.10	1.60	1.20	1.25	2.30	
28	0.85	2.50	10.15	44.80	29.34	26.80	26.20	10.30	1.80	1.15	1.35	2.40	
29	0.85	2.40	10.30	27.81	29.52	24.60	26.80	4.80	2.00	1.10		2.30	
30	0.95	2.50	41.00	37.58	30.87	23.60	21.20	4.80	2.20	1.10		2.70	
31		2.30		57.34	29.07		18.60		2.50	1.15		2.50	
Total	30.75	52.25	345.82	713.93	1585.14	1359.60	721.49	265.45	102.30	51.65	41.95	66.30	5336.63 CMSDAY
Mean	1.03	1.69	11.53	23.03	51.13	45.32	23.27	8.85	3.30	1.67	1.50	2.14	14.62 CMS
Max	1.20	3.20	92.60	72.30	286.30	139.00	63.80	17.20	4.70	2.50	3.40	8.95	286.30 CMS
Min	0.80	0.80	1.70	6.55	17.60	23.60	12.55	4.80	1.60	1.10	0.95	1.15	0.80 CMS
Runoff	2.657	4.514	29.879	61.684	136.956	117.469	62.337	22.935	8.839	4.463	3.624	5.728	461.085 MCM

Momentary Peak 311.50 CMS, at 8.35 M (A.D), at 9.00 Hours, on Aug 23, 1993

Runoff Yield 59.68 Liters/Second/Square KM, Momentary Peak Yield 1271.43 Liters/Second/Square KM

WATER YEAR 1993

EAST COAST-GULF BASIN

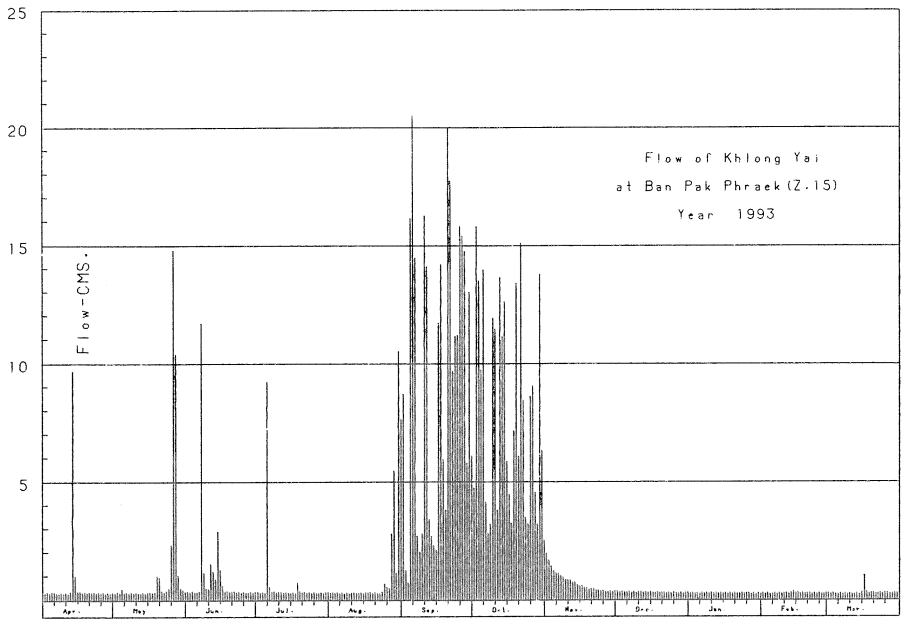
Khlong Yai at Ban Pak Phraek, Rayong (Z.15)

Location	Lat. 12-55-41 N., Long. 101-19-30 E., on right bank at Ban Pak Phraek, King Amphoe Pluak Daeng, Rayong.
Drainage Area	244 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+29.00 m.(M.S.L.)
Bench Mark	B.M.-H.D.
Location	Near the Meteorological Station.
Elevation	+33.743 m.(M.S.L.)
Gage Reading Frequency	5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1977 to date.
Rating Operation	
Period of Rating	1977 to date.
Rated by Float	-
Rated by Current Meter	1977 to date.
Stability of Channel Regimes	Stable.
Overbank Flow Conditions	Overbank flow starts at elevation +30.90 m.(M.S.L.), records are channel flow only.
General Description	Records good. Stage-discharge relation defined by 71 discharge measurements made in 1993.

Gage Height in Meter (MSL), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	29.07	29.05	29.22	29.13	29.07	30.92	30.49	29.96	29.20	29.00	28.95	28.95	
2	29.07	29.12	29.20	29.10	29.04	29.73	31.47	29.87	29.19	28.99	28.95	28.94	
3	29.07	29.10	29.24	29.09	29.03	29.48	31.31	29.78	29.18	28.99	28.95	28.94	
4	29.06	29.33	29.19	29.07	29.03	31.49	31.01	29.72	29.18	28.99	28.94	28.93	
5	29.05	29.11	29.17	30.97	29.03	31.76	31.34	29.68	29.17	29.00	28.94	28.90	
6	29.04	29.07	29.16	29.39	29.02	31.38	30.41	29.66	29.16	29.01	28.94	28.90	
7	29.03	29.06	31.17	29.27	29.02	30.14	30.17	29.62	29.14	29.01	28.94	28.90	
8	29.02	29.05	29.70	29.19	29.00	29.99	30.24	29.58	29.13	29.01	28.95	28.90	
9	29.01	29.05	29.35	29.16	29.00	30.16	31.19	29.55	29.11	29.01	28.95	28.90	
10	29.01	29.04	29.35	29.14	29.00	31.50	31.15	29.52	29.10	29.00	28.95	28.90	
11	29.01	29.03	29.81	29.12	29.02	31.35	30.35	29.52	29.10	28.99	28.95	28.91	
12	29.14	29.03	29.70	29.10	29.03	30.29	31.32	29.49	29.10	28.99	28.95	28.90	
13	31.01	29.05	29.56	29.09	29.02	30.14	31.13	29.48	29.09	28.99	28.99	28.90	
14	29.61	29.04	30.19	29.09	29.02	30.05	31.24	29.44	29.09	28.98	29.29	28.89	
15	29.27	29.05	29.74	29.08	29.01	30.01	30.63	29.41	29.09	28.98	29.07	29.03	
16	29.17	29.07	29.40	29.08	29.05	31.17	30.46	29.40	29.08	28.97	29.03	29.64	
17	29.15	29.09	29.30	29.07	29.11	31.36	30.25	29.38	29.08	28.97	29.00	29.10	
18	29.13	29.07	29.26	29.47	29.10	30.64	30.77	29.36	29.07	28.97	28.98	29.00	
19	29.11	29.63	29.23	29.22	29.06	30.36	31.30	29.34	29.06	28.97	28.96	29.01	
20	29.10	29.58	29.20	29.14	29.03	31.73	30.66	29.34	29.05	28.96	28.95	28.98	
21	29.10	29.26	29.19	29.11	29.02	31.59	31.42	29.33	29.05	28.96	28.95	28.98	
22	29.09	29.14	29.17	29.10	29.02	31.01	30.90	29.32	29.03	28.96	28.95	29.01	
23	29.08	29.26	29.16	29.09	29.13	31.13	30.30	29.30	29.02	28.96	28.95	29.01	
24	29.07	29.36	29.15	29.08	29.46	31.13	30.25	29.28	29.02	28.96	28.95	29.01	
25	29.06	30.07	29.15	29.07	29.37	31.47	30.91	29.26	29.03	28.95	28.95	29.01	
26	29.04	31.40	29.15	29.05	29.35	31.44	30.95	29.24	29.05	28.95	28.95	29.01	
27	29.02	31.07	29.15	29.04	30.17	31.40	30.47	29.22	29.01	28.95	28.95	29.01	
28	29.02	29.62	29.13	29.04	30.59	30.62	30.24	29.22	29.00	28.95	28.95	29.01	
29	29.05	29.37	29.13	29.03	29.67	31.27	31.33	29.22	29.00	28.95		29.01	
30	29.05	29.31	29.13	29.06	31.08	30.66	30.68	29.22	29.00	28.95		29.05	
31		29.26		29.06	30.82		30.11		29.00	28.95		29.15	
Mean	29.16	29.35	29.39	29.18	29.30	30.85	30.79	29.46	29.08	28.98	28.97	28.99	
Max	31.01	31.40	31.17	30.97	31.08	31.76	31.47	29.96	29.20	29.01	29.29	29.64	31.76
Min	29.01	29.03	29.13	29.03	29.00	29.48	30.11	29.22	29.00	28.95	28.94	28.89	28.89

Annual Max Momentary Gage Height 31.83 M (MSL), at 12.00 Hours, on Sep 5, 1993
Zero Gage at Bottom Elevation 29.00 M (MSL), River Bed 28.74 M (MSL)
Left Bank Elevation 30.89 M (MSL)
Right Bank Elevation 31.98 M (MSL), Drainage Area 244 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.33	0.32	0.38	0.35	0.33	8.72	4.73	1.98	0.37	0.31	0.29	0.29	
2	0.33	0.34	0.37	0.34	0.32	1.29	15.85	1.71	0.37	0.30	0.29	0.29	
3	0.33	0.34	0.38	0.34	0.32	0.76	13.54	1.44	0.36	0.30	0.29	0.29	
4	0.33	0.46	0.37	0.33	0.32	16.15	9.72	1.26	0.36	0.30	0.29	0.29	
5	0.32	0.34	0.36	9.27	0.32	20.52	13.96	1.16	0.36	0.31	0.29	0.28	
6	0.32	0.33	0.36	0.58	0.31	14.52	4.17	1.12	0.36	0.31	0.29	0.28	
7	0.32	0.33	11.71	0.39	0.31	2.70	2.85	1.04	0.35	0.31	0.29	0.28	
8	0.31	0.32	1.20	0.37	0.31	2.07	3.20	0.96	0.35	0.31	0.29	0.28	
9	0.31	0.32	0.50	0.36	0.31	2.80	11.97	0.90	0.34	0.31	0.29	0.28	
10	0.31	0.32	0.50	0.35	0.31	16.30	11.45	0.84	0.34	0.31	0.29	0.28	
11	0.31	0.32	1.53	0.34	0.31	14.10	3.80	0.84	0.34	0.30	0.29	0.28	
12	0.35	0.32	1.20	0.34	0.32	3.45	13.68	0.78	0.34	0.30	0.29	0.28	
13	9.72	0.32	0.92	0.34	0.31	2.70	11.19	0.76	0.34	0.30	0.30	0.28	
14	1.02	0.32	2.95	0.34	0.31	2.30	12.62	0.68	0.34	0.30	0.40	0.27	
15	0.39	0.32	1.32	0.33	0.31	2.14	5.87	0.62	0.34	0.30	0.33	0.32	
16	0.36	0.33	0.60	0.33	0.32	11.71	4.52	0.60	0.33	0.30	0.32	1.08	
17	0.35	0.34	0.40	0.33	0.34	14.24	3.25	0.56	0.33	0.30	0.31	0.34	
18	0.35	0.33	0.39	0.74	0.34	5.96	7.20	0.52	0.33	0.30	0.30	0.31	
19	0.34	1.06	0.38	0.38	0.33	3.86	13.40	0.48	0.33	0.30	0.30	0.31	
20	0.34	0.96	0.37	0.35	0.32	20.01	6.14	0.48	0.32	0.30	0.29	0.30	
21	0.34	0.39	0.37	0.34	0.31	17.74	15.10	0.46	0.32	0.30	0.29	0.30	
22	0.34	0.35	0.36	0.34	0.31	9.72	8.50	0.44	0.32	0.30	0.29	0.31	
23	0.33	0.39	0.36	0.34	0.35	11.19	3.50	0.40	0.31	0.30	0.29	0.31	
24	0.33	0.52	0.35	0.33	0.72	11.19	3.25	0.39	0.31	0.30	0.29	0.31	
25	0.33	2.38	0.35	0.33	0.54	15.85	8.61	0.39	0.32	0.29	0.29	0.31	
26	0.32	14.80	0.35	0.32	0.50	15.40	9.05	0.38	0.32	0.29	0.29	0.31	
27	0.31	10.44	0.35	0.32	2.85	14.80	4.59	0.38	0.31	0.29	0.29	0.31	
28	0.31	1.04	0.35	0.32	5.52	5.78	3.20	0.38	0.31	0.29	0.29	0.31	
29	0.32	0.54	0.35	0.32	1.14	13.01	13.82	0.38	0.31	0.29		0.31	
30	0.32	0.42	0.35	0.33	10.56	6.14	6.32	0.38	0.31	0.29		0.32	
31		0.39		0.33	7.70		2.55		0.31	0.29		0.35	
Total	19.99	39.70	29.73	20.12	36.87	287.12	251.60	22.71	10.35	9.30	8.35	10.06	745.90 CMSDAY
Mean	0.67	1.28	0.99	0.65	1.19	9.57	8.12	0.76	0.33	0.30	0.30	0.32	2.04 CMS
Max	9.72	14.80	11.71	9.27	10.56	20.52	15.85	1.98	0.37	0.31	0.40	1.08	20.52 CMS
Min	0.31	0.32	0.35	0.32	0.31	0.76	2.55	0.38	0.31	0.29	0.29	0.27	0.27 CMS
Runoff	1.727	3.430	2.569	1.738	3.186	24.807	21.738	1.962	0.894	0.804	0.721	0.869	64.446 MCM

Momentary Peak 21.74 CMS, at 31.83 M (MSL), at 12.00 Hours, on Sep 5, 1993

Runoff Yield 8.38 Liters/Second/Square KM, Momentary Peak Yield 89.10 Liters/Second/Square KM

WATER YEAR 1993

EAST COAST-GULF BASIN

Khlong Phlo at Ban Chamkho, Rayong (Z.18)

Location — Lat. 12°-57'-22" N., Long. 101°-40'-31" E., on right bank at the bridge on road, Ban Chamkho, Amphoe Klaeng, Rayong.

Drainage Area — 167 sq.km.

Type of Gage — Staff gage.

Zero Gage at Bottom — +28.15 m.(M.S.L.)

Bench Mark — B.M.-H.D.

Location — On left bank vicinity of the station office.

Elevation — +33.965 m.(M.S.L.)

Gage Reading Frequency — 5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.

Basis of Mean Daily Gage Height — Arithmetic mean of 5 readings.

Period of Available Gage Records — 1982 to date.

Rating Operation

Period of Rating — 1983 to date.

Rated by Float — -

Rated by Current Meter — 1983 to date.

Stability of Channel Regimes — Fairly stable.

Overbank Flow Conditions — No overbank flow.

General Description — Records fair. Stage-discharge relation defined by 61 discharge measurements made in 1993.

Gage Height in Meter (MSL), Water Year April 1, 1993 to March 31, 1994

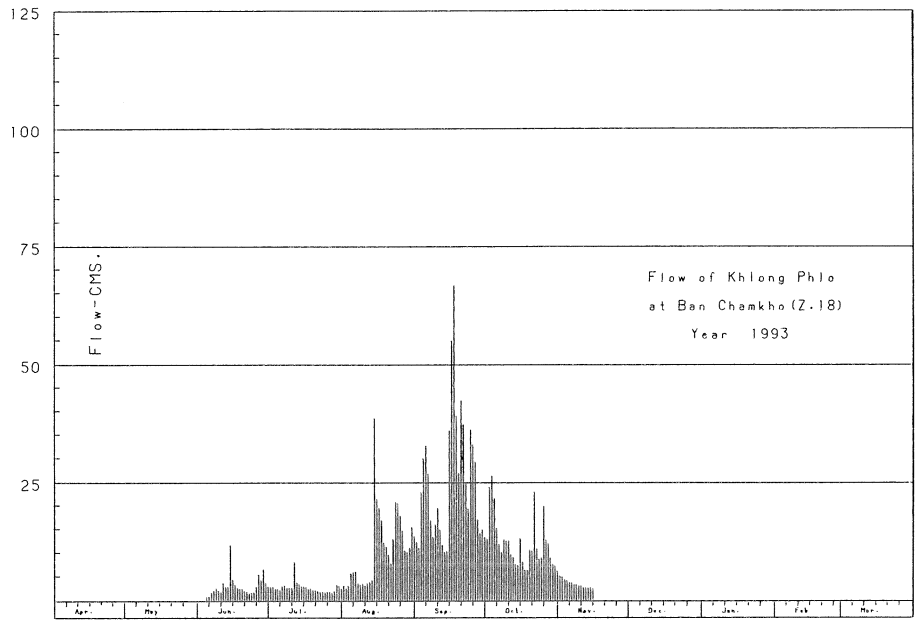
Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	30.45	30.26	28.94	29.38	29.41	30.50	30.56	29.75	30.89	30.98	30.33	29.81	
2	30.42	30.30	28.93	29.35	29.34	30.38	31.36	29.71	30.95	30.97	30.30	29.78	
3	30.38	30.63	28.88	29.31	29.41	31.29	31.53	29.65	30.99	30.95	30.26	29.77	
4	30.33	30.45	28.90	29.27	29.81	31.75	31.21	29.61	30.97	30.94	30.24	29.72	
5	30.28	30.39	28.95	29.26	29.85	31.91	30.74	29.57	30.97	30.92	30.21	29.70	
6	30.27	30.33	29.15	29.41	29.84	31.54	30.45	29.53	30.98	30.90	30.20	29.69	
7	30.31	30.29	29.19	29.41	29.54	30.87	30.31	29.49	30.98	30.89	30.15	29.64	
8	30.25	30.28	29.33	29.36	29.45	30.59	30.55	29.46	30.96	30.87	30.17	29.60	
9	30.19	30.26	29.20	29.31	29.52	30.81	30.51	29.44	30.95	30.86	30.11	29.57	
10	30.14	30.24	29.18	29.31	29.41	31.07	30.53	29.41	30.92	30.83	30.13	29.53	
11	30.09	30.21	29.52	30.09	29.51	30.71	30.24	29.37	30.98	30.82	30.19	29.51	
12	30.62	30.21	29.38	29.58	29.58	30.45	30.20	29.32	30.94	30.79	30.20	29.46	
13	29.71	30.20	29.36	29.48	29.61	30.31	30.02	29.35	30.87	30.77	30.20	29.43	
14	29.16	30.17	30.43	29.41	32.23	30.31	29.99	29.33	30.84	30.73	30.20	29.42	
15	29.14	30.20	29.65	29.40	31.20	32.09	30.57	29.33	30.81	30.73	30.20	29.41	
16	29.21	30.30	29.44	29.34	31.06	32.92	30.10	29.35	30.78	30.70	30.18	29.38	
17	29.12	30.30	29.35	29.30	30.89	33.35	29.88	29.51	30.75	30.68	30.13	29.36	
18	30.24	30.27	29.27	29.28	30.48	32.24	29.90	30.88	30.73	30.65	30.11	29.36	
19	30.51	30.38	29.31	29.25	30.42	31.55	30.36	30.95	30.78	30.63	30.09	29.37	
20	30.46	30.32	29.18	29.21	30.24	32.40	30.32	30.95	30.84	30.60	30.02	29.35	
21	30.43	29.68	29.15	29.18	30.06	32.15	31.29	30.95	30.88	30.59	29.95	29.35	
22	30.43	29.66	29.12	29.17	30.54	31.43	30.39	30.95	30.90	30.56	30.02	29.39	
23	30.43	29.83	29.12	29.15	31.16	31.05	30.14	30.95	30.93	30.53	29.98	29.41	
24	30.41	29.83	29.15	29.15	31.13	32.10	30.19	30.93	30.89	30.51	29.94	29.42	
25	30.35	29.68	29.36	29.15	30.96	31.91	31.10	30.93	30.92	30.49	29.94	29.43	
26	30.31	29.17	29.76	29.15	30.69	31.71	30.53	30.91	30.95	30.47	29.90	29.43	
27	30.32	29.08	29.63	29.13	30.34	30.90	30.48	30.91	30.98	30.44	29.87	29.41	
28	30.30	29.01	29.92	29.17	30.29	30.66	30.17	30.92	30.99	30.41	29.84	29.39	
29	30.27	29.00	29.51	29.48	30.40	30.71	30.04	30.90	30.98	30.39		29.34	
30	30.25	29.00	29.37	29.39	30.75	30.57	29.98	30.87	30.98	30.37		29.32	
31		28.98		29.32	30.59		29.86		30.98	30.35		29.32	
Mean	30.16	29.96	29.32	29.33	30.25	31.34	30.44	30.11	30.91	30.69	30.11	29.49	
Max	30.62	30.63	30.43	30.09	32.23	33.35	31.53	30.95	30.99	30.98	30.33	29.81	33.35
Min	29.12	28.98	28.88	29.13	29.34	30.31	29.86	29.32	30.73	30.35	29.84	29.32	28.88

Annual Max Momentary Gage Height — 33.68 M (MSL), at 12.00 Hours, on Sep 17, 1993

Zero Gage at Bottom Elevation — 28.15 M (MSL), River Bed — 28.30 M (MSL)

Left Bank Elevation — 34.47 M (MSL)

Right Bank Elevation — 34.96 M (MSL), Drainage Area — 167 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.00	0.00	0.00	3.00	3.15	12.50	13.22	5.40	0.00	0.00	0.00	0.00	
2	0.00	0.00	0.00	2.85	2.80	11.10	24.10	5.08	0.00	0.00	0.00	0.00	
3	0.00	0.00	0.00	2.65	3.15	23.05	26.65	4.60	0.00	0.00	0.00	0.00	
4	0.00	0.00	0.80	2.45	5.88	30.10	21.85	4.28	0.00	0.00	0.00	0.00	
5	0.00	0.00	0.95	2.40	6.20	32.98	15.38	4.02	0.00	0.00	0.00	0.00	
6	0.00	0.00	1.85	3.15	6.12	26.80	11.90	3.78	0.00	0.00	0.00	0.00	
7	0.00	0.00	2.05	3.15	3.84	16.94	10.40	3.55	0.00	0.00	0.00	0.00	
8	0.00	0.00	2.75	2.90	3.35	13.58	13.10	3.40	0.00	0.00	0.00	0.00	
9	0.00	0.00	2.10	2.65	3.72	16.22	12.62	3.30	0.00	0.00	0.00	0.00	
10	0.00	0.00	2.00	2.65	3.15	19.75	12.86	3.15	0.00	0.00	0.00	0.00	
11	0.00	0.00	3.72	8.31	3.66	15.02	9.70	2.95	0.00	0.00	0.00	0.00	
12	0.00	0.00	3.00	4.08	4.08	11.90	9.30	2.70	0.00	0.00	0.00	0.00	
13	0.00	0.00	2.90	3.50	4.28	10.40	7.68	2.85	0.00	0.00	0.00	0.00	
14	0.00	0.00	11.66	3.15	38.86	10.40	7.41	2.75	0.00	0.00	0.00	0.00	
15	0.00	0.00	4.60	3.10	21.70	36.22	13.34	2.75	0.00	0.00	0.00	0.00	
16	0.00	0.00	3.30	2.80	19.60	55.00	8.40	0.00	0.00	0.00	0.00	0.00	
17	0.00	0.00	2.85	2.60	17.18	66.95	6.44	0.00	0.00	0.00	0.00	0.00	
18	0.00	0.00	2.45	2.50	12.26	39.08	6.60	0.00	0.00	0.00	0.00	0.00	
19	0.00	0.00	2.65	2.35	11.54	26.95	10.90	0.00	0.00	0.00	0.00	0.00	
20	0.00	0.00	2.00	2.15	9.70	42.60	10.50	0.00	0.00	0.00	0.00	0.00	
21	0.00	0.00	1.85	2.00	8.04	37.30	23.05	0.00	0.00	0.00	0.00	0.00	
22	0.00	0.00	1.70	1.95	12.98	25.15	11.20	0.00	0.00	0.00	0.00	0.00	
23	0.00	0.00	1.70	1.85	21.10	19.45	8.76	0.00	0.00	0.00	0.00	0.00	
24	0.00	0.00	1.85	1.85	20.65	36.40	9.21	0.00	0.00	0.00	0.00	0.00	
25	0.00	0.00	2.90	1.85	18.14	32.98	20.20	0.00	0.00	0.00	0.00	0.00	
26	0.00	0.00	5.48	1.85	14.78	29.38	12.86	0.00	0.00	0.00	0.00	0.00	
27	0.00	0.00	4.44	1.75	10.70	17.30	12.26	0.00	0.00	0.00	0.00	0.00	
28	0.00	0.00	6.78	1.95	10.20	14.42	9.03	0.00	0.00	0.00	0.00	0.00	
29	0.00	0.00	3.66	3.50	11.30	15.02	7.86	0.00	0.00	0.00		0.00	
30	0.00	0.00	2.95	3.05	15.50	13.34	7.32	0.00	0.00	0.00		0.00	
31		0.00		2.70	13.58		6.28		0.00	0.00		0.00	
Total	0.00	0.00	84.94	86.69	341.19	758.28	380.38	54.56	0.00	0.00	0.00	0.00	1706.04 CMSDAY
Mean	0.00	0.00	2.83	2.80	11.01	25.28	12.27	1.82	0.00	0.00	0.00	0.00	4.67 CMS
Max	0.00	0.00	11.66	8.31	38.86	66.95	26.65	5.40	0.00	0.00	0.00	0.00	66.95 CMS
Min	0.00	0.00	0.00	1.75	2.80	10.40	6.28	0.00	0.00	0.00	0.00	0.00	0.00 CMS
Runoff	0.000	0.000	7.339	7.490	29.479	65.515	32.865	4.714	0.000	0.000	0.000	0.000	147.402 MCM

Momentary Peak 77.84 CMS, at 33.68 M (MSL), at 12.00 Hours, on Sep 17, 1993

Runoff Yield 27.99 Liters/Second/Square KM, Momentary Peak Yield 466.11 Liters/Second/Square KM

WATER YEAR 1993

CHANTHABURI RIVER BASIN

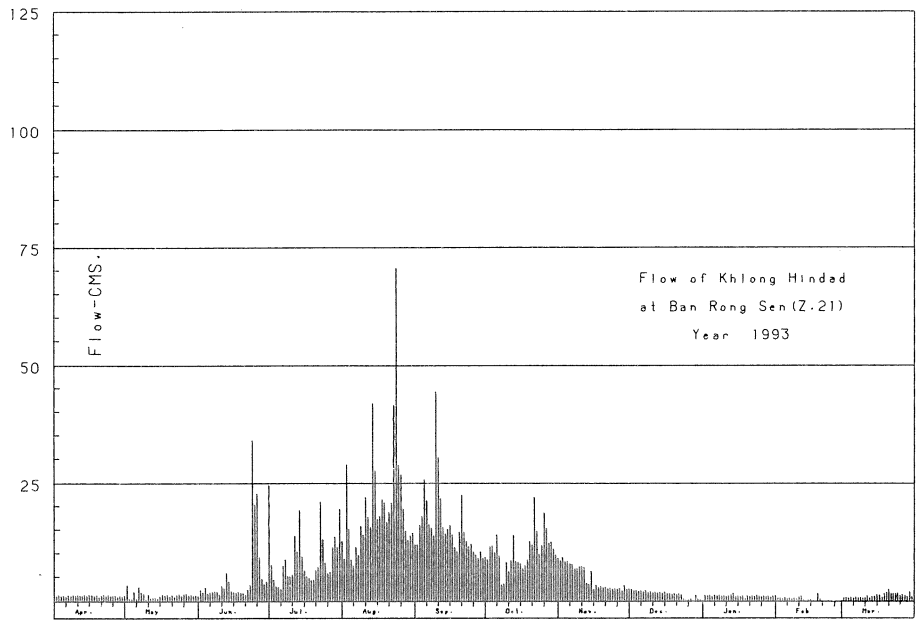
Khlong Hin Dat at Ban Rong Sen, Chanthaburi (Z.21)

Location	Lat. 12°47'23" N., Long. 102°15'33" E., on left bank at the bridge on highway, Ban Rong Sen, Amphoe Makham, Chanthaburi.
Drainage Area	66 sq.km.
Type of Gage	Water-stage recorder.
Zero Gage at Bottom	+21.20 m.(M.S.L.)
Bench Mark	B.M.-H.D.
Location	On left bank about 40 meters from the top staff gage.
Elevation	+27.671 m.(M.S.L.)
Gage Reading Frequency	Recording.
Basis of Mean Daily Gage Height	Arithmetic mean of 24 readings.
Period of Available Gage Records	1983 to date.
Rating Operation	
Period of Rating	1984 to date.
Rated by Float	-
Rated by Current Meter	1984 to date.
Stability of Channel Regimes	Stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Stage-discharge relation defined by 103 discharge measurements made in 1993.

Gage Height in Meter (MSL), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	21.95	22.24	22.11	22.57	22.64	22.81	22.63	22.63	22.13	21.95	21.88	21.90	
2	21.96	21.82	22.04	22.32	23.57	23.03	22.80	22.66	22.12	21.97	21.85	21.88	
3	21.95	21.83	22.19	22.21	22.98	23.11	22.80	22.62	22.11	21.96	21.85	21.88	
4	21.94	22.06	22.03	22.18	22.63	23.44	22.73	22.61	22.11	21.94	21.87	21.88	
5	21.94	21.83	22.04	22.15	22.55	23.27	22.92	22.59	22.10	21.96	21.85	21.88	
6	21.95	22.21	22.08	22.55	22.79	23.03	22.68	22.57	22.09	21.97	21.84	21.89	
7	21.96	22.04	22.07	22.63	22.70	23.00	22.24	22.52	22.11	21.96	21.85	21.89	
8	21.96	22.02	22.08	22.40	23.02	22.92	22.25	22.51	22.07	21.96	21.85	21.88	
9	21.96	21.82	21.98	22.38	22.92	24.15	22.61	22.55	22.07	21.94	21.84	21.88	
10	21.96	22.00	22.22	22.42	23.29	23.63	22.48	22.54	22.07	21.95	21.93	21.89	
11	21.97	21.83	22.15	22.92	23.10	23.28	22.62	22.53	22.06	21.93	21.93	21.94	
12	21.96	21.88	22.45	22.73	23.01	23.00	22.93	22.28	22.06	22.00	21.75	21.88	
13	21.97	21.86	22.29	23.17	24.06	22.94	22.61	22.24	22.05	22.02	21.75	21.91	
14	21.96	21.86	22.10	22.68	23.52	22.98	22.61	22.48	22.05	21.93	21.79	21.95	
15	21.97	21.91	22.05	22.49	23.09	23.03	22.58	22.15	22.06	21.93	21.76	21.97	
16	21.96	21.97	22.06	22.38	23.11	22.92	22.52	22.22	22.04	21.94	21.71	21.96	
17	21.96	21.96	22.06	22.37	23.28	22.79	22.55	22.20	22.01	21.94	21.70	21.92	
18	21.96	21.97	22.05	22.31	23.24	22.73	22.64	22.20	22.02	21.86	22.04	22.01	
19	21.91	21.93	22.02	22.33	23.06	22.95	22.85	22.19	22.01	21.94	21.85	22.07	
20	21.96	21.96	21.99	22.48	23.15	23.32	22.82	22.18	22.01	21.94	21.72	22.13	
21	21.98	21.91	22.11	22.54	23.24	22.96	23.29	22.17	22.01	21.94	21.70	22.04	
22	21.96	21.95	22.24	23.25	24.05	22.86	22.97	22.16	22.00	21.95	21.68	22.01	
23	21.96	22.01	23.76	22.88	24.98	22.79	22.70	22.16	21.84	21.96	21.68	22.04	
24	21.94	21.92	23.23	22.59	23.56	22.83	22.81	22.15	21.82	21.95	21.68	22.03	
25	21.93	22.02	23.32	22.45	23.49	22.74	23.16	22.16	21.81	21.94	21.67	21.98	
26	21.94	22.00	22.66	22.45	23.19	22.69	22.99	22.15	21.81	21.93	21.67	21.98	
27	21.93	21.97	22.35	22.79	22.96	22.66	22.84	22.12	21.79	21.94	21.67	21.96	
28	21.93	21.96	22.26	22.90	22.86	22.73	22.84	22.22	21.99	21.93	21.67	21.91	
29	21.93	21.95	22.29	22.78	22.92	22.66	22.77	22.15	21.80	21.92		22.09	
30	21.94	21.94	23.40	23.19	22.94	22.66	22.69	22.14	21.77	21.93		21.93	
31		21.95		22.86	22.82		22.65		21.80	21.95		21.97	
Mean	21.95	21.95	22.32	22.59	23.18	23.00	22.73	22.34	21.99	21.95	21.79	21.95	
Max	21.98	22.24	23.76	23.25	24.98	24.15	23.29	22.66	22.13	22.02	22.04	22.13	24.98
Min	21.91	21.82	21.98	22.15	22.55	22.66	22.24	22.12	21.77	21.86	21.67	21.88	21.67

Annual Max Momentary Gage Height 27.44 M (MSL), at 4.00 Hours, on Aug 23, 1993
Zero Gage at Bottom Elevation 21.20 M (MSL), River Bed 21.04 M (MSL)
Left Bank Elevation 28.73 M (MSL)
Right Bank Elevation 28.70 M (MSL), Drainage Area 66 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	1.20	3.54	2.29	7.75	8.88	11.89	8.71	8.71	2.47	1.20	0.80	0.90	
2	1.26	0.50	1.78	4.44	29.12	16.23	11.70	9.22	2.38	1.32	0.65	0.80	
3	1.20	0.55	3.01	3.21	15.20	17.92	11.70	8.54	2.29	1.26	0.65	0.80	
4	1.14	1.92	1.71	2.92	8.71	25.74	10.44	8.37	2.29	1.14	0.75	0.80	
5	1.14	0.55	1.78	2.65	7.45	21.51	14.00	8.05	2.20	1.26	0.65	0.80	
6	1.20	3.21	2.06	7.45	11.52	16.23	9.56	7.75	2.13	1.32	0.60	0.85	
7	1.26	1.78	1.99	8.71	9.90	15.60	3.54	7.00	2.29	1.26	0.65	0.85	
8	1.26	1.64	2.06	5.40	16.02	14.00	3.65	6.85	1.99	1.26	0.65	0.80	
9	1.26	0.50	1.38	5.16	14.00	44.40	8.37	7.45	1.99	1.14	0.60	0.80	
10	1.26	1.50	3.32	5.66	21.97	30.68	6.44	7.30	1.99	1.20	1.08	0.85	
11	1.32	0.55	2.65	14.00	17.70	21.74	8.54	7.15	1.92	1.08	1.08	1.14	
12	1.26	0.80	6.05	10.44	15.81	15.60	14.20	3.98	1.92	1.50	0.25	0.80	
13	1.32	0.70	4.09	19.24	41.92	14.40	8.37	3.54	1.85	1.64	0.25	0.96	
14	1.26	0.70	2.20	9.56	27.82	15.20	8.37	6.44	1.85	1.08	0.37	1.20	
15	1.32	0.96	1.85	6.57	17.49	16.23	7.90	2.65	1.92	1.08	0.28	1.32	
16	1.26	1.32	1.92	5.16	17.92	14.00	7.00	3.32	1.78	1.14	0.13	1.26	
17	1.26	1.26	1.92	5.04	21.74	11.52	7.45	3.10	1.57	1.14	0.10	1.02	
18	1.26	1.32	1.85	4.32	20.82	10.44	8.88	3.10	1.64	0.70	1.78	1.57	
19	0.96	1.08	1.64	4.56	16.86	14.60	12.65	3.01	1.57	1.14	0.65	1.99	
20	1.26	1.26	1.44	6.44	18.80	22.70	12.08	2.92	1.57	1.14	0.16	2.47	
21	1.38	0.96	2.29	7.30	20.82	14.80	21.97	2.83	1.57	1.14	0.10	1.78	
22	1.26	1.20	3.54	21.05	41.65	12.84	15.00	2.74	1.50	1.20	0.08	1.57	
23	1.26	1.57	34.06	13.22	70.80	11.52	9.90	2.74	0.60	1.26	0.08	1.78	
24	1.14	1.02	20.59	8.05	28.86	12.27	11.89	2.65	0.50	1.20	0.08	1.71	
25	1.08	1.64	22.70	6.05	27.04	10.62	19.02	2.74	0.45	1.14	0.07	1.38	
26	1.14	1.50	9.22	6.05	19.68	9.73	15.40	2.65	0.45	1.08	0.07	1.38	
27	1.08	1.32	4.80	11.52	14.80	9.22	12.46	2.38	0.37	1.14	0.07	1.26	
28	1.08	1.26	3.76	13.60	12.84	10.44	12.46	3.32	1.44	1.08	0.07	0.96	
29	1.08	1.20	4.09	11.34	14.00	9.22	11.16	2.65	0.40	1.02		2.13	
30	1.14	1.14	24.70	19.68	14.40	9.22	9.73	2.56	0.31	1.08		1.08	
31		1.20		12.84	12.08		9.05		0.40	1.20		1.32	
Total	36.30	39.65	176.74	269.38	636.62	480.51	331.59	145.71	47.60	36.54	12.75	38.33	2251.72 CMSDAY
Mean	1.21	1.28	5.89	8.69	20.54	16.02	10.70	4.86	1.54	1.18	0.46	1.24	6.17 CMS
Max	1.38	3.54	34.06	21.05	70.80	44.40	21.97	9.22	2.47	1.64	1.78	2.47	70.80 CMS
Min	0.96	0.50	1.38	2.65	7.45	9.22	3.54	2.38	0.31	0.70	0.07	0.80	0.07 CMS
Runoff	3.136	3.426	15.270	23.274	55.004	41.516	28.649	12.589	4.113	3.157	1.102	3.312	194.549 MCM

Momentary Peak 173.12 CMS, at 27.44 M (MSL), at 4.00 Hours, on Aug 23, 1993

Runoff Yield 93.47 Liters/Second/Square KM, Momentary Peak Yield 2623.03 Liters/Second/Square KM

WATER YEAR 1993

EAST COAST-GULF BASIN

Khlong Tanot at Ban Khun Song, Chanthaburi (Z.28)

Location — Lat. 13°-04'-25" N., Long. 101°-56'-55" E., on right bank near Wat Khun Song, Tambon Kaeng Hang Maeo, Amphoe Tha Mai, Chanthaburi.

Drainage Area — 267 sq.km.

Type of Gage — Staff gage.

Zero Gage at Bottom — +0.00 m.(A.D.)

Bench Mark — B.M.-H.D.

Location — On right bank about 10 meters from the top staff gage.

Elevation — +7.655 m.(A.D.)

Gage Reading Frequency — 5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.

Basis of Mean Daily Gage Height — Arithmetic mean of 5 readings.

Period of Available Gage Records — 1986 to date.

Rating Operation

Period of Rating — 1986 to date.

Rated by Float — -

Rated by Current Meter — 1986 to date.

Stability of Channel Regimes — Stable.

Overbank Flow Conditions — No overbank flow.

General Description — Records fair. Stage-discharge relation defined by 95 discharge measurements made in 1993.

Gage Height in Meter (A.D), Water Year April 1, 1993 to March 31, 1994

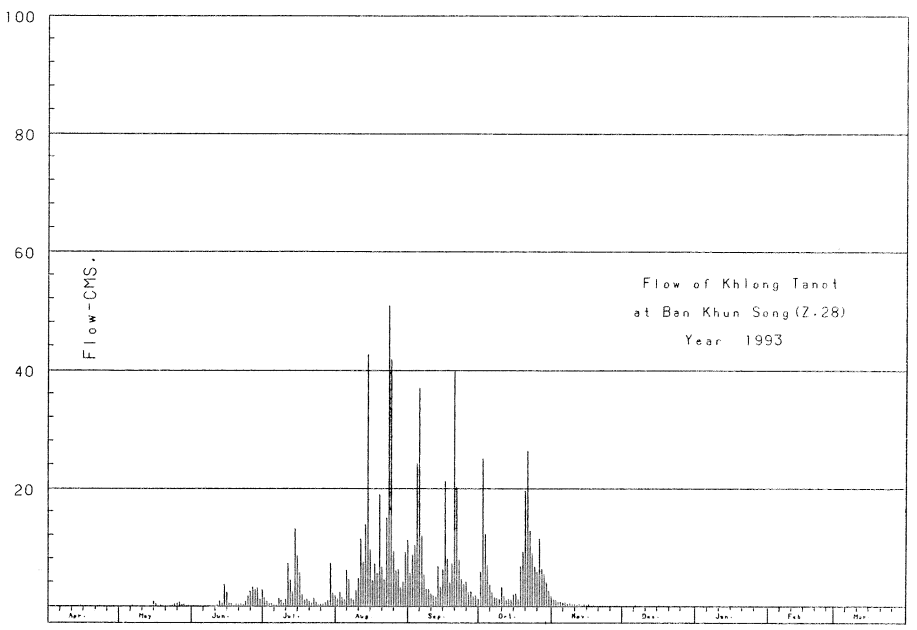
Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.30	0.46	0.46	0.90	0.88	1.59	1.63	0.83	0.48	0.42	0.93	0.34	
2	0.30	0.46	0.46	0.70	1.16	1.95	3.28	0.76	0.48	0.42	0.89	0.32	
3	0.30	0.46	0.46	0.63	0.92	2.09	2.28	0.70	0.48	0.42	0.85	0.31	
4	0.29	0.45	0.45	0.57	0.84	3.23	1.74	0.65	0.48	0.42	0.81	0.30	
5	0.28	0.45	0.45	0.54	1.65	4.13	1.36	0.67	0.48	0.70	0.77	0.30	
6	0.26	0.45	0.45	0.55	1.47	2.25	1.11	0.61	0.46	1.20	0.75	0.29	
7	0.26	0.44	0.44	0.91	0.90	1.56	0.95	0.60	0.45	1.20	0.74	0.28	
8	0.27	0.43	0.44	0.75	0.76	1.25	0.86	0.59	0.45	1.20	0.73	0.28	
9	0.29	0.42	0.44	0.63	1.21	1.22	0.86	0.57	0.45	1.20	0.72	0.27	
10	0.31	0.41	0.50	0.80	1.50	1.10	1.30	0.55	0.45	1.20	0.66	0.26	
11	0.39	0.40	0.50	1.78	2.19	1.00	0.95	0.56	0.45	1.20	0.57	0.25	
12	0.50	0.38	0.71	1.48	1.82	0.97	0.80	0.55	0.45	1.20	0.56	0.25	
13	0.49	0.38	0.63	1.14	2.41	1.72	0.83	0.54	0.45	1.20	0.54	0.24	
14	0.48	0.38	1.35	2.36	4.51	1.28	0.82	0.53	0.45	1.20	0.52	0.23	
15	0.47	0.75	1.16	1.94	2.04	1.68	1.03	0.53	0.45	1.20	0.50	0.23	
16	0.46	0.56	0.63	1.60	1.46	3.02	1.05	0.52	0.45	1.20	0.48	0.22	
17	0.46	0.50	0.57	1.07	1.77	1.88	0.84	0.51	0.45	1.20	0.47	0.22	
18	0.46	0.50	0.53	0.81	1.61	1.41	1.72	0.50	0.45	1.19	0.46	0.22	
19	0.45	0.52	0.55	0.81	2.83	1.77	2.00	0.46	0.45	1.19	0.44	0.21	
20	0.45	0.50	0.57	0.69	1.71	4.32	2.88	0.48	0.44	1.18	0.43	0.21	
21	0.45	0.49	0.54	0.64	1.46	2.93	3.39	0.49	0.44	1.18	0.43	0.20	
22	0.46	0.48	0.57	0.92	2.52	1.86	2.33	0.49	0.43	1.17	0.42	0.20	
23	0.46	0.54	0.69	0.65	5.02	1.49	1.96	0.52	0.43	1.16	0.41	1.21	
24	0.46	0.55	1.02	0.56	4.44	1.35	1.73	0.48	0.43	1.15	0.40	1.18	
25	0.46	0.63	1.16	0.54	2.01	1.41	1.61	0.49	0.43	1.15	0.38	1.20	
26	0.46	0.66	1.28	0.58	1.64	1.12	2.19	0.49	0.42	1.15	0.37	1.20	
27	0.46	0.57	1.24	0.67	1.69	1.17	1.69	0.48	0.42	1.14	0.37	1.19	
28	0.46	0.53	1.26	0.74	1.27	0.97	1.57	0.48	0.42	1.13	0.36	1.20	
29	0.46	0.52	0.86	1.80	1.43	0.99	1.41	0.48	0.42	1.04		1.16	
30	0.46	0.48	1.23	1.10	1.98	0.87	1.17	0.48	0.42	0.99		1.14	
31		0.47		0.98	2.17		0.97		0.42	0.96		1.14	
Mean	0.40	0.49	0.72	0.96	1.91	1.79	1.56	0.55	0.45	1.05	0.57	0.52	
Max	0.50	0.75	1.35	2.36	5.02	4.32	3.39	0.83	0.48	1.20	0.93	1.21	5.02
Min	0.26	0.38	0.44	0.54	0.76	0.87	0.80	0.46	0.42	0.42	0.36	0.20	0.20

Annual Max Momentary Gage Height — 5.65 M (A.D), at 3.00 Hours, on Aug 24, 1993

Zero Gage at Bottom Elevation — 0.00 M (A.D), River Bed -0.01 M (A.D)

Left Bank Elevation — 8.38 M (A.D)

Right Bank Elevation — 6.69 M (A.D), Drainage Area 267 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.00	0.12	0.12	1.40	1.34	5.51	5.87	1.19	0.16	0.04	0.00	0.00	
2	0.00	0.12	0.12	0.80	2.50	8.80	25.02	0.98	0.16	0.04	0.00	0.00	
3	0.00	0.12	0.12	0.59	1.48	10.29	12.38	0.80	0.16	0.04	0.00	0.00	
4	0.00	0.10	0.10	0.41	1.22	24.32	6.86	0.65	0.16	0.00	0.00	0.00	
5	0.00	0.10	0.10	0.32	6.05	37.15	3.72	0.71	0.16	0.00	0.00	0.00	
6	0.00	0.10	0.10	0.35	4.49	12.05	2.25	0.53	0.12	0.00	0.00	0.00	
7	0.00	0.08	0.08	1.44	1.40	5.24	1.60	0.50	0.10	0.00	0.00	0.00	
8	0.00	0.06	0.08	0.95	0.98	3.00	1.28	0.47	0.10	0.00	0.00	0.00	
9	0.00	0.04	0.08	0.59	2.76	2.82	1.28	0.41	0.10	0.00	0.00	0.00	
10	0.00	0.02	0.20	1.10	4.70	2.20	3.30	0.35	0.10	0.00	0.00	0.00	
11	0.00	0.00	0.20	7.22	11.39	1.80	1.60	0.38	0.10	0.00	0.00	0.00	
12	0.20	0.00	0.83	4.56	7.58	1.68	1.10	0.35	0.10	0.00	0.00	0.00	
13	0.18	0.00	0.59	2.40	13.82	6.68	1.19	0.32	0.10	0.00	0.00	0.00	
14	0.16	0.00	3.65	13.26	42.86	3.18	1.16	0.29	0.10	0.00	0.00	0.00	
15	0.14	0.95	2.50	8.70	9.74	6.32	1.92	0.29	0.10	0.00	0.00	0.00	
16	0.12	0.38	0.59	5.60	4.42	21.38	2.00	0.26	0.10	0.00	0.00	0.00	
17	0.12	0.20	0.41	2.08	7.13	8.12	1.22	0.23	0.10	0.00	0.00	0.00	
18	0.12	0.20	0.29	1.13	5.69	4.07	6.68	0.20	0.10	0.00	0.00	0.00	
19	0.10	0.26	0.35	1.13	18.89	7.13	9.30	0.12	0.10	0.00	0.00	0.00	
20	0.10	0.20	0.41	0.77	6.59	40.00	19.54	0.16	0.08	0.00	0.00	0.00	
21	0.10	0.18	0.32	0.62	4.42	20.19	26.56	0.18	0.08	0.00	0.00	0.00	
22	0.12	0.16	0.41	1.48	15.14	7.94	12.93	0.18	0.06	0.00	0.00	0.00	
23	0.12	0.32	0.77	0.65	51.04	4.63	8.90	0.26	0.06	0.00	0.00	0.00	
24	0.12	0.35	1.88	0.38	41.80	3.65	6.77	0.16	0.06	0.00	0.00	0.00	
25	0.12	0.59	2.50	0.32	9.41	4.07	5.69	0.18	0.06	0.00	0.00	0.00	
26	0.12	0.68	3.18	0.44	5.96	2.30	11.39	0.18	0.04	0.00	0.00	0.00	
27	0.12	0.41	2.94	0.71	6.41	2.55	6.41	0.16	0.04	0.00	0.00	0.00	
28	0.12	0.29	3.06	0.92	3.12	1.68	5.33	0.16	0.04	0.00	0.00	0.00	
29	0.12	0.26	1.28	7.40	4.21	1.76	4.07	0.16	0.04	0.00		0.00	
30	0.12	0.16	2.88	2.20	9.10	1.31	2.55	0.16	0.04	0.00		0.00	
31		0.14		1.72	11.17		1.68		0.04	0.00		0.00	
Total	2.42	6.59	30.14	71.64	316.81	261.82	201.55	10.97	2.86	0.12	0.00	0.00	904.92 CMSDAY
Mean	0.08	0.21	1.00	2.31	10.22	8.73	6.50	0.37	0.09	0.00	0.00	0.00	2.48 CMS
Max	0.20	0.95	3.65	13.26	51.04	40.00	26.56	1.19	0.16	0.04	0.00	0.00	51.04 CMS
Min	0.00	0.00	0.08	0.32	0.98	1.31	1.10	0.12	0.04	0.00	0.00	0.00	0.00 CMS
Runoff	0.209	0.569	2.604	6.190	27.372	22.621	17.414	0.948	0.247	0.010	0.000	0.000	78.185 MCM

Momentary Peak 62.00 CMS, at 5.65 M (A.D), at 3.00 Hours, on Aug 24, 1993

Runoff Yield 9.29 Liters/Second/Square KM, Momentary Peak Yield 232.21 Liters/Second/Square KM

WATER YEAR 1993

EAST COAST-GULF BASIN

Khlong Thap Ma at Ban Khao Bot, Rayong (Z.38)

Location — Lat. 12-44-09 N., Long. 101-13-55 E., on left bank at the bridge on road, near Wat Khao Bot, Tambon Thap Ma, Amphoe Muang, Rayong.

Drainage Area — 151 sq.km.

Type of Gage — Staff gage.

Zero Gage at Bottom — +0.00 m.(A.D.)

Bench Mark — B.M.-H.D.

Location — On left bank at the top staff gage.

Elevation — +3.220 m.(A.D.)

Gage Reading Frequency — 5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.

Basis of Mean Daily Gage Height — Arithmetic mean of 5 readings.

Period of Available Gage Records — 1993 to date.

Rating Operation

Period of Rating — 1993 to date.

Rated by Float — -

Rated by Current Meter — 1993 to date.

Stability of Channel Regimes — Fairly stable.

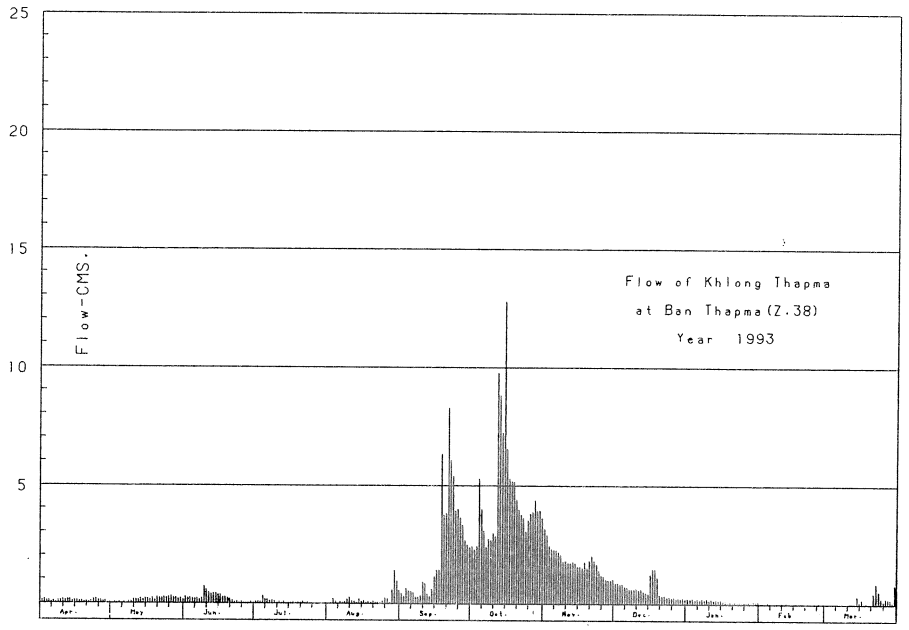
Overbank Flow Conditions — No overbank flow.

General Description — Records good. Stage-discharge relation defined by 14 discharge measurements made in 1993.

Gage Height in Meter (A.D), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.53	0.46	0.59	0.48	0.43	0.64	1.12	1.25	0.80	0.56	0.47	0.41	
2	0.53	0.46	0.58	0.48	0.43	0.61	1.10	1.20	0.79	0.56	0.47	0.41	
3	0.52	0.46	0.57	0.47	0.55	0.71	1.12	1.13	0.78	0.56	0.47	0.41	
4	0.51	0.45	0.57	0.62	0.51	0.69	1.57	1.10	0.77	0.55	0.47	0.41	
5	0.50	0.45	0.56	0.56	0.45	0.68	1.39	1.10	0.75	0.55	0.46	0.40	
6	0.49	0.45	0.56	0.53	0.47	0.65	1.23	1.09	0.73	0.55	0.46	0.40	
7	0.49	0.44	0.55	0.52	0.49	0.60	1.12	1.08	0.71	0.55	0.46	0.40	
8	0.51	0.49	0.56	0.51	0.48	0.58	1.17	1.05	0.70	0.55	0.46	0.40	
9	0.53	0.51	0.75	0.50	0.56	0.62	1.17	1.00	0.71	0.55	0.46	0.40	
10	0.53	0.53	0.69	0.48	0.58	0.80	1.22	1.00	0.71	0.54	0.47	0.39	
11	0.53	0.54	0.65	0.48	0.52	0.78	1.19	0.99	0.70	0.54	0.45	0.39	
12	0.55	0.55	0.64	0.47	0.50	0.63	2.09	0.98	0.70	0.54	0.45	0.39	
13	0.53	0.55	0.64	0.47	0.48	0.61	1.99	1.00	0.68	0.53	0.45	0.38	
14	0.52	0.55	0.65	0.47	0.55	0.70	1.82	0.98	0.65	0.53	0.45	0.62	
15	0.51	0.55	0.63	0.47	0.51	0.87	2.36	0.96	0.65	0.53	0.45	0.47	
16	0.51	0.55	0.62	0.48	0.51	0.92	1.73	0.95	0.88	0.52	0.44	0.54	
17	0.51	0.55	0.60	0.48	0.49	0.93	1.57	0.95	0.94	0.52	0.43	0.43	
18	0.50	0.56	0.58	0.48	0.48	1.71	1.56	0.99	0.93	0.47	0.43	0.45	
19	0.50	0.54	0.58	0.48	0.49	1.34	1.55	0.95	0.86	0.48	0.43	0.44	
20	0.50	0.58	0.54	0.48	0.50	1.36	1.45	1.00	0.62	0.48	0.43	0.47	
21	0.49	0.58	0.52	0.48	0.49	1.93	1.38	1.05	0.62	0.48	0.43	0.65	
22	0.50	0.58	0.50	0.48	0.49	1.67	1.35	1.00	0.61	0.49	0.43	0.80	
23	0.55	0.58	0.49	0.46	0.48	1.59	1.32	0.98	0.60	0.49	0.44	0.69	
24	0.54	0.59	0.48	0.46	0.50	1.37	1.23	0.92	0.59	0.48	0.43	0.60	
25	0.53	0.58	0.48	0.46	0.56	1.39	1.31	0.88	0.59	0.48	0.43	0.52	
26	0.52	0.60	0.47	0.46	0.57	1.33	1.35	0.86	0.58	0.47	0.43	0.57	
27	0.51	0.59	0.47	0.44	0.48	1.27	1.37	0.84	0.57	0.47	0.42	0.57	
28	0.50	0.57	0.47	0.44	0.70	1.17	1.44	0.82	0.56	0.48	0.42	0.54	
29	0.49	0.56	0.47	0.44	0.92	1.13	1.37	0.83	0.57	0.50		0.50	
30	0.48	0.56	0.47	0.43	0.82	1.12	1.38	0.83	0.57	0.50		0.78	
31		0.55		0.43	0.68		1.32		0.56	0.49		0.57	
Mean	0.51	0.53	0.56	0.48	0.54	1.01	1.43	0.99	0.69	0.52	0.45	0.50	
Max	0.55	0.60	0.75	0.62	0.92	1.93	2.36	1.25	0.94	0.56	0.47	0.80	2.36
Min	0.48	0.44	0.47	0.43	0.43	0.58	1.10	0.82	0.56	0.47	0.42	0.38	0.38

Annual Max Momentary Gage Height 2.40 M (A.D), at 6.00 Hours, on Oct 15, 1993
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed 0.33 M (A.D)
Left Bank Elevation 2.66 M (A.D)
Right Bank Elevation 3.33 M (A.D), Drainage Area 151 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.16	0.06	0.28	0.08	0.03	0.42	2.42	3.20	0.90	0.22	0.07	0.01	
2	0.16	0.06	0.26	0.08	0.03	0.33	2.30	2.90	0.87	0.22	0.07	0.01	
3	0.14	0.06	0.24	0.07	0.20	0.63	2.42	2.48	0.84	0.22	0.07	0.01	
4	0.12	0.05	0.24	0.36	0.12	0.57	5.29	2.30	0.81	0.20	0.07	0.01	
5	0.10	0.05	0.22	0.22	0.05	0.54	4.04	2.30	0.75	0.20	0.06	0.00	
6	0.09	0.05	0.22	0.16	0.07	0.45	3.08	2.25	0.69	0.20	0.06	0.00	
7	0.09	0.04	0.20	0.14	0.09	0.30	2.42	2.20	0.63	0.20	0.06	0.00	
8	0.12	0.09	0.22	0.12	0.08	0.26	2.72	2.05	0.60	0.20	0.06	0.00	
9	0.16	0.12	0.75	0.10	0.22	0.36	2.72	1.80	0.63	0.20	0.06	0.00	
10	0.16	0.16	0.57	0.08	0.26	0.90	3.02	1.80	0.63	0.18	0.07	0.00	
11	0.16	0.18	0.45	0.08	0.14	0.84	2.84	1.75	0.60	0.18	0.05	0.00	
12	0.20	0.20	0.42	0.07	0.10	0.39	9.80	1.70	0.60	0.18	0.05	0.00	
13	0.16	0.20	0.42	0.07	0.08	0.33	8.81	1.80	0.54	0.16	0.05	0.00	
14	0.14	0.20	0.45	0.07	0.20	0.60	7.28	1.70	0.45	0.16	0.05	0.36	
15	0.12	0.20	0.39	0.07	0.12	1.18	12.82	1.60	0.45	0.16	0.05	0.07	
16	0.12	0.20	0.36	0.08	0.12	1.40	6.54	1.55	1.22	0.14	0.04	0.18	
17	0.12	0.20	0.30	0.08	0.09	1.45	5.29	1.55	1.50	0.14	0.03	0.03	
18	0.10	0.22	0.26	0.08	0.08	6.38	5.22	1.75	1.45	0.07	0.03	0.05	
19	0.10	0.18	0.26	0.08	0.09	3.74	5.15	1.55	1.14	0.08	0.03	0.04	
20	0.10	0.26	0.18	0.08	0.10	3.86	4.45	1.80	0.36	0.08	0.03	0.07	
21	0.09	0.26	0.14	0.08	0.09	8.27	3.98	2.05	0.36	0.08	0.03	0.45	
22	0.10	0.26	0.10	0.08	0.09	6.06	3.80	1.80	0.33	0.09	0.03	0.90	
23	0.20	0.26	0.09	0.06	0.08	5.43	3.62	1.70	0.30	0.09	0.04	0.57	
24	0.18	0.28	0.08	0.06	0.10	3.92	3.08	1.40	0.28	0.08	0.03	0.30	
25	0.16	0.26	0.08	0.06	0.22	4.04	3.56	1.22	0.28	0.08	0.03	0.14	
26	0.14	0.30	0.07	0.06	0.24	3.68	3.80	1.14	0.26	0.07	0.03	0.24	
27	0.12	0.28	0.07	0.04	0.08	3.32	3.92	1.06	0.24	0.07	0.02	0.24	
28	0.10	0.24	0.07	0.04	0.60	2.72	4.38	0.98	0.22	0.08	0.02	0.18	
29	0.09	0.22	0.07	0.04	1.40	2.48	3.92	1.02	0.24	0.10		0.10	
30	0.08	0.22	0.07	0.03	0.98	2.42	3.98	1.02	0.24	0.10		0.84	
31		0.20		0.03	0.54		3.62		0.22	0.09		0.24	
Total	3.88	5.56	7.53	2.75	6.69	67.27	140.29	53.42	18.63	4.32	1.29	5.04	316.67 CMSDAY
Mean	0.13	0.18	0.25	0.09	0.22	2.24	4.53	1.78	0.60	0.14	0.05	0.16	0.87 CMS
Max	0.20	0.30	0.75	0.36	1.40	8.27	12.82	3.20	1.50	0.22	0.07	0.90	12.82 CMS
Min	0.08	0.04	0.07	0.03	0.03	0.26	2.30	0.98	0.22	0.07	0.02	0.00	0.00 CMS
Runoff	0.335	0.480	0.651	0.238	0.578	5.812	12.121	4.615	1.610	0.373	0.111	0.435	27.360 MCM

Momentary Peak 13.30 CMS, at 2.40 M (A.D), at 6.00 Hours, on Oct 15, 1993

Runoff Yield 5.75 Liters/Second/Square KM, Momentary Peak Yield 88.08 Liters/Second/Square KM

WATER YEAR 1993

MAE KLONG RIVER BASIN

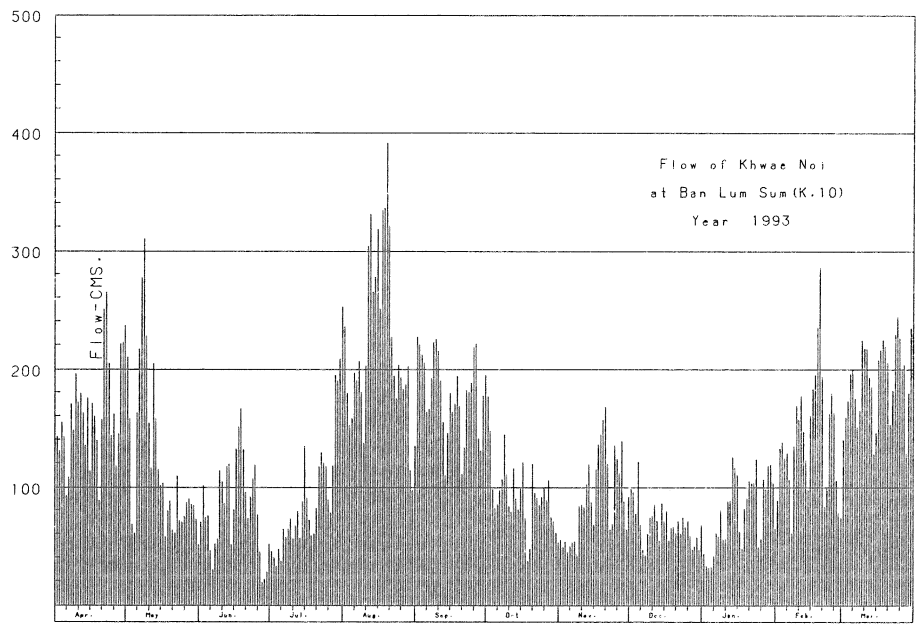
Khwae Noi River at Ban Lum Sum, Kanchanaburi (K.10)

Location	Lat. 14°-05'-40" N., Long. 99°-10'-28" E., on left bank about 100 meters upstream from Ban Lum Sum railway station, Amphoe Sai Yok, Kanchanaburi.
Drainage Area	7,008 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+30.40 m. (M.S.L.)
Bench Mark	B.M.-H.D.
Location	Near the gage site.
Elevation	+52.057 m. (M.S.L.)
Gage Reading Frequency	16-time daily readings at 03.00, 06.00-18.00, 21.00 and 24.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 16 readings.
Period of Available Gage Records	1965 to date.
Rating Operation	
Period of Rating	1965 to date.
Rated by Float	-
Rated by Current Meter	1965 to date.
Stability of Channel Regimes	Stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Stage-discharge relation defined by 150 discharge measurements made in 1993.

Gage Height in Meter (MSL), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	32.61	33.39	31.69	31.35	33.67	33.58	33.02	31.49	32.05	31.32	31.92	32.57	
2	32.45	32.79	32.09	31.28	33.05	33.50	32.66	31.41	32.01	31.18	32.48	32.81	
3	32.76	31.67	31.74	31.17	32.72	33.41	32.05	31.47	31.78	31.15	32.54	32.97	
4	32.60	31.58	31.77	31.38	32.80	33.33	31.84	31.34	32.34	31.17	32.37	33.23	
5	31.98	32.86	31.36	31.24	33.24	32.86	31.89	31.42	31.66	31.30	32.43	33.26	
6	32.17	33.46	31.14	31.62	33.16	32.90	32.03	31.46	31.37	31.58	32.14	33.00	
7	32.95	34.12	31.44	31.53	33.35	33.19	32.15	31.48	31.31	31.53	31.58	32.70	
8	32.67	34.45	31.51	31.63	33.05	33.52	32.63	31.30	31.57	31.82	32.50	32.88	
9	33.23	33.58	32.24	31.73	32.54	33.56	32.20	31.86	31.75	31.50	32.93	33.54	
10	32.96	32.75	32.13	31.51	33.30	33.44	31.87	31.88	31.76	31.50	32.78	33.47	
11	33.05	32.27	31.89	31.66	34.38	33.16	31.80	31.85	31.88	31.92	33.02	33.46	
12	32.86	33.33	32.29	31.81	34.65	32.76	32.27	32.10	31.71	31.92	32.66	33.20	
13	32.51	32.79	32.31	31.51	34.00	32.19	31.94	32.31	31.48	32.39	32.35	33.10	
14	33.00	32.26	31.43	31.92	34.12	32.64	31.83	31.91	31.90	32.27	32.04	32.42	
15	32.24	32.09	31.83	32.50	34.53	33.05	32.06	31.67	31.70	32.20	32.82	32.64	
16	32.95	32.11	32.47	31.95	33.84	32.86	32.33	32.26	31.82	31.60	33.09	33.36	
17	32.82	31.53	32.71	31.72	34.69	32.95	31.73	32.52	31.49	31.39	33.22	33.45	
18	32.57	31.82	32.90	31.54	34.70	33.21	31.24	32.63	31.64	31.83	33.67	33.55	
19	31.93	31.92	32.47	31.57	35.26	32.92	31.38	32.78	31.64	31.95	34.20	33.48	
20	32.79	31.61	32.01	31.84	34.55	32.21	32.32	32.92	31.57	32.13	33.20	33.33	
21	33.83	31.58	31.73	32.29	33.57	32.49	32.01	32.31	31.71	32.11	31.86	32.73	
22	33.99	32.19	31.97	32.44	33.21	33.07	31.95	31.62	31.57	32.11	32.05	33.07	
23	33.33	31.71	32.16	32.32	33.00	33.06	31.88	31.67	31.74	32.37	32.85	33.60	
24	32.61	31.70	32.30	32.29	33.31	33.14	31.96	32.51	31.64	31.40	33.04	33.76	
25	32.85	31.76	31.78	31.93	33.19	33.48	32.06	32.37	31.71	31.51	32.85	33.56	
26	32.29	31.90	31.35	31.80	33.08	33.51	31.93	32.21	31.54	32.15	32.14	33.26	
27	32.64	31.94	30.96	32.29	33.13	32.59	32.14	32.56	31.38	32.04	31.79	33.31	
28	33.51	31.89	31.00	33.22	33.30	32.45	31.75	31.91	31.41	32.29	31.74	32.42	
29	33.53	31.87	31.11	33.16	32.25	33.02	31.70	31.62	31.53	32.31		33.05	
30	33.68	31.73	31.44	33.37	32.03	33.22	31.58	31.96	31.37	32.11		33.66	
31		31.44		33.86	32.51		31.46		31.66	31.62		33.59	
Mean	32.85	32.33	31.84	31.98	33.49	33.04	31.99	31.96	31.67	31.80	32.58	33.18	
Max	33.99	34.45	32.90	33.86	35.26	33.58	33.02	32.92	32.34	32.39	34.20	33.76	35.26
Min	31.93	31.44	30.96	31.17	32.03	32.19	31.24	31.30	31.31	31.15	31.58	32.42	30.96

Annual Max Momentary Gage Height 35.55 M (MSL), at 24.00 Hours, on Aug 18, 1993
Zero Gage at Bottom Elevation 30.40 M (MSL), River Bed 29.63 M (MSL)
Left Bank Elevation 51.64 M (MSL)
Right Bank Elevation 46.66 M (MSL), Drainage Area 7008 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	143.80	211.10	70.20	45.50	236.30	228.20	177.80	55.30	99.00	43.40	88.60	140.60	
2	131.00	158.20	102.20	40.60	180.50	221.00	147.80	49.70	95.80	33.60	133.40	159.80	
3	155.80	68.60	74.20	32.90	152.60	212.90	99.00	53.90	77.40	31.50	138.20	173.30	
4	143.00	61.60	76.60	47.60	159.00	205.70	82.20	44.80	122.20	32.90	124.60	196.70	
5	93.40	163.80	46.20	37.80	197.60	163.80	86.20	50.40	67.80	42.00	129.40	199.40	
6	108.60	217.40	30.80	64.60	190.40	167.00	97.40	53.20	46.90	61.60	106.20	176.00	
7	171.50	278.00	51.80	58.10	207.50	193.10	107.00	54.60	42.70	58.10	61.60	151.00	
8	148.60	311.00	56.70	65.40	180.50	222.80	145.40	42.00	60.90	80.60	135.00	165.40	
9	196.70	228.20	114.20	73.40	138.20	226.40	111.00	83.80	75.00	56.00	169.70	224.60	
10	172.40	155.00	105.40	56.70	203.00	215.60	84.60	85.40	75.80	56.00	157.40	218.30	
11	180.50	116.60	86.20	67.80	304.00	190.40	79.00	83.00	85.40	88.60	177.80	217.40	
12	163.80	205.70	118.20	79.80	331.00	155.80	116.60	103.00	71.80	88.60	147.80	194.00	
13	135.80	158.20	119.80	56.70	266.00	110.20	90.20	119.80	54.60	126.20	123.00	185.00	
14	176.00	115.80	51.10	88.60	278.00	146.20	81.40	87.80	87.00	116.60	98.20	128.60	
15	114.20	102.20	81.40	135.00	319.00	180.50	99.80	68.60	71.00	111.00	160.60	146.20	
16	171.50	103.80	132.60	91.00	251.60	163.80	121.40	115.80	80.60	63.00	184.10	208.40	
17	160.60	58.10	151.80	72.60	335.00	171.50	73.40	136.60	55.30	48.30	195.80	216.50	
18	140.60	80.60	167.00	58.80	336.00	194.90	37.80	145.40	66.20	81.40	236.30	225.50	
19	89.40	88.60	132.60	60.90	392.00	168.80	47.60	157.40	66.20	91.00	286.00	219.20	
20	158.20	63.80	95.80	82.20	321.00	111.80	120.60	168.80	60.90	105.40	194.00	205.70	
21	250.70	61.60	73.40	118.20	227.30	134.20	95.80	119.80	71.80	103.80	83.80	153.40	
22	265.10	110.20	92.60	130.20	194.90	182.30	91.00	64.60	60.90	103.80	99.00	182.30	
23	205.70	71.80	107.80	120.60	176.00	181.40	85.40	68.60	74.20	124.60	163.00	230.00	
24	143.80	71.00	119.00	118.20	203.90	188.60	91.80	135.80	66.20	49.00	179.60	244.40	
25	163.00	75.80	77.40	89.40	193.10	219.20	99.80	124.60	71.80	56.70	163.00	226.40	
26	118.20	87.00	45.50	79.00	183.20	221.90	89.40	111.80	58.80	107.00	106.20	199.40	
27	146.20	90.20	19.60	118.20	187.70	142.20	106.20	139.80	47.60	98.20	78.20	203.90	
28	221.90	86.20	22.00	195.80	203.00	131.00	75.00	87.80	49.70	118.20	74.20	128.60	
29	223.70	84.60	28.70	190.40	115.00	177.80	71.00	64.60	58.10	119.80		180.50	
30	237.20	73.40	51.80	209.30	97.40	195.80	61.60	91.80	46.90	103.80		235.40	
31		51.80		253.40	135.80		53.20		67.80	64.60		229.10	
Total	4930.90	3809.90	2502.60	2938.70	6896.50	5424.80	2926.40	2768.50	2136.30	2465.30	3994.70	5965.00	46759.61 CMSDAY
Mean	164.36	122.90	83.42	94.80	222.47	180.83	94.40	92.28	68.91	79.53	142.67	192.42	128.11 CMS
Max	265.10	311.00	167.00	253.40	392.00	228.20	177.80	168.80	122.20	126.20	286.00	244.40	392.00 CMS
Min	89.40	51.80	19.60	32.90	97.40	110.20	37.80	42.00	42.70	31.50	61.60	128.60	19.60 CMS
Runoff	426.030	329.175	216.225	253.904	595.858	468.703	252.841	239.198	184.576	213.002	345.142	515.376	4040.030 MCM

Momentary Peak 422.50 CMS. at 35.55 M (MSL), at 24.00 Hours, on Aug 18, 1993

Runoff Yield 18.28 Liters/Second/Square KM, Momentary Peak Yield 60.29 Liters/Second/Square KM

WATER YEAR 1993

MAE KLONG RIVER BASIN

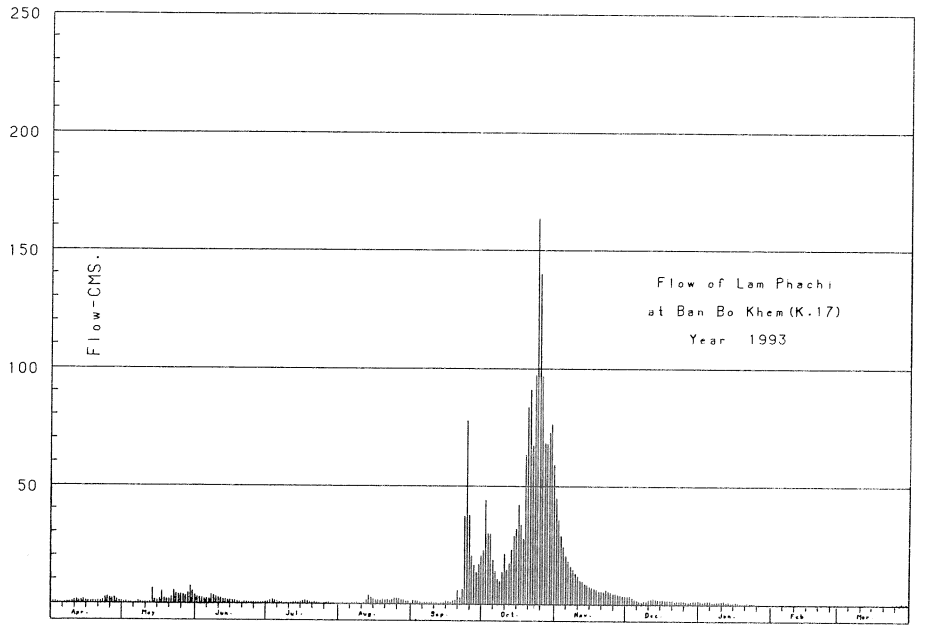
Lam Phachi at Ban Bo Khem, Ratchaburi (K.17)

Location	Lat. 13°-32'-41" N., Long. 99°-21'-22" E., on left bank opposite to the 'Sai Ngam' frontier police station, Amphoe Suan Phung, Ratchaburi.
Drainage Area	1,355 sq.km.
Type of Gage	Water-stage recorder.
Zero Gage at Bottom	+0.00 m. (A.D.)
Bench Mark	B.M.-H.D.
Location	Along the measuring line.
Elevation	+11.799 m. (A.D.)
Gage Reading Frequency	Recording.
Basis of Mean Daily Gage Height	Arithmetic mean of 24 readings.
Period of Available Gage Records	1966 to date.
Rating Operation	
Period of Rating	1966 - 1988, 1993 to date.
Rated by Float	-
Rated by Current Meter	1966 to date.
Stability of Channel Regimes	Stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Stage-discharge relation defined by 232 discharge measurements made in 1993.

Gage Height in Meter (A.D), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.19	0.20	0.43	0.19	0.11	0.28	1.58	2.22	0.50	0.26	0.02	0.00	
2	0.20	0.18	0.43	0.27	0.14	0.29	2.19	1.98	0.50	0.24	0.02	0.00	
3	0.16	0.16	0.39	0.34	0.09	0.27	1.82	1.79	0.45	0.25	0.01	0.00	
4	0.11	0.13	0.36	0.29	0.09	0.22	1.81	1.63	0.36	0.29	0.04	0.08	
5	0.09	0.11	0.36	0.26	0.11	0.20	1.44	1.51	0.33	0.29	0.09	0.03	
6	0.12	0.12	0.36	0.20	0.13	0.20	1.20	1.41	0.30	0.21	0.03	0.00	
7	0.18	0.25	0.53	0.16	0.15	0.19	1.05	1.32	0.28	0.21	0.02	0.00	
8	0.16	0.17	0.51	0.13	0.17	0.19	0.98	1.24	0.28	0.25	0.01	-0.01	
9	0.21	0.16	0.44	0.12	0.11	0.20	1.19	1.17	0.27	0.24	0.01	-0.02	
10	0.26	0.14	0.42	0.11	0.08	0.20	1.54	1.10	0.34	0.28	0.03	-0.01	
11	0.26	0.14	0.38	0.11	0.11	0.17	1.23	1.01	0.38	0.27	0.04	0.03	
12	0.22	0.17	0.34	0.18	0.32	0.11	1.38	0.98	0.40	0.23	0.10	0.14	
13	0.29	0.75	0.32	0.20	0.52	0.15	1.59	0.92	0.39	0.22	0.05	0.08	
14	0.31	0.31	0.30	0.17	0.46	0.19	1.79	0.88	0.34	0.18	0.04	0.01	
15	0.25	0.26	0.29	0.19	0.36	0.28	1.87	0.83	0.34	0.17	0.03	0.02	
16	0.21	0.35	0.28	0.27	0.32	0.25	2.15	0.79	0.34	0.24	0.05	0.02	
17	0.20	0.64	0.26	0.27	0.30	0.19	1.92	0.77	0.33	0.19	0.04	0.01	
18	0.23	0.38	0.24	0.27	0.30	0.30	1.75	0.73	0.31	0.12	0.05	0.03	
19	0.19	0.32	0.22	0.24	0.34	0.31	2.64	0.69	0.31	0.13	0.05	0.08	
20	0.23	0.34	0.18	0.20	0.33	0.69	3.02	0.67	0.33	0.15	0.03	0.05	
21	0.23	0.42	0.21	0.19	0.33	0.44	3.16	0.66	0.27	0.17	0.02	0.03	
22	0.26	0.68	0.22	0.17	0.31	0.75	2.72	0.72	0.27	0.17	0.07	0.02	
23	0.42	0.56	0.16	0.16	0.32	2.02	3.27	0.68	0.29	0.14	0.07	0.01	
24	0.44	0.56	0.18	0.14	0.41	2.92	4.26	0.63	0.29	0.14	0.01	0.01	
25	0.41	0.54	0.19	0.13	0.42	2.04	3.94	0.60	0.26	0.08	-0.01	0.09	
26	0.35	0.54	0.16	0.17	0.38	1.50	3.26	0.58	0.23	0.10	-0.02	0.12	
27	0.42	0.48	0.16	0.18	0.33	1.33	2.74	0.56	0.23	0.04	-0.02	0.07	
28	0.30	0.61	0.15	0.11	0.31	1.18	2.73	0.53	0.24	0.03	-0.01	0.09	
29	0.25	0.83	0.16	0.07	0.26	1.36	2.83	0.52	0.29	0.09		0.08	
30	0.22	0.65	0.21	0.06	0.24	1.50	2.89	0.50	0.27	0.08		0.12	
31		0.53		0.07	0.24		2.55		0.31	0.03		0.14	
Mean	0.25	0.38	0.29	0.18	0.26	0.66	2.21	0.99	0.32	0.18	0.03	0.04	
Max	0.44	0.83	0.53	0.34	0.52	2.92	4.26	2.22	0.50	0.29	0.10	0.14	4.26
Min	0.09	0.11	0.15	0.06	0.08	0.11	0.98	0.50	0.23	0.03	-0.02	-0.02	-0.02

Annual Max Momentary Gage Height 4.55 M (A.D), at 16.00 Hours, on Oct 24, 1993
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed 0.18 M (A.D)
Left Bank Elevation 6.69 M (A.D)
Right Bank Elevation 6.75 M (A.D), Drainage Area 1355 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.95	1.00	2.90	0.95	0.55	1.60	22.90	45.30	3.60	1.45	0.26	0.20	
2	1.00	0.90	2.90	1.53	0.70	1.67	44.10	35.80	3.60	1.30	0.26	0.20	
3	0.80	0.80	2.52	2.09	0.47	1.53	30.20	29.20	3.10	1.38	0.23	0.20	
4	0.55	0.65	2.26	1.67	0.47	1.15	29.85	24.40	2.26	1.67	0.32	0.44	
5	0.47	0.55	2.26	1.45	0.55	1.00	19.00	20.80	2.01	1.67	0.47	0.29	
6	0.60	0.60	2.26	1.00	0.65	1.00	14.00	18.25	1.75	1.07	0.29	0.20	
7	0.90	1.38	3.94	0.80	0.75	0.95	11.00	16.40	1.60	1.07	0.26	0.20	
8	0.80	0.85	3.71	0.65	0.85	0.95	9.73	14.80	1.60	1.38	0.23	0.18	
9	1.07	0.80	3.00	0.60	0.55	1.00	13.80	13.40	1.53	1.30	0.23	0.16	
10	1.45	0.70	2.80	0.55	0.44	1.00	21.70	12.00	2.09	1.60	0.29	0.18	
11	1.45	0.70	2.43	0.55	0.55	0.85	14.60	10.20	2.43	1.53	0.32	0.29	
12	1.15	0.85	2.09	0.90	1.92	0.55	17.60	9.73	2.60	1.23	0.50	0.70	
13	1.67	6.65	1.92	1.00	3.83	0.75	23.20	8.92	2.52	1.15	0.35	0.44	
14	1.83	1.83	1.75	0.85	3.20	0.95	29.20	8.38	2.09	0.90	0.32	0.23	
15	1.38	1.45	1.67	0.95	2.26	1.60	31.95	7.71	2.09	0.85	0.29	0.26	
16	1.07	2.18	1.60	1.53	1.92	1.38	42.50	7.17	2.09	1.30	0.35	0.26	
17	1.00	5.25	1.45	1.53	1.75	0.95	33.70	6.91	2.01	0.95	0.32	0.23	
18	1.23	2.43	1.30	1.53	1.75	1.75	28.00	6.39	1.83	0.60	0.35	0.29	
19	0.95	1.92	1.15	1.30	2.09	1.83	63.50	5.88	1.83	0.65	0.35	0.44	
20	1.23	2.09	0.90	1.00	2.01	5.88	83.60	5.63	2.01	0.75	0.29	0.35	
21	1.23	2.80	1.07	0.95	2.01	3.00	91.30	5.50	1.53	0.85	0.26	0.29	
22	1.45	5.75	1.15	0.85	1.83	6.65	67.50	6.26	1.53	0.85	0.41	0.26	
23	2.80	4.29	0.80	0.80	1.92	37.30	97.35	5.75	1.67	0.70	0.41	0.23	
24	3.00	4.29	0.90	0.70	2.70	78.10	163.80	5.13	1.67	0.70	0.23	0.23	
25	2.70	4.06	0.95	0.65	2.80	38.10	140.30	4.75	1.45	0.44	0.18	0.47	
26	2.18	4.06	0.80	0.85	2.43	20.50	96.80	4.52	1.23	0.50	0.16	0.60	
27	2.80	3.40	0.80	0.90	2.01	16.60	68.50	4.29	1.23	0.32	0.16	0.41	
28	1.75	4.88	0.75	0.55	1.83	13.60	68.00	3.94	1.30	0.29	0.18	0.47	
29	1.38	7.71	0.80	0.41	1.45	17.20	73.15	3.83	1.67	0.47		0.44	
30	1.15	5.37	1.07	0.38	1.30	20.50	76.45	3.60	1.53	0.44		0.60	
31		3.94		0.41	1.30		59.25		1.83	0.29		0.70	
Total	41.99	84.13	53.90	29.88	48.84	279.89	1586.53	354.84	61.28	29.65	8.27	10.44	2589.64 CMSDAY
Mean	1.40	2.71	1.80	0.96	1.58	9.33	51.18	11.83	1.98	0.96	0.30	0.34	7.09 CMS
Max	3.00	7.71	3.94	2.09	3.83	78.10	163.80	45.30	3.60	1.67	0.50	0.70	163.80 CMS
Min	0.47	0.55	0.75	0.38	0.44	0.55	9.73	3.60	1.23	0.29	0.16	0.16	0.16 CMS
Runoff	3.628	7.269	4.657	2.582	4.220	24.182	137.076	30.658	5.295	2.562	0.715	0.902	223.745 MCM

Momentary Peak 187.00 CMS, at 4.55 M (A.D), at 16.00 Hours, on Oct 24, 1993
Runoff Yield 5.24 Liters/Second/Square KM, Momentary Peak Yield 138.01 Liters/Second/Square KM

WATER YEAR 1993

MAE KLONG RIVER BASIN

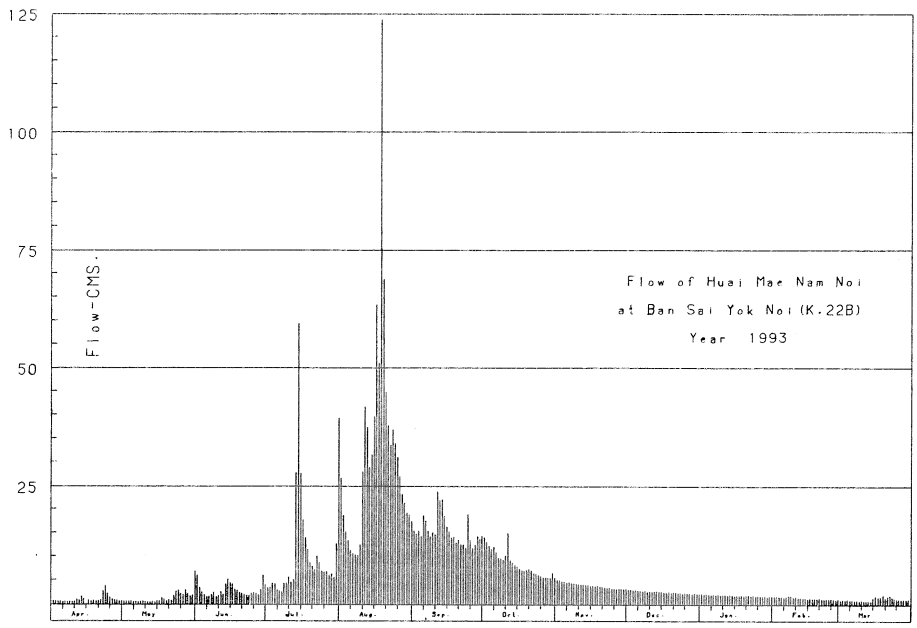
Huai Mae Nam Noi at Ban Sai Yok Noi, Kanchanaburi (K.22B)

Location	Lat. 14°-26'-59" N., Long. 98°-48'-08" E., on right bank about 640 meters upstream from station K.22A, Amphoe Sai Yok, Kanchanaburi.
Drainage Area	320 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+67.00 m.(M.S.L)
Bench Mark	B.M.-H.D.
Location	On right bank about 10 meters from the top staff gage.
Elevation	+73.578 m.(M.S.L)
Gage Reading Frequency	5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1989 to date.
Rating Operation	
Period of Rating	1989 to date.
Rated by Float	-
Rated by Current Meter	1989 to date.
Stability of Channel Regimes	Fairly stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records fair. Stage-discharge relation defined by 115 discharge measurements made in 1993.

Gage Height in Meter (MSL), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	67.97	67.96	68.43	68.24	69.30	68.88	68.82	68.37	68.21	68.12	68.08	68.00	
2	67.96	67.96	68.25	68.24	69.02	68.85	68.77	68.36	68.20	68.12	68.07	68.00	
3	67.96	67.97	68.16	68.31	68.87	68.88	68.74	68.35	68.20	68.12	68.07	68.00	
4	67.96	67.96	68.11	68.31	68.79	68.83	68.70	68.34	68.19	68.12	68.06	68.01	
5	67.95	67.95	68.08	68.21	68.69	69.02	68.73	68.33	68.19	68.11	68.06	68.00	
6	67.95	67.95	68.07	68.18	68.66	68.97	68.67	68.33	68.18	68.11	68.06	67.99	
7	67.95	67.95	68.12	68.17	68.65	68.88	68.62	68.32	68.18	68.11	68.10	67.99	
8	67.95	67.95	68.15	68.31	68.64	68.82	68.61	68.31	68.18	68.11	68.08	67.99	
9	67.95	67.96	68.07	68.32	68.75	68.86	68.60	68.31	68.17	68.11	68.06	67.98	
10	67.95	67.95	68.09	68.41	69.35	68.85	68.64	68.30	68.17	68.10	68.06	67.98	
11	68.01	67.94	68.17	68.33	69.80	69.20	68.86	68.30	68.17	68.10	68.05	67.98	
12	68.00	67.94	68.11	68.38	69.67	69.13	68.60	68.29	68.18	68.10	68.04	67.97	
13	68.08	67.95	68.31	69.34	69.38	69.14	68.57	68.29	68.17	68.10	68.04	67.97	
14	68.02	67.94	68.38	70.30	69.48	69.01	68.55	68.28	68.17	68.10	68.04	67.97	
15	68.00	67.97	68.33	69.34	69.74	68.92	68.53	68.27	68.16	68.09	68.03	68.04	
16	67.99	67.97	68.30	68.98	70.40	68.87	68.51	68.27	68.16	68.09	68.03	68.08	
17	67.97	68.05	68.22	68.82	70.07	68.82	68.50	68.27	68.16	68.09	68.03	68.06	
18	67.98	68.01	68.19	68.70	71.82	68.82	68.48	68.27	68.16	68.09	68.03	68.06	
19	67.97	67.98	68.16	68.57	70.54	68.77	68.50	68.27	68.15	68.09	68.03	68.11	
20	67.98	68.00	68.13	68.54	69.89	68.79	68.51	68.25	68.15	68.09	68.03	68.04	
21	68.00	67.98	68.11	68.50	69.68	68.75	68.49	68.25	68.15	68.09	68.02	68.07	
22	68.19	68.10	68.10	68.64	69.55	68.75	68.46	68.24	68.15	68.09	68.02	68.10	
23	68.28	68.17	68.09	68.57	69.65	68.72	68.45	68.24	68.14	68.09	68.02	68.06	
24	68.13	68.20	68.14	68.49	69.56	69.03	68.44	68.23	68.14	68.08	68.02	68.03	
25	68.05	68.13	68.15	68.47	69.46	68.79	68.42	68.22	68.14	68.08	68.02	68.02	
26	68.02	68.11	68.13	68.48	69.31	68.71	68.41	68.21	68.14	68.08	68.01	68.01	
27	68.00	68.21	68.11	68.44	69.18	68.75	68.41	68.23	68.13	68.08	68.01	68.01	
28	67.99	68.13	68.21	68.45	69.11	68.83	68.40	68.22	68.13	68.08	68.01	68.01	
29	67.97	68.09	68.44	68.41	69.04	68.80	68.40	68.22	68.13	68.07		68.01	
30	67.97	68.10	68.29	68.76	69.02	68.83	68.46	68.22	68.13	68.07		68.01	
31		68.49		69.73	68.97		68.40		68.12	68.07		68.06	
Mean	68.01	68.03	68.19	68.61	69.42	68.88	68.56	68.28	68.16	68.10	68.04	68.02	
Max	68.28	68.49	68.44	70.30	71.82	69.20	68.86	68.37	68.21	68.12	68.10	68.11	71.82
Min	67.95	67.94	68.07	68.17	68.64	68.71	68.40	68.21	68.12	68.07	68.01	67.97	67.94

Annual Max Momentary Gage Height 72.17 M (MSL), at 9.00 Hours, on Aug 18, 1993
Zero Gage at Bottom Elevation 67.00 M (MSL), River Bed 67.35 M (MSL)
Left Bank Elevation 75.85 M (MSL)
Right Bank Elevation 73.44 M (MSL), Drainage Area 320 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.79	0.72	6.11	3.58	26.70	15.56	14.24	5.21	3.22	2.22	1.80	1.00	
2	0.72	0.72	3.70	3.58	18.86	14.90	13.14	5.08	3.10	2.22	1.70	1.00	
3	0.72	0.79	2.66	4.43	15.34	15.56	12.48	4.95	3.10	2.22	1.70	1.00	
4	0.72	0.72	2.11	4.43	13.58	14.46	11.60	4.82	2.99	2.22	1.60	1.10	
5	0.65	0.65	1.80	3.22	11.38	18.86	12.26	4.69	2.99	2.11	1.60	1.00	
6	0.65	0.65	1.70	2.88	10.72	17.61	10.94	4.69	2.88	2.11	1.60	0.93	
7	0.65	0.65	2.22	2.77	10.50	15.56	9.84	4.56	2.88	2.11	2.00	0.93	
8	0.65	0.65	2.55	4.43	10.28	14.24	9.62	4.43	2.88	2.11	1.80	0.93	
9	0.65	0.72	1.70	4.56	12.70	15.12	9.40	4.43	2.77	2.11	1.60	0.86	
10	0.65	0.65	1.90	5.77	28.10	14.90	10.28	4.30	2.77	2.00	1.60	0.86	
11	1.10	0.58	2.77	4.69	41.80	23.90	15.12	4.30	2.77	2.00	1.50	0.86	
12	1.00	0.58	2.11	5.34	37.54	21.94	9.40	4.18	2.88	2.00	1.40	0.79	
13	1.80	0.65	4.43	27.82	28.94	22.22	8.77	4.18	2.77	2.00	1.40	0.79	
14	1.20	0.58	5.34	59.50	31.74	18.58	8.35	4.06	2.77	2.00	1.40	0.79	
15	1.00	0.79	4.69	27.82	39.82	16.46	7.93	3.94	2.66	1.90	1.30	1.40	
16	0.93	0.79	4.30	17.84	63.40	15.34	7.51	3.94	2.66	1.90	1.30	1.80	
17	0.79	1.50	3.34	14.24	51.15	14.24	7.30	3.94	2.66	1.90	1.30	1.60	
18	0.86	1.10	2.99	11.60	123.72	14.24	6.96	3.94	2.66	1.90	1.30	1.60	
19	0.79	0.86	2.66	8.77	68.86	13.14	7.30	3.94	2.55	1.90	1.30	2.11	
20	0.86	1.00	2.33	8.14	44.86	13.58	7.51	3.70	2.55	1.90	1.30	1.40	
21	1.00	0.86	2.11	7.30	37.86	12.70	7.13	3.70	2.55	1.90	1.20	1.70	
22	2.99	2.00	2.00	10.28	33.80	12.70	6.62	3.58	2.55	1.90	1.20	2.00	
23	4.06	2.77	1.90	8.77	36.90	12.04	6.45	3.58	2.44	1.90	1.20	1.60	
24	2.33	3.10	2.44	7.13	34.10	19.14	6.28	3.46	2.44	1.80	1.20	1.30	
25	1.50	2.33	2.55	6.79	31.18	13.58	5.94	3.34	2.44	1.80	1.20	1.20	
26	1.20	2.11	2.33	6.96	26.98	11.82	5.77	3.22	2.44	1.80	1.10	1.10	
27	1.00	3.22	2.11	6.28	23.34	12.70	5.77	3.46	2.33	1.80	1.10	1.10	
28	0.93	2.33	3.22	6.45	21.38	14.46	5.60	3.34	2.33	1.80	1.10	1.10	
29	0.79	1.90	6.28	5.77	19.42	13.80	5.60	3.34	2.33	1.70		1.10	
30	0.79	2.00	4.18	12.92	18.86	14.46	6.62	3.34	2.33	1.70		1.10	
31		7.13		39.49	17.61		5.60		2.22	1.70		1.60	
Total	33.77	45.10	90.53	343.55	991.42	467.81	267.33	121.64	82.91	60.63	39.80	37.65	2582.14 CMSDAY
Mean	1.13	1.45	3.02	11.08	31.98	15.59	8.62	4.05	2.67	1.96	1.42	1.21	7.07 CMS
Max	4.06	7.13	6.28	59.50	123.72	23.90	15.12	5.21	3.22	2.22	2.00	2.11	123.72 CMS
Min	0.65	0.58	1.70	2.77	10.28	11.82	5.60	3.22	2.22	1.70	1.10	0.79	0.58 CMS
Runoff	2.918	3.897	7.822	29.683	85.659	40.419	23.097	10.510	7.163	5.238	3.439	3.253	223.097 MCM

Momentary Peak 139.99 CMS, at 72.17 M (MSL), at 9.00 Hours, on Aug 18, 1993

Runoff Yield 22.11 Liters/Second/Square KM, Momentary Peak Yield 437.47 Liters/Second/Square KM

WATER YEAR 1993

MAE KLONG RIVER BASIN

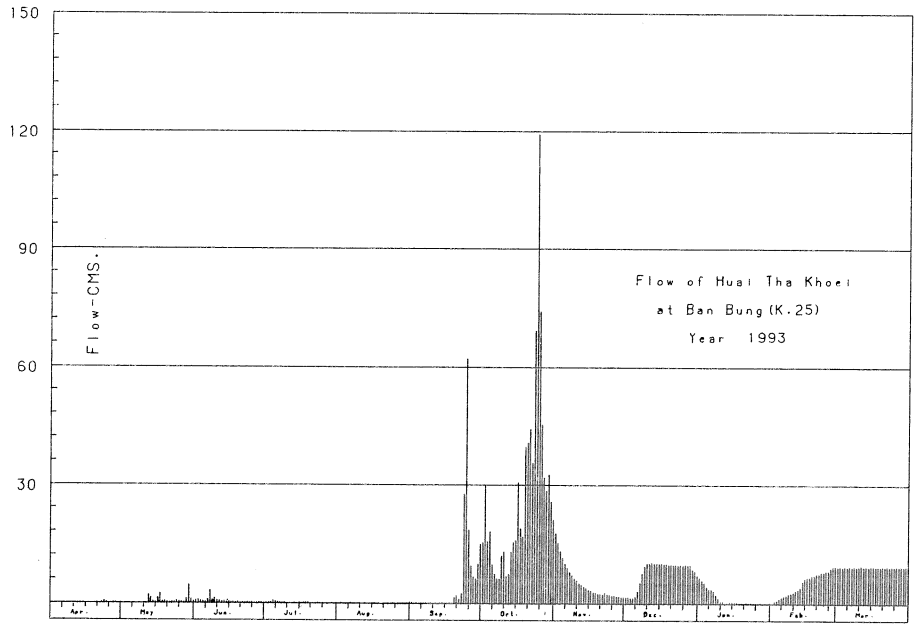
Huai Tha Khaei at Ban Bung, Ratchaburi (K.25)

Location	Lat. 13°25'42" N., Long. 99°24'25" E., on left bank at Ban Bung, Tambon Suan Phung, Amphoe Suan Phung, Ratchaburi.
Drainage Area	482 sq.km.
Type of Gage	Water-stage recorder.
Zero Gage at Bottom	+0.00 m.(A.D.)
Bench Mark	B.M.-H.D.
Location	On left bank near the abutment of the bridge.
Elevation	+7.411 m.(A.D.)
Gage Reading Frequency	Recording.
Basis of Mean Daily Gage Height	Arithmetic mean of 24 readings.
Period of Available Gage Records	1968 - 1970, 1982 to date.
Rating Operation	
Period of Rating	1982 to date.
Rated by Float	-
Rated by Current Meter	1982 to date.
Stability of Channel Regimes	Fairly stable because of backwater effect.
Overbank Flow Conditions	No overbank flow.
General Description	Records fair. Stage-discharge relation defined by 189 discharge measurements made in 1993.

Gage Height in Meter (A.D), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	1.18	1.19	1.38	1.25	1.21	1.26	3.15	3.32	1.56	2.28	1.27	2.60	
2	1.15	1.19	1.41	1.27	1.21	1.25	3.82	3.13	1.55	2.21	1.33	2.60	
3	1.15	1.18	1.36	1.26	1.20	1.24	3.16	2.97	1.52	2.12	1.40	2.60	
4	1.14	1.19	1.34	1.39	1.20	1.22	3.35	2.81	1.50	2.01	1.48	2.60	
5	1.14	1.18	1.32	1.33	1.22	1.21	2.66	2.68	1.58	1.91	1.55	2.60	
6	1.14	1.18	1.43	1.27	1.21	1.21	2.40	2.56	1.83	1.91	1.60	2.60	
7	1.14	1.18	1.87	1.26	1.20	1.21	2.25	2.45	2.14	1.85	1.66	2.60	
8	1.14	1.17	1.41	1.25	1.19	1.21	2.25	2.35	2.40	1.68	1.71	2.60	
9	1.13	1.18	1.48	1.25	1.19	1.21	2.85	2.27	2.62	1.52	1.77	2.60	
10	1.14	1.18	1.39	1.24	1.19	1.20	2.95	2.19	2.68	1.39	1.82	2.61	
11	1.19	1.17	1.35	1.23	1.20	1.20	2.32	2.12	2.69	1.35	1.86	2.62	
12	1.17	1.66	1.34	1.23	1.20	1.20	2.39	2.06	2.70	1.33	1.91	2.60	
13	1.21	1.50	1.34	1.24	1.20	1.20	2.95	2.01	2.69	1.33	1.97	2.60	
14	1.17	1.32	1.31	1.24	1.20	1.20	3.15	1.95	2.68	1.32	2.18	2.60	
15	1.16	1.30	1.31	1.24	1.20	1.21	3.19	1.90	2.68	1.30	2.25	2.60	
16	1.15	1.51	1.30	1.24	1.19	1.21	3.84	1.86	2.68	1.30	2.29	2.60	
17	1.14	1.72	1.29	1.25	1.19	1.20	3.40	1.81	2.67	1.30	2.31	2.60	
18	1.14	1.34	1.29	1.30	1.19	1.21	3.25	1.78	2.66	1.27	2.34	2.60	
19	1.22	1.33	1.29	1.25	1.19	1.55	4.03	1.74	2.66	1.26	2.36	2.60	
20	1.18	1.31	1.28	1.23	1.19	1.62	4.05	1.72	2.65	1.27	2.39	2.60	
21	1.16	1.30	1.28	1.23	1.20	1.43	4.11	1.70	2.65	1.26	2.41	2.60	
22	1.31	1.29	1.28	1.22	1.19	1.75	3.95	1.78	2.64	1.26	2.44	2.60	
23	1.35	1.31	1.27	1.22	1.20	3.77	4.47	1.71	2.64	1.26	2.46	2.60	
24	1.24	1.36	1.27	1.22	1.20	4.38	4.98	1.66	2.64	1.25	2.47	2.60	
25	1.23	1.33	1.27	1.21	1.19	3.38	4.53	1.64	2.64	1.25	2.49	2.60	
26	1.23	1.30	1.27	1.21	1.18	2.62	4.13	1.63	2.64	1.25	2.57	2.60	
27	1.29	1.29	1.27	1.21	1.19	2.31	3.87	1.60	2.64	1.25	2.60	2.60	
28	1.21	1.48	1.26	1.20	1.18	2.26	3.79	1.58	2.63	1.25	2.60	2.60	
29	1.20	2.06	1.25	1.20	1.21	2.66	3.89	1.56	2.53	1.25		2.60	
30	1.19	1.43	1.25	1.20	1.20	3.11	3.71	1.55	2.46	1.24		2.60	
31		1.34		1.21	1.31		3.52		2.35	1.24		2.60	
Mean	1.19	1.34	1.34	1.24	1.20	1.76	3.43	2.07	2.41	1.47	2.05	2.60	
Max	1.35	2.06	1.87	1.39	1.31	4.38	4.98	3.32	2.70	2.28	2.60	2.62	4.98
Min	1.13	1.17	1.25	1.20	1.18	1.20	2.25	1.55	1.50	1.24	1.27	2.60	1.13

Annual Max Momentary Gage Height 5.15 M (A.D), at 8.00 Hours, on Oct 24, 1993
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed 0.85 M (A.D)
Left Bank Elevation 6.87 M (A.D)
Right Bank Elevation 6.87 M (A.D), Drainage Area 482 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.26	0.28	0.90	0.40	0.32	0.42	15.65	18.00	1.80	6.64	0.44	9.50	
2	0.20	0.28	1.05	0.44	0.32	0.40	29.86	15.39	1.75	6.08	0.65	9.50	
3	0.20	0.26	0.80	0.42	0.30	0.38	15.78	13.47	1.60	5.36	1.00	9.50	
4	0.18	0.28	0.70	0.95	0.30	0.34	18.45	11.71	1.50	4.48	1.40	9.50	
5	0.18	0.26	0.60	0.65	0.34	0.32	10.10	10.30	1.90	3.77	1.75	9.50	
6	0.18	0.26	1.15	0.44	0.32	0.32	7.70	9.14	3.21	3.77	2.00	9.50	
7	0.18	0.26	3.49	0.42	0.30	0.32	6.40	8.15	5.52	3.35	2.30	9.50	
8	0.18	0.24	1.05	0.40	0.28	0.32	6.40	7.25	7.70	2.40	2.55	9.50	
9	0.16	0.26	1.40	0.40	0.28	0.32	12.15	6.56	9.70	1.60	2.85	9.50	
10	0.18	0.26	0.95	0.38	0.28	0.30	13.25	5.92	10.30	0.95	3.14	9.60	
11	0.28	0.24	0.75	0.36	0.30	0.30	6.98	5.36	10.40	0.75	3.42	9.70	
12	0.24	2.30	0.70	0.36	0.30	0.30	7.61	4.88	10.50	0.65	3.77	9.50	
13	0.32	1.50	0.70	0.38	0.30	0.30	13.25	4.48	10.40	0.65	4.19	9.50	
14	0.24	0.60	0.55	0.38	0.30	0.30	15.65	4.05	10.30	0.60	5.84	9.50	
15	0.22	0.50	0.55	0.38	0.30	0.32	16.17	3.70	10.30	0.50	6.40	9.50	
16	0.20	1.55	0.50	0.38	0.28	0.32	30.72	3.42	10.30	0.50	6.72	9.50	
17	0.18	2.60	0.48	0.40	0.28	0.30	19.20	3.07	10.20	0.50	6.89	9.50	
18	0.18	0.70	0.48	0.50	0.28	0.32	17.00	2.90	10.10	0.44	7.16	9.50	
19	0.34	0.65	0.48	0.40	0.28	1.75	39.92	2.70	10.10	0.42	7.34	9.50	
20	0.26	0.55	0.46	0.36	0.28	2.10	41.00	2.60	10.00	0.44	7.61	9.50	
21	0.22	0.50	0.46	0.36	0.30	1.15	44.30	2.50	10.00	0.42	7.79	9.50	
22	0.55	0.48	0.46	0.34	0.28	2.75	35.80	2.90	9.90	0.42	8.06	9.50	
23	0.75	0.55	0.44	0.34	0.30	28.01	69.30	2.55	9.90	0.42	8.24	9.50	
24	0.38	0.80	0.44	0.34	0.30	62.22	119.26	2.30	9.90	0.40	8.33	9.50	
25	0.36	0.65	0.44	0.32	0.28	18.90	74.25	2.20	9.90	0.40	8.51	9.50	
26	0.36	0.50	0.44	0.32	0.26	9.70	45.50	2.15	9.90	0.40	9.23	9.50	
27	0.48	0.48	0.44	0.32	0.28	6.89	32.01	2.00	9.90	0.40	9.50	9.50	
28	0.32	1.40	0.42	0.30	0.26	6.48	28.67	1.90	9.80	0.40	9.50	9.50	
29	0.30	4.88	0.40	0.30	0.32	10.10	32.87	1.80	8.87	0.40		9.50	
30	0.28	1.15	0.40	0.30	0.30	15.13	26.03	1.75	8.24	0.38		9.50	
31		0.70		0.32	0.55		21.40		7.25	0.38		9.50	
Total	8.36	25.92	22.08	12.36	9.37	171.08	872.63	165.10	251.14	48.27	146.58	294.80	2027.69 CMSDAY
Mean	0.28	0.84	0.74	0.40	0.30	5.70	28.15	5.50	8.10	1.56	5.24	9.51	5.56 CMS
Max	0.75	4.88	3.49	0.95	0.55	62.22	119.26	18.00	10.50	6.64	9.50	9.70	119.26 CMS
Min	0.16	0.24	0.40	0.30	0.26	0.30	6.40	1.75	1.50	0.38	0.44	9.50	0.16 CMS
Runoff	0.722	2.239	1.908	1.068	0.810	14.781	75.395	14.265	21.698	4.171	12.665	25.471	175.192 MCM

Momentary Peak 139.85 CMS, at 5.15 M (A.D), at 8.00 Hours, on Oct 24, 1993
Runoff Yield 11.53 Liters/Second/Square KM, Momentary Peak Yield 290.15 Liters/Second/Square KM

WATER YEAR 1993

MAE KLONG RIVER BASIN

Huai Mae Nam Noi at Ban Mae Nam Noi, Kanchanaburi (K.31)

Location — Lat. 14°-26'-01" N., Long. 98°-48'-40" E., on right bank about 2 kilometers downstream from station K.22A, Amphoe Sai Yok, Kanchanaburi.

Drainage Area — 777 sq.km.

Type of Gage — Staff gage.

Zero Gage at Bottom — +62.72 m.(M.S.L)

Bench Mark — B.M.-H.D.

Location — On right bank about 5 meters from the top staff gage.

Elevation — +70.537 m.(M.S.L)

Gage Reading Frequency — 5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.

Basis of Mean Daily Gage Height — Arithmetic mean of 5 readings.

Period of Available Gage Records — 1983 to date.

Rating Operation

Period of Rating — 1989 to date.

Rated by Float — -

Rated by Current Meter — 1989 to date.

Stability of Channel Regimes — Fairly stable.

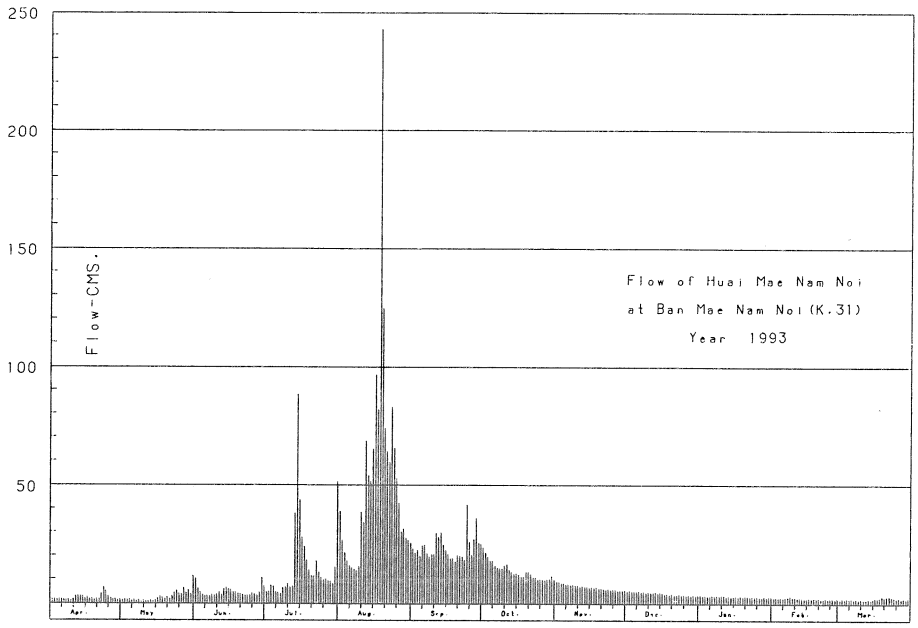
Overbank Flow Conditions — No overbank flow.

General Description — Records fair. Stage-discharge relation defined by 111 discharge measurements made in 1993.

Gage Height in Meter (MSL), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	63.29	63.27	63.70	63.48	64.44	64.09	64.10	63.66	63.49	63.39	63.34	63.28	
2	63.28	63.27	63.54	63.47	64.18	64.04	64.05	63.64	63.49	63.39	63.33	63.29	
3	63.28	63.27	63.46	63.58	64.05	64.08	63.99	63.63	63.49	63.38	63.33	63.29	
4	63.28	63.27	63.42	63.58	63.94	64.01	63.95	63.62	63.48	63.38	63.33	63.29	
5	63.27	63.26	63.40	63.48	63.89	64.13	63.94	63.61	63.48	63.38	63.33	63.29	
6	63.27	63.26	63.38	63.45	63.85	64.13	63.89	63.60	63.48	63.38	63.33	63.29	
7	63.27	63.25	63.40	63.45	63.84	64.04	63.86	63.60	63.47	63.38	63.36	63.28	
8	63.27	63.25	63.41	63.54	63.81	63.99	63.84	63.59	63.47	63.38	63.37	63.28	
9	63.27	63.25	63.41	63.57	63.88	64.03	63.85	63.59	63.46	63.38	63.35	63.27	
10	63.28	63.25	63.42	63.61	64.43	64.02	63.88	63.58	63.46	63.38	63.33	63.27	
11	63.39	63.24	63.46	63.55	64.35	64.25	63.91	63.57	63.46	63.38	63.33	63.27	
12	63.38	63.24	63.42	63.58	64.94	64.21	63.83	63.57	63.46	63.37	63.32	63.27	
13	63.40	63.24	63.52	64.42	64.71	64.26	63.79	63.57	63.46	63.37	63.32	63.27	
14	63.37	63.25	63.56	65.23	64.66	64.14	63.77	63.56	63.45	63.37	63.31	63.27	
15	63.32	63.25	63.54	64.53	64.89	64.08	63.77	63.55	63.45	63.37	63.31	63.29	
16	63.35	63.31	63.51	64.21	65.34	64.02	63.75	63.55	63.44	63.36	63.31	63.32	
17	63.32	63.39	63.48	64.12	65.14	63.98	63.73	63.55	63.43	63.36	63.31	63.32	
18	63.31	63.33	63.46	63.95	66.90	63.97	63.72	63.55	63.42	63.36	63.31	63.32	
19	63.29	63.32	63.45	63.82	65.70	63.94	63.80	63.54	63.42	63.36	63.31	63.38	
20	63.29	63.34	63.42	63.75	65.02	64.01	63.79	63.53	63.42	63.36	63.31	63.33	
21	63.31	63.32	63.40	63.73	64.87	64.00	63.76	63.53	63.41	63.36	63.30	63.35	
22	63.45	63.40	63.40	63.95	64.80	64.00	63.72	63.52	63.41	63.35	63.30	63.39	
23	63.56	63.45	63.39	63.80	65.15	63.95	63.71	63.52	63.41	63.35	63.30	63.36	
24	63.49	63.51	63.42	63.71	64.90	64.49	63.69	63.51	63.40	63.35	63.29	63.32	
25	63.36	63.43	63.44	63.69	64.68	64.17	63.68	63.51	63.40	63.35	63.29	63.31	
26	63.33	63.44	63.42	63.69	64.50	64.02	63.69	63.51	63.40	63.35	63.29	63.31	
27	63.31	63.56	63.41	63.67	64.27	64.19	63.68	63.50	63.39	63.35	63.29	63.30	
28	63.29	63.45	63.47	63.65	64.29	64.38	63.68	63.49	63.39	63.35	63.29	63.30	
29	63.28	63.50	63.72	63.62	64.21	64.16	63.70	63.50	63.39	63.34		63.30	
30	63.27	63.44	63.57	63.86	64.18	64.14	63.73	63.50	63.39	63.34		63.30	
31		63.74		64.66	64.16		63.68		63.39	63.34		63.34	
Mean	63.33	63.35	63.47	63.82	64.58	64.10	63.80	63.56	63.44	63.36	63.32	63.30	
Max	63.56	63.74	63.72	65.23	66.90	64.49	64.10	63.66	63.49	63.39	63.37	63.39	66.90
Min	63.27	63.24	63.38	63.45	63.81	63.94	63.68	63.49	63.39	63.34	63.29	63.27	63.24

Annual Max Momentary Gage Height 67.18 M (MSL), at 9.00 Hours, on Aug 18, 1993
Zero Gage at Bottom Elevation 62.72 M (MSL), River Bed 62.97 M (MSL)
Left Bank Elevation 71.21 M (MSL)
Right Bank Elevation 71.23 M (MSL), Drainage Area 777 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	1.88	1.64	10.50	5.10	39.20	23.15	23.50	9.50	5.30	3.35	2.60	1.76	
2	1.76	1.64	6.50	4.90	26.70	21.40	21.75	9.00	5.30	3.35	2.45	1.88	
3	1.76	1.64	4.70	7.50	21.75	22.80	19.65	8.75	5.30	3.20	2.45	1.88	
4	1.76	1.64	3.90	7.50	17.90	20.35	18.25	8.50	5.10	3.20	2.45	1.88	
5	1.64	1.52	3.50	5.10	16.20	24.70	17.90	8.25	5.10	3.20	2.45	1.88	
6	1.64	1.52	3.20	4.50	15.00	24.70	16.20	8.00	5.10	3.20	2.45	1.88	
7	1.64	1.40	3.50	4.50	14.70	21.40	15.30	8.00	4.90	3.20	2.90	1.76	
8	1.64	1.40	3.70	6.50	13.80	19.65	14.70	7.75	4.90	3.20	3.05	1.76	
9	1.64	1.40	3.70	7.25	15.90	21.05	15.00	7.75	4.70	3.20	2.75	1.64	
10	1.76	1.40	3.90	8.25	38.65	20.70	15.90	7.50	4.70	3.20	2.45	1.64	
11	3.35	1.28	4.70	6.75	34.50	29.75	16.85	7.25	4.70	3.20	2.45	1.64	
12	3.20	1.28	3.90	7.50	68.60	27.95	14.40	7.25	4.70	3.05	2.30	1.64	
13	3.50	1.28	6.00	38.10	54.60	30.20	13.20	7.25	4.70	3.05	2.30	1.64	
14	3.05	1.40	7.00	88.75	51.60	25.10	12.60	7.00	4.50	3.05	2.15	1.64	
15	2.30	1.40	6.50	44.15	65.40	22.80	12.60	6.75	4.50	3.05	2.15	1.88	
16	2.75	2.15	5.75	27.95	97.00	20.70	12.00	6.75	4.30	2.90	2.15	2.30	
17	2.30	3.35	5.10	24.30	82.30	19.30	11.40	6.75	4.10	2.90	2.15	2.30	
18	2.15	2.45	4.70	18.25	243.00	18.95	11.10	6.75	3.90	2.90	2.15	2.30	
19	1.88	2.30	4.50	14.10	125.00	17.90	13.50	6.50	3.90	2.90	2.15	3.20	
20	1.88	2.60	3.90	12.00	73.90	20.35	13.20	6.25	3.90	2.90	2.15	2.45	
21	2.15	2.30	3.50	11.40	64.20	20.00	12.30	6.25	3.70	2.90	2.00	2.75	
22	4.50	3.50	3.50	18.25	60.00	20.00	11.10	6.00	3.70	2.75	2.00	3.35	
23	7.00	4.50	3.35	13.50	83.00	18.25	10.80	6.00	3.70	2.75	2.00	2.90	
24	5.30	5.75	3.90	10.80	66.00	41.95	10.25	5.75	3.50	2.75	1.88	2.30	
25	2.90	4.10	4.30	10.25	52.80	26.30	10.00	5.75	3.50	2.75	1.88	2.15	
26	2.45	4.30	3.90	10.25	42.50	20.70	10.25	5.75	3.50	2.75	1.88	2.15	
27	2.15	7.00	3.70	9.75	30.65	27.10	10.00	5.50	3.35	2.75	1.88	2.00	
28	1.88	4.50	4.90	9.25	31.55	36.00	10.00	5.30	3.35	2.75	1.88	2.00	
29	1.76	5.50	11.10	8.50	27.95	25.90	10.50	5.50	3.35	2.60		2.00	
30	1.64	4.30	7.25	15.30	26.70	25.10	11.40	5.50	3.35	2.60		2.00	
31		11.70		51.60	25.90		10.00		3.35	2.60		2.60	
Total	75.21	92.14	148.55	511.80	1626.95	714.20	425.60	208.80	131.95	92.15	63.50	65.15	4156.00 CMSDAY
Mean	2.51	2.97	4.95	16.51	52.48	23.81	13.73	6.96	4.26	2.97	2.27	2.10	11.39 CMS
Max	7.00	11.70	11.10	88.75	243.00	41.95	23.50	9.50	5.30	3.35	3.05	3.35	243.00 CMS
Min	1.64	1.28	3.20	4.50	13.80	17.90	10.00	5.30	3.35	2.60	1.88	1.64	1.28 CMS
Runoff	6.498	7.961	12.835	44.220	140.568	61.707	36.772	18.040	11.400	7.962	5.486	5.629	359.078 MCM

Momentary Peak 275.20 CMS, at 67.18 M (MSL), at 9.00 Hours, on Aug 18, 1993
Runoff Yield 14.65 Liters/Second/Square KM, Momentary Peak Yield 354.18 Liters/Second/Square KM

WATER YEAR 1993

MAE KLONG RIVER BASIN

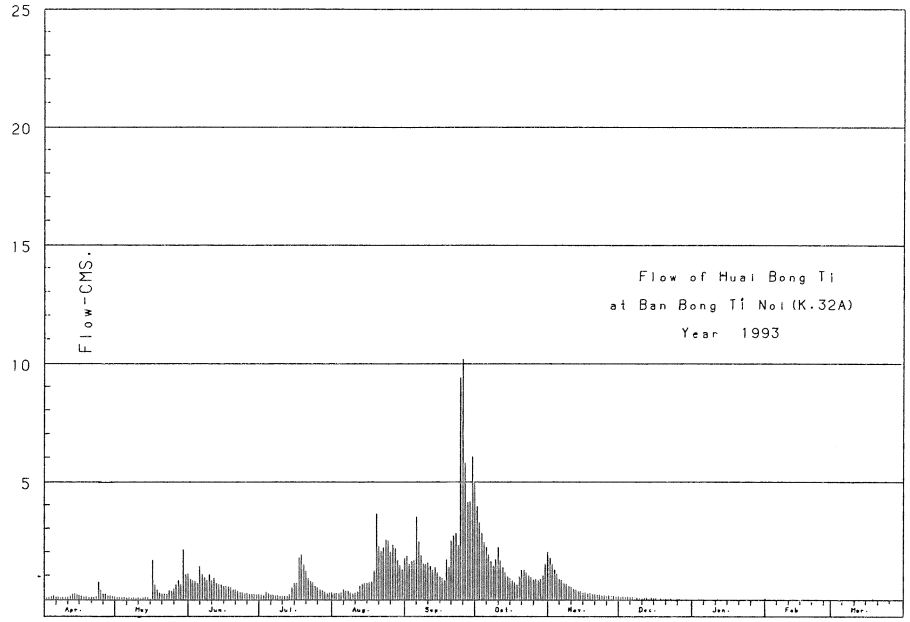
Huai Bong Ti at Ban Bong Ti Noi, Kanchanaburi (K.32A)

Location	Lat. 14-16-25 N., Long. 98-56-04 E., on right bank at Ban Bong Ti Noi,Amphoe Sai Yok, Kanchanaburi.
Drainage Area	512 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+0.00 m.(A.D.)
Bench Mark	B.M.-H.D.
Location	On right bank about 8.50 meters from the top staff gage.
Elevation	+4.238 m.(A.D.)
Gage Reading Frequency	16-time daily readings at 03.00, 06.00-18.00, 21.00 and 24.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 16 readings.
Period of Available Gage Records	1984 to date
Rating Operation	
Period of Rating	1984 to date
Rated by Float	-
Rated by Current Meter	1984 to date
Stability of Channel Regimes	Fairly stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Stage-discharge relation defined by 207 discharge measurements made in 1993.

Gage Height in Meter (A.D), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.80	0.83	1.20	0.90	0.99	1.39	1.71	1.38	0.84	0.75	0.72	0.70	
2	0.80	0.81	1.17	0.90	0.97	1.32	1.61	1.32	0.84	0.75	0.72	0.70	
3	0.86	0.81	1.16	1.01	0.99	1.35	1.55	1.28	0.84	0.75	0.72	0.70	
4	0.87	0.80	1.14	0.98	1.00	1.35	1.49	1.24	0.83	0.74	0.72	0.70	
5	0.84	0.79	1.30	0.93	1.05	1.65	1.46	1.20	0.83	0.74	0.72	0.70	
6	0.82	0.79	1.24	0.90	1.02	1.50	1.40	1.18	0.82	0.74	0.72	0.70	
7	0.81	0.79	1.21	0.89	1.03	1.40	1.35	1.14	0.81	0.74	0.72	0.70	
8	0.81	0.79	1.17	0.88	0.99	1.33	1.31	1.12	0.80	0.74	0.72	0.70	
9	0.81	0.79	1.24	0.87	0.97	1.32	1.36	1.10	0.80	0.74	0.72	0.70	
10	0.81	0.79	1.17	0.86	0.99	1.33	1.46	1.08	0.79	0.74	0.72	0.70	
11	0.89	0.79	1.20	0.85	1.02	1.31	1.35	1.06	0.80	0.73	0.72	0.70	
12	0.96	0.81	1.14	0.88	1.09	1.27	1.30	1.04	0.80	0.73	0.72	0.70	
13	0.95	0.80	1.11	0.92	1.13	1.30	1.25	1.03	0.80	0.73	0.72	0.70	
14	0.94	0.80	1.12	1.08	1.13	1.25	1.22	1.02	0.79	0.73	0.72	0.70	
15	0.89	0.81	1.10	1.14	1.14	1.22	1.20	1.01	0.79	0.73	0.72	0.70	
16	0.86	1.36	1.09	1.13	1.14	1.20	1.17	1.00	0.78	0.73	0.71	0.70	
17	0.84	1.11	1.09	1.38	1.16	1.18	1.14	0.99	0.78	0.73	0.71	0.70	
18	0.83	1.05	1.07	1.40	1.27	1.36	1.12	0.98	0.78	0.73	0.71	0.77	
19	0.82	0.99	1.05	1.32	1.67	1.30	1.22	0.96	0.78	0.72	0.71	0.75	
20	0.81	0.97	1.04	1.26	1.46	1.50	1.27	0.94	0.77	0.72	0.71	0.72	
21	0.80	0.95	1.02	1.20	1.43	1.53	1.28	0.93	0.77	0.72	0.71	0.72	
22	0.85	0.95	1.01	1.17	1.45	1.55	1.25	0.92	0.76	0.72	0.71	0.71	
23	1.16	1.03	0.99	1.14	1.51	1.47	1.23	0.90	0.76	0.72	0.71	0.71	
24	1.03	1.03	0.98	1.10	1.50	2.25	1.21	0.89	0.76	0.72	0.70	0.71	
25	0.97	1.05	0.97	1.07	1.42	2.32	1.19	0.88	0.75	0.72	0.70	0.71	
26	0.94	1.11	0.96	1.05	1.47	1.91	1.19	0.88	0.75	0.72	0.70	0.71	
27	0.89	1.18	0.95	1.04	1.45	1.73	1.18	0.87	0.75	0.72	0.70	0.71	
28	0.87	1.11	0.94	1.01	1.36	1.73	1.19	0.87	0.75	0.72	0.70	0.71	
29	0.85	1.44	0.94	0.99	1.31	1.94	1.23	0.85	0.75	0.72		0.71	
30	0.83	1.24	0.92	0.99	1.28	1.82	1.33	0.85	0.75	0.72		0.71	
31		1.24		1.00	1.37		1.42		0.75	0.72		0.71	
Mean	0.87	0.96	1.09	1.04	1.22	1.50	1.31	1.03	0.79	0.73	0.71	0.71	
Max	1.16	1.44	1.30	1.40	1.67	2.32	1.71	1.38	0.84	0.75	0.72	0.77	2.32
Min	0.80	0.79	0.92	0.85	0.97	1.18	1.12	0.85	0.75	0.72	0.70	0.70	0.70

Annual Max Momentary Gage Height 3.15 M (A.D), at 18.00 Hours, on Sep 24, 1993
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed 0.38 M (A.D)
Left Bank Elevation 6.29 M (A.D)
Right Bank Elevation 10.18 M (A.D), Drainage Area 512 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.10	0.13	0.90	0.20	0.29	1.85	3.99	1.80	0.14	0.05	0.02	0.00	
2	0.10	0.11	0.81	0.20	0.27	1.50	3.27	1.50	0.14	0.05	0.02	0.00	
3	0.16	0.11	0.78	0.33	0.29	1.65	2.85	1.30	0.14	0.05	0.02	0.00	
4	0.17	0.10	0.72	0.28	0.30	1.65	2.44	1.10	0.13	0.04	0.02	0.00	
5	0.14	0.09	1.40	0.23	0.45	3.55	2.26	0.90	0.13	0.04	0.02	0.00	
6	0.12	0.09	1.10	0.20	0.36	2.50	1.90	0.84	0.12	0.04	0.02	0.00	
7	0.11	0.09	0.95	0.19	0.39	1.90	1.65	0.72	0.11	0.04	0.02	0.00	
8	0.11	0.09	0.81	0.18	0.29	1.55	1.45	0.66	0.10	0.04	0.02	0.00	
9	0.11	0.09	1.10	0.17	0.27	1.50	1.70	0.60	0.10	0.04	0.02	0.00	
10	0.11	0.09	0.81	0.16	0.29	1.55	2.26	0.54	0.09	0.04	0.02	0.00	
11	0.19	0.09	0.90	0.15	0.36	1.45	1.65	0.48	0.10	0.03	0.02	0.00	
12	0.26	0.11	0.72	0.18	0.57	1.25	1.40	0.42	0.10	0.03	0.02	0.00	
13	0.25	0.10	0.63	0.22	0.69	1.40	1.15	0.39	0.10	0.03	0.02	0.00	
14	0.24	0.10	0.66	0.54	0.69	1.15	1.00	0.36	0.09	0.03	0.02	0.00	
15	0.19	0.11	0.60	0.72	0.72	1.00	0.90	0.33	0.09	0.03	0.02	0.00	
16	0.16	1.70	0.57	0.69	0.72	0.90	0.81	0.30	0.08	0.03	0.01	0.00	
17	0.14	0.63	0.57	1.80	0.78	0.84	0.72	0.29	0.08	0.03	0.01	0.00	
18	0.13	0.45	0.51	1.90	1.25	1.70	0.66	0.28	0.08	0.03	0.01	0.07	
19	0.12	0.29	0.45	1.50	3.69	1.40	1.00	0.26	0.08	0.02	0.01	0.05	
20	0.11	0.27	0.42	1.20	2.26	2.50	1.25	0.24	0.07	0.02	0.01	0.02	
21	0.10	0.25	0.36	0.90	2.08	2.71	1.30	0.23	0.07	0.02	0.01	0.02	
22	0.15	0.25	0.33	0.81	2.20	2.85	1.15	0.22	0.06	0.02	0.01	0.01	
23	0.78	0.39	0.29	0.72	2.57	2.32	1.05	0.20	0.06	0.02	0.01	0.01	
24	0.39	0.39	0.28	0.60	2.50	9.40	0.95	0.19	0.06	0.02	0.00	0.01	
25	0.27	0.45	0.27	0.51	2.02	10.24	0.87	0.18	0.05	0.02	0.00	0.01	
26	0.24	0.63	0.26	0.45	2.32	5.80	0.87	0.18	0.05	0.02	0.00	0.01	
27	0.19	0.84	0.25	0.42	2.20	4.17	0.84	0.17	0.05	0.02	0.00	0.01	
28	0.17	0.63	0.24	0.33	1.70	4.17	0.87	0.17	0.05	0.02	0.00	0.01	
29	0.15	2.14	0.24	0.29	1.45	6.10	1.05	0.15	0.05	0.02		0.01	
30	0.13	1.10	0.22	0.29	1.30	4.98	1.55	0.15	0.05	0.02		0.01	
31		1.10		0.30	1.75		2.02		0.05	0.02		0.01	
Total	5.59	13.01	18.15	16.66	37.02	85.53	46.83	15.15	2.67	0.93	0.38	0.26	242.18 CMSDAY
Mean	0.19	0.42	0.61	0.54	1.19	2.85	1.51	0.50	0.09	0.03	0.01	0.01	0.66 CMS
Max	0.78	2.14	1.40	1.90	3.69	10.24	3.99	1.80	0.14	0.05	0.02	0.07	10.24 CMS
Min	0.10	0.09	0.22	0.15	0.27	0.84	0.66	0.15	0.05	0.02	0.00	0.00	0.00 CMS
Runoff	0.483	1.124	1.568	1.439	3.199	7.390	4.046	1.309	0.231	0.080	0.033	0.022	20.924 MCM

Momentary Peak 22.80 CMS, at 3.15 M (A.D), at 18.00 Hours, on Sep 24, 1993

Runoff Yield 1.30 Liters/Second/Square KM, Momentary Peak Yield 44.53 Liters/Second/Square KM

WATER YEAR 1993

MAE KLONG RIVER BASIN

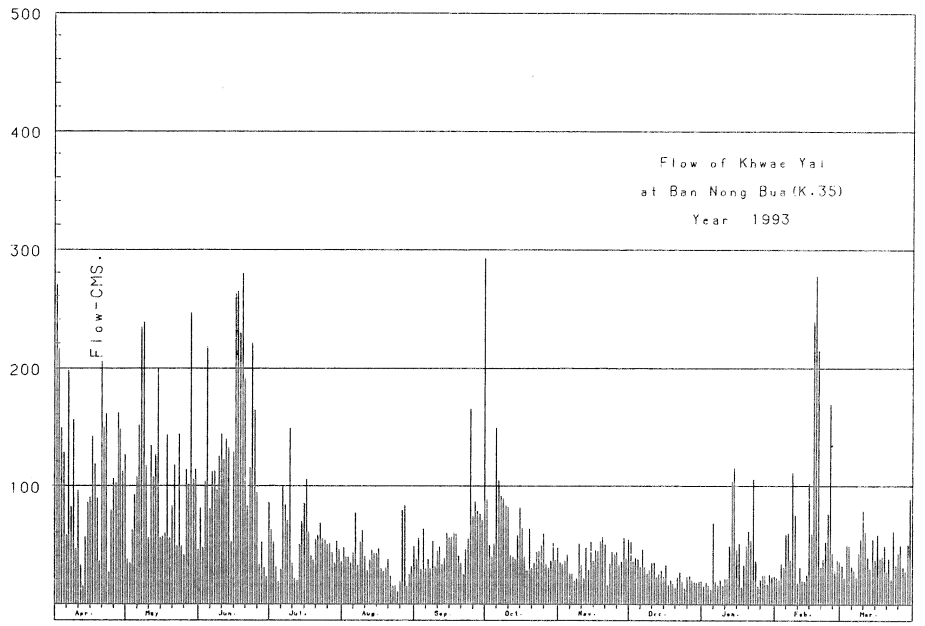
Khwae Yai River at Ban Nong Bua, Kanchanaburi (K.35)

Location	Lat. 14°03'22" N., Long. 99°27'35" E., on left bank at Ban Nong Bua, Amphoe Muang, Kanchanaburi.
Drainage Area	14,528 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+0.00 m.(A.D.)
Bench Mark	B.M.-H.D.
Location	On left bank about 5 meters from the third staff gage.
Elevation	+7.667 m.(A.D.)
Gage Reading Frequency	5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1984 to date
Rating Operation	
Period of Rating	1984 - 1985, 1987 to date
Rated by Float	-
Rated by Current Meter	1984 - 1985, 1987 to date
Stability of Channel Regimes	Stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Stage-discharge relation defined by 47 discharge measurements made in 1993.

Gage Height in Meter (A.D), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	4.23	2.12	2.70	2.48	2.27	2.13	2.78	2.09	2.34	1.66	1.84	2.04	
2	3.87	2.08	2.27	2.33	2.15	2.38	2.30	2.05	2.09	1.76	1.81	1.84	
3	3.36	2.49	2.94	2.02	2.15	1.98	2.16	2.11	2.14	1.68	2.06	2.30	
4	3.19	2.82	3.88	1.78	2.08	2.50	2.31	2.18	2.13	1.61	2.02	2.28	
5	2.43	2.98	2.70	2.00	2.21	2.00	3.36	1.93	2.03	2.56	2.42	2.03	
6	3.74	3.38	3.02	2.89	2.66	2.13	2.95	1.92	2.25	1.77	2.45	1.96	
7	2.72	3.99	3.03	2.74	2.04	1.99	2.82	1.80	2.01	1.68	2.11	1.87	
8	3.42	4.02	2.87	2.58	2.34	2.35	2.79	1.83	1.93	1.81	3.01	2.20	
9	2.25	3.07	3.15	3.36	2.47	2.03	2.73	2.32	1.97	1.69	2.64	2.36	
10	2.86	2.38	3.32	2.07	2.16	2.22	2.71	2.04	2.07	1.84	1.75	2.68	
11	2.05	3.24	3.12	1.83	1.97	2.27	2.17	1.84	2.09	1.82	2.02	2.45	
12	1.68	2.98	3.28	1.80	2.12	2.05	2.16	2.26	1.87	2.28	1.78	2.15	
13	2.39	3.16	3.22	2.31	2.24	2.13	2.13	1.98	1.91	2.94	1.78	1.99	
14	2.76	3.76	2.34	2.57	2.19	2.45	2.41	2.34	1.97	3.05	1.90	2.37	
15	2.80	2.39	3.19	2.75	2.20	2.39	2.71	2.11	1.87	2.24	2.92	2.11	
16	3.30	2.40	4.18	2.96	2.25	2.39	2.50	2.23	2.04	2.32	2.44	2.42	
17	3.09	2.45	4.19	2.45	2.00	2.45	2.15	2.22	1.70	1.66	4.02	2.14	
18	2.80	3.31	3.96	2.17	1.95	2.43	1.97	2.35	1.81	2.04	4.27	2.15	
19	2.10	2.38	4.29	2.11	2.01	2.17	2.50	2.39	1.72	2.29	3.86	2.29	
20	3.80	2.72	3.69	2.37	2.12	2.07	2.00	2.31	1.65	2.46	2.02	1.95	
21	3.37	3.08	2.72	2.41	1.88	1.92	2.07	1.70	1.85	2.35	2.12	2.13	
22	3.46	2.29	3.06	2.56	1.68	2.24	2.22	2.07	1.95	2.96	2.33	1.83	
23	1.95	3.32	3.90	2.37	1.68	2.38	2.22	2.21	1.76	2.11	2.65	2.46	
24	2.68	2.28	3.49	2.36	1.55	3.50	2.30	2.19	1.64	1.66	3.53	2.05	
25	2.96	2.18	2.84	2.30	1.78	2.63	2.43	2.21	1.86	1.81	2.19	2.20	
26	2.93	3.04	2.05	2.31	2.68	2.76	2.05	2.04	1.90	1.91	1.96	2.29	
27	3.47	2.91	2.34	2.21	2.74	2.67	2.01	2.10	1.79	1.90	2.12	2.02	
28	3.35	4.07	2.02	2.08	1.66	2.65	2.11	2.39	1.77	1.72	2.09	1.95	
29	3.02	2.96	1.87	2.34	1.92	2.58	2.33	2.13	1.74	1.91		2.31	
30	3.17	3.04	2.76	2.24	2.02	4.37	2.11	2.36	1.78	1.86		2.79	
31		2.24		2.09	2.28		2.26		1.77	1.89		2.52	
Mean	2.97	2.89	3.08	2.35	2.11	2.41	2.38	2.12	1.92	2.04	2.43	2.20	
Max	4.23	4.07	4.29	3.36	2.74	4.37	3.36	2.39	2.34	3.05	4.27	2.79	4.37
Min	1.68	2.08	1.87	1.78	1.55	1.92	1.97	1.70	1.64	1.61	1.75	1.83	1.55

Annual Max Momentary Gage Height 4.42 M (A.D), at 18.00 Hours, on Sep 30, 1993
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed 0.28 M (A.D)
Left Bank Elevation 7.23 M (A.D)
Right Bank Elevation 10.66 M (A.D), Drainage Area 14528 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	270.80	37.40	81.00	62.60	47.90	38.10	88.20	35.40	52.80	14.40	21.60	32.40	
2	216.50	34.80	47.90	52.10	39.50	55.60	50.00	33.00	35.40	18.40	20.40	21.60	
3	149.20	63.30	104.00	31.20	39.50	28.80	40.20	36.70	38.80	15.20	33.60	50.00	
4	129.00	92.00	218.00	19.20	34.80	64.00	50.70	41.60	38.10	12.40	31.20	48.60	
5	59.10	108.00	81.00	30.00	43.70	30.00	149.20	25.80	31.80	68.80	58.40	31.80	
6	197.60	151.60	112.00	99.00	77.40	38.10	105.00	25.20	46.50	18.80	60.50	27.60	
7	82.80	234.50	113.00	84.60	32.40	29.40	92.00	20.00	30.60	15.20	36.70	22.80	
8	156.40	239.00	97.00	70.40	52.80	53.50	89.10	21.20	25.80	20.40	111.00	43.00	
9	46.50	117.00	125.00	149.20	61.90	31.80	83.70	51.40	28.20	15.60	75.60	54.20	
10	96.00	55.60	144.40	34.20	40.20	44.40	81.90	32.40	34.20	21.60	18.00	79.20	
11	33.00	134.80	122.00	21.20	28.20	47.90	40.90	21.60	35.40	20.80	31.20	60.50	
12	15.20	108.00	139.60	20.00	37.40	33.00	40.20	47.20	22.80	48.60	19.20	39.50	
13	56.30	126.00	132.40	50.70	45.80	38.10	38.10	28.80	24.60	104.00	19.20	29.40	
14	86.40	200.40	52.80	69.60	42.30	60.50	57.70	52.80	28.20	115.00	24.00	54.90	
15	90.00	56.30	129.00	85.50	43.00	56.30	81.90	36.70	22.80	45.80	102.00	36.70	
16	142.00	57.00	263.00	106.00	46.50	56.30	64.00	45.10	32.40	51.40	59.80	58.40	
17	119.00	60.50	264.50	60.50	30.00	60.50	39.50	44.40	16.00	14.40	239.00	38.80	
18	90.00	143.20	230.00	40.90	27.00	59.10	28.20	53.50	20.40	32.40	277.20	39.50	
19	36.00	55.60	280.40	36.70	30.60	40.90	64.00	56.30	16.80	49.30	215.00	49.30	
20	206.00	82.80	190.70	54.90	37.40	34.20	30.00	50.70	14.00	61.20	31.20	27.00	
21	150.40	118.00	82.80	57.70	23.20	25.20	34.20	16.00	22.00	53.50	37.40	38.10	
22	161.20	49.30	116.00	68.80	15.20	45.80	44.40	34.20	27.00	106.00	52.10	21.20	
23	27.00	144.40	221.00	54.90	15.20	55.60	44.40	43.70	18.40	36.70	76.50	61.20	
24	79.20	48.60	164.80	54.20	10.50	166.00	50.00	42.30	13.60	14.40	169.90	33.00	
25	106.00	41.60	94.00	50.00	19.20	74.70	59.10	43.70	22.40	20.40	42.30	43.00	
26	103.00	114.00	33.00	50.70	79.20	86.40	33.00	32.40	24.00	24.60	27.60	49.30	
27	162.40	101.00	52.80	43.70	84.60	78.30	30.60	36.00	19.60	24.00	37.40	31.20	
28	148.00	246.50	31.20	34.80	14.40	76.50	36.70	56.30	18.80	16.80	35.40	27.00	
29	112.00	106.00	22.80	52.80	25.20	70.40	52.10	38.10	17.60	24.60		50.70	
30	127.00	114.00	86.40	45.80	31.20	293.20	36.70	54.20	19.20	22.40		89.10	
31		45.80		35.40	48.60		47.20		18.80	23.60		65.60	
Total	3454.00	3287.00	3832.50	1727.30	1204.80	1872.60	1782.90	1156.70	817.00	1130.70	1963.40	1354.60	23583.50 CMSDAY
Mean	115.13	106.03	127.75	55.72	38.86	62.42	57.51	38.56	26.35	36.47	70.12	43.70	64.61 CMS
Max	270.80	246.50	280.40	149.20	84.60	293.20	149.20	56.30	52.80	115.00	277.20	89.10	293.20 CMS
Min	15.20	34.80	22.80	19.20	10.50	25.20	28.20	16.00	13.60	12.40	18.00	21.20	10.50 CMS
Runoff	298.426	283.997	331.128	149.239	104.095	161.793	154.043	99.939	70.589	97.692	169.638	117.037	2037.615 MCM

Momentary Peak 301.60 CMS, at 4.42 M (A.D), at 18.00 Hours, on Sep 30, 1993

Runoff Yield 4.45 Liters/Second/Square KM, Momentary Peak Yield 20.76 Liters/Second/Square KM

WATER YEAR 1993

MAE KLONG RIVER BASIN

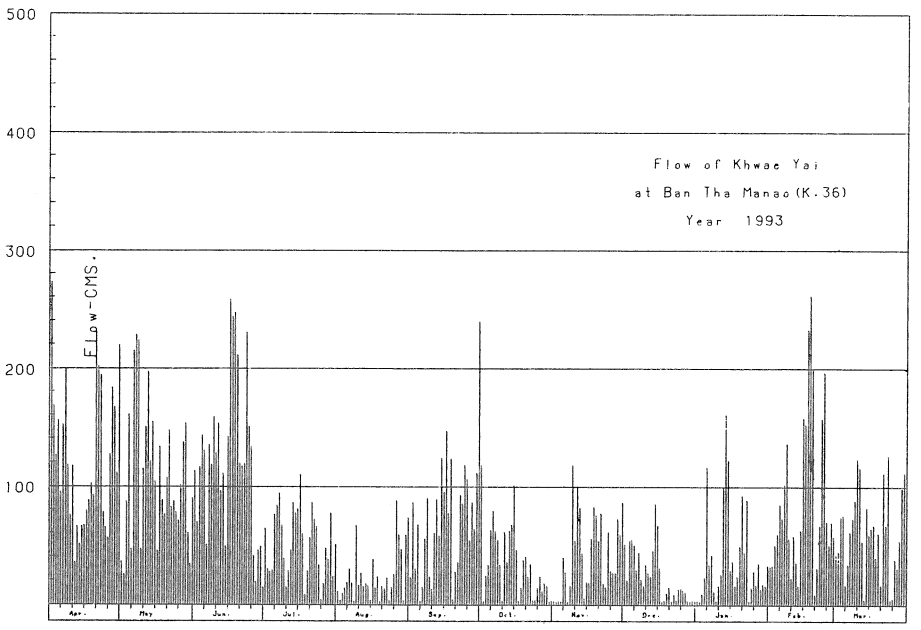
Khwae Yai River at Ban Tha Manao, Kanchanaburi (K.36)

Location	Lat. 14°09'48" N., Long. 99°16'38" E., on left bank at Ban Tha Manao, Amphoe Muang, Kanchanaburi.
Drainage Area	11,787 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+0.00 m.(A.D.)
Bench Mark	B.M.-H.D.
Location	On left bank about 10 meters from the top staff gage.
Elevation	+6.888 m.(A.D.)
Gage Reading Frequency	5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1984 to date
Rating Operation	
Period of Rating	1984 to date
Rated by Float	-
Rated by Current Meter	1984 to date
Stability of Channel Regimes	Stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Stage-discharge relation defined by 39 discharge measurements made in 1993.

Gage Height in Meter (A.D), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	4.45	2.26	3.16	2.63	1.84	2.06	3.21	1.62	2.46	1.63	2.21	2.34	
2	3.66	2.10	2.70	2.18	1.67	2.88	1.64	1.62	2.02	1.63	2.21	2.39	
3	3.30	2.89	3.20	2.13	1.82	2.17	2.07	1.62	2.51	1.79	2.45	2.75	
4	3.55	3.59	3.45	2.16	1.90	2.68	2.23	1.63	2.51	2.06	2.58	2.76	
5	2.98	2.41	3.33	2.77	1.98	1.64	2.62	2.32	2.46	3.19	2.87	1.95	
6	3.52	4.03	2.46	2.86	2.18	1.92	2.81	2.12	2.15	2.22	2.73	2.24	
7	3.91	4.13	3.38	2.97	1.98	2.52	2.60	1.62	2.38	2.35	3.05	2.59	
8	3.21	4.09	3.22	2.67	1.64	2.93	2.52	1.94	2.02	1.85	3.39	2.74	
9	2.77	2.42	3.58	2.30	2.66	2.07	2.22	3.21	1.94	1.63	2.52	2.90	
10	3.21	3.18	3.31	1.92	1.95	1.88	1.65	2.50	2.22	1.93	2.05	3.26	
11	2.26	3.51	3.53	2.14	2.11	2.58	2.59	3.04	2.11	2.10	2.55	3.19	
12	2.65	3.89	2.99	2.41	1.92	2.91	2.26	2.84	2.07	3.02	2.26	2.50	
13	2.47	3.25	3.14	2.88	1.97	2.56	2.61	2.37	2.40	3.59	1.93	1.67	
14	2.65	3.54	2.45	2.79	1.93	3.27	2.67	1.70	2.87	3.26	2.61	2.84	
15	2.66	3.07	3.44	2.82	1.66	2.99	3.04	1.99	2.67	2.16	3.57	2.57	
16	2.81	2.40	4.34	3.14	2.30	3.48	2.41	1.97	2.18	2.26	3.52	2.63	
17	2.90	3.36	4.24	2.57	1.91	2.78	1.64	2.52	1.63	1.94	4.16	2.67	
18	3.06	2.91	4.26	1.79	2.06	3.27	1.91	2.85	1.65	2.06	4.36	2.31	
19	2.95	2.77	4.00	2.15	1.63	1.66	2.28	2.76	1.82	2.45	3.91	2.58	
20	4.15	3.11	3.23	2.54	1.92	2.12	2.32	2.51	1.91	2.95	1.80	1.95	
21	3.92	3.48	3.20	2.88	1.90	2.26	2.06	2.78	1.64	2.37	2.18	3.15	
22	3.87	2.84	3.23	2.73	2.05	2.96	2.24	1.97	1.80	2.91	2.67	2.67	
23	2.80	2.90	4.14	2.65	1.67	2.87	1.66	1.91	1.66	1.64	3.56	3.29	
24	2.64	2.79	3.51	2.23	1.91	3.21	1.65	2.60	1.88	1.91	3.88	1.68	
25	2.54	2.72	3.36	1.67	2.09	3.09	1.90	2.15	1.90	2.13	2.70	1.70	
26	3.30	3.04	2.34	1.97	2.91	2.51	2.07	2.11	1.86	1.94	2.46	2.29	
27	3.78	3.40	1.99	2.42	2.57	2.89	1.85	2.12	1.84	2.25	2.70	2.19	
28	3.65	3.53	2.40	2.29	2.42	2.62	1.96	2.73	1.64	1.89	2.54	2.50	
29	3.15	2.59	2.45	2.79	1.66	3.15	1.94	2.56	1.63	1.95		3.02	
30	4.06	2.23	1.92	2.06	2.56	4.21	1.62	2.89	1.64	1.94		3.15	
31		2.93		2.47	2.74		1.63		1.64	2.21		3.28	
Mean	3.23	3.08	3.20	2.45	2.05	2.67	2.19	2.29	2.04	2.23	2.84	2.57	
Max	4.45	4.13	4.34	3.14	2.91	4.21	3.21	3.21	2.87	3.59	4.36	3.29	4.45
Min	2.26	2.10	1.92	1.67	1.63	1.64	1.62	1.62	1.63	1.63	1.80	1.67	1.62

Annual Max Momentary Gage Height 4.53 M (A.D), at 18.00 Hours, on Apr 1, 1993
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed 0.45 M (A.D)
Left Bank Elevation 8.89 M (A.D)
Right Bank Elevation 11.50 M (A.D), Drainage Area 11787 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	274.00	36.20	113.00	64.40	11.00	23.60	118.00	2.60	50.80	2.90	32.70	41.80	
2	169.20	26.00	70.00	30.80	4.10	86.20	3.20	2.60	21.20	2.90	32.70	45.30	
3	127.00	87.10	117.00	27.80	10.00	30.20	24.20	2.60	54.80	8.60	50.00	74.50	
4	156.00	160.80	144.00	29.60	14.00	68.40	34.10	2.90	54.80	23.60	60.40	75.40	
5	95.20	46.80	130.30	76.30	18.80	3.20	63.60	40.40	50.80	116.00	85.30	17.00	
6	152.40	215.90	50.80	84.40	30.80	15.20	79.90	27.20	29.00	33.40	72.70	34.80	
7	200.30	229.20	135.80	94.30	18.80	55.60	62.00	2.60	44.60	42.50	102.00	61.20	
8	118.00	223.70	119.00	67.60	3.20	90.70	55.60	16.40	21.20	11.50	136.90	73.60	
9	76.30	47.60	159.60	39.00	66.80	24.20	33.40	118.00	16.40	2.90	55.60	88.00	
10	118.00	115.00	128.10	15.20	17.00	13.00	3.50	54.00	33.40	15.80	23.00	123.00	
11	36.20	151.20	153.60	28.40	26.60	60.40	61.20	101.00	26.60	26.00	58.00	116.00	
12	66.00	197.70	96.10	46.80	15.20	88.90	36.20	82.60	24.20	99.00	36.20	54.00	
13	51.60	122.00	111.00	86.20	18.20	58.80	62.80	43.90	46.00	160.80	15.80	4.10	
14	66.00	154.80	50.00	78.10	15.80	124.00	67.60	5.00	85.30	123.00	62.80	82.60	
15	66.80	104.00	142.80	80.80	3.80	96.10	101.00	19.40	67.60	29.60	158.40	59.60	
16	79.90	46.00	258.60	111.00	39.00	147.60	46.80	18.20	30.80	36.20	152.40	64.40	
17	88.00	133.60	244.60	59.60	14.60	77.20	3.20	55.60	2.90	16.40	233.40	67.60	
18	103.00	88.90	247.40	8.60	23.60	124.00	14.60	83.50	3.50	23.60	261.40	39.70	
19	92.50	76.30	212.00	29.00	2.90	3.80	37.60	75.40	10.00	50.00	200.30	60.40	
20	232.00	108.00	120.00	57.20	15.20	27.20	40.40	54.80	14.60	92.50	9.00	17.00	
21	201.60	147.60	117.00	86.20	14.00	36.20	23.60	77.20	3.20	43.90	30.80	112.00	
22	195.10	82.60	120.00	72.70	23.00	93.40	34.80	18.20	9.00	88.90	67.60	67.60	
23	79.00	88.00	230.60	66.00	4.10	85.30	3.80	14.60	3.80	3.20	157.20	126.00	
24	65.20	78.10	151.20	34.10	14.60	118.00	3.50	62.00	13.00	14.60	196.40	4.40	
25	57.20	71.80	133.60	4.10	25.40	106.00	14.00	29.00	14.00	27.80	70.00	5.00	
26	127.00	101.00	41.80	18.20	88.90	54.80	24.20	26.60	12.00	16.40	50.80	38.30	
27	183.60	138.00	19.40	47.60	59.60	87.10	11.50	27.20	11.00	35.50	70.00	31.40	
28	168.00	153.60	46.00	38.30	47.60	63.60	17.60	72.70	3.20	13.50	57.20	54.00	
29	112.00	61.20	50.00	78.10	3.80	112.00	16.40	58.80	2.90	17.00		99.00	
30	219.80	34.10	15.20	23.60	58.80	240.40	2.60	87.10	3.20	16.40		112.00	
31		90.70		51.60	73.60		2.90		3.20	32.70		125.00	
Total	3776.90	3417.50	3728.50	1635.60	782.80	2215.10	1103.80	1282.10	767.00	1227.10	2539.00	1974.70	24450.10 CMSDAY
Mean	125.90	110.24	124.28	52.76	25.25	73.84	35.61	42.74	24.74	39.58	90.68	63.70	66.99 CMS
Max	274.00	229.20	258.60	111.00	88.90	240.40	118.00	118.00	85.30	160.80	261.40	126.00	274.00 CMS
Min	36.20	26.00	15.20	4.10	2.90	3.20	2.60	2.60	2.90	2.90	9.00	4.10	2.60 CMS
Runoff	326.324	295.272	322.142	141.316	67.634	191.385	95.368	110.773	66.269	106.021	219.370	170.614	2112.489 MCM

Momentary Peak 285.20 CMS, at 4.53 M (A.D), at 18.00 Hours, on Apr 1, 1993

Runoff Yield 5.68 Liters/Second/Square KM, Momentary Peak Yield 24.20 Liters/Second/Square KM

WATER YEAR 1993

MAE KLONG RIVER BASIN

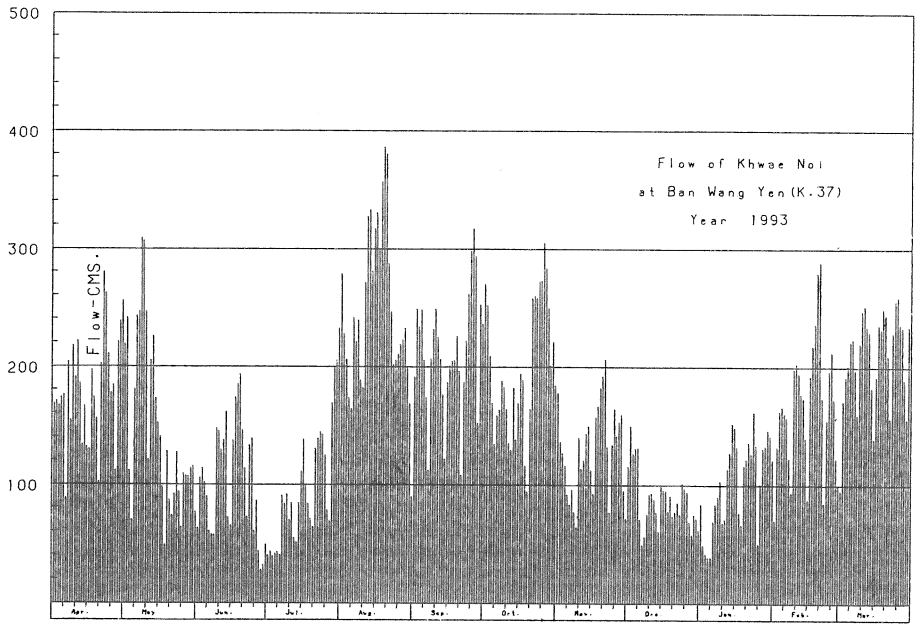
Khwae Noi River at Ban Wang Yen, Kanchanaburi (K.37)

Location	Lat. 13-55-57 N., Long. 99-25-37 E., on left bank at Ban Wang Yen, Amphoe Muang, Kanchanaburi.
Drainage Area	10,603 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+0.00 m.(A.D.)
Bench Mark	B.M.-H.D.
Location	On left bank about 10 meters from the top staff gage.
Elevation	+9.150 m.(A.D.)
Gage Reading Frequency	5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1984 to date
Rating Operation	
Period of Rating	1984 to date
Rated by Float	-
Rated by Current Meter	1984 to date
Stability of Channel Regimes	Fairly stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Stage-discharge relation defined by 44 discharge measurements made in 1993.

Gage Height in Meter (A.D), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	3.71	4.04	2.89	2.66	4.44	3.86	4.38	3.77	3.31	3.06	2.94	3.15	
2	3.72	4.19	3.23	2.70	4.10	4.24	4.26	3.48	3.57	2.75	3.44	3.72	
3	3.70	3.28	3.30	2.65	3.96	4.14	3.98	3.40	3.40	2.68	3.66	3.86	
4	3.74	2.95	3.20	2.68	3.74	4.24	3.71	3.32	3.43	2.64	3.69	3.92	
5	3.76	3.79	3.11	2.69	3.68	3.95	3.46	3.12	3.44	2.65	3.65	4.06	
6	3.10	4.20	2.86	2.67	4.19	3.74	3.64	3.05	2.95	2.94	3.62	4.07	
7	3.94	4.23	2.84	3.11	4.06	3.29	3.67	3.16	2.76	3.05	3.37	3.90	
8	3.61	4.63	2.83	3.06	4.18	3.96	3.84	3.00	2.82	3.11	3.14	3.64	
9	4.03	4.61	3.56	3.12	3.84	4.13	3.80	2.90	2.99	3.21	3.90	4.05	
10	3.86	4.23	3.54	2.95	3.80	4.24	3.68	3.50	3.12	2.93	3.93	4.23	
11	4.06	3.36	3.42	3.06	4.39	4.08	3.47	3.30	3.13	2.95	3.88	4.26	
12	3.82	3.95	3.49	2.81	4.74	3.96	3.42	3.35	3.09	3.30	3.76	4.14	
13	3.46	4.09	3.66	2.78	4.78	3.76	3.80	3.53	3.00	3.40	3.74	4.11	
14	3.69	3.74	2.96	3.06	4.45	3.36	3.49	3.57	2.86	3.59	3.50	3.80	
15	3.44	3.59	2.91	3.28	4.68	3.83	3.71	3.29	3.18	3.56	3.09	3.50	
16	3.43	3.51	3.48	3.49	4.76	3.92	3.88	3.13	3.15	3.44	3.86	3.86	
17	3.90	3.17	3.74	3.18	4.57	3.95	3.84	3.63	3.15	3.00	4.03	4.15	
18	3.74	2.76	3.82	3.06	4.92	3.95	3.32	3.69	3.01	2.91	4.16	4.13	
19	3.62	3.41	3.87	2.95	5.09	4.09	3.14	3.80	3.11	3.32	4.44	4.24	
20	3.21	3.08	3.55	2.90	5.06	3.89	3.68	3.86	2.97	3.36	4.50	4.21	
21	3.93	2.98	3.30	3.43	4.49	3.25	4.30	3.96	3.00	3.47	3.74	3.98	
22	4.45	3.12	2.97	3.50	4.23	3.83	4.32	3.44	3.07	3.40	3.06	3.62	
23	4.33	3.41	3.45	3.54	3.93	4.06	4.30	3.00	2.99	3.66	3.61	4.11	
24	3.99	3.14	3.50	3.52	3.95	4.33	4.40	3.46	3.20	3.45	3.89	4.29	
25	3.77	2.89	2.86	3.39	3.99	4.56	4.40	3.68	3.16	2.77	4.00	4.34	
26	3.81	3.26	3.08	3.01	4.04	4.68	4.60	3.51	3.14	3.19	3.73	4.15	
27	3.28	3.25	2.70	2.94	4.07	4.53	4.47	3.60	2.93	3.43	3.37	4.14	
28	4.06	3.24	2.53	3.71	4.13	3.59	4.25	3.64	2.84	3.45	3.18	3.84	
29	4.17	3.30	2.57	3.92	3.91	4.27	3.92	3.15	2.98	3.55		3.62	
30	4.29	3.31	2.76	3.95	3.71	4.16	4.06	2.96	2.96	3.51		4.14	
31		3.00		4.13	3.11		3.81		2.87	3.36		4.27	
Mean	3.79	3.54	3.20	3.16	4.23	3.99	3.90	3.41	3.08	3.20	3.67	3.98	
Max	4.45	4.63	3.87	4.13	5.09	4.68	4.60	3.96	3.57	3.66	4.50	4.34	5.09
Min	3.10	2.76	2.53	2.65	3.11	3.25	3.14	2.90	2.76	2.64	2.94	3.15	2.53

Annual Max Momentary Gage Height 5.14 M (A.D), at 6.00 Hours, on Aug 20, 1993
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed 0.12 M (A.D)
Left Bank Elevation 7.75 M (A.D)
Right Bank Elevation 9.40 M (A.D), Drainage Area 10603 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	169.50	219.00	63.90	40.40	279.40	192.00	270.00	178.50	115.75	84.50	69.80	95.75	
2	171.00	241.50	105.75	44.00	228.00	249.00	252.00	137.40	149.80	49.00	132.20	171.00	
3	168.00	112.00	114.50	39.50	207.00	234.00	210.00	127.00	127.00	42.20	162.40	192.00	
4	174.00	71.00	102.00	42.20	174.00	249.00	169.50	117.00	130.90	38.60	166.60	201.00	
5	177.00	181.50	90.75	43.10	165.20	205.50	134.80	92.00	132.20	39.50	161.00	222.00	
6	89.50	243.00	60.60	41.30	241.50	174.00	159.60	83.25	71.00	69.80	156.80	223.50	
7	204.00	247.50	58.40	90.75	222.00	113.25	163.80	97.00	50.00	83.25	123.25	198.00	
8	155.40	309.80	57.30	84.50	240.00	207.00	189.00	77.00	56.20	90.75	94.50	159.60	
9	217.50	306.60	148.40	92.00	189.00	232.50	183.00	65.00	75.80	103.25	198.00	220.50	
10	192.00	247.50	145.60	71.00	183.00	249.00	165.20	140.00	92.00	68.60	202.50	247.50	
11	222.00	122.00	129.60	84.50	271.50	225.00	136.10	114.50	93.25	71.00	195.00	252.00	
12	186.00	205.50	138.70	55.10	327.40	207.00	129.60	120.75	88.25	114.50	177.00	234.00	
13	134.80	226.50	162.40	52.00	333.80	177.00	183.00	144.20	77.00	127.00	174.00	229.50	
14	166.60	174.00	72.20	84.50	281.00	122.00	138.70	149.80	60.60	152.60	140.00	183.00	
15	132.20	152.60	66.20	112.00	317.80	187.50	169.50	113.25	99.50	148.40	88.25	140.00	
16	130.90	141.40	137.40	138.70	330.60	201.00	195.00	93.25	95.75	132.20	192.00	192.00	
17	198.00	98.25	174.00	99.50	300.20	205.50	189.00	158.20	95.75	77.00	217.50	235.50	
18	174.00	50.00	186.00	84.50	357.40	205.50	117.00	166.60	78.25	66.20	237.00	232.50	
19	156.80	128.30	193.50	71.00	386.30	226.50	94.50	183.00	90.75	117.00	279.40	249.00	
20	103.25	87.00	147.00	65.00	381.20	196.50	165.20	192.00	73.40	122.00	289.00	244.50	
21	202.50	74.60	114.50	130.90	287.40	108.25	258.00	207.00	77.00	136.10	174.00	210.00	
22	281.00	92.00	73.40	140.00	247.50	187.50	261.00	132.20	85.75	127.00	84.50	156.80	
23	262.50	128.30	133.50	145.60	202.50	222.00	258.00	77.00	75.80	162.40	155.40	229.50	
24	211.50	94.50	140.00	142.80	205.50	262.50	273.00	134.80	102.00	133.50	196.50	256.50	
25	178.50	63.90	60.60	125.75	211.50	298.60	273.00	165.20	97.00	51.00	213.00	264.00	
26	184.50	109.50	87.00	78.25	219.00	317.80	305.00	141.40	94.50	100.75	172.50	235.50	
27	112.00	108.25	44.00	69.80	223.50	293.80	284.20	154.00	68.60	130.90	123.25	234.00	
28	222.00	107.00	28.70	169.50	232.50	152.60	250.50	159.60	58.40	133.50	99.50	189.00	
29	238.50	114.50	32.30	201.00	199.50	253.50	201.00	95.75	74.60	147.00		156.80	
30	256.50	115.75	50.00	205.50	169.50	237.00	222.00	72.20	72.20	141.40		234.00	
31		77.00		232.50	90.75		184.50		61.70	122.00		253.50	
Total	5471.95	4650.25	3118.20	3077.15	7705.45	6392.30	6184.70	3888.85	2720.70	3182.90	4674.85	6542.45	57609.75 CMSDA
Mean	182.40	150.01	103.94	99.26	248.56	213.08	199.51	129.63	87.76	102.67	166.96	211.05	157.83 CMS
Max	281.00	309.80	193.50	232.50	386.30	317.80	305.00	207.00	149.80	162.40	289.00	264.00	386.30 CMS
Min	89.50	50.00	28.70	39.50	90.75	108.25	94.50	65.00	50.00	38.60	69.80	95.75	28.70 CMS
Runoff	472.777	401.782	269.412	265.866	665.751	552.295	534.358	335.997	235.068	275.003	403.907	565.268	4977.483 MCM

Momentary Peak 394.80 CMS, at 5.14 M (A.D), at 6.00 Hours, on Aug 20, 1993
Runoff Yield 14.89 Liters/Second/Square KM, Momentary Peak Yield 37.23 Liters/Second/Square KM

WATER YEAR 1993

MAE KLONG RIVER BASIN

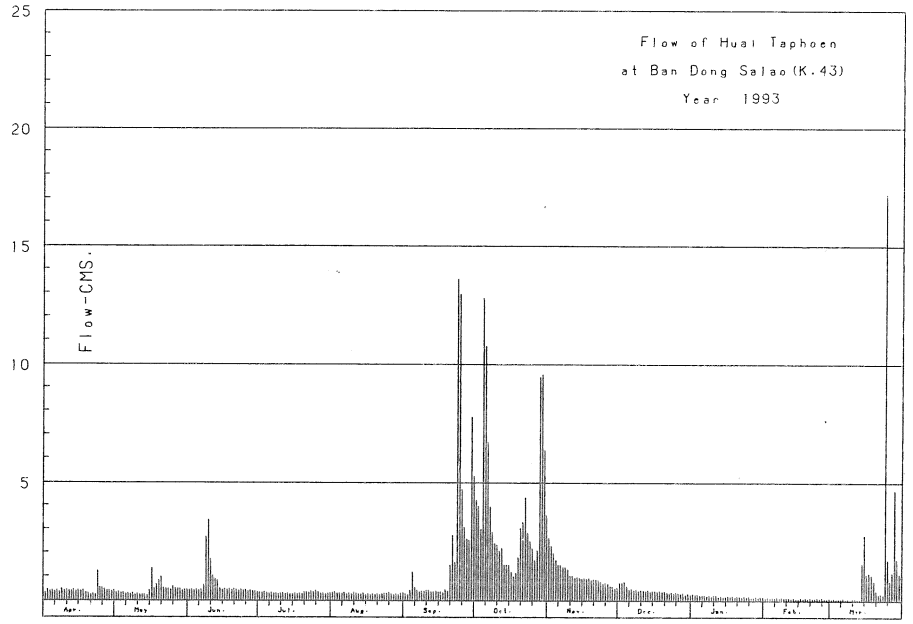
Huai Taphoen at Ban Dong Salao, Suphan Buri (K.43)

Location	Lat. 14°-44'-32" N., Long. 99°-27'-27" E., on right bank at the bridge on road, Ban Dong Saloa, Tambon Ong Phra, Amphoe Dan Chang, Suphan Buri.
Drainage Area	640 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+0.00 m.(A.D.)
Bench Mark	B.M.-H.D.
Location	On right bank at the abutment of the bridge.
Elevation	+5.923 m.(A.D.)
Gage Reading Frequency	5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1986 to date.
Rating Operation	
Period of Rating	1992 to date.
Rated by Float	-
Rated by Current Meter	1992 to date.
Stability of Channel Regimes	Fairly stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records fair. Stage- discharge relation defined by 29 discharge measurements made in 1993.

Gage Height in Meter (A.D), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	1.06	1.06	1.09	1.05	1.06	1.03	1.78	1.53	1.15	1.03	0.97	0.95	
2	1.09	1.06	1.09	1.06	1.06	1.03	1.75	1.47	1.16	1.03	0.97	0.95	
3	1.08	1.05	1.09	1.06	1.05	1.08	1.61	1.40	1.16	1.03	0.97	0.95	
4	1.08	1.05	1.09	1.06	1.04	1.25	2.44	1.35	1.13	1.02	0.97	0.95	
5	1.08	1.04	1.09	1.05	1.05	1.12	2.32	1.31	1.10	1.02	0.97	0.95	
6	1.08	1.04	1.09	1.05	1.05	1.08	2.02	1.30	1.10	1.01	0.97	0.95	
7	1.07	1.04	1.14	1.05	1.04	1.07	1.75	1.29	1.09	1.01	0.97	0.94	
8	1.10	1.04	1.54	1.04	1.04	1.07	1.58	1.28	1.09	1.01	0.97	0.94	
9	1.09	1.03	1.69	1.04	1.04	1.08	1.49	1.27	1.08	1.01	0.97	0.94	
10	1.09	1.03	1.35	1.04	1.05	1.08	1.47	1.21	1.08	1.01	0.96	0.94	
11	1.09	1.03	1.21	1.04	1.04	1.08	1.42	1.21	1.09	1.01	0.96	0.94	
12	1.09	1.03	1.19	1.04	1.04	1.07	1.45	1.20	1.08	1.00	0.96	0.94	
13	1.09	1.02	1.17	1.04	1.04	1.06	1.31	1.20	1.08	1.00	0.96	0.94	
14	1.08	1.02	1.11	1.04	1.04	1.08	1.30	1.20	1.07	1.00	0.96	1.32	
15	1.08	1.08	1.10	1.04	1.03	1.07	1.30	1.19	1.07	1.00	0.96	1.56	
16	1.08	1.28	1.10	1.04	1.03	1.06	1.25	1.19	1.07	1.00	0.96	1.22	
17	1.08	1.11	1.10	1.04	1.03	1.06	1.21	1.19	1.07	1.00	0.96	1.23	
18	1.06	1.14	1.10	1.04	1.03	1.09	1.23	1.19	1.07	1.00	0.96	1.22	
19	1.04	1.18	1.10	1.04	1.03	1.08	1.37	1.18	1.07	0.99	0.96	1.17	
20	1.03	1.20	1.10	1.06	1.03	1.30	1.61	1.18	1.06	0.99	0.96	1.07	
21	1.03	1.11	1.09	1.06	1.03	1.56	1.66	1.18	1.06	0.99	0.96	1.03	
22	1.03	1.11	1.09	1.06	1.04	1.33	1.79	1.18	1.05	0.99	0.96	1.03	
23	1.26	1.10	1.09	1.07	1.04	2.48	1.58	1.16	1.05	0.99	0.96	1.03	
24	1.12	1.10	1.09	1.07	1.05	2.45	1.50	1.15	1.05	0.99	0.96	2.66	
25	1.11	1.12	1.09	1.08	1.05	1.82	1.44	1.15	1.05	0.99	0.96	1.35	
26	1.10	1.11	1.08	1.07	1.03	1.62	1.34	1.15	1.04	0.98	0.95	1.16	
27	1.09	1.11	1.08	1.05	1.03	1.53	1.43	1.13	1.04	0.98	0.95	1.24	
28	1.08	1.10	1.08	1.04	1.03	1.51	2.23	1.12	1.04	0.98	0.95	1.82	
29	1.08	1.09	1.07	1.04	1.03	2.12	2.24	1.11	1.03	0.98		1.35	
30	1.08	1.09	1.07	1.04	1.04	1.88	1.99	1.11	1.03	0.98		1.23	
31		1.09		1.04	1.06		1.71		1.03	0.98		1.20	
Mean	1.08	1.09	1.15	1.05	1.04	1.34	1.63	1.23	1.08	1.00	0.96	1.17	
Max	1.26	1.28	1.69	1.08	1.06	2.48	2.44	1.53	1.16	1.03	0.97	2.66	2.66
Min	1.03	1.02	1.07	1.04	1.03	1.03	1.21	1.11	1.03	0.98	0.95	0.94	0.94

Annual Max Momentary Gage Height 3.60 M (A.D), at 9.00 Hours, on Mar 24, 1993
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed 0.66 M (A.D)
Left Bank Elevation 4.88 M (A.D)
Right Bank Elevation 4.89 M (A.D), Drainage Area 640 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.38	0.38	0.47	0.35	0.38	0.29	4.30	2.65	0.75	0.29	0.14	0.10	
2	0.47	0.38	0.47	0.38	0.38	0.29	4.00	2.35	0.80	0.29	0.14	0.10	
3	0.44	0.35	0.47	0.38	0.35	0.44	3.05	2.00	0.80	0.29	0.14	0.10	
4	0.44	0.35	0.47	0.38	0.32	1.25	12.80	1.75	0.65	0.26	0.14	0.10	
5	0.44	0.32	0.47	0.35	0.35	0.60	10.80	1.55	0.50	0.26	0.14	0.10	
6	0.44	0.32	0.47	0.35	0.35	0.44	6.70	1.50	0.50	0.23	0.14	0.10	
7	0.41	0.32	0.70	0.35	0.32	0.41	4.00	1.45	0.47	0.23	0.14	0.08	
8	0.50	0.32	2.70	0.32	0.32	0.41	2.90	1.40	0.47	0.23	0.14	0.08	
9	0.47	0.29	3.45	0.32	0.32	0.44	2.45	1.35	0.44	0.23	0.14	0.08	
10	0.47	0.29	1.75	0.32	0.35	0.44	2.35	1.05	0.44	0.23	0.12	0.08	
11	0.47	0.29	1.05	0.32	0.32	0.44	2.10	1.05	0.47	0.23	0.12	0.08	
12	0.47	0.29	0.95	0.32	0.32	0.41	2.25	1.00	0.44	0.20	0.12	0.08	
13	0.47	0.26	0.85	0.32	0.32	0.38	1.55	1.00	0.44	0.20	0.12	0.08	
14	0.44	0.26	0.55	0.32	0.32	0.44	1.50	1.00	0.41	0.20	0.12	1.60	
15	0.44	0.44	0.50	0.32	0.29	0.41	1.50	0.95	0.41	0.20	0.12	2.80	
16	0.44	1.40	0.50	0.32	0.29	0.38	1.25	0.95	0.41	0.20	0.12	1.10	
17	0.44	0.55	0.50	0.32	0.29	0.38	1.05	0.95	0.41	0.20	0.12	1.15	
18	0.38	0.70	0.50	0.32	0.29	0.47	1.15	0.95	0.41	0.20	0.12	1.10	
19	0.32	0.90	0.50	0.32	0.29	0.44	1.85	0.90	0.41	0.18	0.12	0.85	
20	0.29	1.00	0.50	0.38	0.29	1.50	3.05	0.90	0.38	0.18	0.12	0.41	
21	0.29	0.55	0.47	0.38	0.29	2.80	3.30	0.90	0.38	0.18	0.12	0.29	
22	0.29	0.55	0.47	0.38	0.32	1.65	4.40	0.90	0.35	0.18	0.12	0.29	
23	1.30	0.50	0.47	0.41	0.32	13.60	2.90	0.80	0.35	0.18	0.12	0.29	
24	0.60	0.50	0.47	0.41	0.35	13.00	2.50	0.75	0.35	0.18	0.12	17.20	
25	0.55	0.60	0.47	0.44	0.35	4.70	2.20	0.75	0.35	0.18	0.12	1.75	
26	0.50	0.55	0.44	0.41	0.29	3.10	1.70	0.75	0.32	0.16	0.10	0.80	
27	0.47	0.55	0.44	0.35	0.29	2.65	2.15	0.65	0.32	0.16	0.10	1.20	
28	0.44	0.50	0.44	0.32	0.29	2.55	9.45	0.60	0.32	0.16	0.10	4.70	
29	0.44	0.47	0.41	0.32	0.29	7.80	9.60	0.55	0.29	0.16		1.75	
30	0.44	0.47	0.41	0.32	0.32	5.30	6.40	0.55	0.29	0.16		1.15	
31		0.47		0.32	0.38		3.60		0.29	0.16		1.00	
Total	13.94	15.12	22.31	10.82	9.95	67.41	118.80	33.90	13.62	6.39	3.48	40.59	356.33 CMSDAY
Mean	0.46	0.49	0.74	0.35	0.32	2.25	3.83	1.13	0.44	0.21	0.12	1.31	0.98 CMS
Max	1.30	1.40	3.45	0.44	0.38	13.60	12.80	2.65	0.80	0.29	0.14	17.20	17.20 CMS
Min	0.29	0.26	0.41	0.32	0.29	0.29	1.05	0.55	0.29	0.16	0.10	0.08	0.08 CMS
Runoff	1.204	1.306	1.928	0.935	0.860	5.824	10.264	2.929	1.177	0.552	0.301	3.507	30.787 MCM

Momentary Peak 40.00 CMS, at 3.60 M (A.D), at 9.00 Hours, on Mar 24, 1993

Runoff Yield 1.53 Liters/Second/Square KM, Momentary Peak Yield 62.50 Liters/Second/Square KM

WATER YEAR 1993

MAE KLONG RIVER BASIN

Huai Mae Kraban at Ban Nong Chik, Kanchanaburi (K.53)

Location — Lat. 14-01-39 N., Long. 99-13-31 E., on right bank at the bridge on road, Ban Nong Chik, Tambon Si Mongkon, Amphoe Sai Yok, Kanchanaburi.

Drainage Area — 299 sq.km.

Type of Gage — Staff gage.

Zero Gage at Bottom — +0.00 m.(A.D.)

Bench Mark — B.M.-H.D.

Location — On right bank about 20 meters from the top staff gage.

Elevation — +6.300 m.(A.D.)

Gage Reading Frequency — 16-time daily readings at 06.00 - 18.00, 21.00, 24.00 and 03.00 hours.

Basis of Mean Daily Gage Height — Arithmetic mean of 16 readings.

Period of Available Gage Records — 1992 to date.

Rating Operation

Period of Rating — 1992 to date.

Rated by Float — -

Rated by Current Meter — 1992 to date.

Stability of Channel Regimes — Fairly stable.

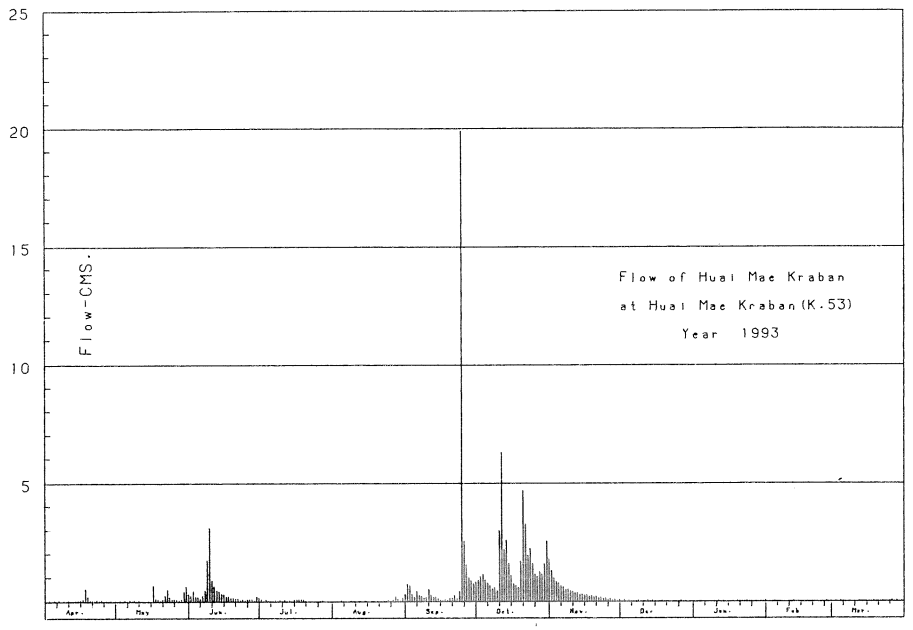
Overbank Flow Conditions — Overbank flow starts at elevation + 3.15 m.(A.D.), records are channel flow only.

General Description — Records fair. Stage-discharge relation defined by 162 diacharge measurements made in 1993.

Gage Height in Meter (A.D), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.55	0.55	0.65	0.60	0.55	0.81	0.88	0.97	0.58	0.55	0.54	0.55	
2	0.55	0.55	0.73	0.59	0.55	0.81	0.91	0.90	0.58	0.55	0.54	0.55	
3	0.55	0.55	0.65	0.59	0.55	0.67	0.94	0.86	0.58	0.55	0.54	0.55	
4	0.54	0.55	0.63	0.58	0.55	0.64	0.87	0.83	0.57	0.55	0.54	0.55	
5	0.54	0.55	0.62	0.58	0.56	0.71	0.84	0.80	0.57	0.55	0.54	0.55	
6	0.54	0.55	0.65	0.58	0.56	0.67	0.79	0.77	0.57	0.55	0.54	0.54	
7	0.54	0.56	0.74	0.58	0.55	0.64	0.76	0.75	0.57	0.55	0.54	0.54	
8	0.54	0.57	1.05	0.57	0.54	0.63	0.76	0.74	0.57	0.55	0.54	0.54	
9	0.56	0.56	1.27	0.57	0.53	0.62	0.73	0.73	0.57	0.55	0.54	0.54	
10	0.55	0.56	0.88	0.57	0.53	0.75	1.25	0.71	0.57	0.55	0.54	0.54	
11	0.54	0.55	0.78	0.57	0.53	0.66	1.62	0.70	0.57	0.55	0.54	0.54	
12	0.55	0.55	0.74	0.57	0.53	0.64	1.14	0.69	0.58	0.55	0.54	0.54	
13	0.55	0.54	0.71	0.58	0.53	0.63	1.20	0.68	0.58	0.55	0.54	0.54	
14	0.55	0.54	0.69	0.58	0.53	0.62	1.03	0.67	0.57	0.56	0.54	0.54	
15	0.55	0.57	0.67	0.58	0.53	0.60	0.92	0.67	0.56	0.56	0.54	0.56	
16	0.59	0.81	0.65	0.61	0.53	0.60	0.83	0.66	0.56	0.56	0.54	0.55	
17	0.76	0.62	0.64	0.59	0.53	0.59	0.79	0.65	0.56	0.56	0.54	0.55	
18	0.65	0.60	0.63	0.61	0.53	0.59	0.78	0.65	0.56	0.56	0.54	0.55	
19	0.60	0.58	0.62	0.59	0.54	0.61	1.04	0.64	0.56	0.56	0.55	0.54	
20	0.58	0.60	0.62	0.58	0.53	0.63	1.46	0.64	0.56	0.56	0.55	0.54	
21	0.58	0.65	0.61	0.57	0.53	0.66	1.29	0.63	0.55	0.56	0.55	0.54	
22	0.58	0.75	0.60	0.57	0.53	0.62	1.09	0.63	0.55	0.56	0.55	0.55	
23	0.58	0.63	0.60	0.56	0.54	0.71	1.14	0.62	0.55	0.56	0.55	0.56	
24	0.57	0.61	0.60	0.56	0.54	2.57	1.03	0.62	0.55	0.56	0.55	0.56	
25	0.57	0.60	0.61	0.56	0.54	1.20	0.94	0.61	0.55	0.56	0.55	0.55	
26	0.56	0.59	0.60	0.56	0.58	1.01	0.91	0.61	0.55	0.56	0.55	0.55	
27	0.56	0.59	0.60	0.55	0.65	0.91	0.96	0.60	0.55	0.56	0.55	0.55	
28	0.55	0.59	0.59	0.55	0.60	0.86	0.93	0.60	0.55	0.56	0.55	0.55	
29	0.55	0.72	0.65	0.55	0.58	0.83	1.02	0.59	0.55	0.56		0.55	
30	0.55	0.78	0.62	0.55	0.62	0.84	1.20	0.58	0.55	0.56		0.55	
31		0.67		0.55	0.68		1.06		0.55	0.56		0.55	
Mean	0.57	0.60	0.69	0.57	0.55	0.78	1.00	0.69	0.56	0.56	0.54	0.55	
Max	0.76	0.81	1.27	0.61	0.68	2.57	1.62	0.97	0.58	0.56	0.55	0.56	2.57
Min	0.54	0.54	0.59	0.55	0.53	0.59	0.73	0.58	0.55	0.55	0.54	0.54	0.53

Annual Max Momentary Gage Height 3.45 M (A.D), at 9.00 Hours, on Sep 24, 1993
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed 0.45 M (A.D)
Left Bank Elevation 3.14 M (A.D)
Right Bank Elevation 3.36 M (A.D), Drainage Area Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.06	0.06	0.25	0.10	0.06	0.73	0.94	1.35	0.08	0.06	0.05	0.06	
2	0.06	0.06	0.49	0.09	0.06	0.73	1.05	1.00	0.08	0.06	0.05	0.06	
3	0.06	0.06	0.25	0.09	0.06	0.31	1.20	0.88	0.08	0.06	0.05	0.06	
4	0.05	0.06	0.19	0.08	0.06	0.22	0.91	0.79	0.07	0.06	0.05	0.06	
5	0.05	0.06	0.16	0.08	0.06	0.43	0.82	0.70	0.07	0.06	0.05	0.06	
6	0.05	0.06	0.25	0.08	0.06	0.31	0.67	0.61	0.07	0.06	0.05	0.05	
7	0.05	0.06	0.52	0.08	0.06	0.22	0.58	0.55	0.07	0.06	0.05	0.05	
8	0.05	0.07	1.75	0.07	0.05	0.19	0.58	0.52	0.07	0.06	0.05	0.05	
9	0.06	0.06	3.16	0.07	0.04	0.16	0.49	0.49	0.07	0.06	0.05	0.05	
10	0.06	0.06	0.94	0.07	0.04	0.55	3.00	0.43	0.07	0.06	0.05	0.05	
11	0.05	0.06	0.64	0.07	0.04	0.28	6.32	0.40	0.07	0.06	0.05	0.05	
12	0.06	0.06	0.52	0.07	0.04	0.22	2.24	0.37	0.08	0.06	0.05	0.05	
13	0.06	0.05	0.43	0.08	0.04	0.19	2.60	0.34	0.08	0.06	0.05	0.05	
14	0.06	0.05	0.37	0.08	0.04	0.16	1.65	0.31	0.07	0.06	0.05	0.05	
15	0.06	0.07	0.31	0.08	0.04	0.10	1.10	0.31	0.06	0.06	0.05	0.06	
16	0.09	0.73	0.25	0.13	0.04	0.10	0.79	0.28	0.06	0.06	0.05	0.06	
17	0.58	0.16	0.22	0.09	0.04	0.09	0.67	0.25	0.06	0.06	0.05	0.06	
18	0.25	0.10	0.19	0.13	0.04	0.09	0.64	0.25	0.06	0.06	0.05	0.06	
19	0.10	0.08	0.16	0.09	0.05	0.13	1.70	0.22	0.06	0.06	0.06	0.05	
20	0.08	0.10	0.16	0.08	0.04	0.19	4.74	0.22	0.06	0.06	0.06	0.05	
21	0.08	0.25	0.13	0.07	0.04	0.28	3.32	0.19	0.06	0.06	0.06	0.05	
22	0.08	0.55	0.10	0.07	0.04	0.16	1.95	0.19	0.06	0.06	0.06	0.06	
23	0.08	0.19	0.10	0.06	0.05	0.43	2.24	0.16	0.06	0.06	0.06	0.06	
24	0.07	0.13	0.10	0.06	0.05	19.93	1.65	0.16	0.06	0.06	0.06	0.06	
25	0.07	0.10	0.13	0.06	0.05	2.60	1.20	0.13	0.06	0.06	0.06	0.06	
26	0.06	0.09	0.10	0.06	0.08	1.55	1.05	0.13	0.06	0.06	0.06	0.06	
27	0.06	0.09	0.10	0.06	0.25	1.05	1.30	0.10	0.06	0.06	0.06	0.06	
28	0.06	0.09	0.09	0.06	0.10	0.88	1.15	0.10	0.06	0.06	0.06	0.06	
29	0.06	0.46	0.25	0.06	0.08	0.79	1.60	0.09	0.06	0.06		0.06	
30	0.06	0.64	0.16	0.06	0.16	0.82	2.60	0.08	0.06	0.06		0.06	
31		0.31		0.06	0.34		1.80		0.06	0.06		0.06	
Total	2.62	4.97	12.47	2.39	2.20	33.89	52.55	11.60	2.05	1.86	1.50	1.74	129.84 CMSDAY
Mean	0.09	0.16	0.42	0.08	0.07	1.13	1.70	0.39	0.07	0.06	0.05	0.06	0.36 CMS
Max	0.58	0.73	3.16	0.13	0.34	19.93	6.32	1.35	0.08	0.06	0.06	0.06	19.93 CMS
Min	0.05	0.05	0.09	0.06	0.04	0.09	0.49	0.08	0.06	0.06	0.05	0.05	0.04 CMS
Runoff	0.226	0.429	1.077	0.206	0.190	2.928	4.540	1.002	0.177	0.161	0.130	0.150	11.218 MCM

Momentary Peak 38.20 CMS, at 3.45 M (A.D), at 9.00 Hours, on Sep 24, 1993

Runoff Yield ********* Liters/Second/Square KM, Momentary Peak Yield ********* Liters/Second/Square KM

WATER YEAR 1993

PHETCHABURI RIVER BASIN

Phetchaburi River at Ban Rai Phaniat, Phetchaburi (B.1A)

Location — Lat. 13°-04'-22" N., Long. 99°-56'-37" E., on left bank, next to Muang Thamon Regulator, Ban Rai Phaniat, Tambon Ban Mo, Amphoe Muang, Phetchaburi.

Drainage Area — 4,188 sq.km.

Type of Gage — Staff gage.

Zero Gage at Bottom — -0.060 m.(M.S.L.)

Bench Mark — B.M.-H.D.

Location — On left bank along the gage line.

Elevation — +4.667 m.(M.S.L.)

Gage Reading Frequency — 5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.

Basis of Mean Daily Gage Height — Arithmetic mean of 5 readings.

Period of Available Gage Records — 1916 to date.

Rating Operation

Period of Rating — 1965, 1967 - 1971, 1990 to date.

Rated by Float — -

Rated by Current Meter — 1965, 1967 - 1971, 1990 to date.

Stability of Channel Regimes — Fairly stable because of backwater effect.

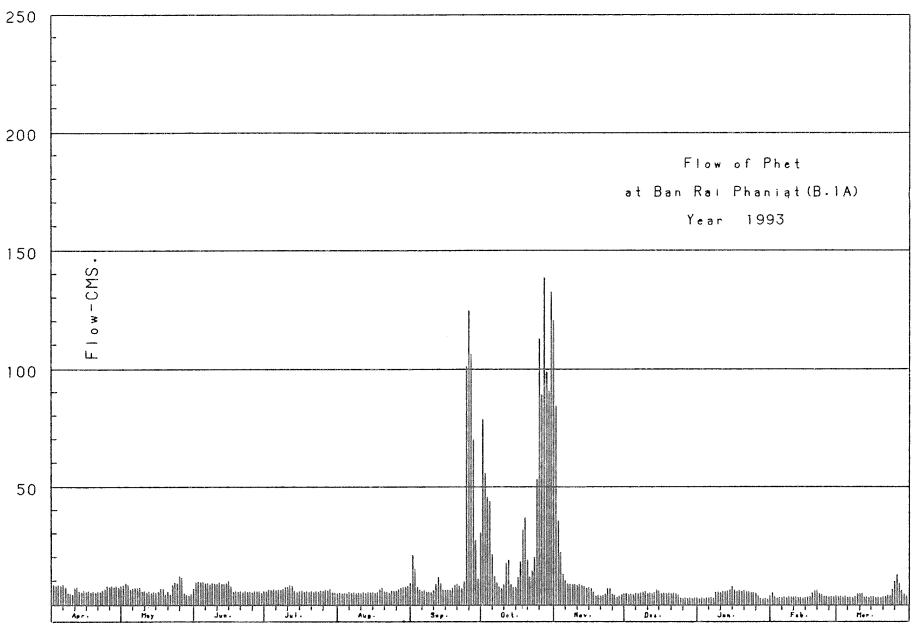
Overbank Flow Conditions — Overbank flow starts at elevation + 2.81 m.(M.S.L.), records are channel flow only.

General Description — Records fair. Flow regulated by Kaeng Krachan Reservoir and Phet Diversion Dam for irrigation about 27,800 hectares above gage site. Stage-discharge relation defined by 64 discharge measurements made in 1993.

Gage Height in Meter (MSL), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	1.26	1.26	1.33	1.15	1.11	1.77	3.45	3.60	1.10	1.00	1.13	1.04	
2	1.26	1.31	1.33	1.17	1.11	1.55	2.84	2.25	1.09	1.00	1.03	1.04	
3	1.26	1.27	1.33	1.18	1.10	1.24	2.54	1.80	1.09	1.00	1.01	1.04	
4	1.26	1.19	1.32	1.18	1.11	1.17	2.49	1.48	1.09	1.00	1.01	1.04	
5	1.27	1.19	1.31	1.17	1.13	1.15	1.78	1.35	1.10	1.01	1.02	1.03	
6	1.23	1.22	1.30	1.17	1.12	1.16	1.44	1.30	1.11	1.01	1.03	1.02	
7	1.11	1.22	1.29	1.18	1.12	1.14	1.32	1.28	1.11	1.01	1.02	1.02	
8	1.09	1.21	1.30	1.19	1.11	1.13	1.23	1.29	1.14	1.12	1.03	1.03	
9	1.09	1.15	1.30	1.24	1.11	1.13	1.21	1.28	1.14	1.14	1.04	1.11	
10	1.22	1.14	1.30	1.24	1.11	1.16	1.27	1.27	1.11	1.13	1.04	1.11	
11	1.22	1.13	1.31	1.26	1.12	1.28	1.64	1.28	1.11	1.14	1.03	1.10	
12	1.14	1.13	1.30	1.26	1.12	1.43	1.70	1.27	1.11	1.15	1.02	1.03	
13	1.13	1.12	1.28	1.15	1.13	1.31	1.29	1.24	1.12	1.15	1.01	1.02	
14	1.15	1.12	1.31	1.13	1.13	1.17	1.22	1.22	1.19	1.19	1.01	1.02	
15	1.14	1.11	1.34	1.14	1.12	1.18	1.23	1.22	1.15	1.24	1.01	1.03	
16	1.14	1.14	1.24	1.16	1.12	1.17	1.41	1.21	1.12	1.17	1.02	1.03	
17	1.13	1.19	1.14	1.14	1.12	1.18	1.66	1.13	1.11	1.16	1.05	1.02	
18	1.13	1.20	1.14	1.14	1.19	1.21	2.13	1.06	1.11	1.16	1.11	1.02	
19	1.13	1.07	1.14	1.14	1.21	1.28	2.28	1.06	1.11	1.16	1.17	1.02	
20	1.13	1.13	1.14	1.14	1.15	1.29	1.70	1.06	1.11	1.16	1.17	1.02	
21	1.14	1.09	1.14	1.14	1.13	1.25	1.42	1.06	1.11	1.15	1.11	1.05	
22	1.15	1.28	1.14	1.14	1.12	1.21	1.53	1.10	1.11	1.14	1.08	1.06	
23	1.20	1.31	1.14	1.14	1.15	1.35	1.73	1.20	1.07	1.13	1.05	1.07	
24	1.24	1.31	1.13	1.15	1.16	4.02	2.77	1.21	1.01	1.12	1.04	1.18	
25	1.24	1.44	1.13	1.16	1.16	4.60	4.31	1.10	1.00	1.12	1.04	1.34	
26	1.24	1.40	1.14	1.17	1.18	4.14	3.71	1.06	1.00	1.06	1.03	1.47	
27	1.24	1.11	1.15	1.17	1.22	3.23	4.93	1.03	1.00	0.99	1.04	1.31	
28	1.24	1.06	1.14	1.19	1.22	1.97	3.96	1.04	1.00	0.99	1.05	1.16	
29	1.23	1.06	1.12	1.13	1.24	1.38	3.75	1.09	1.00	0.99		1.10	
30	1.24	1.08	1.14	1.11	1.24	2.09	4.78	1.09	1.00	0.98		1.08	
31		1.19		1.11	1.30		4.49		1.00	1.05		1.07	
Mean	1.19	1.19	1.23	1.17	1.15	1.68	2.36	1.32	1.08	1.09	1.05	1.09	
Max	1.27	1.44	1.34	1.26	1.30	4.60	4.93	3.60	1.19	1.24	1.17	1.47	4.93
Min	1.09	1.06	1.12	1.11	1.10	1.13	1.21	1.03	1.00	0.98	1.01	1.02	0.98

Annual Max Momentary Gage Height 4.97 M (MSL), at 18.00 Hours, on Oct 26, 1993
Zero Gage at Bottom Elevation -0.06 M (MSL), River Bed -0.93 M (MSL)
Left Bank Elevation 5.10 M (MSL)
Right Bank Elevation 2.80 M (MSL), Drainage Area 4188 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	8.32	8.32	9.86	5.95	5.11	21.33	78.60	84.60	4.90	3.00	5.53	3.76	
2	8.32	9.42	9.86	6.37	5.11	15.20	56.04	35.90	4.71	3.00	3.57	3.76	
3	8.32	8.54	9.86	6.58	4.90	7.88	45.56	22.20	4.71	3.00	3.19	3.76	
4	8.32	6.79	9.64	6.58	5.11	6.37	43.86	13.40	4.71	3.00	3.19	3.76	
5	8.54	6.79	9.42	6.37	5.53	5.95	21.62	10.30	4.90	3.19	3.38	3.57	
6	7.66	7.44	9.20	6.37	5.32	6.16	12.40	9.20	5.11	3.19	3.57	3.38	
7	5.11	7.44	8.98	6.58	5.32	5.74	9.64	8.76	5.11	3.19	3.38	3.38	
8	4.71	7.22	9.20	6.79	5.11	5.53	7.66	8.98	5.74	5.32	3.57	3.57	
9	4.71	5.95	9.20	7.88	5.11	5.53	7.22	8.76	5.74	5.74	3.76	5.11	
10	7.44	5.74	9.20	7.88	5.11	6.16	8.54	8.54	5.11	5.53	3.76	5.11	
11	7.44	5.53	9.42	8.32	5.32	8.76	17.62	8.76	5.11	5.74	3.57	4.90	
12	5.74	5.53	9.20	8.32	5.32	12.15	19.30	8.54	5.11	5.95	3.38	3.57	
13	5.53	5.32	8.76	5.95	5.53	9.42	8.98	7.88	5.32	5.95	3.19	3.38	
14	5.95	5.32	9.42	5.53	5.53	6.37	7.44	7.44	6.79	6.79	3.19	3.38	
15	5.74	5.11	10.08	5.74	5.32	6.58	7.66	7.44	5.95	7.88	3.19	3.57	
16	5.74	5.74	7.88	6.16	5.32	6.37	11.65	7.22	5.32	6.37	3.38	3.57	
17	5.53	6.79	5.74	5.74	5.32	6.58	18.18	5.53	5.11	6.16	3.95	3.38	
18	5.53	7.00	5.74	5.74	6.79	7.22	32.06	4.14	5.11	6.16	5.11	3.38	
19	5.53	4.33	5.74	5.74	7.22	8.76	36.86	4.14	5.11	6.16	6.37	3.38	
20	5.53	5.53	5.74	5.74	5.95	8.98	19.30	4.14	5.11	6.16	6.37	3.38	
21	5.74	4.71	5.74	5.74	5.53	8.10	11.90	4.14	5.11	5.95	5.11	3.95	
22	5.95	8.76	5.74	5.74	5.32	7.22	14.68	4.90	5.11	5.74	4.52	4.14	
23	7.00	9.42	5.74	5.74	5.95	10.30	20.17	7.00	4.33	5.53	3.95	4.33	
24	7.88	9.42	5.53	5.95	6.16	101.40	53.55	7.22	3.19	5.32	3.76	6.58	
25	7.88	12.40	5.53	6.16	6.16	125.00	113.11	4.90	3.00	5.32	3.76	10.08	
26	7.88	11.40	5.74	6.37	6.58	106.20	89.00	4.14	3.00	4.14	3.57	13.15	
27	7.88	5.11	5.95	6.37	7.44	70.31	138.86	3.57	3.00	2.84	3.76	9.42	
28	7.88	4.14	5.74	6.79	7.44	27.20	99.00	3.76	3.00	2.84	3.95	6.16	
29	7.66	4.14	5.32	5.53	7.88	10.96	90.60	4.71	3.00	2.84		4.90	
30	7.88	4.52	5.74	5.11	7.88	30.80	132.56	4.71	3.00	2.68		4.52	
31		6.79		5.11	9.20		120.49		3.00	3.95		4.33	
Total	203.34	210.66	228.91	194.94	184.89	664.53	1354.11	324.92	143.52	148.63	110.98	146.61	3916.04 CMSDAY
Mean	6.78	6.80	7.63	6.29	5.96	22.15	43.68	10.83	4.63	4.79	3.96	4.73	10.73 CMS
Max	8.54	12.40	10.08	8.32	9.20	125.00	138.86	84.60	6.79	7.88	6.37	13.15	138.86 CMS
Min	4.71	4.14	5.32	5.11	4.90	5.53	7.22	3.57	3.00	2.68	3.19	3.38	2.68 CMS
Runoff	17.569	18.201	19.778	16.843	15.974	57.415	116.995	28.073	12.400	12.842	9.589	12.667	338.346 MCM

Momentary Peak 140.54 CMS, at 4.97 M (MSL), at 18.00 Hours, on Oct 26, 1993

Runoff Yield 2.56 Liters/Second/Square KM, Momentary Peak Yield 33.56 Liters/Second/Square KM

WATER YEAR 1993

PHETCHABURI RIVER BASIN

Phetchaburi River at Ban Song Phi Nong, Phetchaburi (B.3)

Location — Lat. 12°-52'-04" N., Long. 99°-40'-40" E., on left bank at Ban Song Phi Nong, Amphoe Tha Yang, Phetchaburi.

Drainage Area — 2,244 sq.km.

Type of Gage — Staff gage.

Zero Gage at Bottom — +41.00 m. (M.S.L.)

Bench Mark — B.M.-H.D.

Location — Near the top staff gage.

Elevation — +50.534 m. (M.S.L.)

Gage Reading Frequency — 5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.

Basis of Mean Daily Gage Height — Arithmetic mean of 5 readings.

Period of Available Gage Records — 1930 - 1942, 1954 to date.

Rating Operation

Period of Rating — 1954 - 1959, 1968 to date.

Rated by Float —

Rated by Current Meter — 1954 - 1959, 1968 to date.

Stability of Channel Regimes — Fairly stable.

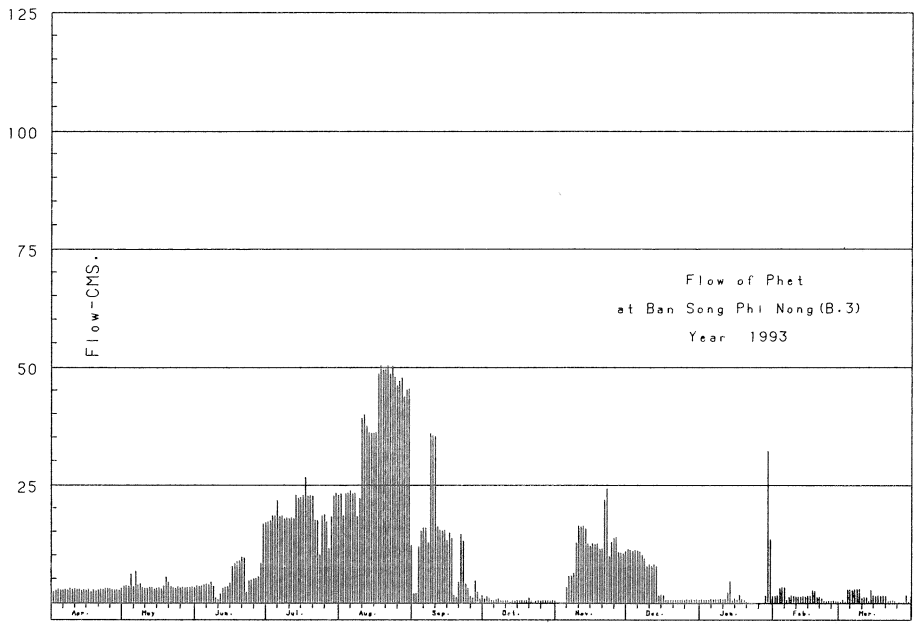
Overbank Flow Conditions — No overbank flow.

General Description — Records fair. Flow regulated by Kaeng Krachan Reservoir. Stage-discharge relation defined by 72 discharge measurements made in 1993.

Gage Height in Meter (MSL), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	42.06	42.20	42.19	42.66	42.79	42.03	41.88	41.80	42.51	41.87	41.98	41.81	
2	42.11	42.19	42.19	42.67	42.69	42.03	41.97	41.80	42.50	41.87	41.98	41.86	
3	42.12	42.19	42.18	42.69	42.79	42.52	41.91	41.81	42.50	41.86	42.15	41.82	
4	42.12	42.31	42.21	42.69	42.79	42.62	41.86	41.76	42.50	41.87	42.16	42.13	
5	42.12	42.18	42.21	42.76	42.80	42.63	41.83	42.17	42.50	41.88	42.17	42.12	
6	42.12	42.34	42.21	42.69	42.79	42.63	41.88	42.29	42.49	41.88	41.85	42.12	
7	42.12	42.20	42.23	42.69	42.79	42.55	41.89	42.30	42.47	41.88	41.95	42.12	
8	42.14	42.22	42.19	42.68	42.69	43.00	41.85	42.32	42.44	41.88	41.98	42.14	
9	42.13	42.15	41.91	42.68	42.77	42.99	41.83	42.55	42.39	41.88	41.98	42.13	
10	42.13	42.14	41.88	42.68	43.04	42.99	41.85	42.64	42.40	41.88	41.97	41.92	
11	42.13	42.15	42.01	42.68	43.05	42.64	41.83	42.64	42.39	41.88	41.95	41.94	
12	42.12	42.17	42.15	42.68	43.02	42.62	41.81	42.64	42.40	42.06	41.96	41.95	
13	42.11	42.15	42.16	42.78	43.00	42.62	41.85	42.63	42.39	42.24	41.96	41.82	
14	42.11	42.14	42.18	42.77	43.00	42.62	41.83	42.54	41.99	41.85	41.96	42.12	
15	42.11	42.14	42.22	42.77	43.00	42.56	41.85	42.53	42.00	41.90	41.97	41.98	
16	42.12	42.15	42.38	42.78	43.00	42.61	41.85	42.54	42.00	41.87	41.97	41.98	
17	42.08	42.14	42.41	42.85	43.16	42.58	41.84	42.54	41.86	42.00	42.11	41.98	
18	42.11	42.18	42.42	42.78	43.18	41.98	41.85	42.54	41.85	41.87	42.09	41.98	
19	42.10	42.29	42.43	42.78	43.17	41.94	41.84	42.51	41.86	41.86	41.95	41.98	
20	42.12	42.23	42.45	42.78	43.17	42.23	41.93	42.51	41.85	41.77	41.94	41.98	
21	42.12	42.19	42.45	42.67	43.18	42.60	41.86	42.76	41.86	41.76	41.92	41.83	
22	42.13	42.15	42.05	42.67	43.16	42.56	41.80	42.81	41.85	41.74	41.83	41.84	
23	42.14	42.15	42.25	42.47	43.18	42.22	41.82	42.46	41.86	41.71	41.83	41.85	
24	42.15	42.17	42.25	42.69	43.15	42.14	41.85	42.55	41.86	41.71	41.85	41.83	
25	42.13	42.16	42.27	42.70	43.13	41.97	41.85	42.58	41.87	41.71	41.84	41.78	
26	42.11	42.16	42.27	42.66	43.14	41.91	41.84	42.58	41.87	41.70	41.84	41.77	
27	42.12	42.16	42.29	42.51	43.15	42.25	41.85	42.49	41.87	41.69	41.83	41.76	
28	42.11	42.15	42.41	42.69	43.10	42.07	41.83	42.48	41.87	41.99	41.81	41.78	
29	42.11	42.17	42.65	42.78	43.12	41.90	41.84	42.48	41.87	42.94		42.00	
30	42.14	42.17	42.66	42.79	43.12	41.97	41.84	42.49	41.87	42.57		41.80	
31		42.17		42.78	42.53		41.83		41.87	41.96		41.95	
Mean	42.12	42.18	42.26	42.71	42.99	42.40	41.85	42.42	42.12	41.92	41.96	41.94	
Max	42.15	42.34	42.66	42.85	43.18	43.00	41.97	42.81	42.51	42.94	42.17	42.14	43.18
Min	42.06	42.14	41.88	42.47	42.53	41.90	41.80	41.76	41.85	41.69	41.81	41.76	41.69

Annual Max Momentary Gage Height 43.20 M (MSL), at 6.00 Hours, on Aug 17, 1993
Zero Gage at Bottom Elevation 41.00 M (MSL), River Bed 40.23 M (MSL)
Left Bank Elevation 47.85 M (MSL)
Right Bank Elevation 47.86 M (MSL), Drainage Area 2244 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	2.34	3.80	3.69	17.18	23.31	2.07	0.86	0.30	11.54	0.79	1.64	0.37	
2	2.81	3.69	3.69	17.61	18.47	2.07	1.56	0.30	11.20	0.79	1.64	0.72	
3	2.92	3.69	3.58	18.47	23.31	11.88	1.08	0.37	11.20	0.72	3.25	0.44	
4	2.92	6.13	4.01	18.47	23.31	15.46	0.72	0.22	11.20	0.79	3.36	3.03	
5	2.92	3.58	4.01	21.84	23.80	15.89	0.51	3.47	11.20	0.86	3.47	2.92	
6	2.92	6.82	4.01	18.47	23.31	15.89	0.86	5.69	10.90	0.86	0.65	2.92	
7	2.92	3.80	4.43	18.47	23.31	12.90	0.93	5.90	10.30	0.86	1.40	2.92	
8	3.14	4.22	3.69	18.04	18.47	36.10	0.65	6.36	9.40	0.86	1.64	3.14	
9	3.03	3.25	1.08	18.04	22.33	35.46	0.51	12.90	7.97	0.86	1.64	3.03	
10	3.03	3.14	0.86	18.04	39.14	35.46	0.65	16.32	8.20	0.86	1.56	1.16	
11	3.03	3.25	1.89	18.04	39.90	16.32	0.51	16.32	7.97	0.86	1.40	1.32	
12	2.92	3.47	3.25	18.04	37.62	15.46	0.37	16.32	8.20	2.34	1.48	1.40	
13	2.81	3.25	3.36	22.82	36.10	15.46	0.65	15.89	7.97	4.64	1.48	0.44	
14	2.81	3.14	3.58	22.33	36.10	15.46	0.51	12.56	1.72	0.65	1.48	2.92	
15	2.81	3.14	4.22	22.33	36.10	13.24	0.65	12.22	1.80	1.00	1.56	1.64	
16	2.92	3.25	7.74	22.82	36.10	15.03	0.65	12.56	1.80	0.79	1.56	1.64	
17	2.52	3.14	8.50	26.75	48.68	13.92	0.58	12.56	0.72	1.80	2.81	1.64	
18	2.81	3.58	8.80	22.82	50.34	1.64	0.65	12.56	0.65	0.79	2.61	1.64	
19	2.70	5.69	9.10	22.82	49.51	1.32	0.58	11.54	0.72	0.72	1.40	1.64	
20	2.92	4.43	9.70	22.82	49.51	4.43	1.24	11.54	0.65	0.24	1.32	1.64	
21	2.92	3.69	9.70	17.61	50.34	14.60	0.72	21.84	0.72	0.22	1.16	0.51	
22	3.03	3.25	2.25	17.61	48.68	13.24	0.30	24.39	0.65	0.18	0.51	0.58	
23	3.14	3.25	4.85	10.30	50.34	4.22	0.44	10.00	0.72	0.12	0.51	0.65	
24	3.25	3.47	4.85	18.47	47.85	3.14	0.65	12.90	0.72	0.12	0.65	0.51	
25	3.03	3.36	5.27	18.90	46.19	1.56	0.65	13.92	0.79	0.12	0.58	0.26	
26	2.81	3.36	5.27	17.18	47.02	1.08	0.58	13.92	0.79	0.10	0.58	0.24	
27	2.92	3.36	5.69	11.54	47.85	4.85	0.65	10.90	0.79	0.09	0.51	0.22	
28	2.81	3.25	8.50	18.47	43.70	2.43	0.51	10.60	0.79	1.72	0.37	0.26	
29	2.81	3.47	16.75	22.82	45.36	1.00	0.58	10.60	0.79	32.26		1.80	
30	3.14	3.47	17.18	23.31	45.36	1.56	0.58	10.90	0.79	13.58		0.30	
31		3.47		22.82	12.22		0.51		0.79	1.48		1.40	
Total	87.06	115.86	173.50	605.25	1143.63	343.14	20.89	325.87	143.65	72.07	42.23	43.30	3116.44 CMSDAY
Mean	2.90	3.74	5.78	19.52	36.89	11.44	0.67	10.86	4.63	2.32	1.51	1.40	8.54 CMS
Max	3.25	6.82	17.18	26.75	50.34	36.10	1.56	24.39	11.54	32.26	3.47	3.14	50.34 CMS
Min	2.34	3.14	0.86	10.30	12.22	1.00	0.30	0.22	0.65	0.09	0.37	0.22	0.09 CMS
Runoff	7.522	10.010	14.990	52.294	98.810	29.647	1.805	28.155	12.411	6.227	3.648	3.741	269.260 MCM

Momentary Peak 52.00 CMS, at 43.20 M (MSL), at 6.00 Hours, on Aug 17, 1993
Runoff Yield 3.80 Liters/Second/Square KM, Momentary Peak Yield 23.17 Liters/Second/Square KM

WATER YEAR 1993

PHETCHABURI RIVER BASIN

Huai Mae Prachan at Ban Sa Yai Non, Phetchaburi (B.6)

Location: Lat. 12°-55'-56" N., Long. 99°-47'-05" E., on left bank about 250 meters upstream from the bridge of Khuan Phet-Kaeng Krachan Reservoir Road, Amphoe Tha Yang, Phetchaburi.

Drainage Area: 1,015 sq.km.

Type of Gage: Water-stage recorder.

Zero Gage at Bottom: +22.71 m.(M.S.L.)

Bench Mark: B.M.-H.D.

Location: Near the automatic gage building.

Elevation: +33.033 m. (M.S.L.)

Gage Reading Frequency: Recording.

Basis of Mean Daily Gage Height: Arithmetic mean of 24 readings.

Period of Available Gage Records: 1941 - 1942, 1961 to date.

Rating Operation

Period of Rating: 1961 - 1962, 1964 to date.

Rated by Float: -

Rated by Current Meter: 1961 - 1962, 1964 to date.

Stability of Channel Regimes: Stable.

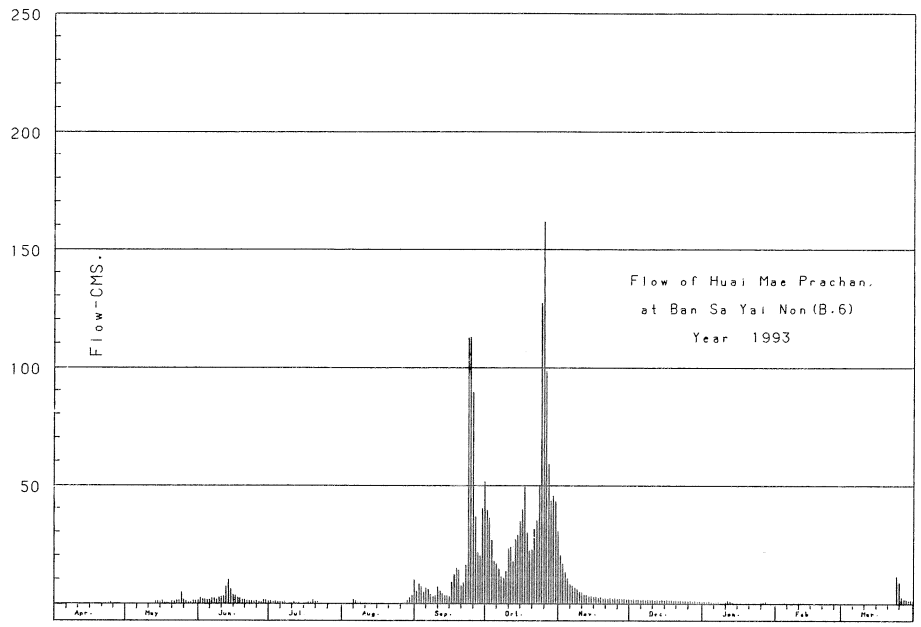
Overbank Flow Conditions: No overbank flow.

General Description: Records good. Stage-discharge relation defined by 92 discharge measurements made in 1993.

Gage Height in Meter (MSL), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	22.41	22.39	22.65	22.51	22.37	22.86	23.97	23.49	22.58	22.49	22.44	22.40	
2	22.41	22.37	22.61	22.51	22.37	23.03	23.88	23.36	22.58	22.49	22.44	22.40	
3	22.40	22.36	22.59	22.50	22.36	22.96	23.65	23.25	22.58	22.49	22.44	22.40	
4	22.39	22.34	22.57	22.49	22.36	22.85	23.41	23.13	22.57	22.48	22.44	22.40	
5	22.38	22.33	22.57	22.49	22.60	22.93	23.36	23.02	22.57	22.48	22.44	22.40	
6	22.38	22.32	22.63	22.49	22.52	22.91	23.30	22.98	22.57	22.48	22.44	22.40	
7	22.38	22.31	22.65	22.49	22.49	22.79	23.17	22.95	22.56	22.48	22.44	22.40	
8	22.38	22.31	22.56	22.48	22.47	22.72	23.15	22.90	22.56	22.48	22.44	22.40	
9	22.37	22.31	22.69	22.48	22.46	22.73	23.25	22.86	22.56	22.48	22.44	22.40	
10	22.37	22.31	22.69	22.47	22.45	22.95	23.56	22.83	22.56	22.48	22.44	22.40	
11	22.41	22.31	22.71	22.47	22.44	22.88	23.57	22.80	22.55	22.52	22.44	22.40	
12	22.41	22.36	22.96	22.46	22.48	22.81	23.40	22.76	22.55	22.50	22.44	22.40	
13	22.40	22.51	23.12	22.45	22.41	22.76	23.66	22.72	22.55	22.44	22.44	22.39	
14	22.41	22.51	22.92	22.44	22.41	22.73	23.70	22.71	22.55	22.40	22.43	22.39	
15	22.41	22.50	22.78	22.45	22.40	22.72	23.85	22.70	22.55	22.40	22.43	22.39	
16	22.41	22.53	22.74	22.45	22.39	23.05	23.97	22.69	22.55	22.41	22.43	22.39	
17	22.40	22.47	22.68	22.45	22.36	23.22	24.18	22.67	22.55	22.41	22.42	22.39	
18	22.40	22.44	22.62	22.49	22.34	23.31	23.73	22.66	22.54	22.40	22.41	22.39	
19	22.38	22.44	22.59	22.56	22.33	23.27	23.53	22.64	22.54	22.40	22.41	22.39	
20	22.38	22.50	22.56	22.51	22.35	22.99	23.55	22.62	22.53	22.39	22.40	22.39	
21	22.37	22.51	22.53	22.48	22.32	23.04	23.76	22.62	22.53	22.39	22.40	22.39	
22	22.35	22.56	22.52	22.47	22.34	23.34	23.86	22.63	22.53	22.39	22.40	22.39	
23	22.48	22.54	22.51	22.45	22.33	25.11	24.19	22.63	22.53	22.39	22.40	22.39	
24	22.46	22.85	22.51	22.44	22.31	25.11	25.28	22.63	22.53	22.42	22.40	23.18	
25	22.47	22.56	22.51	22.43	22.37	24.81	25.65	22.62	22.52	22.47	22.40	23.06	
26	22.45	22.51	22.50	22.41	22.41	23.90	24.93	22.61	22.52	22.47	22.40	22.66	
27	22.44	22.47	22.49	22.40	22.45	23.52	24.34	22.61	22.51	22.48	22.40	22.60	
28	22.42	22.46	22.58	22.39	22.56	23.47	24.05	22.60	22.50	22.42	22.40	22.56	
29	22.41	22.55	22.55	22.39	22.65	23.98	24.09	22.59	22.50	22.43		22.54	
30	22.40	22.52	22.53	22.38	22.77	24.21	24.05	22.58	22.49	22.43		22.53	
31		22.56		22.37	23.10		23.74		22.49	22.44		22.52	
Mean	22.40	22.45	22.64	22.46	22.45	23.30	23.86	22.80	22.54	22.45	22.42	22.48	
Max	22.48	22.85	23.12	22.56	23.10	25.11	25.65	23.49	22.58	22.52	22.44	23.18	25.65
Min	22.35	22.31	22.49	22.37	22.31	22.72	23.15	22.58	22.49	22.39	22.40	22.39	22.31

Annual Max Momentary Gage Height 25.70 M (MSL), at 7.00 Hours, on Oct 25, 1993
Zero Gage at Bottom Elevation 22.71 M (MSL), River Bed 22.33 M (MSL)
Left Bank Elevation 31.60 M (MSL)
Right Bank Elevation 32.13 M (MSL), Drainage Area 1015 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.19	0.09	2.50	1.10	0.08	5.20	39.80	20.70	1.80	0.91	0.46	0.10	
2	0.19	0.08	2.10	1.10	0.08	8.60	36.20	16.80	1.80	0.91	0.46	0.10	
3	0.10	0.07	1.90	1.00	0.07	7.20	27.00	13.50	1.80	0.91	0.46	0.10	
4	0.09	0.06	1.70	0.91	0.07	5.00	18.30	10.60	1.70	0.82	0.46	0.10	
5	0.09	0.05	1.70	0.91	2.00	6.60	16.80	8.40	1.70	0.82	0.46	0.10	
6	0.09	0.04	2.30	0.91	1.20	6.20	15.00	7.60	1.70	0.82	0.46	0.10	
7	0.09	0.04	2.50	0.91	0.91	3.90	11.40	7.00	1.60	0.82	0.46	0.10	
8	0.09	0.04	1.60	0.82	0.73	3.20	11.00	6.00	1.60	0.82	0.46	0.10	
9	0.08	0.04	2.90	0.82	0.64	3.30	13.50	5.20	1.60	0.82	0.46	0.10	
10	0.08	0.04	2.90	0.73	0.55	7.00	23.40	4.60	1.60	0.82	0.46	0.10	
11	0.19	0.04	3.10	0.73	0.46	5.60	23.80	4.00	1.50	1.20	0.46	0.10	
12	0.19	0.07	7.20	0.64	0.82	4.20	18.00	3.60	1.50	1.00	0.46	0.10	
13	0.10	1.10	10.40	0.55	0.19	3.60	27.40	3.20	1.50	0.46	0.46	0.09	
14	0.19	1.10	6.40	0.46	0.19	3.30	29.00	3.10	1.50	0.10	0.37	0.09	
15	0.19	1.00	3.80	0.55	0.10	3.20	35.00	3.00	1.50	0.10	0.37	0.09	
16	0.19	1.30	3.40	0.55	0.09	9.00	39.80	2.90	1.50	0.19	0.37	0.09	
17	0.10	0.73	2.80	0.55	0.07	12.60	50.00	2.70	1.50	0.19	0.28	0.09	
18	0.10	0.46	2.20	0.91	0.06	15.30	30.20	2.60	1.40	0.10	0.19	0.09	
19	0.09	0.46	1.90	1.60	0.05	14.10	22.20	2.40	1.40	0.10	0.19	0.09	
20	0.09	1.00	1.60	1.10	0.07	7.80	23.00	2.20	1.30	0.09	0.10	0.09	
21	0.08	1.10	1.30	0.82	0.04	8.80	31.40	2.20	1.30	0.09	0.10	0.09	
22	0.07	1.60	1.20	0.73	0.06	16.20	35.40	2.30	1.30	0.09	0.10	0.09	
23	0.82	1.40	1.10	0.55	0.05	112.80	50.50	2.30	1.30	0.09	0.10	0.09	
24	0.64	5.00	1.10	0.46	0.04	112.80	127.20	2.30	1.30	0.28	0.10	11.60	
25	0.73	1.60	1.10	0.37	0.08	89.70	162.00	2.20	1.20	0.73	0.10	9.20	
26	0.55	1.10	1.00	0.19	0.19	37.00	98.40	2.10	1.20	0.73	0.10	2.60	
27	0.46	0.73	0.91	0.10	0.55	21.80	59.40	2.10	1.10	0.82	0.10	2.00	
28	0.28	0.64	1.80	0.09	1.60	20.10	43.50	2.00	1.00	0.28	0.10	1.60	
29	0.19	1.50	1.50	0.09	2.50	40.20	45.50	1.90	1.00	0.37		1.40	
30	0.10	1.20	1.30	0.09	3.70	51.60	43.50	1.80	0.91	0.37		1.30	
31		1.60		0.08	10.00		30.60		0.91	0.46		1.20	
Total	6.44	25.28	77.21	20.42	27.24	645.90	1238.20	151.30	44.02	16.31	8.65	33.09	2294.06 CMSDAY
Mean	0.21	0.82	2.57	0.66	0.88	21.53	39.94	5.04	1.42	0.53	0.31	1.07	6.29 CMS
Max	0.82	5.00	10.40	1.60	10.00	112.80	162.00	20.70	1.80	1.20	0.46	11.60	162.00 CMS
Min	0.07	0.04	0.91	0.08	0.04	3.20	11.00	1.80	0.91	0.09	0.10	0.09	0.04 CMS
Runoff	0.556	2.184	6.671	1.764	2.354	55.806	106.980	13.072	3.803	1.409	0.747	2.859	198.207 MCM

Momentary Peak 167.00 CMS, at 25.70 M (MSL), at 7.00 Hours, on Oct 25, 1993

Runoff Yield 6.19 Liters/Second/Square KM, Momentary Peak Yield 164.53 Liters/Second/Square KM

WATER YEAR 1993

PHETCHABURI RIVER BASIN

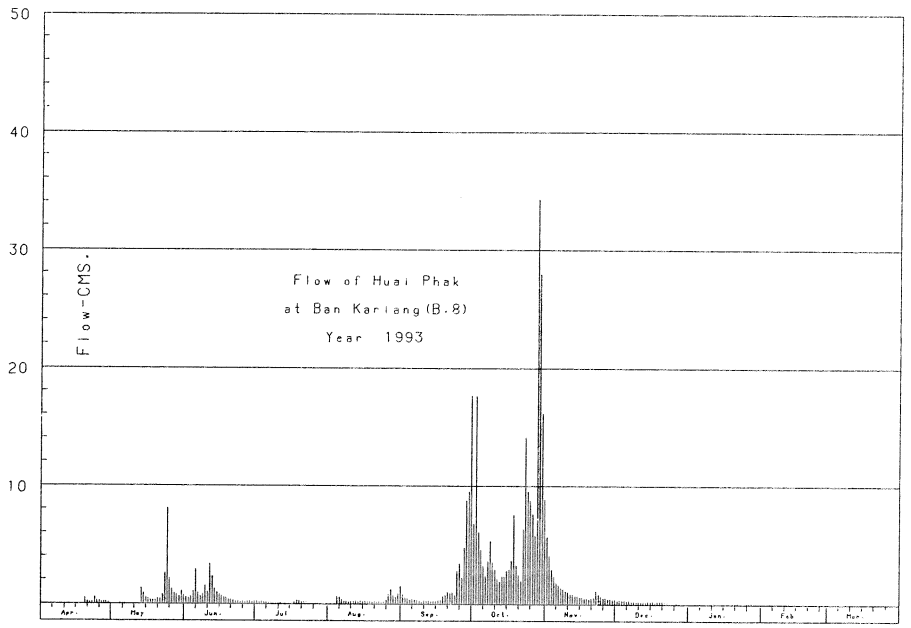
Huai Phak at Ban Kariang, Phetchaburi (B.8)

Location	Lat. 12-48-49 N., Long. 99-41-32 E., on left bank at Ban Kariang, Tambon Song Phi Nong, Amphoe Tha Yang, Phetchaburi.
Drainage Area	264 sq.km.
Type of Gage	Water-stage recorder.
Zero Gage at Bottom	+0.00 m. (A.D.)
Bench Mark	B.M.-H.D.
Location	Infront of gage observer's house.
Elevation	+8.879 m. (A.D.)
Gage Reading Frequency	Recording.
Basis of Mean Daily Gage Height	Arithmetic mean of 24 readings.
Period of Available Gage Records	1973 to date.
Rating Operation	
Period of Rating	1973 to date.
Rated by Float	-
Rated by Current Meter	1973 to date.
Stability of Channel Regimes	Rather unstable.
Overbank Flow Conditions	No overbank flow.
General Description	Records fair. Stage-discharge relation defined by 103 discharge measurements made in 1993.

Gage Height in Meter (A.D), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.61	1.50	1.74	1.58	1.47	1.83	2.81	2.70	1.66	1.48	1.51	1.30	
2	0.60	1.49	1.74	1.57	1.47	1.75	3.55	2.50	1.66	1.48	1.51	1.28	
3	0.59	1.49	1.77	1.57	1.47	1.71	2.74	2.33	1.66	1.49	1.51	1.25	
4	0.55	1.48	1.95	1.57	1.77	1.68	2.56	2.22	1.65	1.49	1.51	1.22	
5	0.53	1.46	2.33	1.56	1.78	1.68	2.37	2.13	1.64	1.49	1.51	1.17	
6	0.53	1.45	1.88	1.54	1.66	1.67	2.23	2.08	1.63	1.49	1.51	1.14	
7	0.52	1.44	1.80	1.51	1.62	1.64	2.44	2.03	1.62	1.49	1.51	1.11	
8	0.51	1.43	1.85	1.52	1.60	1.63	2.66	1.99	1.60	1.50	1.51	1.11	
9	0.49	1.41	2.06	1.53	1.58	1.62	2.42	1.95	1.59	1.50	1.51	1.08	
10	0.47	1.39	1.92	1.51	1.58	1.62	2.33	1.91	1.58	1.50	1.51	1.05	
11	0.43	1.34	2.40	1.49	1.61	1.62	2.18	1.87	1.58	1.50	1.51	1.02	
12	0.39	1.35	2.23	1.49	1.61	1.62	2.15	1.85	1.58	1.50	1.51	1.00	
13	0.40	2.02	2.00	1.49	1.60	1.60	2.23	1.82	1.58	1.51	1.49	0.99	
14	0.39	1.87	1.91	1.51	1.61	1.60	2.22	1.79	1.60	1.51	1.49	0.96	
15	0.38	1.76	1.85	1.51	1.60	1.61	2.30	1.77	1.60	1.51	1.49	0.93	
16	0.48	1.70	1.79	1.52	1.59	1.62	2.33	1.75	1.60	1.51	1.48	0.91	
17	0.57	1.66	1.76	1.53	1.58	1.66	2.44	1.73	1.59	1.51	1.47	0.90	
18	0.69	1.63	1.72	1.65	1.57	1.78	2.88	1.72	1.59	1.51	1.46	0.87	
19	1.73	1.66	1.69	1.62	1.57	1.84	2.39	1.71	1.60	1.51	1.45	0.86	
20	1.60	1.70	1.66	1.58	1.57	1.90	2.24	1.71	1.59	1.52	1.44	0.84	
21	1.52	1.68	1.64	1.57	1.57	1.89	2.16	1.76	1.57	1.52	1.43	0.85	
22	1.56	1.85	1.60	1.57	1.57	1.89	2.77	1.94	1.55	1.52	1.42	0.93	
23	1.75	2.28	1.59	1.54	1.55	1.83	3.35	1.86	1.53	1.52	1.40	0.95	
24	1.63	2.93	1.57	1.51	1.56	2.30	3.05	1.78	1.51	1.52	1.39	0.97	
25	1.62	2.19	1.57	1.50	1.67	2.41	2.98	1.75	1.50	1.52	1.37	0.99	
26	1.61	1.99	1.57	1.49	1.83	2.21	2.89	1.74	1.49	1.51	1.36	0.99	
27	1.58	1.89	1.60	1.48	2.00	2.59	2.70	1.71	1.48	1.51	1.33	0.99	
28	1.56	1.83	1.59	1.47	1.80	2.98	4.30	1.70	1.48	1.51	1.32	0.99	
29	1.55	1.80	1.57	1.47	1.77	3.05	4.04	1.69	1.48	1.51		1.00	
30	1.52	1.95	1.58	1.46	1.86	3.55	3.47	1.68	1.48	1.51		1.00	
31		1.81		1.48	2.07		2.99		1.48	1.51		1.00	
Mean	0.95	1.72	1.80	1.53	1.65	1.95	2.72	1.91	1.57	1.51	1.46	1.02	
Max	1.75	2.93	2.40	1.65	2.07	3.55	4.30	2.70	1.66	1.52	1.51	1.30	4.30
Min	0.38	1.34	1.57	1.46	1.47	1.60	2.15	1.68	1.48	1.48	1.32	0.84	0.38

Annual Max Momentary Gage Height 6.20 M (A.D), at 17.00 Hours, on Oct 28, 1993
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed 0.40 M (A.D)
Left Bank Elevation 6.53 M (A.D)
Right Bank Elevation 8.79 M (A.D), Drainage Area 264 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.00	0.10	0.55	0.22	0.07	0.79	6.81	5.80	0.37	0.08	0.11	0.00	
2	0.00	0.09	0.55	0.21	0.07	0.58	17.65	4.10	0.37	0.08	0.11	0.00	
3	0.00	0.09	0.63	0.21	0.07	0.48	6.16	2.98	0.37	0.09	0.11	0.00	
4	0.00	0.08	1.15	0.21	0.63	0.41	4.58	2.32	0.35	0.09	0.11	0.00	
5	0.00	0.06	2.98	0.19	0.65	0.41	3.22	1.85	0.33	0.09	0.11	0.00	
6	0.00	0.05	0.94	0.16	0.37	0.39	2.38	1.62	0.31	0.09	0.11	0.00	
7	0.00	0.04	0.70	0.11	0.29	0.33	3.68	1.42	0.29	0.09	0.11	0.00	
8	0.00	0.03	0.85	0.13	0.25	0.31	5.44	1.27	0.25	0.10	0.11	0.00	
9	0.00	0.01	1.54	0.14	0.22	0.29	3.54	1.15	0.24	0.10	0.11	0.00	
10	0.00	0.00	1.06	0.11	0.22	0.29	2.98	1.03	0.22	0.10	0.11	0.00	
11	0.00	0.00	3.40	0.09	0.27	0.29	2.10	0.91	0.22	0.10	0.11	0.00	
12	0.00	0.00	2.38	0.09	0.27	0.29	1.95	0.85	0.22	0.10	0.11	0.00	
13	0.00	1.38	1.30	0.09	0.25	0.25	2.38	0.76	0.22	0.11	0.09	0.00	
14	0.00	0.91	1.03	0.11	0.27	0.25	2.32	0.68	0.25	0.11	0.09	0.00	
15	0.00	0.60	0.85	0.11	0.25	0.27	2.80	0.63	0.25	0.11	0.09	0.00	
16	0.00	0.45	0.68	0.13	0.24	0.29	2.98	0.58	0.25	0.11	0.08	0.00	
17	0.00	0.37	0.60	0.14	0.22	0.37	3.68	0.52	0.24	0.11	0.07	0.00	
18	0.00	0.31	0.50	0.35	0.21	0.65	7.58	0.50	0.24	0.11	0.06	0.00	
19	0.52	0.37	0.43	0.29	0.21	0.82	3.34	0.48	0.25	0.11	0.05	0.00	
20	0.25	0.45	0.37	0.22	0.21	1.00	2.44	0.48	0.24	0.13	0.04	0.00	
21	0.13	0.41	0.33	0.21	0.21	0.97	2.00	0.60	0.21	0.13	0.03	0.00	
22	0.19	0.85	0.25	0.21	0.21	0.97	6.43	1.12	0.17	0.13	0.02	0.00	
23	0.58	2.68	0.24	0.16	0.17	0.79	14.15	0.88	0.14	0.13	0.00	0.00	
24	0.31	8.16	0.21	0.11	0.19	2.80	9.60	0.65	0.11	0.13	0.00	0.00	
25	0.29	2.15	0.21	0.10	0.39	3.47	8.76	0.58	0.10	0.13	0.00	0.00	
26	0.27	1.27	0.21	0.09	0.79	2.26	7.69	0.55	0.09	0.11	0.00	0.00	
27	0.22	0.97	0.25	0.08	1.30	4.82	5.80	0.48	0.08	0.11	0.00	0.00	
28	0.19	0.79	0.24	0.07	0.70	8.76	34.30	0.45	0.08	0.11	0.00	0.00	
29	0.17	0.70	0.21	0.07	0.63	9.60	27.92	0.43	0.08	0.11		0.00	
30	0.13	1.15	0.22	0.06	0.88	17.65	16.19	0.41	0.08	0.11		0.00	
31		0.73		0.08	1.58		8.88		0.08	0.11		0.00	
Total	3.25	25.25	24.86	4.55	12.29	60.85	229.73	36.08	6.70	3.32	1.94	0.00	408.82 CMSDAY
Mean	0.11	0.81	0.83	0.15	0.40	2.03	7.41	1.20	0.22	0.11	0.07	0.00	1.12 CMS
Max	0.58	8.16	3.40	0.35	1.58	17.65	34.30	5.80	0.37	0.13	0.11	0.00	34.30 CMS
Min	0.00	0.00	0.21	0.06	0.07	0.25	1.95	0.41	0.08	0.08	0.00	0.00	0.00 CMS
Runoff	0.281	2.182	2.148	0.393	1.062	5.257	19.849	3.117	0.579	0.287	0.168	0.000	35.322 MCM

Momentary Peak 104.20 CMS, at 6.20 M (A.D), at 17.00 Hours, on Oct 28, 1993

Runoff Yield 4.24 Liters/Second/Square KM, Momentary Peak Yield 394.70 Liters/Second/Square KM

WATER YEAR 1993

PHETCHABURI RIVER BASIN

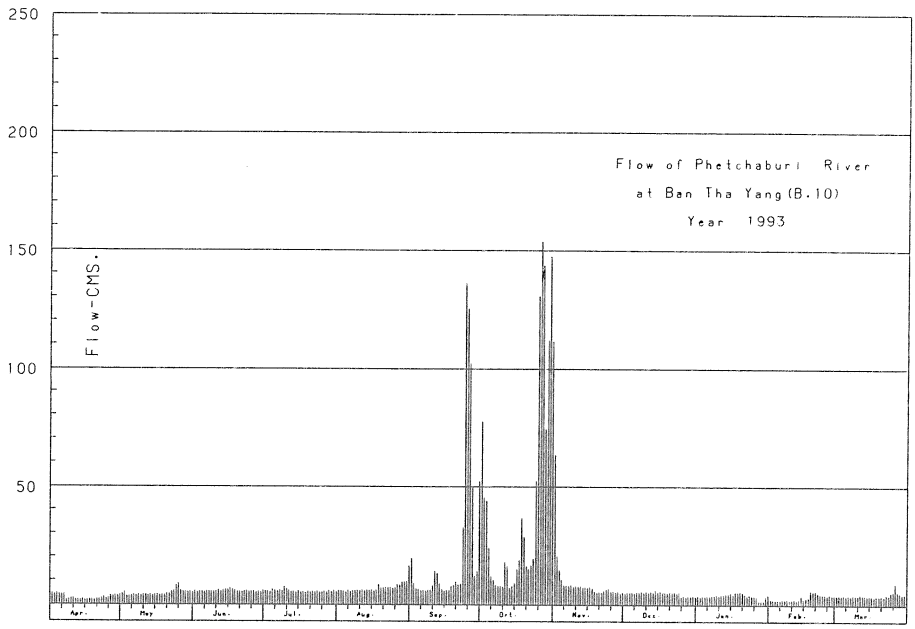
Phetchaburi River at Ban Tha Yang, Phetchaburi (B.10)

Location	Lat. 12-58-24 N., Long. 99-53-10 E., on left bank at the bridge of Ban Tha Yang, Amphoe Tha Yang, Phetchaburi.
Drainage Area	4,111 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+0.00 m.(A.D.)
Bench Mark	B.M.-H.D.
Location	On left bank about 2.00 meters from the top staff gage.
Elevation	+9.443 m.(A.D.)
Gage Reading Frequency	5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1983 to date.
Rating Operation	
Period of Rating	1985 to date.
Rated by Float	-
Rated by Current Meter	1985 to date.
Stability of Channel Regimes	Fairly stable.
Overbank Flow Conditions	Overbank flow starts at elevation +6.58 m.(A.D.), records are channel flow only.
General Description	Records good. Stage-discharge relation defined by 67 discharge measurements made in 1993.

Gage Height in Meter (A.D), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.88	0.91	1.00	1.02	1.01	1.99	4.48	3.99	0.92	0.78	0.67	0.82	
2	0.88	0.97	0.98	0.99	1.03	1.25	3.25	2.03	0.93	0.77	0.62	0.81	
3	0.90	0.80	0.97	0.98	0.98	1.10	3.21	1.66	0.95	0.78	0.64	0.82	
4	0.88	0.77	1.01	1.04	0.98	1.06	2.24	1.37	0.93	0.79	0.62	0.81	
5	0.87	0.83	0.98	1.04	1.02	1.03	1.46	1.22	0.93	0.78	0.63	0.81	
6	0.85	0.83	0.98	1.02	1.00	1.02	1.37	1.19	0.93	0.79	0.64	0.82	
7	0.63	0.83	1.01	1.03	1.01	1.02	1.20	1.20	0.96	0.79	0.65	0.80	
8	0.63	0.85	0.98	1.02	1.02	1.03	1.19	1.20	0.98	0.82	0.65	0.81	
9	0.71	0.84	0.99	1.14	1.02	1.05	1.17	1.18	0.95	0.83	0.63	0.82	
10	0.68	0.84	0.97	1.09	1.02	1.18	1.17	1.17	0.97	0.83	0.65	0.82	
11	0.65	0.85	1.03	1.01	1.03	1.61	1.86	1.18	0.95	0.83	0.64	0.86	
12	0.62	0.84	1.00	0.99	1.02	1.57	1.75	1.16	0.97	0.86	0.63	0.84	
13	0.63	0.84	1.02	0.97	1.03	1.25	1.13	1.16	0.97	0.86	0.63	0.81	
14	0.64	0.84	1.07	0.95	1.04	1.08	1.16	1.13	1.02	0.89	0.81	0.80	
15	0.62	0.83	1.07	1.00	1.03	1.02	1.28	1.13	0.97	0.93	0.64	0.79	
16	0.61	0.85	1.09	0.97	1.02	1.03	1.68	1.14	0.98	0.88	0.68	0.79	
17	0.65	0.84	1.08	0.96	1.03	1.04	1.92	1.11	0.95	0.94	0.75	0.77	
18	0.63	0.84	1.02	0.95	1.25	1.16	2.86	0.98	0.94	0.97	1.01	0.78	
19	0.63	0.86	1.00	0.97	1.10	1.23	2.48	0.96	0.93	0.98	1.00	0.80	
20	0.66	0.88	0.97	0.98	1.13	1.31	1.77	0.95	0.95	0.96	0.99	0.80	
21	0.64	0.90	0.98	0.97	1.12	1.21	1.67	0.96	0.95	0.86	0.94	0.79	
22	0.71	1.00	1.02	0.98	1.15	1.26	1.79	1.00	0.94	0.82	0.86	0.84	
23	0.74	1.00	1.00	0.98	1.12	2.68	1.96	1.07	0.93	0.83	0.87	0.84	
24	0.70	1.22	0.99	0.98	1.11	6.18	3.55	1.08	0.93	0.82	0.84	0.95	
25	0.71	1.26	0.97	0.97	1.14	5.89	6.04	0.99	0.78	0.81	0.83	1.00	
26	0.81	1.01	0.99	0.98	1.22	5.23	6.66	0.98	0.78	0.75	0.84	1.26	
27	0.81	0.99	0.97	0.97	1.23	3.45	6.39	0.97	0.77	0.59	0.83	0.99	
28	0.82	0.97	0.97	1.01	1.30	1.47	4.36	0.97	0.78	0.60	0.82	0.91	
29	0.83	0.98	0.98	0.99	1.33	1.62	5.52	0.91	0.79	0.60		0.86	
30	0.83	0.98	1.01	1.01	1.32	3.53	6.49	0.93	0.78	0.76		0.85	
31		0.97		0.98	1.76		5.50		0.78	0.83		0.84	
Mean	0.73	0.91	1.00	1.00	1.12	1.88	2.86	1.23	0.91	0.82	0.75	0.85	
Max	0.90	1.26	1.09	1.14	1.76	6.18	6.66	3.99	1.02	0.98	1.01	1.26	6.66
Min	0.61	0.77	0.97	0.95	0.98	1.02	1.13	0.91	0.77	0.59	0.62	0.77	0.59

Annual Max Momentary Gage Height 6.69 M (A.D), at 15.00 Hours, on Oct 26, 1993
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed 0.04 M (A.D)
Left Bank Elevation 6.57 M (A.D)
Right Bank Elevation 7.68 M (A.D), Drainage Area 4111 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	4.60	4.90	5.80	6.04	5.92	19.85	77.90	63.75	5.00	3.60	2.50	4.00	
2	4.60	5.50	5.60	5.70	6.16	8.85	45.45	20.54	5.10	3.50	2.00	3.90	
3	4.80	3.80	5.50	5.60	5.60	7.00	44.53	14.90	5.30	3.60	2.20	4.00	
4	4.60	3.50	5.92	6.28	5.60	6.52	24.32	10.55	5.10	3.70	2.00	3.90	
5	4.50	4.10	5.60	6.28	6.04	6.16	11.90	8.46	5.10	3.60	2.10	3.90	
6	4.30	4.10	5.60	6.04	5.80	6.04	10.55	8.08	5.10	3.70	2.20	4.00	
7	2.10	4.10	5.92	6.16	5.92	6.04	8.20	8.20	5.40	3.70	2.30	3.80	
8	2.10	4.30	5.60	6.04	6.04	6.16	8.08	8.20	5.60	4.00	2.30	3.90	
9	2.90	4.20	5.70	7.48	6.04	6.40	7.84	7.96	5.30	4.10	2.10	4.00	
10	2.60	4.20	5.50	6.88	6.04	7.96	7.84	7.84	5.50	4.10	2.30	4.00	
11	2.30	4.30	6.16	5.92	6.16	14.15	17.90	7.96	5.30	4.10	2.20	4.40	
12	2.00	4.20	5.80	5.70	6.04	13.55	16.25	7.72	5.50	4.40	2.10	4.20	
13	2.10	4.20	6.04	5.50	6.16	8.85	7.36	7.72	5.50	4.40	2.10	3.90	
14	2.20	4.20	6.64	5.30	6.28	6.76	7.72	7.36	6.04	4.70	3.90	3.80	
15	2.00	4.10	6.64	5.80	6.16	6.04	9.24	7.36	5.50	5.10	2.20	3.70	
16	1.90	4.30	6.88	5.50	6.04	6.16	15.20	7.48	5.60	4.60	2.60	3.70	
17	2.30	4.20	6.76	5.40	6.16	6.28	18.80	7.12	5.30	5.20	3.30	3.50	
18	2.10	4.20	6.04	5.30	8.85	7.72	36.66	5.60	5.20	5.50	5.92	3.60	
19	2.10	4.40	5.80	5.50	7.00	8.59	29.00	5.40	5.10	5.60	5.80	3.80	
20	2.40	4.60	5.50	5.60	7.36	9.65	16.55	5.30	5.30	5.40	5.70	3.80	
21	2.20	4.80	5.60	5.50	7.24	8.33	15.05	5.40	5.30	4.40	5.20	3.70	
22	2.90	5.80	6.04	5.60	7.60	8.98	16.85	5.80	5.20	4.00	4.40	4.20	
23	3.20	5.80	5.80	5.60	7.24	33.00	19.40	6.64	5.10	4.10	4.50	4.20	
24	2.80	8.46	5.70	5.60	7.12	135.88	52.75	6.76	5.10	4.00	4.20	5.30	
25	2.90	8.98	5.50	5.50	7.48	125.44	130.84	5.70	3.60	3.90	4.10	5.80	
26	3.90	5.92	5.70	5.60	8.46	102.02	153.94	5.60	3.60	3.30	4.20	8.98	
27	3.90	5.70	5.50	5.50	8.59	50.25	143.62	5.50	3.50	1.72	4.10	5.70	
28	4.00	5.50	5.50	5.92	9.50	12.05	74.34	5.50	3.60	1.80	4.00	4.90	
29	4.10	5.60	5.60	5.70	9.95	14.30	112.12	4.90	3.70	1.80		4.40	
30	4.10	5.60	5.92	5.92	9.80	52.25	147.42	5.10	3.60	3.40		4.30	
31		5.50		5.60	16.40		111.40		3.60	4.10		4.20	
Total	92.50	153.06	175.86	180.06	224.75	711.23	1399.02	284.40	152.74	123.12	92.52	133.48	3722.74 CMSDAY
Mean	3.08	4.94	5.86	5.81	7.25	23.71	45.13	9.48	4.93	3.97	3.30	4.31	10.20 CMS
Max	4.80	8.98	6.88	7.48	16.40	135.88	153.94	63.75	6.04	5.60	5.92	8.98	153.94 CMS
Min	1.90	3.50	5.50	5.30	5.60	6.04	7.36	4.90	3.50	1.72	2.00	3.50	1.72 CMS
Runoff	7.992	13.224	15.194	15.557	19.418	61.450	120.875	24.572	13.197	10.638	7.994	11.533	321.645 MCM

Momentary Peak 155.11 CMS, at 6.69 M (A.D), at 15.00 Hours, on Oct 26, 1993
Runoff Yield 2.48 Liters/Second/Square KM, Momentary Peak Yield 37.73 Liters/Second/Square KM

WATER YEAR 1993

WEST COAST-GULF BASIN

Khlong Kui at Ban Pong Kasang, Prachuap Khiri Khan (Ky.2)

Location — Lat. 12°-06'-55" N., Long. 99°-44'-20" E., on right bank at the culvert of the left irrigation canal of Yang Chum Project, Ban Pong Kasang, Tambon Hat Kham, Amphoe Kui Buri, Prachuap Khiri Khan.

Drainage Area — 92 sq.km.

Type of Gage — Staff gage.

Zero Gage at Bottom — +0.00 m.(A.D.)

Bench Mark — B.M.-H.D.

Location — On right bank at the measuring line.

Elevation — +8.405 m.(A.D.)

Gage Reading Frequency — 16-time daily readings at 03.00 - 18.00, 21.00 and 24.00 hours.

Basis of Mean Daily Gage Height — Arithmetic mean of 16 readings.

Period of Available Gage Records — 1979 to date.

Rating Operation

Period of Rating — 1979 to date.

Rated by Float — -

Rated by Current Meter — 1979 to date.

Stability of Channel Regimes — Stable.

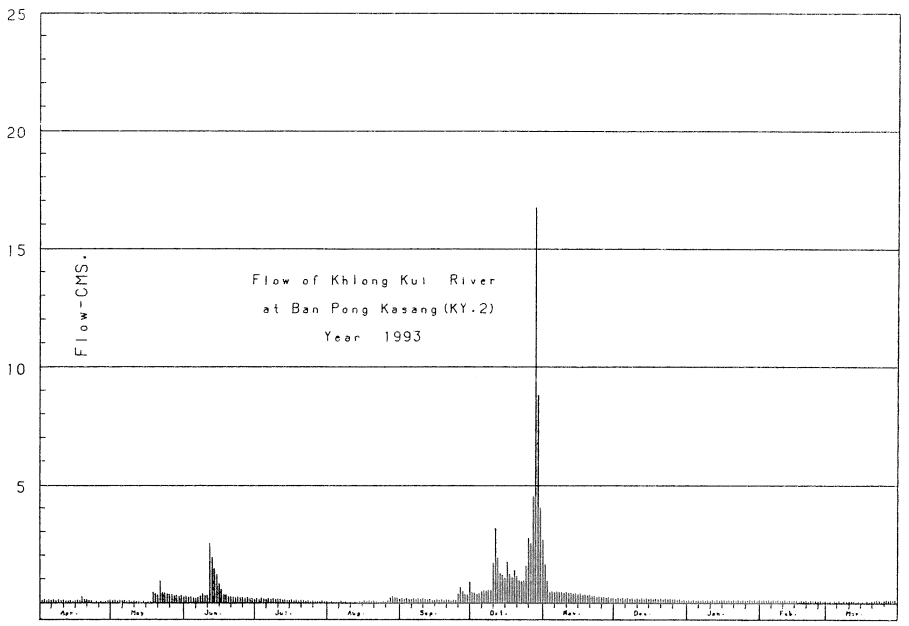
Overbank Flow Conditions — No overbank flow.

General Description — Records good. Stage-discharge relation defined by 166 discharge measurements made in 1993.

Gage Height in Meter (A.D), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.77	0.75	0.85	0.80	0.72	0.80	0.92	1.23	0.81	0.75	0.75	0.73	
2	0.77	0.75	0.84	0.80	0.72	0.80	0.91	1.06	0.81	0.75	0.75	0.73	
3	0.77	0.75	0.83	0.81	0.72	0.80	0.90	0.93	0.81	0.75	0.75	0.73	
4	0.77	0.75	0.83	0.81	0.72	0.80	0.90	0.93	0.81	0.75	0.75	0.73	
5	0.77	0.75	0.82	0.80	0.72	0.80	0.94	0.93	0.81	0.75	0.75	0.73	
6	0.76	0.74	0.82	0.80	0.72	0.79	0.94	0.93	0.81	0.75	0.75	0.73	
7	0.76	0.74	0.87	0.80	0.72	0.79	0.95	0.93	0.81	0.75	0.75	0.73	
8	0.76	0.74	0.90	0.80	0.71	0.79	0.95	0.92	0.80	0.75	0.75	0.73	
9	0.75	0.73	0.88	0.79	0.71	0.79	0.96	0.92	0.80	0.75	0.75	0.73	
10	0.75	0.73	0.86	0.78	0.71	0.79	1.24	0.92	0.80	0.75	0.75	0.73	
11	0.75	0.73	1.36	0.78	0.71	0.78	1.46	0.92	0.80	0.75	0.75	0.73	
12	0.75	0.73	1.28	0.78	0.71	0.78	1.27	0.91	0.80	0.75	0.74	0.72	
13	0.74	0.72	1.19	0.77	0.71	0.78	1.15	0.91	0.80	0.75	0.74	0.72	
14	0.74	0.72	1.14	0.77	0.72	0.77	1.12	0.90	0.80	0.75	0.74	0.72	
15	0.73	0.72	1.04	0.77	0.72	0.77	1.10	0.90	0.80	0.75	0.74	0.72	
16	0.75	0.71	0.96	0.76	0.73	0.77	1.24	0.90	0.80	0.75	0.74	0.72	
17	0.77	0.73	0.90	0.76	0.73	0.77	1.13	0.89	0.80	0.75	0.74	0.72	
18	0.84	0.93	0.87	0.75	0.73	0.76	1.11	0.88	0.79	0.75	0.74	0.72	
19	0.80	0.90	0.85	0.75	0.73	0.76	1.17	0.88	0.79	0.75	0.74	0.72	
20	0.79	0.87	0.84	0.75	0.73	0.76	1.11	0.87	0.79	0.75	0.74	0.72	
21	0.74	1.07	0.83	0.75	0.73	0.75	1.07	0.86	0.79	0.75	0.74	0.75	
22	0.73	0.93	0.83	0.74	0.72	0.75	1.06	0.85	0.79	0.75	0.74	0.75	
23	0.72	0.91	0.83	0.74	0.72	0.75	1.06	0.84	0.79	0.75	0.74	0.75	
24	0.72	0.90	0.83	0.73	0.72	0.77	1.21	0.84	0.79	0.75	0.74	0.75	
25	0.72	0.88	0.82	0.73	0.72	0.91	1.40	0.84	0.79	0.75	0.74	0.75	
26	0.72	0.88	0.82	0.73	0.73	0.99	1.36	0.83	0.78	0.75	0.73	0.75	
27	0.72	0.87	0.82	0.73	0.83	0.94	1.62	0.83	0.78	0.75	0.73	0.75	
28	0.72	0.86	0.81	0.73	0.84	0.88	2.55	0.82	0.77	0.75	0.73	0.75	
29	0.76	0.86	0.80	0.73	0.83	0.89	2.02	0.82	0.76	0.75		0.75	
30	0.75	0.86	0.80	0.73	0.81	1.06	1.56	0.81	0.76	0.75		0.75	
31		0.85		0.72	0.80		1.39		0.75	0.75		0.75	
Mean	0.75	0.81	0.90	0.76	0.74	0.81	1.22	0.90	0.79	0.75	0.74	0.73	
Max	0.84	1.07	1.36	0.81	0.84	1.06	2.55	1.23	0.81	0.75	0.75	0.75	2.55
Min	0.72	0.71	0.80	0.72	0.71	0.75	0.90	0.81	0.75	0.75	0.73	0.72	0.71

Annual Max Momentary Gage Height 3.47 M (A.D), at 14.00 Hours, on Oct 28, 1993
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed 0.50 M (A.D)
Left Bank Elevation 5.13 M (A.D)
Right Bank Elevation 8.34 M (A.D), Drainage Area 92 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.15	0.13	0.30	0.20	0.08	0.20	0.46	1.68	0.22	0.13	0.13	0.10	
2	0.15	0.13	0.28	0.20	0.08	0.20	0.43	0.94	0.22	0.13	0.13	0.10	
3	0.15	0.13	0.26	0.22	0.08	0.20	0.40	0.49	0.22	0.13	0.13	0.10	
4	0.15	0.13	0.26	0.22	0.08	0.20	0.40	0.49	0.22	0.13	0.13	0.10	
5	0.15	0.13	0.24	0.20	0.08	0.20	0.52	0.49	0.22	0.13	0.13	0.10	
6	0.14	0.11	0.24	0.20	0.08	0.19	0.52	0.49	0.22	0.13	0.13	0.10	
7	0.14	0.11	0.34	0.20	0.08	0.19	0.55	0.49	0.22	0.13	0.13	0.10	
8	0.14	0.11	0.40	0.20	0.06	0.19	0.55	0.46	0.20	0.13	0.13	0.10	
9	0.13	0.10	0.36	0.19	0.06	0.19	0.58	0.46	0.20	0.13	0.13	0.10	
10	0.13	0.10	0.32	0.17	0.06	0.19	1.74	0.46	0.20	0.13	0.13	0.10	
11	0.13	0.10	2.52	0.17	0.06	0.17	3.22	0.46	0.20	0.13	0.13	0.10	
12	0.13	0.10	1.98	0.17	0.06	0.17	1.92	0.43	0.20	0.13	0.11	0.08	
13	0.11	0.08	1.46	0.15	0.06	0.17	1.30	0.43	0.20	0.13	0.11	0.08	
14	0.11	0.08	1.26	0.15	0.08	0.15	1.18	0.40	0.20	0.13	0.11	0.08	
15	0.10	0.08	0.86	0.15	0.08	0.15	1.10	0.40	0.20	0.13	0.11	0.08	
16	0.13	0.06	0.58	0.14	0.10	0.15	1.74	0.40	0.20	0.13	0.11	0.08	
17	0.15	0.10	0.40	0.14	0.10	0.15	1.22	0.38	0.20	0.13	0.11	0.08	
18	0.28	0.49	0.34	0.13	0.10	0.14	1.14	0.36	0.19	0.13	0.11	0.08	
19	0.20	0.40	0.30	0.13	0.10	0.14	1.38	0.36	0.19	0.13	0.11	0.08	
20	0.19	0.34	0.28	0.13	0.10	0.14	1.14	0.34	0.19	0.13	0.11	0.08	
21	0.11	0.98	0.26	0.13	0.10	0.13	0.98	0.32	0.19	0.13	0.11	0.13	
22	0.10	0.49	0.26	0.11	0.08	0.13	0.94	0.30	0.19	0.13	0.11	0.13	
23	0.08	0.43	0.26	0.11	0.08	0.13	0.94	0.28	0.19	0.13	0.11	0.13	
24	0.08	0.40	0.26	0.10	0.08	0.15	1.56	0.28	0.19	0.13	0.11	0.13	
25	0.08	0.36	0.24	0.10	0.08	0.43	2.80	0.28	0.19	0.13	0.11	0.13	
26	0.08	0.36	0.24	0.10	0.10	0.67	2.52	0.26	0.17	0.13	0.10	0.13	
27	0.08	0.34	0.24	0.10	0.26	0.52	4.58	0.26	0.17	0.13	0.10	0.13	
28	0.08	0.32	0.22	0.10	0.28	0.36	16.75	0.24	0.15	0.13	0.10	0.13	
29	0.14	0.32	0.20	0.10	0.26	0.38	8.86	0.24	0.14	0.13		0.13	
30	0.13	0.32	0.20	0.10	0.22	0.94	4.04	0.22	0.14	0.13		0.13	
31		0.30		0.08	0.20		2.73		0.13	0.13		0.13	
Total	3.92	7.63	15.36	4.59	3.32	7.32	68.19	13.09	5.96	4.03	3.27	3.25	139.93 CMSDAY
Mean	0.13	0.25	0.51	0.15	0.11	0.24	2.20	0.44	0.19	0.13	0.12	0.10	0.38 CMS
Max	0.28	0.98	2.52	0.22	0.28	0.94	16.75	1.68	0.22	0.13	0.13	0.13	16.75 CMS
Min	0.08	0.06	0.20	0.08	0.06	0.13	0.40	0.22	0.13	0.13	0.10	0.08	0.06 CMS
Runoff	0.339	0.659	1.327	0.397	0.287	0.632	5.892	1.131	0.515	0.348	0.283	0.281	12.090 MCM

Momentary Peak 34.37 CMS, at 3.47 M (A.D), at 14.00 Hours, on Oct 28, 1993

Runoff Yield 4.17 Liters/Second/Square KM, Momentary Peak Yield 373.59 Liters/Second/Square KM

WATER YEAR 1993

WEST COAST-GULF BASIN

Khlong Bang Saphan Yai at Ban Wang Yao, Prachuap Khiri Khan (Gt.7)

Location — Lat. 11°14'02" N., Long. 99°26'35" E., on left bank near the bridge of Phet Kasem Highway at Ban Wang Yao, Tambon Ron Thong, Amphoe Bang Saphan, Prachuap Khiri Khan.

Drainage Area — 346 sq.km.

Type of Gage — Water-stage recorder.

Zero Gage at Bottom — +0.00 m.(A.D.)

Bench Mark — B.M.-Highways Dept.

Location — On left bank at the abutment of the bridge.

Elevation — +8.084 m.(A.D.)

Gage Reading Frequency — Recording.

Basis of Mean Daily Gage Height — Arithmetic mean of 24 readings.

Period of Available Gage Records — 1978 to date.

Rating Operation

Period of Rating — 1980 to date.

Rated by Float — -

Rated by Current Meter — 1980 to date.

Stability of Channel Regimes — Stable.

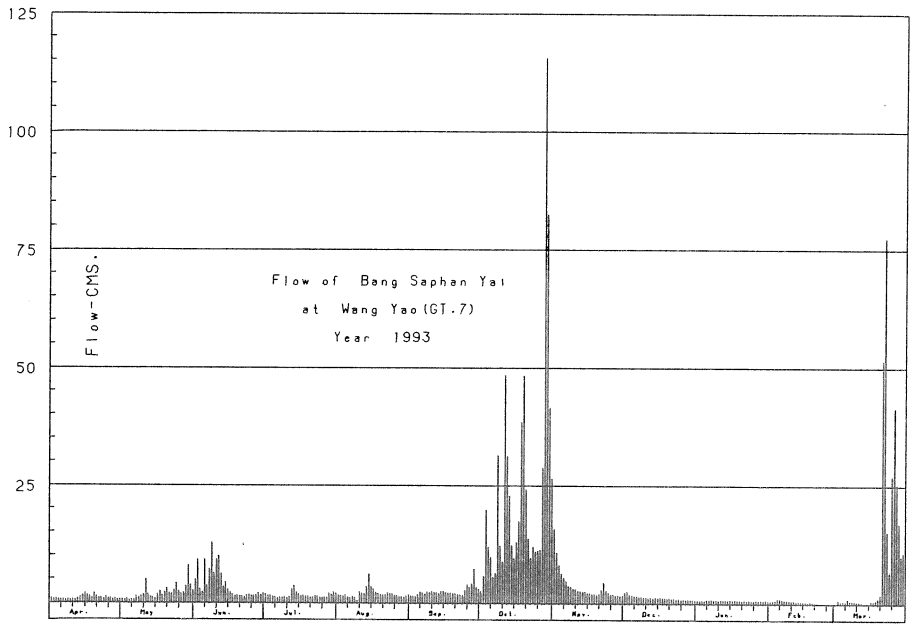
Overbank Flow Conditions — No overbank flow.

General Description — Records good. Stage-discharge relation defined by 51 discharge measurements made in 1993.

Gage Height in Meter (A.D), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	1.41	1.38	1.76	1.50	1.49	1.47	1.56	2.25	1.55	1.38	1.37	1.31	
2	1.40	1.40	1.96	1.48	1.47	1.46	1.80	2.04	1.56	1.38	1.37	1.39	
3	1.40	1.40	1.60	1.47	1.47	1.46	2.38	1.92	1.51	1.38	1.39	1.36	
4	1.39	1.38	1.55	1.46	1.48	1.49	2.10	1.82	1.49	1.38	1.42	1.36	
5	1.39	1.38	1.96	1.44	1.45	1.56	2.00	1.78	1.48	1.39	1.42	1.36	
6	1.38	1.39	1.67	1.43	1.42	1.53	1.78	1.74	1.47	1.40	1.40	1.41	
7	1.38	1.45	1.87	1.43	1.46	1.52	1.83	1.69	1.46	1.40	1.39	1.38	
8	1.38	1.44	2.14	1.44	1.43	1.55	2.75	1.66	1.45	1.39	1.38	1.37	
9	1.38	1.45	1.82	1.44	1.37	1.55	2.11	1.63	1.45	1.39	1.38	1.37	
10	1.38	1.50	1.97	1.43	1.55	1.56	1.95	1.61	1.44	1.39	1.38	1.36	
11	1.38	1.76	2.00	1.44	1.52	1.55	3.20	1.59	1.44	1.39	1.37	1.35	
12	1.41	1.49	1.82	1.62	1.52	1.54	2.75	1.57	1.44	1.39	1.36	1.34	
13	1.43	1.45	1.66	1.67	1.66	1.53	2.47	1.57	1.44	1.39	1.36	1.32	
14	1.48	1.42	1.72	1.55	1.82	1.56	2.12	1.56	1.44	1.39	1.36	1.30	
15	1.52	1.41	1.59	1.50	1.67	1.58	1.98	1.54	1.44	1.39	1.35	1.30	
16	1.49	1.49	1.55	1.47	1.61	1.54	2.14	1.53	1.44	1.39	1.35	1.37	
17	1.45	1.57	1.49	1.47	1.55	1.54	2.30	1.52	1.44	1.39	1.35	1.36	
18	1.43	1.47	1.47	1.46	1.52	1.53	2.95	1.51	1.43	1.39	1.35	1.38	
19	1.51	1.55	1.47	1.45	1.51	1.53	3.20	1.50	1.43	1.38	1.35	1.43	
20	1.46	1.62	1.47	1.44	1.49	1.52	2.52	1.51	1.43	1.38	1.34	1.50	
21	1.43	1.53	1.45	1.43	1.50	1.51	2.17	1.60	1.42	1.38	1.33	3.28	
22	1.42	1.50	1.45	1.47	1.53	1.49	1.99	1.73	1.42	1.38	1.33	3.83	
23	1.41	1.60	1.47	1.45	1.53	1.49	2.10	1.59	1.41	1.38	1.32	2.23	
24	1.44	1.71	1.50	1.44	1.51	1.58	2.06	1.54	1.41	1.38	1.32	1.85	
25	1.42	1.57	1.48	1.44	1.49	1.71	2.06	1.51	1.40	1.38	1.30	2.61	
26	1.41	1.50	1.46	1.43	1.47	1.65	2.07	1.50	1.40	1.38	1.29	3.03	
27	1.40	1.54	1.49	1.44	1.46	1.72	2.67	1.49	1.40	1.38	1.29	2.55	
28	1.40	1.66	1.52	1.52	1.45	1.87	4.53	1.48	1.40	1.38	1.29	2.28	
29	1.39	1.91	1.49	1.50	1.45	1.66	3.93	1.48	1.40	1.38		2.01	
30	1.38	1.69	1.52	1.54	1.46	1.61	3.03	1.48	1.39	1.38		2.04	
31		1.58		1.52	1.49		2.59		1.39	1.37		1.82	
Mean	1.42	1.52	1.65	1.48	1.51	1.56	2.42	1.63	1.44	1.38	1.35	1.77	
Max	1.52	1.91	2.14	1.67	1.82	1.87	4.53	2.25	1.56	1.40	1.42	3.83	4.53
Min	1.38	1.38	1.45	1.43	1.37	1.46	1.56	1.48	1.39	1.37	1.29	1.30	1.29

Annual Max Momentary Gage Height 5.37 M (A.D), at 18.00 Hours, on Mar 21, 1993
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed 0.50 M (A.D)
Left Bank Elevation 8.76 M (A.D)
Right Bank Elevation 8.84 M (A.D), Drainage Area 346 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	1.10	0.80	5.20	2.00	1.90	1.70	2.60	16.04	2.50	0.80	0.70	0.10	
2	1.00	1.00	9.20	1.80	1.70	1.60	6.00	10.80	2.60	0.80	0.70	0.90	
3	1.00	1.00	3.00	1.70	1.70	1.60	20.05	8.40	2.10	0.80	0.90	0.60	
4	0.90	0.80	2.50	1.60	1.80	1.90	12.00	6.40	1.90	0.80	1.20	0.60	
5	0.90	0.80	9.20	1.40	1.50	2.60	10.00	5.60	1.80	0.90	1.20	0.60	
6	0.80	0.90	3.70	1.30	1.20	2.30	5.60	4.80	1.70	1.00	1.00	1.10	
7	0.80	1.50	7.40	1.30	1.60	2.20	6.60	3.90	1.60	1.00	0.90	0.80	
8	0.80	1.40	13.00	1.40	1.30	2.50	31.46	3.60	1.50	0.90	0.80	0.70	
9	0.80	1.50	6.40	1.40	0.70	2.50	12.25	3.30	1.50	0.90	0.80	0.70	
10	0.80	2.00	9.40	1.30	2.50	2.60	9.00	3.10	1.40	0.90	0.80	0.60	
11	0.80	5.20	10.00	1.40	2.20	2.50	48.50	2.90	1.40	0.90	0.70	0.50	
12	1.10	1.90	6.40	3.20	2.20	2.40	31.46	2.70	1.40	0.90	0.60	0.40	
13	1.30	1.50	3.60	3.70	3.60	2.30	22.82	2.70	1.40	0.90	0.60	0.20	
14	1.80	1.20	4.40	2.50	6.40	2.60	12.50	2.60	1.40	0.90	0.60	0.00	
15	2.20	1.10	2.90	2.00	3.70	2.80	9.60	2.40	1.40	0.90	0.50	0.00	
16	1.90	1.90	2.50	1.70	3.10	2.40	13.00	2.30	1.40	0.90	0.50	0.70	
17	1.50	2.70	1.90	1.70	2.50	2.40	17.58	2.20	1.40	0.90	0.50	0.60	
18	1.30	1.70	1.70	1.60	2.20	2.30	38.50	2.10	1.30	0.90	0.50	0.80	
19	2.10	2.50	1.70	1.50	2.10	2.30	48.50	2.00	1.30	0.80	0.50	1.30	
20	1.60	3.20	1.70	1.40	1.90	2.20	24.37	2.10	1.30	0.80	0.40	2.00	
21	1.30	2.30	1.50	1.30	2.00	2.10	13.75	3.00	1.20	0.80	0.30	51.70	
22	1.20	2.00	1.50	1.70	2.30	1.90	9.80	4.60	1.20	0.80	0.30	77.50	
23	1.10	3.00	1.70	1.50	2.30	1.90	12.00	2.90	1.10	0.80	0.20	15.42	
24	1.40	4.20	2.00	1.40	2.10	2.80	11.20	2.40	1.10	0.80	0.20	7.00	
25	1.20	2.70	1.80	1.40	1.90	4.20	11.20	2.10	1.00	0.80	0.00	27.14	
26	1.10	2.00	1.60	1.30	1.70	3.50	11.40	2.00	1.00	0.80	0.00	41.70	
27	1.00	2.40	1.90	1.40	1.60	4.40	28.99	1.90	1.00	0.80	0.00	25.29	
28	1.00	3.60	2.20	2.20	1.50	7.40	115.80	1.80	1.00	0.80	0.00	16.97	
29	0.90	8.20	1.90	2.00	1.50	3.60	82.50	1.80	1.00	0.80		10.20	
30	0.80	3.90	2.20	2.40	1.60	3.10	41.70	1.80	0.90	0.80		10.80	
31		2.80		2.20	1.90		26.52		0.90	0.70		6.40	
Total	35.50	71.70	124.10	54.70	66.20	80.60	747.25	114.24	43.70	26.30	15.40	303.32	1683.01 CMSDAY
Mean	1.18	2.31	4.14	1.76	2.14	2.69	24.10	3.81	1.41	0.85	0.55	9.78	4.61 CMS
Max	2.20	8.20	13.00	3.70	6.40	7.40	115.80	16.04	2.60	1.00	1.20	77.50	115.80 CMS
Min	0.80	0.80	1.50	1.30	0.70	1.60	2.60	1.80	0.90	0.70	0.00	0.00	0.00 CMS
Runoff	3.067	6.195	10.722	4.726	5.720	6.964	64.562	9.870	3.776	2.272	1.331	26.207	145.412 MCM

Momentary Peak 169.67 CMS, at 5.37 M (A.D), at 18.00 Hours, on Mar 21, 1993
Runoff Yield 13.33 Liters/Second/Square KM, Momentary Peak Yield 490.37 Liters/Second/Square KM

WATER YEAR 1993

WEST COAST-GULF BASIN

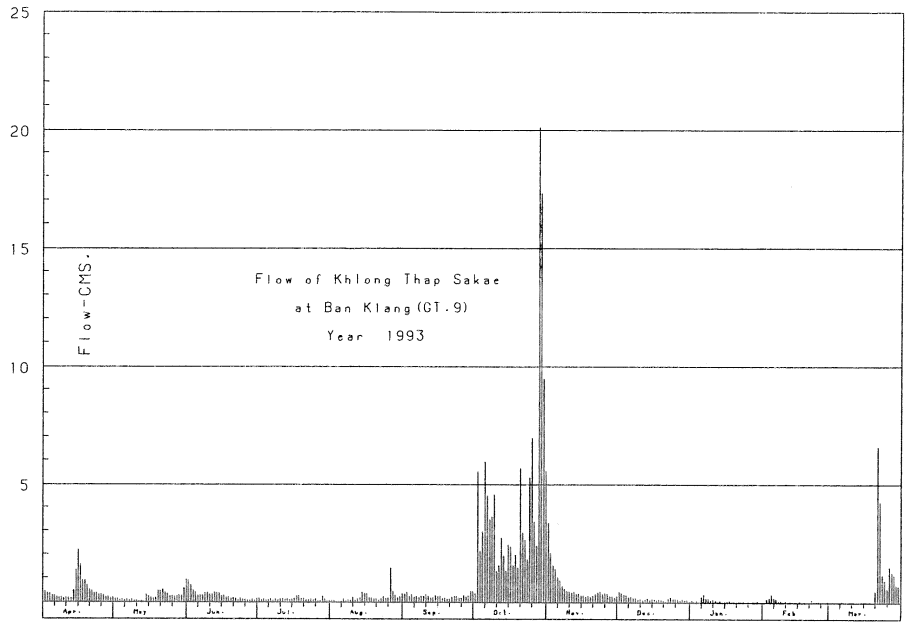
Khlong Thap Sakae at Ban Klang, Prachuap Khiri Khan (Gt.9)

Location	Lat. 11°29'39" N., Long. 99°36'21" E., on right bank at Ban Klang, Tambon Thap Sakae, Amphoe Thap Sakae, Prachuap Khiri Khan.
Drainage Area	120 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+0.00 m.(A.D.)
Bench Mark	B.M.-Highways Dept.
Location	On right bank at the abutment of the bridge.
Elevation	+3.802 m.(A.D.)
Gage Reading Frequency	5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1979 to date.
Rating Operation	
Period of Rating	1980 to date.
Rated by Float	-
Rated by Current Meter	1980 to date.
Stability of Channel Regimes	Rather unstable with variable water surface slope.
Overbank Flow Conditions	No overbank flow.
General Description	Records fair. Stage-discharge relation defined by 60 discharge measurements made in 1993.

Gage Height in Meter (A.D), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.15	0.04	0.28	0.03	0.01	0.13	0.12	0.70	0.16	-0.01	-0.05	-0.06	
2	0.14	0.03	0.23	0.02	-0.02	0.14	0.96	0.51	0.13	-0.03	0.00	-0.05	
3	0.12	0.02	0.18	0.02	-0.02	0.09	0.53	0.42	0.12	-0.03	0.06	-0.06	
4	0.11	0.01	0.14	0.01	-0.03	0.11	0.64	0.38	0.10	-0.03	0.11	-0.07	
5	0.09	0.01	0.11	0.02	-0.02	0.08	1.01	0.32	0.08	0.09	0.06	-0.07	
6	0.08	0.01	0.10	0.02	0.02	0.08	0.85	0.28	0.07	0.11	0.02	-0.07	
7	0.07	0.01	0.11	0.01	0.00	0.07	0.72	0.23	0.06	0.05	-0.01	-0.07	
8	0.06	0.01	0.13	0.02	0.00	0.08	0.73	0.19	0.04	0.03	-0.03	-0.08	
9	0.05	0.00	0.15	0.02	0.01	0.10	0.85	0.17	0.03	0.01	-0.04	-0.08	
10	0.05	-0.02	0.11	0.02	0.06	0.11	0.37	0.15	0.02	0.01	-0.05	-0.08	
11	0.04	-0.02	0.11	0.03	0.01	0.08	0.41	0.15	0.02	-0.01	-0.05	-0.08	
12	0.04	-0.02	0.15	0.03	0.02	0.06	0.61	0.15	0.03	-0.02	-0.06	-0.08	
13	0.18	-0.02	0.13	0.02	0.06	0.05	0.50	0.13	0.03	-0.02	-0.06	-0.09	
14	0.38	0.12	0.14	0.02	0.14	0.11	0.37	0.12	0.02	-0.02	-0.06	-0.06	
15	0.53	0.08	0.10	0.03	0.14	0.10	0.56	0.11	0.02	-0.03	-0.06	-0.04	
16	0.42	0.06	0.09	0.03	0.12	0.08	0.55	0.09	0.03	-0.01	-0.06	-0.06	
17	0.28	0.05	0.07	0.10	0.07	0.05	0.42	0.09	0.01	-0.03	-0.06	-0.07	
18	0.29	0.04	0.06	0.09	0.04	0.04	0.50	0.09	0.01	-0.04	-0.06	-0.06	
19	0.23	0.17	0.05	0.05	0.04	0.04	0.39	0.08	0.02	-0.04	-0.07	-0.01	
20	0.19	0.16	0.04	0.03	0.02	0.02	0.98	0.09	-0.02	-0.04	-0.07	0.18	
21	0.16	0.19	0.03	0.02	0.02	0.06	0.64	0.13	-0.02	-0.05	0.02	1.08	
22	0.14	0.15	0.02	0.02	0.05	0.10	0.59	0.15	0.05	-0.05	-0.04	0.82	
23	0.13	0.12	0.04	0.02	0.07	0.08	0.47	0.15	0.06	-0.05	-0.04	0.34	
24	0.12	0.10	0.03	0.02	0.05	0.06	0.93	0.13	0.04	-0.05	-0.06	0.28	
25	0.11	0.08	0.01	0.02	0.04	0.04	1.12	0.13	0.02	-0.05	-0.06	0.20	
26	0.10	0.07	0.01	0.00	0.40	0.11	0.70	0.12	0.02	-0.05	-0.07	0.40	
27	0.08	0.10	0.01	-0.03	0.17	0.09	0.56	0.10	0.01	-0.03	-0.07	0.36	
28	0.07	0.10	0.01	0.10	0.10	0.09	2.12	0.08	0.02	-0.04	-0.07	0.33	
29	0.06	0.11	0.01	0.02	0.07	0.17	1.94	0.07	0.01	-0.05		0.24	
30	0.05	0.21	0.03	-0.01	0.07	0.15	1.35	0.08	0.00	-0.05		0.22	
31		0.30		-0.03	0.12		0.96		-0.02	-0.05		0.16	
Mean	0.15	0.07	0.09	0.02	0.06	0.09	0.76	0.19	0.04	-0.02	-0.03	0.11	
Max	0.53	0.30	0.28	0.10	0.40	0.17	2.12	0.70	0.16	0.11	0.11	1.08	2.12
Min	0.04	-0.02	0.01	-0.03	-0.03	0.02	0.12	0.07	-0.02	-0.05	-0.07	-0.09	-0.09

Annual Max Momentary Gage Height 2.74 M (A.D), at 15.00 Hours, on Oct 28, 1993
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed -0.10 M (A.D)
Left Bank Elevation 4.15 M (A.D)
Right Bank Elevation 4.12 M (A.D), Drainage Area 120 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.45	0.18	0.92	0.16	0.12	0.39	0.36	3.40	0.48	0.09	0.05	0.04	
2	0.42	0.16	0.72	0.14	0.08	0.42	5.54	2.07	0.39	0.07	0.10	0.05	
3	0.36	0.14	0.54	0.14	0.08	0.28	2.21	1.60	0.36	0.07	0.22	0.04	
4	0.33	0.12	0.42	0.12	0.07	0.33	2.98	1.40	0.30	0.07	0.33	0.03	
5	0.28	0.12	0.33	0.14	0.08	0.26	5.99	1.10	0.26	0.28	0.22	0.03	
6	0.26	0.12	0.30	0.14	0.14	0.26	4.55	0.92	0.24	0.33	0.14	0.03	
7	0.24	0.12	0.33	0.12	0.10	0.24	3.54	0.72	0.22	0.20	0.09	0.03	
8	0.22	0.12	0.39	0.14	0.10	0.26	3.61	0.57	0.18	0.16	0.07	0.02	
9	0.20	0.10	0.45	0.14	0.12	0.30	4.55	0.51	0.16	0.12	0.06	0.02	
10	0.20	0.08	0.33	0.14	0.22	0.33	1.35	0.45	0.14	0.12	0.05	0.02	
11	0.18	0.08	0.33	0.16	0.12	0.26	1.55	0.45	0.14	0.09	0.05	0.02	
12	0.18	0.08	0.45	0.16	0.14	0.22	2.77	0.45	0.16	0.08	0.04	0.02	
13	0.54	0.08	0.39	0.14	0.22	0.20	2.00	0.39	0.16	0.08	0.04	0.01	
14	1.40	0.36	0.42	0.14	0.42	0.33	1.35	0.36	0.14	0.08	0.04	0.04	
15	2.21	0.26	0.30	0.16	0.42	0.30	2.42	0.33	0.14	0.07	0.04	0.06	
16	1.60	0.22	0.28	0.16	0.36	0.26	2.35	0.28	0.16	0.09	0.04	0.04	
17	0.92	0.20	0.24	0.30	0.24	0.20	1.60	0.28	0.12	0.07	0.04	0.03	
18	0.96	0.18	0.22	0.28	0.18	0.18	2.00	0.28	0.12	0.06	0.04	0.04	
19	0.72	0.51	0.20	0.20	0.18	0.18	1.45	0.26	0.14	0.06	0.03	0.09	
20	0.57	0.48	0.18	0.16	0.14	0.14	5.72	0.28	0.08	0.06	0.03	0.54	
21	0.48	0.57	0.16	0.14	0.14	0.22	2.98	0.39	0.08	0.05	0.14	6.62	
22	0.42	0.45	0.14	0.14	0.20	0.30	2.63	0.45	0.20	0.05	0.06	4.28	
23	0.39	0.36	0.18	0.14	0.24	0.26	1.85	0.45	0.22	0.05	0.06	1.20	
24	0.36	0.30	0.16	0.14	0.20	0.22	5.27	0.39	0.18	0.05	0.04	0.92	
25	0.33	0.26	0.12	0.14	0.18	0.18	7.00	0.39	0.14	0.05	0.04	0.60	
26	0.30	0.24	0.12	0.10	1.50	0.33	3.40	0.36	0.14	0.05	0.03	1.50	
27	0.26	0.30	0.12	0.07	0.51	0.28	2.42	0.30	0.12	0.07	0.03	1.30	
28	0.24	0.30	0.12	0.30	0.30	0.28	20.14	0.26	0.14	0.06	0.03	1.15	
29	0.22	0.33	0.12	0.14	0.24	0.51	17.30	0.24	0.12	0.05		0.76	
30	0.20	0.64	0.16	0.09	0.24	0.45	9.50	0.26	0.10	0.05		0.68	
31		1.00		0.07	0.36		5.54		0.08	0.05		0.48	
Total	15.44	8.46	9.14	4.71	7.64	8.37	135.92	19.59	5.61	2.83	2.15	20.69	240.55 CMSDAY
Mean	0.51	0.27	0.30	0.15	0.25	0.28	4.38	0.65	0.18	0.09	0.08	0.67	0.66 CMS
Max	2.21	1.00	0.92	0.30	1.50	0.51	20.14	3.40	0.48	0.33	0.33	6.62	20.14 CMS
Min	0.18	0.08	0.12	0.07	0.07	0.14	0.36	0.24	0.08	0.05	0.03	0.01	0.01 CMS
Runoff	1.334	0.731	0.790	0.407	0.660	0.723	11.743	1.693	0.485	0.245	0.186	1.788	20.784 MCM

Momentary Peak 31.36 CMS, at 2.74 M (A.D), at 15.00 Hours, on Oct 28, 1993

Runoff Yield 5.49 Liters/Second/Square KM, Momentary Peak Yield 261.33 Liters/Second/Square KM

WATER YEAR 1993

WEST COAST-GULF BASIN

Khlong Krut at Ban Nong Ya Plong, Prachuap Khiri Khan (Gt.10)

Location — Lat. 11-24-08 N., Long. 99-31-20 E., on left bank at the bridge of Phet Kasem Highway near the guidepost 379, Ban Nong Ya Plong, Tambon Chai Kasem, Amphoe Bang Saphan, Prachuap Khiri Khan.

Drainage Area — 112 sq.km.

Type of Gage — Water-stage recorder.

Zero Gage at Bottom — +0.00 m.(A.D.)

Bench Mark — B.M.-H.D.

Location — On left bank at the abutment of the bridge.

Elevation — +5.507 m.(A.D.)

Gage Reading Frequency — Recording.

Basis of Mean Daily Gage Height — Arithmetic mean of 24 readings.

Period of Available Gage Records — 1979 to date.

Rating Operation

Period of Rating — 1980 to date.

Rated by Float — -

Rated by Current Meter — 1980 to date.

Stability of Channel Regimes — Rather unstable by some scouring.

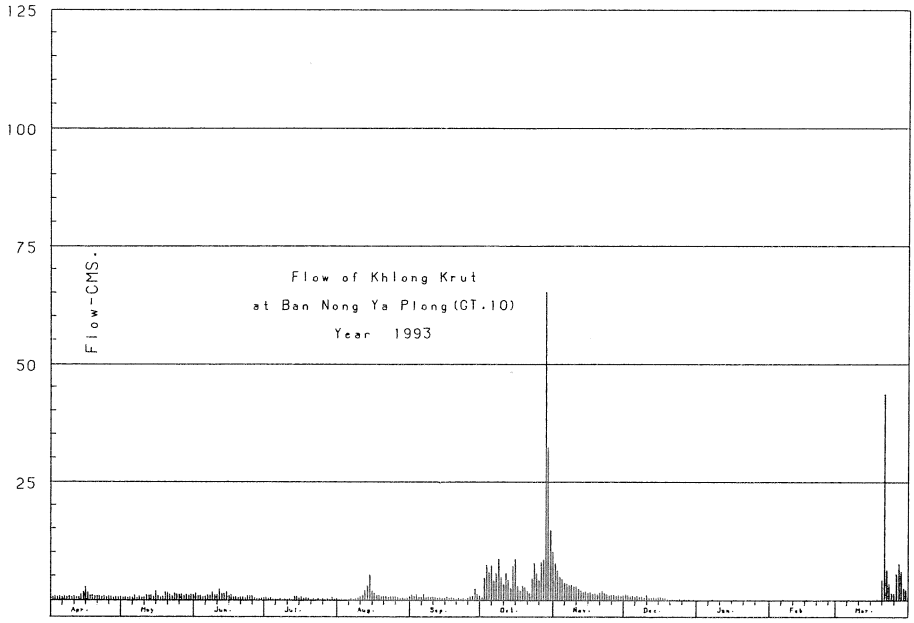
Overbank Flow Conditions — No overbank flow.

General Description — Records fair. Stage-discharge relation defined by 61 discharge measurements made in 1993.

Gage Height in Meter (A.D), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	-0.40	-0.43	-0.29	-0.46	-0.53	-0.37	-0.43	0.24	-0.31	-0.56	-0.61	-0.64	
2	-0.40	-0.44	-0.36	-0.47	-0.53	-0.39	0.00	0.12	-0.38	-0.57	-0.61	-0.63	
3	-0.40	-0.44	-0.39	-0.48	-0.53	-0.34	0.21	0.04	-0.39	-0.57	-0.61	-0.63	
4	-0.41	-0.45	-0.40	-0.49	-0.53	-0.42	0.11	-0.02	-0.40	-0.58	-0.61	-0.63	
5	-0.41	-0.45	-0.38	-0.50	-0.53	-0.42	0.21	-0.07	-0.40	-0.58	-0.61	-0.63	
6	-0.41	-0.37	-0.37	-0.52	-0.54	-0.34	-0.03	-0.10	-0.41	-0.58	-0.61	-0.64	
7	-0.41	-0.45	-0.34	-0.52	-0.54	-0.44	0.08	-0.11	-0.42	-0.58	-0.61	-0.64	
8	-0.41	-0.41	-0.26	-0.52	-0.51	-0.45	0.30	-0.12	-0.43	-0.58	-0.61	-0.64	
9	-0.41	-0.43	-0.33	-0.52	-0.46	-0.43	0.02	-0.13	-0.44	-0.59	-0.62	-0.64	
10	-0.41	-0.45	-0.36	-0.52	-0.43	-0.45	-0.09	-0.14	-0.37	-0.59	-0.62	-0.64	
11	-0.41	-0.32	-0.19	-0.53	-0.34	-0.46	0.10	-0.17	-0.45	-0.60	-0.62	-0.64	
12	-0.41	-0.35	-0.28	-0.53	-0.23	-0.47	-0.03	-0.23	-0.46	-0.60	-0.62	-0.65	
13	-0.33	-0.37	-0.31	-0.37	-0.12	-0.48	-0.16	-0.24	-0.47	-0.60	-0.62	-0.65	
14	-0.23	-0.39	-0.24	-0.43	0.07	-0.47	0.19	-0.25	-0.47	-0.60	-0.62	-0.65	
15	-0.15	-0.24	-0.35	-0.46	-0.21	-0.45	0.28	-0.26	-0.47	-0.60	-0.63	-0.63	
16	-0.27	-0.40	-0.35	-0.44	-0.29	-0.45	-0.14	-0.27	-0.45	-0.60	-0.63	-0.52	
17	-0.34	-0.42	-0.41	-0.46	-0.34	-0.46	-0.21	-0.29	-0.45	-0.60	-0.63	-0.57	
18	-0.37	-0.42	-0.43	-0.48	-0.38	-0.48	-0.12	-0.30	-0.49	-0.61	-0.63	-0.53	
19	-0.37	-0.24	-0.44	-0.50	-0.39	-0.49	-0.16	-0.31	-0.50	-0.61	-0.63	-0.52	
20	-0.38	-0.27	-0.46	-0.50	-0.42	-0.50	-0.22	-0.28	-0.51	-0.61	-0.63	0.00	
21	-0.39	-0.34	-0.46	-0.50	-0.43	-0.48	-0.30	-0.21	-0.52	-0.61	-0.64	1.65	
22	-0.40	-0.37	-0.46	-0.51	-0.42	-0.50	0.01	-0.27	-0.53	-0.61	-0.64	0.15	
23	-0.40	-0.27	-0.39	-0.52	-0.43	-0.50	0.23	-0.33	-0.54	-0.61	-0.64	-0.09	
24	-0.41	-0.33	-0.36	-0.53	-0.40	-0.50	0.08	-0.35	-0.54	-0.62	-0.64	-0.26	
25	-0.41	-0.31	-0.41	-0.53	-0.43	-0.48	-0.02	-0.36	-0.55	-0.62	-0.64	-0.30	
26	-0.42	-0.34	-0.46	-0.53	-0.47	-0.44	0.24	-0.37	-0.56	-0.62	-0.64	0.07	
27	-0.43	-0.35	-0.48	-0.53	-0.48	-0.38	0.29	-0.37	-0.56	-0.62	-0.64	0.24	
28	-0.43	-0.34	-0.48	-0.50	-0.49	-0.17	2.20	-0.37	-0.57	-0.62	-0.64	0.11	
29	-0.43	-0.35	-0.49	-0.46	-0.49	-0.33	1.30	-0.38	-0.57	-0.62		-0.16	
30	-0.43	-0.35	-0.44	-0.49	-0.49	-0.39	0.62	-0.39	-0.57	-0.62		-0.21	
31		-0.32		-0.51	-0.39		0.37		-0.57	-0.62		-0.28	
Mean	-0.38	-0.37	-0.38	-0.49	-0.41	-0.43	0.16	-0.21	-0.48	-0.60	-0.63	-0.35	
Max	-0.15	-0.24	-0.19	-0.37	0.07	-0.17	2.20	0.24	-0.31	-0.56	-0.61	1.65	2.20
Min	-0.43	-0.45	-0.49	-0.53	-0.54	-0.50	-0.43	-0.39	-0.57	-0.62	-0.64	-0.65	-0.65

Annual Max Momentary Gage Height 2.97 M (A.D), at 18.00 Hours, on Mar 21, 1993
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed -0.70 M (A.D)
Left Bank Elevation 4.23 M (A.D)
Right Bank Elevation 4.19 M (A.D), Drainage Area 112 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.90	0.75	1.48	0.60	0.31	1.05	0.75	7.94	1.35	0.22	0.09	0.06	
2	0.90	0.70	1.10	0.55	0.31	0.95	4.60	6.18	1.00	0.19	0.09	0.07	
3	0.90	0.70	0.95	0.50	0.31	1.20	7.46	5.12	0.95	0.19	0.09	0.07	
4	0.85	0.65	0.90	0.45	0.31	0.80	6.04	4.36	0.90	0.16	0.09	0.07	
5	0.85	0.65	1.00	0.40	0.31	0.80	7.46	3.76	0.90	0.16	0.09	0.07	
6	0.85	1.05	1.05	0.34	0.28	1.20	4.24	3.40	0.85	0.16	0.09	0.06	
7	0.85	0.65	1.20	0.34	0.28	0.70	5.64	3.28	0.80	0.16	0.09	0.06	
8	0.85	0.85	1.72	0.34	0.37	0.65	8.90	3.16	0.75	0.16	0.09	0.06	
9	0.85	0.75	1.25	0.34	0.60	0.75	4.86	3.04	0.70	0.13	0.08	0.06	
10	0.85	0.65	1.10	0.34	0.75	0.65	3.52	2.92	1.05	0.13	0.08	0.06	
11	0.85	1.30	2.32	0.31	1.20	0.60	5.90	2.56	0.65	0.10	0.08	0.06	
12	0.85	1.15	1.56	0.31	1.96	0.55	4.24	1.96	0.60	0.10	0.08	0.05	
13	1.25	1.05	1.35	1.05	3.16	0.50	2.68	1.88	0.55	0.10	0.08	0.05	
14	1.96	0.95	1.88	0.75	5.51	0.55	7.16	1.80	0.55	0.10	0.08	0.05	
15	2.80	1.88	1.15	0.60	2.12	0.65	8.58	1.72	0.55	0.10	0.07	0.07	
16	1.64	0.90	1.15	0.70	1.48	0.65	2.92	1.64	0.65	0.10	0.07	0.34	
17	1.20	0.80	0.85	0.60	1.20	0.60	2.12	1.48	0.65	0.10	0.07	0.19	
18	1.05	0.80	0.75	0.50	1.00	0.50	3.16	1.40	0.45	0.09	0.07	0.31	
19	1.05	1.88	0.70	0.40	0.95	0.45	2.68	1.35	0.40	0.09	0.07	0.34	
20	1.00	1.64	0.60	0.40	0.80	0.40	2.04	1.56	0.37	0.09	0.07	4.60	
21	0.95	1.20	0.60	0.40	0.75	0.50	1.40	2.12	0.34	0.09	0.06	43.80	
22	0.90	1.05	0.60	0.37	0.80	0.40	4.73	1.64	0.31	0.09	0.06	6.60	
23	0.90	1.64	0.95	0.34	0.75	0.40	7.78	1.25	0.28	0.09	0.06	3.52	
24	0.85	1.25	1.10	0.31	0.90	0.40	5.64	1.15	0.28	0.08	0.06	1.72	
25	0.85	1.35	0.85	0.31	0.75	0.50	4.36	1.10	0.25	0.08	0.06	1.40	
26	0.80	1.20	0.60	0.31	0.55	0.70	7.94	1.05	0.22	0.08	0.06	5.51	
27	0.75	1.15	0.50	0.31	0.50	1.00	8.74	1.05	0.22	0.08	0.06	7.94	
28	0.75	1.20	0.50	0.40	0.45	2.56	65.40	1.05	0.19	0.08	0.06	6.04	
29	0.75	1.15	0.45	0.60	0.45	1.25	32.30	1.00	0.19	0.08		2.68	
30	0.75	1.15	0.70	0.45	0.45	0.95	15.04	0.95	0.19	0.08		2.12	
31		1.30		0.37	0.95		10.16		0.19	0.08		1.56	
Total	30.55	33.39	30.91	13.99	30.51	22.86	258.44	72.87	17.33	3.54	2.10	89.59	606.08 CMSDAY
Mean	1.02	1.08	1.03	0.45	0.98	0.76	8.34	2.43	0.56	0.11	0.08	2.89	1.66 CMS
Max	2.80	1.88	2.32	1.05	5.51	2.56	65.40	7.94	1.35	0.22	0.09	43.80	65.40 CMS
Min	0.75	0.65	0.45	0.31	0.28	0.40	0.75	0.95	0.19	0.08	0.06	0.05	0.05 CMS
Runoff	2.640	2.885	2.671	1.209	2.636	1.975	22.329	6.296	1.497	0.306	0.181	7.741	52.365 MCM

Momentary Peak 100.70 CMS, at 2.97 M (A.D), at 18.00 Hours, on Mar 21, 1993

Runoff Yield 14.83 Liters/Second/Square KM, Momentary Peak Yield 899.11 Liters/Second/Square KM

WATER YEAR 1993

WEST COAST-GULF BASIN

Huai Yang at Ban Chang Laek, Prachuap Khiri Khan (Gt.11)

Location — Lat. 11°03'44" N., Long. 99°22'31" E., on right bank at the bridge of Phet Kasem Highway near the guidepost 423, Ban Chang Laek, Tambon Pak Phaek, Amphoe Bang Saphan Noi, Prachuap Khiri Khan.

Drainage Area — 58 sq.km.

Type of Gage — Staff gage.

Zero Gage at Bottom — +0.00 m.(A.D.)

Bench Mark — B.M.-Highways Dept.

Location — On left bank at the abutment of the bridge.

Elevation — +9.576 m.(A.D.)

Gage Reading Frequency — 5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.

Basis of Mean Daily Gage Height — Arithmetic mean of 5 readings.

Period of Available Gage Records — 1979 to date.

Rating Operation

Period of Rating — 1980 to date.

Rated by Float — -

Rated by Current Meter — 1980 to date.

Stability of Channel Regimes — Fairly stable.

Overbank Flow Conditions — No overbank flow.

General Description — Records fair. Stage-discharge relation defined by 179 discharge measurements made in 1993.

Gage Height in Meter (A.D), Water Year April 1, 1993 to March 31, 1994

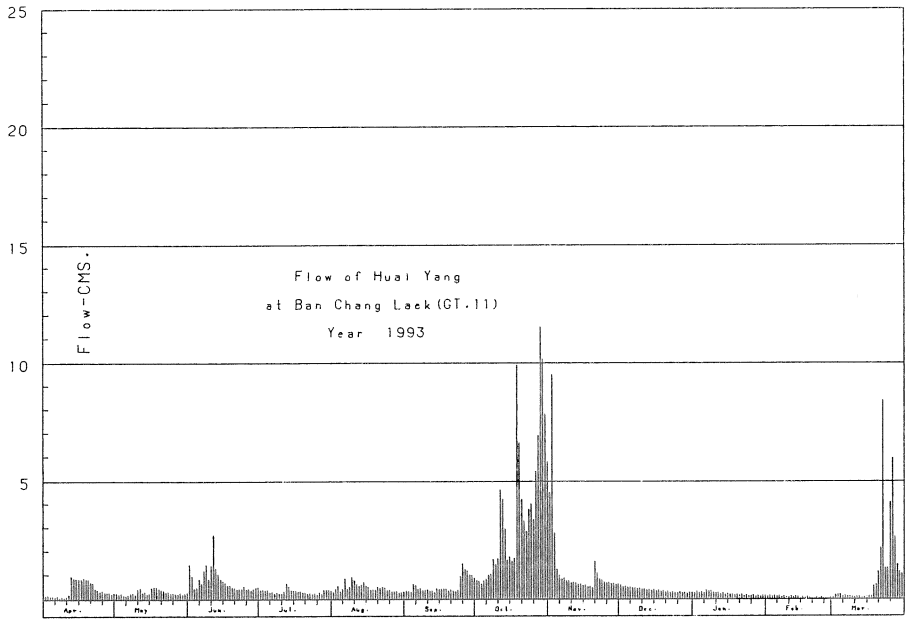
Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.47	0.50	0.89	0.57	0.53	0.55	0.73	1.25	0.63	0.52	0.46	0.44	
2	0.46	0.49	0.80	0.56	0.57	0.53	0.70	1.55	0.62	0.53	0.46	0.47	
3	0.46	0.49	0.59	0.56	0.62	0.53	0.67	1.09	0.61	0.52	0.46	0.49	
4	0.45	0.48	0.59	0.55	0.54	0.65	0.71	0.86	0.61	0.52	0.46	0.48	
5	0.45	0.47	0.75	0.53	0.57	0.65	0.75	0.80	0.60	0.52	0.46	0.46	
6	0.45	0.47	0.66	0.52	0.77	0.58	0.81	0.75	0.60	0.55	0.46	0.46	
7	0.44	0.51	0.85	0.51	0.59	0.58	0.81	0.75	0.59	0.55	0.45	0.46	
8	0.44	0.50	0.89	0.51	0.60	0.56	0.93	0.72	0.59	0.54	0.45	0.45	
9	0.44	0.49	0.75	0.51	0.77	0.55	0.90	0.71	0.58	0.53	0.45	0.45	
10	0.44	0.57	0.89	0.51	0.73	0.56	0.93	0.69	0.58	0.52	0.45	0.45	
11	0.49	0.60	1.08	0.53	0.65	0.55	1.26	0.68	0.57	0.51	0.45	0.44	
12	0.80	0.52	0.86	0.68	0.64	0.54	1.23	0.67	0.57	0.50	0.45	0.44	
13	0.77	0.52	0.81	0.61	0.64	0.53	1.11	0.66	0.56	0.50	0.45	0.44	
14	0.74	0.50	0.75	0.56	0.70	0.58	0.92	0.65	0.56	0.49	0.44	0.43	
15	0.73	0.49	0.70	0.54	0.64	0.58	0.94	0.64	0.56	0.49	0.44	0.45	
16	0.75	0.59	0.67	0.54	0.60	0.57	0.92	0.63	0.55	0.49	0.44	0.45	
17	0.75	0.62	0.65	0.54	0.57	0.59	0.93	0.62	0.55	0.48	0.44	0.46	
18	0.75	0.60	0.63	0.53	0.56	0.57	1.57	0.61	0.54	0.48	0.44	0.62	
19	0.73	0.59	0.61	0.53	0.57	0.55	1.40	0.60	0.54	0.48	0.44	0.66	
20	0.70	0.55	0.59	0.51	0.60	0.56	1.23	0.92	0.53	0.48	0.43	0.83	
21	0.67	0.54	0.58	0.51	0.58	0.55	1.14	0.82	0.53	0.48	0.43	1.00	
22	0.59	0.53	0.57	0.50	0.62	0.54	1.10	0.75	0.52	0.47	0.43	1.50	
23	0.55	0.52	0.59	0.50	0.59	0.55	1.19	0.72	0.52	0.47	0.43	0.87	
24	0.54	0.51	0.61	0.49	0.56	0.80	1.21	0.70	0.52	0.47	0.43	0.86	
25	0.54	0.50	0.58	0.49	0.55	0.90	1.15	0.69	0.52	0.47	0.43	1.22	
26	0.53	0.50	0.57	0.51	0.54	0.86	1.32	0.68	0.52	0.47	0.43	1.36	
27	0.52	0.50	0.56	0.50	0.54	0.84	1.42	0.67	0.52	0.46	0.43	1.06	
28	0.51	0.50	0.57	0.55	0.53	0.81	1.64	0.66	0.51	0.46	0.43	0.90	
29	0.50	0.49	0.61	0.57	0.52	0.80	1.58	0.66	0.51	0.46		0.83	
30	0.50	0.49	0.60	0.55	0.51	0.75	1.47	0.65	0.51	0.46		0.82	
31		0.51		0.54	0.52		1.35		0.51	0.46		0.87	
Mean	0.57	0.52	0.69	0.54	0.60	0.63	1.10	0.76	0.56	0.49	0.44	0.68	
Max	0.80	0.62	1.08	0.68	0.77	0.90	1.64	1.55	0.63	0.55	0.46	1.50	1.64
Min	0.44	0.47	0.56	0.49	0.51	0.53	0.67	0.60	0.51	0.46	0.43	0.43	0.43

Annual Max Momentary Gage Height — 1.81 M (A.D), at 16.00 Hours, on Oct 17, 1993

Zero Gage at Bottom Elevation — 0.00 M (A.D), River Bed — 0.40 M (A.D)

Left Bank Elevation — 8.20 M (A.D)

Right Bank Elevation — 8.22 M (A.D), Drainage Area — 58 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.17	0.25	1.45	0.42	0.32	0.38	0.83	4.50	0.58	0.30	0.15	0.10	
2	0.15	0.23	1.00	0.40	0.42	0.32	0.75	9.50	0.55	0.32	0.15	0.17	
3	0.15	0.23	0.47	0.40	0.55	0.32	0.68	2.83	0.53	0.30	0.15	0.23	
4	0.12	0.20	0.47	0.38	0.35	0.62	0.77	1.30	0.53	0.30	0.15	0.20	
5	0.12	0.17	0.88	0.32	0.42	0.62	0.88	1.00	0.50	0.30	0.15	0.15	
6	0.12	0.17	0.65	0.30	0.92	0.45	1.05	0.88	0.50	0.38	0.15	0.15	
7	0.10	0.27	1.25	0.27	0.47	0.45	1.05	0.88	0.47	0.38	0.12	0.15	
8	0.10	0.25	1.45	0.27	0.50	0.40	1.71	0.80	0.47	0.35	0.12	0.12	
9	0.10	0.23	0.88	0.27	0.92	0.38	1.50	0.77	0.45	0.32	0.12	0.12	
10	0.10	0.42	1.45	0.27	0.83	0.40	1.71	0.72	0.45	0.30	0.12	0.12	
11	0.23	0.50	2.76	0.32	0.62	0.38	4.62	0.70	0.42	0.27	0.12	0.10	
12	1.00	0.30	1.30	0.70	0.60	0.35	4.26	0.68	0.42	0.25	0.12	0.10	
13	0.92	0.30	1.05	0.53	0.60	0.32	3.00	0.65	0.40	0.25	0.12	0.10	
14	0.85	0.25	0.88	0.40	0.75	0.45	1.64	0.62	0.40	0.23	0.10	0.08	
15	0.83	0.23	0.75	0.35	0.60	0.45	1.78	0.60	0.40	0.23	0.10	0.12	
16	0.88	0.47	0.68	0.35	0.50	0.42	1.64	0.58	0.38	0.23	0.10	0.12	
17	0.88	0.55	0.62	0.35	0.42	0.47	1.71	0.55	0.38	0.20	0.10	0.15	
18	0.88	0.50	0.58	0.32	0.40	0.42	9.94	0.53	0.35	0.20	0.10	0.55	
19	0.83	0.47	0.53	0.32	0.42	0.38	6.60	0.50	0.35	0.20	0.10	0.65	
20	0.75	0.38	0.47	0.27	0.50	0.40	4.26	1.64	0.32	0.20	0.08	1.15	
21	0.68	0.35	0.45	0.27	0.45	0.38	3.30	1.10	0.32	0.20	0.08	2.20	
22	0.47	0.32	0.42	0.25	0.55	0.35	2.90	0.88	0.30	0.17	0.08	8.40	
23	0.38	0.30	0.47	0.25	0.47	0.38	3.80	0.80	0.30	0.17	0.08	1.35	
24	0.35	0.27	0.53	0.23	0.40	1.00	4.02	0.75	0.30	0.17	0.08	1.30	
25	0.35	0.25	0.45	0.23	0.38	1.50	3.40	0.72	0.30	0.17	0.08	4.14	
26	0.32	0.25	0.42	0.27	0.35	1.30	5.40	0.70	0.30	0.17	0.08	6.00	
27	0.30	0.25	0.40	0.25	0.35	1.20	6.96	0.68	0.30	0.15	0.08	2.62	
28	0.27	0.25	0.42	0.38	0.32	1.05	11.56	0.65	0.27	0.15	0.08	1.50	
29	0.25	0.23	0.53	0.42	0.30	1.00	10.16	0.65	0.27	0.15		1.15	
30	0.25	0.23	0.50	0.38	0.27	0.88	7.86	0.62	0.27	0.15		1.10	
31		0.27		0.35	0.30		5.85		0.27	0.15		1.35	
Total	12.90	9.34	24.16	10.49	15.25	17.42	115.59	37.78	12.05	7.31	3.06	35.74	301.09 CMSDAY
Mean	0.43	0.30	0.81	0.34	0.49	0.58	3.73	1.26	0.39	0.24	0.11	1.15	0.82 CMS
Max	1.00	0.55	2.76	0.70	0.92	1.50	11.56	9.50	0.58	0.38	0.15	8.40	11.56 CMS
Min	0.10	0.17	0.40	0.23	0.27	0.32	0.68	0.50	0.27	0.15	0.08	0.08	0.08 CMS
Runoff	1.115	0.807	2.087	0.906	1.318	1.505	9.987	3.264	1.041	0.632	0.264	3.088	26.014 MCM

Momentary Peak 16.12 CMS, at 1.81 M (A.D), at 16.00 Hours, on Oct 17, 1993

Runoff Yield 14.22 Liters/Second/Square KM, Momentary Peak Yield 277.93 Liters/Second/Square KM

WATER YEAR 1993

WEST COAST-GULF BASIN

Khlong Cha Kra at Ban Cha Kra Bon, Prachuap Khiri Khan (Gt.18)

Location — Lat.11°-26'-46" N., Long. 99°-34'-10" E., on left bank at the bridge of Phet Kasem Highway near the guidepost 371, Tambon Na Hu Kwang, Amphoe Thap Sakae, Prachuap Khiri Khan.

Drainage Area — 93 sq.km.

Type of Gage — Staff gage.

Zero Gage at Bottom — +0.00 m.(A.D.)

Bench Mark — B.M.-H.D.

Location — On left bank at the abutment of the bridge.

Elevation — +5.421 m.(A.D.)

Gage Reading Frequency — 5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.

Basis of Mean Daily Gage Height — Arithmetic mean of 5 readings.

Period of Available Gage Records — 1987 to date.

Rating Operation

Period of Rating — 1987 to date.

Rated by Float — -

Rated by Current Meter — 1987 to date.

Stability of Channel Regimes — Fairly stable.

Overbank Flow Conditions — Overbank flow starts at elevation +4.27 m.(A.D.), records are channel flow only.

General Description — Records fair. Stage-discharge relation defined by 57 discharge measurements made in 1993.

Gage Height in Meter (A.D), Water Year April 1, 1993 to March 31, 1994

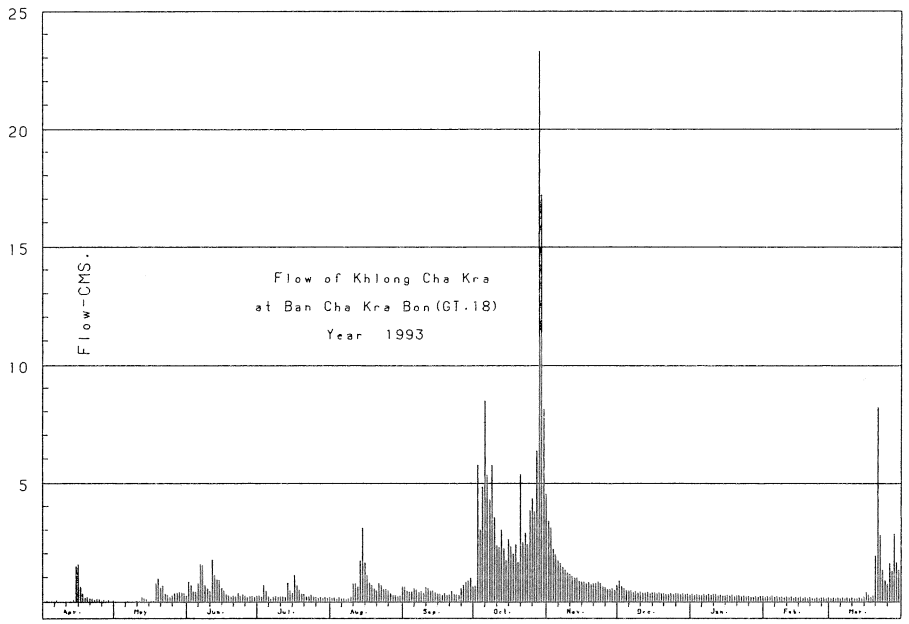
Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.65	0.65	0.98	0.80	0.75	0.92	0.93	1.62	0.99	0.82	0.78	0.74	
2	0.65	0.64	0.95	0.79	0.74	0.88	2.07	1.55	0.94	0.82	0.78	0.74	
3	0.66	0.63	0.87	0.94	0.73	0.85	1.54	1.35	0.90	0.82	0.79	0.74	
4	0.65	0.62	0.85	0.88	0.75	0.87	1.90	1.28	0.89	0.82	0.79	0.74	
5	0.65	0.62	0.97	0.80	0.74	0.91	2.49	1.23	0.88	0.82	0.78	0.74	
6	0.65	0.62	1.19	0.70	0.72	0.88	1.99	1.19	0.87	0.82	0.78	0.74	
7	0.64	0.63	1.17	0.79	0.72	0.86	1.80	1.16	0.86	0.82	0.78	0.74	
8	0.64	0.63	0.94	0.78	0.72	0.86	2.06	1.12	0.86	0.82	0.77	0.74	
9	0.64	0.63	0.91	0.78	0.79	0.85	1.65	1.10	0.85	0.82	0.77	0.74	
10	0.64	0.63	0.86	0.77	0.97	0.91	1.39	1.07	0.85	0.82	0.77	0.74	
11	0.64	0.62	1.24	0.77	0.96	0.90	1.36	1.05	0.85	0.82	0.77	0.74	
12	0.63	0.78	1.06	0.78	0.93	0.88	1.53	1.04	0.85	0.81	0.77	0.74	
13	0.71	0.72	1.02	0.98	1.22	0.87	1.36	1.03	0.85	0.81	0.76	0.74	
14	1.17	0.70	1.00	0.87	1.56	0.86	1.22	1.00	0.84	0.81	0.76	0.74	
15	1.18	0.69	0.91	0.84	1.21	0.84	1.44	0.99	0.84	0.81	0.76	0.77	
16	0.93	0.69	0.87	1.06	1.06	0.82	1.37	0.98	0.84	0.81	0.76	0.86	
17	0.83	0.67	0.83	0.95	0.98	0.82	1.30	0.97	0.84	0.81	0.75	0.81	
18	0.76	0.97	0.80	0.88	0.94	0.83	1.40	0.97	0.84	0.81	0.75	0.78	
19	0.75	1.02	0.79	0.84	0.91	0.82	1.21	0.96	0.84	0.80	0.75	0.79	
20	0.73	0.92	0.79	0.82	0.87	0.81	2.00	0.96	0.83	0.80	0.75	1.27	
21	0.72	0.93	0.77	0.80	0.96	0.86	1.41	0.96	0.83	0.80	0.74	2.45	
22	0.71	0.84	0.84	0.80	0.95	0.83	1.51	0.99	0.83	0.80	0.74	1.49	
23	0.71	0.81	0.79	0.81	0.90	0.81	1.39	0.96	0.83	0.79	0.74	1.12	
24	0.70	0.78	0.83	0.79	0.89	0.82	1.71	0.93	0.83	0.79	0.74	1.01	
25	0.69	0.80	0.79	0.76	0.87	0.90	1.81	0.91	0.83	0.78	0.74	0.97	
26	0.68	0.83	0.78	0.76	0.84	0.94	1.69	0.90	0.83	0.78	0.74	1.19	
27	0.67	0.85	0.79	0.75	0.82	0.99	2.16	0.90	0.83	0.78	0.74	1.12	
28	0.66	0.85	0.79	0.75	0.80	0.99	3.88	0.90	0.83	0.78	0.74	1.49	
29	0.65	0.85	0.78	0.75	0.79	1.04	3.40	0.89	0.83	0.78		1.21	
30	0.65	0.83	0.79	0.76	0.79	0.93	2.44	0.94	0.82	0.78		1.12	
31		0.81		0.75	0.93		1.84		0.82	0.78		1.03	
Mean	0.72	0.75	0.90	0.82	0.90	0.88	1.78	1.06	0.85	0.80	0.76	0.96	
Max	1.18	1.02	1.24	1.06	1.56	1.04	3.88	1.62	0.99	0.82	0.79	2.45	3.88
Min	0.63	0.62	0.77	0.70	0.72	0.81	0.93	0.89	0.82	0.78	0.74	0.74	0.62

Annual Max Momentary Gage Height — 4.35 M (A.D), at 18.00 Hours, on Oct 28, 1993

Zero Gage at Bottom Elevation — 0.00 M (A.D), River Bed — 0.87 M (A.D)

Left Bank Elevation — 4.38 M (A.D)

Right Bank Elevation — 4.26 M (A.D), Drainage Area — 93 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.05	0.05	0.83	0.25	0.18	0.62	0.66	3.45	0.87	0.31	0.22	0.16	
2	0.05	0.04	0.73	0.24	0.16	0.49	5.82	3.12	0.69	0.31	0.22	0.16	
3	0.06	0.03	0.46	0.69	0.15	0.40	3.08	2.25	0.55	0.31	0.24	0.16	
4	0.05	0.02	0.40	0.49	0.18	0.46	4.85	1.97	0.52	0.31	0.24	0.16	
5	0.05	0.02	0.80	0.25	0.16	0.59	8.53	1.77	0.49	0.31	0.22	0.16	
6	0.05	0.02	1.61	0.10	0.13	0.49	5.35	1.61	0.46	0.31	0.22	0.16	
7	0.04	0.03	1.53	0.24	0.13	0.43	4.35	1.49	0.43	0.31	0.22	0.16	
8	0.04	0.03	0.69	0.22	0.13	0.43	5.76	1.33	0.43	0.31	0.20	0.16	
9	0.04	0.03	0.59	0.22	0.24	0.40	3.60	1.25	0.40	0.31	0.20	0.16	
10	0.04	0.03	0.43	0.20	0.80	0.59	2.41	1.15	0.40	0.31	0.20	0.16	
11	0.04	0.02	1.81	0.20	0.76	0.55	2.29	1.07	0.40	0.31	0.20	0.16	
12	0.03	0.22	1.11	0.22	0.66	0.49	3.03	1.04	0.40	0.28	0.20	0.16	
13	0.11	0.13	0.97	0.83	1.73	0.46	2.29	1.00	0.40	0.28	0.19	0.16	
14	1.53	0.10	0.90	0.46	3.17	0.43	1.73	0.90	0.37	0.28	0.19	0.16	
15	1.57	0.09	0.59	0.37	1.69	0.37	2.63	0.87	0.37	0.28	0.19	0.20	
16	0.66	0.09	0.46	1.11	1.11	0.31	2.33	0.83	0.37	0.28	0.19	0.43	
17	0.34	0.07	0.34	0.73	0.83	0.31	2.05	0.80	0.37	0.28	0.18	0.28	
18	0.19	0.80	0.25	0.49	0.69	0.34	2.45	0.80	0.37	0.28	0.18	0.22	
19	0.18	0.97	0.24	0.37	0.59	0.31	1.69	0.76	0.37	0.25	0.18	0.24	
20	0.15	0.62	0.24	0.31	0.46	0.28	5.40	0.76	0.34	0.25	0.18	1.93	
21	0.13	0.66	0.20	0.25	0.76	0.43	2.50	0.76	0.34	0.25	0.16	8.25	
22	0.11	0.37	0.37	0.25	0.73	0.34	2.95	0.87	0.34	0.25	0.16	2.86	
23	0.11	0.28	0.24	0.28	0.55	0.28	2.41	0.76	0.34	0.24	0.16	1.33	
24	0.10	0.22	0.34	0.24	0.52	0.31	3.90	0.66	0.34	0.24	0.16	0.93	
25	0.09	0.25	0.24	0.19	0.46	0.55	4.40	0.59	0.34	0.22	0.16	0.80	
26	0.08	0.34	0.22	0.19	0.37	0.69	3.80	0.55	0.34	0.22	0.16	1.61	
27	0.07	0.40	0.24	0.18	0.31	0.87	6.36	0.55	0.34	0.22	0.16	1.33	
28	0.06	0.40	0.24	0.18	0.25	0.87	23.32	0.55	0.34	0.22	0.16	2.86	
29	0.05	0.40	0.22	0.18	0.24	1.04	17.20	0.52	0.34	0.22		1.69	
30	0.05	0.34	0.24	0.19	0.24	0.66	8.18	0.69	0.31	0.22		1.33	
31		0.28		0.18	0.66		4.55		0.31	0.22		1.00	
Total	6.12	7.35	17.53	10.30	19.04	14.79	149.87	34.72	12.68	8.39	5.34	29.53	315.66 CMSDAY
Mean	0.20	0.24	0.58	0.33	0.61	0.49	4.83	1.16	0.41	0.27	0.19	0.95	0.86 CMS
Max	1.57	0.97	1.81	1.11	3.17	1.04	23.32	3.45	0.87	0.31	0.24	8.25	23.32 CMS
Min	0.03	0.02	0.20	0.10	0.13	0.28	0.66	0.52	0.31	0.22	0.16	0.16	0.02 CMS
Runoff	0.529	0.635	1.515	0.890	1.645	1.278	12.949	3.000	1.096	0.725	0.461	2.551	27.273 MCM

Momentary Peak 30.22 CMS, at 4.35 M (A.D), at 18.00 Hours, on Oct 28, 1993
Runoff Yield 9.30 Liters/Second/Square KM, Momentary Peak Yield 325.00 Liters/Second/Square KM

WATER YEAR 1993

WEST COAST-GULF BASIN

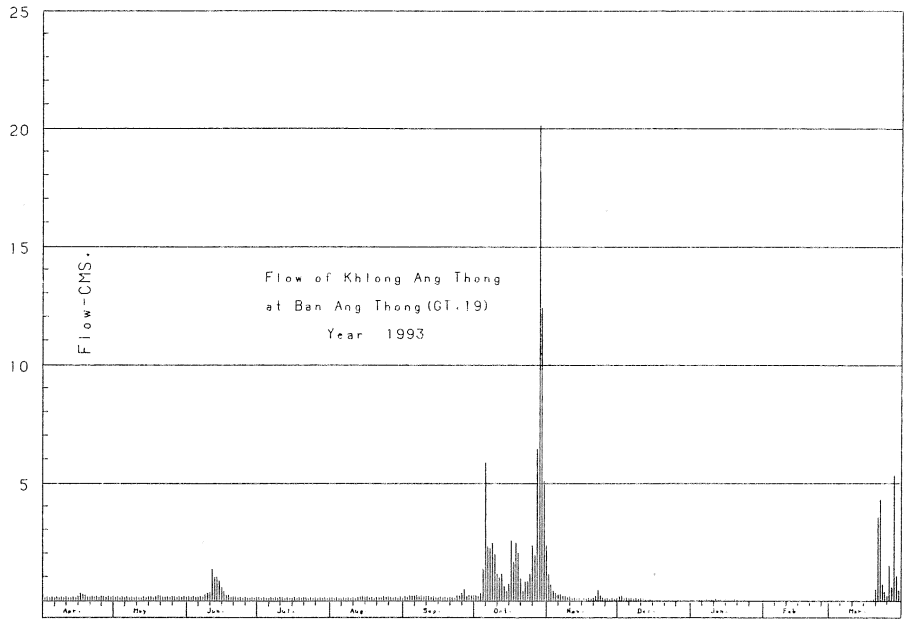
Khlong Ang Thong at Ban Ang Thong, Prachuap Khiri Khan (Gt.19)

Location	Lat. 11-26-08 N., Long. 99-33-52 E., on left bank at the bridge of Phet Kasem Highway near the guidepost 373, Tambon Ang Thong, Amphoe Muang, Prachuap Khiri Khan.
Drainage Area	56 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+0.00 m.(A.D.)
Bench Mark	B.M.-H.D.
Location	On left bank at the abutment of the bridge.
Elevation	+4.973 m.(A.D.)
Gage Reading Frequency	5-time daily readings at 06.00, 09.00 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1987 to date.
Rating Operation	
Period of Rating	1987 - 1988, 1993 to date.
Rated by Float	-
Rated by Current Meter	1987 - 1988, 1993 to date.
Stability of Channel Regimes	Fairly stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Stage-discharge relation defined by 46 discharge measurements made in 1993.

Gage Height in Meter (A.D), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.27	0.29	0.30	0.25	0.24	0.30	0.32	0.72	0.32	0.10	0.10	0.10	
2	0.27	0.29	0.30	0.25	0.24	0.30	0.34	0.56	0.32	0.10	0.10	0.12	
3	0.27	0.28	0.30	0.25	0.24	0.32	0.41	0.48	0.25	0.10	0.10	0.12	
4	0.27	0.28	0.30	0.25	0.24	0.35	0.77	0.42	0.24	0.18	0.10	0.11	
5	0.27	0.28	0.30	0.25	0.24	0.35	1.65	0.40	0.24	0.18	0.10	0.11	
6	0.27	0.28	0.30	0.25	0.24	0.34	1.00	0.38	0.23	0.18	0.10	0.11	
7	0.27	0.27	0.30	0.25	0.24	0.32	0.98	0.34	0.22	0.18	0.10	0.11	
8	0.27	0.27	0.36	0.25	0.24	0.31	1.04	0.31	0.22	0.18	0.10	0.10	
9	0.27	0.27	0.43	0.25	0.24	0.31	0.93	0.29	0.22	0.18	0.10	0.10	
10	0.27	0.27	0.43	0.25	0.24	0.30	0.72	0.28	0.22	0.18	0.10	0.10	
11	0.27	0.27	0.76	0.25	0.24	0.30	0.66	0.25	0.22	0.18	0.10	0.10	
12	0.27	0.27	0.68	0.25	0.25	0.29	0.71	0.23	0.22	0.18	0.10	0.10	
13	0.27	0.28	0.67	0.25	0.33	0.29	0.55	0.23	0.18	0.18	0.10	0.10	
14	0.27	0.28	0.63	0.25	0.32	0.28	0.47	0.22	0.17	0.18	0.10	0.10	
15	0.30	0.28	0.54	0.25	0.31	0.28	0.57	0.22	0.15	0.18	0.10	0.10	
16	0.41	0.28	0.45	0.25	0.28	0.27	1.05	0.22	0.15	0.18	0.10	0.10	
17	0.41	0.28	0.38	0.25	0.27	0.27	0.85	0.22	0.15	0.18	0.10	0.10	
18	0.35	0.28	0.34	0.25	0.25	0.26	1.04	0.22	0.14	0.18	0.10	0.12	
19	0.31	0.35	0.29	0.25	0.25	0.26	0.93	0.22	0.14	0.18	0.10	0.21	
20	0.30	0.32	0.28	0.24	0.25	0.26	0.66	0.22	0.13	0.18	0.10	0.49	
21	0.30	0.31	0.27	0.24	0.27	0.26	0.47	0.31	0.13	0.18	0.10	1.25	
22	0.30	0.30	0.27	0.24	0.28	0.26	0.60	0.50	0.12	0.18	0.09	1.39	
23	0.30	0.29	0.26	0.24	0.29	0.32	0.62	0.38	0.12	0.18	0.09	0.58	
24	0.30	0.29	0.26	0.24	0.29	0.36	0.71	0.25	0.11	0.14	0.10	0.44	
25	0.30	0.29	0.26	0.24	0.27	0.41	1.01	0.23	0.10	0.12	0.13	0.36	
26	0.30	0.29	0.26	0.24	0.26	0.49	0.92	0.22	0.11	0.11	0.11	0.80	
27	0.30	0.29	0.26	0.24	0.26	0.33	1.73	0.22	0.11	0.11	0.10	0.54	
28	0.30	0.29	0.25	0.24	0.25	0.34	2.91	0.22	0.11	0.11	0.09	1.57	
29	0.30	0.29	0.25	0.24	0.25	0.36	2.35	0.22	0.11	0.10		0.70	
30	0.30	0.30	0.26	0.24	0.29	0.33	1.52	0.21	0.10	0.10		0.47	
31		0.30		0.24	0.25		1.02		0.10	0.10		0.36	
Mean	0.30	0.29	0.36	0.25	0.26	0.31	0.95	0.31	0.17	0.15	0.10	0.36	
Max	0.41	0.35	0.76	0.25	0.33	0.49	2.91	0.72	0.32	0.18	0.13	1.57	2.91
Min	0.27	0.27	0.25	0.24	0.24	0.26	0.32	0.21	0.10	0.10	0.09	0.10	0.09

Annual Max Momentary Gage Height 3.72 M (A.D), at 15.00 Hours, on Oct 28, 1993
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed -0.07 M (A.D)
Left Bank Elevation 5.06 M (A.D)
Right Bank Elevation 5.09 M (A.D), Drainage Area 56 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.17	0.19	0.20	0.15	0.14	0.20	0.22	1.18	0.22	0.01	0.01	0.01	
2	0.17	0.19	0.20	0.15	0.14	0.20	0.24	0.68	0.22	0.01	0.01	0.03	
3	0.17	0.18	0.20	0.15	0.14	0.22	0.32	0.46	0.15	0.01	0.01	0.03	
4	0.17	0.18	0.20	0.15	0.14	0.25	1.38	0.34	0.14	0.08	0.01	0.02	
5	0.17	0.18	0.20	0.15	0.14	0.25	5.90	0.30	0.14	0.08	0.01	0.02	
6	0.17	0.18	0.20	0.15	0.14	0.24	2.30	0.28	0.13	0.08	0.01	0.02	
7	0.17	0.17	0.20	0.15	0.14	0.22	2.22	0.24	0.12	0.08	0.01	0.02	
8	0.17	0.17	0.26	0.15	0.14	0.21	2.50	0.21	0.12	0.08	0.01	0.01	
9	0.17	0.17	0.36	0.15	0.14	0.21	2.02	0.19	0.12	0.08	0.01	0.01	
10	0.17	0.17	0.36	0.15	0.14	0.20	1.18	0.18	0.12	0.08	0.01	0.01	
11	0.17	0.17	1.34	0.15	0.14	0.20	0.98	0.15	0.12	0.08	0.01	0.01	
12	0.17	0.17	1.04	0.15	0.15	0.19	1.14	0.13	0.12	0.08	0.01	0.01	
13	0.17	0.18	1.01	0.15	0.23	0.19	0.65	0.13	0.08	0.08	0.01	0.01	
14	0.17	0.18	0.89	0.15	0.22	0.18	0.44	0.12	0.07	0.08	0.01	0.01	
15	0.20	0.18	0.62	0.15	0.21	0.18	0.71	0.12	0.06	0.08	0.01	0.01	
16	0.32	0.18	0.40	0.15	0.18	0.17	2.55	0.12	0.06	0.08	0.01	0.01	
17	0.32	0.18	0.28	0.15	0.17	0.17	1.70	0.12	0.06	0.08	0.01	0.01	
18	0.25	0.18	0.24	0.15	0.15	0.16	2.50	0.12	0.05	0.08	0.01	0.03	
19	0.21	0.25	0.19	0.15	0.15	0.16	2.02	0.12	0.05	0.08	0.01	0.11	
20	0.20	0.22	0.18	0.14	0.15	0.16	0.98	0.12	0.04	0.08	0.01	0.48	
21	0.20	0.21	0.17	0.14	0.17	0.16	0.44	0.21	0.04	0.08	0.01	3.55	
22	0.20	0.20	0.17	0.14	0.18	0.16	0.80	0.50	0.03	0.08	0.01	4.34	
23	0.20	0.19	0.16	0.14	0.19	0.22	0.86	0.28	0.03	0.08	0.01	0.74	
24	0.20	0.19	0.16	0.14	0.19	0.26	1.14	0.15	0.02	0.05	0.01	0.38	
25	0.20	0.19	0.16	0.14	0.17	0.32	2.35	0.13	0.01	0.03	0.04	0.26	
26	0.20	0.19	0.16	0.14	0.16	0.48	1.98	0.12	0.02	0.02	0.02	1.50	
27	0.20	0.19	0.16	0.14	0.16	0.23	6.44	0.12	0.02	0.02	0.01	0.62	
28	0.20	0.19	0.15	0.14	0.15	0.24	20.16	0.12	0.02	0.02	0.01	5.42	
29	0.20	0.19	0.15	0.14	0.15	0.26	12.40	0.12	0.02	0.01		1.10	
30	0.20	0.20	0.16	0.14	0.19	0.23	5.12	0.11	0.01	0.01		0.44	
31		0.20		0.14	0.15		2.40		0.01	0.01		0.26	
Total	5.88	5.81	10.17	4.53	5.01	6.52	86.04	7.17	2.42	1.80	0.32	19.48	155.15 CMSDAY
Mean	0.20	0.19	0.34	0.15	0.16	0.22	2.78	0.24	0.08	0.06	0.01	0.63	0.43 CMS
Max	0.32	0.25	1.34	0.15	0.23	0.48	20.16	1.18	0.22	0.08	0.04	5.42	20.16 CMS
Min	0.17	0.17	0.15	0.14	0.14	0.16	0.22	0.11	0.01	0.01	0.01	0.01	0.01 CMS
Runoff	0.508	0.502	0.879	0.391	0.433	0.563	7.434	0.619	0.209	0.156	0.028	1.683	13.405 MCM

Momentary Peak 35.74 CMS, at 3.72 M (A.D), at 15.00 Hours, on Oct 28, 1993
Runoff Yield 7.59 Liters/Second/Square KM, Momentary Peak Yield 638.21 Liters/Second/Square KM

WATER YEAR 1993

SOUTHERN PENINSULA EAST COAST

Khlong Phum Duang at Khiri Ratthanikhom, Surat Thani (X.36)

Location — Lat. 9°-01'-46" N., Long. 98°-58'-00" E., on left bank at Ban Tha Khanon, Amphoe Khiri Ratthanikhom, Surat Thani.

Drainage Area — 3,012 sq.km.

Type of Gage — Staff gage.

Zero Gage at Bottom — +0.45 m.(M.S.L)

Bench Mark — B.M.-H.D.

Location — On left bank near the sixth staff gage.

Elevation — +10.815 m.(M.S.L)

Gage Reading Frequency — 5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.

Basis of Mean Daily Gage Height — Arithmetic mean of 5 readings.

Period of Available Gage Records — 1963 to date.

Rating Operation

Period of Rating — 1989 to date.

Rated by Float — -

Rated by Current Meter — 1989 to date.

Stability of Channel Regimes — Stable.

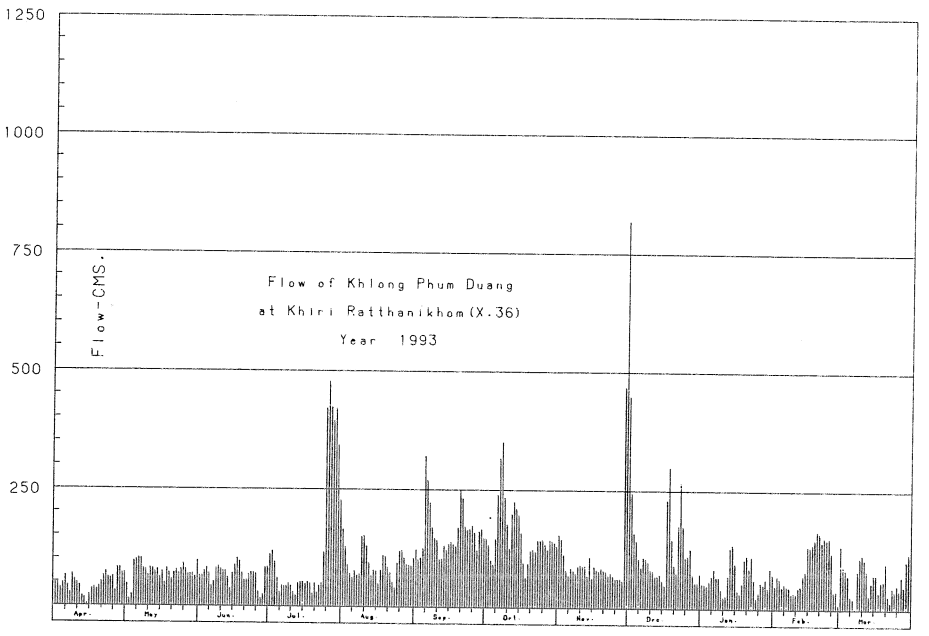
Overbank Flow Conditions — No overbank flow.

General Description — Records good. Stage-discharge relation defined by 30 discharge measurements made in 1993.

Gage Height in Meter (MSL), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	1.68	1.63	1.88	2.50	3.16	2.65	2.93	3.04	5.85	1.70	1.63	2.80	
2	1.66	1.01	1.90	2.60	2.71	2.37	2.76	2.94	3.96	1.67	1.95	2.25	
3	1.50	1.24	2.02	2.30	2.23	2.44	2.37	2.53	3.10	1.64	1.85	2.13	
4	1.64	2.31	2.14	1.83	1.95	2.67	2.24	2.08	2.89	1.77	1.62	1.99	
5	1.89	2.37	1.95	1.33	1.84	4.72	2.93	1.94	2.44	1.92	1.70	1.26	
6	1.58	2.40	1.55	1.60	2.04	4.21	3.92	2.15	2.18	2.16	1.64	1.19	
7	1.27	2.41	1.71	1.55	1.92	3.75	4.67	2.09	2.47	1.91	1.59	0.71	
8	1.92	2.11	2.12	1.58	1.94	3.20	5.00	1.98	2.42	1.89	1.37	2.12	
9	1.77	2.07	2.17	1.65	2.98	2.96	3.85	2.21	2.34	1.52	1.40	2.47	
10	1.65	1.90	2.10	1.59	3.00	2.88	3.28	2.24	2.10	1.23	1.37	2.57	
11	1.58	2.12	2.03	1.33	2.74	2.39	2.69	2.22	2.08	1.26	1.59	2.44	
12	1.16	2.12	2.05	1.20	2.28	2.40	3.51	2.22	1.93	1.95	1.62	2.10	
13	1.05	1.99	1.83	1.67	1.91	2.76	3.77	1.91	1.91	2.72	1.96	1.30	
14	0.79	2.09	1.48	1.69	2.06	2.63	3.62	2.47	1.98	2.80	2.07	1.77	
15	1.20	1.83	1.95	1.71	2.05	2.80	3.48	1.85	1.78	2.30	2.77	1.98	
16	1.46	2.00	2.20	1.63	1.64	2.84	3.09	2.19	1.65	1.48	2.74	1.98	
17	1.49	1.65	2.42	1.71	2.08	2.79	2.29	2.11	3.81	1.34	2.83	1.44	
18	1.44	2.12	2.31	1.65	2.49	2.72	1.87	2.06	4.51	1.72	2.93	1.77	
19	1.53	1.96	1.98	1.26	2.45	3.21	2.27	2.16	2.94	2.43	3.16	1.81	
20	1.70	1.78	1.74	1.67	2.16	4.00	2.63	2.07	2.24	2.52	3.10	2.38	
21	1.87	1.98	1.76	1.33	2.00	3.84	2.65	2.05	2.01	2.16	2.88	1.28	
22	2.01	2.06	1.92	1.57	1.71	3.22	2.61	1.93	3.28	2.50	2.99	1.03	
23	1.84	1.97	2.00	1.68	1.50	3.16	2.89	2.00	4.16	1.83	2.95	1.59	
24	1.80	2.07	1.98	2.56	2.29	3.16	2.90	1.93	3.24	1.16	2.98	1.47	
25	1.87	2.25	1.96	5.61	2.61	3.26	2.91	1.85	2.48	1.41	2.59	1.69	
26	1.37	2.08	1.36	6.09	2.62	3.08	2.78	1.83	2.50	1.73	1.42	1.49	
27	2.12	1.94	1.05	5.63	2.42	2.64	2.66	1.85	2.70	1.69	1.48	1.95	
28	2.14	1.93	1.22	5.37	2.25	3.11	2.91	1.77	1.95	1.85	0.87	1.62	
29	1.95	1.95	2.15	5.60	2.22	3.18	2.87	6.01	1.72	1.56		2.40	
30	1.97	1.84	2.15	4.92	2.21	2.95	2.84	8.79	1.71	2.17		2.58	
31		2.34		3.78	2.41		2.74		1.99	1.98		2.95	
Mean	1.63	1.98	1.90	2.52	2.25	3.07	3.03	2.48	2.66	1.87	2.11	1.89	
Max	2.14	2.41	2.42	6.09	3.16	4.72	5.00	8.79	5.85	2.80	3.16	2.95	8.79
Min	0.79	1.01	1.05	1.20	1.50	2.37	1.87	1.77	1.65	1.16	0.87	0.71	0.71

Annual Max Momentary Gage Height 9.10 M (MSL), at 6.00 Hours, on Nov 30, 1993
Zero Gage at Bottom Elevation 0.45 M (MSL), River Bed -0.15 M (MSL)
Left Bank Elevation 10.35 M (MSL)
Right Bank Elevation 10.49 M (MSL), Drainage Area 3012 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	51.20	47.95	65.10	110.60	165.40	122.78	145.66	154.84	449.35	52.50	47.95	135.00	
2	49.90	15.07	66.50	118.70	127.67	100.25	131.74	146.48	244.00	50.55	70.00	91.25	
3	40.10	26.00	74.90	95.00	89.75	105.74	100.25	113.03	160.00	48.60	63.00	82.60	
4	48.60	95.75	83.30	61.60	70.00	124.41	90.50	79.10	142.38	57.40	47.30	72.80	
5	65.80	100.25	70.00	30.65	62.30	321.60	145.66	69.30	105.74	67.90	52.50	27.00	
6	44.82	102.50	43.05	46.00	76.30	269.01	240.00	84.00	86.10	84.70	48.60	23.53	
7	27.50	103.31	53.20	43.05	67.90	223.00	316.35	79.80	108.17	67.20	45.41	3.30	
8	67.90	81.20	81.90	44.82	69.30	169.00	352.20	72.10	104.12	65.80	32.85	81.90	
9	57.40	78.40	85.40	49.25	149.76	148.12	233.00	88.25	98.00	41.28	34.50	108.17	
10	49.25	66.50	80.50	45.41	151.40	141.56	176.20	90.50	80.50	25.50	32.85	116.27	
11	44.82	81.90	75.60	30.65	130.11	101.75	126.04	89.00	79.10	27.00	45.41	105.74	
12	22.12	81.90	77.00	24.00	93.50	102.50	199.00	89.00	68.60	70.00	47.30	80.50	
13	16.95	72.80	61.60	50.55	67.20	131.74	225.00	67.20	67.20	128.48	70.70	29.00	
14	5.70	79.80	38.98	51.85	77.70	121.15	210.00	108.17	72.10	135.00	78.40	57.40	
15	24.00	61.60	70.00	53.20	77.00	135.00	196.00	63.00	58.10	95.00	132.56	72.10	
16	37.86	73.50	87.50	47.95	48.60	138.28	159.14	86.80	49.25	38.98	130.11	72.10	
17	39.54	49.25	104.12	53.20	79.10	134.19	94.25	81.20	229.00	31.20	137.46	36.74	
18	36.74	81.90	95.75	49.25	109.79	128.48	64.40	77.70	299.64	53.90	145.66	57.40	
19	41.87	70.70	72.10	27.00	106.55	169.90	92.75	84.70	146.48	104.93	165.40	60.20	
20	52.50	58.10	55.30	50.55	84.70	248.00	121.15	78.40	90.50	112.22	160.00	101.00	
21	64.40	72.10	56.70	30.65	73.50	232.00	122.78	77.00	74.20	84.70	141.56	28.00	
22	74.20	77.70	67.90	44.23	53.20	170.80	119.51	68.60	176.20	110.60	150.58	16.01	
23	62.30	71.40	73.50	51.20	40.10	165.40	142.38	73.50	264.00	61.60	147.30	45.41	
24	59.50	78.40	72.10	115.46	94.25	165.40	143.20	68.60	172.60	22.12	149.76	38.42	
25	64.40	91.25	70.70	421.75	119.51	174.40	144.02	63.00	108.98	35.06	117.89	51.85	
26	32.85	79.10	32.30	477.22	120.33	158.28	133.37	61.60	110.60	54.60	35.62	39.54	
27	81.90	69.30	16.95	424.05	104.12	121.96	123.59	63.00	126.85	51.85	38.98	70.00	
28	83.30	68.60	25.00	394.38	91.25	160.90	144.02	57.40	70.00	63.00	8.80	47.30	
29	70.00	70.00	84.00	420.60	89.00	167.20	140.74	467.78	53.90	43.64		102.50	
30	71.40	62.30	84.00	343.32	88.25	147.30	138.28	818.89	53.20	85.40		117.08	
31		98.00		226.00	103.31		130.11		72.80	72.10		147.30	
Total	1488.82	2266.53	2024.95	4032.14	2880.85	4800.10	4901.29	3621.94	4021.66	2042.81	2378.45	2117.41	36576.95 CMSDAY
Mean	49.63	73.11	67.50	130.07	92.93	160.00	158.11	120.73	129.73	65.90	84.94	68.30	100.21 CMS
Max	83.30	103.31	104.12	477.22	165.40	321.60	352.20	818.89	449.35	135.00	165.40	147.30	818.89 CMS
Min	5.70	15.07	16.95	24.00	40.10	100.25	64.40	57.40	49.25	22.12	8.80	3.30	3.30 CMS
Runoff	128.634	195.828	174.956	348.377	248.905	414.729	423.471	312.936	347.471	176.499	205.498	182.944	3160.249 MCM

Momentary Peak 859.80 CMS, at 9.10 M (MSL), at 6.00 Hours, on Nov 30, 1993

Runoff Yield 33.27 Liters/Second/Square KM, Momentary Peak Yield 285.46 Liters/Second/Square KM

WATER YEAR 1993

SOUTHERN PENINSULA EAST COAST

Tapi River at Phrasaeng, Surat Thani (X.37A)

Location — Lat. 8°-34'-03" N., Long. 99°-15'-15" E., on left bank at Tambon Yan Din Daeng, Amphoe Phrasaeng, Surat Thani.

Drainage Area — 5,200 sq.km.

Type of Gage — Water-stage recorder.

Zero Gage at Bottom — +4.80 m.(M.S.L.)

Bench Mark — B.M.-H.D.

Location — Near the automatic gage building.

Elevation — +10.240 m.(M.S.L.)

Gage Reading Frequency — Recording.

Basis of Mean Daily Gage Height — Arithmetic mean of 24 readings.

Period of Available Gage Records — 1969 to date.

Rating Operation

Period of Rating — 1969 to date.

Rated by Float — -

Rated by Current Meter — 1969 to date.

Stability of Channel Regimes — Stable.

Overbank Flow Conditions — No overbank flow.

General Description — Records good. Stage-discharge relation defined by 66 discharge measurements made in 1993.

Gage Height in Meter (MSL), Water Year April 1, 1993 to March 31, 1994

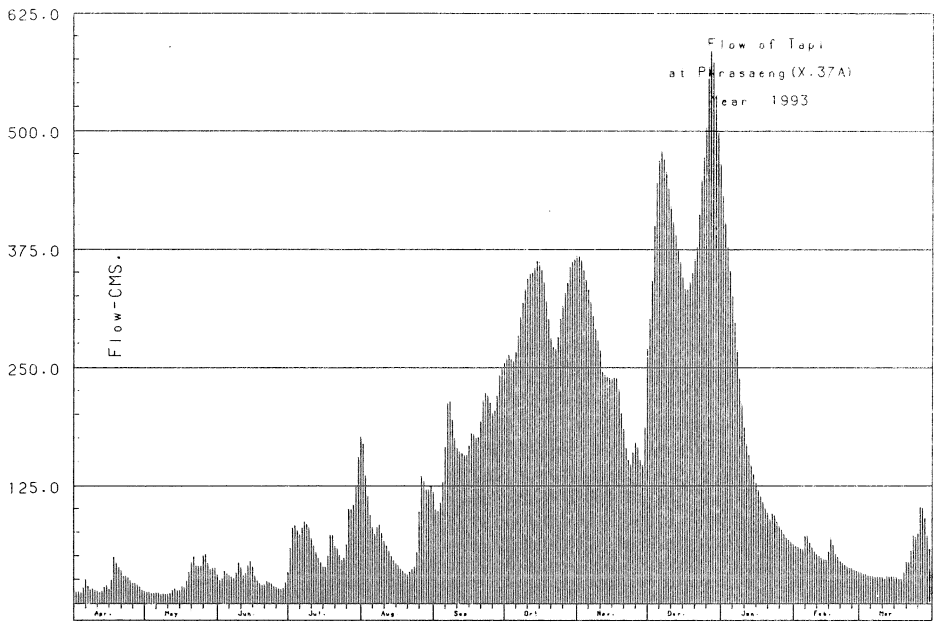
Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	5.29	5.30	5.59	6.33	8.17	7.05	9.38	10.35	9.86	10.72	6.37	5.77	
2	5.30	5.29	5.64	6.71	7.65	7.03	9.43	10.32	10.18	10.57	6.34	5.75	
3	5.28	5.27	5.81	6.77	7.30	7.18	9.38	10.26	10.55	10.41	6.32	5.73	
4	5.41	5.26	5.76	6.66	6.96	7.55	9.35	10.19	10.79	10.25	6.30	5.71	
5	5.62	5.29	5.72	6.59	6.72	8.12	9.47	10.12	10.91	10.07	6.56	5.70	
6	5.46	5.27	5.67	6.72	6.59	8.77	9.67	10.02	10.96	9.82	6.56	5.69	
7	5.38	5.24	5.65	6.83	6.74	8.80	9.87	9.89	10.92	9.49	6.43	5.68	
8	5.39	5.24	5.77	6.79	6.77	8.53	10.02	9.74	10.85	9.12	6.33	5.67	
9	5.36	5.24	6.02	6.72	6.62	8.25	10.12	9.61	10.76	8.76	6.26	5.67	
10	5.32	5.23	5.89	6.51	6.46	8.10	10.20	9.48	10.66	8.42	6.20	5.66	
11	5.29	5.26	5.72	6.38	6.37	8.04	10.23	9.21	10.57	8.16	6.18	5.64	
12	5.32	5.36	5.76	6.24	6.27	8.02	10.24	9.16	10.49	7.99	6.12	5.69	
13	5.44	5.40	5.94	6.13	6.17	7.98	10.27	9.14	10.40	7.82	6.09	5.68	
14	5.47	5.35	6.06	6.01	6.07	7.99	10.32	9.12	10.31	7.68	6.07	5.69	
15	5.40	5.34	5.92	5.92	6.00	8.14	10.31	9.11	10.21	7.54	6.26	5.67	
16	5.60	5.46	5.70	5.91	5.94	8.33	10.26	9.12	10.12	7.40	6.52	5.66	
17	6.15	5.42	5.59	6.18	5.87	8.31	10.17	9.12	10.12	7.30	6.38	5.63	
18	6.00	5.59	5.52	6.57	5.81	8.25	10.03	8.96	10.17	7.19	6.22	5.62	
19	5.91	5.79	5.48	6.58	5.76	8.27	9.85	8.63	10.24	7.08	6.14	5.78	
20	5.82	6.01	5.49	6.36	5.72	8.51	9.63	8.39	10.33	6.99	6.05	6.02	
21	5.70	6.16	5.56	6.31	5.79	8.80	9.53	8.10	10.41	6.87	6.00	6.02	
22	5.70	5.95	5.55	6.20	5.87	8.92	9.50	7.91	10.62	6.98	5.96	6.29	
23	5.67	5.93	5.51	6.07	5.91	8.87	9.65	7.83	10.81	6.94	5.92	6.57	
24	5.59	5.94	5.46	6.12	6.25	8.78	9.86	8.03	10.93	6.83	5.89	6.53	
25	5.54	6.17	5.43	6.40	7.02	8.62	9.99	8.18	11.09	6.74	5.87	6.61	
26	5.52	6.22	5.39	7.06	7.64	8.67	10.09	8.10	11.34	6.68	5.84	7.11	
27	5.50	6.00	5.38	7.07	7.56	8.87	10.17	7.91	11.47	6.60	5.82	7.08	
28	5.44	5.86	5.42	7.14	7.42	9.16	10.28	7.82	11.41	6.52	5.79	6.90	
29	5.37	5.88	5.54	7.47	7.41	9.26	10.31	8.42	11.25	6.49		6.56	
30	5.32	5.89	5.79	7.95	7.48	9.33	10.33	9.50	11.07	6.44		6.31	
31		5.72		8.27	7.37		10.35		10.89	6.40		6.14	
Mean	5.52	5.59	5.66	6.61	6.63	8.35	9.94	9.06	10.67	7.94	6.17	6.01	
Max	6.15	6.22	6.06	8.27	8.17	9.33	10.35	10.35	11.47	10.72	6.56	7.11	11.47
Min	5.28	5.23	5.38	5.91	5.72	7.03	9.35	7.82	9.86	6.40	5.79	5.62	5.23

Annual Max Momentary Gage Height — 11.48 M (MSL), at 8.00 Hours, on Dec 27, 1993

Zero Gage at Bottom Elevation — 4.80 M (MSL), River Bed — 3.55 M (MSL)

Left Bank Elevation — 10.45 M (MSL)

Right Bank Elevation — 10.86 M (MSL), Drainage Area — 5200 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	12.2	12.5	24.6	59.2	170.0	99.5	259.2	367.9	302.0	431.5	61.4	32.7	
2	12.5	12.2	26.8	80.2	135.6	98.3	263.4	363.1	341.2	403.3	59.7	31.8	
3	11.8	11.5	34.5	83.5	114.1	106.9	259.2	353.5	400.1	377.4	58.6	30.9	
4	16.4	11.1	32.2	77.4	94.3	129.4	256.9	342.6	445.1	352.0	57.5	30.0	
5	25.9	12.2	30.4	73.5	80.7	166.6	266.9	332.8	468.4	325.8	71.8	29.5	
6	18.7	11.5	28.2	80.7	73.5	212.8	284.4	318.8	478.2	298.0	71.8	29.1	
7	15.3	10.4	27.3	86.9	81.8	215.0	303.0	305.0	470.4	268.6	64.7	28.6	
8	15.6	10.4	32.7	84.6	83.5	195.0	318.8	290.7	456.8	239.0	59.2	28.2	
9	14.6	10.4	43.9	80.7	75.1	175.5	332.8	279.1	439.2	212.0	55.3	28.2	
10	13.2	10.1	38.0	69.1	66.3	165.3	344.0	267.8	419.8	187.2	52.0	27.7	
11	12.2	11.1	30.4	61.9	61.4	161.3	348.8	245.8	403.3	169.3	51.1	26.8	
12	13.2	14.6	32.2	54.2	55.9	159.9	350.4	242.0	390.4	157.9	48.4	29.1	
13	17.8	16.0	40.3	48.9	50.7	157.3	355.1	240.5	375.8	146.5	47.1	28.6	
14	19.1	14.2	45.7	43.5	46.2	157.9	363.1	239.0	361.5	137.5	46.2	29.1	
15	16.0	13.9	39.4	39.4	43.0	168.0	361.5	238.2	345.6	128.7	55.3	28.2	
16	25.0	18.7	29.5	38.9	40.3	181.0	353.5	239.0	332.8	120.2	69.6	27.7	
17	49.8	16.9	24.6	51.1	37.1	179.6	339.8	239.0	332.8	114.1	61.9	26.4	
18	43.0	24.6	21.4	72.4	34.5	175.5	320.2	227.0	339.8	107.4	53.1	25.9	
19	38.9	33.5	19.6	72.9	32.2	176.8	301.0	202.2	350.4	101.2	49.3	33.1	
20	34.9	43.5	20.0	60.8	30.4	193.6	280.9	185.1	364.7	96.0	45.3	43.9	
21	29.5	50.2	23.2	58.1	33.5	215.0	272.1	165.3	377.4	89.2	43.0	43.9	
22	29.5	40.7	22.8	52.0	37.1	224.0	269.5	152.6	412.1	95.5	41.2	57.0	
23	28.2	39.8	21.0	46.2	38.9	220.2	282.6	147.2	449.0	93.2	39.4	72.4	
24	24.6	40.3	18.7	48.4	54.8	213.5	302.0	160.6	472.4	86.9	38.0	70.2	
25	22.3	50.7	17.3	63.0	97.7	201.5	315.0	170.7	504.0	81.8	37.1	74.6	
26	21.4	53.1	15.6	100.0	135.0	205.2	328.6	165.3	557.2	78.5	35.8	102.9	
27	20.5	43.0	15.3	100.6	130.0	220.2	339.8	152.6	586.4	74.0	34.9	101.2	
28	17.8	36.7	16.9	104.6	121.4	242.0	356.7	146.5	572.9	69.6	33.5	90.9	
29	14.9	37.6	22.3	124.5	120.8	249.7	361.5	187.2	537.2	68.0		71.8	
30	13.2	38.0	33.5	155.2	125.1	255.3	364.7	269.5	500.0	65.2		58.1	
31		30.4		176.8	118.4		367.9		464.6	63.0		49.3	
Total	648.0	779.8	828.3	2349.2	2419.3	5521.8	9823.3	7236.6	13251.5	5238.5	1442.2	1387.8	50926.3 CMSDAY
Mean	21.6	25.2	27.6	75.8	78.0	184.1	316.9	241.2	427.5	169.0	51.5	44.8	139.5 CMS
Max	49.8	53.1	45.7	176.8	170.0	255.3	367.9	367.9	586.4	431.5	71.8	102.9	586.4 CMS
Min	11.8	10.1	15.3	38.9	30.4	98.3	256.9	146.5	302.0	63.0	33.5	25.9	10.1 CMS
Runoff	55.99	67.37	71.57	202.97	209.03	477.08	848.73	625.24	1144.93	452.61	124.61	119.91	4400.03 MCM

Momentary Peak 588.68 CMS, at 11.48 M (MSL), at 8.00 Hours, on Dec 27, 1993
Runoff Yield 26.83 Liters/Second/Square KM, Momentary Peak Yield 113.21 Liters/Second/Square KM

WATER YEAR 1993

SOUTHERN PENNINSULA EAST COAST

Pattani River at Ban Tha Sap, Yala (X.40A)

Location — Lat. 06°-33′-03″ N., Long. 101°-16′-08″ E., on left bank at the bridge of Yala - Ban Niang road, Amphoe Muang, Yala.

Drainage Area — 3,302 sq.km.

Type of Gage — Staff gage.

Zero Gage at Bottom — +0.00 m.(A.D.)

Bench Mark — B.M.-H.D.

Location — On left bank between the fourth and the fifth staff gage.

Elevation — +6.568 m.(A.D.)

Gage Reading Frequency — 5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.

Basis of Mean Daily Gage Height — Arithmetic mean of 5 readings.

Period of Available Gage Records — 1988 to date.

Rating Operation

Period of Rating — 1989 to date.

Rated by Float — -

Rated by Current Meter — 1989 to date.

Stability of Channel Regimes — Rather unstable.

Overbank Flow Conditions — No overbank flow.

General Description — Records good. Stage-discharge relation defined by 74 discharge measurements made in 1993.

Gage Height in Meter (A.D), Water Year April 1, 1993 to March 31, 1994

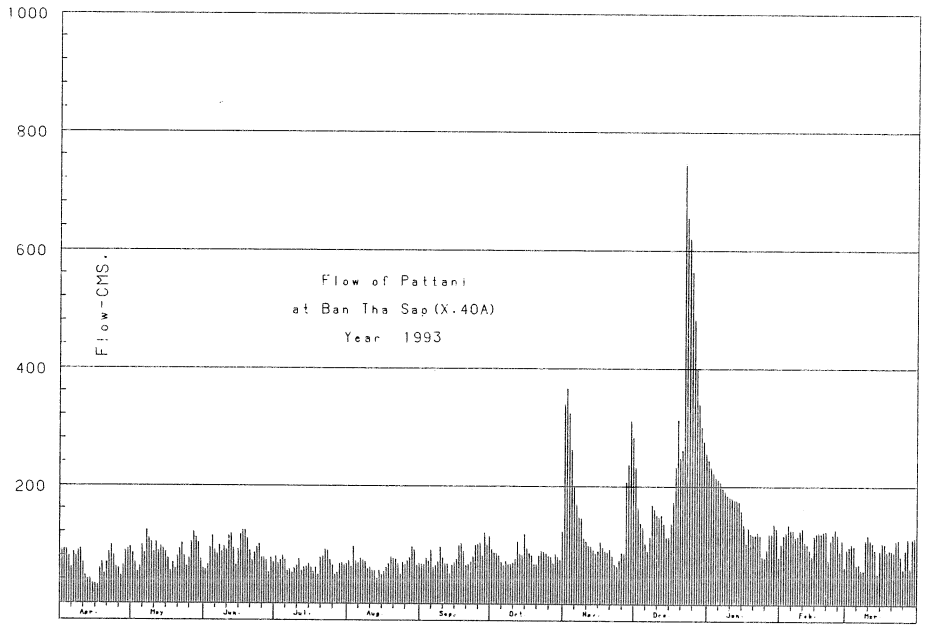
Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	2.70	2.63	2.19	2.54	2.43	2.35	2.72	5.12	4.30	4.41	2.86	2.72	
2	2.72	2.39	2.34	2.37	2.29	2.36	2.65	5.29	3.61	4.30	3.06	2.80	
3	2.70	2.14	2.76	2.46	2.79	2.50	2.62	5.02	3.32	4.22	3.11	2.86	
4	2.55	2.28	3.04	2.56	2.43	2.45	2.58	4.55	3.22	4.14	3.29	2.82	
5	2.27	2.81	2.69	2.47	2.40	2.70	2.41	4.02	2.86	4.12	3.17	2.34	
6	2.64	2.63	2.59	2.17	2.49	2.25	2.33	3.68	2.69	4.07	3.17	2.38	
7	2.54	3.16	2.82	2.20	2.46	2.33	2.43	3.44	3.03	3.98	3.01	2.19	
8	2.69	2.98	2.67	2.12	2.42	2.42	2.36	3.41	3.67	3.92	3.05	2.20	
9	2.72	2.90	2.78	2.22	2.23	2.78	2.35	3.00	3.58	3.86	3.15	2.95	
10	2.40	2.66	2.71	2.32	2.26	2.53	2.41	2.91	3.49	3.82	3.21	3.07	
11	2.02	2.89	3.05	2.47	2.17	2.36	2.50	2.82	3.44	3.79	2.90	2.96	
12	1.93	2.67	3.08	2.17	2.18	2.36	2.91	2.80	3.49	3.77	2.85	2.90	
13	1.93	2.80	2.74	2.25	1.97	2.10	2.62	2.72	3.30	3.75	2.71	2.71	
14	1.79	2.73	2.33	2.29	2.17	2.34	2.58	2.62	3.02	3.73	2.56	2.11	
15	1.75	2.66	2.71	2.36	2.07	2.40	3.09	2.69	3.01	3.55	3.04	2.69	
16	1.74	2.49	3.07	2.25	2.13	2.48	2.75	2.90	3.31	3.28	3.11	2.88	
17	2.22	2.15	3.15	2.13	2.27	2.82	2.64	2.78	3.72	2.88	3.11	2.87	
18	2.39	2.40	3.16	2.27	2.36	2.86	2.57	2.68	4.31	3.21	3.10	2.66	
19	2.09	2.24	2.97	2.07	2.54	2.68	2.37	2.67	4.94	3.11	3.13	2.72	
20	2.40	2.54	2.68	2.51	2.49	2.33	2.35	2.72	4.43	3.06	3.14	2.69	
21	2.64	2.72	2.45	2.56	2.49	2.34	2.58	2.56	4.55	3.07	2.46	2.67	
22	2.83	2.87	2.64	2.71	2.36	2.43	2.69	2.36	7.31	3.12	2.95	2.93	
23	2.58	2.55	2.76	2.70	2.08	2.54	2.66	2.30	6.87	3.06	3.07	2.98	
24	2.26	2.30	2.86	2.46	2.40	2.83	2.63	2.47	6.70	2.54	3.19	2.56	
25	2.24	2.51	2.52	2.33	2.36	2.86	2.57	2.65	6.42	2.53	3.08	2.24	
26	2.01	2.89	2.51	2.06	2.45	2.88	2.53	2.62	5.97	2.71	2.68	2.72	
27	2.32	3.12	2.46	2.10	2.51	2.58	2.39	4.08	5.50	3.08	2.94	2.99	
28	2.67	3.00	2.11	2.37	2.79	3.10	2.61	4.34	5.12	3.09	2.29	2.25	
29	2.72	2.88	2.50	2.38	2.70	2.84	2.54	4.92	4.85	3.29		2.99	
30	2.78	2.47	2.41	2.33	2.33	3.03	2.48	4.72	4.66	3.20		3.01	
31		2.22		2.35	2.37		3.14		4.50	2.54		3.03	
Mean	2.37	2.63	2.69	2.34	2.37	2.56	2.58	3.36	4.30	3.46	2.98	2.71	
Max	2.83	3.16	3.16	2.71	2.79	3.10	3.14	5.29	7.31	4.41	3.29	3.07	7.31
Min	1.74	2.14	2.11	2.06	1.97	2.10	2.33	2.30	2.69	2.53	2.29	2.11	1.74

Annual Max Momentary Gage Height — 7.41 M (A.D), at 17.00 Hours, on Dec 22, 1993

Zero Gage at Bottom Elevation — 0.00 M (A.D), River Bed — 1.00 M (A.D)

Left Bank Elevation — 9.39 M (A.D)

Right Bank Elevation — 8.33 M (A.D), Drainage Area — 3302 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	91.00	86.10	57.40	79.80	72.10	67.00	92.40	339.20	232.00	245.20	102.20	92.40	
2	92.40	69.40	66.40	68.20	63.40	67.60	87.50	366.40	162.90	232.00	116.80	98.00	
3	91.00	54.40	95.20	74.20	97.30	77.00	85.40	324.80	137.60	223.20	120.80	102.20	
4	80.50	62.80	115.20	81.20	72.10	73.50	82.60	262.00	129.60	214.40	135.20	99.40	
5	62.20	98.70	90.30	74.90	70.00	91.00	70.70	201.20	102.20	212.20	125.60	66.40	
6	86.80	86.10	83.30	56.20	76.30	61.00	65.80	169.20	90.30	206.70	125.60	68.80	
7	79.80	124.80	99.40	58.00	74.20	65.80	72.10	147.60	114.40	197.00	112.80	57.40	
8	90.30	110.60	88.90	53.20	71.40	71.40	67.60	144.90	168.30	191.00	116.00	58.00	
9	92.40	105.00	96.60	59.20	59.80	96.60	67.00	112.00	160.20	185.40	124.00	108.50	
10	70.00	88.20	91.70	65.20	61.60	79.10	70.70	105.70	152.10	181.80	128.80	117.60	
11	47.20	104.30	116.00	74.90	56.20	67.60	77.00	99.40	147.60	179.10	105.00	109.20	
12	41.80	88.90	118.40	56.20	56.80	67.60	105.70	98.00	152.10	177.30	101.50	105.00	
13	41.80	98.00	93.80	61.00	44.20	52.00	85.40	92.40	136.00	175.50	91.70	91.70	
14	34.50	93.10	65.80	63.40	56.20	66.40	82.60	85.40	113.60	173.70	81.20	52.60	
15	32.50	88.20	91.70	67.60	50.20	70.00	119.20	90.30	112.80	157.50	115.20	90.30	
16	32.00	76.30	117.60	61.00	53.80	75.60	94.50	105.00	136.80	134.40	120.80	103.60	
17	59.20	55.00	124.00	53.80	62.20	99.40	86.80	96.60	172.80	103.60	120.80	102.90	
18	69.40	70.00	124.80	62.20	67.60	102.20	81.90	89.60	233.20	128.80	120.00	88.20	
19	51.40	60.40	109.90	50.20	79.80	89.60	68.20	88.90	313.60	120.80	122.40	92.40	
20	70.00	79.80	89.60	77.70	76.30	65.80	67.00	92.40	247.60	116.80	123.20	90.30	
21	86.80	92.40	73.50	81.20	76.30	66.40	82.60	81.20	262.00	117.60	74.20	88.90	
22	100.10	102.90	86.80	91.70	67.60	72.10	90.30	67.60	748.20	121.60	108.50	107.10	
23	82.60	80.50	95.20	91.00	50.80	79.80	88.20	64.00	655.70	116.80	117.60	110.60	
24	61.60	64.00	102.20	74.20	70.00	100.10	86.10	74.90	620.00	79.80	127.20	81.20	
25	60.40	77.70	78.40	65.80	67.60	102.20	81.90	87.50	564.00	79.10	118.40	60.40	
26	46.60	104.30	77.70	49.60	73.50	103.60	79.10	85.40	482.60	91.70	89.60	92.40	
27	65.20	121.60	74.20	52.00	77.70	82.60	69.40	207.80	400.00	118.40	107.80	111.30	
28	88.90	112.00	52.60	68.20	97.30	120.00	84.70	236.80	339.20	119.20	63.40	61.00	
29	92.40	103.60	77.00	68.80	91.00	100.80	79.80	310.80	301.00	135.20		111.30	
30	96.60	74.90	70.70	65.80	65.80	114.40	75.60	283.60	275.80	128.00		112.80	
31		59.20		67.00	68.20		123.20		256.00	79.80		114.40	
Total	2097.40	2693.20	2724.30	2073.40	2127.30	2448.20	2571.00	4610.60	8120.20	4743.60	3116.30	2846.30	40171.80 CMSDAY
Mean	69.91	86.88	90.81	66.88	68.62	81.61	82.94	153.69	261.94	153.02	111.30	91.82	110.06 CMS
Max	100.10	124.80	124.80	91.70	97.30	120.00	123.20	366.40	748.20	245.20	135.20	117.60	748.20 CMS
Min	32.00	54.40	52.60	49.60	44.20	52.00	65.80	64.00	90.30	79.10	63.40	52.60	32.00 CMS
Runoff	181.215	232.693	235.380	179.142	183.799	211.524	222.134	398.356	701.585	409.847	269.248	245.920	3470.844 MCM

Momentary Peak 770.20 CMS, at 7.41 M (A.D), at 17.00 Hours, on Dec 22, 1993

Runoff Yield 33.33 Liters/Second/Square KM, Momentary Peak Yield 233.25 Liters/Second/Square KM

WATER YEAR 1993

SOUTHERN PENINSULA EAST COAST

Sai Buri River at Ban Ya Kong, Narathiwat (X.45)

Location — Lat. 6°-19'-25" N., Long. 100°-30'-31" E., on right bank about 7 kilometers from Amphoe Ruso, Narathiwat.

Drainage Area — 1,493. sq.km.

Type of Gage — Water-stage recorder.

Zero Gage at Bottom — +0.00 m.(A.D.)

Bench Mark — B.M.-H.D.

Location — Infront of the automatic gage building.

Elevation — +8.830 m.(A.D.)

Gage Reading Frequency — Recording.

Basis of Mean Daily Gage Height — Arithmetic mean of 24 readings.

Period of Available Gage Records — 1970 to date.

Rating Operation

Period of Rating — 1982 to date.

Rated by Float — -

Rated by Current Meter — 1982 to date.

Stability of Channel Regimes — Rather unstable.

Overbank Flow Conditions — Overbank flow starts at elevation +6.85 m.(A.D.), records are channel flow only.

General Description — Records fair. Stage-discharge relation defined by 39 discharge measurements made in 1993.

Gage Height in Meter (A.D), Water Year April 1, 1993 to March 31, 1994

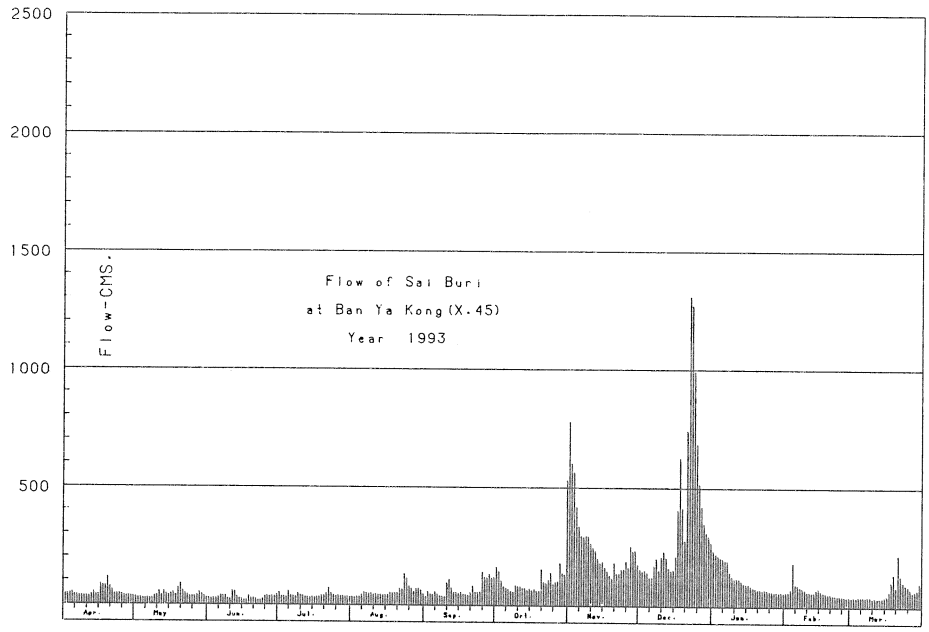
Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	1.13	0.95	0.88	1.20	0.97	1.02	2.23	5.62	2.17	2.75	1.29	1.05	
2	1.12	0.93	0.88	1.03	0.97	1.28	2.10	4.82	2.11	2.67	1.33	1.05	
3	1.18	0.92	0.88	1.00	0.99	1.18	1.75	4.65	2.13	2.60	1.44	1.06	
4	1.20	0.90	0.89	0.97	1.02	1.11	1.55	3.89	2.07	2.56	2.41	1.08	
5	1.11	0.88	0.93	1.29	1.10	1.29	1.48	3.40	1.88	2.52	1.67	1.08	
6	1.05	0.88	1.07	1.07	1.26	1.15	1.40	3.16	1.90	2.48	1.62	1.08	
7	1.03	0.88	1.02	1.02	1.20	1.07	1.34	3.11	2.29	2.45	1.56	1.07	
8	1.02	0.86	1.06	1.00	1.19	1.03	1.27	3.16	2.51	2.10	1.50	1.08	
9	1.00	1.03	0.85	1.17	1.19	1.02	1.59	3.14	2.15	1.93	1.45	1.10	
10	0.99	1.05	0.84	1.10	1.15	1.66	1.53	2.97	2.57	1.86	1.35	1.01	
11	0.99	1.25	1.28	1.02	1.15	1.81	1.55	2.83	2.75	1.86	1.32	1.01	
12	1.11	1.07	1.28	0.98	1.15	1.46	1.47	2.76	2.54	1.86	1.31	1.01	
13	1.22	1.29	0.97	0.96	1.12	1.27	1.45	2.51	2.23	1.76	1.29	0.98	
14	1.10	1.12	0.89	0.95	1.11	1.24	1.38	2.37	2.13	1.69	1.44	1.03	
15	1.08	1.09	0.82	0.96	1.09	1.21	1.42	2.44	2.17	1.65	1.49	1.06	
16	1.59	1.13	0.73	0.96	1.12	1.25	1.34	2.25	2.60	1.67	1.36	1.12	
17	1.56	1.20	0.72	0.96	1.22	1.17	1.43	2.10	3.81	1.58	1.32	1.38	
18	1.52	1.10	1.03	0.99	1.22	1.13	1.32	1.97	4.93	1.53	1.26	1.75	
19	1.87	1.43	0.88	1.06	1.19	1.11	1.35	1.85	3.88	1.48	1.23	2.03	
20	1.50	1.64	0.91	1.08	1.25	1.24	2.18	2.40	3.03	1.44	1.21	1.55	
21	1.32	1.31	0.83	1.17	1.42	1.54	1.70	2.02	5.45	1.43	1.19	2.67	
22	1.14	1.17	0.73	1.45	1.41	1.27	1.66	2.04	7.65	1.41	1.14	1.97	
23	1.13	1.12	0.69	1.18	1.99	1.24	1.81	2.17	7.51	1.42	1.14	1.77	
24	1.17	0.99	0.85	1.12	1.86	1.29	2.03	2.20	6.49	1.40	1.12	1.64	
25	1.10	1.03	1.03	1.06	1.56	2.08	1.65	2.45	5.21	1.36	1.11	1.60	
26	1.04	0.99	1.03	1.06	1.42	1.88	1.70	2.23	4.39	1.33	1.07	1.47	
27	1.03	1.09	1.02	1.05	1.30	1.88	1.75	2.90	3.90	1.31	1.06	1.33	
28	1.02	1.22	1.01	1.02	1.41	1.99	2.36	2.73	3.47	1.30	1.06	1.37	
29	1.02	1.15	1.02	1.00	1.45	1.87	2.04	2.75	3.25	1.30		1.44	
30	0.98	1.00	1.11	0.99	1.34	1.87	1.98	2.34	3.15	1.30		1.73	
31		0.94		0.97	1.15		4.47		2.99	1.29		1.62	
Mean	1.18	1.08	0.94	1.06	1.26	1.39	1.75	2.84	3.40	1.78	1.35	1.36	
Max	1.87	1.64	1.28	1.45	1.99	2.08	4.47	5.62	7.65	2.75	2.41	2.67	7.65
Min	0.98	0.86	0.69	0.95	0.97	1.02	1.27	1.85	1.88	1.29	1.06	0.98	0.69

Annual Max Momentary Gage Height — 8.99 M (A.D), at 5.00 Hours, on Dec 22, 1993

Zero Gage at Bottom Elevation — 0.00 M (A.D), River Bed -2.65 M (A.D)

Left Bank Elevation — 6.84 M (A.D)

Right Bank Elevation — 8.41 M (A.D), Drainage Area 1493 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	46.4	33.5	28.8	52.0	34.9	38.4	161.9	780.8	154.4	233.0	59.2	40.5	
2	45.6	32.1	28.8	39.1	34.9	58.4	146.0	601.2	147.2	221.8	62.7	40.5	
3	50.4	31.4	28.8	37.0	36.3	50.4	104.5	566.0	149.6	212.0	72.6	41.2	
4	52.0	30.0	29.4	34.9	38.4	44.8	83.0	419.2	142.4	206.4	185.4	42.6	
5	44.8	28.8	32.1	59.2	44.0	59.2	76.2	335.0	119.6	200.8	95.7	42.6	
6	40.5	28.8	41.9	41.9	56.8	48.0	69.0	296.6	122.0	195.2	90.2	42.6	
7	39.1	28.8	38.4	38.4	52.0	41.9	63.6	288.6	169.7	191.0	84.0	41.9	
8	38.4	27.6	41.2	37.0	51.2	39.1	57.6	296.6	199.4	146.0	78.0	42.6	
9	37.0	39.1	27.0	49.6	51.2	38.4	87.0	293.4	152.0	125.6	73.5	44.0	
10	36.3	40.5	26.4	44.0	48.0	94.6	81.0	266.2	207.8	117.2	64.5	37.7	
11	36.3	56.0	58.4	38.4	48.0	111.2	83.0	244.5	233.0	117.2	61.8	37.7	
12	44.8	41.9	58.4	35.6	48.0	74.4	75.3	234.4	203.6	117.2	60.9	37.7	
13	53.6	59.2	34.9	34.2	45.6	57.6	73.5	199.4	161.9	105.6	59.2	35.6	
14	44.0	45.6	29.4	33.5	44.8	55.2	67.2	180.1	149.6	97.9	72.6	39.1	
15	42.6	43.3	25.2	34.2	43.3	52.8	70.8	189.6	154.4	93.5	77.1	41.2	
16	87.0	46.4	21.2	34.2	45.6	56.0	63.6	164.5	212.0	95.7	65.4	45.6	
17	84.0	52.0	20.8	34.2	53.6	49.6	71.7	146.0	404.8	86.0	61.8	67.2	
18	80.0	44.0	39.1	36.3	53.6	46.4	61.8	130.4	624.6	81.0	56.8	104.5	
19	118.4	71.7	28.8	41.2	51.2	44.8	64.5	116.0	417.4	76.2	54.4	137.6	
20	78.0	92.4	30.7	42.6	56.0	55.2	155.6	184.0	275.8	72.6	52.8	83.0	
21	61.8	60.9	25.8	49.6	70.8	82.0	99.0	136.4	740.0	71.7	51.2	221.8	
22	47.2	49.6	21.2	73.5	69.9	57.6	94.6	138.8	1310.5	69.9	47.2	130.4	
23	46.4	45.6	19.6	50.4	132.8	55.2	111.2	154.4	1270.8	70.8	47.2	106.7	
24	49.6	36.3	27.0	45.6	117.2	59.2	137.6	158.0	993.4	69.0	45.6	92.4	
25	44.0	39.1	39.1	41.2	84.0	143.6	93.5	191.0	686.2	65.4	44.8	88.0	
26	39.8	36.3	39.1	41.2	70.8	119.6	99.0	161.9	514.1	62.7	41.9	75.3	
27	39.1	43.3	38.4	40.5	60.0	119.6	104.5	255.0	421.0	60.9	41.2	62.7	
28	38.4	53.6	37.7	38.4	69.9	132.8	178.8	230.2	346.9	60.0	41.2	66.3	
29	38.4	48.0	38.4	37.0	73.5	118.4	138.8	233.0	311.0	60.0		72.6	
30	35.6	37.0	44.8	36.3	63.6	118.4	131.6	176.2	295.0	60.0		102.3	
31		32.8		34.9	48.0		530.0		269.4	59.2		90.2	
Total	1539.5	1355.6	1000.8	1286.1	1797.9	2122.8	3435.4	7767.4	11559.5	3501.5	1848.9	2154.1	39369.5 CMSDAY
Mean	51.3	43.7	33.4	41.5	58.0	70.8	110.8	258.9	372.9	113.0	66.0	69.5	107.9 CMS
Max	118.4	92.4	58.4	73.5	132.8	143.6	530.0	780.8	1310.5	233.0	185.4	221.8	1310.5 CMS
Min	35.6	27.6	19.6	33.5	34.9	38.4	57.6	116.0	119.6	59.2	41.2	35.6	19.6 CMS
Runoff	133.01	117.12	86.47	111.12	155.34	183.41	296.82	671.10	998.74	302.53	159.74	186.11	3401.52 MCM

Momentary Peak 1715.90 CMS, at 8.99 M (A.D), at 5.00 Hours, on Dec 22, 1993

Runoff Yield 72.24 Liters/Second/Square KM, Momentary Peak Yield 1149.30 Liters/Second/Square KM

WATER YEAR 1993

SOUTHERN PENINSULA EAST COAST

Khlong Rap Ro at Ban Tha Kham, Chumphon (X.46)

Location — Lat. 10°-36'-47" N., Long. 99°-07'-07" E., on left bank about 10 kilometers downstream from X.46A station at Ban Hat Taeng, Amphoe Tha Sae, Chumphon.

Drainage Area — 751 sq.km.

Type of Gage — Staff gage.

Zero Gage at Bottom — +0.00 m.(A.D.)

Bench Mark — B.M.-H.D.

Location — On left bank near the autometic gage building.

Elevation — +5.913 m.(A.D.)

Gage Reading Frequency — 5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.

Basis of Mean Daily Gage Height — Arithmetic mean of 5 readings.

Period of Available Gage Records — 1971 to date.

Rating Operation

Period of Rating — 1976, 1985 to date.

Rated by Float — -

Rated by Current Meter — 1976, 1985 to date.

Stability of Channel Regimes — Fairly stable.

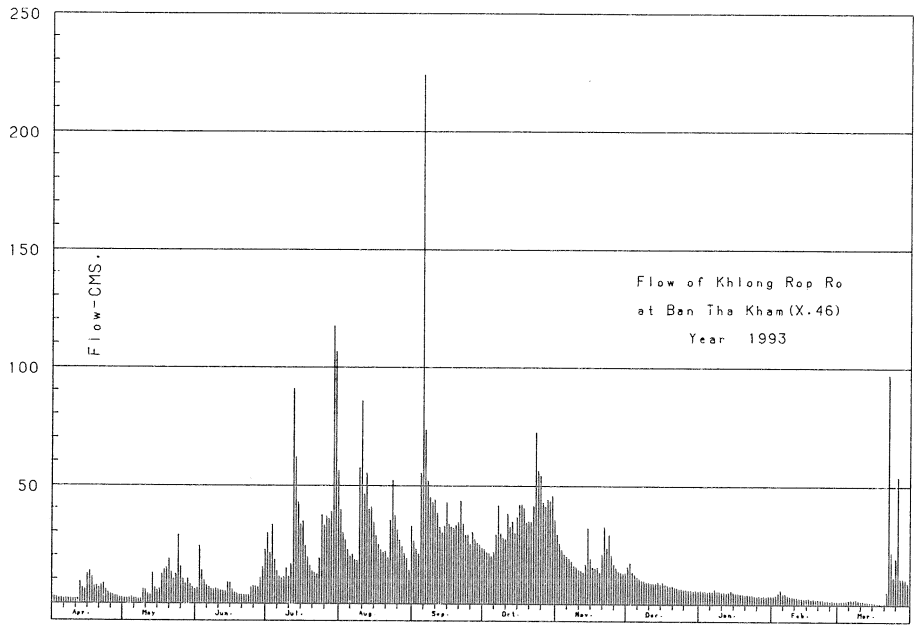
Overbank Flow Conditions — No overbank flow.

General Description — Records good. Stage-discharge relation defined by 33 discharge measurements made in 1993.

Gage Height in Meter (A.D), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.46	0.41	0.67	1.51	1.79	1.41	1.30	1.50	1.06	0.61	0.50	0.33	
2	0.43	0.40	1.34	1.25	1.51	1.30	1.26	1.38	1.12	0.60	0.50	0.33	
3	0.41	0.42	1.01	1.61	1.43	1.24	1.24	1.29	0.98	0.60	0.57	0.34	
4	0.41	0.44	0.81	1.16	1.29	2.18	1.21	1.24	0.93	0.59	0.63	0.34	
5	0.40	0.42	0.71	1.00	1.21	5.25	1.26	1.20	0.89	0.59	0.54	0.39	
6	0.40	0.40	0.68	0.89	1.23	2.61	1.49	1.17	0.85	0.60	0.54	0.39	
7	0.40	0.39	0.64	0.86	1.16	2.10	1.84	1.14	0.83	0.64	0.51	0.39	
8	0.39	0.38	0.62	0.88	1.14	1.93	1.51	1.08	0.81	0.61	0.48	0.40	
9	0.39	0.64	0.65	1.04	2.24	1.87	1.45	1.05	0.79	0.59	0.48	0.37	
10	0.38	0.61	0.62	0.89	2.86	1.90	1.44	1.02	0.78	0.58	0.47	0.35	
11	0.38	0.52	0.61	1.09	1.96	1.75	1.74	1.00	0.77	0.57	0.45	0.33	
12	0.79	0.51	0.59	2.96	2.18	1.58	1.59	0.98	0.76	0.57	0.44	0.32	
13	0.66	0.96	0.59	2.35	1.80	1.52	1.65	1.09	0.77	0.57	0.42	0.31	
14	0.63	0.67	0.77	1.87	1.82	1.60	1.51	1.58	0.79	0.62	0.42	0.30	
15	0.93	0.60	0.78	1.62	1.64	1.87	1.70	1.18	0.75	0.57	0.42	0.29	
16	1.00	0.63	0.62	1.65	1.48	1.62	1.85	1.05	0.78	0.56	0.43	0.28	
17	0.89	0.93	0.56	1.35	1.37	1.59	1.85	1.04	0.75	0.55	0.41	0.27	
18	0.69	1.02	0.53	1.19	1.29	1.57	1.81	1.05	0.72	0.54	0.41	0.26	
19	0.72	1.04	0.51	1.08	1.26	1.61	1.64	0.98	0.71	0.53	0.40	0.25	
20	0.66	1.17	0.50	0.99	1.27	1.64	1.65	1.23	0.71	0.52	0.40	0.26	
21	0.71	0.97	0.49	0.96	1.18	1.89	1.65	1.59	0.69	0.52	0.40	0.58	
22	0.76	0.85	0.50	0.94	1.67	1.63	1.84	1.32	0.67	0.52	0.39	3.08	
23	0.63	0.93	0.49	1.18	2.11	1.49	2.59	1.50	0.66	0.51	0.37	1.27	
24	0.55	1.49	0.68	1.73	1.72	1.49	2.21	1.22	0.65	0.50	0.36	0.90	
25	0.53	1.06	0.70	1.61	1.55	1.38	2.16	1.10	0.64	0.49	0.35	1.18	
26	0.50	0.84	0.69	1.71	1.42	1.52	1.87	1.04	0.63	0.49	0.35	2.15	
27	0.48	0.75	0.68	1.68	1.34	1.43	1.83	1.00	0.63	0.48	0.34	0.86	
28	0.46	0.84	0.88	1.77	1.24	1.39	1.90	0.97	0.62	0.48	0.33	0.86	
29	0.44	0.75	1.05	3.48	1.18	1.36	1.89	0.96	0.61	0.48		0.85	
30	0.42	0.67	1.29	3.27	1.01	1.32	1.94	0.96	0.61	0.48		0.77	
31		0.62		2.21	1.60		1.67		0.61	0.48		0.71	
Mean	0.56	0.72	0.71	1.54	1.55	1.77	1.69	1.16	0.76	0.55	0.44	0.64	
Max	1.00	1.49	1.34	3.48	2.86	5.25	2.59	1.59	1.12	0.64	0.63	3.08	5.25
Min	0.38	0.38	0.49	0.86	1.01	1.24	1.21	0.96	0.61	0.48	0.33	0.25	0.25

Annual Max Momentary Gage Height 5.72 M (A.D), at 12.00 Hours, on Sep 5, 1993
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed -0.61 M (A.D)
Left Bank Elevation 8.34 M (A.D)
Right Bank Elevation 7.54 M (A.D), Drainage Area 751 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	3.16	2.36	6.93	29.94	39.75	26.54	23.10	29.60	15.80	5.79	3.80	1.43	
2	2.68	2.20	24.34	21.55	29.94	23.10	21.86	25.58	17.60	5.60	3.80	1.43	
3	2.36	2.52	14.30	33.36	27.22	21.24	21.24	22.79	13.56	5.60	5.06	1.54	
4	2.36	2.84	9.82	18.80	22.79	55.20	20.31	21.24	12.46	5.42	6.17	1.54	
5	2.20	2.52	7.71	14.00	20.31	224.15	21.86	20.00	11.58	5.42	4.52	2.09	
6	2.20	2.20	7.12	11.58	20.93	73.69	29.26	19.10	10.70	5.60	4.52	2.09	
7	2.20	2.09	6.36	10.92	18.80	52.00	41.68	18.20	10.26	6.36	3.98	2.09	
8	2.09	1.98	5.98	11.36	18.20	45.23	29.94	16.40	9.82	5.79	3.48	2.20	
9	2.09	6.36	6.55	15.20	57.64	42.87	27.90	15.50	9.39	5.42	3.48	1.87	
10	1.98	5.79	5.98	11.58	86.00	44.05	27.56	14.60	9.18	5.24	3.32	1.65	
11	1.98	4.16	5.79	16.70	46.42	38.33	37.97	14.00	8.97	5.06	3.00	1.43	
12	9.39	3.98	5.42	91.00	55.20	32.32	32.66	13.56	8.76	5.06	2.84	1.32	
13	6.74	13.12	5.42	62.15	40.10	30.28	34.77	16.70	8.97	5.06	2.52	1.21	
14	6.17	6.93	8.97	42.87	40.89	33.00	29.94	32.32	9.39	5.98	2.52	1.10	
15	12.46	5.60	9.18	33.71	34.42	42.87	36.55	19.40	8.55	5.06	2.52	0.99	
16	14.00	6.17	5.98	34.77	28.92	33.71	42.08	15.50	9.18	4.88	2.68	0.88	
17	11.58	12.46	4.88	24.65	25.27	32.66	42.08	15.20	8.55	4.70	2.36	0.77	
18	7.31	14.60	4.34	19.70	22.79	31.98	40.50	15.50	7.92	4.52	2.36	0.66	
19	7.92	15.20	3.98	16.40	21.86	33.36	34.42	13.56	7.71	4.34	2.20	0.55	
20	6.74	19.10	3.80	13.78	22.17	34.42	34.77	20.93	7.71	4.16	2.20	0.66	
21	7.71	13.34	3.64	13.12	19.40	43.65	34.77	32.66	7.31	4.16	2.20	5.24	
22	8.76	10.70	3.80	12.68	35.48	34.06	41.68	23.72	6.93	4.16	2.09	97.00	
23	6.17	12.46	3.64	19.40	52.40	29.26	72.75	29.60	6.74	3.98	1.87	22.17	
24	4.70	29.26	7.12	37.62	37.26	29.26	56.41	20.62	6.55	3.80	1.76	11.80	
25	4.34	15.80	7.50	33.36	31.30	25.58	54.40	17.00	6.36	3.64	1.65	19.40	
26	3.80	10.48	7.31	36.91	26.88	30.28	42.87	15.20	6.17	3.64	1.65	54.00	
27	3.48	8.55	7.12	35.84	24.34	27.22	41.29	14.00	6.17	3.48	1.54	10.92	
28	3.16	10.48	11.36	39.04	21.24	25.89	44.05	13.34	5.98	3.48	1.43	10.92	
29	2.84	8.55	15.50	117.64	19.40	24.96	43.65	13.12	5.79	3.48		10.70	
30	2.52	6.93	22.79	106.64	14.30	23.72	45.63	13.12	5.79	3.48		8.97	
31		5.98		56.41	33.00		35.48		5.79	3.48		7.71	
Total	155.09	264.71	242.63	1042.68	994.62	1244.88	1143.43	572.06	275.64	145.84	81.52	286.33	6449.43 CMSDAY
Mean	5.17	8.54	8.09	33.63	32.08	41.50	36.88	19.07	8.89	4.70	2.91	9.24	17.67 CMS
Max	14.00	29.26	24.34	117.64	86.00	224.15	72.75	32.66	17.60	6.36	6.17	97.00	224.15 CMS
Min	1.98	1.98	3.64	10.92	14.30	21.24	20.31	13.12	5.79	3.48	1.43	0.55	0.55 CMS
Runoff	13.400	22.871	20.963	90.088	85.935	107.558	98.792	49.426	23.815	12.601	7.043	24.739	557.231 MCM

Momentary Peak 256.40 CMS, at 5.72 M (A.D), at 12.00 Hours, on Sep 5, 1993
Runoff Yield 23.53 Liters/Second/Square KM, Momentary Peak Yield 341.41 Liters/Second/Square KM

WATER YEAR 1993

SOUTHERN PENNINSULA EAST COAST

Khlong Tha Di at Ban Pak Prick, Nakhon Si Thammarat (X.55)

Location — Lat. 08°-23'-53" N., Long. 99°-50'-15" E., on left bank at the bridge on road, Ban Pak Prik, Amphoe Lan Saka, Nakhon Si Thammarat.

Drainage Area — 105 sq.km.

Type of Gage — Staff gage.

Zero Gage at Bottom — +0.00 m.(A.D.)

Bench Mark — B.M.-H.D.

Location — On left bank about 63.60 meters from the fourth staff gage.

Elevation — +6.833 m.(A.D.)

Gage Reading Frequency — 5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.

Basis of Mean Daily Gage Height — Arithmetic mean of 5 readings.

Period of Available Gage Records — 1967 to date.

Rating Operation

Period of Rating — 1967 - 1971, 1989 to date.

Rated by Float — -

Rated by Current Meter — 1967 - 1971, 1989 to date.

Stability of Channel Regimes — Stable.

Overbank Flow Conditions — Overbank flow starts at elevation + 4.21 m.(A.D.), records are channel flow only.

General Description — Records fair. Stage-discharge relation defined by 60 discharge measurements made in 1993.

Gage Height in Meter (A.D), Water Year April 1, 1993 to March 31, 1994

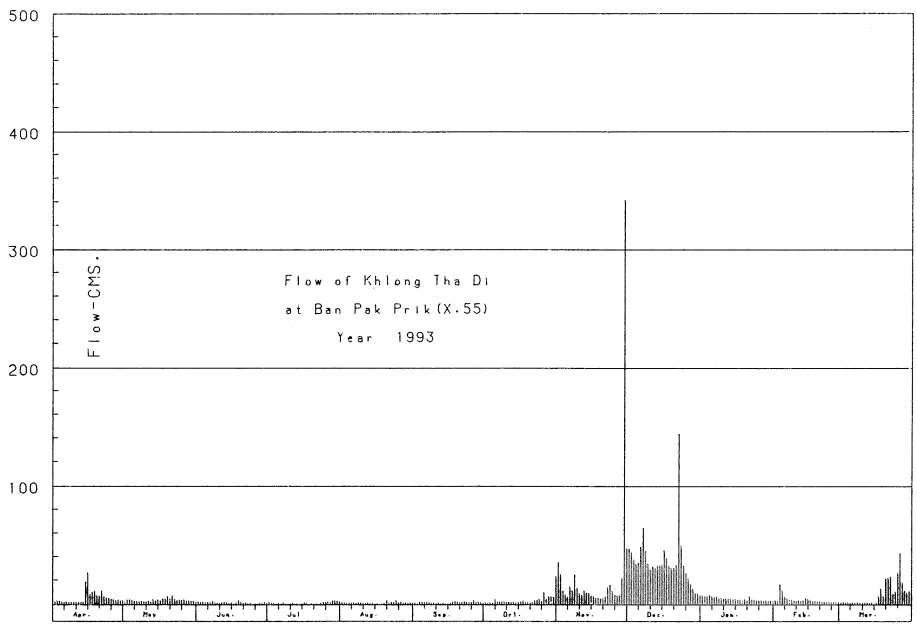
Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	1.06	1.14	1.02	0.97	0.95	0.86	0.91	3.21	3.69	1.57	1.14	0.96	
2	1.08	1.21	1.01	0.92	0.92	0.86	0.89	2.70	3.56	1.53	1.10	0.95	
3	1.11	1.26	1.00	0.87	0.90	0.97	0.89	1.89	3.32	1.50	2.24	0.95	
4	1.03	1.15	0.99	0.84	0.98	1.03	0.90	1.62	3.11	1.64	1.90	0.94	
5	1.02	1.12	0.96	0.89	1.00	0.97	1.23	1.48	3.19	1.50	1.48	0.94	
6	1.01	1.10	0.98	0.85	0.90	0.98	1.05	2.10	3.75	1.46	1.31	0.94	
7	1.00	1.09	1.09	0.88	0.92	0.90	1.01	1.88	4.14	1.42	1.24	0.93	
8	0.99	1.08	0.97	0.85	0.92	0.91	1.09	2.71	3.64	1.37	1.21	0.93	
9	0.97	1.08	0.94	0.83	0.93	0.88	1.03	2.03	3.13	1.35	1.18	0.93	
10	0.96	1.07	0.91	0.85	0.93	0.87	1.01	1.71	2.90	1.32	1.16	0.94	
11	1.00	1.10	0.90	0.86	0.89	0.86	0.98	1.64	3.02	1.32	1.14	0.91	
12	1.02	1.05	1.03	0.82	0.87	0.85	0.97	1.88	2.97	1.32	1.12	0.90	
13	0.98	1.23	0.92	0.80	0.86	0.86	0.96	1.79	3.04	1.30	1.12	0.90	
14	2.37	1.13	0.89	0.78	0.84	0.83	0.95	1.74	3.06	1.28	1.37	0.89	
15	2.77	1.20	0.88	0.78	0.81	0.82	0.94	1.58	3.07	1.26	1.24	0.89	
16	1.69	1.11	0.87	1.00	0.84	0.92	1.07	1.47	3.63	1.24	1.14	0.90	
17	1.80	1.33	0.85	0.83	0.79	0.98	1.13	1.40	3.37	1.22	1.10	1.47	
18	1.89	1.28	1.21	0.81	0.78	1.11	1.00	1.36	3.05	1.19	1.09	1.98	
19	1.56	1.53	0.93	0.82	0.77	1.02	0.95	1.32	2.94	1.24	1.07	1.55	
20	1.56	1.28	0.90	0.83	1.17	1.00	0.94	1.32	2.98	1.19	1.06	2.53	
21	1.90	1.59	0.90	0.82	0.92	0.95	0.97	1.49	3.09	1.47	1.04	2.53	
22	1.47	1.24	0.86	0.77	0.96	1.11	1.12	2.04	4.91	1.27	1.02	2.58	
23	1.40	1.18	0.86	0.85	0.99	0.97	1.22	2.20	3.78	1.22	1.00	1.74	
24	1.34	1.20	0.84	1.03	1.14	1.01	1.26	1.85	3.07	1.19	1.00	1.83	
25	1.29	1.22	0.82	1.03	0.97	0.98	1.11	1.64	2.76	1.17	0.99	2.77	
26	1.23	1.21	0.81	0.96	1.01	1.14	1.82	1.52	2.52	1.15	0.97	3.55	
27	1.21	1.15	0.87	0.94	0.93	0.99	1.29	1.60	2.24	1.14	0.97	2.31	
28	1.20	1.13	0.87	1.16	0.91	0.96	1.46	2.53	1.98	1.14	0.96	1.89	
29	1.17	1.12	1.00	1.12	0.94	0.92	1.52	5.71	1.77	1.13		1.75	
30	1.15	1.06	0.99	1.14	0.87	0.92	1.45	3.69	1.68	1.12		1.87	
31		1.03		1.02	0.89		2.61		1.61	1.10		1.68	
Mean	1.34	1.18	0.94	0.90	0.92	0.95	1.15	2.04	3.06	1.30	1.19	1.51	
Max	2.77	1.59	1.21	1.16	1.17	1.14	2.61	5.71	4.91	1.64	2.24	3.55	5.71
Min	0.96	1.03	0.81	0.77	0.77	0.82	0.89	1.32	1.61	1.10	0.96	0.89	0.77

Annual Max Momentary Gage Height — 6.30 M (A.D), at 9.00 Hours, on Nov 29, 1993

Zero Gage at Bottom Elevation — 0.00 M (A.D), River Bed — 0.40 M (A.D)

Left Bank Elevation — 4.70 M (A.D)

Right Bank Elevation — 4.20 M (A.D), Drainage Area — 105 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	2.74	3.46	2.38	2.02	1.90	1.36	1.66	36.02	47.34	7.70	3.46	1.96	
2	2.92	4.10	2.29	1.72	1.72	1.36	1.54	25.60	44.04	7.30	3.10	1.90	
3	3.19	4.60	2.20	1.42	1.60	2.02	1.54	11.84	38.44	7.00	17.44	1.90	
4	2.47	3.55	2.14	1.24	2.08	2.47	1.60	8.24	33.91	8.48	12.00	1.84	
5	2.38	3.28	1.96	1.54	2.20	2.02	4.30	6.80	35.59	7.00	6.80	1.84	
6	2.29	3.10	2.08	1.30	1.60	2.08	2.65	15.20	48.90	6.60	5.10	1.84	
7	2.20	3.01	3.01	1.48	1.72	1.60	2.29	11.68	64.70	6.20	4.40	1.78	
8	2.14	2.92	2.02	1.30	1.72	1.66	3.01	25.80	46.04	5.70	4.10	1.78	
9	2.02	2.92	1.84	1.18	1.78	1.48	2.47	14.08	34.33	5.50	3.82	1.78	
10	1.96	2.83	1.66	1.30	1.78	1.42	2.29	9.32	29.60	5.20	3.64	1.84	
11	2.20	3.10	1.60	1.36	1.54	1.36	2.08	8.48	32.02	5.20	3.46	1.66	
12	2.38	2.65	2.47	1.12	1.42	1.30	2.02	11.68	31.00	5.20	3.28	1.60	
13	2.08	4.30	1.72	1.00	1.36	1.36	1.96	10.28	32.44	5.00	3.28	1.60	
14	19.52	3.37	1.54	0.90	1.24	1.18	1.90	9.68	32.86	4.80	5.70	1.54	
15	27.00	4.00	1.48	0.90	1.06	1.12	1.84	7.80	33.07	4.60	4.40	1.54	
16	9.08	3.19	1.42	2.20	1.24	1.72	2.83	6.70	45.78	4.40	3.46	1.60	
17	10.40	5.30	1.30	1.18	0.95	2.08	3.37	6.00	39.54	4.20	3.10	6.70	
18	11.84	4.80	4.10	1.06	0.90	3.19	2.20	5.60	32.65	3.91	3.01	13.28	
19	7.60	7.30	1.78	1.12	0.85	2.38	1.90	5.20	30.40	4.40	2.83	7.50	
20	7.60	4.80	1.60	1.18	3.73	2.20	1.84	5.20	31.20	3.91	2.74	22.34	
21	12.00	7.90	1.60	1.12	1.72	1.90	2.02	6.90	33.49	6.70	2.56	22.34	
22	6.70	4.40	1.36	0.85	1.96	3.19	3.28	14.24	144.70	4.70	2.38	23.24	
23	6.00	3.82	1.36	1.30	2.14	2.02	4.20	16.80	49.68	4.20	2.20	9.68	
24	5.40	4.00	1.24	2.47	3.46	2.29	4.60	11.20	33.07	3.91	2.20	10.88	
25	4.90	4.20	1.12	2.47	2.02	2.08	3.19	8.48	26.80	3.73	2.14	27.00	
26	4.30	4.10	1.06	1.96	2.29	3.46	10.72	7.20	22.16	3.55	2.02	43.80	
27	4.10	3.55	1.42	1.84	1.78	2.14	4.90	8.00	17.44	3.46	2.02	18.56	
28	4.00	3.37	1.42	3.64	1.66	1.96	6.60	22.34	13.28	3.46	1.96	11.84	
29	3.73	3.28	2.20	3.28	1.84	1.72	7.20	341.85	10.04	3.37		9.80	
30	3.55	2.74	2.14	3.46	1.42	1.72	6.50	47.34	8.96	3.28		11.52	
31		2.47		2.38	1.54		23.80		8.12	3.10		8.96	
Total	178.69	120.41	55.51	51.29	54.22	57.84	122.30	725.55	1131.59	155.76	116.60	275.44	3045.20 CMSDAY
Mean	5.96	3.88	1.85	1.65	1.75	1.93	3.95	24.19	36.50	5.02	4.16	8.89	8.34 CMS
Max	27.00	7.90	4.10	3.64	3.73	3.46	23.80	341.85	144.70	8.48	17.44	43.80	341.85 CMS
Min	1.96	2.47	1.06	0.85	0.85	1.12	1.54	5.20	8.12	3.10	1.96	1.54	0.85 CMS
Runoff	15.439	10.403	4.796	4.431	4.685	4.997	10.567	62.688	97.769	13.458	10.074	23.798	263.105 MCM

Momentary Peak 580.60 CMS, at 6.30 M (A.D), at 9.00 Hours, on Nov 29, 1993

Runoff Yield 79.46 Liters/Second/Square KM, Momentary Peak Yield 5529.52 Liters/Second/Square KM

WATER YEAR 1993

SOUTHERN PENINSULA EAST COAST

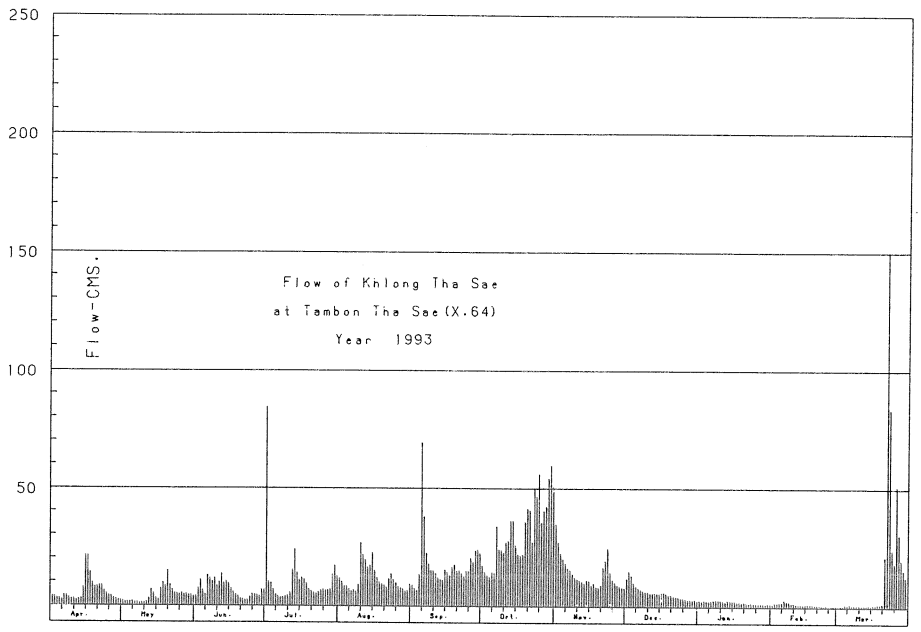
Khlong Tha Sae at Tha Sae, Chumphon (X.64)

Location	Lat. 10°-39'-49" N., Long. 99°-10'-17" E., on left bank near the Land Cooperation Office, Tambon Ban Tha Kham, Amphoe Tha Sae, Chumphon.
Drainage Area	957 sq.km.
Type of Gage	Water-stage recorder.
Zero Gage at Bottom	+0.00 m. (A.D.)
Bench Mark	B.M.-H.D.
Location	On left bank near the gage site.
Elevation	+11.196 m. (A.D.)
Gage Reading Frequency	Recording.
Basis of Mean Daily Gage Height	Arithmetic mean of 24 readings.
Period of Available Gage Records	1973 to date.
Rating Operation	
Period of Rating	1974-1975, 1982 to date.
Rated by Float	-
Rated by Current Meter	1974-1975, 1982 to date.
Stability of Channel Regimes	Stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Stage-discharge relation defined by 30 discharge measurements made in 1993.

Gage Height in Meter (A.D), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.35	0.24	0.34	3.24	0.68	0.56	0.89	1.57	0.68	0.27	0.20	0.14	
2	0.33	0.23	0.50	0.61	0.61	0.49	0.78	1.28	0.80	0.27	0.22	0.14	
3	0.31	0.22	0.64	0.60	0.55	0.46	0.73	1.09	0.74	0.27	0.23	0.15	
4	0.29	0.23	0.45	0.47	0.53	0.74	0.69	1.01	0.60	0.27	0.23	0.18	
5	0.28	0.23	0.38	0.38	0.49	2.75	0.79	0.93	0.54	0.26	0.24	0.18	
6	0.35	0.22	0.73	0.34	0.44	1.69	0.76	0.86	0.50	0.26	0.28	0.19	
7	0.36	0.21	0.67	0.32	0.47	1.10	1.54	0.82	0.48	0.28	0.26	0.17	
8	0.31	0.20	0.62	0.32	0.43	0.92	1.16	0.76	0.45	0.28	0.24	0.16	
9	0.29	0.20	0.67	0.34	0.57	0.82	1.14	0.69	0.44	0.29	0.22	0.17	
10	0.28	0.21	0.54	0.35	1.27	0.81	1.11	0.67	0.43	0.27	0.21	0.16	
11	0.26	0.22	0.60	0.41	1.07	0.77	1.27	0.64	0.42	0.26	0.20	0.16	
12	0.27	0.30	0.76	0.82	0.99	0.68	1.30	0.63	0.41	0.25	0.19	0.16	
13	0.30	0.47	0.58	1.16	0.86	0.66	1.62	0.59	0.41	0.27	0.19	0.16	
14	0.50	0.39	0.62	0.78	0.90	0.64	1.62	0.65	0.41	0.27	0.19	0.16	
15	1.05	0.30	0.58	0.65	1.10	0.83	1.22	0.63	0.40	0.26	0.19	0.16	
16	1.06	0.28	0.49	0.68	0.81	0.78	1.08	0.56	0.42	0.25	0.19	0.17	
17	0.78	0.49	0.42	0.66	0.69	0.73	1.05	0.59	0.43	0.24	0.19	0.18	
18	0.59	0.59	0.38	0.58	0.60	0.86	1.07	0.53	0.40	0.23	0.18	0.19	
19	0.52	0.53	0.34	0.48	0.58	0.91	1.61	0.51	0.38	0.23	0.18	0.20	
20	0.52	0.81	0.30	0.44	0.55	0.80	1.81	0.56	0.37	0.23	0.17	0.21	
21	0.55	0.56	0.28	0.41	0.51	0.82	1.78	0.86	0.36	0.22	0.17	1.05	
22	0.54	0.46	0.27	0.40	0.67	0.76	1.28	0.97	0.35	0.22	0.16	5.24	
23	0.45	0.41	0.26	0.42	0.76	0.71	2.11	1.17	0.33	0.22	0.15	3.22	
24	0.39	0.39	0.33	0.46	0.65	0.80	1.98	0.79	0.32	0.21	0.15	1.15	
25	0.36	0.38	0.38	0.47	0.60	0.81	2.31	0.66	0.31	0.21	0.15	0.94	
26	0.34	0.40	0.38	0.46	0.52	1.01	1.60	0.60	0.30	0.21	0.14	2.13	
27	0.31	0.38	0.36	0.47	0.51	0.95	1.77	0.56	0.29	0.21	0.14	1.41	
28	0.28	0.38	0.35	0.47	0.48	1.14	1.84	0.53	0.28	0.20	0.14	0.99	
29	0.27	0.37	0.46	0.75	0.45	1.15	2.24	0.52	0.28	0.20		0.83	
30	0.25	0.36	0.47	0.89	0.45	1.09	2.43	0.50	0.28	0.20		0.70	
31		0.34		0.71	0.57		2.12		0.27	0.20		0.60	
Mean	0.42	0.35	0.47	0.63	0.66	0.91	1.44	0.76	0.42	0.24	0.19	0.70	
Max	1.06	0.81	0.76	3.24	1.27	2.75	2.43	1.57	0.80	0.29	0.28	5.24	5.24
Min	0.25	0.20	0.26	0.32	0.43	0.46	0.69	0.50	0.27	0.20	0.14	0.14	0.14

Annual Max Momentary Gage Height 5.54 M (A.D), at 18.00 Hours, on Mar 22, 1993
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed -0.49 M (A.D)
Left Bank Elevation 9.00 M (A.D)
Right Bank Elevation 9.35 M (A.D), Drainage Area 957 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	4.30	2.00	4.08	84.34	11.92	9.08	17.14	34.82	11.92	2.60	1.20	0.48	
2	3.86	1.80	7.70	10.24	10.24	7.47	14.32	27.28	14.80	2.60	1.60	0.48	
3	3.42	1.60	10.96	10.00	8.85	6.78	13.12	22.34	13.36	2.60	1.80	0.60	
4	3.00	1.80	6.55	7.01	8.39	13.36	12.16	20.26	10.00	2.60	1.80	0.96	
5	2.80	1.80	4.96	4.96	7.47	69.50	14.56	18.18	8.62	2.40	2.00	0.96	
6	4.30	1.60	13.12	4.08	6.32	38.12	13.84	16.36	7.70	2.40	2.80	1.08	
7	4.52	1.40	11.68	3.64	7.01	22.60	34.04	15.32	7.24	2.80	2.40	0.84	
8	3.42	1.20	10.48	3.64	6.09	17.92	24.16	13.84	6.55	2.80	2.00	0.72	
9	3.00	1.20	11.68	4.08	9.31	15.32	23.64	12.16	6.32	3.00	1.60	0.84	
10	2.80	1.40	8.62	4.30	27.02	15.06	22.86	11.68	6.09	2.60	1.40	0.72	
11	2.40	1.60	10.00	5.63	21.82	14.08	27.02	10.96	5.86	2.40	1.20	0.72	
12	2.60	3.20	13.84	15.32	19.74	11.92	27.80	10.72	5.63	2.20	1.08	0.72	
13	3.20	7.01	9.54	24.16	16.36	11.44	36.16	9.77	5.63	2.60	1.08	0.72	
14	7.70	5.18	10.48	14.32	17.40	10.96	36.16	11.20	5.63	2.60	1.08	0.72	
15	21.30	3.20	9.54	11.20	22.60	15.58	25.72	10.72	5.40	2.40	1.08	0.72	
16	21.56	2.80	7.47	11.92	15.06	14.32	22.08	9.08	5.86	2.20	1.08	0.84	
17	14.32	7.47	5.86	11.44	12.16	13.12	21.30	9.77	6.09	2.00	1.08	0.96	
18	9.77	9.77	4.96	9.54	10.00	16.36	21.82	8.39	5.40	1.80	0.96	1.08	
19	8.16	8.39	4.08	7.24	9.54	17.66	35.88	7.93	4.96	1.80	0.96	1.20	
20	8.16	15.06	3.20	6.32	8.85	14.80	41.49	9.08	4.74	1.80	0.84	1.40	
21	8.85	9.08	2.80	5.63	7.93	15.32	40.64	16.36	4.52	1.60	0.84	21.30	
22	8.62	6.78	2.60	5.40	11.68	13.84	27.28	19.22	4.30	1.60	0.72	150.40	
23	6.55	5.63	2.40	5.86	13.84	12.64	50.30	24.42	3.86	1.60	0.60	83.72	
24	5.18	5.18	3.86	6.78	11.20	14.80	46.42	14.56	3.64	1.40	0.60	23.90	
25	4.52	4.96	4.96	7.01	10.00	15.06	56.30	11.44	3.42	1.40	0.60	18.44	
26	4.08	5.40	4.96	6.78	8.16	20.26	35.60	10.00	3.20	1.40	0.48	50.90	
27	3.42	4.96	4.52	7.01	7.93	18.70	40.36	9.08	3.00	1.40	0.48	30.66	
28	2.80	4.96	4.30	7.01	7.24	23.64	42.36	8.39	2.80	1.20	0.48	19.74	
29	2.60	4.74	6.78	13.60	6.55	23.90	54.20	8.16	2.80	1.20		15.58	
30	2.20	4.52	7.01	17.14	6.55	22.34	59.90	7.70	2.80	1.20		12.40	
31		4.08		12.64	9.31		50.60		2.60	1.20		10.00	
Total	183.41	139.77	212.99	348.24	356.54	535.95	989.23	419.19	184.74	63.40	33.84	453.80	3921.10 CMSDAY
Mean	6.11	4.51	7.10	11.23	11.50	17.87	31.91	13.97	5.96	2.05	1.21	14.64	10.74 CMS
Max	21.56	15.06	13.84	84.34	27.02	69.50	59.90	34.82	14.80	3.00	2.80	150.40	150.40 CMS
Min	2.20	1.20	2.40	3.64	6.09	6.78	12.16	7.70	2.60	1.20	0.48	0.48	0.48 CMS
Runoff	15.847	12.076	18.402	30.088	30.805	46.306	85.469	36.218	15.962	5.478	2.924	39.208	338.783 MCM

Momentary Peak 160.90 CMS, at 5.54 M (A.D), at 18.00 Hours, on Mar 22, 1993
Runoff Yield 11.23 Liters/Second/Square KM, Momentary Peak Yield 168.13 Liters/Second/Square KM

WATER YEAR 1993

SOUTHERN PENINSULA EAST COAST

Khlong Rattaphum at Ban Kamphaeng Phet, Songkhla (X.67)

Location — Lat. 7°-08'-35" N., Long. 100°-17'-20" E., on right bank about 3 meters upstream from the bridge of Phatthalung-Songkhla Highway, Amphoe Rattaphum, Songkhla.

Drainage Area — 272 sq.km.

Type of Gage — Staff gage.

Zero Gage at Bottom — +16.00 m.(M.S.L.)

Bench Mark — B.M.-H.D.

Location — On left bank under the santol tree.

Elevation — +20.413 m.(M.S.L.)

Gage Reading Frequency — 5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.

Basis of Mean Daily Gage Height — Arithmetic mean of 5 readings.

Period of Available Gage Records — 1967 to date.

Rating Operation

Period of Rating — 1967-1970, 1972, 1983 to date.

Rated by Float — -

Rated by Current Meter — 1967-1970, 1972, 1983 to date.

Stability of Channel Regimes — Unstable.

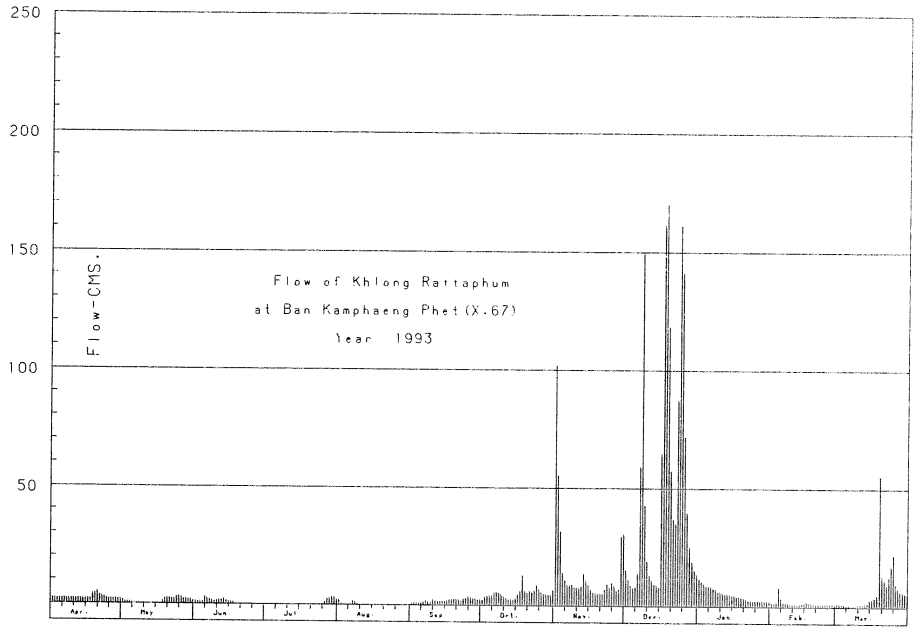
Overbank Flow Conditions — No overbank flow.

General Description — Records fair. Flow regulated by Rattaphum Weir for irrigation about 10,688 hectares. Stage-discharge relation defined by 34 discharge measurements made in 1993.

Gage Height in Meter (MSL), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	17.97	17.84	17.80	17.64	17.93	17.61	17.96	20.46	18.83	18.69	17.86	17.77	
2	17.95	17.71	17.77	17.50	17.72	17.75	18.06	19.84	18.67	18.64	17.89	17.77	
3	17.94	17.68	17.73	17.43	17.50	17.69	18.11	19.36	18.54	18.59	17.97	17.74	
4	17.93	17.64	17.76	17.21	17.22	17.68	18.12	18.78	18.45	18.54	18.50	17.68	
5	17.95	17.62	18.04	17.39	17.13	17.70	18.15	18.66	18.48	18.52	18.09	17.60	
6	17.95	17.57	17.96	17.31	17.27	17.82	18.26	18.54	18.78	18.50	17.89	17.59	
7	17.95	17.55	17.92	17.16	17.87	17.92	18.28	18.54	19.90	18.45	17.88	17.59	
8	17.95	17.54	17.85	17.22	17.75	17.80	18.26	18.54	20.93	18.42	17.87	17.60	
9	17.95	17.53	17.78	17.14	17.58	17.75	18.18	18.48	19.61	18.34	17.80	17.60	
10	17.94	17.52	17.88	17.13	17.35	17.95	18.09	18.46	18.99	18.33	17.77	17.66	
11	17.94	17.51	17.87	17.11	17.13	17.89	18.03	18.44	18.76	18.27	17.75	17.76	
12	17.94	17.51	17.91	17.12	17.07	17.88	17.97	18.50	18.65	18.25	17.74	17.72	
13	17.94	17.50	17.94	17.13	17.05	17.88	17.97	18.78	18.57	18.25	17.73	17.78	
14	17.94	17.50	17.87	17.14	17.05	17.89	17.97	18.65	18.54	18.24	17.80	17.84	
15	17.93	17.50	17.75	17.15	17.04	17.89	18.01	18.55	18.49	18.20	17.86	17.99	
16	17.93	17.50	17.71	17.14	17.03	17.91	18.18	18.40	19.99	18.18	17.90	18.08	
17	17.95	17.58	17.67	17.13	17.03	17.95	18.32	18.30	21.02	18.14	17.87	18.12	
18	18.14	17.79	17.55	17.10	17.03	17.96	18.74	18.25	21.09	18.12	17.81	18.20	
19	18.18	17.95	17.50	17.10	17.02	17.98	18.34	18.24	20.64	18.09	17.77	19.84	
20	18.24	17.97	17.48	17.13	17.02	17.97	18.25	18.23	19.87	18.08	17.75	18.75	
21	18.08	17.98	17.45	17.18	17.01	17.94	18.34	18.26	19.48	18.05	17.75	18.67	
22	18.05	17.96	17.43	17.40	17.01	17.91	18.29	18.40	19.44	17.97	17.75	18.57	
23	18.04	17.93	17.43	17.45	17.01	17.98	18.36	18.57	20.29	17.96	17.75	18.74	
24	17.95	18.03	17.41	17.43	17.01	18.01	18.53	18.46	21.02	17.96	17.76	18.91	
25	17.94	18.05	17.39	17.44	17.01	18.08	18.40	18.61	20.86	17.95	17.76	19.09	
26	17.93	18.02	17.35	17.80	17.03	18.06	18.27	18.51	20.09	17.98	17.77	18.60	
27	17.93	17.95	17.27	17.97	17.08	18.02	18.23	18.37	19.54	17.96	17.77	18.45	
28	17.93	17.94	17.10	17.99	17.10	17.98	18.19	18.41	19.18	17.95	17.77	18.36	
29	17.92	17.93	17.10	18.06	17.17	17.96	18.17	19.31	18.97	17.95		18.35	
30	17.90	17.92	17.09	18.03	17.40	17.95	18.16	19.33	18.84	17.95		18.29	
31		17.84		17.94	17.49		18.37		18.77	17.95		18.24	
Mean	17.98	17.74	17.63	17.39	17.23	17.89	18.21	18.67	19.46	18.21	17.84	18.16	
Max	18.24	18.05	18.04	18.06	17.93	18.08	18.74	20.46	21.09	18.69	18.50	19.84	21.09
Min	17.90	17.50	17.09	17.10	17.01	17.61	17.96	18.23	18.45	17.95	17.73	17.59	17.01

Annual Max Momentary Gage Height — 21.10 M (MSL), at 18.00 Hours, on Dec 18, 1993
Zero Gage at Bottom Elevation — 16.00 M (MSL), River Bed — 16.51 M (MSL)
Left Bank Elevation — 21.51 M (MSL)
Right Bank Elevation — 21.53 M (MSL), Drainage Area — 272 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	2.60	1.60	1.40	0.84	2.20	0.73	2.50	102.04	15.05	11.60	1.70	1.29	
2	2.40	1.08	1.29	0.42	1.11	1.22	3.50	55.40	11.20	10.60	1.85	1.29	
3	2.30	0.97	1.15	0.35	0.42	1.01	4.00	31.64	8.90	9.65	2.60	1.18	
4	2.20	0.84	1.26	0.13	0.14	0.97	4.10	13.80	7.60	8.90	8.30	0.97	
5	2.40	0.77	3.30	0.31	0.08	1.04	4.40	11.00	8.02	8.60	3.80	0.70	
6	2.40	0.62	2.50	0.23	0.19	1.50	5.50	8.90	13.80	8.30	1.85	0.67	
7	2.40	0.56	2.10	0.10	1.75	2.10	5.70	8.90	59.00	7.60	1.80	0.67	
8	2.40	0.53	1.65	0.14	1.22	1.40	5.50	8.90	149.98	7.18	1.75	0.70	
9	2.40	0.50	1.33	0.08	0.64	1.22	4.70	8.02	42.83	6.30	1.40	0.70	
10	2.30	0.48	1.80	0.08	0.27	2.40	3.80	7.74	19.14	6.20	1.29	0.90	
11	2.30	0.45	1.75	0.07	0.08	1.85	3.20	7.46	13.30	5.60	1.22	1.26	
12	2.30	0.45	2.00	0.07	0.04	1.80	2.60	8.30	10.80	5.40	1.18	1.11	
13	2.30	0.42	2.30	0.08	0.03	1.80	2.60	13.80	9.35	5.40	1.15	1.33	
14	2.30	0.42	1.75	0.08	0.03	1.85	2.60	10.80	8.90	5.30	1.40	1.60	
15	2.20	0.42	1.22	0.09	0.02	1.85	3.00	9.05	8.16	4.90	1.70	2.80	
16	2.20	0.42	1.08	0.08	0.02	2.00	4.70	6.90	64.76	4.70	1.90	3.70	
17	2.40	0.64	0.94	0.08	0.02	2.40	6.10	5.90	161.32	4.30	1.75	4.10	
18	4.30	1.36	0.56	0.06	0.02	2.50	12.80	5.40	170.14	4.10	1.45	4.90	
19	4.70	2.40	0.42	0.06	0.01	2.70	6.30	5.30	118.52	3.80	1.29	55.40	
20	5.30	2.60	0.40	0.08	0.01	2.60	5.40	5.20	57.20	3.70	1.22	13.05	
21	3.70	2.70	0.37	0.11	0.01	2.30	6.30	5.50	36.80	3.40	1.22	11.20	
22	3.40	2.50	0.35	0.32	0.01	2.00	5.80	6.90	35.00	2.60	1.22	9.35	
23	3.30	2.20	0.35	0.37	0.01	2.70	6.50	9.35	87.20	2.50	1.22	12.80	
24	2.40	3.20	0.33	0.35	0.01	3.00	8.75	7.74	161.32	2.50	1.26	17.06	
25	2.30	3.40	0.31	0.36	0.01	3.70	6.90	10.00	141.56	2.40	1.26	22.10	
26	2.20	3.10	0.27	1.40	0.02	3.50	5.60	8.45	71.88	2.70	1.29	9.80	
27	2.20	2.40	0.19	2.60	0.05	3.10	5.20	6.60	39.54	2.50	1.29	7.60	
28	2.20	2.30	0.06	2.80	0.06	2.70	4.80	7.04	25.04	2.40	1.29	6.50	
29	2.10	2.20	0.06	3.50	0.10	2.50	4.60	29.69	18.62	2.40		6.40	
30	1.90	2.10	0.05	3.20	0.32	2.40	4.50	30.47	15.30	2.40		5.80	
31		1.60		2.30	0.41		6.60		13.55	2.40		5.30	
Total	79.80	45.23	32.54	20.74	9.31	62.84	158.55	456.19	1603.78	160.33	50.65	212.23	2892.19 CMSDAY
Mean	2.66	1.46	1.08	0.67	0.30	2.09	5.11	15.21	51.73	5.17	1.81	6.85	7.92 CMS
Max	5.30	3.40	3.30	3.50	2.20	3.70	12.80	102.04	170.14	11.60	8.30	55.40	170.14 CMS
Min	1.90	0.42	0.05	0.06	0.01	0.73	2.50	5.20	7.60	2.40	1.15	0.67	0.01 CMS
Runoff	6.895	3.908	2.811	1.792	0.804	5.429	13.699	39.415	138.567	13.853	4.376	18.337	249.885 MCM

Momentary Peak 171.40 CMS, at 21.10 M (MSL), at 18.00 Hours, on Dec 18, 1993
Runoff Yield 29.13 Liters/Second/Square KM, Momentary Peak Yield 630.15 Liters/Second/Square KM

WATER YEAR 1993

SOUTHERN PENINSULA EAST COAST

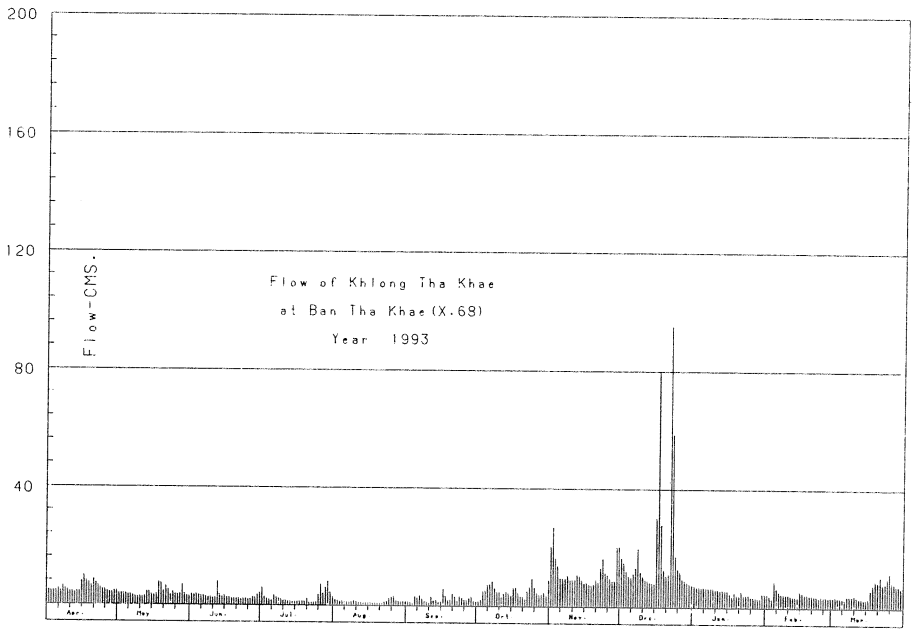
Khlong Tha Khae at Ban Tha Khae, Phatthalung (X.68)

Location	Lat. 7°-34'-01" N., Long. 100°-03'-05" E., on left bank downstream side of the bridge of Phatthalung-Hat Yai Highway, Tambon Tha Khae, Amphoe Muang, Phatthalung.
Drainage Area	Flood plain.
Type of Gage	Staff gage.
Zero Gage at Bottom	+11.80 m.(M.S.L.)
Bench Mark	B.M.-H.D.
Location	On right bank near the gage observer's house.
Elevation	+14.916 m.(M.S.L.)
Gage Reading Frequency	5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1967 to date.
Rating Operation	
Period of Rating	1967-1972, 1983 to date.
Rated by Float	-
Rated by Current Meter	1967-1972, 1983 to date.
Stability of Channel Regimes	Rather unstable.
Overbank Flow Conditions	Overbank flow starts at elevation +15.48 m.(M.S.L.),records are channel flow only.
General Description	Records good. Stage-discharge relation defined by 43 discharge measurements made in 1993.

Gage Height in Meter (MSL), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	13.06	12.94	12.91	13.15	12.73	12.64	12.65	14.42	14.12	13.27	13.01	12.90	
2	13.01	12.96	12.91	12.84	12.68	12.60	12.74	14.88	13.97	13.24	12.93	12.90	
3	13.03	12.94	12.92	12.74	12.65	12.55	13.04	14.11	13.73	13.23	12.84	12.88	
4	13.02	12.94	12.91	12.70	12.65	12.87	13.09	13.87	13.57	13.23	13.43	12.86	
5	13.11	12.90	12.86	12.69	12.62	12.79	13.26	13.50	13.53	13.22	13.20	12.85	
6	13.01	12.89	12.87	12.90	12.61	12.91	13.29	13.49	13.66	13.22	13.08	12.81	
7	13.18	12.87	12.82	12.80	12.61	12.75	13.40	13.50	13.83	13.19	13.02	12.94	
8	13.10	12.82	12.81	12.78	12.61	12.67	13.17	13.58	14.40	13.21	12.99	12.93	
9	13.04	12.82	12.80	12.72	12.68	12.62	13.03	13.45	13.71	13.19	12.99	12.94	
10	13.00	12.82	12.78	12.68	12.63	12.58	13.05	13.44	13.56	13.16	12.99	12.98	
11	12.99	12.81	12.79	12.67	12.60	12.83	12.86	13.47	13.47	13.15	12.95	12.89	
12	12.97	12.85	13.37	12.65	12.58	12.69	12.98	13.60	13.44	13.13	12.93	12.86	
13	13.00	13.02	12.90	12.63	12.57	12.71	13.05	13.58	13.40	13.13	12.90	12.84	
14	13.02	13.00	12.84	12.61	12.57	12.62	12.98	13.44	13.36	13.12	12.89	12.82	
15	13.34	12.89	12.87	12.60	12.56	12.63	12.91	13.36	13.35	13.11	13.09	12.81	
16	13.52	12.88	12.81	12.63	12.56	13.14	13.17	13.36	15.02	13.02	13.05	12.84	
17	13.36	12.91	12.79	12.62	12.56	12.87	13.20	13.31	16.04	12.91	13.00	13.15	
18	13.31	13.34	12.77	12.66	12.55	12.72	13.00	13.27	14.93	13.06	12.99	13.32	
19	13.19	13.29	12.75	12.62	12.55	12.72	12.89	13.31	13.77	12.95	12.97	13.46	
20	13.41	13.04	12.76	12.77	12.54	12.97	12.85	13.45	13.58	12.94	12.95	13.43	
21	13.30	13.21	12.75	12.56	12.55	12.85	12.79	13.38	13.64	13.08	12.94	13.59	
22	13.20	13.07	12.73	12.58	12.60	12.70	13.06	13.81	16.26	12.96	12.92	13.34	
23	13.14	12.90	12.73	12.57	12.64	12.86	13.20	14.10	15.68	12.96	12.91	13.38	
24	13.07	12.99	12.76	12.61	12.76	12.82	13.49	13.67	14.18	12.98	12.91	13.53	
25	13.07	12.93	12.73	12.92	12.84	12.74	13.20	13.62	13.81	12.91	12.91	13.70	
26	13.03	12.90	12.72	13.27	12.86	12.71	13.02	13.49	13.70	12.88	12.90	13.40	
27	13.00	12.94	12.83	12.95	12.70	12.81	12.93	13.43	13.50	12.88	12.88	13.37	
28	12.97	13.24	12.78	13.18	12.64	12.85	12.96	13.42	13.44	12.85	12.88	13.27	
29	13.04	12.93	12.92	13.38	12.64	12.68	13.01	14.41	13.39	12.85		13.29	
30	13.03	12.87	12.97	13.00	12.62	12.64	12.91	14.44	13.34	13.01		13.21	
31		12.83		12.83	12.65		13.43		13.30	13.00		13.15	
Mean	13.12	12.96	12.84	12.78	12.63	12.75	13.05	13.67	13.96	13.07	12.98	13.12	
Max	13.52	13.34	13.37	13.38	12.86	13.14	13.49	14.88	16.26	13.27	13.43	13.70	16.26
Min	12.97	12.81	12.72	12.56	12.54	12.55	12.65	13.27	13.30	12.85	12.84	12.81	12.54

Annual Max Momentary Gage Height 16.35 M (MSL), at 15.00 Hours, on Dec 22, 1993
Zero Gage at Bottom Elevation 11.80 M (MSL), River Bed 10.84 M (MSL)
Left Bank Elevation 15.47 M (MSL)
Right Bank Elevation 16.63 M (MSL), Drainage Area Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	5.10	3.96	3.69	6.00	2.14	1.48	1.55	20.26	16.64	7.20	4.60	3.60	
2	4.60	4.14	3.69	3.06	1.76	1.20	2.22	27.04	14.84	6.90	3.87	3.60	
3	4.80	3.96	3.78	2.22	1.55	0.90	4.90	16.52	12.13	6.80	3.06	3.42	
4	4.70	3.96	3.69	1.90	1.55	3.33	5.40	13.67	10.37	6.80	8.83	3.24	
5	5.60	3.60	3.24	1.83	1.34	2.62	7.10	9.60	9.93	6.70	6.50	3.15	
6	4.60	3.51	3.33	3.60	1.27	3.69	7.40	9.49	11.36	6.70	5.30	2.79	
7	6.30	3.33	2.88	2.70	1.27	2.30	8.50	9.60	13.23	6.40	4.70	3.96	
8	5.50	2.88	2.79	2.54	1.27	1.69	6.20	10.48	20.00	6.60	4.41	3.87	
9	4.90	2.88	2.70	2.06	1.76	1.34	4.80	9.05	11.91	6.40	4.41	3.96	
10	4.50	2.88	2.54	1.76	1.41	1.08	5.00	8.94	10.26	6.10	4.41	4.32	
11	4.41	2.79	2.62	1.69	1.20	2.97	3.24	9.27	9.27	6.00	4.05	3.51	
12	4.23	3.15	8.20	1.55	1.08	1.83	4.32	10.70	8.94	5.80	3.87	3.24	
13	4.50	4.70	3.60	1.41	1.02	1.98	5.00	10.48	8.50	5.80	3.60	3.06	
14	4.70	4.50	3.06	1.27	1.02	1.34	4.32	8.94	8.10	5.70	3.51	2.88	
15	7.90	3.51	3.33	1.20	0.96	1.41	3.69	8.10	8.00	5.60	5.40	2.79	
16	9.82	3.42	2.79	1.41	0.96	5.90	6.20	8.10	30.18	4.70	5.00	3.06	
17	8.10	3.69	2.62	1.34	0.96	3.33	6.50	7.60	79.76	3.69	4.50	6.00	
18	7.60	7.90	2.46	1.62	0.90	2.06	4.50	7.20	28.06	5.10	4.41	7.70	
19	6.40	7.40	2.30	1.34	0.90	2.06	3.51	7.60	12.57	4.05	4.23	9.16	
20	8.61	4.90	2.38	2.46	0.84	4.23	3.15	9.05	10.48	3.96	4.05	8.83	
21	7.50	6.60	2.30	0.96	0.90	3.15	2.62	8.30	11.14	5.30	3.96	10.59	
22	6.50	5.20	2.14	1.08	1.20	1.90	5.10	13.01	95.24	4.14	3.78	7.90	
23	5.90	3.60	2.14	1.02	1.48	3.24	6.50	16.40	58.64	4.14	3.69	8.30	
24	5.20	4.41	2.38	1.27	2.38	2.88	9.49	11.47	17.36	4.32	3.69	9.93	
25	5.20	3.87	2.14	3.78	3.06	2.22	6.50	10.92	13.01	3.69	3.69	11.80	
26	4.80	3.60	2.06	7.20	3.24	1.98	4.70	9.49	11.80	3.42	3.60	8.50	
27	4.50	3.96	2.97	4.05	1.90	2.79	3.87	8.83	9.60	3.42	3.42	8.20	
28	4.23	6.90	2.54	6.30	1.48	3.15	4.14	8.72	8.94	3.15	3.42	7.20	
29	4.90	3.87	3.78	8.30	1.48	1.76	4.60	20.13	8.40	3.15		7.40	
30	4.80	3.33	4.23	4.50	1.34	1.48	3.69	20.52	7.90	4.60		6.60	
31		2.97		2.97	1.55		8.83		7.50	4.50		6.00	
Total	170.40	129.37	92.37	84.39	45.17	71.29	157.54	349.48	584.06	160.83	121.96	178.56	2145.42 CMSDAY
Mean	5.68	4.17	3.08	2.72	1.46	2.38	5.08	11.65	18.84	5.19	4.36	5.76	5.88 CMS
Max	9.82	7.90	8.20	8.30	3.24	5.90	9.49	27.04	95.24	7.20	8.83	11.80	95.24 CMS
Min	4.23	2.79	2.06	0.96	0.84	0.90	1.55	7.20	7.50	3.15	3.06	2.79	0.84 CMS
Runoff	14.723	11.178	7.981	7.291	3.903	6.159	13.611	30.195	50.463	13.896	10.537	15.428	185.364 MCM

Momentary Peak 102.30 CMS, at 16.35 M (MSL), at 15.00 Hours, on Dec 22, 1993

Runoff Yield ********* Liters/Second/Square KM, Momentary Peak Yield ********* Liters/Second/Square KM

WATER YEAR 1993

SOUTHERN PENNINSULA EAST COAST

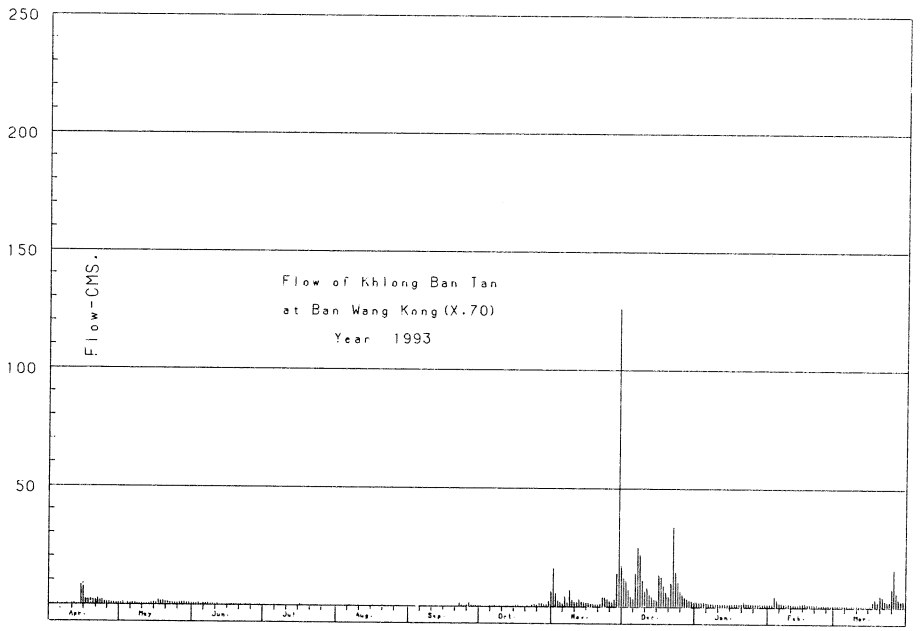
Khlong Ban Tan at Ban Wang Kong, Nakhon Si Thammarat (X.70)

Location	Lat.08°-25'-35" N., Long. 99°-51'-53" E.,On left bank upstream side of the bridge, Ban Wang Kong, Amphoe Muang, Nakhon Si Thammarat.
Drainage Area	39 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+0.00 m.(A.D.)
Bench Mark	B.M.-H.D.
Location	On left bank about 10 meters from the top staff gage.
Elevation	+7.274 m.(A.D.)
Gage Reading Frequency	5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1967 to date.
Rating Operation	
Period of Rating	1967 - 1971, 1980, 1989 to date.
Rated by Float	-
Rated by Current Meter	1967 - 1971, 1980, 1989 to date.
Stability of Channel Regimes	Rather unstable.
Overbank Flow Conditions	Overbank flow starts at elevation + 5.40 m.(A.D.), records are channel flow only.
General Description	Records good. Stage-discharge relation defined by 66 discharge measurements made in 1993.

Gage Height in Meter (A.D), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.45	0.55	0.55	0.42	0.37	0.32	0.42	2.98	2.52	0.95	0.71	0.57	
2	0.45	0.68	0.55	0.40	0.38	0.35	0.40	1.68	2.37	0.89	0.69	0.58	
3	0.48	0.70	0.62	0.40	0.38	0.35	0.39	1.13	1.90	0.86	1.45	0.57	
4	0.45	0.60	0.60	0.40	0.39	0.35	0.38	0.90	1.39	0.96	1.18	0.54	
5	0.45	0.57	0.60	0.43	0.39	0.35	0.45	0.79	1.27	0.87	0.84	0.53	
6	0.43	0.55	0.56	0.40	0.37	0.34	0.46	1.40	2.74	0.80	0.79	0.53	
7	0.43	0.54	0.56	0.39	0.37	0.33	0.45	0.90	3.81	0.75	0.73	0.52	
8	0.43	0.51	0.52	0.39	0.36	0.33	0.43	1.85	3.52	0.74	0.70	0.52	
9	0.42	0.51	0.51	0.39	0.35	0.32	0.42	1.20	2.39	0.71	0.76	0.53	
10	0.43	0.51	0.49	0.39	0.37	0.32	0.43	0.91	1.80	0.69	0.67	0.52	
11	0.43	0.52	0.50	0.39	0.35	0.32	0.44	0.93	1.99	0.68	0.65	0.51	
12	0.43	0.50	0.51	0.38	0.35	0.31	0.41	1.22	1.58	0.70	0.64	0.51	
13	0.42	0.53	0.48	0.37	0.34	0.33	0.40	0.97	1.38	0.70	0.62	0.48	
14	2.05	0.57	0.46	0.37	0.34	0.31	0.41	0.90	1.23	0.68	0.71	0.48	
15	2.11	0.67	0.45	0.37	0.33	0.31	0.39	0.87	1.12	0.70	0.82	0.48	
16	1.03	0.58	0.45	0.53	0.33	0.36	0.53	0.80	2.65	0.72	0.80	0.48	
17	0.94	0.97	0.45	0.40	0.33	0.33	0.57	0.75	2.57	0.75	0.69	1.05	
18	1.04	0.82	0.48	0.40	0.32	0.40	0.45	0.69	2.13	0.72	0.66	1.25	
19	0.93	0.89	0.46	0.39	0.32	0.36	0.42	0.65	1.72	0.73	0.64	0.99	
20	0.96	0.75	0.45	0.38	0.60	0.35	0.44	0.63	1.45	0.76	0.64	1.53	
21	1.11	0.75	0.44	0.37	0.36	0.35	0.43	0.76	2.23	1.00	0.62	1.42	
22	0.94	0.64	0.43	0.36	0.35	0.80	0.41	1.39	4.52	0.78	0.56	1.19	
23	0.93	0.61	0.43	0.37	0.35	0.43	0.53	1.35	2.78	0.74	0.58	0.98	
24	0.77	0.58	0.42	0.37	0.39	0.49	0.67	1.27	2.30	0.74	0.56	1.07	
25	0.69	0.58	0.41	0.39	0.35	0.65	0.54	1.07	1.80	0.72	0.58	2.02	
26	0.65	0.64	0.41	0.37	0.35	0.81	0.75	0.90	1.53	0.70	0.55	2.97	
27	0.63	0.73	0.40	0.37	0.34	0.53	0.78	1.24	1.37	0.69	0.56	1.69	
28	0.60	0.66	0.41	0.40	0.33	0.48	0.67	2.75	1.24	0.69	0.55	1.27	
29	0.58	0.63	0.45	0.41	0.33	0.43	0.64	6.51	1.13	0.68		1.12	
30	0.56	0.60	0.44	0.43	0.33	0.42	1.05	3.08	1.06	0.69		1.12	
31		0.57		0.39	0.33		1.75		0.99	0.68		1.05	
Mean	0.74	0.63	0.48	0.39	0.36	0.40	0.55	1.42	2.02	0.76	0.71	0.94	
Max	2.11	0.97	0.62	0.53	0.60	0.81	1.75	6.51	4.52	1.00	1.45	2.97	6.51
Min	0.42	0.50	0.40	0.36	0.32	0.31	0.38	0.63	0.99	0.68	0.55	0.48	0.31

Annual Max Momentary Gage Height 7.65 M (A.D), at 9.00 Hours, on Nov 29, 1993
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed 0.10 M (A.D)
Left Bank Elevation 5.89 M (A.D)
Right Bank Elevation 5.39 M (A.D), Drainage Area 39 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.55	0.85	0.85	0.46	0.34	0.24	0.46	16.42	12.32	2.16	1.33	0.91	
2	0.55	1.24	0.85	0.40	0.36	0.30	0.40	5.98	11.06	1.94	1.27	0.94	
3	0.64	1.30	1.06	0.40	0.36	0.30	0.38	2.84	7.40	1.83	4.60	0.91	
4	0.55	1.00	1.00	0.40	0.38	0.30	0.36	1.97	4.24	2.20	3.02	0.82	
5	0.55	0.91	1.00	0.49	0.38	0.30	0.55	1.57	3.52	1.86	1.75	0.79	
6	0.49	0.85	0.88	0.40	0.34	0.28	0.58	4.30	14.26	1.60	1.57	0.79	
7	0.49	0.82	0.88	0.38	0.34	0.26	0.55	1.97	25.22	1.45	1.39	0.76	
8	0.49	0.73	0.76	0.38	0.32	0.26	0.49	7.05	22.02	1.42	1.30	0.76	
9	0.46	0.73	0.73	0.38	0.30	0.24	0.46	3.10	11.22	1.33	1.48	0.79	
10	0.49	0.73	0.67	0.38	0.34	0.24	0.49	2.01	6.70	1.27	1.21	0.76	
11	0.49	0.76	0.70	0.38	0.30	0.24	0.52	2.09	8.03	1.24	1.15	0.73	
12	0.49	0.70	0.73	0.36	0.30	0.22	0.43	3.22	5.38	1.30	1.12	0.73	
13	0.46	0.79	0.64	0.34	0.28	0.26	0.40	2.24	4.18	1.30	1.06	0.64	
14	8.50	0.91	0.58	0.34	0.28	0.22	0.43	1.97	3.28	1.24	1.33	0.64	
15	8.98	1.21	0.55	0.34	0.26	0.22	0.38	1.86	2.80	1.30	1.67	0.64	
16	2.46	0.94	0.55	0.79	0.26	0.32	0.79	1.60	13.45	1.36	1.60	0.64	
17	2.13	2.24	0.55	0.40	0.26	0.26	0.91	1.45	12.75	1.45	1.27	2.54	
18	2.50	1.67	0.64	0.40	0.24	0.40	0.55	1.27	9.14	1.36	1.18	3.40	
19	2.09	1.94	0.58	0.38	0.24	0.32	0.46	1.15	6.22	1.39	1.12	2.31	
20	2.20	1.45	0.55	0.36	1.00	0.30	0.52	1.09	4.60	1.48	1.12	5.08	
21	2.76	1.45	0.52	0.34	0.32	0.30	0.49	1.48	9.94	2.35	1.06	4.42	
22	2.13	1.12	0.49	0.32	0.30	1.60	0.43	4.24	33.86	1.54	0.88	3.06	
23	2.09	1.03	0.49	0.34	0.30	0.49	0.79	4.00	14.62	1.42	0.94	2.27	
24	1.51	0.94	0.46	0.34	0.38	0.67	1.21	3.52	10.50	1.42	0.88	2.61	
25	1.27	0.94	0.43	0.38	0.30	1.15	0.82	2.61	6.70	1.36	0.94	8.26	
26	1.15	1.12	0.43	0.34	0.30	1.64	1.45	1.97	5.08	1.30	0.85	16.33	
27	1.09	1.39	0.40	0.34	0.28	0.79	1.54	3.34	4.12	1.27	0.88	6.04	
28	1.00	1.18	0.43	0.40	0.26	0.64	1.21	14.35	3.34	1.27	0.85	3.52	
29	0.94	1.09	0.55	0.43	0.26	0.49	1.12	126.00	2.84	1.24		2.80	
30	0.88	1.00	0.52	0.49	0.26	0.46	2.54	17.32	2.57	1.27		2.80	
31		0.91		0.38	0.26		6.40		2.31	1.24		2.54	
Total	50.38	33.94	19.47	12.26	10.10	13.71	28.11	243.98	283.67	46.16	38.82	80.23	860.83 CMSDAY
Mean	1.68	1.09	0.65	0.40	0.33	0.46	0.91	8.13	9.15	1.49	1.39	2.59	2.36 CMS
Max	8.98	2.24	1.06	0.79	1.00	1.64	6.40	126.00	33.86	2.35	4.60	16.33	126.00 CMS
Min	0.46	0.70	0.40	0.32	0.24	0.22	0.36	1.09	2.31	1.24	0.85	0.64	0.22 CMS
Runoff	4.353	2.932	1.682	1.059	0.873	1.185	2.429	21.080	24.509	3.988	3.354	6.932	74.376 MCM

Momentary Peak 271.00 CMS, at 7.65 M (A.D), at 9.00 Hours, on Nov 29, 1993
Runoff Yield 60.47 Liters/Second/Square KM, Momentary Peak Yield 6948.72 Liters/Second/Square KM

WATER YEAR 1993

SOUTHERN PENINSULA EAST COAST

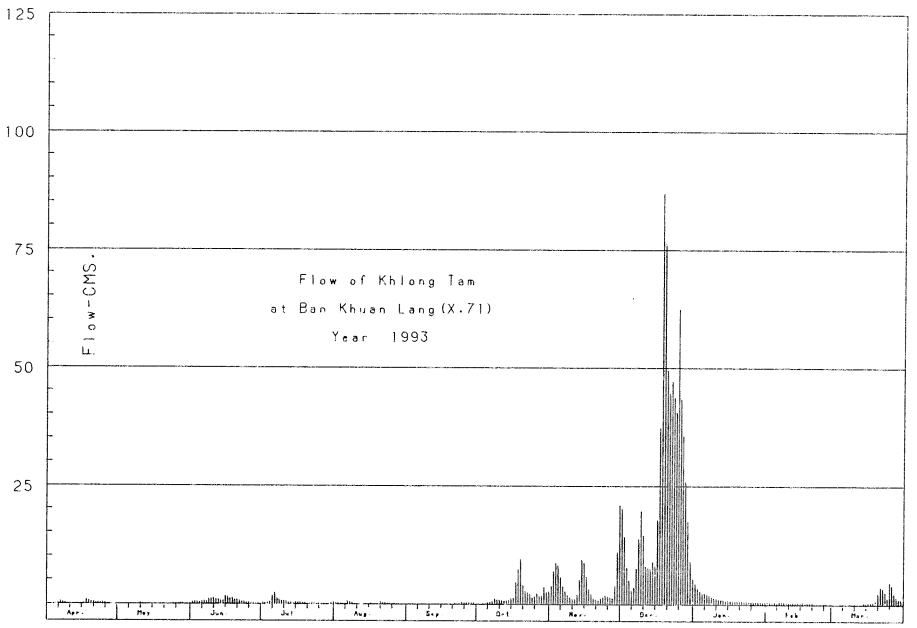
Khlong Tam at Ban Khuan Lang(3), Songkhla (X.71)

Location	Lat. 6°-59'-55" N., Long. 100°-25'-58" E., on right bank downstream side of the bridge of Phet Kasem Highway at Khuan Lang(3), Amphoe Hat Yai, Songkhla.
Drainage Area	127 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+0.65 m. (M.S.L.)
Bench Mark	B.M.-H.D.
Location	On left bank about 40 meters from the top staff gage.
Elevation	+7.064 m. (M.S.L.)
Gage Reading Frequency	5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1967 to date.
Rating Operation	
Period of Rating	1967-1972, 1983 to date.
Rated by Float	-
Rated by Current Meter	1967-1972, 1983 to date.
Stability of Channel Regimes	Stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Stage-discharge relation defined by 49 discharge measurements made in 1993.

Gage Height in Meter (MSL), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	2.75	2.75	2.95	2.89	2.91	2.78	2.83	4.00	6.01	4.07	2.98	2.79	
2	2.75	2.75	3.04	2.88	2.86	2.76	2.81	4.53	5.43	3.90	2.95	2.78	
3	2.75	2.73	2.97	2.86	2.85	2.76	2.81	4.80	4.65	3.76	2.95	2.78	
4	2.79	2.73	2.95	2.99	2.84	2.76	2.84	4.70	4.21	3.68	2.98	2.80	
5	2.82	2.72	3.03	3.51	2.83	2.75	2.92	4.34	3.78	3.67	3.19	2.80	
6	2.99	2.71	3.03	3.68	3.05	2.74	2.98	3.98	3.93	3.64	3.01	2.78	
7	2.95	2.71	3.01	3.33	2.99	2.77	3.02	3.74	4.63	3.55	3.00	2.76	
8	2.84	2.72	3.26	3.16	2.90	2.78	3.31	3.59	5.38	3.45	2.97	2.80	
9	2.81	2.73	3.31	3.11	2.85	2.78	3.19	3.38	5.98	3.35	2.95	2.82	
10	2.79	2.89	3.33	3.06	2.82	2.76	3.17	3.26	5.47	3.37	2.93	2.81	
11	2.79	2.82	3.23	3.01	2.82	2.75	3.16	3.29	4.67	3.27	2.93	2.82	
12	2.78	2.77	3.25	2.95	2.83	2.77	3.10	3.58	4.64	3.26	2.93	2.82	
13	2.77	2.75	3.10	2.92	2.81	2.75	3.11	4.25	4.60	3.18	2.91	2.88	
14	2.75	2.75	3.13	2.90	2.79	2.79	3.20	4.87	4.82	3.14	2.91	3.06	
15	2.75	2.75	3.50	2.95	2.79	2.78	3.32	4.79	4.68	3.13	2.93	3.00	
16	2.76	2.75	3.43	2.93	2.79	2.78	3.39	4.34	5.79	3.17	2.94	2.94	
17	3.19	2.74	3.32	2.94	2.79	2.74	4.13	3.87	7.11	3.12	2.91	2.94	
18	3.08	2.75	3.35	2.91	2.77	2.72	4.61	3.62	7.88	3.10	2.91	2.96	
19	2.98	2.76	3.23	2.87	2.75	2.71	4.88	3.34	7.77	3.09	2.91	3.14	
20	2.91	2.78	3.18	2.88	2.98	2.79	4.03	3.22	7.40	3.08	2.93	3.68	
21	2.89	2.80	3.09	2.86	2.91	2.82	3.76	3.19	7.29	3.08	2.89	3.96	
22	2.88	2.80	3.02	2.85	2.91	2.78	3.73	3.32	7.35	3.05	2.85	3.90	
23	2.89	2.77	2.98	2.83	2.87	2.82	3.61	3.42	7.27	3.04	2.85	3.74	
24	2.88	2.79	2.94	2.83	2.84	2.95	3.40	3.51	7.19	3.03	2.84	3.45	
25	2.92	2.83	2.90	2.82	2.82	2.94	3.44	3.49	7.60	3.02	2.84	4.16	
26	2.85	2.82	2.89	2.86	2.81	2.90	3.67	3.39	7.26	3.01	2.83	4.01	
27	2.78	2.89	2.84	2.82	2.81	2.92	3.49	3.37	7.06	3.00	2.82	3.67	
28	2.76	2.84	2.84	2.82	2.81	2.91	3.52	4.00	6.50	3.01	2.81	3.40	
29	2.75	2.79	2.84	2.85	2.79	2.88	3.95	5.07	5.76	2.97		3.30	
30	2.77	2.79	2.78	2.90	2.81	2.84	3.71	6.09	4.82	2.97		3.20	
31		2.79		2.92	2.78		3.74		4.28	2.97		3.18	
Mean	2.85	2.77	3.09	2.97	2.84	2.80	3.45	3.94	5.85	3.26	2.92	3.17	
Max	3.19	2.89	3.50	3.68	3.05	2.95	4.88	6.09	7.88	4.07	3.19	4.16	7.88
Min	2.75	2.71	2.78	2.82	2.75	2.71	2.81	3.19	3.78	2.97	2.81	2.76	2.71

Annual Max Momentary Gage Height 7.92 M (MSL), at 18.00 Hours, on Dec 18, 1993
Zero Gage at Bottom Elevation 0.65 M (MSL), River Bed 2.11 M (MSL)
Left Bank Elevation 8.07 M (MSL)
Right Bank Elevation 8.08 M (MSL), Drainage Area 127 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.15	0.15	0.50	0.38	0.42	0.18	0.26	4.00	20.21	4.35	0.56	0.19	
2	0.15	0.15	0.68	0.36	0.32	0.16	0.22	7.01	14.30	3.50	0.50	0.18	
3	0.15	0.13	0.54	0.32	0.30	0.16	0.22	8.90	7.85	2.80	0.50	0.18	
4	0.19	0.13	0.50	0.58	0.28	0.16	0.28	8.20	5.06	2.42	0.56	0.20	
5	0.24	0.12	0.66	1.83	0.26	0.15	0.44	5.84	2.90	2.38	0.98	0.20	
6	0.58	0.11	0.66	2.42	0.70	0.14	0.56	3.90	3.65	2.26	0.62	0.18	
7	0.50	0.11	0.62	1.29	0.58	0.17	0.64	2.70	7.71	1.95	0.60	0.16	
8	0.28	0.12	1.12	0.92	0.40	0.18	1.23	2.07	13.82	1.65	0.54	0.20	
9	0.22	0.13	1.23	0.82	0.30	0.18	0.98	1.44	19.88	1.35	0.50	0.24	
10	0.19	0.38	1.29	0.72	0.24	0.16	0.94	1.12	14.70	1.41	0.46	0.22	
11	0.19	0.24	1.06	0.62	0.24	0.15	0.92	1.18	7.99	1.14	0.46	0.24	
12	0.18	0.17	1.10	0.50	0.26	0.17	0.80	2.04	7.78	1.12	0.46	0.24	
13	0.17	0.15	0.80	0.44	0.22	0.15	0.82	5.30	7.50	0.96	0.42	0.36	
14	0.15	0.15	0.86	0.40	0.19	0.19	1.00	9.46	9.06	0.88	0.42	0.72	
15	0.15	0.15	1.80	0.50	0.19	0.18	1.26	8.83	8.06	0.86	0.46	0.60	
16	0.16	0.15	1.59	0.46	0.19	0.18	1.47	5.84	17.90	0.94	0.48	0.48	
17	0.98	0.14	1.26	0.48	0.19	0.14	4.65	3.35	37.40	0.84	0.42	0.48	
18	0.76	0.15	1.35	0.42	0.17	0.12	7.57	2.18	87.00	0.80	0.42	0.52	
19	0.56	0.16	1.06	0.34	0.15	0.11	9.54	1.32	76.30	0.78	0.42	0.88	
20	0.42	0.18	0.96	0.36	0.56	0.19	4.15	1.04	49.50	0.76	0.46	2.42	
21	0.38	0.20	0.78	0.32	0.42	0.24	2.80	0.98	44.60	0.76	0.38	3.80	
22	0.36	0.20	0.64	0.30	0.42	0.18	2.65	1.26	47.25	0.70	0.30	3.50	
23	0.38	0.17	0.56	0.26	0.34	0.24	2.14	1.56	43.80	0.68	0.30	2.70	
24	0.36	0.19	0.48	0.26	0.28	0.50	1.50	1.83	40.60	0.66	0.28	1.65	
25	0.44	0.26	0.40	0.24	0.24	0.48	1.62	1.77	62.50	0.64	0.28	4.80	
26	0.30	0.24	0.38	0.32	0.22	0.40	2.38	1.47	43.40	0.62	0.26	4.05	
27	0.18	0.38	0.28	0.24	0.22	0.44	1.77	1.41	35.80	0.60	0.24	2.38	
28	0.16	0.28	0.28	0.24	0.22	0.42	1.86	4.00	25.90	0.62	0.22	1.50	
29	0.15	0.19	0.28	0.30	0.19	0.36	3.75	11.06	17.60	0.54		1.20	
30	0.17	0.19	0.18	0.40	0.22	0.28	2.55	21.09	9.06	0.54		1.00	
31		0.19		0.44	0.18		2.70		5.48	0.54		0.96	
Total	9.25	5.66	23.90	17.48	9.11	6.76	63.67	132.15	794.56	40.05	12.50	36.43	1151.52 CMSDAY
Mean	0.31	0.18	0.80	0.56	0.29	0.23	2.05	4.41	25.63	1.29	0.45	1.18	3.15 CMS
Max	0.98	0.38	1.80	2.42	0.70	0.50	9.54	21.09	87.00	4.35	0.98	4.80	87.00 CMS
Min	0.15	0.11	0.18	0.24	0.15	0.11	0.22	0.98	2.90	0.54	0.22	0.16	0.11 CMS
Runoff	0.799	0.489	2.065	1.510	0.787	0.584	5.501	11.418	68.650	3.460	1.080	3.148	99.491 MCM

Momentary Peak 91.20 CMS, at 7.92 M (MSL), at 18.00 Hours, on Dec 18, 1993

Runoff Yield 24.84 Liters/Second/Square KM, Momentary Peak Yield 718.11 Liters/Second/Square KM

WATER YEAR 1993

SOUTHERN PENINSULA EAST COAST

Khlong Tan Yong Mat at Rangae, Narathiwat (X.73)

Location — Lat. 6°-17'-44" N., Long. 101°-44'-04" E., on right bank about 20 meters upstream from the bridge on highway, Amphoe Rangae, Narathiwat.

Drainage Area — 336 sq.km.

Type of Gage — Staff gage.

Zero Gage at Bottom — +0.00 m.(A.D.)

Bench Mark — B.M.-H.D.

Location — On right bank near the top staff gage.

Elevation — +6.096 m.(A.D.)

Gage Reading Frequency — 5-time daily readings at 06.00, 09.00,12.00,15.00 and 18.00 hours.

Basis of Mean Daily Gage Height — Arithmetic mean of 5 readings.

Period of Available Gage Records — 1967 to date.

Rating Operation

Period of Rating — 1985 to date.

Rated by Float — -

Rated by Current Meter — 1985 to date.

Stability of Channel Regimes — Stable.

Overbank Flow Conditions — No overbank flow.

General Description — Records good. Stage-discharge relation defined by 28 discharge measurements made in 1993.

Gage Height in Meter (A.D), Water Year April 1, 1993 to March 31, 1994

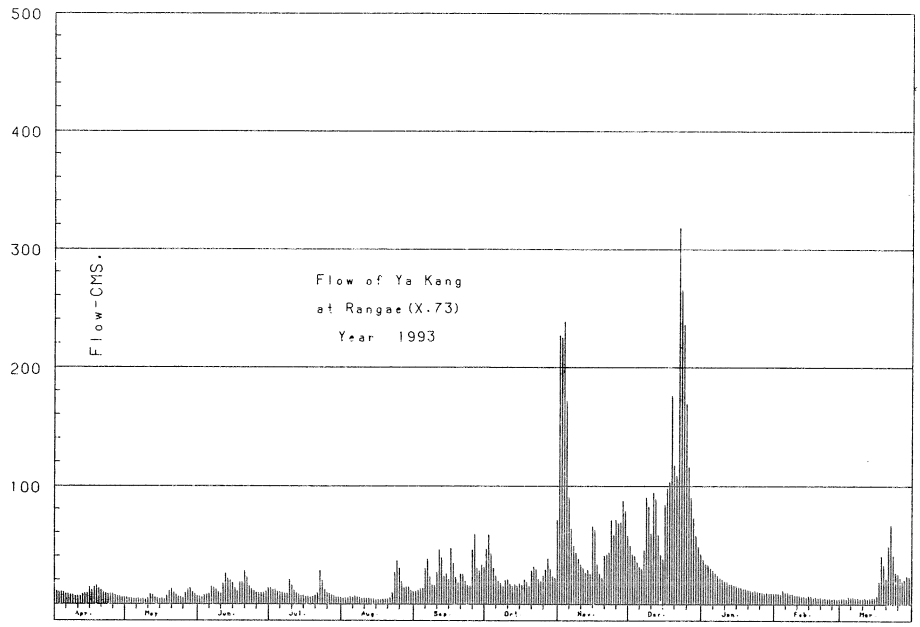
Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	1.45	1.06	1.13	1.61	1.02	1.42	3.35	6.05	3.49	2.93	1.34	0.99	
2	1.38	1.03	1.11	1.52	1.02	1.50	3.89	6.04	3.14	2.77	1.28	0.97	
3	1.42	1.00	1.21	1.51	1.07	1.57	3.17	6.10	3.07	2.70	1.27	0.96	
4	1.37	0.99	1.27	1.43	1.11	1.62	2.58	5.80	2.83	2.58	1.47	1.10	
5	1.32	0.98	1.29	1.37	1.10	2.55	2.22	5.05	2.63	2.46	1.37	1.09	
6	1.27	0.96	1.71	1.38	1.16	2.95	2.00	4.12	2.51	2.37	1.34	1.08	
7	1.25	0.94	1.62	1.29	1.13	2.20	1.86	3.48	3.32	2.24	1.30	1.05	
8	1.21	0.93	1.55	1.32	1.06	1.79	1.72	3.20	5.04	2.13	1.26	1.01	
9	1.17	0.92	1.38	2.03	1.01	1.75	2.00	2.98	4.82	2.05	1.23	0.98	
10	1.15	1.00	1.32	1.79	0.99	2.37	2.07	2.71	3.91	1.99	1.21	0.99	
11	1.18	1.26	1.84	1.46	1.01	3.35	1.84	2.55	5.16	1.92	1.17	0.99	
12	1.29	1.25	2.35	1.34	1.00	3.01	1.70	2.37	5.01	1.85	1.15	0.95	
13	1.31	1.10	2.08	1.25	0.97	2.22	1.82	2.47	3.87	1.80	1.12	0.99	
14	1.34	1.01	2.01	1.20	0.93	2.31	1.71	2.32	3.13	1.77	1.10	1.05	
15	1.65	0.98	1.87	1.18	0.90	2.05	1.83	4.19	2.94	1.72	1.16	1.02	
16	1.49	0.97	1.60	1.16	0.89	3.39	1.78	4.04	4.86	1.66	1.13	1.18	
17	1.70	0.96	1.45	1.12	0.91	2.80	2.05	2.74	5.24	1.62	1.09	1.93	
18	1.75	1.17	1.93	1.10	0.91	2.14	1.92	2.31	5.32	1.58	1.08	3.10	
19	1.61	1.47	1.91	1.12	0.95	1.90	1.72	2.12	5.82	1.55	1.06	2.69	
20	1.53	1.57	2.44	1.22	0.94	2.33	2.45	3.09	5.47	1.51	1.04	2.09	
21	1.43	1.37	2.18	1.32	1.06	2.29	2.62	3.15	5.39	1.48	1.01	3.44	
22	1.34	1.23	1.74	2.48	1.33	1.98	2.53	3.21	6.41	1.43	1.00	4.22	
23	1.27	1.15	1.56	1.99	2.38	1.76	2.05	4.40	6.21	1.45	0.99	3.12	
24	1.33	1.10	1.47	1.55	2.90	1.75	1.98	3.88	6.09	1.43	0.98	2.36	
25	1.29	1.06	1.37	1.37	2.59	3.34	2.25	4.39	5.79	1.39	0.96	2.31	
26	1.21	1.32	1.32	1.29	1.94	3.91	2.51	4.28	5.46	1.35	0.95	2.14	
27	1.17	1.54	1.36	1.24	1.65	2.58	3.00	4.32	5.03	1.33	0.94	1.95	
28	1.14	1.59	1.34	1.18	1.67	2.44	2.52	4.98	4.46	1.33	0.93	2.05	
29	1.10	1.41	1.43	1.12	1.69	2.72	2.21	4.68	3.83	1.34		2.20	
30	1.08	1.26	1.60	1.08	1.47	2.60	2.12	3.83	3.44	1.29		2.17	
31		1.18		1.04	1.41		4.39		3.15	1.30		2.01	
Mean	1.34	1.15	1.61	1.39	1.30	2.35	2.32	3.83	4.41	1.82	1.14	1.75	
Max	1.75	1.59	2.44	2.48	2.90	3.91	4.39	6.10	6.41	2.93	1.47	4.22	6.41
Min	1.08	0.92	1.11	1.04	0.89	1.42	1.70	2.12	2.51	1.29	0.93	0.95	0.89

Annual Max Momentary Gage Height — 6.45 M (A.D), at 12.00 Hours, on Dec 22, 1993

Zero Gage at Bottom Elevation — 0.00 M (A.D), River Bed -0.88 M (A.D)

Left Bank Elevation — 7.88 M (A.D)

Right Bank Elevation — 7.51 M (A.D), Drainage Area 336 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	11.25	5.60	6.45	13.65	5.20	10.80	46.60	227.50	49.77	37.60	9.60	4.90	
2	10.20	5.30	6.15	12.30	5.20	12.00	58.97	225.20	41.98	34.40	8.70	4.70	
3	10.80	5.00	7.65	12.15	5.70	13.05	42.64	239.00	40.47	33.00	8.55	4.60	
4	10.05	4.90	8.55	10.95	6.15	13.80	30.62	172.00	35.60	30.62	11.55	6.00	
5	9.30	4.80	8.85	10.05	6.00	30.05	23.78	90.45	31.60	28.34	10.05	5.90	
6	8.55	4.60	15.16	10.20	6.90	38.00	20.00	64.30	29.29	26.63	9.60	5.80	
7	8.25	4.40	13.80	8.85	6.45	23.40	17.62	49.54	45.94	24.16	9.00	5.50	
8	7.65	4.30	12.75	9.30	5.60	16.44	15.32	43.30	90.06	22.21	8.40	5.10	
9	7.05	4.20	10.20	20.51	5.10	15.80	20.00	38.60	82.64	20.85	7.95	4.80	
10	6.75	5.00	9.30	16.44	4.90	26.63	21.19	33.20	59.43	19.83	7.65	4.90	
11	7.20	8.40	17.28	11.40	5.10	46.60	17.28	30.05	94.74	18.64	7.05	4.90	
12	8.85	8.25	26.25	9.60	5.00	39.21	15.00	26.63	88.89	17.45	6.75	4.50	
13	9.15	6.00	21.36	8.25	4.70	23.78	16.94	28.53	58.51	16.60	6.30	4.90	
14	9.60	5.10	20.17	7.50	4.30	25.49	15.16	25.68	41.76	16.12	6.00	5.50	
15	14.25	4.80	17.79	7.20	4.00	20.85	17.11	66.05	37.80	15.32	6.90	5.20	
16	11.85	4.70	13.50	6.90	3.90	47.48	16.28	62.42	83.92	14.40	6.45	7.20	
17	15.00	4.60	11.25	6.30	4.10	35.00	20.85	33.80	98.38	13.80	5.90	18.81	
18	15.80	7.05	18.81	6.00	4.10	22.38	18.64	25.49	103.00	13.20	5.80	41.10	
19	13.65	11.55	18.47	6.30	4.50	18.30	15.32	22.04	176.40	12.75	5.60	32.80	
20	12.45	13.05	27.96	7.80	4.40	25.87	28.15	40.89	117.75	12.15	5.40	21.53	
21	10.95	10.05	23.06	9.30	5.60	25.11	31.40	42.20	108.25	11.70	5.10	48.62	
22	9.60	7.95	15.64	28.72	9.45	19.66	29.67	43.52	318.50	10.95	5.00	66.80	
23	8.55	6.75	12.90	19.83	26.82	15.96	20.85	71.30	265.60	11.25	4.90	41.54	
24	9.45	6.00	11.55	12.75	37.00	15.80	19.66	58.74	236.70	10.95	4.80	26.44	
25	8.85	5.60	10.05	10.05	30.81	46.38	24.35	71.05	170.00	10.35	4.60	25.49	
26	7.65	9.30	9.30	8.85	18.98	59.43	29.29	68.30	116.50	9.75	4.50	22.38	
27	7.05	12.60	9.90	8.10	14.25	30.62	39.00	69.30	89.67	9.45	4.40	19.15	
28	6.60	13.35	9.60	7.20	14.55	27.96	29.48	87.84	72.80	9.45	4.30	20.85	
29	6.00	10.65	10.95	6.30	14.85	33.40	23.59	78.48	57.59	9.60		23.40	
30	5.80	8.40	13.50	5.80	11.55	31.00	22.04	57.59	48.62	8.85		22.89	
31		7.20		5.40	10.65		71.05		42.20	9.00		20.17	
Total	288.15	219.45	418.15	323.95	295.81	810.25	817.85	2192.99	2934.36	539.37	190.80	536.37	9567.50 CMSDAY
Mean	9.60	7.08	13.94	10.45	9.54	27.01	26.38	73.10	94.66	17.40	6.81	17.30	26.21 CMS
Max	15.80	13.35	27.96	28.72	37.00	59.43	71.05	239.00	318.50	37.60	11.55	66.80	318.50 CMS
Min	5.80	4.20	6.15	5.40	3.90	10.80	15.00	22.04	29.29	8.85	4.30	4.50	3.90 CMS
Runoff	24.896	18.960	36.128	27.989	25.558	70.006	70.662	189.474	253.529	46.602	16.485	46.342	826.632 MCM

Momentary Peak 332.50 CMS, at 6.45 M (A.D), at 12.00 Hours, on Dec 22, 1993

Runoff Yield 78.01 Liters/Second/Square KM, Momentary Peak Yield 989.58 Liters/Second/Square KM

WATER YEAR 1993

SOUTHERN PENINSULA EAST COAST

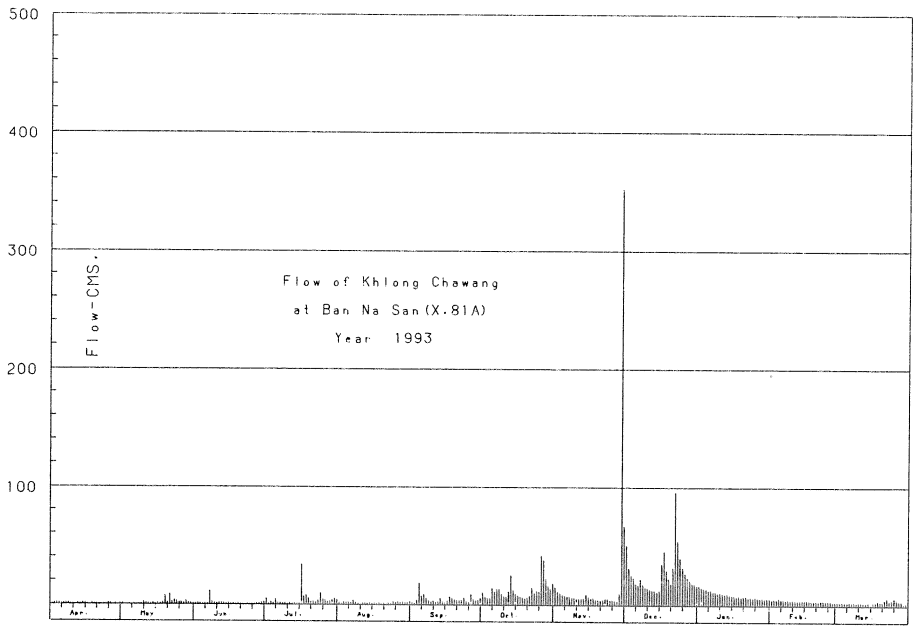
Khlong Chawang at Ban Na San, Surat Thani (X.81A)

Location	Lat. 08°-48'-23" N., Long. 99°-22'-18" E., on right bank at Wat Ban Na San, Amphoe Ban Na San, Surat Thani.
Drainage Area	220 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+0.00 m.(A.D.)
Bench Mark	B.M.-H.D.
Location	On right bank at Wat Ban Na San's wall.
Elevation	+5.539 m.(A.D.)
Gage Reading Frequency	5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1990 to date.
Rating Operation	
Period of Rating	1990 to date.
Rated by Float	-
Rated by Current Meter	1990 to date.
Stability of Channel Regimes	Fairly stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records fair. Stage-discharge relation defined by 67 discharge measurements made in 1993.

Gage Height in Meter (A.D), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.69	0.69	0.75	1.01	0.91	0.81	1.17	1.29	1.79	1.32	0.99	0.91	
2	0.72	0.68	0.76	0.85	0.88	0.78	1.07	1.21	1.58	1.30	0.99	0.91	
3	0.81	0.71	0.74	0.87	0.87	0.95	1.01	1.16	1.49	1.27	1.00	0.91	
4	0.74	0.68	0.73	0.80	0.85	1.38	1.03	1.13	1.45	1.27	1.03	0.90	
5	0.75	0.68	0.73	0.97	0.84	1.08	1.27	1.10	1.37	1.24	0.99	0.90	
6	0.72	0.67	0.75	0.81	0.84	1.14	1.21	1.09	1.33	1.23	0.98	0.90	
7	0.80	0.67	1.21	0.82	0.94	1.01	1.25	1.07	1.44	1.21	0.97	0.90	
8	0.73	0.67	0.89	0.79	0.87	0.95	1.25	1.05	1.34	1.19	0.97	0.89	
9	0.72	0.73	0.81	0.79	0.89	0.94	1.15	1.03	1.30	1.18	0.96	0.88	
10	0.71	0.86	0.78	0.77	0.84	0.92	1.09	1.01	1.28	1.17	0.96	0.88	
11	0.71	0.76	0.77	0.80	0.81	0.89	1.05	1.00	1.26	1.16	0.95	0.87	
12	0.72	0.72	0.82	0.75	0.80	0.88	1.21	1.02	1.24	1.15	0.95	0.87	
13	0.71	0.75	0.77	0.75	0.80	1.03	1.49	1.01	1.22	1.15	0.95	0.87	
14	0.71	0.74	0.74	0.75	0.80	0.90	1.23	1.14	1.20	1.13	0.97	0.87	
15	0.78	0.72	0.74	0.76	0.78	0.89	1.15	1.06	1.22	1.12	0.97	0.86	
16	0.76	0.75	0.73	1.62	0.76	0.92	1.10	1.03	1.62	1.10	0.95	0.87	
17	0.68	0.73	0.72	1.06	0.75	1.07	1.08	1.03	1.74	1.08	0.95	0.91	
18	0.76	0.81	0.71	1.12	0.79	1.02	1.04	0.98	1.55	1.09	0.93	0.94	
19	0.73	1.08	0.73	1.01	0.75	0.98	1.02	0.96	1.44	1.07	0.93	0.93	
20	0.76	0.84	0.71	0.91	0.78	0.95	1.03	0.96	1.37	1.07	0.93	0.90	
21	0.78	1.13	0.71	0.90	0.78	0.95	1.11	0.96	1.58	1.08	0.93	0.97	
22	0.74	0.87	0.70	0.88	0.77	0.95	1.28	1.02	2.17	1.06	0.95	1.05	
23	0.75	0.95	0.70	0.93	0.77	1.04	1.18	1.00	1.82	1.05	0.93	0.95	
24	0.74	0.92	0.70	1.17	0.90	0.91	1.21	0.97	1.68	1.05	0.93	0.97	
25	0.73	0.85	0.69	0.99	0.87	0.89	1.21	0.96	1.58	1.05	0.93	1.05	
26	0.71	0.82	0.71	0.94	0.89	1.14	1.70	0.94	1.51	1.04	0.92	1.01	
27	0.70	0.80	0.74	0.90	0.86	0.98	1.66	0.93	1.46	1.03	0.91	0.95	
28	0.69	0.92	0.76	0.91	0.87	0.95	1.43	1.16	1.41	1.02	0.91	0.92	
29	0.67	0.83	0.83	0.96	0.83	0.95	1.32	3.30	1.37	1.01		0.91	
30	0.73	0.78	0.87	1.00	0.80	1.03	1.25	1.94	1.35	1.01		0.91	
31		0.76		0.97	0.92		1.37		1.33	1.00		0.91	
Mean	0.73	0.79	0.77	0.92	0.83	0.98	1.21	1.15	1.47	1.13	0.95	0.92	
Max	0.81	1.13	1.21	1.62	0.94	1.38	1.70	3.30	2.17	1.32	1.03	1.05	3.30
Min	0.67	0.67	0.69	0.75	0.75	0.78	1.01	0.93	1.20	1.00	0.91	0.86	0.67

Annual Max Momentary Gage Height 4.59 M (A.D), at 9.00 Hours, on Nov 29, 1993
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed 0.58 M (A.D)
Left Bank Elevation 6.09 M (A.D)
Right Bank Elevation 5.76 M (A.D), Drainage Area 220 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	1.15	1.15	1.50	5.66	3.06	1.90	10.38	15.00	51.00	16.32	5.14	3.06	
2	1.32	1.10	1.56	2.30	2.60	1.68	7.22	11.80	31.48	15.40	5.14	3.06	
3	1.90	1.26	1.44	2.50	2.50	4.10	5.66	10.04	25.58	14.20	5.40	3.06	
4	1.44	1.10	1.38	1.80	2.30	19.08	6.18	9.02	23.10	14.20	6.18	2.80	
5	1.50	1.10	1.38	4.62	2.20	7.48	14.20	8.00	18.62	13.00	5.14	2.80	
6	1.32	1.05	1.50	1.90	2.20	9.36	11.80	7.74	16.78	12.60	4.88	2.80	
7	1.80	1.05	11.80	2.00	3.84	5.66	13.40	7.22	22.48	11.80	4.62	2.80	
8	1.38	1.05	2.70	1.74	2.50	4.10	13.40	6.70	17.24	11.06	4.62	2.70	
9	1.32	1.38	1.90	1.74	2.70	3.84	9.70	6.18	15.40	10.72	4.36	2.60	
10	1.26	2.40	1.68	1.62	2.20	3.32	7.74	5.66	14.60	10.38	4.36	2.60	
11	1.26	1.56	1.62	1.80	1.90	2.70	6.70	5.40	13.80	10.04	4.10	2.50	
12	1.32	1.32	2.00	1.50	1.80	2.60	11.80	5.92	13.00	9.70	4.10	2.50	
13	1.26	1.50	1.62	1.50	1.80	6.18	25.58	5.66	12.20	9.70	4.10	2.50	
14	1.26	1.44	1.44	1.50	1.80	2.80	12.60	9.36	11.40	9.02	4.62	2.50	
15	1.68	1.32	1.44	1.56	1.68	2.70	9.70	6.96	12.20	8.68	4.62	2.40	
16	1.56	1.50	1.38	34.64	1.56	3.32	8.00	6.18	34.64	8.00	4.10	2.50	
17	1.10	1.38	1.32	6.96	1.50	7.22	7.48	6.18	46.00	7.48	4.10	3.06	
18	1.56	1.90	1.26	8.68	1.74	5.92	6.44	4.88	29.50	7.74	3.58	3.84	
19	1.38	7.48	1.38	5.66	1.50	4.88	5.92	4.36	22.48	7.22	3.58	3.58	
20	1.56	2.20	1.26	3.06	1.68	4.10	6.18	4.36	18.62	7.22	3.58	2.80	
21	1.68	9.02	1.26	2.80	1.68	4.10	8.34	4.36	31.48	7.48	3.58	4.62	
22	1.44	2.50	1.20	2.60	1.62	4.10	14.60	5.92	96.10	6.96	4.10	6.70	
23	1.50	4.10	1.20	3.58	1.62	6.44	10.72	5.40	54.04	6.70	3.58	4.10	
24	1.44	3.32	1.20	10.38	2.80	3.06	11.80	4.62	40.16	6.70	3.58	4.62	
25	1.38	2.30	1.15	5.14	2.50	2.70	11.80	4.36	31.48	6.70	3.58	6.70	
26	1.26	2.00	1.26	3.84	2.70	9.36	42.00	3.84	26.86	6.44	3.32	5.66	
27	1.20	1.80	1.44	2.80	2.40	4.88	38.32	3.58	23.72	6.18	3.06	4.10	
28	1.15	3.32	1.56	3.06	2.50	4.10	21.86	10.04	20.62	5.92	3.06	3.32	
29	1.05	2.10	2.10	4.36	2.10	4.10	16.32	352.00	18.62	5.66		3.06	
30	1.38	1.68	2.50	5.40	1.80	6.18	13.40	66.92	17.70	5.66		3.06	
31		1.56		4.62	3.32		18.62		16.78	5.40		3.06	
Total	41.81	67.94	56.43	141.32	68.10	151.96	407.86	607.66	827.68	284.28	118.18	105.46	2878.68 CMSDAY
Mean	1.39	2.19	1.88	4.56	2.20	5.07	13.16	20.26	26.70	9.17	4.22	3.40	7.89 CMS
Max	1.90	9.02	11.80	34.64	3.84	19.08	42.00	352.00	96.10	16.32	6.18	6.70	352.00 CMS
Min	1.05	1.05	1.15	1.50	1.50	1.68	5.66	3.58	11.40	5.40	3.06	2.40	1.05 CMS
Runoff	3.612	5.870	4.876	12.210	5.884	13.129	35.239	52.502	71.512	24.562	10.211	9.112	248.718 MCM

Momentary Peak 952.20 CMS, at 4.59 M (A.D), at 9.00 Hours, on Nov 29, 1993

Runoff Yield 35.85 Liters/Second/Square KM, Momentary Peak Yield 4328.18 Liters/Second/Square KM

WATER YEAR 1993

SOUTHERN PENINSULA EAST COAST

Khlong U Taphao at Ban Bang Sala, Songkhla (X.90)

Location — Lat. 6°-55'-39" N., Long. 100°-26'-37" E., on left bank about 5 meters upstream from the bridge on highway and near the Phatthana Tambon Street, Amphoe Hat Yai, Songkhla.

Drainage Area — 1,562 sq.km.

Type of Gage — Staff gage.

Zero Gage at Bottom — +0.68 m. (M.S.L.)

Bench Mark — B.M.-H.D.

Location — On left bank about 28 meters from the top staff gage.

Elevation — +8.335 m.(M.S.L.)

Gage Reading Frequency — 5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.

Basis of Mean Daily Gage Height — Arithmetic mean of 5 readings.

Period of Available Gage Records — 1971 to date.

Rating Operation

Period of Rating — 1971-1972, 1979 to date.

Rated by Float — -

Rated by Current Meter — 1971-1972, 1979 to date.

Stability of Channel Regimes — Rather unstable.

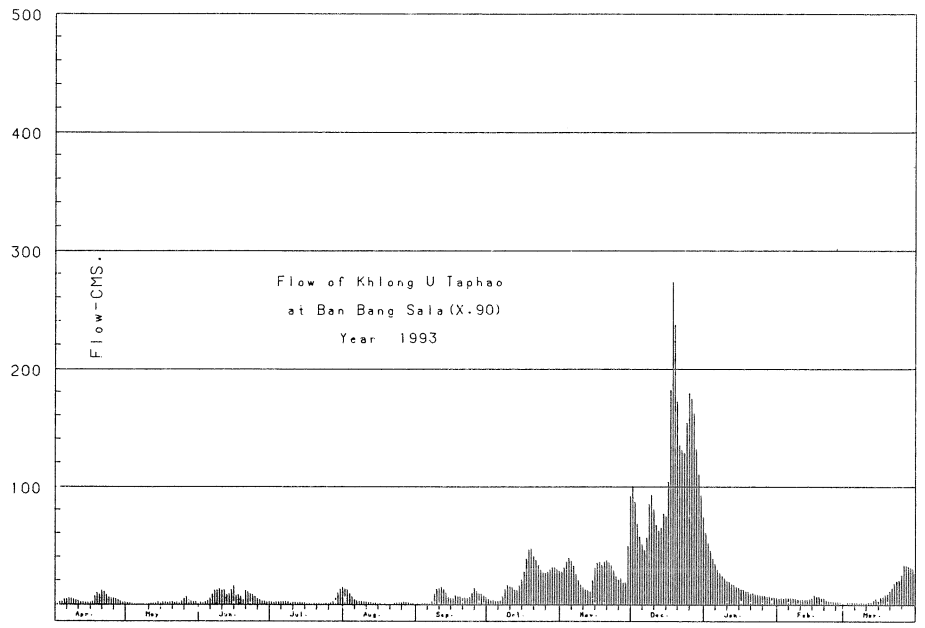
Overbank Flow Conditions — No overbank flow.

General Description — Records good. Stage-discharge relation defined by 46 discharge measurements made in 1993.

Gage Height in Meter (MSL), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.99	1.17	1.24	1.27	2.38	0.99	1.56	3.41	6.97	5.14	1.67	1.25	
2	1.27	1.14	1.15	1.26	2.29	1.00	1.48	3.58	6.35	4.73	1.66	1.24	
3	1.36	1.11	1.25	1.28	2.06	1.01	1.48	3.90	5.54	4.39	1.67	1.21	
4	1.54	1.06	1.47	1.33	1.79	1.09	1.42	4.06	4.97	4.06	1.68	1.20	
5	1.59	1.02	1.63	1.31	1.56	1.05	1.38	3.94	4.65	3.77	1.68	1.18	
6	1.66	0.97	2.00	1.35	1.42	1.06	1.47	3.67	4.42	3.53	1.68	1.16	
7	1.65	0.94	2.24	1.36	1.42	1.31	1.78	3.29	4.93	3.33	1.68	1.15	
8	1.56	0.94	2.31	1.39	1.40	2.04	2.35	2.92	6.29	3.18	1.63	1.15	
9	1.53	0.95	2.34	1.32	1.37	2.33	2.59	2.66	6.65	3.03	1.58	1.14	
10	1.43	1.01	2.29	1.25	1.29	2.42	2.53	2.46	6.07	2.91	1.55	1.14	
11	1.29	1.12	2.27	1.21	1.24	2.47	2.45	2.33	5.50	2.83	1.54	1.18	
12	1.25	1.01	1.97	1.20	1.18	2.34	2.29	2.25	5.23	2.71	1.56	1.20	
13	1.22	1.10	2.00	1.20	1.15	2.08	2.24	2.19	5.39	2.61	1.51	1.49	
14	1.21	1.31	2.29	1.18	1.10	1.76	2.60	2.89	5.92	2.51	1.61	1.59	
15	1.21	1.26	2.65	1.14	1.07	1.63	2.94	3.60	5.83	2.43	1.64	1.45	
16	1.28	1.31	1.91	1.07	1.04	1.65	3.41	3.82	7.10	2.36	1.91	1.68	
17	1.88	1.27	1.93	1.04	1.02	1.86	4.02	3.89	8.28	2.30	1.82	1.79	
18	2.08	1.15	1.80	1.01	1.01	1.83	4.43	3.71	8.86	2.24	1.79	1.92	
19	2.00	1.24	1.54	1.06	0.98	1.76	4.49	3.91	8.66	2.17	1.68	2.02	
20	2.25	1.34	2.27	1.08	0.96	1.66	4.17	3.94	8.20	2.09	1.66	2.18	
21	2.20	1.19	2.13	1.05	0.97	1.67	3.95	3.84	7.83	2.06	1.52	2.44	
22	1.94	1.24	2.05	1.03	1.03	1.66	3.74	3.72	7.76	2.01	1.41	2.71	
23	1.77	1.14	1.94	1.01	1.13	1.74	3.49	3.45	7.73	1.96	1.38	2.89	
24	1.70	1.46	1.83	1.01	1.23	2.09	3.36	3.16	8.04	1.94	1.35	2.90	
25	1.68	1.67	1.64	1.05	1.19	2.42	3.35	2.98	8.26	1.91	1.33	3.24	
26	1.59	1.78	1.51	1.22	1.26	2.18	3.38	3.02	8.22	1.86	1.30	3.72	
27	1.54	1.53	1.43	1.31	1.25	2.05	3.52	2.79	8.12	1.83	1.27	3.71	
28	1.38	1.39	1.37	1.69	1.15	2.01	3.60	2.77	7.77	1.80	1.26	3.64	
29	1.24	1.38	1.32	2.07	1.09	1.89	3.63	4.60	7.31	1.77		3.61	
30	1.18	1.30	1.32	2.36	1.04	1.71	3.52	6.57	6.60	1.73		3.53	
31		1.22		2.47	1.01		3.42		5.81	1.68		3.34	
Mean	1.55	1.22	1.84	1.31	1.29	1.76	2.90	3.44	6.75	2.67	1.57	2.07	
Max	2.25	1.78	2.65	2.47	2.38	2.47	4.49	6.57	8.86	5.14	1.91	3.72	8.86
Min	0.99	0.94	1.15	1.01	0.96	0.99	1.38	2.19	4.42	1.68	1.26	1.14	0.94

Annual Max Momentary Gage Height 8.93 M (MSL), at 16.00 Hours, on Dec 18, 1993
Zero Gage at Bottom Elevation 0.68 M (MSL), River Bed 0.48 M (MSL)
Left Bank Elevation 10.23 M (MSL)
Right Bank Elevation 9.65 M (MSL), Drainage Area 1562 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.95	1.85	2.20	2.35	13.75	0.95	4.60	28.17	100.82	60.80	5.70	2.25	
2	2.35	1.70	1.75	2.30	12.63	1.00	3.80	31.15	86.87	52.60	5.60	2.20	
3	2.80	1.55	2.25	2.40	9.75	1.05	3.80	36.75	68.80	45.80	5.70	2.05	
4	4.40	1.30	3.70	2.65	6.90	1.45	3.20	39.55	57.40	39.55	5.80	2.00	
5	4.90	1.10	5.30	2.55	4.60	1.25	2.90	37.45	51.00	34.47	5.80	1.90	
6	5.60	0.85	9.00	2.75	3.20	1.30	3.70	32.73	46.40	30.27	5.80	1.80	
7	5.50	0.70	12.00	2.80	3.20	2.55	6.80	26.35	56.60	26.95	5.80	1.75	
8	4.60	0.70	12.88	2.95	3.00	9.50	13.37	20.80	85.52	24.70	5.30	1.75	
9	4.30	0.75	13.25	2.60	2.85	13.13	16.37	17.25	93.62	22.45	4.80	1.70	
10	3.30	1.05	12.63	2.25	2.45	14.25	15.63	14.75	80.58	20.65	4.50	1.70	
11	2.45	1.60	12.38	2.05	2.20	14.88	14.63	13.13	68.00	19.45	4.40	1.90	
12	2.25	1.05	8.70	2.00	1.90	13.25	12.63	12.13	62.60	17.88	4.60	2.00	
13	2.10	1.50	9.00	2.00	1.75	10.00	12.00	11.38	65.80	16.62	4.10	3.90	
14	2.05	2.55	12.63	1.90	1.50	6.60	16.50	20.35	77.20	15.38	5.10	4.90	
15	2.05	2.30	17.13	1.70	1.35	5.30	21.10	31.50	75.18	14.38	5.40	3.50	
16	2.40	2.55	8.10	1.35	1.20	5.50	28.17	35.35	104.00	13.50	8.10	5.80	
17	7.80	2.35	8.30	1.20	1.10	7.60	38.85	36.58	182.40	12.75	7.20	6.90	
18	10.00	1.75	7.00	1.05	1.05	7.30	46.60	33.43	273.40	12.00	6.90	8.20	
19	9.00	2.20	4.40	1.30	0.90	6.60	47.80	36.93	237.60	11.13	5.80	9.25	
20	12.13	2.70	12.38	1.40	0.80	5.60	41.48	37.45	172.00	10.12	5.60	11.25	
21	11.50	1.95	10.63	1.25	0.85	5.70	37.63	35.70	135.45	9.75	4.20	14.50	
22	8.40	2.20	9.62	1.15	1.15	5.60	33.95	33.60	130.90	9.13	3.10	17.88	
23	6.70	1.70	8.40	1.05	1.65	6.40	29.57	28.87	128.95	8.60	2.90	20.35	
24	6.00	3.60	7.30	1.05	2.15	10.12	27.40	24.40	154.00	8.40	2.75	20.50	
25	5.80	5.70	5.40	1.25	1.95	14.25	27.25	21.70	179.80	8.10	2.65	25.60	
26	4.90	6.80	4.10	2.10	2.30	11.25	27.70	22.30	174.60	7.60	2.50	33.60	
27	4.40	4.30	3.30	2.55	2.25	9.62	30.10	18.87	162.40	7.30	2.35	33.43	
28	2.90	2.95	2.85	5.90	1.75	9.13	31.50	18.63	131.55	7.00	2.30	32.20	
29	2.20	2.90	2.60	9.87	1.45	7.90	32.03	50.00	110.85	6.70		31.67	
30	1.90	2.50	2.60	13.50	1.20	6.10	30.10	91.83	92.50	6.30		30.27	
31		2.10		14.88	1.05		28.35		74.72	5.80		27.10	
Total	145.63	68.80	231.78	96.10	93.83	215.13	689.51	899.08	3521.51	586.13	134.75	363.80	7046.05 CMSDAY
Mean	4.85	2.22	7.73	3.10	3.03	7.17	22.24	29.97	113.60	18.91	4.81	11.74	19.30 CMS
Max	12.13	6.80	17.13	14.88	13.75	14.88	47.80	91.83	273.40	60.80	8.10	33.60	273.40 CMS
Min	0.95	0.70	1.75	1.05	0.80	0.95	2.90	11.38	46.40	5.80	2.30	1.70	0.70 CMS
Runoff	12.582	5.944	20.026	8.303	8.107	18.587	59.574	77.681	304.258	50.642	11.642	31.432	608.779 MCM

Momentary Peak 287.00 CMS, at 8.93 M (MSL), at 16.00 Hours, on Dec 18, 1993

Runoff Yield 12.36 Liters/Second/Square KM, Momentary Peak Yield 183.74 Liters/Second/Square KM

WATER YEAR 1993

SOUTHERN PENINSULA EAST COAST

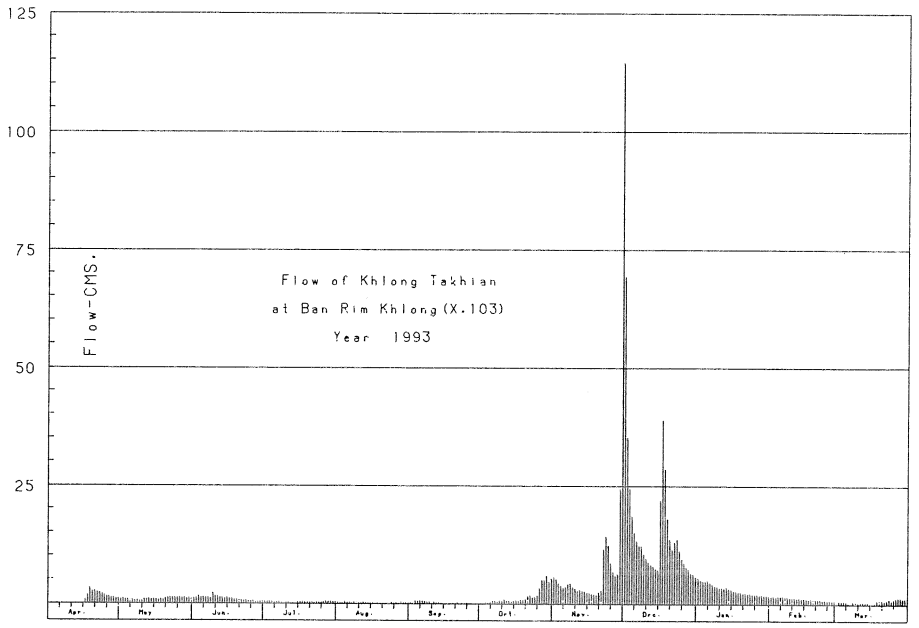
Khlong Takhian at Ban Rim Khlong, Surat Thani (X.103)

Location	Lat. 9°-25'-31" N., Long. 99°-09'-44" E., on right bank at Ban Rim Khlong, Amphoe Chaiya, Surat Thani.
Drainage Area	180 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+7.20 m.(M.S.L.)
Bench Mark	B.M.-H.D.
Location	On left bank at the abutment of the bridge.
Elevation	+14.745 m.(M.S.L.)
Gage Reading Frequency	13-time daily readings at 06.00-18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 13 readings.
Period of Available Gage Records	1978 to date.
Rating Operation	
Period of Rating	1978 to date.
Rated by Float	-
Rated by Current Meter	1978 to date.
Stability of Channel Regimes	Rather unstable.
Overbank Flow Conditions	No overbank flow.
General Description	Records fair. Stage-discharge relation defined by 31 discharge measurements made in 1993.

Gage Height in Meter (MSL), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	7.65	7.94	7.97	7.76	7.73	7.69	7.65	8.85	12.36	8.82	8.15	7.81	
2	7.65	7.95	8.04	7.76	7.71	7.68	7.66	8.79	11.06	8.77	8.13	7.80	
3	7.64	7.92	8.13	7.76	7.72	7.80	7.67	8.69	10.41	8.73	8.13	7.79	
4	7.64	7.90	8.07	7.76	7.78	7.81	7.69	8.60	10.01	8.74	8.13	7.79	
5	7.64	7.87	8.05	7.75	7.75	7.81	7.74	8.54	9.75	8.75	8.15	7.78	
6	7.63	7.86	8.03	7.74	7.73	7.81	7.82	8.56	9.59	8.70	8.14	7.77	
7	7.63	7.84	8.02	7.73	7.72	7.77	7.79	8.66	9.51	8.65	8.11	7.77	
8	7.63	7.83	8.00	7.72	7.72	7.75	7.77	8.67	9.50	8.61	8.09	7.76	
9	7.64	7.81	8.30	7.72	7.73	7.73	7.81	8.57	9.35	8.58	8.07	7.75	
10	7.63	7.81	8.15	7.71	7.73	7.72	7.80	8.50	9.26	8.55	8.05	7.74	
11	7.63	7.89	8.10	7.70	7.71	7.72	7.88	8.44	9.19	8.53	8.03	7.74	
12	7.63	7.94	8.04	7.69	7.71	7.71	7.83	8.46	9.15	8.53	8.02	7.73	
13	7.63	7.92	8.01	7.69	7.70	7.70	7.80	8.44	9.10	8.56	8.01	7.73	
14	7.66	7.91	8.00	7.68	7.70	7.69	7.78	8.40	9.05	8.51	7.99	7.72	
15	7.75	7.89	8.02	7.73	7.69	7.68	7.79	8.36	9.01	8.47	7.97	7.72	
16	7.86	7.88	7.99	7.76	7.68	7.67	7.83	8.32	10.24	8.44	7.96	7.71	
17	8.21	7.87	7.95	7.74	7.68	7.68	7.82	8.28	11.25	8.41	7.95	7.77	
18	8.51	7.91	7.91	7.73	7.67	7.67	7.88	8.25	10.67	8.39	7.95	7.83	
19	8.41	7.90	7.89	7.74	7.66	7.67	7.87	8.24	9.98	8.36	7.94	7.88	
20	8.42	7.95	7.86	7.76	7.66	7.67	7.91	8.35	9.62	8.34	7.92	7.86	
21	8.37	8.03	7.85	7.73	7.65	7.68	8.16	8.45	9.44	8.33	7.91	7.83	
22	8.32	8.03	7.83	7.71	7.66	7.67	8.18	9.44	9.57	8.32	7.90	7.86	
23	8.28	8.06	7.83	7.70	7.66	7.66	8.09	9.68	9.63	8.30	7.88	7.95	
24	8.20	8.03	7.80	7.73	7.71	7.66	8.07	9.52	9.41	8.28	7.86	7.94	
25	8.14	8.03	7.79	7.74	7.67	7.69	8.22	9.17	9.26	8.27	7.85	7.95	
26	8.09	8.03	7.79	7.76	7.67	7.68	8.51	8.98	9.17	8.25	7.84	8.00	
27	8.04	8.02	7.78	7.77	7.68	7.67	8.78	8.87	9.09	8.23	7.83	8.07	
28	8.01	8.01	7.77	7.77	7.74	7.66	8.76	8.92	9.03	8.22	7.82	8.04	
29	7.98	7.97	7.77	7.76	7.70	7.65	8.87	10.40	8.96	8.21		8.00	
30	7.95	7.99	7.76	7.76	7.68	7.65	8.72	13.14	8.91	8.19		7.96	
31		7.97		7.74	7.71		8.80		8.86	8.16		7.93	
Mean	7.92	7.93	7.95	7.74	7.70	7.70	8.03	8.88	9.66	8.46	7.99	7.84	
Max	8.51	8.06	8.30	7.77	7.78	7.81	8.87	13.14	12.36	8.82	8.15	8.07	13.14
Min	7.63	7.81	7.76	7.68	7.65	7.65	7.65	8.24	8.86	8.16	7.82	7.71	7.63

Annual Max Momentary Gage Height 13.30 M (MSL), at 15.00 Hours, on Nov 30, 1993
Zero Gage at Bottom Elevation 7.20 M (MSL), River Bed 7.12 M (MSL)
Left Bank Elevation 15.14 M (MSL)
Right Bank Elevation 14.99 M (MSL), Drainage Area 180 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.15	1.02	1.11	0.48	0.39	0.27	0.15	5.73	69.40	5.47	1.65	0.63	
2	0.15	1.05	1.32	0.48	0.33	0.24	0.18	5.22	35.20	5.08	1.59	0.60	
3	0.12	0.96	1.59	0.48	0.36	0.60	0.21	4.47	24.46	4.77	1.59	0.57	
4	0.12	0.90	1.41	0.48	0.54	0.63	0.27	3.80	18.55	4.85	1.59	0.57	
5	0.12	0.81	1.35	0.45	0.45	0.63	0.42	3.44	15.20	4.92	1.65	0.54	
6	0.09	0.78	1.29	0.42	0.39	0.63	0.66	3.56	13.28	4.55	1.62	0.51	
7	0.09	0.72	1.26	0.39	0.36	0.51	0.57	4.25	12.32	4.17	1.53	0.51	
8	0.09	0.69	1.20	0.36	0.36	0.45	0.51	4.32	12.20	3.87	1.47	0.48	
9	0.12	0.63	2.20	0.36	0.39	0.39	0.63	3.62	10.55	3.68	1.41	0.45	
10	0.09	0.63	1.65	0.33	0.39	0.36	0.60	3.20	9.56	3.50	1.35	0.42	
11	0.09	0.87	1.50	0.30	0.33	0.36	0.84	2.84	8.80	3.38	1.29	0.42	
12	0.09	1.02	1.32	0.27	0.33	0.33	0.69	2.96	8.40	3.38	1.26	0.39	
13	0.09	0.96	1.23	0.27	0.30	0.30	0.60	2.84	7.90	3.56	1.23	0.39	
14	0.18	0.93	1.20	0.24	0.30	0.27	0.54	2.60	7.45	3.26	1.17	0.36	
15	0.45	0.87	1.26	0.39	0.27	0.24	0.57	2.44	7.09	3.02	1.11	0.36	
16	0.78	0.84	1.17	0.48	0.24	0.21	0.69	2.28	21.94	2.84	1.08	0.33	
17	1.84	0.81	1.05	0.42	0.24	0.24	0.66	2.12	39.00	2.66	1.05	0.51	
18	3.26	0.93	0.93	0.39	0.21	0.21	0.84	2.00	28.62	2.56	1.05	0.69	
19	2.66	0.90	0.87	0.42	0.18	0.21	0.81	1.96	18.14	2.44	1.02	0.84	
20	2.72	1.05	0.78	0.48	0.18	0.21	0.93	2.40	13.64	2.36	0.96	0.78	
21	2.48	1.29	0.75	0.39	0.15	0.24	1.68	2.90	11.54	2.32	0.93	0.69	
22	2.28	1.29	0.69	0.33	0.18	0.21	1.74	11.54	13.04	2.28	0.90	0.78	
23	2.12	1.38	0.69	0.30	0.18	0.18	1.47	14.36	13.76	2.20	0.84	1.05	
24	1.80	1.29	0.60	0.39	0.33	0.18	1.41	12.44	11.21	2.12	0.78	1.02	
25	1.62	1.29	0.57	0.42	0.21	0.27	1.88	8.60	9.56	2.08	0.75	1.05	
26	1.47	1.29	0.57	0.48	0.21	0.24	3.26	6.83	8.60	2.00	0.72	1.20	
27	1.32	1.26	0.54	0.51	0.24	0.21	5.15	5.89	7.81	1.92	0.69	1.41	
28	1.23	1.23	0.51	0.51	0.42	0.18	5.00	6.32	7.27	1.88	0.66	1.32	
29	1.14	1.11	0.51	0.48	0.30	0.15	5.89	24.30	6.66	1.84		1.20	
30	1.05	1.17	0.48	0.48	0.24	0.15	4.70	114.44	6.23	1.77		1.08	
31		1.11		0.42	0.33		5.30		5.81	1.68		0.99	
Total	29.81	31.08	31.60	12.60	9.33	9.30	48.85	273.67	483.19	96.41	32.94	22.14	1080.92 CMSDAY
Mean	0.99	1.00	1.05	0.41	0.30	0.31	1.58	9.12	15.59	3.11	1.18	0.71	2.96 CMS
Max	3.26	1.38	2.20	0.51	0.54	0.63	5.89	114.44	69.40	5.47	1.65	1.41	114.44 CMS
Min	0.09	0.63	0.48	0.24	0.15	0.15	0.15	1.96	5.81	1.68	0.66	0.33	0.09 CMS
Runoff	2.576	2.685	2.730	1.089	0.806	0.804	4.221	23.645	41.748	8.330	2.846	1.913	93.391 MCM

Momentary Peak 126.00 CMS, at 13.30 M (MSL), at 15.00 Hours, on Nov 30, 1993

Runoff Yield 16.45 Liters/Second/Square KM, Momentary Peak Yield 700.00 Liters/Second/Square KM

WATER YEAR 1993

SOUTHERN PENINSULA EAST COAST

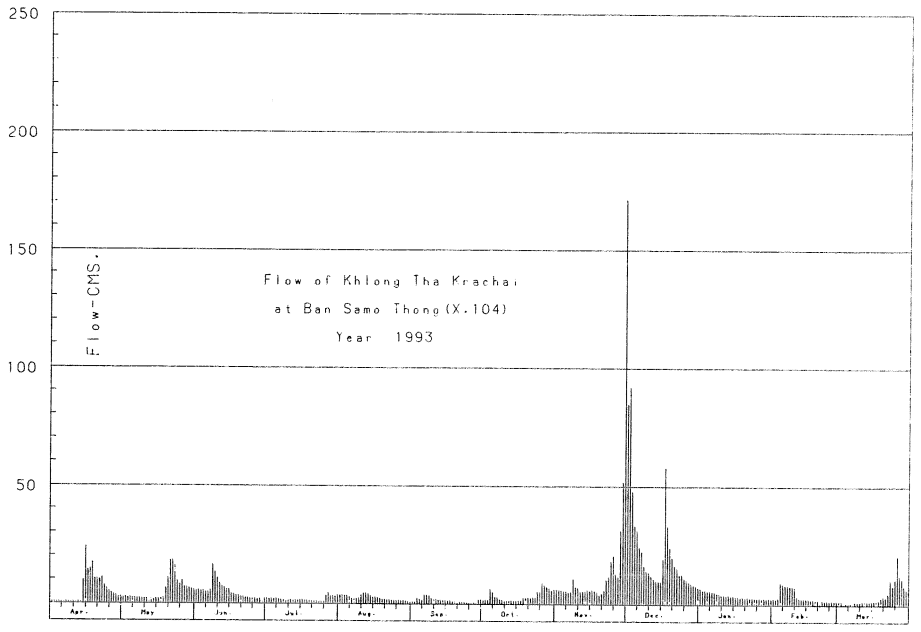
Khlong Tha Krachai at Ban Samo Thong, Surat Thani (X.104)

Location	Lat. 9°-34'-47" N., Long. 99°-08'-14" E., on left bank at Ban Samo Thong, Amphoe Tha Chana, Surat Thani.
Drainage Area	354 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+6.70 m.(M.S.L.)
Bench Mark	B.M.-H.D.
Location	On left bank about 21 meters downstream from the top staff gage.
Elevation	+15.447 m.(M.S.L.)
Gage Reading Frequency	5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1978 to date.
Rating Operation	
Period of Rating	1978 to date.
Rated by Float	-
Rated by Current Meter	1978 to date.
Stability of Channel Regimes	Stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Stage-discharge relation defined by 33 discharge measurements made in 1993.

Gage Height in Meter (MSL), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	6.98	7.18	7.39	7.14	7.27	7.01	7.08	7.42	9.50	7.44	7.15	7.05	
2	6.98	7.18	7.39	7.13	7.26	7.00	7.08	7.40	9.63	7.41	7.15	7.05	
3	6.98	7.17	7.38	7.13	7.26	7.15	7.08	7.39	8.75	7.40	7.18	7.05	
4	6.97	7.17	7.38	7.12	7.25	7.11	7.42	7.38	8.40	7.39	7.58	7.04	
5	6.97	7.16	7.36	7.12	7.21	7.09	7.36	7.37	8.33	7.38	7.54	7.04	
6	6.97	7.15	7.34	7.11	7.13	7.29	7.22	7.35	8.12	7.38	7.53	7.04	
7	6.97	7.15	7.40	7.07	7.12	7.27	7.18	7.35	8.07	7.36	7.52	7.04	
8	6.96	7.14	7.89	7.07	7.12	7.26	7.12	7.65	7.88	7.34	7.51	7.03	
9	6.96	7.14	7.78	7.07	7.17	7.14	7.08	7.48	7.79	7.32	7.50	7.03	
10	6.96	7.14	7.66	7.06	7.26	7.12	7.05	7.45	7.76	7.30	7.49	7.02	
11	6.95	7.11	7.54	7.06	7.33	7.11	7.03	7.37	7.70	7.29	7.25	7.05	
12	6.97	7.10	7.49	7.05	7.32	7.09	7.06	7.36	7.65	7.28	7.16	7.05	
13	6.97	7.09	7.45	7.05	7.32	7.08	7.05	7.38	7.60	7.27	7.15	7.05	
14	7.61	7.09	7.42	7.06	7.25	7.07	7.04	7.40	7.60	7.26	7.15	7.04	
15	8.13	7.11	7.41	7.06	7.20	7.06	7.03	7.39	7.59	7.25	7.15	7.05	
16	7.80	7.10	7.32	7.07	7.19	7.06	7.04	7.40	7.97	7.24	7.14	7.06	
17	7.82	7.13	7.29	7.06	7.18	7.05	7.08	7.39	8.98	7.23	7.13	7.07	
18	7.92	7.14	7.26	7.05	7.14	7.03	7.17	7.35	8.39	7.22	7.12	7.08	
19	7.64	7.44	7.24	7.05	7.11	7.02	7.18	7.29	8.12	7.21	7.11	7.20	
20	7.63	7.65	7.22	7.02	7.10	7.01	7.17	7.32	7.99	7.20	7.10	7.25	
21	7.62	7.95	7.20	7.02	7.09	7.00	7.17	7.40	7.89	7.21	7.09	7.21	
22	7.67	7.95	7.17	7.01	7.08	6.99	7.18	7.62	7.84	7.20	7.08	7.33	
23	7.51	7.88	7.15	7.01	7.08	6.98	7.19	7.69	7.73	7.19	7.07	7.62	
24	7.43	7.59	7.14	7.00	7.07	6.97	7.36	7.94	7.73	7.19	7.07	7.52	
25	7.37	7.53	7.13	7.01	7.07	6.96	7.36	8.02	7.67	7.18	7.07	7.65	
26	7.32	7.64	7.12	7.26	7.06	6.96	7.57	7.74	7.62	7.18	7.06	8.02	
27	7.29	7.47	7.11	7.32	7.06	6.95	7.51	7.69	7.59	7.17	7.06	7.71	
28	7.25	7.45	7.11	7.24	7.05	6.95	7.48	8.34	7.55	7.17	7.06	7.66	
29	7.21	7.44	7.12	7.22	7.04	7.10	7.44	8.84	7.53	7.16		7.50	
30	7.20	7.41	7.13	7.23	7.01	7.09	7.40	10.78	7.50	7.16		7.44	
31		7.40		7.26	7.00		7.41		7.47	7.16		7.38	
Mean	7.30	7.33	7.33	7.10	7.15	7.07	7.21	7.66	8.00	7.26	7.22	7.24	
Max	8.13	7.95	7.89	7.32	7.33	7.29	7.57	10.78	9.63	7.44	7.58	8.02	10.78
Min	6.95	7.09	7.11	7.00	7.00	6.95	7.03	7.29	7.47	7.16	7.06	7.02	6.95

Annual Max Momentary Gage Height 10.80 M (MSL), at 15.00 Hours, on Nov 30, 1993
Zero Gage at Bottom Elevation 6.70 M (MSL), River Bed 6.72 M (MSL)
Left Bank Elevation 16.53 M (MSL)
Right Bank Elevation 16.11 M (MSL), Drainage Area 354 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.84	2.80	5.82	2.40	3.84	1.10	1.80	6.36	84.90	6.72	2.50	1.50	
2	0.84	2.80	5.82	2.30	3.72	1.00	1.80	6.00	91.97	6.18	2.50	1.50	
3	0.84	2.70	5.64	2.30	3.72	2.50	1.80	5.82	47.77	6.00	2.80	1.50	
4	0.76	2.70	5.64	2.20	3.60	2.10	6.36	5.64	33.50	5.82	9.40	1.40	
5	0.76	2.60	5.28	2.20	3.12	1.90	5.28	5.46	31.12	5.64	8.60	1.40	
6	0.76	2.50	4.92	2.10	2.30	4.08	3.24	5.10	24.06	5.64	8.40	1.40	
7	0.76	2.50	6.00	1.70	2.20	3.84	2.80	5.10	22.41	5.28	8.20	1.40	
8	0.68	2.40	16.54	1.70	2.20	3.72	2.20	10.90	16.28	4.92	8.00	1.30	
9	0.68	2.40	13.76	1.70	2.70	2.40	1.80	7.44	13.98	4.56	7.80	1.30	
10	0.68	2.40	11.12	1.60	3.72	2.20	1.50	6.90	13.32	4.20	7.62	1.20	
11	0.60	2.10	8.60	1.60	4.74	2.10	1.30	5.46	12.00	4.08	3.60	1.50	
12	0.76	2.00	7.62	1.50	4.56	1.90	1.60	5.28	10.90	3.96	2.60	1.50	
13	0.76	1.90	6.90	1.50	4.56	1.80	1.50	5.64	9.80	3.84	2.50	1.50	
14	10.02	1.90	6.36	1.60	3.60	1.70	1.40	6.00	9.80	3.72	2.50	1.40	
15	24.39	2.10	6.18	1.60	3.00	1.60	1.30	5.82	9.60	3.60	2.50	1.50	
16	14.20	2.00	4.56	1.70	2.90	1.60	1.40	6.00	19.11	3.48	2.40	1.60	
17	14.72	2.30	4.08	1.60	2.80	1.50	1.80	5.82	58.10	3.36	2.30	1.70	
18	17.46	2.40	3.72	1.50	2.40	1.30	2.70	5.10	33.16	3.24	2.20	1.80	
19	10.68	6.72	3.48	1.50	2.10	1.20	2.80	4.08	24.06	3.12	2.10	3.00	
20	10.46	10.90	3.24	1.20	2.00	1.10	2.70	4.56	19.77	3.00	2.00	3.60	
21	10.24	18.45	3.00	1.20	1.90	1.00	2.70	6.00	16.54	3.12	1.90	3.12	
22	11.34	18.45	2.70	1.10	1.80	0.92	2.80	10.24	15.24	3.00	1.80	4.74	
23	8.00	16.28	2.50	1.10	1.80	0.84	2.90	11.78	12.66	2.90	1.70	10.24	
24	6.54	9.60	2.40	1.00	1.70	0.76	5.28	18.12	12.66	2.90	1.70	8.20	
25	5.46	8.40	2.30	1.10	1.70	0.68	5.28	20.76	11.34	2.80	1.70	10.90	
26	4.56	10.68	2.20	3.72	1.60	0.68	9.20	12.88	10.24	2.80	1.60	20.76	
27	4.08	7.26	2.10	4.56	1.60	0.60	8.00	11.78	9.60	2.70	1.60	12.22	
28	3.60	6.90	2.10	3.48	1.50	0.60	7.44	31.46	8.80	2.70	1.60	11.12	
29	3.12	6.72	2.20	3.24	1.40	2.00	6.72	51.80	8.40	2.60		7.80	
30	3.00	6.18	2.30	3.36	1.10	1.90	6.00	171.24	7.80	2.60		6.72	
31		6.00		3.72	1.00		6.18		7.26	2.60		5.64	
Total	171.59	175.04	159.08	63.08	80.88	50.62	109.58	464.54	706.15	121.08	104.12	134.46	2340.22 CMSDAY
Mean	5.72	5.65	5.30	2.03	2.61	1.69	3.53	15.48	22.78	3.91	3.72	4.34	6.41 CMS
Max	24.39	18.45	16.54	4.56	4.74	4.08	9.20	171.24	91.97	6.72	9.40	20.76	171.24 CMS
Min	0.60	1.90	2.10	1.00	1.00	0.60	1.30	4.08	7.26	2.60	1.60	1.20	0.60 CMS
Runoff	14.825	15.123	13.745	5.450	6.988	4.374	9.468	40.136	61.011	10.461	8.996	11.617	202.195 MCM

Momentary Peak 172.80 CMS, at 10.80 M (MSL), at 15.00 Hours, on Nov 30, 1993
Runoff Yield 18.11 Liters/Second/Square KM, Momentary Peak Yield 488.14 Liters/Second/Square KM

WATER YEAR 1993

SOUTHERN PENINSULA EAST COAST

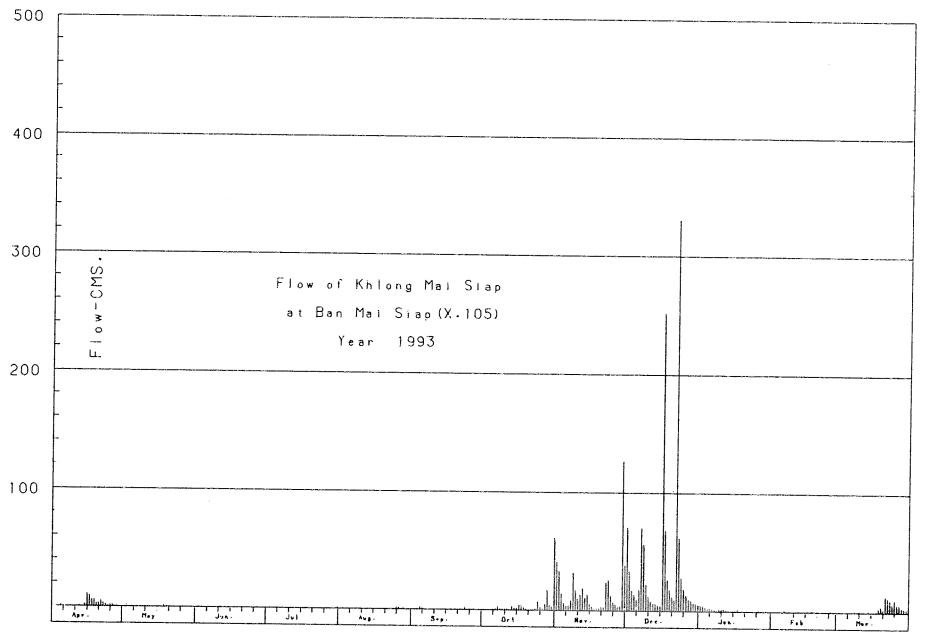
Khlong Mai Siap at Ban Mai Siap, Nakhon Si Thammarat (X.105)

Location	Lat. 7°-51'-01" N., Long. 99°-55'-53" E., on left bank at the bridge of Nakhon Si Thammarat-Phatthalung Highway, at Ban Mai Siap, Amphoe Cha-Uat, Nakhon Si Thammarat.
Drainage Area	155 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+10.49 m.(M.S.L.)
Bench Mark	B.M.-H.D.
Location	Infront of the station office.
Elevation	+20.279 m.(M.S.L.)
Gage Reading Frequency	13-time daily readings at 06.00-18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 13 readings.
Period of Available Gage Records	1978 to date.
Rating Operation	
Period of Rating	1979 to date.
Rated by Float	-
Rated by Current Meter	1979 to date.
Stability of Channel Regimes	Fairly stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Stage-discharge relation defined by 21 discharge measurements made in 1993.

Gage Height in Meter (MSL), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	11.31	11.27	11.27	11.18	11.31	11.19	11.17	13.69	14.42	11.99	11.32	11.33	
2	11.22	11.51	11.20	11.19	11.29	11.17	11.23	13.44	13.45	11.95	11.19	11.18	
3	11.26	11.37	11.19	11.19	11.28	11.18	11.43	12.67	12.82	11.92	11.19	11.17	
4	11.41	11.23	11.18	11.17	11.27	11.61	11.37	12.09	12.62	11.83	11.48	11.16	
5	11.32	11.21	11.18	11.17	11.19	11.51	11.33	11.91	12.36	11.71	11.35	11.37	
6	11.27	11.20	11.39	11.21	11.18	11.34	11.47	11.88	12.82	11.62	11.41	11.37	
7	11.30	11.20	11.33	11.19	11.18	11.19	11.75	12.31	14.42	11.60	11.48	11.35	
8	11.29	11.20	11.31	11.19	11.27	11.18	11.48	13.41	14.08	11.61	11.34	11.38	
9	11.22	11.29	11.20	11.18	11.21	11.18	11.40	12.79	13.02	11.58	11.27	11.38	
10	11.21	11.30	11.19	11.19	11.26	11.18	11.47	12.37	12.53	11.56	11.30	11.38	
11	11.32	11.21	11.20	11.17	11.19	11.17	11.35	12.61	12.29	11.54	11.35	11.22	
12	11.34	11.31	11.19	11.19	11.18	11.16	11.40	12.88	12.14	11.52	11.34	11.20	
13	11.33	11.30	11.18	11.19	11.27	11.18	11.82	12.45	12.07	11.50	11.33	11.37	
14	11.58	11.19	11.18	11.18	11.26	11.16	11.48	12.63	11.96	11.48	11.33	11.33	
15	12.45	11.35	11.19	11.18	11.25	11.18	11.51	12.08	11.89	11.46	11.35	11.18	
16	12.37	11.33	11.18	11.18	11.22	11.16	11.94	11.79	17.16	11.44	11.39	11.17	
17	12.04	11.32	11.19	11.18	11.18	11.17	11.88	11.66	14.38	11.59	11.42	11.52	
18	12.12	11.42	11.20	11.17	11.18	11.17	11.64	11.57	13.18	11.43	11.37	11.75	
19	11.80	11.46	11.19	11.18	11.17	11.20	11.45	11.57	12.82	11.35	11.44	11.94	
20	11.74	11.30	11.29	11.17	11.16	11.34	11.33	11.77	12.51	11.23	11.43	11.66	
21	12.03	11.28	11.28	11.18	11.17	11.19	11.29	11.75	12.37	11.22	11.44	12.63	
22	11.79	11.26	11.26	11.18	11.16	11.17	11.25	13.07	17.99	11.33	11.41	12.51	
23	11.62	11.27	11.20	11.17	11.18	11.77	11.37	13.14	14.22	11.32	11.38	12.41	
24	11.55	11.34	11.18	11.18	11.18	11.42	12.22	12.58	13.25	11.34	11.36	12.15	
25	11.53	11.21	11.19	11.17	11.53	11.38	11.74	12.21	12.87	11.28	11.36	12.42	
26	11.50	11.20	11.19	11.17	11.45	11.31	11.54	12.00	12.60	11.49	11.35	12.08	
27	11.34	11.20	11.27	11.18	11.41	11.29	11.99	11.84	12.42	11.23	11.34	12.08	
28	11.29	11.19	11.27	11.16	11.37	11.34	12.79	11.86	12.30	11.30	11.34	11.86	
29	11.27	11.19	11.19	11.25	11.34	11.19	11.98	15.48	12.19	11.30		11.74	
30	11.29	11.29	11.19	11.42	11.34	11.18	11.74	13.62	12.11	11.31		11.71	
31		11.30		11.35	11.28		14.21		12.04	11.34		11.98	
Mean	11.54	11.28	11.22	11.20	11.26	11.26	11.68	12.50	13.14	11.50	11.36	11.64	
Max	12.45	11.51	11.39	11.42	11.53	11.77	14.21	15.48	17.99	11.99	11.48	12.63	17.99
Min	11.21	11.19	11.18	11.16	11.16	11.16	11.17	11.57	11.89	11.22	11.19	11.16	11.16

Annual Max Momentary Gage Height 19.27 M (MSL), at 15.00 Hours, on Dec 16, 1993
Zero Gage at Bottom Elevation 10.49 M (MSL), River Bed 10.54 M (MSL)
Left Bank Elevation 20.49 M (MSL)
Right Bank Elevation 20.24 M (MSL), Drainage Area 155 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.78	0.68	0.68	0.45	0.78	0.47	0.43	41.15	70.40	4.90	0.80	0.83	
2	0.55	1.55	0.50	0.47	0.73	0.43	0.57	33.00	33.25	4.50	0.47	0.45	
3	0.65	0.93	0.47	0.47	0.70	0.45	1.15	14.40	17.50	4.20	0.47	0.43	
4	1.05	0.57	0.45	0.43	0.68	2.05	0.93	5.90	13.40	3.30	1.40	0.40	
5	0.80	0.53	0.45	0.43	0.47	1.55	0.83	4.10	9.40	2.55	0.88	0.93	
6	0.68	0.50	0.98	0.53	0.45	0.85	1.35	3.80	17.50	2.10	1.05	0.93	
7	0.75	0.50	0.83	0.47	0.45	0.47	2.75	8.65	70.40	2.00	1.40	0.88	
8	0.73	0.50	0.78	0.47	0.68	0.45	1.40	32.25	55.70	2.05	0.85	0.95	
9	0.55	0.73	0.50	0.45	0.53	0.45	1.00	16.80	22.50	1.90	0.68	0.95	
10	0.53	0.75	0.47	0.47	0.65	0.45	1.35	9.55	11.95	1.80	0.75	0.95	
11	0.80	0.53	0.50	0.43	0.47	0.43	0.88	13.20	8.35	1.70	0.88	0.55	
12	0.85	0.78	0.47	0.47	0.45	0.40	1.00	19.00	6.40	1.60	0.85	0.50	
13	0.83	0.75	0.45	0.47	0.68	0.45	3.20	10.75	5.70	1.50	0.83	0.93	
14	1.90	0.47	0.45	0.45	0.65	0.40	1.40	13.60	4.60	1.40	0.83	0.83	
15	10.75	0.88	0.47	0.45	0.63	0.45	1.55	5.80	3.90	1.30	0.88	0.45	
16	9.55	0.83	0.45	0.45	0.55	0.40	4.40	2.95	251.40	1.20	0.98	0.43	
17	5.40	0.80	0.47	0.45	0.45	0.43	3.80	2.30	68.60	1.95	1.10	1.60	
18	6.20	1.10	0.50	0.43	0.45	0.43	2.20	1.85	26.50	1.15	0.93	2.75	
19	3.00	1.30	0.47	0.45	0.43	0.50	1.25	1.85	17.50	0.88	1.20	4.40	
20	2.70	0.75	0.73	0.43	0.40	0.85	0.83	2.85	11.65	0.57	1.15	2.30	
21	5.30	0.70	0.70	0.45	0.43	0.47	0.73	2.75	9.55	0.55	1.20	13.60	
22	2.95	0.65	0.65	0.45	0.40	0.43	0.63	23.75	331.00	0.83	1.05	11.65	
23	2.10	0.68	0.50	0.43	0.45	2.85	0.93	25.50	61.40	0.80	0.95	10.15	
24	1.75	0.85	0.45	0.45	0.45	1.10	7.30	12.70	28.25	0.85	0.90	6.50	
25	1.65	0.53	0.47	0.43	1.65	0.95	2.70	7.15	18.75	0.70	0.90	10.30	
26	1.50	0.50	0.47	0.43	1.25	0.78	1.70	5.00	13.00	1.45	0.88	5.80	
27	0.85	0.50	0.68	0.45	1.05	0.73	4.90	3.40	10.30	0.57	0.85	5.80	
28	0.73	0.47	0.68	0.40	0.93	0.85	16.80	3.60	8.50	0.75	0.85	3.60	
29	0.68	0.47	0.47	0.63	0.85	0.47	4.80	126.80	6.90	0.75		2.70	
30	0.73	0.73	0.47	1.10	0.85	0.45	2.70	38.70	6.10	0.78		2.55	
31		0.75		0.88	0.70		60.95		5.40	0.85		4.80	
Total	67.29	22.26	16.61	15.22	20.29	21.44	136.41	493.10	1225.75	51.43	25.96	99.89	2195.65 CMSDAY
Mean	2.24	0.72	0.55	0.49	0.65	0.71	4.40	16.44	39.54	1.66	0.93	3.22	6.02 CMS
Max	10.75	1.55	0.98	1.10	1.65	2.85	60.95	126.80	331.00	4.90	1.40	13.60	331.00 CMS
Min	0.53	0.47	0.45	0.40	0.40	0.40	0.43	1.85	3.90	0.55	0.47	0.40	0.40 CMS
Runoff	5.814	1.923	1.435	1.315	1.753	1.852	11.786	42.604	105.905	4.444	2.243	8.630	189.704 MCM

Momentary Peak 481.45 CMS, at 19.27 M (MSL), at 15.00 Hours, on Dec 16, 1993
Runoff Yield 38.81 Liters/Second/Square KM, Momentary Peak Yield 3106.13 Liters/Second/Square KM

WATER YEAR 1993

SOUTHERN PENINSULA EAST COAST

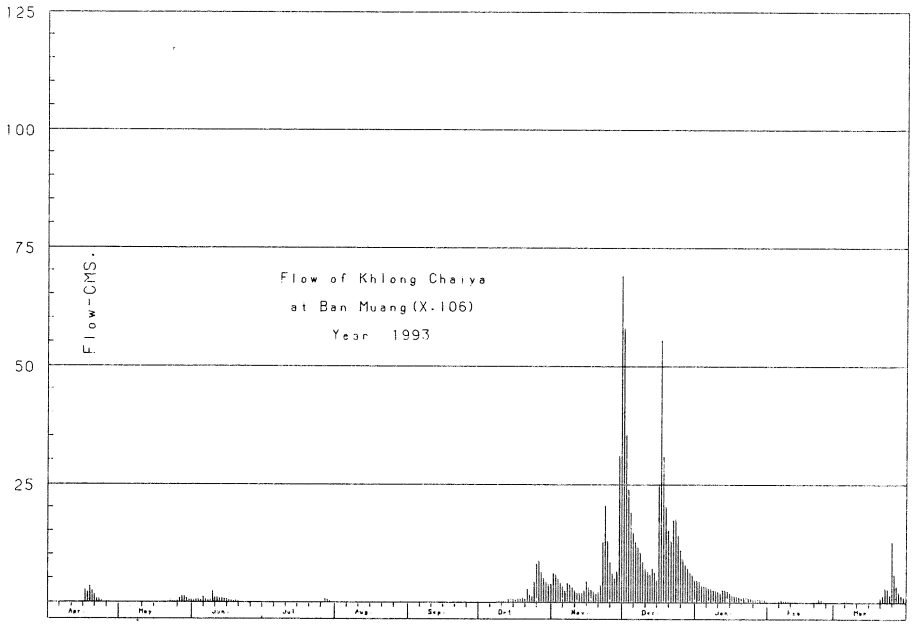
Khlong Chaiya at Ban Muang, Surat Thani (X.106)

Location	Lat. 9°-23'-46" N., Long. 99°-10'-31" E., on left bank at Ban Muang, Amphoe Chaiya, Surat Thani.
Drainage Area	309 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+7.06 m.(M.S.L.)
Bench Mark	B.M.-H.D.
Location	On left bank infront of the gage observer's house.
Elevation	+10.247 m.(M.S.L.)
Gage Reading Frequency	5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1978 to date.
Rating Operation	
Period of Rating	1978 to date.
Rated by Float	-
Rated by Current Meter	1978 to date.
Stability of Channel Regimes	Rather unstable.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Stage-discharge relation defined by 15 discharge measurements made in 1993.

Gage Height in Meter (MSL), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	6.64	6.68	7.02	6.67	6.86	6.72	6.76	7.84	10.34	7.68	7.01	6.71	
2	6.63	6.68	7.12	6.67	6.82	6.78	6.77	7.81	9.70	7.67	7.00	6.70	
3	6.63	6.67	7.09	6.66	6.80	6.76	6.78	7.73	9.09	7.55	6.98	6.70	
4	6.62	6.66	7.08	6.70	6.76	6.79	6.81	7.62	8.79	7.54	7.00	6.99	
5	6.62	6.66	7.23	6.73	6.82	6.82	6.83	7.54	8.51	7.52	7.10	7.09	
6	6.62	6.65	7.13	6.70	6.86	6.90	6.86	7.41	8.36	7.49	7.08	7.03	
7	6.61	6.64	7.12	6.67	6.90	6.99	6.90	7.62	8.28	7.46	7.04	7.01	
8	6.61	6.63	7.19	6.67	6.86	6.92	6.97	7.57	8.19	7.44	7.03	6.95	
9	6.61	6.64	7.39	6.66	6.85	6.89	6.99	7.51	8.04	7.42	7.02	6.92	
10	6.77	6.66	7.22	6.66	6.78	6.87	7.00	7.42	7.91	7.40	7.00	6.89	
11	6.76	6.73	7.20	6.65	6.86	6.86	6.99	7.36	7.86	7.35	6.99	6.86	
12	6.74	6.70	7.18	6.65	6.83	6.84	7.02	7.35	7.81	7.45	6.98	6.82	
13	6.71	6.67	7.17	6.64	6.76	6.81	7.13	7.36	7.92	7.43	6.98	6.77	
14	6.84	6.66	7.16	6.64	6.74	6.77	7.17	7.42	7.85	7.41	6.97	6.75	
15	6.95	6.66	7.13	6.64	6.72	6.75	7.13	7.67	7.70	7.35	6.96	6.74	
16	7.43	6.65	7.09	6.79	6.70	6.75	7.11	7.50	9.16	7.29	6.95	6.73	
17	7.38	6.64	7.05	6.72	6.66	6.74	7.13	7.45	10.30	7.27	6.94	6.71	
18	7.52	6.63	7.03	6.69	6.65	6.74	7.15	7.39	9.48	7.26	6.93	6.70	
19	7.42	6.66	7.03	6.73	6.64	6.73	7.19	7.34	8.86	7.22	6.90	6.98	
20	7.31	6.94	7.00	6.71	6.64	6.72	7.14	7.38	8.55	7.20	6.89	7.16	
21	7.16	6.98	7.00	6.69	6.65	6.71	7.47	7.55	8.38	7.22	6.99	7.27	
22	7.13	7.10	6.90	6.68	6.66	6.72	7.30	8.37	8.69	7.23	7.13	7.48	
23	7.04	7.01	6.79	6.67	6.66	6.73	7.26	8.88	8.70	7.20	7.10	7.46	
24	7.03	6.96	6.74	6.67	6.70	6.72	7.64	8.38	8.47	7.17	7.02	7.34	
25	6.98	7.04	6.70	6.80	6.67	6.72	8.01	8.04	8.24	7.14	6.95	8.37	
26	6.94	7.20	6.71	6.94	6.66	6.71	8.05	7.83	8.09	7.12	6.93	7.81	
27	6.93	7.25	6.69	7.16	6.75	6.71	7.86	7.74	7.99	7.14	6.90	7.54	
28	6.77	7.26	6.69	7.10	6.78	6.72	7.73	7.86	7.92	7.12	6.71	7.37	
29	6.76	7.16	6.69	7.02	6.75	6.72	7.65	9.48	7.85	7.10		7.28	
30	6.70	7.10	6.68	6.95	6.69	6.71	7.58	10.49	7.80	7.08		7.20	
31		7.08		6.89	6.77		7.59		7.70	7.07		7.15	
Mean	6.90	6.83	7.01	6.75	6.75	6.78	7.22	7.83	8.47	7.32	6.98	7.08	
Max	7.52	7.26	7.39	7.16	6.90	6.99	8.05	10.49	10.34	7.68	7.13	8.37	10.49
Min	6.61	6.63	6.68	6.64	6.64	6.71	6.76	7.34	7.70	7.07	6.71	6.70	6.61

Annual Max Momentary Gage Height 10.50 M (MSL), at 6.00 Hours, on Nov 30, 1993
Zero Gage at Bottom Elevation 7.06 M (MSL), River Bed 6.48 M (MSL)
Left Bank Elevation 10.62 M (MSL)
Right Bank Elevation 10.86 M (MSL), Drainage Area 309 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.00	0.00	0.36	0.00	0.00	0.00	0.00	6.28	58.08	4.64	0.33	0.00	
2	0.00	0.00	0.68	0.00	0.00	0.00	0.00	5.92	35.60	4.56	0.30	0.00	
3	0.00	0.00	0.57	0.00	0.00	0.00	0.00	5.10	23.94	3.60	0.24	0.00	
4	0.00	0.00	0.54	0.00	0.00	0.00	0.00	4.16	19.14	3.52	0.30	0.27	
5	0.00	0.00	1.18	0.00	0.00	0.00	0.00	3.52	14.85	3.36	0.60	0.57	
6	0.00	0.00	0.72	0.00	0.00	0.00	0.00	2.48	12.78	3.12	0.54	0.39	
7	0.00	0.00	0.68	0.00	0.00	0.27	0.00	4.16	11.74	2.88	0.42	0.33	
8	0.00	0.00	0.96	0.00	0.00	0.06	0.21	3.76	10.57	2.72	0.39	0.15	
9	0.00	0.00	2.32	0.00	0.00	0.00	0.27	3.28	8.68	2.56	0.36	0.06	
10	0.00	0.00	1.12	0.00	0.00	0.00	0.30	2.56	7.12	2.40	0.30	0.00	
11	0.00	0.00	1.00	0.00	0.00	0.00	0.27	2.08	6.52	2.00	0.27	0.00	
12	0.00	0.00	0.92	0.00	0.00	0.00	0.36	2.00	5.92	2.80	0.24	0.00	
13	0.00	0.00	0.88	0.00	0.00	0.00	0.72	2.08	7.24	2.64	0.24	0.00	
14	0.00	0.00	0.84	0.00	0.00	0.00	0.88	2.56	6.40	2.48	0.21	0.00	
15	0.15	0.00	0.72	0.00	0.00	0.00	0.72	4.56	4.80	2.00	0.18	0.00	
16	2.64	0.00	0.57	0.00	0.00	0.00	0.64	3.20	25.12	1.54	0.15	0.00	
17	2.24	0.00	0.45	0.00	0.00	0.00	0.72	2.80	55.60	1.42	0.12	0.00	
18	3.36	0.00	0.39	0.00	0.00	0.00	0.80	2.32	31.02	1.36	0.09	0.00	
19	2.56	0.00	0.39	0.00	0.00	0.00	0.96	1.92	20.26	1.12	0.00	0.24	
20	1.68	0.12	0.30	0.00	0.00	0.00	0.76	2.24	15.45	1.00	0.00	0.84	
21	0.84	0.24	0.30	0.00	0.00	0.00	2.96	3.60	13.04	1.12	0.27	1.42	
22	0.72	0.60	0.00	0.00	0.00	0.00	1.60	12.91	17.55	1.18	0.72	3.04	
23	0.42	0.33	0.00	0.00	0.00	0.00	1.36	20.58	17.70	1.00	0.60	2.88	
24	0.39	0.18	0.00	0.00	0.00	0.00	4.32	13.04	14.28	0.88	0.36	1.92	
25	0.24	0.42	0.00	0.00	0.00	0.00	8.32	8.68	11.22	0.76	0.15	12.91	
26	0.12	1.00	0.00	0.12	0.00	0.00	8.80	6.16	9.28	0.68	0.09	5.92	
27	0.09	1.30	0.00	0.84	0.00	0.00	6.52	5.20	8.08	0.76	0.00	3.52	
28	0.00	1.36	0.00	0.60	0.00	0.00	5.10	6.52	7.24	0.68	0.00	2.16	
29	0.00	0.84	0.00	0.36	0.00	0.00	4.40	31.02	6.40	0.60		1.48	
30	0.00	0.60	0.00	0.15	0.00	0.00	3.84	69.18	5.80	0.54		1.00	
31		0.54		0.00	0.00		3.92		4.80	0.51		0.80	
Total	15.45	7.53	15.89	2.07	0.00	0.33	58.75	243.87	496.22	60.43	7.47	39.90	947.91 CMSDAY
Mean	0.52	0.24	0.53	0.07	0.00	0.01	1.90	8.13	16.01	1.95	0.27	1.29	2.60 CMS
Max	3.36	1.36	2.32	0.84	0.00	0.27	8.80	69.18	58.08	4.64	0.72	12.91	69.18 CMS
Min	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.92	4.80	0.51	0.00	0.00	0.00 CMS
Runoff	1.335	0.651	1.373	0.179	0.000	0.029	5.076	21.070	42.873	5.221	0.645	3.447	81.899 MCM

Momentary Peak 70.00 CMS, at 10.50 M (MSL), at 6.00 Hours, on Nov 30, 1993

Runoff Yield 8.40 Liters/Second/Square KM, Momentary Peak Yield 226.54 Liters/Second/Square KM

WATER YEAR 1993

SOUTHERN PENINSULA EAST COAST

Khlong Bang Kaeo at Ban Khuan In No Mo, Phatthalung (X.109)

Location — Lat. 7°-20'-36" N., Long. 100°-03'-33" E., on left bank at Ban Khuan In Nomo, Amphoe Khao Chai Son, Phatthalung.

Drainage Area — 133 sq.km.

Type of Gage — Staff gage.

Zero Gage at Bottom — +0.00 m. (A.D.)

Bench Mark — B.M.-H.D.

Location — Infront of the Health Office.

Elevation — +9.575 m.(A.D.)

Gage Reading Frequency — 13-time daily readings at 06.00-18.00 hours.

Basis of Mean Daily Gage Height — Arithmetic mean of 13 readings.

Period of Available Gage Records — 1979 to date.

Rating Operation

Period of Rating — 1979 to date.

Rated by Float — -

Rated by Current Meter — 1979 to date.

Stability of Channel Regimes — Fairly stable.

Overbank Flow Conditions — No overbank flow.

General Description — Records good. Stage-discharge relation defined by 30 discharge measurements made in 1993.

Gage Height in Meter (A.D), Water Year April 1, 1993 to March 31, 1994

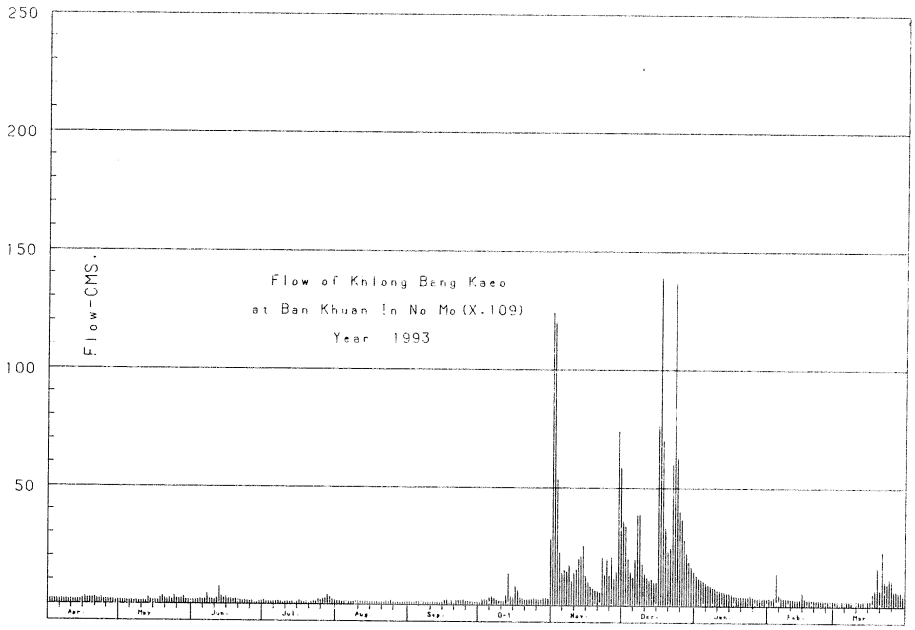
Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.71	0.65	0.66	0.64	0.63	0.57	0.58	5.25	2.67	1.59	0.84	0.71	
2	0.70	0.65	0.67	0.59	0.62	0.58	0.72	5.17	2.59	1.53	0.82	0.70	
3	0.70	0.63	0.66	0.58	0.61	0.55	0.74	3.33	1.95	1.48	0.88	0.70	
4	0.70	0.63	0.72	0.58	0.61	0.62	0.70	2.08	1.66	1.44	1.65	0.70	
5	0.69	0.62	0.68	0.57	0.61	0.59	0.84	1.64	1.55	1.39	1.03	0.69	
6	0.69	0.62	0.72	0.62	0.59	0.65	0.90	1.71	1.93	1.34	0.91	0.69	
7	0.69	0.61	1.00	0.61	0.58	0.58	0.83	1.67	2.79	1.31	0.87	0.69	
8	0.68	0.61	0.74	0.60	0.59	0.56	0.71	1.80	2.79	1.27	0.85	0.69	
9	0.67	0.61	0.69	0.58	0.64	0.57	0.67	1.44	1.85	1.24	0.84	0.68	
10	0.67	0.60	0.69	0.58	0.63	0.55	0.66	1.64	1.63	1.20	0.82	0.72	
11	0.67	0.61	0.74	0.58	0.61	0.57	0.64	1.73	1.53	1.16	0.80	0.70	
12	0.66	0.60	1.25	0.57	0.59	0.56	0.96	1.95	1.45	1.14	0.78	0.69	
13	0.66	0.82	0.85	0.57	0.61	0.57	1.64	1.99	1.50	1.11	0.77	0.68	
14	0.68	0.66	0.76	0.56	0.59	0.55	0.92	2.23	1.39	1.09	0.78	0.69	
15	0.73	0.64	0.83	0.56	0.58	0.56	0.83	1.58	1.42	1.07	1.09	0.70	
16	0.84	0.63	0.73	0.66	0.57	0.69	1.29	1.41	4.09	1.05	0.83	0.70	
17	0.77	0.65	0.72	0.57	0.57	0.77	1.15	1.29	5.47	0.99	0.78	1.09	
18	0.75	0.76	0.71	0.56	0.57	0.69	0.87	1.22	3.89	0.97	0.77	1.19	
19	0.76	0.90	0.70	0.60	0.56	0.68	0.79	1.17	2.55	0.95	0.76	1.77	
20	0.79	0.73	0.68	0.56	0.56	0.65	0.75	1.14	2.10	0.94	0.76	1.20	
21	0.72	0.71	0.65	0.56	0.57	0.66	0.72	1.11	2.17	0.95	0.74	2.11	
22	0.70	0.76	0.63	0.60	0.61	0.69	0.77	1.97	3.55	0.92	0.73	1.43	
23	0.78	0.69	0.63	0.58	0.60	0.68	0.77	1.61	5.44	0.94	0.73	1.38	
24	0.70	0.89	0.63	0.74	0.66	0.72	0.84	1.95	3.64	0.98	0.73	1.51	
25	0.68	0.75	0.61	0.68	0.58	0.65	0.80	1.60	2.84	0.90	0.72	1.47	
26	0.67	0.71	0.61	0.74	0.56	0.63	0.74	1.99	2.70	0.87	0.71	1.19	
27	0.66	0.76	0.60	0.80	0.57	0.63	0.76	1.50	2.35	0.86	0.70	1.16	
28	0.66	0.84	0.60	0.96	0.55	0.60	0.82	1.67	2.06	0.85	0.70	1.09	
29	0.65	0.69	0.60	0.86	0.57	0.59	0.86	4.02	1.89	0.84		1.14	
30	0.65	0.67	0.62	0.70	0.56	0.58	0.78	3.50	1.77	0.84		1.02	
31		0.67		0.66	0.59		2.36		1.68	0.84		0.96	
Mean	0.70	0.69	0.71	0.63	0.59	0.62	0.88	2.08	2.48	1.10	0.84	0.99	
Max	0.84	0.90	1.25	0.96	0.66	0.77	2.36	5.25	5.47	1.59	1.65	2.11	5.47
Min	0.65	0.60	0.60	0.56	0.55	0.55	0.58	1.11	1.39	0.84	0.70	0.68	0.55

Annual Max Momentary Gage Height — 5.76 M (A.D), at 7.00 Hours, on Dec 17, 1993

Zero Gage at Bottom Elevation — 0.00 M (A.D), River Bed -0.09 M (A.D)

Left Bank Elevation — 7.78 M (A.D)

Right Bank Elevation — 8.45 M (A.D), Drainage Area 133 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	2.32	1.87	1.95	1.80	1.72	1.27	1.35	124.25	35.75	12.85	3.30	2.32	
2	2.25	1.87	2.02	1.42	1.65	1.35	2.40	119.85	33.75	11.95	3.15	2.25	
3	2.25	1.72	1.95	1.35	1.57	1.13	2.55	53.57	20.00	11.20	3.60	2.25	
4	2.25	1.72	2.40	1.35	1.57	1.65	2.25	22.60	14.20	10.60	14.00	2.25	
5	2.17	1.65	2.10	1.27	1.57	1.42	3.30	13.80	12.25	9.85	4.87	2.17	
6	2.17	1.65	2.40	1.65	1.42	1.87	3.75	15.20	19.60	9.10	3.83	2.17	
7	2.17	1.57	4.50	1.57	1.35	1.35	3.22	14.40	38.75	8.65	3.52	2.17	
8	2.10	1.57	2.55	1.50	1.42	1.20	2.32	17.00	38.75	8.05	3.38	2.17	
9	2.02	1.57	2.17	1.35	1.80	1.27	2.02	10.60	18.00	7.60	3.30	2.10	
10	2.02	1.50	2.17	1.35	1.72	1.13	1.95	13.80	13.60	7.00	3.15	2.40	
11	2.02	1.57	2.55	1.35	1.57	1.27	1.80	15.60	11.95	6.50	3.00	2.25	
12	1.95	1.50	7.75	1.27	1.42	1.20	4.20	20.00	10.75	6.25	2.85	2.17	
13	1.95	3.15	3.38	1.27	1.57	1.27	13.80	20.80	11.50	5.88	2.77	2.10	
14	2.10	1.95	2.70	1.20	1.42	1.13	3.90	25.60	9.85	5.63	2.85	2.17	
15	2.48	1.80	3.22	1.20	1.35	1.20	3.22	12.70	10.30	5.38	5.63	2.25	
16	3.30	1.72	2.48	1.95	1.27	2.17	8.35	10.15	76.20	5.12	3.22	2.25	
17	2.77	1.87	2.40	1.27	1.27	2.77	6.37	8.35	138.90	4.43	2.85	5.63	
18	2.62	2.70	2.32	1.20	1.27	2.17	3.52	7.30	70.20	4.28	2.77	6.88	
19	2.70	3.75	2.25	1.50	1.20	2.10	2.93	6.62	32.75	4.13	2.70	16.40	
20	2.93	2.48	2.10	1.20	1.20	1.87	2.62	6.25	23.00	4.05	2.70	7.00	
21	2.40	2.32	1.87	1.20	1.27	1.95	2.40	5.88	24.40	4.13	2.55	23.20	
22	2.25	2.70	1.72	1.50	1.57	2.17	2.77	20.40	60.00	3.90	2.48	10.45	
23	2.85	2.17	1.72	1.35	1.50	2.10	2.77	13.20	136.80	4.05	2.48	9.70	
24	2.25	3.67	1.72	2.55	1.95	2.40	3.30	20.00	62.70	4.35	2.48	11.65	
25	2.10	2.62	1.57	2.10	1.35	1.87	3.00	13.00	40.10	3.75	2.40	11.05	
26	2.02	2.32	1.57	2.55	1.20	1.72	2.55	20.80	36.50	3.52	2.32	6.88	
27	1.95	2.70	1.50	3.00	1.27	1.72	2.70	11.50	28.00	3.45	2.25	6.50	
28	1.95	3.30	1.50	4.20	1.13	1.50	3.15	14.40	22.20	3.38	2.25	5.63	
29	1.87	2.17	1.50	3.45	1.27	1.42	3.45	74.10	18.80	3.30		6.25	
30	1.87	2.02	1.65	2.25	1.20	1.35	2.85	58.50	16.40	3.30		4.75	
31		2.02		1.95	1.42		28.20		14.60	3.30		4.20	
Total	68.05	67.19	71.68	54.12	44.46	48.99	132.96	790.22	1100.55	188.93	96.65	171.61	2835.41 CMSDAY
Mean	2.27	2.17	2.39	1.75	1.43	1.63	4.29	26.34	35.50	6.09	3.45	5.54	7.77 CMS
Max	3.30	3.75	7.75	4.20	1.95	2.77	28.20	124.25	138.90	12.85	14.00	23.20	138.90 CMS
Min	1.87	1.50	1.50	1.20	1.13	1.13	1.35	5.88	9.85	3.30	2.25	2.10	1.13 CMS
Runoff	5.880	5.805	6.193	4.676	3.841	4.233	11.488	68.275	95.088	16.324	8.351	14.827	244.979 MCM

Momentary Peak 169.80 CMS, at 5.76 M (A.D), at 7.00 Hours, on Dec 17, 1993

Runoff Yield 58.41 Liters/Second/Square KM, Momentary Peak Yield 1276.69 Liters/Second/Square KM

WATER YEAR 1993

SOUTHERN PENINSULA EAST COAST

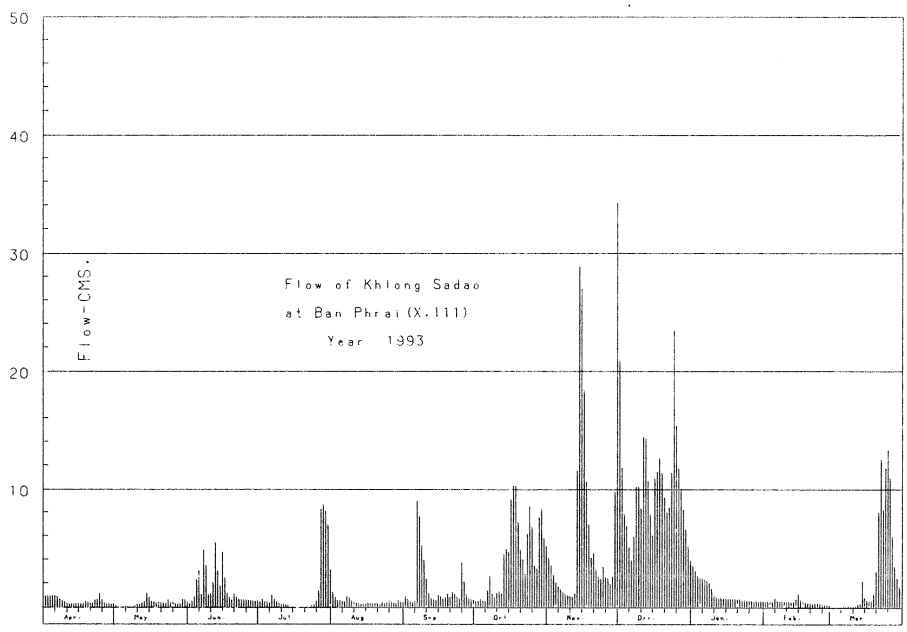
Khlong Sadao at Ban Phrai, Songkhla (X.111)

Location	Lat. 6°-39'-37" N., Long. 100°-26'-09" E., on left bank at Ban Phrai, Amphoe Sadao, Songkhla.
Drainage Area	256 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+0.00 m.(A.D.)
Bench Mark	B.M.-H.D.
Location	Near the top staff gage.
Elevation	+5.698 m.(A.D.)
Gage Reading Frequency	5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1979 to date.
Rating Operation	
Period of Rating	1979 to date.
Rated by Float	-
Rated by Current Meter	1979 to date.
Stability of Channel Regimes	Rather unstable.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Stage-discharge relation defined by 57 discharge measurements made in 1993.

Gage Height in Meter (A.D), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.45	-0.07	0.04	0.17	0.60	0.46	0.15	1.52	3.66	1.35	0.17	-0.10	
2	0.45	-0.09	0.17	0.30	0.42	0.29	0.20	1.38	3.13	1.22	0.16	-0.10	
3	0.45	-0.12	0.41	0.17	0.20	0.16	0.30	1.09	2.38	1.06	0.15	-0.10	
4	0.45	-0.13	0.95	0.12	0.24	0.08	0.20	0.89	2.19	1.02	0.12	-0.10	
5	0.47	-0.13	1.22	0.10	0.18	0.18	0.17	0.77	1.76	1.00	0.37	-0.10	
6	0.41	-0.14	0.52	0.51	0.14	2.61	0.66	0.69	1.47	0.97	0.19	-0.10	
7	0.29	-0.15	1.70	0.27	0.44	2.34	1.07	0.61	1.98	0.93	0.18	-0.09	
8	0.21	-0.08	1.36	0.16	0.37	1.81	0.57	0.53	2.85	0.88	0.17	-0.09	
9	0.14	-0.07	0.52	0.02	0.21	1.48	0.39	0.49	2.85	0.70	0.17	-0.09	
10	0.05	-0.02	0.53	0.02	0.13	0.99	0.58	0.45	2.48	0.50	0.16	-0.09	
11	0.03	0.01	0.88	0.01	0.09	0.56	0.62	0.40	3.43	0.39	0.15	-0.08	
12	0.03	0.08	1.85	-0.01	0.05	0.34	0.57	0.57	3.42	0.37	0.12	0.00	
13	0.02	0.15	1.22	-0.06	0.03	0.25	1.60	3.10	2.94	0.35	0.14	0.05	
14	0.02	0.58	0.79	-0.12	0.01	0.23	1.71	3.84	2.38	0.35	0.31	0.91	
15	0.02	0.40	1.67	-0.13	0.02	0.48	1.65	3.80	2.01	0.33	0.54	0.38	
16	0.02	0.15	1.01	-0.16	0.07	0.44	2.64	3.60	2.97	0.33	0.24	0.20	
17	0.05	0.14	0.59	-0.19	0.07	0.30	2.86	2.93	3.07	0.32	0.17	0.20	
18	0.15	0.07	0.39	-0.14	0.04	0.39	2.86	2.21	3.24	0.32	0.12	0.20	
19	0.12	0.13	0.25	-0.17	0.06	0.52	2.24	1.54	3.05	0.31	0.09	0.54	
20	0.06	0.10	0.55	-0.17	0.02	0.41	1.70	1.63	2.67	0.29	0.07	1.20	
21	0.06	0.07	0.41	-0.17	0.02	0.60	1.50	1.25	2.41	0.28	0.03	2.41	
22	0.25	0.06	0.31	-0.15	0.10	0.55	1.11	1.05	2.50	0.24	0.06	3.23	
23	0.28	0.26	0.24	-0.07	0.07	0.41	2.04	0.97	3.05	0.24	0.07	2.46	
24	0.57	0.07	0.26	-0.03	0.10	0.32	2.52	1.33	3.72	0.22	0.05	3.12	
25	0.25	0.12	0.25	0.20	0.20	1.44	2.16	1.02	3.49	0.22	0.01	3.33	
26	0.08	0.02	0.24	0.64	0.15	0.90	1.36	0.99	3.12	0.20	-0.02	2.97	
27	0.03	0.02	0.22	2.47	0.06	0.53	1.27	0.84	2.81	0.19	-0.03	1.98	
28	0.02	0.02	0.18	2.54	0.05	0.35	2.33	1.05	2.46	0.17	-0.06	1.32	
29	0.02	0.27	0.19	2.44	0.24	0.27	2.46	2.76	2.12	0.16		1.01	
30	0.02	0.24	0.18	2.20	0.11	0.26	1.95	3.94	1.78	0.17		0.74	
31		0.11		1.25	0.09		1.78		1.47	0.17		0.58	
Mean	0.18	0.07	0.64	0.39	0.15	0.67	1.39	1.57	2.67	0.49	0.14	0.83	
Max	0.57	0.58	1.85	2.54	0.60	2.61	2.86	3.94	3.72	1.35	0.54	3.33	3.94
Min	0.02	-0.15	0.04	-0.19	0.01	0.08	0.15	0.40	1.47	0.16	-0.06	-0.10	-0.19

Annual Max Momentary Gage Height 4.00 M (A.D), at 15.00 Hours, on Nov 30, 1993
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed -0.65 M (A.D)
Left Bank Elevation 6.20 M (A.D)
Right Bank Elevation 6.16 M (A.D), Drainage Area 256 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	1.00	0.19	0.36	0.55	1.30	1.02	0.52	4.18	20.92	3.55	0.55	0.15	
2	1.00	0.16	0.55	0.75	0.94	0.73	0.60	3.64	11.88	3.16	0.54	0.15	
3	1.00	0.12	0.92	0.55	0.60	0.54	0.75	2.77	7.90	2.68	0.52	0.15	
4	1.00	0.11	2.35	0.48	0.66	0.42	0.60	2.17	6.95	2.56	0.48	0.15	
5	1.04	0.11	3.16	0.45	0.57	0.57	0.55	1.81	5.14	2.50	0.85	0.15	
6	0.92	0.09	1.14	1.12	0.51	9.05	1.48	1.57	3.98	2.41	0.58	0.15	
7	0.73	0.07	4.90	0.71	0.98	7.70	2.71	1.33	6.02	2.29	0.57	0.16	
8	0.61	0.18	3.58	0.54	0.85	5.34	1.24	1.16	10.25	2.14	0.55	0.16	
9	0.51	0.19	1.14	0.33	0.61	4.02	0.88	1.08	10.25	1.60	0.55	0.16	
10	0.37	0.27	1.16	0.33	0.49	2.47	1.26	1.00	8.40	1.10	0.54	0.16	
11	0.34	0.32	2.14	0.32	0.44	1.22	1.36	0.90	14.48	0.88	0.52	0.18	
12	0.34	0.42	5.50	0.28	0.37	0.81	1.24	1.24	14.32	0.85	0.48	0.30	
13	0.33	0.52	3.16	0.21	0.34	0.67	4.50	11.70	10.74	0.82	0.51	0.37	
14	0.33	1.26	1.87	0.12	0.32	0.65	4.94	29.00	7.90	0.82	0.76	2.23	
15	0.33	0.90	4.78	0.11	0.33	1.06	4.70	27.00	6.14	0.79	1.18	0.87	
16	0.33	0.52	2.53	0.06	0.40	0.98	9.20	18.40	10.92	0.79	0.66	0.60	
17	0.37	0.51	1.28	0.02	0.40	0.75	10.30	10.68	11.52	0.78	0.55	0.60	
18	0.52	0.40	0.88	0.09	0.36	0.88	10.30	7.05	12.62	0.78	0.48	0.60	
19	0.48	0.49	0.67	0.04	0.39	1.14	7.20	4.26	11.40	0.76	0.44	1.18	
20	0.39	0.45	1.20	0.04	0.33	0.92	4.90	4.62	9.35	0.73	0.40	3.10	
21	0.39	0.40	0.92	0.04	0.33	1.30	4.10	3.25	8.05	0.72	0.34	8.05	
22	0.67	0.39	0.76	0.07	0.45	1.20	2.83	2.65	8.50	0.66	0.39	12.54	
23	0.72	0.69	0.66	0.19	0.40	0.92	6.26	2.41	11.40	0.66	0.40	8.30	
24	1.24	0.40	0.69	0.26	0.45	0.78	8.60	3.49	23.48	0.63	0.37	11.82	
25	0.67	0.48	0.67	0.60	0.60	3.86	6.80	2.56	15.44	0.63	0.32	13.37	
26	0.42	0.33	0.66	1.42	0.52	2.20	3.58	2.47	11.82	0.60	0.27	10.92	
27	0.34	0.33	0.63	8.35	0.39	1.16	3.31	2.02	10.05	0.58	0.26	6.02	
28	0.33	0.33	0.57	8.70	0.37	0.82	7.65	2.65	8.30	0.55	0.21	3.46	
29	0.33	0.71	0.58	8.20	0.66	0.71	8.30	9.80	6.60	0.54		2.53	
30	0.33	0.66	0.57	7.00	0.46	0.69	5.90	34.28	5.22	0.55		1.72	
31		0.46		3.25	0.44		5.22		3.98	0.55		1.26	
Total	17.38	12.46	49.98	45.18	16.26	54.58	131.78	201.14	313.92	38.66	14.27	91.56	987.17 CMSDAY
Mean	0.58	0.40	1.67	1.46	0.52	1.82	4.25	6.70	10.13	1.25	0.51	2.95	2.70 CMS
Max	1.24	1.26	5.50	8.70	1.30	9.05	10.30	34.28	23.48	3.55	1.18	13.37	34.28 CMS
Min	0.33	0.07	0.36	0.02	0.32	0.42	0.52	0.90	3.98	0.54	0.21	0.15	0.02 CMS
Runoff	1.502	1.077	4.318	3.904	1.405	4.716	11.386	17.378	27.123	3.340	1.233	7.911	85.291 MCM

Momentary Peak 37.70 CMS, at 4.00 M (A.D), at 15.00 Hours, on Nov 30, 1993
Runoff Yield 10.56 Liters/Second/Square KM, Momentary Peak Yield 147.27 Liters/Second/Square KM

WATER YEAR 1993

SOUTHERN PENINSULA EAST COAST

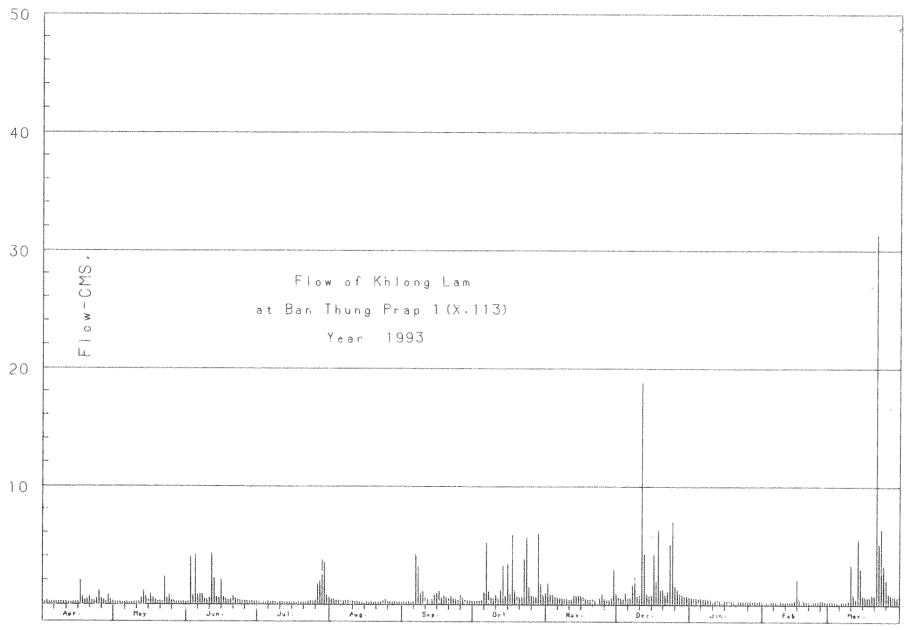
Khlong Lam at Ban Thung Prap (1), Songkhla (X.113)

Location	Lat. 6°-37'-59" N., Long. 100°-23'-46" E., on right bank at Ban Thung Prap (i), Amphoe Sadao, Songkhla.
Drainage Area	129 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+0.00 m.(A.D.)
Bench Mark	B.M.-H.D.
Location	About 10 meters from the gage observer's house.
Elevation	+7.140 m.(A.D.)
Gage Reading Frequency	13-time daily readings at 06.00 - 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 13 readings.
Period of Available Gage Records	1979 to date.
Rating Operation	
Period of Rating	1979 to date.
Rated by Float	-
Rated by Current Meter	1979 to date.
Stability of Channel Regimes	Fairly stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Stage-discharge relation defined by 54 discharge measurements made in 1993.

Gage Height in Meter (A.D), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	1.25	1.28	1.24	1.30	1.52	1.24	1.31	2.40	1.67	1.64	1.29	1.27	
2	1.33	1.25	3.11	1.28	1.47	1.24	1.34	1.90	1.55	1.59	1.28	1.27	
3	1.26	1.23	1.80	1.27	1.41	1.30	1.32	1.86	1.52	1.57	1.28	1.27	
4	1.25	1.23	3.16	1.26	1.38	1.26	1.38	1.71	2.00	1.56	1.28	1.27	
5	1.25	1.22	1.83	1.26	1.36	1.23	2.03	1.64	1.56	1.55	1.28	1.25	
6	1.24	1.22	1.94	1.26	1.35	3.16	3.37	1.60	1.60	1.53	1.28	1.26	
7	1.26	1.21	1.91	1.25	1.39	2.89	2.08	1.56	2.35	1.50	1.28	1.26	
8	1.25	1.21	1.51	1.25	1.37	1.99	1.62	1.53	2.57	1.49	1.29	1.26	
9	1.24	1.22	1.43	1.25	1.32	2.09	1.49	1.50	1.77	1.47	1.27	1.34	
10	1.23	1.25	1.63	1.24	1.30	1.63	1.85	1.48	1.79	1.47	1.27	2.92	
11	1.23	1.26	3.18	1.23	1.29	1.48	1.52	1.45	4.67	1.44	1.27	1.84	
12	1.23	1.59	2.55	1.25	1.28	1.39	2.14	1.82	3.18	1.42	1.27	1.51	
13	1.25	2.09	1.68	1.23	1.28	1.46	2.91	1.81	1.92	1.41	1.29	3.44	
14	1.25	1.70	1.56	1.24	1.27	1.87	1.73	1.83	1.77	1.39	1.37	2.83	
15	1.24	1.45	2.50	1.23	1.26	1.98	2.94	1.77	1.80	1.39	2.52	1.78	
16	2.49	1.94	1.67	1.23	1.25	2.09	1.91	1.69	3.17	1.38	1.53	1.66	
17	1.66	1.64	1.51	1.21	1.25	1.56	3.51	1.52	2.47	1.37	1.40	1.65	
18	1.42	1.44	1.44	1.22	1.24	1.81	2.12	1.47	3.57	1.36	1.33	1.59	
19	1.45	1.35	1.42	1.21	1.23	1.62	1.74	1.46	2.13	1.35	1.31	1.87	
20	1.70	1.31	1.77	1.21	1.23	1.58	1.64	1.50	2.15	1.34	1.29	1.75	
21	1.39	1.29	1.56	1.21	1.23	1.74	1.66	1.43	1.83	1.32	1.28	5.16	
22	1.30	2.60	1.43	1.24	1.22	1.54	3.07	1.42	2.08	1.32	1.28	3.35	
23	1.53	1.58	1.38	1.36	1.40	1.48	3.47	1.56	3.35	1.31	1.27	3.59	
24	2.11	1.84	1.37	1.31	1.46	1.42	2.26	1.97	3.69	1.30	1.26	2.91	
25	1.51	1.40	1.35	1.41	1.31	1.88	1.81	1.49	2.30	1.31	1.39	2.52	
26	1.39	1.33	1.32	2.38	1.26	1.56	1.67	1.47	2.15	1.31	1.32	1.98	
27	1.32	1.29	1.32	2.46	1.25	1.43	1.67	1.42	1.97	1.30	1.29	1.83	
28	1.88	1.28	1.31	3.06	1.26	1.38	3.52	1.61	1.85	1.30	1.28	1.75	
29	1.47	1.28	1.31	2.99	1.24	1.34	2.40	2.79	1.77	1.30		1.71	
30	1.34	1.27	1.32	1.85	1.23	1.32	1.81	1.94	1.72	1.31		1.68	
31		1.24		1.64	1.23		2.00		1.68	1.30		1.62	
Mean	1.42	1.44	1.75	1.48	1.31	1.67	2.11	1.69	2.25	1.41	1.35	2.01	
Max	2.49	2.60	3.18	3.06	1.52	3.16	3.52	2.79	4.67	1.64	2.52	5.16	5.16
Min	1.23	1.21	1.24	1.21	1.22	1.23	1.31	1.42	1.52	1.30	1.26	1.25	1.21

Annual Max Momentary Gage Height 5.35 M (A.D), at 9.00 Hours, on Mar 21, 1993
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed 0.74 M (A.D)
Left Bank Elevation 5.45 M (A.D)
Right Bank Elevation 6.53 M (A.D), Drainage Area 129 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.25	0.28	0.24	0.30	0.52	0.24	0.31	1.80	0.67	0.64	0.29	0.27	
2	0.33	0.25	4.04	0.28	0.47	0.24	0.34	0.90	0.55	0.59	0.28	0.27	
3	0.26	0.23	0.80	0.27	0.41	0.30	0.32	0.86	0.52	0.57	0.28	0.27	
4	0.25	0.23	4.24	0.26	0.38	0.26	0.38	0.71	1.00	0.56	0.28	0.27	
5	0.25	0.22	0.83	0.26	0.36	0.23	1.06	0.64	0.56	0.55	0.28	0.25	
6	0.24	0.22	0.94	0.26	0.35	4.24	5.25	0.60	0.60	0.53	0.28	0.26	
7	0.26	0.21	0.91	0.25	0.39	3.27	1.16	0.56	1.70	0.50	0.28	0.26	
8	0.25	0.21	0.51	0.25	0.37	0.99	0.62	0.53	2.31	0.49	0.29	0.26	
9	0.24	0.22	0.43	0.25	0.32	1.18	0.49	0.50	0.77	0.47	0.27	0.34	
10	0.23	0.25	0.63	0.24	0.30	0.63	0.85	0.48	0.79	0.47	0.27	3.36	
11	0.23	0.26	4.32	0.23	0.29	0.48	0.52	0.45	18.84	0.44	0.27	0.84	
12	0.23	0.59	2.25	0.25	0.28	0.39	1.28	0.82	4.32	0.42	0.27	0.51	
13	0.25	1.18	0.68	0.23	0.28	0.46	3.33	0.81	0.92	0.41	0.29	5.60	
14	0.25	0.70	0.56	0.24	0.27	0.87	0.73	0.83	0.77	0.39	0.37	3.09	
15	0.24	0.45	2.10	0.23	0.26	0.98	3.42	0.77	0.80	0.39	2.16	0.78	
16	2.07	0.94	0.67	0.23	0.25	1.18	0.91	0.69	4.28	0.38	0.53	0.66	
17	0.66	0.64	0.51	0.21	0.25	0.56	5.96	0.52	2.01	0.37	0.40	0.65	
18	0.42	0.44	0.44	0.22	0.24	0.81	1.24	0.47	6.32	0.36	0.33	0.59	
19	0.45	0.35	0.42	0.21	0.23	0.62	0.74	0.46	1.26	0.35	0.31	0.87	
20	0.70	0.31	0.77	0.21	0.23	0.58	0.64	0.50	1.30	0.34	0.29	0.75	
21	0.39	0.29	0.56	0.21	0.23	0.74	0.66	0.43	0.83	0.32	0.28	31.34	
22	0.30	2.40	0.43	0.24	0.22	0.54	3.88	0.42	1.16	0.32	0.28	5.15	
23	0.53	0.58	0.38	0.36	0.40	0.48	5.75	0.56	5.15	0.31	0.27	6.44	
24	1.22	0.84	0.37	0.31	0.46	0.42	1.52	0.97	7.04	0.30	0.26	3.33	
25	0.51	0.40	0.35	0.41	0.31	0.88	0.81	0.49	1.60	0.31	0.39	2.16	
26	0.39	0.33	0.32	1.76	0.26	0.56	0.67	0.47	1.30	0.31	0.32	0.98	
27	0.32	0.29	0.32	1.98	0.25	0.43	0.67	0.42	0.97	0.30	0.29	0.83	
28	0.88	0.28	0.31	3.84	0.26	0.38	6.02	0.61	0.85	0.30	0.28	0.75	
29	0.47	0.28	0.31	3.57	0.24	0.34	1.80	2.97	0.77	0.30		0.71	
30	0.34	0.27	0.32	0.85	0.23	0.32	0.81	0.94	0.72	0.31		0.68	
31		0.24		0.64	0.23		1.00		0.68	0.30		0.62	
Total	13.41	14.38	29.96	19.05	9.54	23.60	53.14	22.18	71.36	12.60	10.39	73.14	352.75 CMSDAY
Mean	0.45	0.46	1.00	0.61	0.31	0.79	1.71	0.74	2.30	0.41	0.37	2.36	0.97 CMS
Max	2.07	2.40	4.32	3.84	0.52	4.24	6.02	2.97	18.84	0.64	2.16	31.34	31.34 CMS
Min	0.23	0.21	0.24	0.21	0.22	0.23	0.31	0.42	0.52	0.30	0.26	0.25	0.21 CMS
Runoff	1.159	1.242	2.589	1.646	0.824	2.039	4.591	1.916	6.166	1.089	0.898	6.319	30.478 MCM

Momentary Peak 37.60 CMS, at 5.35 M (A.D), at 9.00 Hours, on Mar 21, 1993

Runoff Yield 7.49 Liters/Second/Square KM, Momentary Peak Yield 291.47 Liters/Second/Square KM

WATER YEAR 1993

SOUTHERN PENINSULA EAST COAST

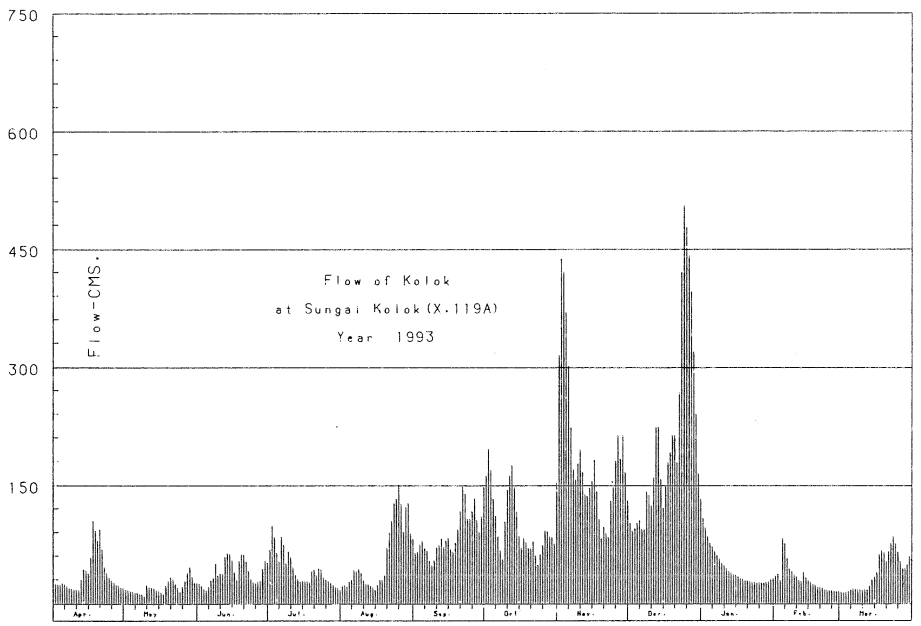
Kolok River at Sungai Kolok, Narathiwat (X.119A)

Location	Lat. 6°-01'-07" N., Long. 101°-58'-43" E., on left bank at the railway bridge near the Immigration Division, Amphoe Sungai Kolok, Narathiwat.
Drainage Area	1,358 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+0.00 m.(A.D.)
Bench Mark	B.M.-H.D.
Location	On left bank about 5.80 meters from the top staff gage.
Elevation	+6.204 m.(A.D.)
Gage Reading Frequency	5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1987 to date.
Rating Operation	
Period of Rating	1988 to date.
Rated by Float	-
Rated by Current Meter	1988 to date.
Stability of Channel Regimes	Stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Stage-discharge relation defined by 35 discharge measurements made in 1993.

Gage Height in Meter (A.D), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	1.49	1.26	1.50	2.56	1.39	2.47	4.19	5.84	3.22	3.33	1.78	1.13	
2	1.45	1.21	1.38	3.15	1.42	2.50	4.65	6.57	3.02	3.10	1.86	1.12	
3	1.45	1.19	1.28	2.88	1.38	2.70	4.30	6.48	3.09	2.90	1.64	1.11	
4	1.50	1.15	1.19	2.49	1.56	2.78	3.74	6.21	3.20	2.73	2.85	1.17	
5	1.48	1.12	1.37	2.24	1.66	2.61	3.38	5.74	3.28	2.65	2.73	1.24	
6	1.38	1.09	1.62	2.89	1.96	2.53	2.91	4.97	3.06	2.52	2.33	1.26	
7	1.32	1.07	1.73	2.70	1.94	2.27	2.54	4.30	3.07	2.43	2.00	1.26	
8	1.27	1.03	2.19	2.18	2.00	2.12	2.30	4.11	3.88	2.31	1.94	1.23	
9	1.24	0.95	1.79	2.53	1.89	2.26	3.24	4.41	3.83	2.20	1.81	1.23	
10	1.23	1.42	1.86	2.35	1.61	2.63	3.92	4.64	3.61	2.11	1.76	1.21	
11	1.20	1.36	1.86	2.05	1.49	2.67	4.19	4.26	4.16	2.03	1.65	1.23	
12	1.67	1.34	2.36	1.83	1.45	2.86	4.38	3.83	4.97	1.94	1.57	1.24	
13	2.00	1.28	2.49	1.68	1.40	2.63	3.97	3.79	4.97	1.88	1.91	1.40	
14	1.95	1.23	2.45	1.60	1.32	2.80	3.48	3.96	4.12	1.84	1.75	1.64	
15	1.87	1.16	2.28	1.62	1.23	2.85	2.91	4.08	3.56	1.82	1.64	1.76	
16	2.35	1.11	1.89	1.57	1.41	2.57	2.61	4.47	4.01	1.76	1.55	1.89	
17	3.28	1.06	1.65	1.60	1.64	2.51	2.85	3.89	4.42	1.72	1.47	2.43	
18	3.03	1.40	2.24	1.53	1.64	2.75	2.75	3.30	4.60	1.67	1.41	2.56	
19	2.80	1.63	2.46	1.94	1.81	3.06	2.60	2.86	4.85	1.63	1.36	2.49	
20	3.07	1.74	2.43	1.98	2.60	3.48	2.61	3.12	4.85	1.60	1.32	2.25	
21	2.57	1.67	2.25	1.80	3.00	3.98	2.78	2.97	4.43	1.58	1.30	2.52	
22	2.07	1.48	1.94	2.03	3.25	3.85	2.41	2.88	5.43	1.55	1.25	2.72	
23	1.87	1.31	1.70	1.98	3.66	3.30	2.14	3.70	6.48	1.53	1.20	2.89	
24	1.74	1.15	1.55	1.75	3.74	3.31	2.44	3.97	6.88	1.53	1.19	2.73	
25	1.62	1.35	1.51	1.64	4.03	3.48	2.68	4.45	6.76	1.53	1.19	2.50	
26	1.53	1.61	1.56	1.61	3.64	3.75	3.03	4.85	6.59	1.53	1.19	2.24	
27	1.45	1.90	1.62	1.53	3.01	3.28	3.02	4.49	6.35	1.53	1.17	2.03	
28	1.40	2.06	2.00	1.43	3.59	3.00	2.89	4.86	5.87	1.53	1.16	2.02	
29	1.34	1.75	2.27	1.35	3.66	3.36	2.88	4.25	5.16	1.58		2.16	
30	1.30	1.54	2.19	1.29	2.96	3.97	2.71	3.70	4.23	1.65		2.39	
31		1.50		1.21	2.84		4.05		3.74	1.70		2.29	
Mean	1.80	1.36	1.89	1.97	2.26	2.94	3.18	4.36	4.51	1.98	1.64	1.85	
Max	3.28	2.06	2.49	3.15	4.03	3.98	4.65	6.57	6.88	3.33	2.85	2.89	6.88
Min	1.20	0.95	1.19	1.21	1.23	2.12	2.14	2.86	3.02	1.53	1.16	1.11	0.95

Annual Max Momentary Gage Height 6.91 M (A.D), at 9.00 Hours, on Dec 24, 1993
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed -0.34 M (A.D)
Left Bank Elevation 8.04 M (A.D)
Right Bank Elevation 7.54 M (A.D), Drainage Area 1358 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	25.70	18.80	26.00	68.50	22.70	64.15	162.35	315.60	103.10	109.15	35.20	14.90	
2	24.50	17.30	22.40	99.25	23.60	65.50	196.25	438.30	92.10	96.50	38.40	14.60	
3	24.50	16.70	19.40	84.50	22.40	75.50	170.00	421.20	95.95	85.50	30.20	14.30	
4	26.00	15.50	16.70	65.05	27.80	79.50	133.10	369.90	102.00	77.00	83.00	16.10	
5	25.40	14.60	22.10	53.80	30.80	71.00	111.90	302.20	106.40	73.00	77.00	18.20	
6	22.40	13.70	29.60	85.00	42.40	67.00	86.05	224.30	94.30	66.50	57.85	18.80	
7	20.60	13.10	33.20	75.50	41.60	55.15	67.50	170.00	94.85	62.35	44.00	18.80	
8	19.10	11.90	51.60	51.20	44.00	48.80	56.50	157.15	142.20	56.95	41.60	17.90	
9	18.20	10.00	35.60	67.00	39.60	54.70	104.20	178.25	138.95	52.00	36.40	17.90	
10	17.90	23.60	38.40	58.75	29.30	72.00	144.80	195.50	124.65	48.40	34.40	17.30	
11	17.00	21.80	38.40	46.00	25.70	74.00	162.35	167.20	160.40	45.20	30.50	17.90	
12	31.10	21.20	59.20	37.20	24.50	83.50	176.00	138.95	224.30	41.60	28.10	18.20	
13	44.00	19.40	65.05	31.40	23.00	72.00	148.05	136.35	224.30	39.20	40.40	23.00	
14	42.00	17.90	63.25	29.00	20.60	80.50	117.40	147.40	157.80	37.60	34.00	30.20	
15	38.80	15.80	55.60	29.60	17.90	83.00	86.05	155.20	121.80	36.80	30.20	34.40	
16	58.75	14.30	39.60	28.10	23.30	69.00	71.00	182.75	150.65	34.40	27.50	39.60	
17	106.40	12.80	30.50	29.00	30.20	66.00	83.00	142.85	179.00	32.80	25.10	62.35	
18	92.65	23.00	53.80	26.90	30.20	78.00	78.00	107.50	192.50	31.10	23.30	68.50	
19	80.50	29.90	63.70	41.60	36.40	94.30	70.50	83.50	213.50	29.90	21.80	65.05	
20	94.85	33.60	62.35	43.20	70.50	117.40	71.00	97.60	213.50	29.00	20.60	54.25	
21	69.00	31.10	54.25	36.00	91.00	148.70	79.50	89.35	179.75	28.40	20.00	66.50	
22	46.80	25.40	41.60	45.20	104.75	140.25	61.45	84.50	268.15	27.50	18.50	76.50	
23	38.80	20.30	32.00	43.20	127.90	107.50	49.60	130.50	421.20	26.90	17.00	85.00	
24	33.60	15.50	27.50	34.00	133.10	108.05	62.80	148.05	505.40	26.90	16.70	77.00	
25	29.60	21.50	26.30	30.20	151.95	117.40	74.50	181.25	478.20	26.90	16.70	65.50	
26	26.90	29.30	27.80	29.30	126.60	133.75	92.65	213.50	442.10	26.90	16.70	53.80	
27	24.50	40.00	29.60	26.90	91.55	106.40	92.10	184.25	396.50	26.90	16.10	45.20	
28	23.00	46.40	44.00	23.90	123.45	91.00	85.00	214.40	319.80	26.90	15.80	44.80	
29	21.20	34.00	55.15	21.50	127.90	110.80	84.50	166.50	241.40	28.40		50.40	
30	20.00	27.20	51.60	19.70	88.80	148.05	76.00	130.50	165.10	30.50		60.55	
31		26.00		17.30	82.50		153.25		133.10	32.00		56.05	
Total	1163.75	681.60	1216.25	1377.75	1876.00	2682.90	3207.35	5674.50	6482.95	1393.15	897.05	1263.55	27916.80 CMSDAY
Mean	38.79	21.99	40.54	44.44	60.52	89.43	103.46	189.15	209.13	44.94	32.04	40.76	76.48 CMS
Max	106.40	46.40	65.05	99.25	151.95	148.70	196.25	438.30	505.40	109.15	83.00	85.00	505.40 CMS
Min	17.00	10.00	16.70	17.30	17.90	48.80	49.60	83.50	92.10	26.90	15.80	14.30	10.00 CMS
Runoff	100.548	58.890	105.084	119.038	162.086	231.803	277.115	490.277	560.127	120.368	77.505	109.171	2412.012 MCM

Momentary Peak 512.30 CMS, at 6.91 M (A.D), at 9.00 Hours, on Dec 24, 1993

Runoff Yield 56.32 Liters/Second/Square KM, Momentary Peak Yield 377.25 Liters/Second/Square KM

WATER YEAR 1993

SOUTHERN PENINSULA EAST COAST

Khlong Waeng at Waeng, Narathiwat (X.121)

Location — Lat. 5°-55'-26" N., Long. 101°-53'-14" E., on right bank at the bridge of Sungai Kolok -Malasia Highway, Amphoe Waeng, Narathiwat.

Drainage Area — 43 sq.km.

Type of Gage — Water-stage recorder.

Zero Gage at Bottom — +15.85 m.(M.S.L.)

Bench Mark — B.M-H.D.

Location — On right bank at abutment of the bridge.

Elevation — +20.347 m.(M.S.L.)

Gage Reading Frequency — Recording.

Basis of Mean Daily Gage Height — Arithmetic mean of 24 readings.

Period of Available Gage Records — 1978 to date.

Rating Operation

Period of Rating — 1981 to date.

Rated by Float — -

Rated by Current Meter — 1981 to date.

Stability of Channel Regimes — Stable.

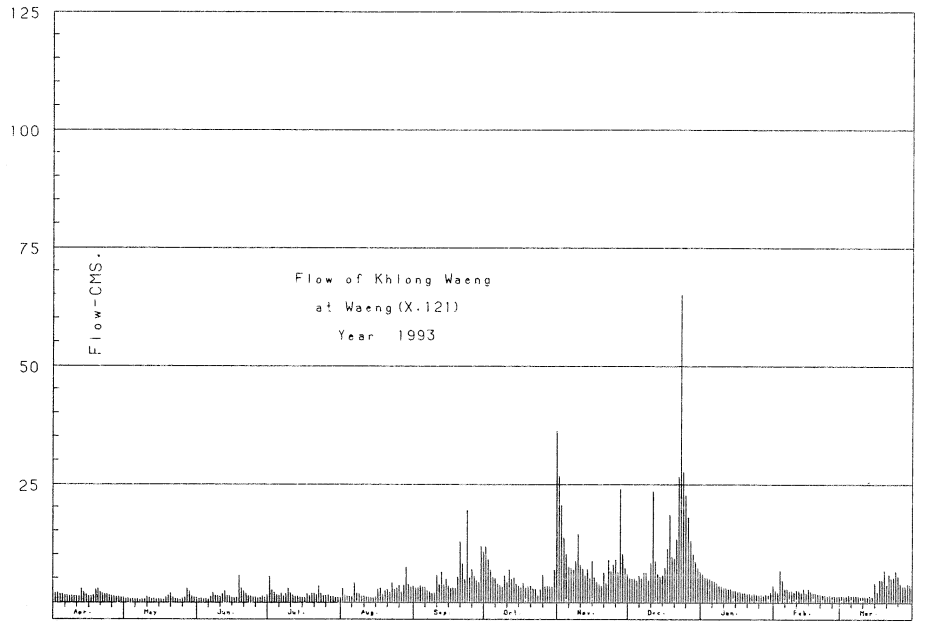
Overbank Flow Conditions — Overbank flow starts at elevation +19.01 m.(M.S.L.),records are channel flow only.

General Description — Records good. Stage-discharge relation defined by 28 discharge measurements made in 1993.

Gage Height in Meter (MSL), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	17.77	17.58	17.57	18.17	17.90	17.90	18.72	19.68	18.15	18.22	17.84	17.67	
2	17.77	17.57	17.56	17.86	17.69	17.92	18.50	19.32	18.12	18.16	17.77	17.64	
3	17.75	17.55	17.55	17.78	17.68	17.96	18.31	18.86	18.14	18.14	18.31	17.66	
4	17.73	17.54	17.55	17.72	17.64	17.94	18.17	18.60	18.08	18.13	18.08	17.70	
5	17.71	17.54	17.54	17.70	17.65	17.92	18.13	18.37	18.18	18.08	17.89	17.68	
6	17.69	17.53	17.65	17.75	18.03	17.84	18.02	18.34	18.14	18.08	17.87	17.67	
7	17.68	17.52	17.77	17.69	17.77	17.80	17.97	18.32	18.27	18.02	17.83	17.68	
8	17.67	17.52	17.70	17.74	17.74	17.76	17.94	18.46	18.25	17.97	17.82	17.66	
9	17.66	17.55	17.67	17.90	17.68	17.76	18.19	18.92	18.10	17.94	17.80	17.64	
10	17.65	17.64	17.64	17.76	17.66	18.20	18.06	18.40	18.43	17.91	17.85	17.65	
11	17.66	17.61	17.76	17.70	17.63	18.00	18.32	18.33	19.49	17.90	17.82	17.63	
12	17.89	17.57	17.82	17.67	17.61	18.28	18.11	18.20	18.47	17.88	17.78	17.63	
13	17.79	17.55	17.70	17.65	17.60	17.98	18.16	18.32	18.23	17.87	17.87	17.66	
14	17.73	17.54	17.66	17.63	17.58	18.13	18.00	18.15	18.16	17.84	17.77	17.64	
15	17.65	17.53	17.62	17.62	17.64	17.95	17.95	18.48	18.21	17.82	17.87	18.02	
16	17.66	17.52	17.58	17.60	17.87	17.90	17.93	18.15	18.34	17.81	17.80	17.79	
17	17.71	17.53	17.62	17.75	17.91	17.90	18.03	18.06	18.69	17.80	17.77	18.11	
18	17.86	17.60	18.21	17.67	17.72	17.90	17.92	17.99	19.19	17.78	17.75	18.09	
19	17.90	17.70	17.91	17.77	17.84	18.16	17.93	17.96	18.54	17.76	17.74	18.30	
20	17.81	17.76	17.82	17.75	17.86	18.80	17.96	18.25	18.52	17.75	17.72	17.99	
21	17.75	17.63	17.75	17.71	17.78	18.43	17.88	18.02	18.84	17.74	17.71	18.22	
22	17.74	17.56	17.69	17.96	18.04	18.11	17.87	18.49	19.67	17.72	17.69	18.13	
23	17.73	17.53	17.65	17.75	17.88	19.25	17.69	18.29	20.50	17.73	17.68	18.16	
24	17.71	17.52	17.63	17.69	17.90	18.16	17.87	18.40	19.73	17.72	17.68	18.28	
25	17.67	17.56	17.61	17.68	17.99	18.33	18.21	18.50	19.45	17.71	17.67	18.19	
26	17.65	17.60	17.61	17.72	17.79	18.18	17.93	18.26	19.16	17.70	17.66	18.00	
27	17.64	17.90	17.61	17.67	17.99	18.09	17.96	19.53	18.81	17.69	17.66	17.95	
28	17.63	17.81	17.65	17.64	18.37	18.04	17.94	18.59	18.59	17.71	17.65	17.93	
29	17.62	17.67	17.62	17.62	17.99	18.73	17.94	18.35	18.45	17.71		18.01	
30	17.60	17.61	17.71	17.60	17.94	18.63	18.32	18.22	18.35	17.78		17.97	
31		17.59		17.59	17.95		20.07		18.27	17.96		17.90	
Mean	17.72	17.59	17.68	17.73	17.82	18.13	18.13	18.46	18.63	17.87	17.80	17.88	
Max	17.90	17.90	18.21	18.17	18.37	19.25	20.07	19.68	20.50	18.22	18.31	18.30	20.50
Min	17.60	17.52	17.54	17.59	17.58	17.76	17.69	17.96	18.08	17.69	17.65	17.63	17.52

Annual Max Momentary Gage Height 20.59 M (MSL), at 15.00 Hours, on Dec 23, 1993
Zero Gage at Bottom Elevation 15.85 M (MSL), River Bed 17.69 M (MSL)
Left Bank Elevation 19.00 M (MSL)
Right Bank Elevation 20.56 M (MSL), Drainage Area 43 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	2.09	1.00	0.95	5.50	3.10	3.10	11.86	26.84	5.30	6.00	2.62	1.45	
2	2.09	0.95	0.90	2.78	1.55	3.26	9.20	20.72	5.00	5.40	2.09	1.30	
3	1.95	0.85	0.85	2.16	1.50	3.58	6.92	13.74	5.20	5.20	6.92	1.40	
4	1.81	0.80	0.85	1.74	1.30	3.42	5.50	10.40	4.62	5.10	4.62	1.60	
5	1.67	0.80	0.80	1.60	1.35	3.26	5.10	7.64	5.60	4.62	3.02	1.50	
6	1.55	0.75	1.35	1.95	4.17	2.62	4.08	7.28	5.20	4.62	2.86	1.45	
7	1.50	0.70	2.09	1.55	2.09	2.30	3.66	7.04	6.50	4.08	2.54	1.50	
8	1.45	0.70	1.60	1.88	1.88	2.02	3.42	8.72	6.30	3.66	2.46	1.40	
9	1.40	0.85	1.45	3.10	1.50	2.02	5.70	14.58	4.80	3.42	2.30	1.30	
10	1.35	1.30	1.30	2.02	1.40	5.80	4.44	8.00	8.36	3.18	2.70	1.35	
11	1.40	1.15	2.02	1.60	1.25	3.90	7.04	7.16	23.53	3.10	2.46	1.25	
12	3.02	0.95	2.46	1.45	1.15	6.60	4.90	5.80	8.84	2.94	2.16	1.25	
13	2.23	0.85	1.60	1.35	1.10	3.74	5.40	7.04	6.10	2.86	2.86	1.40	
14	1.81	0.80	1.40	1.25	1.00	5.10	3.90	5.30	5.40	2.62	2.09	1.30	
15	1.35	0.75	1.20	1.20	1.30	3.50	3.50	8.96	5.90	2.46	2.86	4.08	
16	1.40	0.70	1.00	1.10	2.86	3.10	3.34	5.30	7.28	2.38	2.30	2.23	
17	1.67	0.75	1.20	1.95	3.18	3.10	4.17	4.44	11.48	2.30	2.09	4.90	
18	2.78	1.10	5.90	1.45	1.74	3.10	3.26	3.82	18.64	2.16	1.95	4.71	
19	3.10	1.60	3.18	2.09	2.62	5.40	3.34	3.58	9.68	2.02	1.88	6.80	
20	2.38	2.02	2.46	1.95	2.78	12.90	3.58	6.30	9.44	1.95	1.74	3.82	
21	1.95	1.25	1.95	1.67	2.16	8.36	2.94	4.08	13.46	1.88	1.67	6.00	
22	1.88	0.90	1.55	3.58	4.26	4.90	2.86	9.08	26.66	1.74	1.55	5.10	
23	1.81	0.75	1.35	1.95	2.94	19.60	1.55	6.70	65.20	1.81	1.50	5.40	
24	1.67	0.70	1.25	1.55	3.10	5.40	2.86	8.00	27.74	1.74	1.50	6.60	
25	1.45	0.90	1.15	1.50	3.82	7.16	5.90	9.20	22.85	1.67	1.45	5.70	
26	1.35	1.10	1.15	1.74	2.23	5.60	3.34	6.40	18.16	1.60	1.40	3.90	
27	1.30	3.10	1.15	1.45	3.82	4.71	3.58	24.21	13.04	1.55	1.40	3.50	
28	1.25	2.38	1.35	1.30	7.64	4.26	3.42	10.28	10.28	1.67	1.35	3.34	
29	1.20	1.45	1.20	1.20	3.82	11.99	3.42	7.40	8.60	1.67		3.99	
30	1.10	1.15	1.67	1.10	3.42	10.76	7.04	6.00	7.40	2.16		3.66	
31		1.05		1.05	3.50		36.24		6.50	3.58		3.10	
Total	52.96	34.10	48.33	57.76	79.53	164.56	175.46	274.01	383.06	91.14	66.34	96.28	1523.53 CMSDAY
Mean	1.77	1.10	1.61	1.86	2.57	5.49	5.66	9.13	12.36	2.94	2.37	3.11	4.17 CMS
Max	3.10	3.10	5.90	5.50	7.64	19.60	36.24	26.84	65.20	6.00	6.92	6.80	65.20 CMS
Min	1.10	0.70	0.80	1.05	1.00	2.02	1.55	3.58	4.62	1.55	1.35	1.25	0.70 CMS
Runoff	4.576	2.946	4.176	4.990	6.871	14.218	15.160	23.674	33.096	7.874	5.732	8.319	131.633 MCM

Momentary Peak 73.84 CMS, at 20.59 M (MSL), at 15.00 Hours, on Dec 23, 1993

Runoff Yield 97.07 Liters/Second/Square KM, Momentary Peak Yield 1717.21 Liters/Second/Square KM

WATER YEAR 1993

SOUTHERN PENINSULA WEST COAST

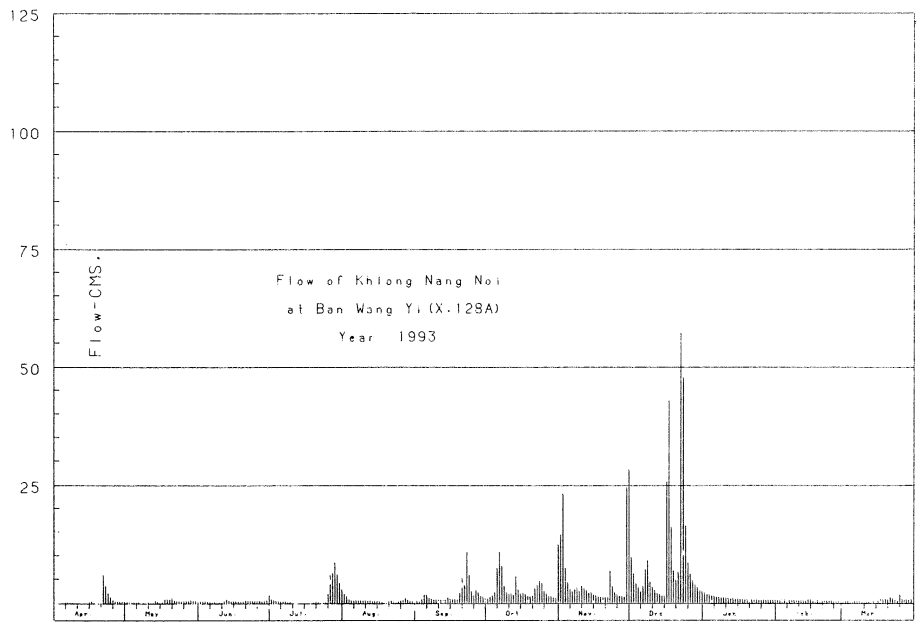
Khlong Nang Noi at Ban Wang Yi, Trang (X.128A)

Location	Lat. 7°-35'-28" N., Long. 99°-44'-13" E., on right bank about 2.00 meters upstream from the bridge at Ban Wang Yi, Amphoe Muang, Trang.
Drainage Area	75 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+0.00 m.(A.D.)
Bench Mark	B.M.-H.D.
Location	On right bank about 5 meters from the top staff gage.
Elevation	+5.730 m.(A.D.)
Gage Reading Frequency	5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1983 to date
Rating Operation	
Period of Rating	1984, 1987 to date.
Rated by Float	-
Rated by Current Meter	1984, 1987 to date
Stability of Channel Regimes	Fairly stable.
Overbank Flow Conditions	Overbank flow starts at elevation +5.55 m.(A.D.), records are channel flow only.
General Description	Records fair. Stage-discharge relation defined by 39 discharge measurements made in 1993.

Gage Height in Meter (A.D), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	-0.05	0.08	0.10	0.23	0.55	0.12	0.29	2.43	1.79	0.59	0.18	0.11	
2	-0.03	0.06	0.11	0.18	0.41	0.11	0.39	3.39	1.28	0.53	0.17	0.11	
3	-0.04	0.05	0.10	0.13	0.25	0.21	0.44	1.47	0.94	0.50	0.27	0.11	
4	-0.04	0.04	0.08	0.12	0.16	0.51	0.61	0.96	0.81	0.46	0.25	0.11	
5	0.06	0.04	0.06	0.10	0.15	0.49	1.46	0.74	0.65	0.43	0.22	0.10	
6	0.01	0.03	0.06	0.10	0.15	0.34	1.96	0.62	0.83	0.40	0.18	0.10	
7	0.07	0.02	0.05	0.09	0.15	0.26	1.52	0.73	1.43	0.37	0.17	0.10	
8	-0.01	0.01	0.03	0.07	0.15	0.22	0.85	0.78	1.69	0.36	0.16	0.09	
9	-0.03	0.01	0.03	0.06	0.15	0.22	0.59	0.66	0.99	0.35	0.17	0.08	
10	-0.03	0.04	0.03	0.05	0.14	0.23	0.55	0.84	0.79	0.34	0.16	0.12	
11	0.00	0.03	0.10	0.03	0.13	0.21	0.55	0.77	0.67	0.31	0.16	0.11	
12	-0.03	0.02	0.26	0.01	0.14	0.18	0.51	0.68	0.56	0.30	0.15	0.09	
13	0.00	0.16	0.15	-0.01	0.12	0.19	1.19	0.58	0.51	0.29	0.15	0.08	
14	-0.01	0.06	0.11	-0.02	0.12	0.37	0.71	0.59	0.46	0.29	0.24	0.08	
15	0.08	0.05	0.12	-0.03	0.12	0.27	0.54	0.51	0.43	0.28	0.22	0.09	
16	0.10	0.04	0.10	-0.04	0.11	0.25	0.58	0.45	3.67	0.26	0.20	0.10	
17	0.01	0.23	0.08	-0.04	0.08	0.26	0.52	0.41	5.32	0.26	0.19	0.25	
18	0.03	0.24	0.08	-0.03	0.07	0.23	0.44	0.38	2.61	0.24	0.17	0.21	
19	-0.03	0.23	0.09	0.11	0.07	0.58	0.40	0.36	1.39	0.23	0.15	0.26	
20	0.00	0.32	0.18	0.09	0.08	1.12	0.46	0.35	1.04	0.23	0.15	0.20	
21	1.26	0.16	0.14	0.03	0.16	0.86	0.75	0.37	1.33	0.22	0.14	0.36	
22	0.83	0.12	0.15	0.02	0.13	1.96	0.88	1.39	6.58	0.22	0.13	0.30	
23	0.57	0.11	0.12	0.01	0.15	1.25	1.02	0.82	5.75	0.22	0.13	0.19	
24	0.36	0.10	0.13	0.04	0.17	0.65	0.95	0.60	2.65	0.20	0.13	0.23	
25	0.20	0.12	0.12	0.54	0.15	0.48	0.66	0.50	1.64	0.20	0.12	0.51	
26	0.11	0.11	0.14	1.22	0.18	0.71	0.53	0.45	1.27	0.20	0.12	0.25	
27	0.10	0.13	0.11	1.30	0.34	0.58	0.44	0.41	1.02	0.20	0.11	0.21	
28	0.09	0.18	0.10	1.65	0.18	0.45	0.41	0.41	0.89	0.19	0.11	0.20	
29	0.09	0.14	0.19	1.25	0.14	0.38	0.35	3.55	0.78	0.19		0.18	
30	0.08	0.12	0.48	0.96	0.12	0.31	0.32	3.92	0.69	0.19		0.20	
31		0.08		0.71	0.14		2.16		0.63	0.18		0.17	
Mean	0.12	0.10	0.12	0.29	0.17	0.47	0.74	1.00	1.65	0.30	0.17	0.17	
Max	1.26	0.32	0.48	1.65	0.55	1.96	2.16	3.92	6.58	0.59	0.27	0.51	6.58
Min	-0.05	0.01	0.03	-0.04	0.07	0.11	0.29	0.35	0.43	0.18	0.11	0.08	-0.05

Annual Max Momentary Gage Height 6.87 M (A.D), at 6.00 Hours, on Dec 22, 1993
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed -0.48 M (A.D)
Left Bank Elevation 5.54 M (A.D)
Right Bank Elevation 5.55 M (A.D), Drainage Area 75 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.10	0.44	0.50	0.89	2.15	0.56	1.07	14.64	9.83	2.35	0.74	0.53	
2	0.14	0.38	0.53	0.74	1.54	0.53	1.46	23.21	6.38	2.05	0.71	0.53	
3	0.12	0.35	0.50	0.59	0.95	0.83	1.66	7.59	4.34	1.90	1.01	0.53	
4	0.12	0.32	0.44	0.56	0.68	1.95	2.45	4.46	3.56	1.74	0.95	0.53	
5	0.38	0.32	0.38	0.50	0.65	1.86	7.52	3.14	2.65	1.62	0.86	0.50	
6	0.23	0.29	0.38	0.50	0.65	1.26	11.02	2.50	3.68	1.50	0.74	0.50	
7	0.41	0.26	0.35	0.47	0.65	0.98	7.94	3.08	7.31	1.38	0.71	0.50	
8	0.18	0.23	0.29	0.41	0.65	0.86	3.80	3.38	9.13	1.34	0.68	0.47	
9	0.14	0.23	0.29	0.38	0.65	0.86	2.35	2.70	4.64	1.30	0.71	0.44	
10	0.14	0.32	0.29	0.35	0.62	0.89	2.15	3.74	3.44	1.26	0.68	0.56	
11	0.20	0.29	0.50	0.29	0.59	0.83	2.15	3.32	2.75	1.14	0.68	0.53	
12	0.14	0.26	0.98	0.23	0.62	0.74	1.95	2.80	2.20	1.10	0.65	0.47	
13	0.20	0.68	0.65	0.18	0.56	0.77	5.84	2.30	1.95	1.07	0.65	0.44	
14	0.18	0.38	0.53	0.16	0.56	1.38	2.96	2.35	1.74	1.07	0.92	0.44	
15	0.44	0.35	0.56	0.14	0.56	1.01	2.10	1.95	1.62	1.04	0.86	0.47	
16	0.50	0.32	0.50	0.12	0.53	0.95	2.30	1.70	25.90	0.98	0.80	0.50	
17	0.23	0.89	0.44	0.12	0.44	0.98	2.00	1.54	43.12	0.98	0.77	0.95	
18	0.29	0.92	0.44	0.14	0.41	0.89	1.66	1.42	16.19	0.92	0.71	0.83	
19	0.14	0.89	0.47	0.53	0.41	2.30	1.50	1.34	7.04	0.89	0.65	0.98	
20	0.20	1.18	0.74	0.47	0.44	5.42	1.74	1.30	4.94	0.89	0.65	0.80	
21	6.26	0.68	0.62	0.29	0.68	3.86	3.20	1.38	6.68	0.86	0.62	1.34	
22	3.68	0.56	0.65	0.26	0.59	11.02	3.98	7.04	57.36	0.86	0.59	1.10	
23	2.25	0.53	0.56	0.23	0.65	6.20	4.82	3.62	47.85	0.86	0.59	0.77	
24	1.34	0.50	0.59	0.32	0.71	2.65	4.40	2.40	16.55	0.80	0.59	0.89	
25	0.80	0.56	0.56	2.10	0.65	1.82	2.70	1.90	8.78	0.80	0.56	1.95	
26	0.53	0.53	0.62	6.02	0.74	2.96	2.05	1.70	6.32	0.80	0.56	0.95	
27	0.50	0.59	0.53	6.50	1.26	2.30	1.66	1.54	4.82	0.80	0.53	0.83	
28	0.47	0.74	0.50	8.85	0.74	1.70	1.54	1.54	4.04	0.77	0.53	0.80	
29	0.47	0.62	0.77	6.20	0.62	1.42	1.30	24.70	3.38	0.77		0.74	
30	0.44	0.56	1.82	4.46	0.56	1.14	1.18	28.40	2.85	0.77		0.80	
31		0.44		2.96	0.62		12.48		2.55	0.74		0.71	
Total	21.22	15.61	16.98	45.96	22.13	60.92	104.93	162.68	323.59	35.35	19.70	22.38	851.45 CMSDAY
Mean	0.71	0.50	0.57	1.48	0.71	2.03	3.38	5.42	10.44	1.14	0.70	0.72	2.33 CMS
Max	6.26	1.18	1.82	8.85	2.15	11.02	12.48	28.40	57.36	2.35	1.01	1.95	57.36 CMS
Min	0.10	0.23	0.29	0.12	0.41	0.53	1.07	1.30	1.62	0.74	0.53	0.44	0.10 CMS
Runoff	1.833	1.349	1.467	3.971	1.912	5.263	9.066	14.056	27.958	3.054	1.702	1.934	73.565 MCM

Momentary Peak 60.84 CMS, at 6.87 M (A.D), at 6.00 Hours, on Dec 22, 1993

Runoff Yield 31.10 Liters/Second/Square KM, Momentary Peak Yield 811.20 Liters/Second/Square KM

WATER YEAR 1993

SOUTHERN PENINSULA EAST COAST

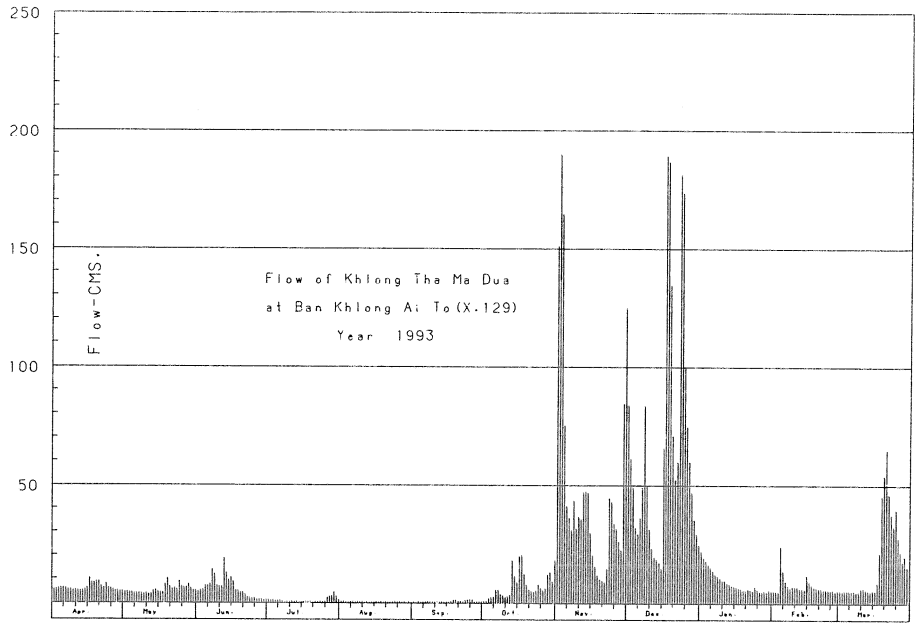
Khlong Tha Ma Dua at Ban Khlong Ai To, Phatthalung (X.129)

Location	Lat. 07°-23'-19" N., Long. 100°-06'-44" n., on right bank near Wat Ban Ai To, Ban Khlong Ai To, Amphoe Khao Chai Son, Phatthalung.
Drainage Area	332 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+13.30 m.(M.S.L.)
Bench Mark	B.M.-H.D.
Location	On right bank about 30 meters from the top staff gage.
Elevation	+20.510 m.(M.S.L.)
Gage Reading Frequency	5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1982 to date.
Rating Operation	
Period of Rating	1983 to date.
Rated by Float	-
Rated by Current Meter	1983 to date.
Stability of Channel Regimes	Stable.
Overbank Flow Conditions	Overbank flow starts at elevation +20.48 m.(M.S.L.),records are channel flow only.
General Description	Records good. Stage-discharge relation defined by 40 discharge measurements made in 1993.

Gage Height in Meter (MSL), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	14.09	13.99	14.01	13.63	13.58	13.53	13.55	19.61	17.62	15.11	14.02	14.01	
2	14.09	13.98	14.04	13.63	13.56	13.53	13.55	20.62	16.82	14.98	13.98	14.01	
3	14.14	13.97	14.09	13.63	13.56	13.53	13.71	19.96	16.33	14.89	13.98	14.01	
4	14.14	13.95	14.23	13.61	13.55	13.53	13.73	17.33	15.60	14.82	15.23	14.04	
5	14.16	13.93	14.22	13.61	13.55	13.53	13.78	16.00	15.49	14.73	14.63	14.01	
6	14.11	13.92	14.27	13.61	13.54	13.55	14.07	15.80	15.80	14.64	14.36	14.01	
7	14.08	13.92	14.69	13.56	13.54	13.54	14.05	15.55	16.33	14.55	14.22	14.01	
8	14.07	13.91	14.55	13.54	13.54	13.54	13.89	16.11	17.61	14.50	14.15	13.97	
9	14.05	13.90	14.23	13.54	13.54	13.54	13.82	15.59	16.37	14.45	14.20	13.97	
10	14.05	13.91	14.19	13.54	13.53	13.54	13.76	15.81	15.57	14.38	14.20	14.12	
11	14.05	13.89	14.20	13.54	13.53	13.54	13.77	15.77	15.19	14.36	14.18	14.13	
12	14.03	13.91	14.96	13.55	13.53	13.54	13.85	16.25	14.99	14.31	14.12	14.08	
13	14.03	14.01	14.60	13.55	13.53	13.54	14.90	16.27	14.92	14.27	14.10	14.02	
14	14.09	14.07	14.38	13.55	13.53	13.54	14.50	16.24	14.86	14.23	14.10	14.01	
15	14.14	13.98	14.45	13.55	13.53	13.54	14.31	15.50	14.70	14.20	14.51	14.02	
16	14.45	13.95	14.33	13.54	13.53	13.54	15.01	15.03	16.98	14.17	14.34	14.03	
17	14.31	13.96	14.05	13.54	13.53	13.54	15.03	14.76	20.61	14.16	14.24	14.30	
18	14.32	14.26	14.02	13.54	13.53	13.65	14.56	14.51	20.54	14.10	14.19	15.07	
19	14.34	14.44	13.97	13.54	13.53	13.63	14.25	14.41	19.16	14.06	14.14	16.19	
20	14.36	14.19	13.94	13.54	13.53	13.58	14.08	14.37	17.17	14.04	14.13	16.53	
21	14.21	14.11	13.86	13.54	13.53	13.56	13.99	14.32	16.47	14.10	14.11	16.96	
22	14.16	14.13	13.74	13.54	13.53	13.55	13.99	14.71	16.76	14.05	14.08	16.21	
23	14.28	14.08	13.72	13.54	13.53	13.62	14.02	16.15	20.41	14.04	14.06	15.86	
24	14.16	14.36	13.71	13.54	13.54	13.65	14.26	16.07	20.20	14.18	14.07	15.62	
25	14.11	14.20	13.71	13.54	13.54	13.65	14.14	15.69	18.13	14.06	14.05	15.94	
26	14.07	14.15	13.67	13.75	13.53	13.66	14.03	15.58	17.31	14.01	14.05	15.41	
27	14.04	14.20	13.66	13.79	13.53	13.55	14.14	15.34	16.77	13.98	14.00	15.11	
28	14.03	14.27	13.65	13.79	13.53	13.55	14.53	15.14	16.24	14.01	14.02	14.88	
29	14.01	14.12	13.64	13.98	13.53	13.55	14.61	17.65	15.76	13.99		14.99	
30	14.00	14.05	13.64	13.78	13.53	13.55	14.34	18.88	15.47	14.04		14.75	
31		14.03		13.64	13.53		14.90		15.26	14.00		14.66	
Mean	14.14	14.06	14.08	13.61	13.54	13.56	14.17	16.17	16.82	14.30	14.19	14.74	
Max	14.45	14.44	14.96	13.98	13.58	13.66	15.03	20.62	20.61	15.11	15.23	16.96	20.62
Min	14.00	13.89	13.64	13.54	13.53	13.53	13.55	14.32	14.70	13.98	13.98	13.97	13.53

Annual Max Momentary Gage Height 20.65 M (MSL), at 6.00 Hours, on Nov 2, 1993
Zero Gage at Bottom Elevation 13.30 M (MSL), River Bed 12.91 M (MSL)
Left Bank Elevation 20.47 M (MSL)
Right Bank Elevation 20.62 M (MSL), Drainage Area 332 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	5.90	4.90	5.10	1.30	0.88	0.58	0.70	151.18	83.82	21.79	5.20	5.10	
2	5.90	4.80	5.40	1.30	0.76	0.58	0.70	189.80	61.34	19.44	4.80	5.10	
3	6.40	4.70	5.90	1.30	0.76	0.58	2.10	164.48	48.95	17.82	4.80	5.10	
4	6.40	4.50	7.45	1.10	0.70	0.58	2.30	75.44	31.90	16.56	24.10	5.40	
5	6.60	4.30	7.30	1.10	0.70	0.58	2.80	41.00	29.48	15.01	13.45	5.10	
6	6.10	4.20	8.05	1.10	0.64	0.70	5.70	36.30	36.30	13.60	9.40	5.10	
7	5.80	4.20	14.35	0.76	0.64	0.64	5.50	30.80	48.95	12.25	7.30	5.10	
8	5.70	4.10	12.25	0.64	0.64	0.64	3.90	43.64	83.51	11.50	6.50	4.70	
9	5.50	4.00	7.45	0.64	0.64	0.64	3.20	31.68	49.95	10.75	7.00	4.70	
10	5.50	4.10	6.90	0.64	0.58	0.64	2.60	36.53	31.24	9.70	7.00	6.20	
11	5.50	3.90	7.00	0.64	0.58	0.64	2.70	35.64	23.31	9.40	6.80	6.30	
12	5.30	4.10	19.08	0.70	0.58	0.64	3.50	47.00	19.62	8.65	6.20	5.80	
13	5.30	5.10	13.00	0.70	0.58	0.64	18.00	47.48	18.36	8.05	6.00	5.20	
14	5.90	5.70	9.70	0.70	0.58	0.64	11.50	46.76	17.28	7.45	6.00	5.10	
15	6.40	4.80	10.75	0.70	0.58	0.64	8.65	29.70	14.50	7.00	11.65	5.20	
16	10.75	4.50	8.95	0.64	0.58	0.64	19.98	20.34	65.66	6.70	9.10	5.30	
17	8.65	4.60	5.50	0.64	0.58	0.64	20.34	15.52	189.40	6.60	7.60	8.50	
18	8.80	7.90	5.20	0.64	0.58	1.50	12.40	11.65	186.60	6.00	6.90	21.06	
19	9.10	10.60	4.70	0.64	0.58	1.30	7.75	10.15	134.60	5.60	6.40	45.56	
20	9.40	6.90	4.40	0.64	0.58	0.88	5.80	9.55	70.96	5.40	6.30	53.95	
21	7.15	6.10	3.60	0.64	0.58	0.76	4.90	8.80	52.45	6.00	6.10	65.12	
22	6.60	6.30	2.40	0.64	0.58	0.70	4.90	14.67	59.76	5.50	5.80	46.04	
23	8.20	5.80	2.20	0.64	0.58	1.20	5.20	44.60	181.58	5.40	5.60	37.68	
24	6.60	9.40	2.10	0.64	0.64	1.50	7.90	42.68	173.60	6.80	5.70	32.34	
25	6.10	7.00	2.10	0.64	0.64	1.50	6.40	33.88	99.66	5.60	5.50	39.56	
26	5.70	6.50	1.70	2.50	0.58	1.60	5.30	31.46	74.88	5.10	5.50	27.72	
27	5.40	7.00	1.60	2.90	0.58	0.70	6.40	26.30	60.02	4.80	5.00	21.79	
28	5.30	8.05	1.50	2.90	0.58	0.70	11.95	22.36	46.76	5.10	5.20	17.64	
29	5.10	6.20	1.40	4.80	0.58	0.70	13.15	84.75	35.42	4.90		19.62	
30	5.00	5.50	1.40	2.80	0.58	0.70	9.10	124.80	29.04	5.40		15.35	
31		5.30		1.40	0.58		18.00		24.70	5.00		13.90	
Total	196.05	175.05	188.43	37.02	19.24	24.38	233.32	1508.94	2083.60	278.87	206.90	550.33	5502.13 CMSDAY
Mean	6.54	5.65	6.28	1.19	0.62	0.81	7.53	50.30	67.21	9.00	7.39	17.75	15.07 CMS
Max	10.75	10.60	19.08	4.80	0.88	1.60	20.34	189.80	189.40	21.79	24.10	65.12	189.80 CMS
Min	5.00	3.90	1.40	0.64	0.58	0.58	0.70	8.80	14.50	4.80	4.80	4.70	0.58 CMS
Runoff	16.939	15.124	16.280	3.199	1.662	2.106	20.159	130.372	180.023	24.094	17.876	47.549	475.384 MCM

Momentary Peak 191.00 CMS, at 20.65 M (MSL), at 6.00 Hours, on Nov 2, 1993

Runoff Yield 45.40 Liters/Second/Square KM, Momentary Peak Yield 575.30 Liters/Second/Square KM

WATER YEAR 1993

SOUTHERN PENINSULA EAST COAST

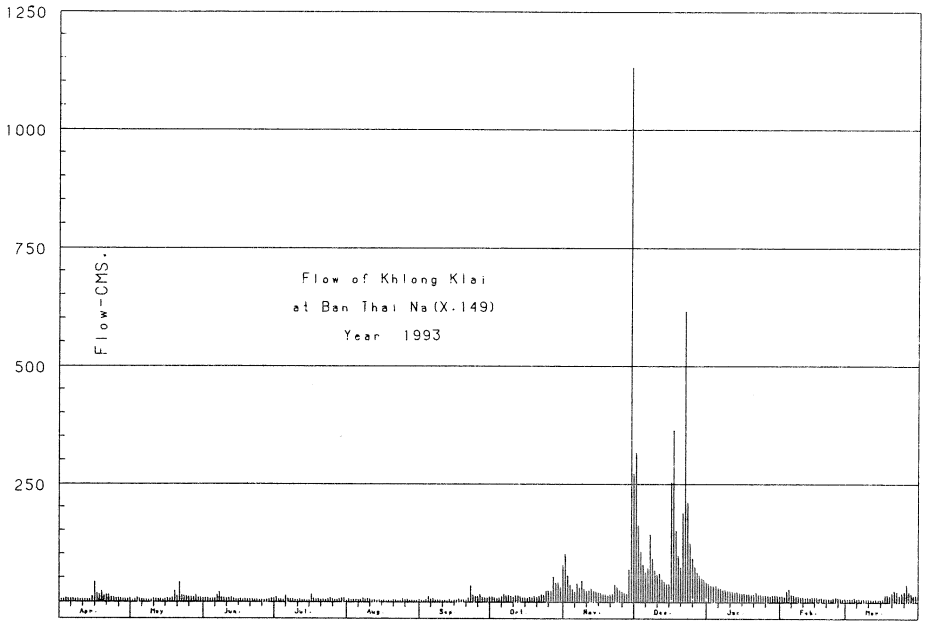
Khlong Klai at Ban Thai Na, Nakhon Si Thammarat (X.149)

Location	Lat. 8°-43'-48" N., Long. 99°-44'-52" E., on left bank at Ban Thai Na, Amphoe Tha Sa La, Nakhon Si Thammarat.
Drainage Area	469 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+28.30 m.(M.S.L.)
Bench Mark	B.M.-H.D.
Location	On left bank near the station office.
Elevation	+34.588 m.(M.S.L.)
Gage Reading Frequency	13-time daily readings at 06.00-18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 13 readings.
Period of Available Gage Records	1984 to date
Rating Operation	
Period of Rating	1984 to date
Rated by Float	-
Rated by Current Meter	1984 to date
Stability of Channel Regimes	Fairly stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Stage-discharge relation defined by 94 discharge measurements made in 1993.

Gage Height in Meter (MSL), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	28.79	28.79	28.86	28.90	28.78	28.71	28.93	29.89	30.82	29.39	28.95	28.80	
2	28.77	28.83	28.84	28.79	28.75	28.71	28.87	29.57	30.21	29.35	28.93	28.80	
3	28.87	28.88	28.81	28.77	28.75	28.74	28.84	29.37	29.93	29.33	29.16	28.81	
4	28.80	28.79	28.81	28.75	28.79	28.94	28.84	29.23	29.75	29.36	29.26	28.84	
5	28.82	28.77	28.81	28.99	28.75	28.80	28.93	29.15	29.62	29.30	29.03	28.80	
6	28.79	28.76	29.00	28.79	28.75	28.81	29.06	29.39	29.71	29.26	28.98	28.79	
7	28.78	28.76	29.11	28.79	28.86	28.75	28.97	29.30	30.12	29.23	28.95	28.79	
8	28.78	28.75	28.89	28.77	28.77	28.73	29.01	29.46	29.83	29.21	28.93	28.78	
9	28.77	28.76	28.84	28.76	28.83	28.73	28.93	29.24	29.67	29.19	28.90	28.77	
10	28.77	28.81	28.83	28.74	28.77	28.73	28.90	29.16	29.57	29.16	28.89	28.77	
11	28.77	28.81	28.83	28.77	28.74	28.71	28.96	29.20	29.60	29.15	28.88	28.77	
12	28.76	28.78	28.90	28.74	28.73	28.71	28.98	29.26	29.49	29.14	28.87	28.76	
13	28.75	28.79	28.82	28.73	28.72	28.78	28.91	29.19	29.43	29.13	28.86	28.76	
14	28.94	28.76	28.80	28.73	28.73	28.71	28.87	29.14	29.39	29.11	28.88	28.75	
15	29.43	28.78	28.79	28.73	28.72	28.74	28.85	29.12	29.38	29.08	28.91	28.75	
16	29.06	28.83	28.79	29.05	28.71	28.75	28.85	29.08	30.61	29.06	28.86	28.77	
17	29.00	28.83	28.78	28.81	28.70	28.79	28.89	29.05	30.97	29.05	28.85	29.00	
18	29.15	28.85	28.78	28.79	28.70	28.76	28.87	29.01	30.16	29.04	28.84	29.00	
19	28.96	29.19	28.78	28.80	28.70	28.75	28.94	28.99	29.87	29.02	28.83	28.97	
20	29.02	28.94	28.77	28.77	28.75	28.76	28.91	29.01	29.72	29.02	28.82	29.08	
21	28.99	29.43	28.77	28.76	28.73	28.86	28.94	29.05	30.34	29.11	28.82	29.18	
22	28.90	28.99	28.76	28.75	28.71	29.35	29.03	29.37	31.63	29.03	28.81	29.16	
23	28.87	28.95	28.75	28.80	28.72	28.99	28.99	29.30	30.44	29.00	28.83	28.98	
24	28.84	28.95	28.75	28.87	28.81	28.95	29.19	29.22	30.02	28.99	28.89	29.07	
25	28.83	28.89	28.74	28.78	28.78	28.93	29.18	29.13	29.84	28.98	28.84	29.16	
26	28.81	28.91	28.74	28.77	28.77	29.02	29.19	29.08	29.72	28.97	28.82	29.36	
27	28.80	28.91	28.75	28.76	28.73	28.90	29.54	29.06	29.63	28.96	28.81	29.14	
28	28.79	28.99	28.78	28.80	28.72	28.85	29.40	29.69	29.56	28.98	28.80	29.04	
29	28.79	28.88	28.84	28.86	28.72	28.86	29.41	32.63	29.51	29.01		28.98	
30	28.83	28.85	28.84	28.84	28.71	28.91	29.31	30.67	29.47	28.97		28.97	
31		28.83		28.83	28.78		29.74		29.43	28.96		28.94	
Mean	28.87	28.87	28.82	28.80	28.75	28.82	29.04	29.40	29.92	29.11	28.90	28.92	
Max	29.43	29.43	29.11	29.05	28.86	29.35	29.74	32.63	31.63	29.39	29.26	29.36	32.63
Min	28.75	28.75	28.74	28.73	28.70	28.71	28.84	28.99	29.38	28.96	28.80	28.75	28.70

Annual Max Momentary Gage Height 34.30 M (MSL), at 11.00 Hours, on Nov 29, 1993
Zero Gage at Bottom Elevation 28.30 M (MSL), River Bed 25.93 M (MSL)
Left Bank Elevation 35.06 M (MSL)
Right Bank Elevation 37.72 M (MSL), Drainage Area 469 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	6.84	6.84	9.48	11.00	6.48	3.96	12.35	101.67	316.20	39.10	13.25	7.20	
2	6.12	8.34	8.72	6.84	5.40	3.96	9.86	57.14	162.10	35.50	12.35	7.20	
3	9.86	10.24	7.58	6.12	5.40	5.04	8.72	37.30	108.31	33.70	23.00	7.58	
4	7.20	6.84	7.58	5.40	6.84	12.80	8.72	26.80	79.00	36.40	28.60	8.72	
5	7.96	6.12	7.58	15.05	5.40	7.20	12.35	22.50	62.36	31.00	16.85	7.20	
6	6.84	5.76	15.50	6.84	5.40	7.58	18.20	39.10	72.60	28.60	14.60	6.84	
7	6.48	5.76	20.50	6.84	9.48	5.40	14.15	31.00	144.00	26.80	13.25	6.84	
8	6.48	5.40	10.62	6.12	6.12	4.68	15.95	46.00	91.89	25.60	12.35	6.48	
9	6.12	5.76	8.72	5.76	8.34	4.68	12.35	27.40	67.76	24.50	11.00	6.12	
10	6.12	7.58	8.34	5.04	6.12	4.68	11.00	23.00	57.14	23.00	10.62	6.12	
11	6.12	7.58	8.34	6.12	5.04	3.96	13.70	25.00	60.20	22.50	10.24	6.12	
12	5.76	6.48	11.00	5.04	4.68	3.96	14.60	28.60	49.00	22.00	9.86	5.76	
13	5.40	6.84	7.96	4.68	4.32	6.48	11.45	24.50	43.00	21.50	9.48	5.76	
14	12.80	5.76	7.20	4.68	4.68	3.96	9.86	22.00	39.10	20.50	10.24	5.40	
15	43.00	6.48	6.84	4.68	4.32	5.04	9.10	21.00	38.20	19.10	11.45	5.40	
16	18.20	8.34	6.84	17.75	3.96	5.40	9.10	19.10	254.80	18.20	9.48	6.12	
17	15.50	8.34	6.48	7.58	3.60	6.84	10.62	17.75	364.80	17.75	9.10	15.50	
18	22.50	9.10	6.48	6.84	3.60	5.76	9.86	15.95	152.00	17.30	8.72	15.50	
19	13.70	24.50	6.48	7.20	3.60	5.40	12.80	15.05	98.41	16.40	8.34	14.15	
20	16.40	12.80	6.12	6.12	5.40	5.76	11.45	15.95	74.20	16.40	7.96	19.10	
21	15.05	43.00	6.12	5.76	4.68	9.48	12.80	17.75	189.44	20.50	7.96	24.00	
22	11.00	15.05	5.76	5.40	3.96	35.50	16.85	37.30	616.60	16.85	7.58	23.00	
23	9.86	13.25	5.40	7.20	4.32	15.05	15.05	31.00	211.26	15.50	8.34	14.60	
24	8.72	13.25	5.40	9.86	7.58	13.25	24.50	26.20	124.00	15.05	10.62	18.65	
25	8.34	10.62	5.04	6.48	6.48	12.35	24.00	21.50	93.52	14.60	8.72	23.00	
26	7.58	11.45	5.04	6.12	6.12	16.40	24.50	19.10	74.20	14.15	7.96	36.40	
27	7.20	11.45	5.40	5.76	4.68	11.00	54.08	18.20	63.44	13.70	7.58	22.00	
28	6.84	15.05	6.48	7.20	4.32	9.10	40.00	69.92	56.12	14.60	7.20	17.30	
29	6.84	10.24	8.72	9.48	4.32	9.48	41.00	1133.00	51.02	15.95		14.60	
30	8.34	9.10	8.72	8.72	3.96	11.45	31.90	271.60	47.00	14.15		14.15	
31		8.34		8.34	6.48		77.40		43.00	13.70		12.80	
Total	319.17	325.66	240.44	226.02	165.08	255.60	598.27	2262.38	3904.67	664.60	316.70	389.61	9668.20 CMSDAY
Mean	10.64	10.51	8.01	7.29	5.33	8.52	19.30	75.41	125.96	21.44	11.31	12.57	26.49 CMS
Max	43.00	43.00	20.50	17.75	9.48	35.50	77.40	1133.00	616.60	39.10	28.60	36.40	1133.00 CMS
Min	5.40	5.40	5.04	4.68	3.60	3.96	8.72	15.05	38.20	13.70	7.20	5.40	3.60 CMS
Runoff	27.576	28.137	20.774	19.528	14.263	22.084	51.691	195.470	337.363	57.421	27.363	33.662	835.333 MCM

Momentary Peak 2490.00 CMS, at 34.30 M (MSL), at 11.00 Hours, on Nov 29, 1993

Runoff Yield 56.48 Liters/Second/Square KM, Momentary Peak Yield 5309.17 Liters/Second/Square KM

WATER YEAR 1993

SOUTHERN PENINSULA EAST COAST

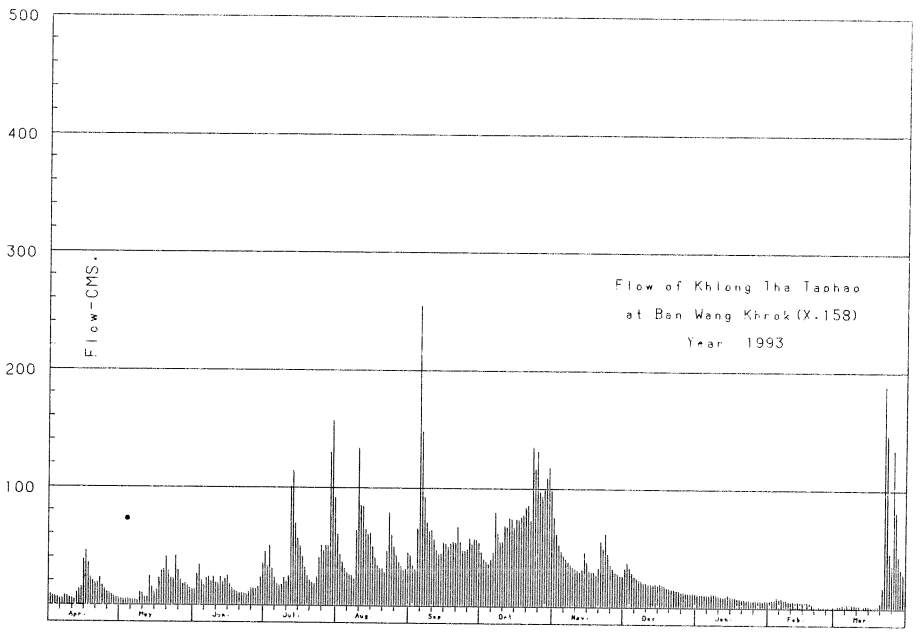
Khlong Tha Taphao at Ban Wang Khrok, Chumphon (X.158)

Location	Lat. 10°-35'-34" N., Long. 99°-08'-42" N., on right bank at the bridge on Chumphon - Prachuap Khiri Khan Highway, Amphoe Tha Sae, Chumphon.
Drainage Area	1,819 sq.km
Type of Gage	Staff gage.
Zero Gage at Bottom	+0.00 m.(A.D.)
Bench Mark	B.M.-A.D.
Location	On right bank about 100 meters from the top staff gage.
Elevation	+8.839 m.(A.D.)
Gage Reading Frequency	5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1984 to date.
Rating Operation	
Period of Rating	1990 to date.
Rated by Float	-
Rated by Current Meter	1990 to date.
Stability of Channel Regimes	Fairly stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Stage-discharge relation defined by 41 discharge measurements made in 1993.

Gage Height in Meter (A.D), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.34	0.23	0.47	1.19	1.48	1.14	1.20	1.74	0.93	0.41	0.26	0.10	
2	0.32	0.21	0.79	0.94	1.16	0.97	1.09	1.50	1.04	0.41	0.27	0.10	
3	0.29	0.23	0.97	1.30	1.02	0.89	1.04	1.34	0.95	0.40	0.30	0.10	
4	0.28	0.23	0.67	0.91	0.92	1.57	1.00	1.22	0.85	0.40	0.34	0.14	
5	0.24	0.21	0.57	0.73	0.83	4.40	1.07	1.15	0.79	0.39	0.31	0.17	
6	0.23	0.21	0.72	0.61	0.80	2.89	1.20	1.09	0.75	0.39	0.32	0.17	
7	0.33	0.19	0.74	0.56	0.78	2.02	1.80	1.04	0.72	0.42	0.29	0.17	
8	0.30	0.18	0.65	0.59	0.72	1.66	1.51	0.99	0.69	0.42	0.27	0.14	
9	0.27	0.41	0.74	0.73	1.54	1.53	1.37	0.95	0.66	0.40	0.25	0.14	
10	0.23	0.37	0.63	0.66	2.67	1.55	1.38	0.92	0.65	0.38	0.24	0.12	
11	0.22	0.27	0.60	0.76	1.89	1.41	1.61	0.89	0.63	0.36	0.24	0.12	
12	0.39	0.29	0.75	2.16	1.88	1.24	1.60	0.87	0.63	0.35	0.23	0.12	
13	0.47	0.76	0.63	2.37	1.56	1.16	1.73	0.91	0.62	0.36	0.23	0.12	
14	0.53	0.53	0.70	1.64	1.48	1.18	1.71	1.21	0.63	0.41	0.23	0.12	
15	1.05	0.40	0.77	1.41	1.51	1.36	1.59	1.03	0.61	0.36	0.22	0.10	
16	1.21	0.45	0.60	1.29	1.29	1.35	1.71	0.89	0.64	0.34	0.23	0.08	
17	1.00	0.71	0.50	1.12	1.10	1.29	1.70	0.87	0.63	0.33	0.22	0.08	
18	0.72	0.86	0.45	0.92	0.97	1.35	1.74	0.86	0.59	0.32	0.21	0.08	
19	0.66	0.88	0.41	0.78	0.91	1.37	1.77	0.81	0.56	0.31	0.20	0.10	
20	0.60	1.10	0.39	0.68	0.91	1.36	1.87	0.94	0.54	0.30	0.13	0.19	
21	0.61	0.86	0.38	0.63	0.84	1.60	1.91	1.39	0.53	0.29	0.09	0.58	
22	0.72	0.72	0.38	0.61	1.22	1.38	1.69	1.28	0.51	0.29	0.08	3.49	
23	0.56	0.70	0.35	0.76	1.79	1.23	2.69	1.51	0.50	0.28	0.07	2.86	
24	0.47	1.12	0.42	1.09	1.48	1.22	2.41	1.18	0.48	0.27	0.06	1.22	
25	0.41	0.87	0.51	1.31	1.28	1.26	2.64	1.00	0.46	0.27	0.06	1.01	
26	0.38	0.69	0.49	1.22	1.14	1.43	2.09	0.92	0.45	0.27	0.06	2.68	
27	0.35	0.59	0.49	1.30	1.03	1.34	2.03	0.87	0.44	0.26	0.09	1.83	
28	0.30	0.60	0.53	1.30	0.95	1.42	2.15	0.83	0.43	0.26	0.12	1.16	
29	0.27	0.56	0.74	2.62	0.89	1.41	2.29	0.80	0.43	0.25		0.94	
30	0.25	0.49	0.99	3.02	0.90	1.36	2.43	0.79	0.43	0.25		0.85	
31		0.46		2.01	1.19		2.15		0.43	0.25		0.75	
Mean	0.47	0.53	0.60	1.20	1.23	1.51	1.75	1.06	0.62	0.34	0.20	0.64	
Max	1.21	1.12	0.99	3.02	2.67	4.40	2.69	1.74	1.04	0.42	0.34	3.49	4.40
Min	0.22	0.18	0.35	0.56	0.72	0.89	1.00	0.79	0.43	0.25	0.06	0.08	0.06

Annual Max Momentary Gage Height 4.80 M (A.D), at 9.00 Hours, on Sep 5, 1993
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed -0.64 M (A.D)
Left Bank Elevation 9.73 M (A.D)
Right Bank Elevation 10.15 M (A.D), Drainage Area 1819 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	8.94	5.47	13.69	45.50	60.48	43.00	46.00	76.00	32.84	11.47	6.34	2.20	
2	8.22	4.89	26.36	33.32	44.00	34.76	40.52	61.60	38.12	11.47	6.63	2.20	
3	7.21	5.47	34.76	51.00	37.16	30.94	38.12	53.00	33.80	11.10	7.50	2.20	
4	6.92	5.47	21.23	31.88	32.36	65.80	36.20	47.00	29.10	11.10	8.94	3.16	
5	5.76	4.89	17.39	23.72	28.18	254.70	39.56	43.50	26.36	10.74	7.86	3.88	
6	5.47	4.89	23.28	18.89	26.80	148.54	46.00	40.52	24.60	10.74	8.22	3.88	
7	8.58	4.36	24.16	17.02	25.92	92.80	79.60	38.12	23.28	11.84	7.21	3.88	
8	7.50	4.12	20.45	18.13	23.28	71.20	62.20	35.72	22.01	11.84	6.63	3.16	
9	6.63	11.47	24.16	23.72	64.00	63.40	54.50	33.80	20.84	11.10	6.05	3.16	
10	5.47	10.02	19.67	20.84	134.02	64.60	55.00	32.36	20.45	10.38	5.76	2.68	
11	5.18	6.63	18.50	25.04	85.00	56.56	68.20	30.94	19.67	9.66	5.76	2.68	
12	10.74	7.21	24.60	101.20	84.40	48.00	67.60	30.02	19.67	9.30	5.47	2.68	
13	13.69	25.04	19.67	114.28	65.20	44.00	75.40	31.88	19.28	9.66	5.47	2.68	
14	15.91	15.91	22.40	70.00	60.48	45.00	74.20	46.50	19.67	11.47	5.47	2.68	
15	38.60	11.10	25.48	56.56	62.20	54.00	67.00	37.64	18.89	9.66	5.18	2.20	
16	46.50	12.95	18.50	50.50	50.50	53.50	74.20	30.94	20.06	8.94	5.47	1.76	
17	36.20	22.84	14.80	42.00	41.00	50.50	73.60	30.02	19.67	8.58	5.18	1.76	
18	23.28	29.56	12.95	32.36	34.76	53.50	76.00	29.56	18.13	8.22	4.89	1.76	
19	20.84	30.48	11.47	25.92	31.88	54.50	77.80	27.26	17.02	7.86	4.60	2.20	
20	18.50	41.00	10.74	21.62	31.88	54.00	83.80	33.32	16.28	7.50	2.92	4.36	
21	18.89	29.56	10.38	19.67	28.64	67.60	86.20	55.50	15.91	7.21	1.98	17.76	
22	23.28	23.28	10.38	18.89	47.00	55.00	73.00	50.00	15.17	7.21	1.76	188.52	
23	17.02	22.40	9.30	25.04	79.00	47.50	135.34	62.20	14.80	6.92	1.54	146.56	
24	13.69	42.00	11.84	40.52	60.48	47.00	116.86	45.00	14.06	6.63	1.32	47.00	
25	11.47	30.02	15.17	51.50	50.00	49.00	132.04	36.20	13.32	6.63	1.32	36.68	
26	10.38	22.01	14.43	47.00	43.00	57.68	97.00	32.36	12.95	6.63	1.32	134.68	
27	9.30	18.13	14.43	51.00	37.64	53.00	93.40	30.02	12.58	6.34	1.98	81.40	
28	7.50	18.50	15.91	51.00	33.80	57.12	100.60	28.18	12.21	6.34	2.68	44.00	
29	6.63	17.02	24.16	130.72	30.94	56.56	109.18	26.80	12.21	6.05		33.32	
30	6.05	14.43	35.72	157.12	31.40	54.00	118.18	26.36	12.21	6.05		29.10	
31		13.32		92.20	45.50		100.60		12.21	6.05		24.60	
Total	424.35	514.44	565.98	1508.16	1510.90	1927.76	2397.90	1182.32	607.37	274.69	135.45	838.78	11888.10 CMSDAY
Mean	14.15	16.59	18.87	48.65	48.74	64.26	77.35	39.41	19.59	8.86	4.84	27.06	32.57 CMS
Max	46.50	42.00	35.72	157.12	134.02	254.70	135.34	76.00	38.12	11.84	8.94	188.52	254.70 CMS
Min	5.18	4.12	9.30	17.02	23.28	30.94	36.20	26.36	12.21	6.05	1.32	1.76	1.32 CMS
Runoff	36.664	44.448	48.901	130.305	130.542	166.558	207.179	102.152	52.477	23.733	11.703	72.471	1027.132 MCM

Momentary Peak 286.00 CMS, at 4.80 M (A.D), at 9.00 Hours, on Sep 5, 1993

Runoff Yield 17.91 Liters/Second/Square KM, Momentary Peak Yield 157.23 Liters/Second/Square KM

WATER YEAR 1993

SOUTHERN PENINSULA EAST COAST

Khlong To Daeng at Ban Kwa Ro Krung, Narathiwat (X.159)

Location — Lat. 6°-05'-08" N., Long. 102°-01'-20" E., on right bank downstream from the bridge of Ban Lu Bo Lu Song-Ban Khlong Chang Road, Amphoe Sungai Kolok, Narathiwat.

Drainage Area — Flood plain.

Type of Gage — Water-stage recorder.

Zero Gage at Bottom — +2.10 m.(M.S.L.)

Bench Mark — B.M.-H.D.

Location — On right bank at the abutment of the bridge.

Elevation — +4.549 m.(M.S.L.)

Gage Reading Frequency — Recording.

Basis of Mean Daily Gage Height — Arithmetic mean of 24 readings.

Period of Available Gage Records — 1984 to date.

Rating Operation

Period of Rating — 1987 to date.

Rated by Float — -

Rated by Current Meter — 1987 to date.

Stability of Channel Regimes — Fairly stable.

Overbank Flow Conditions — Overbank flow starts at elevation +3.56 m.(M.S.L.) , records are channel flow only.

General Description — Records good. Stage-discharge relation defined by 22 discharge measurements made in 1993.

Gage Height in Meter (MSL), Water Year April 1, 1993 to March 31, 1994

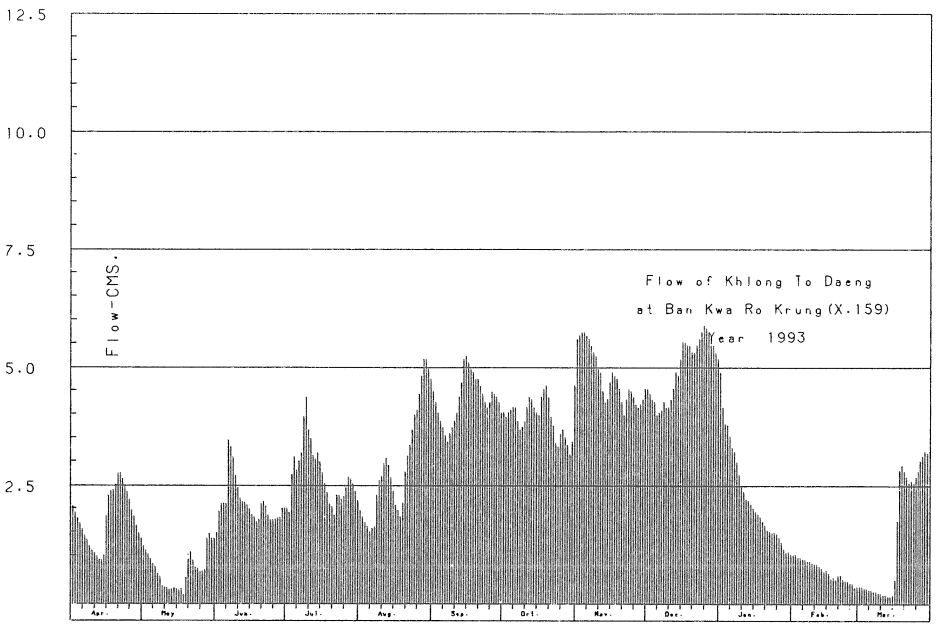
Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	3.13	2.75	2.88	3.11	3.09	3.89	3.81	4.05	3.90	3.95	2.66	2.32	
2	3.07	2.70	3.08	3.07	3.03	3.85	3.79	4.06	3.88	3.83	2.66	2.31	
3	3.02	2.66	3.15	3.42	2.98	3.81	3.81	4.07	3.86	3.76	2.64	2.30	
4	2.97	2.62	3.15	3.56	2.94	3.77	3.82	4.07	3.85	3.75	2.63	2.29	
5	2.92	2.57	3.15	3.45	2.89	3.74	3.83	4.06	3.80	3.70	2.62	2.28	
6	2.85	2.54	3.67	3.53	2.92	3.70	3.83	4.05	3.81	3.62	2.61	2.27	
7	2.81	2.47	3.63	3.59	2.94	3.66	3.77	4.03	3.82	3.60	2.60	2.26	
8	2.74	2.43	3.56	3.79	3.23	3.71	3.73	4.01	3.85	3.52	2.59	2.25	
9	2.70	2.33	3.41	3.87	3.37	3.74	3.74	4.00	3.83	3.42	2.58	2.24	
10	2.67	2.31	3.30	3.73	3.40	3.77	3.77	3.96	3.83	3.32	2.57	2.23	
11	2.64	2.30	3.20	3.68	3.51	3.81	3.83	3.95	3.86	3.26	2.56	2.22	
12	2.61	2.29	3.17	3.57	3.55	3.87	3.87	3.89	3.90	3.20	2.55	2.21	
13	2.60	2.28	3.16	3.54	3.50	3.92	3.86	3.85	3.95	3.18	2.52	2.20	
14	2.65	2.30	3.14	3.59	3.39	3.99	3.83	3.86	3.94	3.15	2.49	2.19	
15	3.04	2.29	3.10	3.52	3.27	4.00	3.81	3.92	3.99	3.11	2.50	2.21	
16	3.22	2.27	3.05	3.43	3.14	3.98	3.80	3.95	4.04	3.08	2.47	2.40	
17	3.27	2.29	3.03	3.34	3.09	3.96	3.87	3.94	4.04	3.06	2.41	2.99	
18	3.28	2.22	2.98	3.25	3.03	3.95	3.90	3.93	4.03	3.03	2.42	3.45	
19	3.33	2.42	3.01	3.15	3.16	3.93	3.91	3.90	4.03	2.99	2.40	3.50	
20	3.43	2.66	3.15	3.12	3.44	3.93	3.87	3.85	4.01	2.95	2.44	3.45	
21	3.44	2.69	3.17	3.05	3.57	3.91	3.79	3.80	4.01	2.91	2.45	3.40	
22	3.38	2.60	3.13	3.23	3.64	3.88	3.75	3.86	4.03	2.89	2.40	3.35	
23	3.32	2.54	3.05	3.23	3.73	3.85	3.65	3.90	4.05	2.88	2.39	3.36	
24	3.26	2.52	3.00	3.19	3.80	3.83	3.63	3.89	4.07	2.88	2.38	3.35	
25	3.19	2.49	3.00	3.22	3.82	3.85	3.71	3.87	4.09	2.87	2.36	3.40	
26	3.09	2.49	3.01	3.30	3.88	3.89	3.73	3.84	4.08	2.84	2.35	3.45	
27	3.03	2.51	3.02	3.40	3.94	3.88	3.69	3.83	4.07	2.78	2.31	3.53	
28	2.95	2.82	3.02	3.38	3.99	3.87	3.64	3.84	4.05	2.72	2.31	3.57	
29	2.87	2.87	3.11	3.33	3.99	3.85	3.58	3.86	4.03	2.68		3.60	
30	2.82	2.82	3.11	3.27	3.96	3.81	3.66	3.90	4.01	2.69		3.59	
31		2.82		3.18	3.93		3.91		3.99	2.66		3.60	
Mean	3.01	2.51	3.15	3.39	3.42	3.85	3.78	3.93	3.96	3.17	2.50	2.83	
Max	3.44	2.87	3.67	3.87	3.99	4.00	3.91	4.07	4.09	3.95	2.66	3.60	4.09
Min	2.60	2.22	2.88	3.05	2.89	3.66	3.58	3.80	3.80	2.66	2.31	2.19	2.19

Annual Max Momentary Gage Height — 4.09 M (MSL), at 6.00 Hours, on Dec 25, 1993

Zero Gage at Bottom Elevation — 2.10 M (MSL), River Bed — 2.07 M (MSL)

Left Bank Elevation — 3.86 M (MSL)

Right Bank Elevation — 3.55 M (MSL), Drainage Area — Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	2.07	1.23	1.51	2.02	1.98	4.50	4.05	5.61	4.55	4.90	1.05	0.38	
2	1.93	1.13	1.95	1.93	1.84	4.27	3.96	5.68	4.44	4.16	1.05	0.36	
3	1.82	1.05	2.12	2.74	1.73	4.05	4.05	5.75	4.33	3.82	1.00	0.34	
4	1.70	0.96	2.12	3.11	1.64	3.87	4.11	5.75	4.27	3.78	0.98	0.32	
5	1.59	0.86	2.12	2.82	1.53	3.74	4.16	5.68	4.00	3.56	0.96	0.31	
6	1.44	0.79	3.46	3.03	1.59	3.56	4.16	5.61	4.05	3.30	0.94	0.29	
7	1.36	0.65	3.33	3.20	1.64	3.43	3.87	5.47	4.11	3.23	0.92	0.27	
8	1.21	0.58	3.11	3.96	2.30	3.60	3.69	5.32	4.27	3.00	0.90	0.26	
9	1.13	0.39	2.72	4.38	2.62	3.74	3.74	5.25	4.16	2.74	0.88	0.24	
10	1.07	0.36	2.46	3.69	2.69	3.87	3.87	4.97	4.16	2.51	0.86	0.22	
11	1.00	0.34	2.23	3.49	2.97	4.05	4.16	4.90	4.33	2.37	0.84	0.20	
12	0.94	0.32	2.16	3.14	3.09	4.38	4.38	4.50	4.55	2.23	0.81	0.19	
13	0.92	0.31	2.14	3.06	2.94	4.69	4.33	4.27	4.90	2.18	0.75	0.17	
14	1.03	0.34	2.09	3.20	2.67	5.18	4.16	4.33	4.83	2.12	0.69	0.15	
15	1.86	0.32	2.00	3.00	2.39	5.25	4.05	4.69	5.18	2.02	0.71	0.19	
16	2.28	0.29	1.88	2.77	2.09	5.11	4.00	4.90	5.54	1.95	0.65	0.52	
17	2.39	0.32	1.84	2.55	1.98	4.97	4.38	4.83	5.54	1.91	0.54	1.75	
18	2.41	0.20	1.73	2.35	1.84	4.90	4.55	4.76	5.47	1.84	0.56	2.82	
19	2.53	0.56	1.79	2.12	2.14	4.76	4.62	4.55	5.47	1.75	0.52	2.94	
20	2.77	1.05	2.12	2.05	2.79	4.76	4.38	4.27	5.32	1.66	0.60	2.82	
21	2.79	1.11	2.16	1.88	3.14	4.62	3.96	4.00	5.32	1.57	0.62	2.69	
22	2.64	0.92	2.07	2.30	3.36	4.44	3.78	4.33	5.47	1.53	0.52	2.57	
23	2.51	0.79	1.88	2.30	3.69	4.27	3.40	4.55	5.61	1.51	0.50	2.60	
24	2.37	0.75	1.77	2.21	4.00	4.16	3.33	4.50	5.75	1.51	0.48	2.57	
25	2.21	0.69	1.77	2.28	4.11	4.27	3.60	4.38	5.90	1.49	0.45	2.69	
26	1.98	0.69	1.79	2.46	4.44	4.50	3.69	4.22	5.83	1.42	0.43	2.82	
27	1.84	0.73	1.82	2.69	4.83	4.44	3.53	4.16	5.75	1.30	0.36	3.03	
28	1.66	1.38	1.82	2.64	5.18	4.38	3.36	4.22	5.61	1.17	0.36	3.14	
29	1.49	1.49	2.02	2.53	5.18	4.27	3.17	4.33	5.47	1.09		3.23	
30	1.38	1.38	2.02	2.39	4.97	4.05	3.43	4.55	5.32	1.11		3.20	
31		1.38		2.18	4.76		4.62		5.18	1.05		3.23	
Total	54.32	23.36	64.00	84.47	92.12	130.08	122.54	144.33	154.68	69.78	19.93	46.51	1006.12 CMSDAY
Mean	1.81	0.75	2.13	2.72	2.97	4.34	3.95	4.81	4.99	2.25	0.71	1.50	2.76 CMS
Max	2.79	1.49	3.46	4.38	5.18	5.25	4.62	5.75	5.90	4.90	1.05	3.23	5.90 CMS
Min	0.92	0.20	1.51	1.88	1.53	3.43	3.17	4.00	4.00	1.05	0.36	0.15	0.15 CMS
Runoff	4.693	2.018	5.530	7.298	7.959	11.239	10.587	12.470	13.364	6.029	1.722	4.018	86.929 MCM

Momentary Peak 5.90 CMS, at 4.09 M (MSL), at 6.00 Hours, on Dec 25, 1993

Runoff Yield ********* Liters/Second/Square KM, Momentary Peak Yield ********* Liters/Second/Square KM

WATER YEAR 1993

SOUTHERN PENINSULA EAST COAST

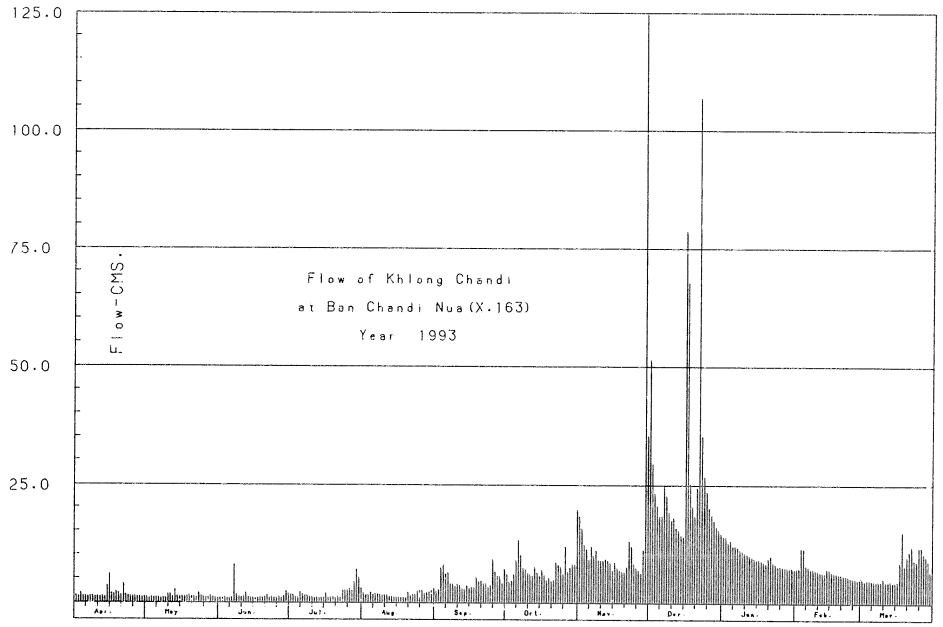
Khlong Chandi at Ban Chandi Nua, Nakhon Si Thammarat (X.163)

Location	Lat. 8°-20′-34″ N., Long. 99°-37′-12″ E., on left bank at the bridge on road near Wat Manao Wan, Amphoe Chawang, Nakhon Si Thammarat.
Drainage Area	97 sq.k.m.
Type of Gage	Staff gage.
Zero Gage at Bottom	+0.00 m.(A.D.)
Bench Mark	B.M.-H.D.
Location	On left bank about 5.80 meters from the top staff gage.
Elevation	+6.007 m.(A.D.)
Gage Reading Frequency	5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1986 to date.
Rating Operation	
Period of Rating	1987 to date.
Rated by Float	-
Rated by Current Meter	1987 to date.
Stability of Channel Regimes	Fairly stable.
Overbank Flow Conditions	Overbank flow starts at elevation +5.29 m.(A.D.), records are channel flow only.
General Description	Records good. Stage-discharge relation defined by 58 discharge measurements made in 1993.

Gage Height in Meter (A.D), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.42	0.38	0.35	0.46	0.49	0.52	0.80	1.41	2.39	1.20	0.85	0.74	
2	0.41	0.37	0.35	0.43	0.45	0.59	0.71	1.28	1.84	1.19	0.86	0.73	
3	0.49	0.38	0.37	0.40	0.44	0.86	0.73	1.11	1.61	1.13	1.07	0.73	
4	0.42	0.38	0.36	0.38	0.52	0.90	0.79	1.06	1.51	1.15	1.07	0.74	
5	0.41	0.38	0.36	0.53	0.46	0.80	0.94	0.95	1.41	1.10	0.89	0.73	
6	0.41	0.37	0.36	0.46	0.47	0.81	1.16	1.09	1.41	1.09	0.87	0.72	
7	0.42	0.36	0.90	0.44	0.47	0.70	1.00	0.99	1.68	1.08	0.85	0.72	
8	0.41	0.36	0.46	0.42	0.45	0.68	0.86	1.05	1.59	1.05	0.85	0.72	
9	0.40	0.36	0.40	0.40	0.44	0.65	0.85	0.95	1.45	1.04	0.84	0.72	
10	0.40	0.46	0.37	0.38	0.44	0.68	0.81	0.94	1.37	1.02	0.83	0.75	
11	0.40	0.46	0.40	0.36	0.43	0.66	0.79	0.94	1.39	1.01	0.82	0.72	
12	0.40	0.40	0.49	0.36	0.41	0.61	0.78	0.96	1.29	0.99	0.81	0.72	
13	0.40	0.59	0.38	0.36	0.40	0.59	0.87	0.94	1.26	0.98	0.81	0.72	
14	0.65	0.41	0.36	0.36	0.39	0.66	0.81	0.92	1.21	0.96	0.85	0.71	
15	0.80	0.40	0.35	0.36	0.38	0.62	0.78	0.84	1.19	0.95	0.85	0.71	
16	0.50	0.39	0.35	0.48	0.37	0.63	0.84	0.92	2.86	0.95	0.82	0.72	
17	0.46	0.40	0.35	0.37	0.37	0.63	0.79	0.86	2.68	0.94	0.81	0.92	
18	0.53	0.42	0.39	0.37	0.37	0.76	0.73	0.84	1.69	0.92	0.80	1.25	
19	0.49	0.43	0.36	0.39	0.37	0.72	0.76	0.82	1.50	0.91	0.80	0.89	
20	0.45	0.40	0.38	0.35	0.51	0.73	0.72	0.82	1.41	0.96	0.79	0.98	
21	0.69	0.39	0.45	0.39	0.42	0.69	0.74	0.87	1.65	0.99	0.78	1.04	
22	0.45	0.38	0.38	0.37	0.47	0.70	0.92	1.15	3.30	0.92	0.78	1.09	
23	0.43	0.49	0.38	0.57	0.45	0.63	0.90	1.09	2.01	0.90	0.77	0.95	
24	0.41	0.42	0.37	0.56	0.55	0.66	0.87	0.91	1.74	0.88	0.76	0.93	
25	0.41	0.38	0.35	0.57	0.56	0.95	0.80	0.86	1.62	0.88	0.75	1.08	
26	0.41	0.39	0.39	0.60	0.55	0.82	1.09	0.84	1.49	0.87	0.75	1.08	
27	0.40	0.38	0.37	0.56	0.49	0.78	0.82	0.81	1.42	0.87	0.74	1.02	
28	0.39	0.42	0.41	0.71	0.50	0.77	0.87	1.06	1.36	0.86	0.74	0.98	
29	0.39	0.39	0.55	0.85	0.53	0.70	0.90	3.74	1.30	0.86		0.94	
30	0.39	0.36	0.47	0.76	0.56	0.85	0.90	2.01	1.26	0.86		0.82	
31		0.36		0.62	0.61		1.47		1.22	0.85		0.88	
Mean	0.45	0.40	0.41	0.47	0.46	0.71	0.86	1.10	1.65	0.98	0.83	0.85	
Max	0.80	0.59	0.90	0.85	0.61	0.95	1.47	3.74	3.30	1.20	1.07	1.25	3.74
Min	0.39	0.36	0.35	0.35	0.37	0.52	0.71	0.81	1.19	0.85	0.74	0.71	0.35

Annual Max Momentary Gage Height 5.50 M (A.D), at 6.00 Hours, on Nov 29, 1993
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed 0.00 M (A.D)
Left Bank Elevation 5.28 M (A.D)
Right Bank Elevation 5.34 M (A.D), Drainage Area 97 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	1.56	1.26	1.05	1.88	2.12	2.36	6.20	18.42	51.43	14.20	7.20	5.00	
2	1.48	1.19	1.05	1.64	1.80	2.92	4.40	15.80	29.58	14.00	7.40	4.80	
3	2.12	1.26	1.19	1.40	1.72	7.40	4.80	12.40	23.26	12.80	11.60	4.80	
4	1.56	1.26	1.12	1.26	2.36	8.20	6.00	11.40	20.66	13.20	11.60	5.00	
5	1.48	1.26	1.12	2.44	1.88	6.20	9.00	9.20	18.42	12.20	8.00	4.80	
6	1.48	1.19	1.12	1.88	1.96	6.40	13.40	12.00	18.42	12.00	7.60	4.60	
7	1.56	1.12	8.20	1.72	1.96	4.20	10.20	10.00	25.08	11.80	7.20	4.60	
8	1.48	1.12	1.88	1.56	1.80	3.96	7.40	11.20	22.74	11.20	7.20	4.60	
9	1.40	1.12	1.40	1.40	1.72	3.60	7.20	9.20	19.30	11.00	7.00	4.60	
10	1.40	1.88	1.19	1.26	1.72	3.96	6.40	9.00	17.60	10.60	6.80	5.20	
11	1.40	1.88	1.40	1.12	1.64	3.72	6.00	9.00	18.00	10.40	6.60	4.60	
12	1.40	1.40	2.12	1.12	1.48	3.12	5.80	9.40	16.00	10.00	6.40	4.60	
13	1.40	2.92	1.26	1.12	1.40	2.92	7.60	9.00	15.40	9.80	6.40	4.60	
14	3.60	1.48	1.12	1.12	1.33	3.72	6.40	8.60	14.40	9.40	7.20	4.40	
15	6.20	1.40	1.05	1.12	1.26	3.24	5.80	7.00	14.00	9.20	7.20	4.40	
16	2.20	1.33	1.05	2.04	1.19	3.36	7.00	8.60	78.60	9.20	6.60	4.60	
17	1.88	1.40	1.05	1.19	1.19	3.36	6.00	7.40	67.80	9.00	6.40	8.60	
18	2.44	1.56	1.33	1.19	1.19	5.40	4.80	7.00	25.34	8.60	6.20	15.20	
19	2.12	1.64	1.12	1.33	1.19	4.60	5.40	6.60	20.40	8.40	6.20	8.00	
20	1.80	1.40	1.26	1.05	2.28	4.80	4.60	6.60	18.42	9.40	6.00	9.80	
21	4.08	1.33	1.80	1.33	1.56	4.08	5.00	7.60	24.30	10.00	5.80	11.00	
22	1.80	1.26	1.26	1.19	1.96	4.20	8.60	13.20	107.00	8.60	5.80	12.00	
23	1.64	2.12	1.26	2.76	1.80	3.36	8.20	12.00	35.35	8.20	5.60	9.20	
24	1.48	1.56	1.19	2.68	2.60	3.72	7.60	8.40	26.68	7.80	5.40	8.80	
25	1.48	1.26	1.05	2.76	2.68	9.20	6.20	7.40	23.52	7.80	5.20	11.80	
26	1.48	1.33	1.33	3.00	2.60	6.60	12.00	7.00	20.18	7.60	5.20	11.80	
27	1.40	1.26	1.19	2.68	2.12	5.80	6.60	6.40	18.64	7.60	5.00	10.60	
28	1.33	1.56	1.48	4.40	2.20	5.60	7.60	11.40	17.40	7.40	5.00	9.80	
29	1.33	1.33	2.60	7.20	2.44	4.20	8.20	140.94	16.20	7.40		9.00	
30	1.33	1.12	1.96	5.40	2.68	7.20	8.20	35.35	15.40	7.40		6.60	
31		1.12		3.24	3.12		19.74		14.60	7.20		7.80	
Total	57.31	44.32	47.20	65.48	58.95	141.40	232.34	447.51	854.12	303.40	189.80	225.20	2667.03 CMSDAY
Mean	1.91	1.43	1.57	2.11	1.90	4.71	7.49	14.92	27.55	9.79	6.78	7.26	7.31 CMS
Max	6.20	2.92	8.20	7.20	3.12	9.20	19.74	140.94	107.00	14.20	11.60	15.20	140.94 CMS
Min	1.33	1.12	1.05	1.05	1.19	2.36	4.40	6.40	14.00	7.20	5.00	4.40	1.05 CMS
Runoff	4.952	3.829	4.078	5.657	5.093	12.217	20.074	38.665	73.796	26.214	16.399	19.457	230.431 MCM

Momentary Peak 330.40 CMS, at 5.50 M (A.D), at 6.00 Hours, on Nov 29, 1993

Runoff Yield 75.33 Liters/Second/Square KM, Momentary Peak Yield 3406.19 Liters/Second/Square KM

WATER YEAR 1993

SOUTHERN PENNINSULA EAST COAST

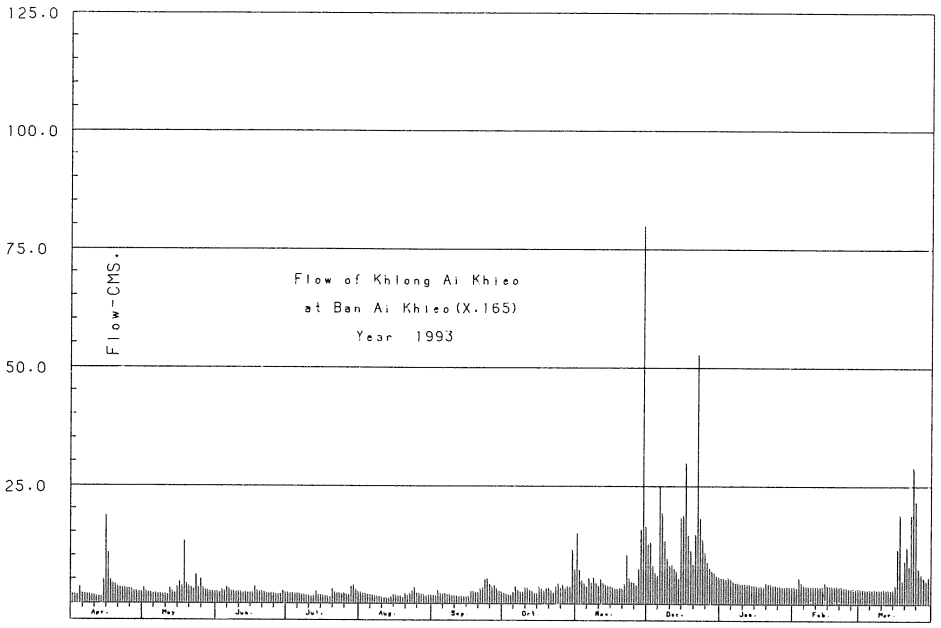
Khlong Ai Khieo at Ban Ai Khieo, Nakhon Si Thammarat (X.165)

Location	Lat. 08°-33'-47" N., Long. 99°-48'-59" E., on right bank at Ban Ai Khieo, Amphoe Phrom Khiri, Nakhon Si Thammarat.
Drainage Area	25 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+0.00 m.(A.D.)
Bench Mark	B.M.-H.D.
Location	On right bank about 9 meters from the top staff gage.
Elevation	+9.738 m.(A.D.)
Gage Reading Frequency	5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1986 to date.
Rating Operation	
Period of Rating	1989 to date.
Rated by Float	-
Rated by Current Meter	1989 to date.
Stability of Channel Regimes	Stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Stage-discharge relation defined by 56 discharge measurements made in 1993.

Gage Height in Meter (A.D), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.92	1.06	0.97	0.95	0.96	0.90	0.95	1.81	1.70	1.26	1.07	1.03	
2	0.91	0.98	0.96	0.95	0.95	0.89	0.93	1.39	1.71	1.25	1.07	1.03	
3	0.91	0.96	1.01	0.94	0.93	0.99	0.92	1.22	1.45	1.24	1.25	1.02	
4	1.06	0.95	1.00	0.94	0.92	0.95	0.90	1.15	1.34	1.26	1.17	1.02	
5	0.94	0.94	1.07	0.93	0.91	0.94	0.97	1.10	1.30	1.24	1.11	1.02	
6	0.92	0.94	1.03	0.93	0.90	0.93	1.08	1.25	2.28	1.19	1.10	1.02	
7	0.92	0.93	0.99	0.92	0.89	0.92	1.02	1.18	2.02	1.17	1.09	1.02	
8	0.91	0.93	0.98	0.91	0.88	0.91	0.97	1.26	1.73	1.16	1.09	1.02	
9	0.90	0.92	0.97	0.90	0.87	0.90	0.98	1.16	1.53	1.15	1.09	1.02	
10	0.89	0.92	0.97	0.89	0.86	0.89	1.06	1.10	1.44	1.15	1.09	1.02	
11	0.88	0.91	0.97	0.88	0.85	0.89	1.07	1.23	1.46	1.14	1.08	1.02	
12	0.87	1.05	0.96	0.88	0.84	0.88	1.02	1.17	1.41	1.14	1.08	1.02	
13	0.86	0.98	0.96	0.99	0.84	0.88	0.98	1.12	1.36	1.13	1.08	1.01	
14	1.23	0.95	0.96	0.91	0.86	0.88	0.95	1.14	1.25	1.12	1.17	1.01	
15	1.99	1.07	0.95	0.90	0.91	0.87	0.94	1.10	1.98	1.11	1.11	1.01	
16	1.60	1.19	0.95	0.89	0.90	0.87	1.08	1.07	2.00	1.10	1.10	1.10	
17	1.21	1.09	1.09	0.88	0.89	0.99	1.05	1.05	2.47	1.10	1.09	1.64	
18	1.15	1.73	0.99	0.87	0.88	0.98	0.99	1.03	1.79	1.09	1.09	2.00	
19	1.12	1.15	0.98	0.87	0.86	0.97	1.05	1.06	1.62	1.08	1.09	1.21	
20	1.08	1.09	0.97	1.04	0.93	0.96	1.05	1.04	1.46	1.16	1.08	1.50	
21	1.07	1.06	0.96	0.96	0.89	1.03	1.00	1.14	1.79	1.15	1.08	1.66	
22	1.06	1.04	0.95	0.95	0.94	1.07	0.96	1.58	3.32	1.14	1.07	1.44	
23	1.05	1.30	0.94	0.94	1.00	1.23	1.10	1.25	1.97	1.12	1.06	2.00	
24	1.04	1.07	0.94	0.93	1.06	1.24	1.14	1.19	1.74	1.11	1.05	2.43	
25	1.03	1.24	0.94	0.93	0.95	1.14	1.06	1.16	1.60	1.10	1.05	2.14	
26	1.02	1.05	0.93	0.92	0.94	1.07	1.12	1.12	1.49	1.09	1.04	1.40	
27	0.99	1.02	0.92	0.91	0.93	1.12	1.05	1.40	1.42	1.08	1.04	1.32	
28	0.98	1.00	0.92	1.09	0.91	1.04	1.09	1.85	1.36	1.07	1.04	1.25	
29	0.97	0.99	1.00	1.11	0.89	1.00	1.08	4.18	1.34	1.09		1.21	
30	0.96	0.98	0.95	1.03	0.90	0.97	1.63	1.88	1.29	1.08		1.27	
31		0.98		0.97	0.90		1.39		1.27	1.08		1.18	
Mean	1.05	1.05	0.97	0.94	0.91	0.98	1.05	1.35	1.67	1.14	1.09	1.29	
Max	1.99	1.73	1.09	1.11	1.06	1.24	1.63	4.18	3.32	1.26	1.25	2.43	4.18
Min	0.86	0.91	0.92	0.87	0.84	0.87	0.90	1.03	1.25	1.07	1.04	1.01	0.84

Annual Max Momentary Gage Height 7.46 M (A.D), at 6.00 Hours, on Nov 29, 1993
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed 0.71 M (A.D)
Left Bank Elevation 9.58 M (A.D)
Right Bank Elevation 10.00 M (A.D), Drainage Area 25 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	2.00	3.40	2.50	2.30	2.40	1.80	2.30	15.00	12.80	5.52	3.50	3.10	
2	1.90	2.60	2.40	2.30	2.30	1.70	2.10	7.26	13.00	5.40	3.50	3.10	
3	1.90	2.40	2.90	2.20	2.10	2.70	2.00	5.04	8.20	5.28	5.40	3.00	
4	3.40	2.30	2.80	2.20	2.00	2.30	1.80	4.30	6.56	5.52	4.50	3.00	
5	2.20	2.20	3.50	2.10	1.90	2.20	2.50	3.80	6.00	5.28	3.90	3.00	
6	2.00	2.20	3.10	2.10	1.80	2.10	3.60	5.40	25.00	4.70	3.80	3.00	
7	2.00	2.10	2.70	2.00	1.70	2.00	3.00	4.60	19.22	4.50	3.70	3.00	
8	1.90	2.10	2.60	1.90	1.60	1.90	2.50	5.52	13.40	4.40	3.70	3.00	
9	1.80	2.00	2.50	1.80	1.50	1.80	2.60	4.40	9.54	4.30	3.70	3.00	
10	1.70	2.00	2.50	1.70	1.40	1.70	3.40	3.80	8.04	4.30	3.70	3.00	
11	1.60	1.90	2.50	1.60	1.30	1.70	3.50	5.16	8.36	4.20	3.60	3.00	
12	1.50	3.30	2.40	1.60	1.20	1.60	3.00	4.50	7.56	4.20	3.60	3.00	
13	1.40	2.60	2.40	2.70	1.20	1.60	2.60	4.00	6.84	4.10	3.60	2.90	
14	5.16	2.30	2.40	1.90	1.40	1.60	2.30	4.20	5.40	4.00	4.50	2.90	
15	18.60	3.50	2.30	1.80	1.90	1.50	2.20	3.80	18.40	3.90	3.90	2.90	
16	10.80	4.70	2.30	1.70	1.80	1.50	3.60	3.50	18.80	3.80	3.80	3.80	
17	4.92	3.70	3.70	1.60	1.70	2.70	3.30	3.30	29.75	3.80	3.70	11.60	
18	4.30	13.40	2.70	1.50	1.60	2.60	2.70	3.10	14.60	3.70	3.70	18.80	
19	4.00	4.30	2.60	1.50	1.40	2.50	3.30	3.40	11.20	3.60	3.70	4.92	
20	3.60	3.70	2.50	3.20	2.10	2.40	3.30	3.20	8.36	4.40	3.60	9.00	
21	3.50	3.40	2.40	2.40	1.70	3.10	2.80	4.20	14.60	4.30	3.60	12.00	
22	3.40	3.20	2.30	2.30	2.20	3.50	2.40	10.44	52.78	4.20	3.50	8.04	
23	3.30	6.00	2.20	2.20	2.80	5.16	3.80	5.40	18.20	4.00	3.40	18.80	
24	3.20	3.50	2.20	2.10	3.40	5.28	4.20	4.70	13.60	3.90	3.30	28.75	
25	3.10	5.28	2.20	2.10	2.30	4.20	3.40	4.40	10.80	3.80	3.30	21.74	
26	3.00	3.30	2.10	2.00	2.20	3.50	4.00	4.00	8.84	3.70	3.20	7.40	
27	2.70	3.00	2.00	1.90	2.10	4.00	3.30	7.40	7.72	3.60	3.20	6.28	
28	2.60	2.80	2.00	3.70	1.90	3.20	3.70	15.80	6.84	3.50	3.20	5.40	
29	2.50	2.70	2.80	3.90	1.70	2.80	3.60	79.94	6.56	3.70		4.92	
30	2.40	2.60	2.30	3.10	1.80	2.50	11.40	16.40	5.88	3.60		5.64	
31		2.60		2.50	1.80		7.26		5.64	3.60		4.60	
Total	106.38	105.08	75.80	67.90	58.20	77.14	105.46	249.96	402.49	130.80	103.80	216.59	1699.60 CMSDAY
Mean	3.55	3.39	2.53	2.19	1.88	2.57	3.40	8.33	12.98	4.22	3.71	6.99	4.66 CMS
Max	18.60	13.40	3.70	3.90	3.40	5.28	11.40	79.94	52.78	5.52	5.40	28.75	79.94 CMS
Min	1.40	1.90	2.00	1.50	1.20	1.50	1.80	3.10	5.40	3.50	3.20	2.90	1.20 CMS
Runoff	9.191	9.079	6.549	5.867	5.028	6.665	9.112	21.597	34.775	11.301	8.968	18.713	146.845 MCM

Momentary Peak 214.16 CMS, at 7.46 M (A.D), at 6.00 Hours, on Nov 29, 1993

Runoff Yield 186.26 Liters/Second/Square KM, Momentary Peak Yield 8566.40 Liters/Second/Square KM

WATER YEAR 1993

SOUTHERN PENINSULA EAST COAST

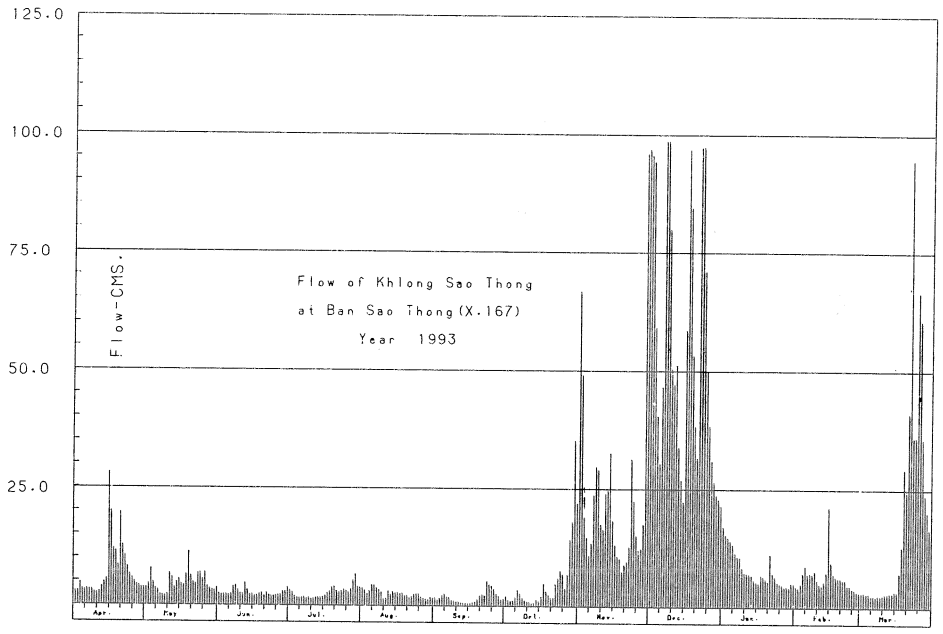
Khlong Sao Thong at Ban Sao Thong, Nakhon Si Thammarat (X.167)

Location	Lat. 08°-16'-44" N., Long. 99°-54'-31" E., on right bank at the bridge on road, Ban Sao Thong, Amphoe Ron Phibun, Nakhon Si Thammarat.
Drainage Area	268 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+0.00 m.(A.D.)
Bench Mark	B.M.-H.D.
Location	On right bank about 4.50 meters from the top staff gage.
Elevation	+4.030 m.(A.D.)
Gage Reading Frequency	5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1986 to date.
Rating Operation	
Period of Rating	1989 to date.
Rated by Float	-
Rated by Current Meter	1989 to date.
Stability of Channel Regimes	Stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Stage-discharge relation defined by 52 discharge measurements made in 1993.

Gage Height in Meter (A.D), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.53	0.59	0.50	0.55	0.59	0.42	0.47	2.93	3.64	1.25	0.62	0.54	
2	0.53	0.63	0.49	0.53	0.55	0.38	0.38	2.41	3.61	1.18	0.60	0.54	
3	0.65	0.82	0.48	0.45	0.51	0.41	0.36	1.59	2.72	1.15	0.66	0.53	
4	0.56	0.65	0.50	0.43	0.54	0.48	0.36	1.15	2.13	1.12	0.78	0.52	
5	0.55	0.58	0.47	0.41	0.63	0.50	0.44	0.97	1.78	1.08	0.87	0.50	
6	0.56	0.55	0.50	0.43	0.62	0.45	0.57	1.09	2.33	1.00	0.77	0.49	
7	0.56	0.48	0.60	0.43	0.59	0.43	0.51	1.53	3.71	0.96	0.79	0.49	
8	0.55	0.46	0.62	0.41	0.56	0.37	0.43	1.75	3.71	0.96	0.77	0.50	
9	0.52	0.46	0.55	0.42	0.53	0.35	0.37	1.73	3.28	0.84	0.81	0.50	
10	0.50	0.48	0.51	0.40	0.39	0.34	0.35	1.27	2.45	0.79	0.71	0.51	
11	0.53	0.76	0.49	0.40	0.41	0.33	0.33	1.22	2.35	0.78	0.65	0.52	
12	0.60	0.72	0.65	0.42	0.54	0.32	0.31	1.54	2.48	0.77	0.64	0.53	
13	0.65	0.59	0.55	0.42	0.50	0.30	0.31	1.56	1.90	0.76	0.68	0.53	
14	0.70	0.65	0.49	0.43	0.53	0.31	0.39	1.86	1.65	0.70	0.79	0.54	
15	1.70	0.69	0.49	0.43	0.52	0.28	0.35	1.31	1.47	0.68	1.43	0.56	
16	1.38	0.63	0.46	0.47	0.52	0.30	0.45	1.08	2.70	0.66	0.90	0.55	
17	1.03	0.62	0.46	0.51	0.51	0.31	0.65	0.96	3.67	0.76	0.78	0.79	
18	1.00	0.75	0.50	0.54	0.51	0.34	0.54	0.94	3.39	0.74	0.74	1.06	
19	0.85	1.00	0.51	0.59	0.47	0.38	0.50	0.79	2.54	0.71	0.73	1.74	
20	1.37	0.73	0.46	0.61	0.47	0.48	0.42	0.87	2.06	0.69	0.72	1.58	
21	1.06	0.65	0.51	0.54	0.43	0.49	0.44	0.91	1.82	0.99	0.71	2.15	
22	0.96	0.64	0.48	0.53	0.44	0.48	0.64	1.06	3.68	0.78	0.70	3.62	
23	0.84	0.77	0.45	0.54	0.50	0.68	0.72	1.81	3.68	0.74	0.64	1.98	
24	0.75	0.77	0.46	0.57	0.50	0.63	0.80	1.48	3.05	0.68	0.63	1.98	
25	0.71	0.70	0.47	0.55	0.51	0.62	0.76	1.17	2.44	0.66	0.60	2.93	
26	0.66	0.77	0.47	0.52	0.43	0.57	0.59	1.02	2.06	0.64	0.58	2.76	
27	0.63	0.61	0.49	0.57	0.42	0.51	0.76	1.04	1.80	0.62	0.56	1.97	
28	0.61	0.57	0.53	0.68	0.39	0.46	1.13	1.27	1.63	0.62	0.54	1.53	
29	0.59	0.56	0.54	0.76	0.39	0.39	1.29	3.65	1.53	0.61		1.39	
30	0.58	0.54	0.59	0.60	0.43	0.40	1.95	3.67	1.49	0.66		1.23	
31		0.59		0.59	0.42		1.46		1.44	0.66		1.14	
Mean	0.76	0.65	0.51	0.51	0.50	0.42	0.61	1.52	2.52	0.81	0.73	1.17	
Max	1.70	1.00	0.65	0.76	0.63	0.68	1.95	3.67	3.71	1.25	1.43	3.62	3.71
Min	0.50	0.46	0.45	0.40	0.39	0.28	0.31	0.79	1.44	0.61	0.54	0.49	0.28

Annual Max Momentary Gage Height 3.73 M (A.D), at 18.00 Hours, on Nov 29, 1993
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed -1.07 M (A.D)
Left Bank Elevation 6.57 M (A.D)
Right Bank Elevation 5.97 M (A.D), Drainage Area 268 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	2.95	3.85	2.50	3.25	3.85	1.70	2.20	66.71	95.56	16.95	4.34	3.10	
2	2.95	4.51	2.40	2.95	3.25	1.32	1.32	49.12	94.24	15.36	4.00	3.10	
3	4.85	7.88	2.30	2.00	2.65	1.60	1.14	25.34	59.28	14.70	5.02	2.95	
4	3.40	4.85	2.50	1.80	3.10	2.30	1.14	14.70	40.50	14.04	7.14	2.80	
5	3.25	3.70	2.20	1.60	4.51	2.50	1.90	10.87	30.46	13.18	8.83	2.50	
6	3.40	3.25	2.50	1.80	4.34	2.00	3.55	13.39	46.63	11.50	6.96	2.40	
7	3.40	2.30	4.00	1.80	3.85	1.80	2.65	23.78	98.64	10.66	7.32	2.40	
8	3.25	2.10	4.34	1.60	3.40	1.23	1.80	29.65	98.64	10.66	6.96	2.50	
9	2.80	2.10	3.25	1.70	2.95	1.05	1.23	29.11	79.92	8.26	7.69	2.50	
10	2.50	2.30	2.65	1.50	1.41	0.96	1.05	17.41	50.40	7.32	5.88	2.65	
11	2.95	6.78	2.40	1.50	1.60	0.87	0.87	16.26	47.25	7.14	4.85	2.80	
12	4.00	6.06	4.85	1.70	3.10	0.78	0.69	24.04	51.36	6.96	4.68	2.95	
13	4.85	3.85	3.25	1.70	2.50	0.60	0.69	24.56	33.80	6.78	5.36	2.95	
14	5.70	4.85	2.40	1.80	2.95	0.69	1.41	32.68	26.95	5.70	7.32	3.10	
15	28.30	5.53	2.40	1.80	2.80	0.48	1.05	18.34	22.25	5.36	21.25	3.40	
16	20.02	4.51	2.10	2.20	2.80	0.60	2.00	13.18	58.60	5.02	9.40	3.25	
17	12.13	4.34	2.10	2.65	2.65	0.69	4.85	10.66	96.88	6.78	7.14	7.32	
18	11.50	6.60	2.50	3.10	2.65	0.96	3.10	10.24	84.57	6.42	6.42	12.76	
19	8.45	11.50	2.65	3.85	2.20	1.32	2.50	7.32	53.32	5.88	6.24	29.38	
20	19.78	6.24	2.10	4.17	2.20	2.30	1.70	8.83	38.40	5.53	6.06	25.08	
21	12.76	4.85	2.65	3.10	1.80	2.40	1.90	9.61	31.56	11.29	5.88	41.10	
22	10.66	4.68	2.30	2.95	1.90	2.30	4.68	12.76	97.32	7.14	5.70	94.68	
23	8.26	6.96	2.00	3.10	2.50	5.36	6.06	31.28	97.32	6.42	4.68	36.04	
24	6.60	6.96	2.10	3.55	2.50	4.51	7.50	22.50	71.15	5.36	4.51	36.04	
25	5.88	5.70	2.20	3.25	2.65	4.34	6.78	15.14	50.08	5.02	4.00	66.71	
26	5.02	6.96	2.20	2.80	1.80	3.55	3.85	11.92	38.40	4.68	3.70	60.64	
27	4.51	4.17	2.40	3.55	1.70	2.65	6.78	12.34	31.00	4.34	3.40	35.76	
28	4.17	3.55	2.95	5.36	1.41	2.10	14.26	17.41	26.41	4.34	3.10	23.78	
29	3.85	3.40	3.10	6.78	1.41	1.41	17.87	96.00	23.78	4.17		20.26	
30	3.70	3.10	3.85	4.00	1.80	1.50	35.20	96.88	22.75	5.02		16.49	
31		3.85		3.85	1.70		22.00		21.50	5.02		14.48	
Total	215.84	151.28	81.14	86.76	79.93	55.87	163.72	772.03	1718.92	247.00	177.83	565.87	4316.19 CMSDAY
Mean	7.19	4.88	2.70	2.80	2.58	1.86	5.28	25.73	55.45	7.97	6.35	18.25	11.83 CMS
Max	28.30	11.50	4.85	6.78	4.51	5.36	35.20	96.88	98.64	16.95	21.25	94.68	98.64 CMS
Min	2.50	2.10	2.00	1.50	1.41	0.48	0.69	7.32	21.50	4.17	3.10	2.40	0.48 CMS
Runoff	18.649	13.071	7.010	7.496	6.906	4.827	14.145	66.703	148.515	21.341	15.365	48.891	372.919 MCM

Momentary Peak 99.52 CMS, at 3.73 M (A.D), at 18.00 Hours, on Nov 29, 1993

Runoff Yield 44.12 Liters/Second/Square KM, Momentary Peak Yield 371.34 Liters/Second/Square KM

WATER YEAR 1993

SOUTHERN PENINSULA EAST COAST

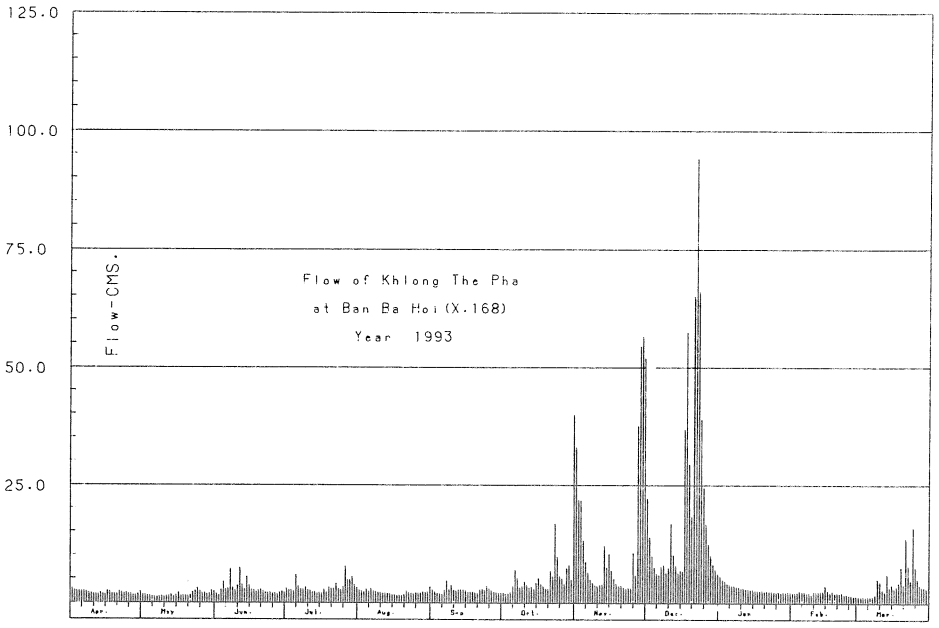
Khlong The Pha at Ban Ba Hoi, Yala (X.168)

Location	Lat. 6°-25'-40" N., Long. 100°-55'-41" E., on right bank at the bridge on road near Wat Bahoi, Tambon Bahoi, Amphoe Yaha, Yala.
Drainage Area	315 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+0.38 m.(A.D.)
Bench Mark	B.M.-H.D.
Location	On right bank about 5 meters from the station office..
Elevation	+8.991 m.(A.D.)
Gage Reading Frequency	5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1987 to date.
Rating Operation	
Period of Rating	1987 to date.
Rated by Float	-
Rated by Current Meter	1987 to date.
Stability of Channel Regimes	Fairly stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Stage-discharge relation defined by 82 discharge measurements made in 1993.

Gage Height in Meter (A.D), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.70	0.58	0.59	0.70	0.68	0.68	0.62	1.75	1.48	0.88	0.62	0.53	
2	0.67	0.57	0.57	0.68	0.65	0.63	0.59	1.47	1.23	0.85	0.61	0.53	
3	0.65	0.56	0.67	0.67	0.64	0.61	0.60	1.47	1.08	0.83	0.63	0.53	
4	0.65	0.55	0.83	0.65	0.69	0.59	0.62	1.21	0.98	0.81	0.65	0.53	
5	0.65	0.54	0.68	0.90	0.65	0.59	0.76	1.03	0.91	0.79	0.64	0.53	
6	0.65	0.53	0.70	0.75	0.70	0.67	0.95	0.92	0.90	0.78	0.63	0.53	
7	0.64	0.53	0.96	0.70	0.66	0.84	0.86	0.85	0.98	0.76	0.62	0.53	
8	0.61	0.53	0.73	0.68	0.64	0.69	0.73	0.81	1.00	0.75	0.61	0.58	
9	0.61	0.55	0.66	0.74	0.63	0.77	0.75	0.78	0.92	0.73	0.59	0.85	
10	0.58	0.53	0.77	0.68	0.62	0.68	0.83	0.75	0.97	0.72	0.65	0.83	
11	0.58	0.54	0.97	0.66	0.61	0.65	0.77	0.79	1.33	0.71	0.63	0.68	
12	0.58	0.55	0.78	0.64	0.60	0.69	0.73	0.79	1.09	0.70	0.64	0.63	
13	0.61	0.57	0.70	0.63	0.61	0.68	0.74	1.16	0.99	0.69	0.64	0.90	
14	0.59	0.54	0.88	0.61	0.59	0.69	0.70	0.98	0.92	0.69	0.65	0.73	
15	0.57	0.56	0.77	0.61	0.58	0.66	0.81	1.10	0.94	0.68	0.76	0.78	
16	0.66	0.61	0.69	0.60	0.57	0.64	0.86	0.94	0.94	0.67	0.66	0.70	
17	0.64	0.55	0.67	0.68	0.56	0.63	0.80	0.86	1.84	0.66	0.62	0.74	
18	0.60	0.55	0.64	0.63	0.56	0.64	0.75	0.80	2.27	0.66	0.64	0.81	
19	0.59	0.56	0.66	0.74	0.56	0.62	0.71	0.76	1.66	0.66	0.61	0.98	
20	0.59	0.54	0.69	0.70	0.57	0.61	0.69	0.76	1.38	0.65	0.61	0.80	
21	0.65	0.57	0.65	0.70	0.66	0.68	0.94	0.72	2.42	0.65	0.61	1.22	
22	0.62	0.62	0.63	0.81	0.62	0.70	0.88	0.71	2.92	0.65	0.61	0.99	
23	0.61	0.66	0.61	0.71	0.61	0.67	1.33	0.71	2.44	0.64	0.58	0.84	
24	0.61	0.71	0.63	0.67	0.59	0.76	1.07	0.72	1.89	0.64	0.58	1.30	
25	0.60	0.66	0.61	0.75	0.62	0.71	0.88	1.11	1.54	0.63	0.57	0.98	
26	0.59	0.60	0.60	0.99	0.61	0.66	0.86	0.89	1.32	0.63	0.56	0.85	
27	0.57	0.62	0.59	0.85	0.62	0.64	0.79	1.86	1.18	0.62	0.55	0.78	
28	0.56	0.58	0.62	0.84	0.63	0.62	0.97	2.21	1.08	0.63	0.54	0.74	
29	0.59	0.61	0.65	0.88	0.63	0.61	1.00	2.25	1.01	0.63		0.73	
30	0.63	0.66	0.62	0.78	0.63	0.61	0.85	2.16	0.95	0.63		0.70	
31		0.65		0.72	0.75		1.91		0.91	0.62		0.68	
Mean	0.61	0.58	0.69	0.72	0.62	0.66	0.85	1.11	1.34	0.70	0.62	0.76	
Max	0.70	0.71	0.97	0.99	0.75	0.84	1.91	2.25	2.92	0.88	0.76	1.30	2.92
Min	0.56	0.53	0.57	0.60	0.56	0.59	0.59	0.71	0.90	0.62	0.54	0.53	0.53

Annual Max Momentary Gage Height 4.72 M (A.D), at 24.00 Hours, on Dec 21, 1993
Zero Gage at Bottom Elevation 0.38 M (A.D), River Bed 0.15 M (A.D)
Left Bank Elevation 8.38 M (A.D)
Right Bank Elevation 8.49 M (A.D), Drainage Area 315 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	3.00	1.80	1.90	3.00	2.80	2.80	2.20	33.00	22.20	5.60	2.20	1.30	
2	2.70	1.70	1.70	2.80	2.50	2.30	1.90	21.80	13.90	5.00	2.10	1.30	
3	2.50	1.60	2.70	2.70	2.40	2.10	2.00	21.80	10.00	4.60	2.30	1.30	
4	2.50	1.50	4.60	2.50	2.90	1.90	2.20	13.30	7.60	4.20	2.50	1.30	
5	2.50	1.40	2.80	6.00	2.50	1.90	3.60	8.75	6.20	3.90	2.40	1.30	
6	2.50	1.30	3.00	3.50	3.00	2.70	7.00	6.40	6.00	3.80	2.30	1.30	
7	2.40	1.30	7.20	3.00	2.60	4.80	5.20	5.00	7.60	3.60	2.20	1.30	
8	2.10	1.30	3.30	2.80	2.40	2.90	3.30	4.20	8.00	3.50	2.10	1.80	
9	2.10	1.50	2.60	3.40	2.30	3.70	3.50	3.80	6.40	3.30	1.90	5.00	
10	1.80	1.30	3.70	2.80	2.20	2.80	4.60	3.50	7.40	3.20	2.50	4.60	
11	1.80	1.40	7.40	2.60	2.10	2.50	3.70	3.90	16.90	3.10	2.30	2.80	
12	1.80	1.50	3.80	2.40	2.00	2.90	3.30	3.90	10.25	3.00	2.40	2.30	
13	2.10	1.70	3.00	2.30	2.10	2.80	3.40	12.00	7.80	2.90	2.40	6.00	
14	1.90	1.40	5.60	2.10	1.90	2.90	3.00	7.60	6.40	2.90	2.50	3.30	
15	1.70	1.60	3.70	2.10	1.80	2.60	4.20	10.50	6.80	2.80	3.60	3.80	
16	2.60	2.10	2.90	2.00	1.70	2.40	5.20	6.80	6.80	2.70	2.60	3.00	
17	2.40	1.50	2.70	2.80	1.60	2.30	4.00	5.20	36.80	2.60	2.20	3.40	
18	2.00	1.50	2.40	2.30	1.60	2.40	3.50	4.00	57.50	2.60	2.40	4.20	
19	1.90	1.60	2.60	3.40	1.60	2.20	3.10	3.60	29.40	2.60	2.10	7.60	
20	1.90	1.40	2.90	3.00	1.70	2.10	2.90	3.60	18.40	2.50	2.10	4.00	
21	2.50	1.70	2.50	3.00	2.60	2.80	6.80	3.20	65.00	2.50	2.10	13.60	
22	2.20	2.20	2.30	4.20	2.20	3.00	5.60	3.10	94.20	2.50	2.10	7.80	
23	2.10	2.60	2.10	3.10	2.10	2.70	16.90	3.10	66.00	2.40	1.80	4.80	
24	2.10	3.10	2.30	2.70	1.90	3.60	9.75	3.20	39.05	2.40	1.80	16.00	
25	2.00	2.60	2.10	3.50	2.20	3.10	5.60	10.75	24.60	2.30	1.70	7.60	
26	1.90	2.00	2.00	7.80	2.10	2.60	5.20	5.80	16.60	2.30	1.60	5.00	
27	1.70	2.20	1.90	5.00	2.20	2.40	3.90	37.70	12.50	2.20	1.50	3.80	
28	1.60	1.80	2.20	4.80	2.30	2.20	7.40	54.50	10.00	2.30	1.40	3.40	
29	1.90	2.10	2.50	5.60	2.30	2.10	8.00	56.50	8.25	2.30		3.30	
30	2.30	2.60	2.20	3.80	2.30	2.10	5.00	52.00	7.00	2.30		3.00	
31		2.50		3.20	3.50		39.95		6.20	2.20		2.80	
Total	64.50	55.80	92.60	104.20	69.40	79.60	185.90	412.50	641.75	94.10	61.10	132.00	1993.45 CMSDAY
Mean	2.15	1.80	3.09	3.36	2.24	2.65	6.00	13.75	20.70	3.04	2.18	4.26	5.46 CMS
Max	3.00	3.10	7.40	7.80	3.50	4.80	39.95	56.50	94.20	5.60	3.60	16.00	94.20 CMS
Min	1.60	1.30	1.70	2.00	1.60	1.90	1.90	3.10	6.00	2.20	1.40	1.30	1.30 CMS
Runoff	5.573	4.821	8.001	9.003	5.996	6.877	16.062	35.640	55.447	8.130	5.279	11.405	172.234 MCM

Momentary Peak 226.80 CMS, at 4.72 M (A.D), at 24.00 Hours, on Dec 21, 1993

Runoff Yield 17.34 Liters/Second/Square KM, Momentary Peak Yield 720.00 Liters/Second/Square KM

WATER YEAR 1993

SOUTHERN PENNINSULA EAST COAST

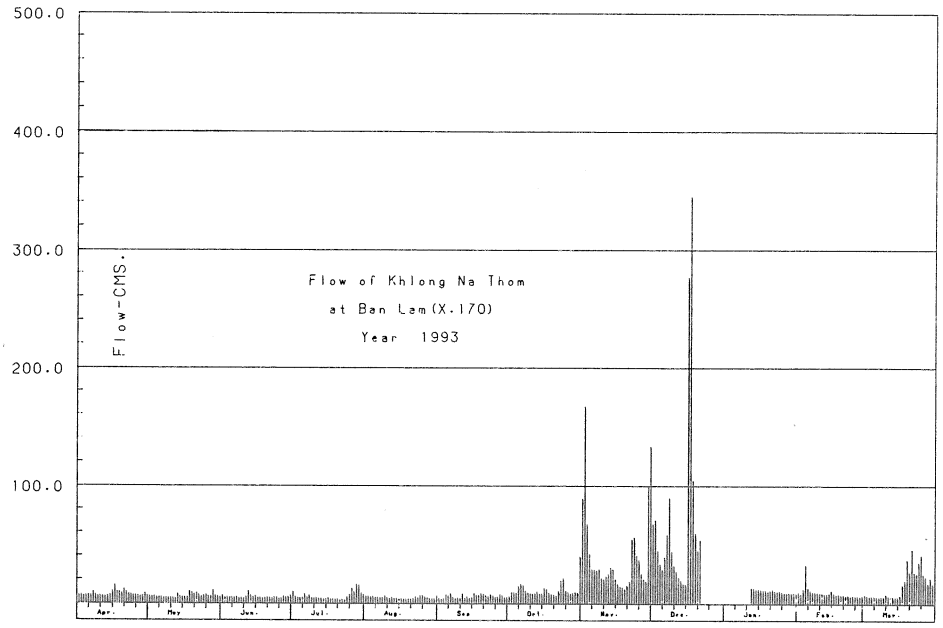
Khlong Na Thom at Ban Lam, Phattalung (X.170)

Location	Lat. 07°-33'-22" N., Long. 99°-59'-31" E., on left bank at the bridge on road, Ban Lam, Amphoe Muang, Phatthalung.
Drainage Area	269 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+0.00 m.(A.D.)
Bench Mark	B.M.-H.D.
Location	On left bank about 21 meters from the top staff gage.
Elevation	+6.597 m.(A.D.)
Gage Reading Frequency	5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1987 to date.
Rating Operation	
Period of Rating	1989 to date.
Rated by Float	-
Rated by Current Meter	1989 to date.
Stability of Channel Regimes	Fairly stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. No records on Dec.22,93 - Jan.11,94. Stage-discharge relation defined by 44 discharge measurements made in 1993.

Gage Height in Meter (A.D), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.88	0.84	0.86	0.98	0.85	0.78	0.83	2.37	2.07	*******	0.95	0.90	
2	0.88	0.85	0.82	0.83	0.84	0.77	0.97	3.26	2.11	*******	0.92	0.86	
3	0.87	0.84	0.82	0.81	0.84	0.77	0.94	2.06	1.72	*******	1.05	0.85	
4	0.86	0.83	0.82	0.79	0.83	0.90	0.95	1.67	1.52	*******	1.52	0.84	
5	0.89	0.82	0.81	0.81	0.82	0.85	1.13	1.45	1.44	*******	1.09	0.84	
6	0.86	0.82	0.82	0.90	0.81	0.93	1.18	1.43	1.62	*******	1.01	0.83	
7	0.97	0.81	0.82	0.82	0.80	0.81	1.16	1.42	1.94	*******	0.98	0.83	
8	0.88	0.80	0.80	0.87	0.80	0.79	0.99	1.45	2.37	*******	0.96	0.83	
9	0.86	0.80	0.79	0.81	0.86	0.79	0.95	1.30	1.71	*******	0.96	0.84	
10	0.85	0.80	0.79	0.80	0.80	0.79	0.94	1.27	1.50	*******	0.95	0.90	
11	0.86	0.79	0.82	0.80	0.79	0.91	0.91	1.33	1.40	*******	0.93	0.85	
12	0.84	0.79	1.00	0.79	0.81	0.80	0.93	1.36	1.31	1.09	0.92	0.84	
13	0.85	0.91	0.86	0.78	0.79	0.83	0.98	1.47	1.25	1.07	0.91	0.83	
14	0.89	0.83	0.83	0.77	0.78	0.80	0.92	1.45	1.20	1.05	0.94	0.83	
15	0.98	0.83	0.85	0.77	0.77	0.80	0.92	1.28	1.17	1.04	1.00	0.82	
16	1.15	0.81	0.81	0.79	0.77	0.94	1.07	1.19	4.27	1.03	0.92	0.86	
17	0.98	0.83	0.80	0.77	0.77	0.87	1.06	1.13	4.84	1.02	0.90	1.18	
18	0.96	0.98	0.79	0.76	0.76	0.88	0.94	1.09	2.56	1.01	0.90	1.25	
19	0.94	0.96	0.79	0.77	0.78	0.92	0.91	1.05	1.95	1.00	0.89	1.59	
20	1.04	0.90	0.82	0.76	0.76	0.92	0.88	1.14	1.72	1.00	0.88	1.40	
21	0.96	0.95	0.80	0.75	0.79	0.86	0.87	1.23	1.87	1.05	0.87	1.74	
22	0.92	0.88	0.79	0.75	0.83	0.85	0.98	1.88	*******	0.99	0.87	1.39	
23	0.89	0.85	0.81	0.75	0.81	0.89	1.26	1.90	*******	0.98	0.86	1.38	
24	0.88	0.86	0.83	0.82	0.86	0.87	1.29	1.65	*******	0.99	0.86	1.55	
25	0.87	0.90	0.79	0.90	0.88	0.83	1.01	1.58	*******	0.96	0.86	1.66	
26	0.86	0.84	0.78	1.07	0.82	0.82	0.96	1.37	*******	0.95	0.85	1.36	
27	0.85	0.85	0.85	0.96	0.81	0.91	0.93	1.28	*******	0.95	0.85	1.32	
28	0.85	1.02	0.81	1.19	0.78	0.86	0.93	1.23	*******	0.94	0.85	1.21	
29	0.94	0.86	0.83	1.15	0.78	0.82	0.97	2.50	*******	0.94		1.29	
30	0.86	0.84	0.86	0.94	0.77	0.81	0.94	2.90	*******	0.94		1.20	
31		0.83		0.89	0.86		1.63		*******	0.93		1.14	
Mean	0.91	0.86	0.82	0.85	0.81	0.85	1.01	1.59	*******	*******	0.94	1.10	
Max	1.15	1.02	1.00	1.19	0.88	0.94	1.63	3.26	4.84	1.09	1.52	1.74	4.84
Min	0.84	0.79	0.78	0.75	0.76	0.77	0.83	1.05	*******	*******	0.85	0.82	*******

Annual Max Momentary Gage Height 5.77 M (A.D), at 6.00 Hours, on Dec 17, 1993
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed -0.42 M (A.D)
Left Bank Elevation 6.81 M (A.D)
Right Bank Elevation 6.84 M (A.D), Drainage Area 269 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	7.40	6.20	6.80	10.40	6.50	4.40	5.90	89.60	67.90	*******	9.50	8.00	
2	7.40	6.50	5.60	5.90	6.20	4.10	10.10	167.00	70.70	*******	8.60	6.80	
3	7.10	6.20	5.60	5.30	6.20	4.10	9.20	67.20	45.20	*******	12.50	6.50	
4	6.80	5.90	5.60	4.70	5.90	8.00	9.50	42.20	33.20	*******	33.20	6.20	
5	7.70	5.60	5.30	5.30	5.60	6.50	14.90	29.50	29.00	*******	13.70	6.20	
6	6.80	5.60	5.60	8.00	5.30	8.90	16.40	28.50	39.20	*******	11.30	5.90	
7	10.10	5.30	5.60	5.60	5.00	5.30	15.80	28.00	58.80	*******	10.40	5.90	
8	7.40	5.00	5.00	7.10	5.00	4.70	10.70	29.50	89.60	*******	9.80	5.90	
9	6.80	5.00	4.70	5.30	6.80	4.70	9.50	22.00	44.60	*******	9.80	6.20	
10	6.50	5.00	4.70	5.00	5.00	4.70	9.20	20.50	32.00	*******	9.50	8.00	
11	6.80	4.70	5.60	5.00	4.70	8.30	8.30	23.50	27.00	*******	8.90	6.50	
12	6.20	4.70	11.00	4.70	5.30	5.00	8.90	25.00	22.50	13.70	8.60	6.20	
13	6.50	8.30	6.80	4.40	4.70	5.90	10.40	30.50	19.50	13.10	8.30	5.90	
14	7.70	5.90	5.90	4.10	4.40	5.00	8.60	29.50	17.00	12.50	9.20	5.90	
15	10.40	5.90	6.50	4.10	4.10	5.00	8.60	21.00	16.10	12.20	11.00	5.60	
16	15.50	5.30	5.30	4.70	4.10	9.20	13.10	16.70	276.40	11.90	8.60	6.80	
17	10.40	5.90	5.00	4.10	4.10	7.10	12.80	14.90	345.20	11.60	8.00	16.40	
18	9.80	10.40	4.70	3.80	3.80	7.40	9.20	13.70	104.80	11.30	8.00	19.50	
19	9.20	9.80	4.70	4.10	4.40	8.60	8.30	12.50	59.50	11.00	7.70	37.40	
20	12.20	8.00	5.60	3.80	3.80	8.60	7.40	15.20	45.20	11.00	7.40	27.00	
21	9.80	9.50	5.00	3.50	4.70	6.80	7.10	18.50	54.20	12.50	7.10	46.40	
22	8.60	7.40	4.70	3.50	5.90	6.50	10.40	54.80	*******	10.70	7.10	26.50	
23	7.70	6.50	5.30	3.50	5.30	7.70	20.00	56.00	*******	10.40	6.80	26.00	
24	7.40	6.80	5.90	5.60	6.80	7.10	21.50	41.00	*******	10.70	6.80	35.00	
25	7.10	8.00	4.70	8.00	7.40	5.90	11.30	36.80	*******	9.80	6.80	41.60	
26	6.80	6.20	4.40	13.10	5.60	5.60	9.80	25.50	*******	9.50	6.50	25.00	
27	6.50	6.50	6.50	9.80	5.30	8.30	8.90	21.00	*******	9.50	6.50	23.00	
28	6.50	11.60	5.30	16.70	4.40	6.80	8.90	18.50	*******	9.20	6.50	17.50	
29	9.20	6.80	5.90	15.50	4.40	5.60	10.10	100.00	*******	9.20		21.50	
30	6.80	6.20	6.80	9.20	4.10	5.30	9.20	133.00	*******	9.20		17.00	
31		5.90		7.70	6.80		39.80		*******	8.90		15.20	
Total	245.10	206.60	170.10	201.50	161.60	191.10	363.80	1231.60	*******	*******	268.10	497.50	******** CMSDAY
Mean	8.17	6.66	5.67	6.50	5.21	6.37	11.74	41.05	*******	*******	9.58	16.05	******** CMS
Max	15.50	11.60	11.00	16.70	7.40	9.20	39.80	167.00	345.20	13.70	33.20	46.40	345.20 CMS
Min	6.20	4.70	4.40	3.50	3.80	4.10	5.90	12.50	*******	*******	6.50	5.60	******** CMS
Runoff	21.177	17.850	14.697	17.410	13.962	16.511	31.432	106.410	*******	*******	23.164	42.984	******** MCM

Momentary Peak 489.00 CMS, at 5.77 M (A.D), at 6.00 Hours, on Dec 17, 1993

Runoff Yield ********* Liters/Second/Square KM, Momentary Peak Yield 1817.84 Liters/Second/Square KM

WATER YEAR 1993

SOUTHERN PENINSULA EAST COAST

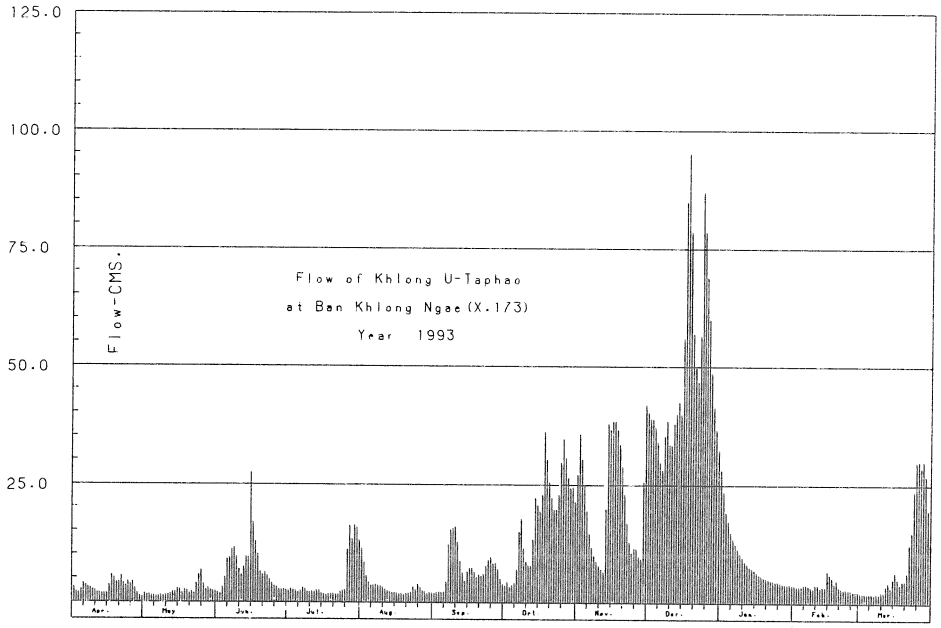
Khlong U Taphao at Ban Khlong Ngae, Songkhla (X.173)

Location	Lat. 06°-47'-44" N., Long. 100°-26'-46" E., on right bank at the bridge on Hat Yai- Sadao Highway, Ban Pang La, Amphoe Hat Yai, Songkhla.
Drainage Area	982 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+0.00 m.(A.D.)
Bench Mark	B.M.-H.D.
Location	On right bank about 1.13 meters from the top staff gage.
Elevation	+5.932 m.(A.D.)
Gage Reading Frequency	5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1989 to date.
Rating Operation	
Period of Rating	1989 to date.
Rated by Float	-
Rated by Current Meter	1989 to date.
Stability of Channel Regimes	Fairly stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Stage-discharge relation defined by 65 discharge measurements made in 1993.

Gage Height in Meter (A.D), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.86	0.60	0.64	0.75	2.09	0.63	0.96	3.65	4.64	3.73	0.95	0.65	
2	0.68	0.57	0.62	0.80	1.74	0.64	1.08	4.32	4.56	3.35	0.93	0.64	
3	0.62	0.56	0.89	0.77	1.33	0.69	0.90	3.91	4.56	2.91	0.91	0.63	
4	0.79	0.53	1.26	0.74	1.10	0.66	0.95	3.47	4.43	2.73	0.94	0.63	
5	1.03	0.50	1.83	0.67	0.97	0.67	1.07	2.95	4.19	2.49	1.00	0.63	
6	0.97	0.49	1.85	0.72	0.96	1.09	1.53	2.46	3.87	2.33	0.99	0.62	
7	0.89	0.50	2.07	0.86	1.00	2.19	2.50	2.11	3.73	2.21	0.96	0.61	
8	0.83	0.52	2.10	0.79	0.95	2.54	2.77	1.92	4.30	2.08	0.90	0.62	
9	0.77	0.50	1.89	0.70	0.94	2.59	2.10	1.76	4.53	1.97	0.85	0.61	
10	0.72	0.52	1.55	0.66	0.87	2.61	1.77	1.65	4.16	1.87	0.98	0.69	
11	0.65	0.57	1.37	0.69	0.78	2.25	1.65	1.56	4.14	1.77	0.98	0.67	
12	0.62	0.58	1.60	0.70	0.74	1.79	1.65	1.46	4.50	1.70	0.88	0.97	
13	0.61	0.68	1.88	0.74	0.68	1.44	2.31	2.99	4.62	1.62	0.90	1.07	
14	0.59	0.67	1.88	0.76	0.66	1.15	3.23	4.49	4.75	1.57	0.92	0.88	
15	0.62	0.84	3.68	0.64	0.65	1.47	3.06	4.40	4.61	1.53	1.51	1.25	
16	0.95	0.77	2.70	0.57	0.62	1.57	2.94	4.53	5.12	1.45	1.39	1.45	
17	1.37	0.63	2.27	0.56	0.61	1.59	3.28	4.53	5.47	1.39	1.29	1.22	
18	1.25	0.78	1.94	0.57	0.59	1.45	4.35	4.40	5.56	1.34	1.04	1.03	
19	1.09	0.72	1.47	0.60	0.57	1.30	3.91	4.15	5.41	1.28	1.18	1.15	
20	1.09	0.63	1.36	0.60	0.61	1.37	3.51	3.80	5.14	1.25	0.92	1.17	
21	1.34	0.67	1.44	0.59	0.62	1.34	3.23	3.29	5.00	1.23	0.83	1.44	
22	1.05	0.62	1.35	0.58	0.68	1.39	2.97	2.70	4.91	1.19	0.79	2.21	
23	0.96	1.02	1.22	0.68	0.90	1.64	2.98	2.24	5.13	1.15	0.80	2.49	
24	1.10	1.37	1.03	0.75	0.76	1.80	3.28	1.99	5.49	1.13	0.79	3.37	
25	1.02	1.50	0.95	0.75	1.00	1.88	3.86	2.11	5.41	1.11	0.76	3.87	
26	1.09	1.02	0.88	2.07	0.89	1.70	4.25	2.09	5.31	1.07	0.73	3.89	
27	0.84	0.78	0.81	2.64	0.75	1.73	3.94	1.90	5.20	1.05	0.73	3.79	
28	0.61	0.83	0.76	2.32	0.68	1.54	3.60	1.83	4.96	1.02	0.69	3.89	
29	0.51	0.77	0.80	2.63	0.63	1.24	3.41	3.53	4.70	1.01		3.63	
30	0.43	0.70	0.75	2.60	0.64	1.01	3.44	4.72	4.39	1.01		2.97	
31		0.70		2.29	0.63		3.13		4.07	0.99		2.22	
Mean	0.86	0.71	1.49	1.03	0.86	1.50	2.70	3.03	4.74	1.69	0.95	1.64	
Max	1.37	1.50	3.68	2.64	2.09	2.61	4.35	4.72	5.56	3.73	1.51	3.89	5.56
Min	0.43	0.49	0.62	0.56	0.57	0.63	0.90	1.46	3.73	0.99	0.69	0.61	0.43

Annual Max Momentary Gage Height 5.58 M (A.D), at 18.00 Hours, on Dec 18, 1993
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed -3.80 M (A.D)
Left Bank Elevation 7.25 M (A.D)
Right Bank Elevation 7.78 M (A.D), Drainage Area 982 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	3.20	1.90	2.10	2.65	11.46	2.05	3.70	27.10	40.36	28.06	3.65	2.15	
2	2.30	1.76	2.00	2.90	8.55	2.10	4.30	35.66	38.96	23.55	3.55	2.10	
3	2.00	1.72	3.35	2.75	5.68	2.35	3.40	30.33	38.96	19.10	3.45	2.05	
4	2.85	1.58	5.26	2.60	4.40	2.20	3.65	24.94	37.09	17.30	3.60	2.05	
5	4.05	1.45	9.26	2.25	3.75	2.25	4.25	19.50	33.97	14.96	3.90	2.05	
6	3.75	1.40	9.43	2.50	3.70	4.35	7.01	14.67	29.81	13.50	3.85	2.00	
7	3.35	1.45	11.30	3.20	3.90	12.32	15.05	11.63	28.06	12.49	3.70	1.95	
8	3.05	1.54	11.55	2.85	3.65	15.43	17.70	10.02	35.40	11.38	3.40	2.00	
9	2.75	1.45	9.77	2.40	3.60	15.90	11.55	8.70	38.48	10.45	3.15	1.95	
10	2.50	1.54	7.15	2.20	3.25	16.10	8.78	7.88	33.58	9.60	3.80	2.35	
11	2.15	1.76	5.92	2.35	2.80	12.82	7.88	7.22	33.32	8.78	3.80	2.25	
12	2.00	1.81	7.50	2.40	2.60	8.93	7.88	6.52	38.00	8.25	3.30	3.75	
13	1.95	2.30	9.68	2.60	2.30	6.38	13.34	19.90	39.98	7.65	3.40	4.25	
14	1.85	2.25	9.68	2.70	2.20	4.65	22.30	37.87	42.55	7.29	3.50	3.30	
15	2.00	3.10	27.46	2.10	2.15	6.59	20.60	36.70	39.79	7.01	6.87	5.20	
16	3.65	2.75	17.00	1.76	2.00	7.29	19.40	38.48	56.00	6.45	6.04	6.45	
17	5.92	2.05	13.00	1.72	1.95	7.43	22.80	38.48	84.85	6.04	5.44	5.02	
18	5.20	2.80	10.19	1.76	1.85	6.45	36.05	36.70	95.20	5.74	4.10	4.05	
19	4.35	2.50	6.59	1.90	1.76	5.50	30.33	33.45	78.55	5.38	4.80	4.65	
20	4.35	2.05	5.86	1.90	1.95	5.92	25.42	28.90	57.00	5.20	3.50	4.75	
21	5.74	2.25	6.38	1.85	2.00	5.74	22.30	22.90	50.00	5.08	3.05	6.38	
22	4.15	2.00	5.80	1.81	2.30	6.04	19.70	17.00	46.85	4.85	2.85	12.49	
23	3.70	4.00	5.02	2.30	3.40	7.80	19.80	12.74	56.50	4.65	2.90	14.96	
24	4.40	5.92	4.05	2.65	2.70	9.00	22.80	10.62	86.95	4.55	2.85	23.77	
25	4.00	6.80	3.65	2.65	3.90	9.68	29.68	11.63	78.55	4.45	2.70	29.81	
26	4.35	4.00	3.30	11.30	3.35	8.25	34.75	11.46	68.95	4.25	2.55	30.07	
27	3.10	2.80	2.95	16.40	2.65	8.48	30.72	9.85	60.00	4.15	2.55	28.78	
28	1.95	3.05	2.70	13.42	2.30	7.08	26.50	9.26	48.60	4.00	2.35	30.07	
29	1.49	2.75	2.90	16.30	2.05	5.14	24.22	25.66	41.50	3.95		26.86	
30	1.13	2.40	2.65	16.00	2.10	3.95	24.58	41.92	36.57	3.95		19.70	
31		2.40		13.17	2.05		21.30		32.41	3.85		12.57	
Total	97.23	77.53	223.45	145.34	102.30	218.17	561.74	647.69	1526.79	275.91	102.60	299.78	4278.53 CMSDAY
Mean	3.24	2.50	7.45	4.69	3.30	7.27	18.12	21.59	49.25	8.90	3.66	9.67	11.72 CMS
Max	5.92	6.80	27.46	16.40	11.46	16.10	36.05	41.92	95.20	28.06	6.87	30.07	95.20 CMS
Min	1.13	1.40	2.00	1.72	1.76	2.05	3.40	6.52	28.06	3.85	2.35	1.95	1.13 CMS
Runoff	8.401	6.699	19.306	12.557	8.839	18.850	48.534	55.960	131.915	23.839	8.865	25.901	369.665 MCM

Momentary Peak 97.60 CMS, at 5.58 M (A.D), at 18.00 Hours, on Dec 18, 1993

Runoff Yield 11.94 Liters/Second/Square KM, Momentary Peak Yield 99.39 Liters/Second/Square KM

WATER YEAR 1993

SOUTHERN PENNINSULA EAST COAST

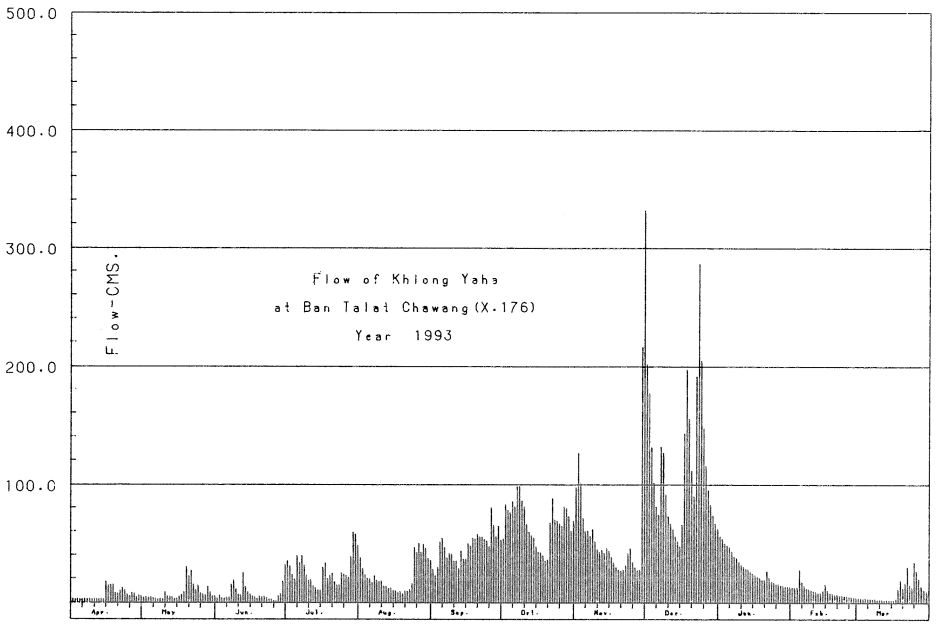
Tapi River at Ban Talat Nua, Nakhon Si Thammarat (X.176)

Location	Lat. 08°-25'-40" E., Long. 99°-30'-41" N., on left bank at the bridge on Nakhon Si Thammarat-Chawang Highway, Amphoe Chawang, Nakhon Si Thammarat.
Drainage Area	684 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+0.00 m.(A.D.)
Bench Mark	B.M.-H.D.
Location	On left bank about 7.40 meters from the top staff gage.
Elevation	+4.213 m.(A.D.)
Gage Reading Frequency	5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1989 to date.
Rating Operation	
Period of Rating	1993 to date.
Rated by Float	-
Rated by Current Meter	1993 to date.
Stability of Channel Regimes	Stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records fair. Stage-discharge relation defined by 71 discharge measurements made in 1993.

Gage Height in Meter (A.D), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	1.04	1.08	1.05	1.80	1.85	1.66	2.14	2.84	3.87	2.18	1.32	1.06	
2	1.04	1.08	1.13	1.71	1.67	1.56	2.62	3.22	3.69	2.13	1.30	1.05	
3	1.04	1.08	1.06	1.58	1.57	1.69	2.55	2.88	3.27	2.07	1.31	1.05	
4	1.04	1.08	1.06	1.48	1.50	2.09	2.51	2.45	2.89	2.03	1.66	1.05	
5	1.04	1.07	1.07	1.87	1.49	2.14	2.67	2.24	2.60	2.01	1.44	1.05	
6	1.04	1.04	1.09	1.77	1.43	2.01	2.59	2.25	2.48	1.94	1.35	1.04	
7	1.04	1.04	1.38	1.88	1.56	1.85	2.85	2.18	3.28	1.87	1.30	1.04	
8	1.04	1.04	1.46	1.72	1.46	1.91	2.85	2.28	3.22	1.84	1.28	1.04	
9	1.04	1.04	1.28	1.57	1.45	1.90	2.68	2.09	2.76	1.79	1.25	1.02	
10	1.04	1.21	1.16	1.47	1.45	1.79	2.59	1.98	2.47	1.74	1.23	1.02	
11	1.04	1.10	1.13	1.47	1.35	1.80	2.37	1.93	2.36	1.70	1.21	1.02	
12	1.04	1.10	1.61	1.36	1.34	1.68	2.24	1.96	2.28	1.68	1.19	1.01	
13	1.04	1.08	1.33	1.30	1.30	1.96	2.18	1.92	2.17	1.66	1.18	1.01	
14	1.04	1.05	1.22	1.26	1.30	1.82	2.15	2.00	2.09	1.63	1.24	1.01	
15	1.44	1.04	1.15	1.24	1.25	1.83	2.01	1.95	2.02	1.59	1.38	1.00	
16	1.37	1.09	1.11	1.69	1.23	2.06	1.94	1.86	2.34	1.56	1.24	1.00	
17	1.37	1.15	1.08	1.77	1.20	2.03	1.92	1.77	3.40	1.54	1.19	1.05	
18	1.39	1.20	1.06	1.49	1.21	2.14	1.88	1.70	3.84	1.51	1.17	1.26	
19	1.18	1.70	1.10	1.55	1.17	2.14	1.80	1.65	3.51	1.48	1.15	1.46	
20	1.18	1.55	1.09	1.60	1.23	2.20	1.81	1.64	3.03	1.47	1.14	1.30	
21	1.25	1.65	1.09	1.44	1.23	2.17	2.37	1.65	2.73	1.64	1.13	1.41	
22	1.30	1.38	1.06	1.36	1.26	2.16	2.71	1.73	3.80	1.51	1.12	1.70	
23	1.25	1.26	1.04	1.38	1.41	2.13	2.42	1.91	4.35	1.45	1.12	1.38	
24	1.15	1.36	1.03	1.60	2.00	2.10	2.40	1.99	3.89	1.42	1.11	1.31	
25	1.12	1.19	1.00	1.59	1.93	2.02	2.37	1.78	3.44	1.40	1.10	1.78	
26	1.18	1.15	0.99	1.55	2.07	2.58	2.32	1.69	3.08	1.39	1.08	1.63	
27	1.18	1.14	1.12	1.53	1.93	2.34	2.59	1.65	2.81	1.37	1.08	1.50	
28	1.08	1.34	1.16	1.86	2.05	2.17	2.58	1.65	2.62	1.35	1.07	1.33	
29	1.13	1.20	1.45	2.24	2.00	2.33	2.46	3.96	2.48	1.34		1.26	
30	1.11	1.12	1.73	2.20	1.84	2.11	2.25	4.58	2.36	1.33		1.21	
31		1.10		2.04	1.80		2.40		2.28	1.32		1.27	
Mean	1.14	1.18	1.18	1.62	1.53	2.01	2.36	2.18	2.95	1.64	1.23	1.20	
Max	1.44	1.70	1.73	2.24	2.07	2.58	2.85	4.58	4.35	2.18	1.66	1.78	4.58
Min	1.04	1.04	0.99	1.24	1.17	1.56	1.80	1.64	2.02	1.32	1.07	1.00	0.99

Annual Max Momentary Gage Height 5.00 M (A.D), at 24.00 Hours, on Nov 29, 1993
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed -0.14 M (A.D)
Left Bank Elevation 4.32 M (A.D)
Right Bank Elevation 4.26 M (A.D), Drainage Area 684 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	3.40	4.80	3.75	35.80	38.55	28.32	54.64	98.00	201.80	56.88	13.32	4.10	
2	3.40	4.80	6.55	30.94	28.84	23.40	83.06	127.26	177.70	54.08	12.60	3.75	
3	3.40	4.80	4.10	24.30	23.85	29.88	78.65	101.00	131.91	50.72	12.96	3.75	
4	3.40	4.80	4.10	19.80	20.70	51.84	76.13	72.35	101.75	48.48	28.32	3.75	
5	3.40	4.45	4.45	39.65	20.25	54.64	86.21	60.24	81.80	47.36	18.00	3.75	
6	3.40	3.40	5.15	34.18	17.55	47.36	81.17	60.80	74.24	43.50	14.40	3.40	
7	3.40	3.40	15.48	40.20	23.40	38.55	98.75	56.88	132.84	39.65	12.60	3.40	
8	3.40	3.40	18.90	31.48	18.90	41.85	98.75	62.48	127.26	38.00	11.88	3.40	
9	3.40	3.40	11.88	23.85	18.45	41.30	86.84	51.84	92.24	35.26	10.80	2.70	
10	3.40	9.36	7.60	19.35	18.45	35.26	81.17	45.70	73.61	32.56	10.08	2.70	
11	3.40	5.50	6.55	19.35	14.40	35.80	67.52	42.95	66.96	30.40	9.36	2.70	
12	3.40	5.50	25.72	14.76	14.04	29.36	60.24	44.60	62.48	29.36	8.65	2.35	
13	3.40	4.80	13.68	12.60	12.60	44.60	56.88	42.40	56.32	28.32	8.30	2.35	
14	3.40	3.75	9.72	11.16	12.60	36.90	55.20	46.80	51.84	26.76	10.44	2.35	
15	18.00	3.40	7.25	10.44	10.80	37.45	47.36	44.05	47.92	24.75	15.48	2.00	
16	15.12	5.15	5.85	29.88	10.08	50.16	43.50	39.10	65.84	23.40	10.44	2.00	
17	15.12	7.25	4.80	34.18	9.00	48.48	42.40	34.18	144.00	22.50	8.65	3.75	
18	15.84	9.00	4.10	20.25	9.36	54.64	40.20	30.40	197.60	21.15	7.95	11.16	
19	8.30	30.40	5.50	22.95	7.95	54.64	35.80	27.80	156.10	19.80	7.25	18.90	
20	8.30	22.95	5.15	25.20	10.08	58.00	36.35	27.28	112.31	19.35	6.90	12.60	
21	10.80	27.80	5.15	18.00	10.08	56.32	67.52	27.80	90.17	27.28	6.55	16.65	
22	12.60	15.48	4.10	14.76	11.16	55.76	88.79	32.02	192.00	21.15	6.20	30.40	
23	10.80	11.16	3.40	15.48	16.65	54.08	70.46	41.85	287.00	18.45	6.20	15.48	
24	7.25	14.76	3.05	25.20	46.80	52.40	69.20	46.25	204.60	17.10	5.85	12.96	
25	6.20	8.65	2.00	24.75	42.95	47.92	67.52	34.72	148.40	16.20	5.50	34.72	
26	8.30	7.25	1.80	22.95	50.72	80.54	64.72	29.88	116.16	15.84	4.80	26.76	
27	8.30	6.90	6.20	22.05	42.95	65.84	81.17	27.80	95.75	15.12	4.80	20.70	
28	4.80	14.04	7.60	39.10	49.60	56.32	80.54	27.80	83.06	14.40	4.45	13.68	
29	6.55	9.00	18.45	60.24	46.80	65.28	72.98	216.80	74.24	14.04		11.16	
30	5.85	6.20	32.02	58.00	38.00	52.96	60.80	332.00	66.96	13.68		9.36	
31		5.50		49.04	35.80		69.20		62.48	13.32		11.52	
Total	209.73	271.05	254.05	849.89	731.36	1429.85	2103.72	1933.03	3577.34	878.86	282.73	298.25	12819.86 CMSDAY
Mean	6.99	8.74	8.47	27.42	23.59	47.66	67.86	64.43	115.40	28.35	10.10	9.62	35.12 CMS
Max	18.00	30.40	32.02	60.24	50.72	80.54	98.75	332.00	287.00	56.88	28.32	34.72	332.00 CMS
Min	3.40	3.40	1.80	10.44	7.95	23.40	35.80	27.28	47.92	13.32	4.45	2.00	1.80 CMS
Runoff	18.121	23.419	21.950	73.430	63.189	123.539	181.761	167.014	309.082	75.934	24.428	25.769	1107.636 MCM

Momentary Peak 424.00 CMS, at 5.00 M (A.D), at 24.00 Hours, on Nov 29, 1993
Runoff Yield 51.35 Liters/Second/Square KM, Momentary Peak Yield 619.88 Liters/Second/Square KM

WATER YEAR 1993

SOUTHERN PENINSULA WEST COAST

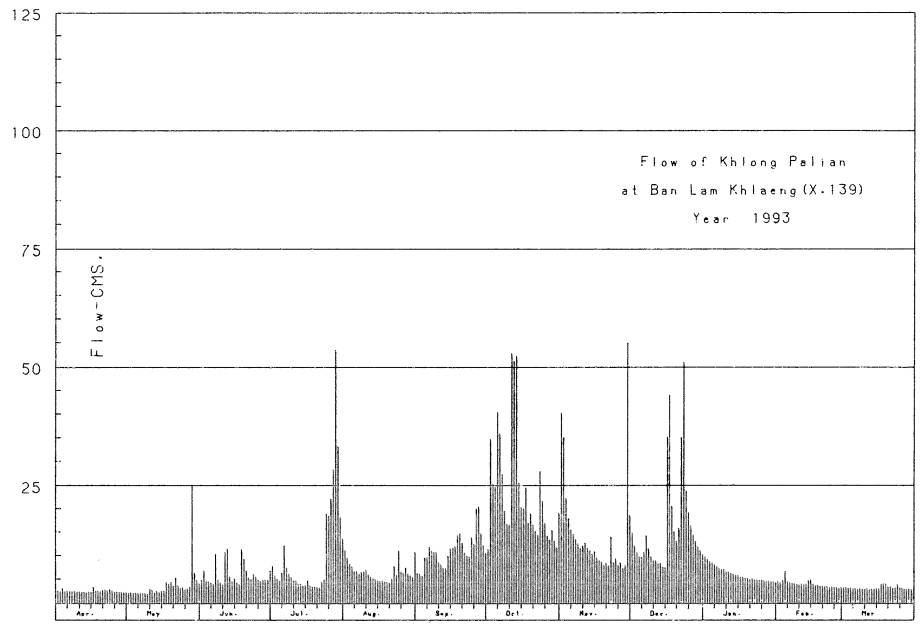
Khlong Palian at Ban Lam Khlaeng(2), Trang (X.139)

Location	Lat. 7°-19'-08" N., Long. 99°-49'-03" n., on right bank at Ban Lam Khlaeng(2), Amphoe Palian, Trang.
Drainage Area	153 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+0.00 m.(A.D.)
Bench Mark	B.M.-H.D.
Location	On right bank about 11 meters from the top staff gage.
Elevation	+5.106 m.(A.D.)
Gage Reading Frequency	13-time daily readings at 06.00 - 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 13 readings.
Period of Available Gage Records	1983 to date.
Rating Operation	
Period of Rating	1983 to date.
Rated by Float	-
Rated by Current Meter	1983 to date.
Stability of Channel Regimes	Fairly stable.
Overbank Flow Conditions	Overbank flow starts at elevation +3.41 m.(A.D.), records are channel flow only.
General Description	Records good. Stage-discharge relation defined by 100 discharge measurements made in 1993.

Gage Height in Meter (A.D), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.99	0.95	1.24	1.48	1.72	1.37	1.73	3.22	1.97	1.62	1.20	1.08	
2	0.99	0.94	1.41	1.32	1.60	1.35	3.00	3.02	1.78	1.59	1.18	1.08	
3	1.05	0.94	1.22	1.27	1.52	1.32	2.54	2.39	1.69	1.55	1.23	1.07	
4	0.99	0.94	1.20	1.22	1.47	1.61	2.51	2.15	1.62	1.54	1.41	1.07	
5	0.99	0.93	1.18	1.37	1.40	1.61	3.23	2.01	1.62	1.50	1.22	1.06	
6	1.00	0.93	1.14	1.79	1.40	1.77	3.05	1.94	1.69	1.48	1.18	1.05	
7	0.99	0.93	1.67	1.46	1.36	1.71	2.65	1.88	1.93	1.45	1.18	1.05	
8	0.98	0.92	1.26	1.35	1.38	1.70	2.24	1.81	1.74	1.44	1.16	1.05	
9	0.98	0.92	1.18	1.30	1.40	1.69	2.07	1.75	1.63	1.43	1.16	1.05	
10	0.97	1.05	1.15	1.23	1.42	1.54	2.06	1.78	1.57	1.40	1.15	1.05	
11	0.97	1.02	1.69	1.22	1.35	1.50	3.63	1.83	1.56	1.39	1.15	1.05	
12	0.96	0.96	1.74	1.17	1.30	1.44	3.58	1.75	1.52	1.38	1.15	1.04	
13	0.96	0.99	1.30	1.15	1.28	1.45	3.61	1.72	1.52	1.35	1.15	1.04	
14	0.97	0.96	1.22	1.13	1.25	1.64	2.56	1.66	1.47	1.34	1.24	1.05	
15	0.97	0.99	1.26	1.12	1.23	1.74	2.28	1.71	1.45	1.33	1.24	1.05	
16	1.08	0.99	1.18	1.22	1.21	1.76	2.27	1.61	3.02	1.31	1.15	1.05	
17	1.01	1.20	1.15	1.13	1.22	1.77	2.50	1.57	3.35	1.30	1.13	1.16	
18	1.00	1.15	1.73	1.09	1.21	1.93	2.09	1.54	2.29	1.29	1.13	1.16	
19	0.99	1.19	1.59	1.10	1.19	1.95	2.20	1.50	1.98	1.27	1.12	1.17	
20	1.01	1.12	1.41	1.08	1.18	1.82	2.06	1.52	1.84	1.27	1.11	1.09	
21	1.03	1.29	1.28	1.08	1.26	1.69	1.99	1.48	2.02	1.27	1.11	1.11	
22	1.00	1.12	1.26	1.19	1.48	1.64	1.93	1.91	3.02	1.25	1.10	1.06	
23	1.04	1.07	1.36	1.26	1.34	1.62	2.68	1.54	3.57	1.24	1.09	1.08	
24	1.00	1.07	1.30	2.20	1.71	1.90	2.36	1.59	2.47	1.25	1.09	1.14	
25	0.98	1.04	1.25	2.18	1.40	1.80	2.08	1.50	2.22	1.24	1.09	1.08	
26	0.97	1.04	1.21	2.38	1.37	2.27	1.92	1.53	2.05	1.23	1.08	1.06	
27	0.97	1.10	1.24	2.70	1.46	2.29	1.87	1.45	1.94	1.22	1.07	1.05	
28	0.96	2.54	1.24	3.65	1.35	1.95	2.00	1.49	1.84	1.22	1.07	1.04	
29	0.95	1.37	1.24	2.93	1.33	1.79	1.85	3.70	1.77	1.21		1.05	
30	0.95	1.23	1.42	2.16	1.29	1.68	1.76	2.18	1.71	1.20		1.03	
31		1.17		1.88	1.69		2.21		1.66	1.20		1.04	
Mean	0.99	1.10	1.32	1.57	1.38	1.71	2.40	1.89	1.98	1.35	1.15	1.07	
Max	1.08	2.54	1.74	3.65	1.72	2.29	3.63	3.70	3.57	1.62	1.41	1.17	3.70
Min	0.95	0.92	1.14	1.08	1.18	1.32	1.73	1.45	1.45	1.20	1.07	1.03	0.92

Annual Max Momentary Gage Height 5.30 M (A.D), at 21.00 Hours, on Oct 11, 1993
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed 0.72 M (A.D)
Left Bank Elevation 4.37 M (A.D)
Right Bank Elevation 3.40 M (A.D), Drainage Area 153 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	2.63	2.35	5.00	7.92	11.30	6.44	11.45	40.30	15.12	9.88	4.60	3.42	
2	2.63	2.28	6.94	5.84	9.60	6.20	34.80	35.28	12.20	9.46	4.40	3.42	
3	3.15	2.28	4.80	5.30	8.48	5.84	25.30	22.32	10.86	8.90	4.90	3.33	
4	2.63	2.28	4.60	4.80	7.78	9.74	24.70	18.15	9.88	8.76	6.94	3.33	
5	2.63	2.21	4.40	6.44	6.80	9.74	40.60	15.77	9.88	8.20	4.80	3.24	
6	2.70	2.21	4.00	12.35	6.80	12.05	36.00	14.64	10.86	7.92	4.40	3.15	
7	2.63	2.21	10.58	7.64	6.32	11.15	27.50	13.70	14.48	7.50	4.40	3.15	
8	2.56	2.14	5.20	6.20	6.56	11.00	19.68	12.65	11.60	7.36	4.20	3.15	
9	2.56	2.14	4.40	5.60	6.80	10.86	16.79	11.75	10.02	7.22	4.20	3.15	
10	2.49	3.15	4.10	4.90	7.08	8.76	16.62	12.20	9.18	6.80	4.10	3.15	
11	2.49	2.88	10.86	4.80	6.20	8.20	52.96	12.95	9.04	6.68	4.10	3.15	
12	2.42	2.42	11.60	4.30	5.60	7.36	51.36	11.75	8.48	6.56	4.10	3.06	
13	2.42	2.63	5.60	4.10	5.40	7.50	52.32	11.30	8.48	6.20	4.10	3.06	
14	2.49	2.42	4.80	3.90	5.10	10.16	25.70	10.44	7.78	6.08	5.00	3.15	
15	2.49	2.63	5.20	3.80	4.90	11.60	20.36	11.15	7.50	5.96	5.00	3.15	
16	3.42	2.63	4.40	4.80	4.70	11.90	20.19	9.74	35.28	5.72	4.10	3.15	
17	2.79	4.60	4.10	3.90	4.80	12.05	24.50	9.18	44.20	5.60	3.90	4.20	
18	2.70	4.10	11.45	3.51	4.70	14.48	17.13	8.76	20.53	5.50	3.90	4.20	
19	2.63	4.50	9.46	3.60	4.50	14.80	19.00	8.20	15.28	5.30	3.80	4.30	
20	2.79	3.80	6.94	3.42	4.40	12.80	16.62	8.48	13.10	5.30	3.70	3.51	
21	2.97	5.50	5.40	3.42	5.20	10.86	15.44	7.92	15.94	5.30	3.70	3.70	
22	2.70	3.80	5.20	4.50	7.92	10.16	14.48	14.16	35.28	5.10	3.60	3.24	
23	3.06	3.33	6.32	5.20	6.08	9.88	28.10	8.76	51.04	5.00	3.51	3.42	
24	2.70	3.33	5.60	19.00	11.15	14.00	21.78	9.46	23.90	5.10	3.51	4.00	
25	2.56	3.06	5.10	18.66	6.80	12.50	16.96	8.20	19.34	5.00	3.51	3.42	
26	2.49	3.06	4.70	22.14	6.44	20.19	14.32	8.62	16.45	4.90	3.42	3.24	
27	2.49	3.60	5.00	28.50	7.64	20.53	13.55	7.50	14.64	4.80	3.33	3.15	
28	2.42	25.30	5.00	53.60	6.20	14.80	15.60	8.06	13.10	4.80	3.33	3.06	
29	2.35	6.44	5.00	33.26	5.96	12.35	13.25	55.20	12.05	4.70		3.15	
30	2.35	4.90	7.08	18.32	5.50	10.72	11.90	18.66	11.15	4.60		2.97	
31		4.30		13.70	10.86		19.17		10.44	4.60		3.06	
Total	79.34	122.48	182.83	327.42	207.57	338.62	738.13	445.25	507.08	194.80	116.55	103.83	3363.90 CMSDAY
Mean	2.64	3.95	6.09	10.56	6.70	11.29	23.81	14.84	16.36	6.28	4.16	3.35	9.22 CMS
Max	3.42	25.30	11.60	53.60	11.30	20.53	52.96	55.20	51.04	9.88	6.94	4.30	55.20 CMS
Min	2.35	2.14	4.00	3.42	4.40	5.84	11.45	7.50	7.50	4.60	3.33	2.97	2.14 CMS
Runoff	6.855	10.582	15.797	28.289	17.934	29.257	63.774	38.470	43.812	16.831	10.070	8.971	290.641 MCM

Momentary Peak 132.00 CMS, at 5.30 M (A.D), at 21.00 Hours, on Oct 11, 1993

Runoff Yield 60.24 Liters/Second/Square KM, Momentary Peak Yield 862.75 Liters/Second/Square KM

WATER YEAR 1993

SOUTHERN PENINSULA WEST COAST

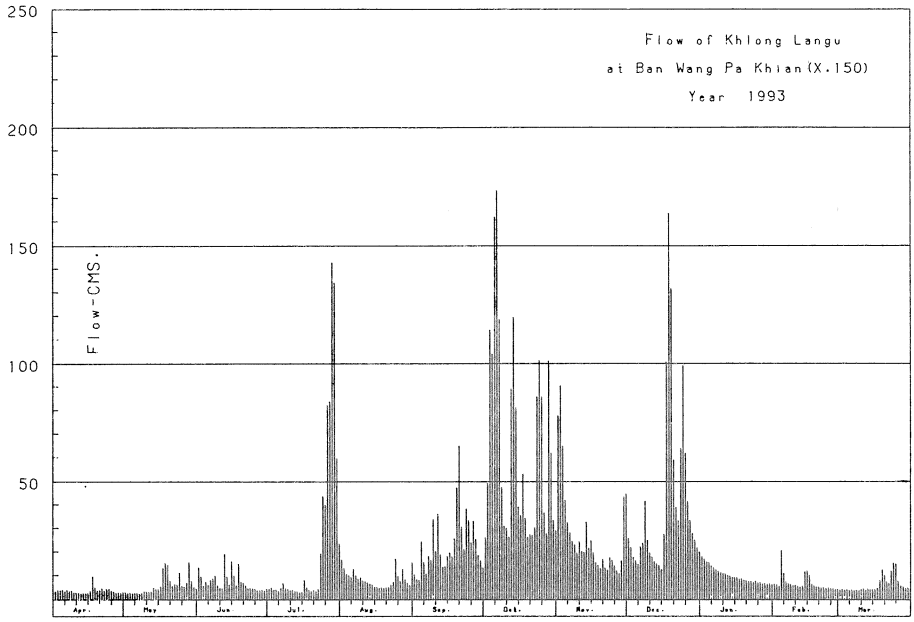
Khlong Langu at Ban Wang Pa Khian, Satun (X.150)

Location	Lat. 6°-56'-30" N., Long. 99°-52'-33" E., on right bank at Ban Wang Pa Khian, Amphoe Langu, Satun.
Drainage Area	552 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+0.00 m.(A.D.)
Bench Mark	B.M.-H.D.
Location	On right bank about 5 meters from the top staff gage.
Elevation	+8.520 m.(A.D.)
Gage Reading Frequency	13-time daily readings at 06.00-18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 13 readings.
Period of Available Gage Records	1984 to date
Rating Operation	
Period of Rating	1984 to date
Rated by Float	-
Rated by Current Meter	1984 to date
Stability of Channel Regimes	Stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Stage-discharge relation defined by 85 discharge measurements made in 1993.

Gage Height in Meter (A.D), Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.77	0.70	1.51	0.87	1.69	1.31	2.15	4.06	2.14	1.77	1.04	0.84	
2	0.79	0.67	1.25	0.90	1.48	1.19	3.11	4.45	1.97	1.70	1.02	0.84	
3	0.82	0.68	1.00	0.83	1.35	1.15	5.10	3.64	1.76	1.65	1.00	0.83	
4	0.81	0.67	1.10	0.81	1.29	2.08	4.83	2.86	1.66	1.62	1.90	0.83	
5	0.76	0.66	1.03	0.78	1.24	1.62	6.21	2.45	1.59	1.55	1.38	0.82	
6	0.81	0.66	1.16	0.91	1.47	1.35	6.43	2.27	1.97	1.50	1.11	0.81	
7	0.76	0.65	1.20	1.06	1.31	1.77	5.22	2.08	2.04	1.46	1.07	0.81	
8	0.78	0.65	1.30	0.87	1.19	1.67	3.05	2.02	2.84	1.42	1.04	0.80	
9	0.71	0.74	1.01	0.84	1.25	2.52	2.39	1.83	2.11	1.39	1.02	0.82	
10	0.68	0.74	0.91	0.81	1.14	1.87	2.34	2.07	1.84	1.37	1.01	0.87	
11	0.70	0.71	0.87	0.80	1.14	2.61	2.17	1.88	1.76	1.34	0.98	0.87	
12	0.66	0.75	1.82	0.76	1.08	1.81	4.41	1.85	1.64	1.32	0.96	0.83	
13	0.66	0.93	1.25	0.73	1.06	1.52	5.24	2.46	1.60	1.28	0.98	0.85	
14	0.66	0.83	1.02	0.71	1.02	1.52	4.17	1.95	1.55	1.26	1.42	0.85	
15	0.66	0.83	1.64	0.70	0.96	1.77	2.74	2.10	1.46	1.24	1.42	0.82	
16	0.76	0.94	1.30	1.16	0.92	1.84	2.58	1.84	2.22	1.24	1.30	0.83	
17	1.27	1.50	1.01	0.93	0.91	1.76	3.25	1.63	4.73	1.21	1.06	0.91	
18	0.91	1.60	1.58	0.80	0.90	2.13	2.53	1.55	6.24	1.20	0.99	1.15	
19	0.81	1.57	1.12	0.76	0.90	3.05	2.17	1.49	5.54	1.18	0.97	1.46	
20	0.82	1.13	1.07	0.79	0.91	3.65	2.21	1.69	3.45	1.15	0.94	1.30	
21	0.87	0.99	0.99	0.74	0.94	2.37	2.21	1.49	2.73	1.14	0.92	1.11	
22	0.80	1.05	0.89	0.85	1.01	1.91	2.35	1.45	2.49	1.13	0.91	1.08	
23	0.84	1.02	0.88	1.83	1.12	2.71	4.31	1.74	3.61	1.11	0.90	1.43	
24	0.89	1.38	0.89	2.91	1.70	2.49	4.75	1.67	4.69	1.13	0.90	1.61	
25	0.77	1.00	0.85	2.77	1.29	2.06	4.31	1.54	3.55	1.10	0.89	1.61	
26	0.73	0.93	0.80	4.21	1.12	2.48	2.64	1.42	2.83	1.09	0.87	1.13	
27	0.69	1.09	0.80	4.25	1.47	2.12	2.23	1.36	2.49	1.07	0.86	1.00	
28	0.69	1.62	0.80	5.80	1.19	1.80	4.74	1.67	2.26	1.06	0.85	0.94	
29	0.68	1.13	0.80	5.60	1.08	1.66	3.55	2.91	2.10	1.05		0.91	
30	0.71	0.95	0.85	3.47	1.02	1.50	2.49	2.95	1.96	1.05		0.89	
31		0.86		2.03	1.61		2.30		1.86	1.04		0.87	
Mean	0.78	0.96	1.09	1.65	1.19	1.98	3.49	2.15	2.60	1.28	1.06	0.99	
Max	1.27	1.62	1.82	5.80	1.70	3.65	6.43	4.45	6.24	1.77	1.90	1.61	6.43
Min	0.66	0.65	0.80	0.70	0.90	1.15	2.15	1.36	1.46	1.04	0.85	0.80	0.65

Annual Max Momentary Gage Height 6.60 M (A.D), at 23.00 Hours, on Oct 5, 1993
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed -0.03 M (A.D)
Left Bank Elevation 10.19 M (A.D)
Right Bank Elevation 9.88 M (A.D), Drainage Area 552 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	3.73	3.10	13.78	4.70	17.02	10.45	26.15	77.86	25.94	18.46	6.56	4.40	
2	3.91	2.83	9.55	5.00	13.24	8.66	49.19	90.75	22.40	17.20	6.28	4.40	
3	4.20	2.92	6.00	4.30	11.05	8.10	114.20	65.00	18.28	16.30	6.00	4.30	
4	4.10	2.83	7.40	4.10	10.15	24.68	104.28	42.36	16.48	15.76	21.00	4.30	
5	3.64	2.74	6.42	3.82	9.40	15.76	162.40	32.55	15.22	14.50	11.50	4.20	
6	4.10	2.74	8.24	5.10	13.06	11.05	173.33	28.67	22.40	13.60	7.54	4.10	
7	3.64	2.65	8.80	6.84	10.45	18.46	118.80	24.68	23.84	12.88	6.98	4.10	
8	3.82	2.65	10.30	4.70	8.66	16.66	47.45	23.42	41.84	12.16	6.56	4.00	
9	3.19	3.46	6.14	4.40	9.55	34.16	31.19	19.60	25.31	11.65	6.28	4.20	
10	2.92	3.46	5.10	4.10	7.96	20.40	30.14	24.47	19.80	11.35	6.14	4.70	
11	3.10	3.19	4.70	4.00	7.96	36.24	26.57	20.60	18.28	10.90	5.80	4.70	
12	2.74	3.55	19.40	3.64	7.12	19.20	89.35	20.00	16.12	10.60	5.60	4.30	
13	2.74	5.30	9.55	3.37	6.84	13.96	119.60	32.78	15.40	10.00	5.80	4.50	
14	2.74	4.30	6.28	3.19	6.28	13.96	81.27	22.00	14.50	9.70	12.16	4.50	
15	2.74	4.30	16.12	3.10	5.60	18.46	39.36	25.10	12.88	9.40	12.16	4.20	
16	3.64	5.40	10.30	8.24	5.20	19.80	35.54	19.80	27.62	9.40	10.30	4.30	
17	9.85	13.60	6.14	5.30	5.10	18.28	53.30	15.94	100.68	8.95	6.84	5.10	
18	5.10	15.40	15.04	4.00	5.00	25.73	34.39	14.50	163.88	8.80	5.90	8.10	
19	4.10	14.86	7.68	3.64	5.00	47.45	26.57	13.42	131.68	8.52	5.70	12.88	
20	4.20	7.82	6.98	3.91	5.10	65.30	27.41	17.02	59.30	8.10	5.40	10.30	
21	4.70	5.90	5.90	3.46	5.40	30.77	27.41	13.42	39.12	7.96	5.20	7.54	
22	4.00	6.70	4.90	4.50	6.14	21.20	30.35	12.70	33.47	7.82	5.10	7.12	
23	4.40	6.28	4.80	19.60	7.68	38.64	85.94	17.92	64.10	7.54	5.00	12.34	
24	4.90	11.50	4.90	43.66	17.20	33.47	101.40	16.66	99.24	7.82	5.00	15.58	
25	3.73	6.00	4.50	40.08	10.15	24.26	85.94	14.32	62.30	7.40	4.90	15.58	
26	3.37	5.30	4.00	82.54	7.68	33.24	36.96	12.16	41.58	7.26	4.70	7.82	
27	3.01	7.26	4.00	83.90	13.06	25.52	27.83	11.20	33.47	6.98	4.60	6.00	
28	3.01	15.76	4.00	143.00	8.66	19.00	101.04	16.66	28.46	6.84	4.50	5.40	
29	2.92	7.82	4.00	134.20	7.12	16.48	62.30	43.66	25.10	6.70		5.10	
30	3.19	5.50	4.50	59.90	6.28	13.60	33.47	44.70	22.20	6.70		4.90	
31		4.60		23.63	15.58		29.30		20.20	6.56		4.70	
Total	115.43	189.72	229.42	727.92	274.69	702.94	2012.43	833.92	1261.09	317.81	199.50	197.66	7062.53 CMSDAY
Mean	3.85	6.12	7.65	23.48	8.86	23.43	64.92	27.80	40.68	10.25	7.12	6.38	19.35 CMS
Max	9.85	15.76	19.40	143.00	17.20	65.30	173.33	90.75	163.88	18.46	21.00	15.58	173.33 CMS
Min	2.74	2.65	4.00	3.10	5.00	8.10	26.15	11.20	12.88	6.56	4.50	4.00	2.65 CMS
Runoff	9.973	16.392	19.822	62.892	23.733	60.734	173.874	72.051	108.958	27.459	17.237	17.078	610.203 MCM

Momentary Peak 182.00 CMS, at 6.60 M (A.D), at 23.00 Hours, on Oct 5, 1993
Runoff Yield 35.05 Liters/Second/Square KM, Momentary Peak Yield 329.71 Liters/Second/Square KM

SUSPENDED SEDIMENT STATION

1. Ping River at Nawarat Bridge, Chiang Mai (P.1)
2. Mae Taeng River at Mae Taeng, Chiang Mai (P.4A)
3. Nam Mae Chaem at Kaeng Ob Luang, Chiang Mai (P.14)
4. Mae Taeng River at Ban Muang Pok, Chiantg Mai (P.65)
5. Yom River at Ban Ngao Sak, Phrae (Y.20)
6. Nan River at Forestry Office, Nan (N.1)
7. Nan River at Muang, Phitsanulok (N.5A)
8. Chao Phraya River at Khai Chira Prawat, Nakhon Sawan (C.2)
9. Huai Bang I at Ban Non Yang, Muk Dahan (Kh.79)
10. Chi River at Ban Tha Nang Luan, Khon Kaen (E.9)
11. Chi River at Ban Nong O, Chaiyaphum (E.32A)
12. Chi River at Ban Kaeng Yao, Kalasin (E.54)
13. Lam Dom Yai at Det Udom, Ubon Ratchathani (M.80)
14. Khlong Samo Pun at Haew Narok, Prachin Buri (Ny.4)
15. Prachin Buri River at Kabin Buri, Prachin Buri (Kgt.3)
16. Khlong Phra Sathung at Ban Wang Khian, Prachin Buri (Kgt.10)
17. Khlong Phra Prong at Ban Kaeng, Prachin Buri (Kgt.12)
18. Khlong Si Yat at Ban Tha Kloi, Chachoengsao (Kgt.18)
19. Khlong Luang at Ban Mai, Chon Buri (Kgt.19)
20. Huai Tha Khaei at Ban Bung, Ratchaburi (K.25)
21. Huai Mae Prachan at Ban Kariang, Phetchaburi (B.8)
22. Khlong Bang Saphan Yai at Ban Wang Yao, Prachuap Khiri Khan (Gt.7)
23. Khlong Thap Sakae at Ban Klang, Prachuap Khiri Khan (Gt.9)
24. Khlong Cha Kra at Ban Cha Kra Bon, Prachuap Khiri Khan (Gt.18)
25. Khlong Phum Duang at Khiri Ratthanikhom, Surat Thani (X.36)
26. Khlong Tha Di at Ban Pak Prik, Nakhon Si Thammarat (X.55)
27. Khlong Ban Tan at Ban Wang Kong, Nakhon Si Thammarat (X.70)
28. Khlong U Taphao at Ban Bang Sala, Songkhla (X.90)
29. Khlong Sadao at Ban Phrai, Songkhla (X.111)
30. Khlong Lam at Ban Thung Prap(1), Songkhla (X.113)
31. Khlong Waeng at Waeng, Narathiwat (X.121)
32. Khlong Chandi at Ban Chandi Nua, Nakhon Si Thammarat (X.163)

WATER YEAR 1993

PING RIVER BASIN

Ping River at Nawarat Bridge, Chiang Mai (P.1)

Location	Lat. 18-47-09 N., Long. 99-00-29 E., on left bank about 100 meters downstream from Nawarat Bridge, Amphoe Muang, Chiang Mai.
Drainage Area	6,355 sq.km.
Method of Sampling	Depth Integrating
Instrument Used	US.DH - 59
Period of Available Records	1993
Actual Measurement	1993
Remarks	Continued Sediment Station Using Rating Curve Water Year 1993

RID Computer Center, Processing : 20-APR-1995 14:17:35.40

LQS/LQS02D/12

Station - Nawarat Bridge, Muang, Chiang Mai, (P.1)
Stream - Ping
River - Ping
River System - Ping River

Royal Irrigation Department
Thailand
Hydrology Division 170594
0.92586
QS = 3.8987 QW

Water Year - 1993

Suspended Sediment, in Tons per Day, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	14.59	60.13	115.06	34.69	52.26	205.45	124.11	108.99	65.33	16.40	15.50	6.86	
2	15.50	73.93	102.89	38.91	38.91	261.82	321.47	82.44	65.33	17.30	16.40	5.60	
3	32.56	65.33	90.89	34.69	36.81	261.82	338.67	73.93	60.13	17.30	15.50	4.76	
4	52.26	65.33	93.69	34.69	41.61	321.47	347.25	65.33	52.26	23.94	13.68	4.76	
5	71.07	65.33	82.44	36.81	38.91	261.82	278.12	62.73	49.61	23.94	14.59	6.44	
6	71.07	57.51	73.93	30.43	46.96	205.45	194.29	60.13	49.61	26.11	15.50	5.60	
7	65.33	46.96	68.20	26.11	44.29	160.44	153.40	60.13	52.26	28.28	15.50	6.02	
8	65.33	52.26	71.07	26.11	36.81	137.19	127.39	54.89	54.89	26.11	14.59	6.02	
9	65.33	57.51	68.20	46.96	32.56	130.67	115.06	46.96	52.26	30.43	13.68	6.86	
10	68.20	60.13	68.20	65.33	30.43	118.08	108.99	44.29	52.26	32.56	13.68	7.27	
11	65.33	60.13	65.33	65.33	28.28	261.82	102.89	41.61	49.61	32.56	12.76	6.86	
12	44.29	60.13	60.13	60.13	26.11	438.08	127.39	38.91	49.61	32.56	12.76	6.44	
13	38.91	54.89	49.61	68.20	26.11	403.34	112.03	36.81	46.96	34.69	13.68	6.02	
14	41.61	49.61	54.89	68.20	26.11	278.12	96.77	34.69	57.51	30.43	12.76	5.18	
15	46.96	49.61	68.20	93.69	26.11	183.07	88.08	34.69	52.26	28.28	13.68	5.18	
16	54.89	44.29	73.93	112.03	26.11	137.19	79.61	34.69	52.26	32.56	9.98	4.76	
17	73.93	36.81	76.77	105.94	30.43	118.08	76.77	34.69	44.29	36.81	9.04	6.02	
18	73.93	21.74	73.93	99.83	32.56	105.94	68.20	46.96	46.96	38.91	9.98	6.86	
19	73.93	19.53	65.33	79.61	38.91	133.93	73.93	68.20	41.61	26.11	9.98	7.27	
20	71.07	23.94	52.26	65.33	54.89	153.40	82.44	73.93	36.81	19.53	9.98	7.27	
21	65.33	36.81	36.81	52.26	62.73	295.52	90.89	76.77	30.43	21.74	9.98	7.27	
22	65.33	49.61	34.69	46.96	57.51	334.38	76.77	71.07	28.28	23.94	9.04	7.27	
23	65.33	62.73	32.56	41.61	62.73	250.44	76.77	68.20	28.28	28.28	10.91	7.27	
24	54.89	68.20	26.11	44.29	85.27	183.07	79.61	65.33	23.94	21.74	13.68	7.68	
25	46.96	76.77	17.30	52.26	150.17	175.53	88.08	65.33	16.40	21.74	11.84	6.86	
26	36.81	79.61	15.50	49.61	140.45	153.40	79.61	60.13	15.50	19.53	10.91	6.02	
27	32.56	82.44	14.59	38.91	105.94	127.39	73.93	54.89	14.59	17.30	9.98	26.11	
28	34.69	82.44	16.40	30.43	82.44	105.94	68.20	57.51	13.68	19.53	8.09	108.99	
29	32.56	73.93	17.30	30.43	76.77	93.69	65.33	65.33	14.59	19.53		286.83	
30	30.43	73.93	17.30	60.13	76.77	90.89	82.44	65.33	13.68	17.30		278.12	
31		105.94		65.33	108.99		127.39		13.68	15.50		130.67	
Total	1570.98	1817.51	1703.51	1705.24	1724.94	6087.43	3925.88	1754.89	1244.87	780.94	347.65	995.14	23658.98 Ton
Mean	52.37	58.63	56.78	55.01	55.64	202.91	126.64	58.50	40.16	25.19	12.42	32.10	
Max	73.93	105.94	115.06	112.03	150.17	438.08	347.25	108.99	65.33	38.91	16.40	286.83	438.08
Min	14.59	19.53	14.59	26.11	26.11	90.89	65.33	34.69	13.68	15.50	8.09	4.76	4.76

WATER YEAR 1993

PING RIVER BASIN

Mae Taeng River at Mae Taeng, Chiang Mai (P.4A)

Location	Lat. 19°07′15″ N., Long. 98°56′51″ E., on right bank at the bridge of Chiang Mai-Fang Highway, Amphoe Mae Taeng, Chiang Mai.
Drainage Area	1,902 sq.km.
Method of Sampling	Depth Integrating
Instrument Used	US.DH - 59
Period of Available Records	1992 - Cont'd
Actual Measurement	1992 - Cont'd
Remarks	Continued Sediment Station Using Rating Curve Water Year 1993

RID Computer Center, Processing : 20-APR-1995 14:17:49.07

LQS/LQS02D/12

Station - Mae Taeng, Mae Taeng, Chiang Mai, (P.4A)
Stream - Mae Taeng
River - Ping
River System - Ping River

Royal Irrigation Department
Thailand
Hydrology Division 010180
1.55553
QS = 3.4332 QW

Water Year - 1993

Suspended Sediment, in Tons per Day, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.26	18.47	118.61	8.20	4.27	417.64	130.74	3.17	78.54	0.70	0.50	0.26	
2	0.26	18.47	45.28	7.69	4.27	462.97	578.40	2.67	78.54	0.83	0.50	0.26	
3	0.26	10.97	107.45	5.67	4.27	435.57	787.32	2.19	76.42	0.92	0.50	0.26	
4	0.26	2.19	89.92	5.67	4.74	408.77	548.69	2.19	74.33	0.83	0.50	0.26	
5	0.26	29.43	63.73	5.67	4.74	243.95	134.29	2.19	72.10	0.83	0.50	0.26	
6	0.50	26.94	50.48	6.12	4.74	152.51	29.43	2.19	69.90	0.58	0.50	0.26	
7	0.40	24.64	52.17	6.12	4.74	69.90	15.63	2.19	67.87	0.58	0.50	0.26	
8	0.40	20.46	65.71	6.59	4.74	118.61	11.70	2.19	63.73	0.83	0.50	0.26	
9	0.40	25.73	55.74	6.59	4.74	99.35	3.43	1.97	63.73	0.70	0.50	0.26	
10	0.40	28.18	46.90	6.59	4.27	462.97	3.43	1.97	63.73	0.58	0.50	0.26	
11	0.40	30.71	33.32	6.12	4.27	1647.55	6.12	1.97	63.73	0.58	0.50	0.26	
12	0.40	32.00	25.73	3.43	3.81	1647.55	10.97	1.97	63.73	0.58	0.40	0.26	
13	0.40	28.18	16.56	5.67	3.81	1035.87	6.59	1.97	65.71	0.50	0.40	0.26	
14	0.40	25.73	63.73	5.67	3.81	334.84	5.67	1.97	87.70	0.58	0.40	0.26	
15	0.40	5.67	87.70	8.86	3.43	89.92	5.67	1.76	82.99	0.58	0.40	0.14	
16	0.40	3.17	112.98	5.67	3.43	53.87	4.74	1.76	82.99	0.58	0.40	0.13	
17	0.40	1.76	92.16	6.59	2.67	52.17	4.27	1.76	82.99	0.58	0.40	0.13	
18	0.40	1.17	87.70	7.69	2.91	191.13	3.17	124.34	76.42	0.58	0.40	0.13	
19	0.40	1.03	76.42	5.67	5.67	208.23	3.17	87.70	32.00	0.50	0.40	0.14	
20	0.18	55.74	46.90	5.67	5.67	1175.69	2.91	89.92	20.46	0.40	0.40	0.14	
21	0.13	55.74	12.46	5.67	5.67	1243.33	3.17	97.05	6.59	0.40	0.40	0.18	
22	0.33	65.71	65.71	5.67	6.12	737.31	5.16	99.35	6.12	0.40	0.40	0.18	
23	0.33	76.42	46.90	5.67	6.59	314.51	2.91	85.34	5.16	0.40	0.40	0.18	
24	0.26	89.92	3.81	5.67	328.01	462.97	3.17	48.68	4.74	0.40	0.33	0.18	
25	0.26	97.05	3.17	5.67	256.30	578.40	3.17	45.28	4.27	0.40	0.33	0.14	
26	0.18	124.34	2.91	5.67	121.46	391.24	2.67	32.00	3.81	0.40	0.33	301.21	
27	0.26	160.02	2.67	5.67	13.23	46.90	2.43	26.94	2.19	0.40	0.33	1226.30	
28	0.18	145.12	2.43	5.16	8.20	40.29	2.19	53.87	0.70	0.40	0.33	2237.08	
29	0.26	160.02	3.43	3.81	8.20	36.00	2.19	78.54	0.70	0.40		2549.06	
30	0.26	225.83	5.67	4.27	10.25	50.48	2.91	99.35	0.58	0.40		196.77	
31		328.01		4.27	78.54		4.74		0.58	0.50		85.34	
Total	9.63	1918.82	1488.35	183.15	927.57	13210.49	2331.05	1004.44	1403.05	17.34	11.95	6601.07	29106.91 Ton
Mean	0.32	61.90	49.61	5.91	29.92	440.35	75.20	33.48	45.26	0.56	0.43	212.94	
Max	0.50	328.01	118.61	8.86	328.01	1647.55	787.32	124.34	87.70	0.92	0.50	2549.06	2549.06
Min	0.13	1.03	2.43	3.43	2.67	36.00	2.19	1.76	0.58	0.40	0.33	0.13	0.13

WATER YEAR 1993

PING RIVER BASIN

Nam Mae Chaem at Kaeng Ob Luang, Chiang Mai (P.14)

Location	Lat. 18-13-49 N., Long. 98-33-35 E., on right bank near the bridge of Hot-Mae Sariang Highway at guidepost 7+500, Amphoe Hot, Chiang Mai.
Drainage Area	3,853 sq.km.
Method of Sampling	Depth Integrating
Instrument Used	US.D - 49
Period of Available Records	1967 - Cont'd
Actual Measurement	1970 - 1971, 1983 - Cont'd
Remarks	Continued Sediment Station Using Rating Curve Water Year 1993

RID Computer Center, Processing : 20-APR-1995 14:17:43.54

LQS/LQS02D/12

Station - Kaeng Ob Luang, Hot, Chiang Mai, (P.14)
Stream - Nam Mae Chaem
River - Ping
River System - Ping River

Royal Irrigation Department
Thailand
Hydrology Division

QS = 0.9127 QW 2.07088

Water Year - 1993

Suspended Sediment, in Tons per Day, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	23.20	28.97	2119.05	84.02	159.45	5266.63	5883.74	714.23	383.70	382.41	381.55	19.26	
2	23.20	26.00	661.93	135.87	176.26	5883.74	46369.26	660.79	383.70	382.41	381.55	19.26	
3	20.56	23.20	470.33	167.75	167.75	6566.09	10836.06	584.65	383.70	382.41	381.55	20.75	
4	20.56	20.56	228.63	184.99	151.37	4591.25	6097.31	560.34	383.70	382.41	381.55	20.75	
5	20.56	16.96	217.28	167.75	151.37	5468.41	4498.67	522.35	383.70	382.41	381.55	19.26	
6	20.56	16.96	151.37	121.23	184.99	2922.91	3539.10	503.87	383.27	382.41	381.55	19.26	
7	18.71	15.29	128.44	95.36	195.46	2387.28	3054.58	485.73	383.27	382.41	381.55	19.26	
8	20.56	18.71	89.59	143.51	195.46	4498.67	2556.16	467.94	383.27	382.41	381.55	19.26	
9	73.41	18.71	68.39	184.99	184.99	4684.80	2224.36	450.49	383.27	382.41	381.55	19.26	
10	54.42	16.96	54.42	206.22	217.28	9103.00	2171.37	433.39	383.27	382.41	381.12	19.26	
11	46.30	32.10	54.42	159.45	303.09	12244.33	2922.91	416.63	383.27	382.41	381.12	19.26	
12	38.87	46.30	54.42	128.44	289.93	8382.53	2988.37	400.21	383.27	381.98	381.12	19.26	
13	32.10	32.10	58.89	121.23	365.45	7565.66	2387.28	400.21	383.27	381.98	381.12	17.82	
14	46.30	32.10	107.45	143.51	398.89	3983.82	1867.31	384.13	383.27	381.98	381.12	16.45	
15	54.42	167.75	184.99	206.22	470.33	2731.02	1634.73	384.13	383.27	381.98	381.12	16.45	
16	46.30	107.45	184.99	398.89	588.93	2278.00	1509.11	384.13	383.27	381.98	381.12	15.13	
17	42.50	143.51	151.37	547.86	675.67	2332.31	1311.27	384.13	382.84	381.98	25.57	16.45	
18	28.97	206.22	143.51	303.09	673.95	3054.58	1202.55	384.13	382.84	381.98	25.57	17.82	
19	26.00	673.95	128.44	184.99	710.68	2731.02	1167.90	384.13	382.84	381.98	25.57	16.45	
20	23.20	661.93	121.23	151.37	2171.37	4498.67	887.49	384.13	382.84	381.98	25.57	16.45	
21	18.71	228.63	121.23	195.46	2224.36	6807.22	1331.64	384.13	382.84	381.98	23.91	16.45	
22	26.00	365.45	121.23	663.64	1550.41	18135.31	1284.64	384.13	382.84	381.98	19.26	16.45	
23	35.40	252.25	114.23	665.35	2171.37	5883.74	1379.51	383.70	382.84	381.98	19.26	16.45	
24	121.23	176.26	89.59	470.33	5266.63	3326.93	1331.64	383.70	382.84	381.98	19.26	16.45	
25	151.37	135.87	73.41	252.25	3832.56	3257.72	1013.83	383.70	382.41	381.98	20.75	16.45	
26	63.55	101.31	63.55	167.75	2731.02	7565.66	827.58	383.70	382.41	381.98	20.75	17.82	
27	42.50	195.46	63.55	151.37	1818.94	6686.09	741.76	383.70	382.41	381.98	20.75	673.95	
28	32.10	159.45	58.89	128.44	1311.27	8955.57	687.24	383.70	382.41	381.55	19.26	1388.68	
29	26.00	167.75	68.39	121.23	1311.27	7302.98	687.24	383.70	382.41	381.55		2731.02	
30	28.97	665.35	63.55	114.23	1311.27	4874.83	714.23	383.70	382.41	381.55		1916.34	
31		3396.90		128.44	1388.68		741.76		382.41	381.55		588.93	
Total	1226.53	8150.41	6216.76	6895.23	33350.45	173970.81	115850.59	13127.60	11874.06	11844.39	6367.27	7766.11	396640.25 Ton
Mean	40.88	262.92	207.23	222.43	1075.82	5799.03	3737.12	437.59	383.03	382.08	227.40	250.52	
Max	151.37	3396.90	2119.05	665.35	5266.63	18135.31	46369.26	714.23	383.70	382.41	381.55	2731.02	46369.26
Min	18.71	15.29	54.42	84.02	151.37	2278.00	687.24	383.70	382.41	381.55	19.26	15.13	15.13

WATER YEAR 1993

PING RIVER BASIN

Mae Taeng River at Ban Muang Pok, Chiang Mai, (P.65)

Location	Lat. 19°38'10" N., Long. 98°38'19" E., on left bank in front of King Amphoe Wiang Haeng Office, King Amphoe Wiang Haeng Office, Chiang Mai.
Drainage Area	240 sq.km.
Method of Sampling	Depth Integrating
Instrument Used	US.D - 49
Period of Available Records	1992 - Cont'd
Actual Measurement	1992 - Cont'd
Remarks	Continued Sediment Station Using Rating Curve Water Year 1993

RID Computer Center, Processing : 19-APR-1995 14:10:44.43 LQS/LQS02D/12

Station - Ban Muang Pok, K.A Wiang Haeng, Chiangmai, (P.65)
Stream - Mae Taeng
River - Ping
River System - Ping River

Royal Irrigation Department
Thailand
Hydrology Division 010180
2.06117
QS = 2.0921 QW

Water Year - 1993

Suspended Sediment, in Tons per Day, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.23	0.12	3.37	9.85	2.64	459.46	60.12	20.28	8.37	3.77	0.76	0.37	
2	0.23	0.10	2.31	9.85	2.64	437.58	115.47	20.28	9.09	3.77	0.63	0.23	
3	0.23	0.08	0.76	10.63	3.37	230.06	70.24	17.86	8.37	3.77	0.63	0.10	
4	0.23	0.10	0.63	10.63	1.46	105.50	65.08	17.86	8.37	3.37	0.63	0.16	
5	0.23	0.08	0.86	9.09	0.86	84.04	39.90	17.86	9.09	2.64	0.54	0.08	
6	0.16	0.06	0.63	7.69	0.86	67.63	33.14	16.71	8.37	3.37	0.54	0.10	
7	0.16	0.04	0.76	12.50	0.76	184.20	31.55	16.71	8.37	1.72	0.54	0.12	
8	0.23	0.06	2.01	36.44	1.72	140.54	28.49	15.59	8.37	1.72	0.63	0.10	
9	0.23	0.12	1.22	20.28	2.31	81.18	25.59	15.59	7.69	1.72	0.54	0.12	
10	0.28	0.16	0.86	12.50	2.01	199.65	24.20	15.59	7.03	1.72	0.54	0.08	
11	0.23	0.23	0.54	9.09	1.22	285.50	33.14	15.59	7.03	1.00	0.54	0.63	
12	0.28	0.23	1.22	5.80	1.00	448.45	53.28	14.52	7.03	0.86	0.54	0.12	
13	0.23	0.16	2.99	3.77	1.00	165.68	30.00	14.52	7.03	1.00	0.54	0.23	
14	0.37	0.16	2.64	25.59	1.00	105.50	25.59	14.52	6.40	1.00	0.37	0.23	
15	0.37	0.54	6.40	13.49	0.86	99.11	25.59	13.49	6.40	1.00	0.37	0.08	
16	0.37	0.54	3.37	38.15	1.00	70.24	22.86	13.49	5.80	1.00	0.46	0.08	
17	0.28	0.23	2.01	25.59	1.00	55.36	20.28	14.52	5.80	0.86	0.46	0.10	
18	0.23	0.23	2.31	15.59	1.46	55.36	17.86	14.52	5.80	0.86	0.37	0.12	
19	0.16	0.63	2.31	9.09	38.15	47.30	17.86	11.54	6.40	1.00	0.28	0.10	
20	0.10	4.19	0.76	7.03	11.54	156.79	27.02	10.63	5.80	1.00	0.28	0.08	
21	0.12	0.76	0.63	4.19	6.40	86.95	31.55	8.37	5.80	0.86	0.46	0.10	
22	0.28	0.54	0.37	3.77	4.69	65.08	39.90	7.69	5.80	0.76	0.46	0.10	
23	0.46	0.76	0.23	2.64	19.05	47.30	51.25	8.37	5.80	0.76	0.46	0.10	
24	0.54	4.69	0.16	3.37	53.28	33.14	51.25	8.37	5.80	0.76	0.46	0.16	
25	0.28	3.37	11.54	11.54	39.90	36.44	30.00	8.37	5.80	0.76	0.46	0.86	
26	0.28	1.46	5.23	16.71	38.15	36.44	25.59	8.37	5.23	0.76	0.37	45.39	
27	0.23	2.99	1.00	4.19	24.20	53.28	24.20	8.37	4.19	0.63	0.37	75.61	
28	0.23	5.80	1.00	3.37	75.61	51.25	22.86	8.37	4.19	0.63	0.37	70.24	
29	0.16	12.50	118.90	3.37	39.90	75.61	24.20	8.37	4.69	0.76		10.63	
30	0.16	25.59	19.05	2.31	67.63	49.26	41.69	8.37	4.69	0.76		2.99	
31		27.02		3.77	174.81		27.02		4.69	0.76		1.72	
Total	7.57	93.54	196.07	351.88	620.48	4013.88	1136.77	394.69	203.29	45.35	13.60	211.13	7288.25 Ton
Mean	0.25	3.02	6.54	11.35	20.02	133.80	36.67	13.16	6.56	1.46	0.49	6.81	
Max	0.54	27.02	118.90	38.15	174.81	459.46	115.47	20.28	9.09	3.77	0.76	75.61	459.46
Min	0.10	0.04	0.16	2.31	0.76	33.14	17.86	7.69	4.19	0.63	0.28	0.08	0.04

WATER YEAR 1993

YOM RIVER BASIN

Yom River at Ban Ngao Sak, Phrae (Y.20)

Location	Lat. 18°35'03" N., Long. 100°09'17" E., on left bank about 1 kilometer downstream from Sop Ngao, Tambon Tao Poon, Amphoe Song, Phrae.
Drainage Area	5,410 sq.km.
Method of Sampling	Depth Integrating
Instrument Used	US.D - 49
Period of Available Records	1983 - Cont'd
Actual Measurement	1983 - Cont'd
Remarks	Continued Sediment Station Using Rating Curve Water Year 1987 - 1993

RID Computer Center, Processing : 19-APR-1995 14:10:51.75

LQS/LQS02D/12

Station - Ban Ngao Sak, Song, Phrae, (Y.20)
Stream - Yom
River - Yom
River System - Yom River

Royal Irrigation Department
Thailand
Hydrology Division 010180
1.99772
QS = 0.2035 QW

Water Year - 1993

Suspended Sediment, in Tons per Day, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.78	1.18	95.59	223.85	21.47	4347.36	713.71	1210.12	13.62	2.14	1.39	0.52	
2	0.78	1.18	92.54	147.23	20.24	1088.56	689.95	291.41	12.64	1.88	1.18	0.45	
3	0.78	1.18	111.57	69.93	21.47	1194.58	545.29	132.37	11.70	1.88	0.98	0.45	
4	0.78	0.88	50.48	48.27	21.47	2625.27	787.41	86.59	11.70	1.88	0.98	0.45	
5	0.78	0.88	48.27	31.11	20.24	1726.92	514.32	69.93	10.79	1.88	0.98	0.45	
6	0.69	0.88	39.93	22.74	25.39	1225.77	355.90	57.40	10.79	1.88	0.98	0.45	
7	0.69	0.78	44.00	187.82	19.05	945.65	238.86	46.11	11.70	1.63	0.98	0.45	
8	0.69	2.73	108.27	306.93	15.68	1088.56	175.13	41.94	9.93	1.88	0.98	0.45	
9	9.18	50.48	114.91	455.09	75.29	725.74	143.44	39.93	9.93	1.63	0.98	0.45	
10	4.24	101.83	158.89	1163.78	50.48	1044.63	121.75	34.19	10.79	1.63	0.98	0.45	
11	1.88	20.24	143.44	1933.95	37.97	2597.78	111.57	32.63	12.64	1.63	0.98	0.45	
12	1.18	11.70	121.75	2029.72	26.76	2917.71	121.75	31.11	13.62	1.88	0.88	0.45	
13	0.88	7.10	86.59	987.47	20.24	1179.13	128.78	26.76	13.62	1.88	0.88	0.45	
14	0.78	3.75	57.40	2821.69	16.77	838.55	98.69	26.76	8.46	1.88	0.88	0.38	
15	0.78	2.73	46.11	4265.04	14.63	484.25	75.29	22.74	5.87	1.88	0.78	0.38	
16	0.78	3.39	28.17	2597.78	11.70	339.18	62.27	21.47	5.87	1.88	0.78	0.31	
17	0.69	83.69	12.64	2985.88	11.70	330.96	57.40	21.47	4.75	1.88	0.78	0.31	
18	0.60	20.24	14.63	1118.35	11.70	825.61	52.74	21.47	4.75	1.63	0.78	0.31	
19	0.60	12.64	17.89	609.95	16.77	1704.63	46.11	21.47	4.24	1.63	0.69	0.31	
20	0.60	1015.85	7.76	250.09	21.47	800.04	44.00	20.24	4.24	1.63	0.69	0.31	
21	0.60	125.24	5.29	219.17	55.05	750.11	46.11	20.24	3.39	1.63	0.69	0.31	
22	5.87	55.05	4.75	158.89	136.01	689.95	92.54	20.24	3.39	1.39	0.69	0.31	
23	10.79	86.59	3.75	121.75	108.27	587.99	136.01	17.89	3.05	1.39	0.69	0.31	
24	15.68	89.54	3.39	98.69	108.27	373.03	111.57	17.89	3.05	1.39	0.60	0.38	
25	5.29	55.05	3.05	83.69	314.84	228.57	80.84	16.77	3.05	0.98	0.60	1.88	
26	2.73	46.11	20.24	64.77	534.87	322.85	64.77	15.68	2.73	1.39	0.52	2.43	
27	2.43	31.11	12.64	52.74	291.41	762.44	55.05	15.68	2.73	1.39	0.52	10.79	
28	1.88	21.47	13.62	44.00	267.41	678.22	46.11	15.68	2.43	1.39	0.52	609.95	
29	1.63	17.89	285.31	31.11	267.41	355.90	39.93	15.68	2.43	1.39		3089.60	
30	1.18	26.76	125.24	26.76	1241.52	200.96	95.59	14.63	2.43	1.39		445.57	
31		34.19		25.39	4224.17		3230.66		2.43	1.39		108.27	
Total	76.24	1932.33	1878.11	23183.63	8029.72	32980.90	9083.54	2426.49	222.76	51.23	23.36	4278.03	84166.34 Ton
Mean	2.54	62.33	62.60	747.86	259.02	1099.36	293.02	80.88	7.19	1.65	0.83	138.00	
Max	15.68	1015.85	285.31	4265.04	4224.17	4347.36	3230.66	1210.12	13.62	2.14	1.39	3089.60	4347.36
Min	0.60	0.78	3.05	22.74	11.70	200.96	39.93	14.63	2.43	0.98	0.52	0.31	0.31

WATER YEAR 1993

NAN RIVER BASIN

Nan River at Nan, Nan (N.1)

Location	Lat. 18-46-23 N., Long. 100-46-51 E., on right bank infront of forestry office, Amphoe Muang, Nan.
Drainage Area	4,609 sq.km.
Method of Sampling	Depth Integrating
Instrument Used	US.D - 49
Period of Available Records	1982 - Cont'd
Actual Measurement	1982 - Cont'd
Remarks	Continued Sediment Station Using Rating Curve Water Year 1993

RID Computer Center, Processing : 19-APR-1995 14:10:58.99

LQS/LQS02D/12

Station - Forestry Offiec, Muang, Nan, (N.1)
Stream - Nan
River - Nan
River System - Nan River

Royal Irrigation Department
Thailand
Hydrology Division

1.36728
QS = 1.2573 QW

Water Year - 1993

Suspended Sediment, in Tons per Day, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	37.15	60.99	156.10	435.44	514.98	1832.89	1043.09	362.77	85.54	55.22	38.87	24.21	
2	37.15	55.22	175.23	690.73	622.42	1330.80	1043.09	302.79	83.42	55.22	38.87	25.75	
3	35.46	51.45	143.68	503.77	763.80	1409.55	1131.90	289.38	81.30	55.22	37.15	28.89	
4	33.78	47.76	156.10	362.77	1457.38	1207.37	905.56	269.56	77.12	53.33	37.15	27.31	
5	32.13	44.15	428.01	331.65	1330.80	1161.93	729.39	263.04	77.12	53.33	37.15	28.89	
6	33.78	44.15	228.30	391.41	1057.75	1016.00	622.42	244.44	72.99	53.33	37.15	27.31	
7	35.46	45.95	258.35	2964.32	966.49	1131.90	543.73	238.80	68.93	51.45	35.46	25.75	
8	33.78	55.22	253.69	2617.09	905.56	954.22	496.04	238.80	66.92	51.45	35.46	25.75	
9	45.95	66.92	263.04	1588.16	1131.90	786.97	452.06	233.18	64.93	51.45	35.46	25.75	
10	55.22	72.99	228.30	1930.90	929.80	763.80	435.44	233.18	64.93	49.60	32.13	25.75	
11	45.95	72.99	277.22	3476.52	718.02	1003.56	427.19	233.18	64.93	47.76	30.50	25.75	
12	44.15	75.05	281.99	2261.22	612.43	1116.96	477.30	233.18	64.93	47.76	32.13	25.75	
13	42.37	79.20	211.78	5200.39	534.10	1072.47	410.82	227.61	66.92	45.95	32.13	25.75	
14	44.15	79.20	175.23	16727.09	477.30	905.56	362.77	107.60	66.92	45.95	30.50	25.75	
15	51.45	83.42	168.78	14813.56	460.43	763.80	354.92	107.60	64.93	44.15	28.89	22.70	
16	49.60	70.95	178.80	7959.86	622.42	684.19	347.12	107.60	60.99	45.95	27.31	22.70	
17	45.95	64.93	149.85	5200.39	505.49	642.53	316.38	107.60	59.05	45.95	25.75	22.70	
18	45.95	62.95	132.74	2843.19	534.10	857.59	302.79	107.60	57.13	44.15	28.89	22.70	
19	42.37	59.05	127.36	1906.27	684.19	954.22	289.38	107.60	55.22	44.15	27.31	22.70	
20	38.87	57.13	119.41	2427.56	3961.90	706.70	276.12	107.60	53.33	42.37	25.75	22.70	
21	37.15	72.99	112.17	1554.31	2585.02	905.56	276.12	105.33	51.45	42.37	25.75	22.70	
22	47.76	83.42	107.60	1237.92	1619.85	775.36	302.79	103.08	53.33	40.61	25.75	22.70	
23	45.95	92.02	98.61	1457.38	1315.19	622.42	323.99	103.08	53.33	40.61	25.75	24.21	
24	62.95	92.02	94.20	1237.92	2993.43	582.72	316.38	100.84	53.33	40.61	27.31	25.75	
25	116.79	94.20	109.88	1057.75	3044.90	612.43	331.65	98.61	53.33	40.61	27.31	32.78	
26	96.40	94.20	450.39	954.22	1999.07	673.01	296.07	98.61	53.33	40.61	27.31	44.15	
27	66.92	178.80	296.44	763.80	1473.42	622.42	362.77	96.40	53.33	38.87	25.75	62.95	
28	64.93	272.47	215.88	652.65	1268.68	563.14	331.65	94.20	51.45	38.87	25.75	156.10	
29	81.30	258.35	224.14	622.42	1237.92	477.30	316.38	92.02	53.33	38.87		175.23	
30	70.95	220.00	307.30	572.91	1393.70	460.43	339.36	87.69	53.33	38.87		112.17	
31		168.78		553.41	2406.60		477.30		53.33	38.87		81.30	
Total	1521.77	2876.92	6130.57	85296.98	40129.04	26597.80	14641.97	5102.97	1940.42	1423.51	864.69	1265.60	187792.23 Ton
Mean	50.73	92.80	204.35	2751.52	1294.49	886.59	472.32	170.10	62.59	45.92	30.88	40.83	
Max	116.79	272.47	450.39	16727.09	3961.90	1832.89	1131.90	362.77	85.54	55.22	38.87	175.23	16727.09
Min	32.13	44.15	94.20	331.65	460.43	460.43	276.12	87.69	51.45	38.87	25.75	22.70	22.70

WATER YEAR 1993

NAN RIVER BASIN

Nan River at Phitsanulok, Phitsanulok (N.5A)

Location	Lat. 16-49-15 N., Long. 100-15-49 E., on left bank near the post office and about 1 kilometer upstream from gaging station N.5, Amphoe Muang, Phitsanulok.
Drainage Area	25,286 sq.km.
Method of Sampling	Depth Integrating
Instrument Used	US.D - 49
Period of Available Records	1978 - Cont'd
Actual Measurement	1978 - Cont'd
Remarks	Continued Sediment Station Using Rating Curve Water Year 1993

RID Computer Center, Processing : 19-APR-1995 14:11:06.24

LQS/LQS02D/12

Station - Muang, Muang, Phitsanulok, (N.5A)
Stream - Nan
River - Nan
River System - Nan River

Royal Irrigation Department
Thailand
Hydrology Division
1.53050
QS = 0.5700 QW

Water Year - 1993

Suspended Sediment, in Tons per Day, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	1599.0	2384.4	3494.0	413.7	1232.5	5152.8	991.6	95.5	1490.9	218.1	158.6	315.6	
2	1424.7	2253.8	3979.1	345.3	1026.6	5497.2	723.3	53.7	1385.5	242.5	252.5	278.2	
3	1709.7	875.9	2238.4	496.8	875.9	5076.1	856.0	43.6	957.1	113.0	896.0	278.2	
4	1654.0	267.8	1146.1	526.3	714.5	5178.5	1026.6	237.6	1333.8	139.1	1626.4	732.2	
5	1437.9	1295.5	1257.6	420.2	603.5	5551.8	1282.8	131.5	1359.6	150.7	1490.9	980.1	
6	518.9	2367.2	875.9	388.3	1924.0	5442.7	697.0	195.9	778.0	252.5	1585.4	885.9	
7	1477.6	1924.0	453.7	1654.0	2192.5	5827.8	504.1	315.6	662.5	252.5	1038.3	653.9	
8	548.8	3391.4	603.5	2612.6	2300.2	6051.8	394.6	95.5	768.5	237.6	426.6	288.7	
9	1464.3	4152.9	2131.8	2972.4	2541.6	7153.1	310.1	41.6	620.1	283.5	1109.8	714.5	
10	2284.7	2779.7	2703.9	2741.7	2837.1	6906.5	242.5	1751.8	653.9	119.1	1170.6	1170.6	
11	1558.2	1050.1	3050.8	2041.8	2207.8	5911.4	218.1	2612.6	1121.9	122.2	548.8	1109.8	
12	926.3	1195.2	2284.7	1558.2	1437.9	3350.7	200.2	2253.8	1134.0	101.3	247.5	1003.2	
13	489.6	1909.4	1822.9	1372.5	1270.2	3229.5	146.8	2253.8	1207.6	179.0	204.5	1207.6	
14	518.9	1723.7	1014.9	2116.7	826.5	3765.5	131.5	2284.7	671.1	304.7	237.6	1109.8	
15	653.9	1270.2	504.1	1766.0	1333.8	3893.2	125.3	1967.9	980.1	327.3	104.2	807.0	
16	797.3	1245.0	1062.0	1851.6	1751.8	3330.4	122.2	1097.8	653.9	294.0	333.3	1026.6	
17	1464.3	705.8	2071.7	1709.7	628.5	1424.7	119.1	1308.2	671.1	119.1	382.1	980.1	
18	1894.9	433.1	2506.4	1626.4	1599.0	705.8	116.1	1451.1	541.3	110.1	460.8	980.1	
19	980.1	1121.9	2894.8	637.0	2991.9	620.1	92.7	1134.0	645.4	200.2	1121.9	885.9	
20	321.4	1220.0	2685.1	247.5	3957.6	705.8	73.8	1050.1	533.8	273.0	1207.6	856.0	
21	1109.8	697.0	1372.5	526.3	4550.4	1924.0	71.5	1158.3	375.9	278.2	413.7	826.5	
22	1667.9	1109.8	628.5	1038.3	4355.4	3660.2	79.1	504.1	351.3	237.6	64.6	482.3	
23	1794.3	1398.6	885.9	1195.2	2722.8	5101.6	79.1	208.9	357.4	433.1	9.5	579.3	
24	1437.9	688.3	1232.5	1121.9	1924.0	5939.4	89.9	1038.3	496.8	357.4	20.8	511.5	
25	1062.0	262.7	1723.7	797.3	1808.6	5101.6	79.1	1938.6	315.6	131.5	125.3	564.0	
26	906.1	968.5	1062.0	482.3	5415.6	3850.5	66.9	2401.7	369.7	158.6	150.7	460.8	
27	433.1	1170.6	475.1	174.8	6023.7	3249.6	58.0	2524.0	310.1	518.9	227.8	401.0	
28	1182.9	991.6	453.7	382.1	5716.8	2703.9	58.0	2453.9	135.3	407.3	150.7	460.8	
29	2146.9	1232.5	247.5	1026.6	5415.6	1681.8	47.5	2284.7	158.6	273.0		283.5	
30	2315.7	1737.7	131.5	1182.9	4044.0	1182.9	64.6	885.9	339.3	541.3		252.5	
31		2875.5		1333.8	3229.5		76.4		299.4	333.3		357.4	
Total	37781.1	46699.8	46994.3	36760.2	79459.8	119170.9	9144.5	35774.7	21679.5	7709.7	15766.5	21443.6	478384.6 Ton
Mean	1259.4	1506.4	1566.5	1185.8	2563.2	3972.4	295.0	1192.5	699.3	248.7	563.1	691.7	
Max	2315.7	4152.9	3979.1	2972.4	6023.7	7153.1	1282.8	2612.6	1490.9	541.3	1626.4	1207.6	7153.1
Min	321.4	262.7	131.5	174.8	603.5	620.1	47.5	41.6	135.3	101.3	9.5	252.5	9.5

WATER YEAR 1993

CHAO PHRAYA RIVER BASIN

Chao Phraya River at Nakhon Sawan, Nakhon Sawan (C.2)

Location — Lat. 15°-40'-15" N., Long. 100°-06'-45" E., on left bank at Khai Chira Prawat about 3 kilometers downstream from Dechatiwong Bridge, Amphoe Muang, Nakhon Sawan.

Drainage Area — 110,569 sq.km.

Method of Sampling — Depth Integrating

Instrument Used — US.P - 61

Period of Available Records — 1960 - Cont'd

Actual Measurement — 1965, 1972, 1974 - Cont'd

Remarks — Continued Sediment Station

Using Rating Curve Water Year 1965 - 1993

RID Computer Center, Processing : 19-APR-1995 14:11:52.16

LQS/LQS02D/12

Station - Nakhon Sawan, Muang, Nakhon Sawan, (C.2)
Stream - Chao Phraya
River - Chao Phraya
River System - Chao Phraya

Royal Irrigation Department
Thailand
Hydrology Division 040494
1.49294
QS = 0.7385 QW

Water Year - 1993

Suspended Sediment, in Hundred Tons per Day, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	34.14	39.27	48.19	15.92	37.59	84.99	235.82	47.19	55.79	8.81	9.97	7.69	
2	38.89	46.00	57.69	12.19	41.92	79.96	218.10	42.88	45.60	9.97	10.33	7.58	
3	44.43	48.99	66.62	13.62	45.21	86.20	199.89	37.96	41.15	9.86	9.27	7.58	
4	48.59	48.59	79.02	15.37	38.52	94.33	181.59	31.49	39.27	9.15	7.47	8.47	
5	49.80	35.40	77.84	16.06	33.43	100.66	167.49	34.68	35.76	8.35	8.69	9.27	
6	52.25	24.15	69.32	16.48	28.58	101.94	159.99	36.13	36.13	7.36	14.69	12.71	
7	49.39	28.58	64.18	15.92	25.43	107.11	154.65	35.76	36.86	6.62	17.91	17.62	
8	39.27	38.15	49.39	14.28	30.28	100.66	139.02	36.86	34.50	6.73	18.64	18.93	
9	42.30	47.99	44.04	20.57	42.69	101.17	123.41	36.13	31.49	7.58	17.76	17.19	
10	37.22	70.45	41.54	37.59	52.66	107.11	109.20	33.07	30.45	8.35	14.69	13.62	
11	41.54	76.67	56.42	49.39	46.39	114.76	98.11	27.07	31.84	8.92	12.83	11.81	
12	51.02	67.29	73.65	51.84	44.43	125.88	86.69	41.92	36.13	8.58	15.10	15.10	
13	55.37	43.65	81.63	47.59	53.70	127.25	78.31	64.18	40.77	7.36	14.28	18.20	
14	48.99	41.92	77.37	38.15	54.95	122.04	70.90	72.96	44.04	6.21	10.94	21.33	
15	37.22	46.00	70.45	31.84	50.61	119.87	62.65	75.74	42.88	5.71	8.92	22.10	
16	30.80	48.19	54.95	33.78	39.27	122.86	55.79	76.67	38.89	6.52	7.04	21.49	
17	28.41	45.21	35.76	38.15	38.89	129.75	49.39	69.32	34.14	7.69	7.26	17.91	
18	31.49	42.30	40.77	38.89	41.15	130.30	46.79	52.66	30.45	8.58	6.11	16.34	
19	40.40	33.78	60.69	40.02	38.52	125.05	48.59	47.19	28.07	8.02	7.47	18.20	
20	47.99	24.15	76.20	38.89	35.76	123.41	49.80	44.82	26.58	6.83	10.09	19.82	
21	46.00	28.92	82.34	32.72	44.04	125.88	46.39	43.26	25.43	5.41	18.93	18.64	
22	35.76	36.13	76.67	23.67	54.53	137.61	46.00	42.30	23.83	5.71	27.74	17.33	
23	36.49	37.96	61.56	23.04	64.18	169.31	48.99	42.69	21.33	7.04	20.57	16.77	
24	46.00	36.49	39.27	31.84	69.77	206.01	50.61	33.07	17.91	7.69	12.19	15.79	
25	51.02	39.27	40.02	36.13	64.18	224.40	54.11	24.15	16.06	8.58	7.69	13.36	
26	52.25	39.27	49.39	38.15	54.95	232.44	52.25	29.26	14.55	10.45	5.51	13.23	
27	49.80	29.94	52.25	37.59	55.37	236.83	43.26	42.30	14.55	8.92	5.71	12.71	
28	42.30	31.84	43.65	31.14	66.62	236.83	39.64	54.11	13.49	6.94	6.94	13.23	
29	27.41	36.13	34.14	23.35	78.31	242.62	40.77	58.76	12.32	6.01		12.19	
30	29.94	38.52	22.88	22.57	86.69	244.67	45.60	60.04	10.70	9.04		11.81	
31		42.30		31.14	89.87		47.99		9.15	10.21		11.31	
Total	1266.48	1293.50	1727.89	917.88	1548.49	4261.90	2851.79	1374.62	920.11	243.20	334.74	459.33	17199.93 100To
Mean	42.22	41.73	57.60	29.61	49.95	142.06	91.99	45.82	29.68	7.85	11.96	14.82	
Max	55.37	76.67	82.34	51.84	89.87	244.67	235.82	76.67	55.79	10.45	27.74	22.10	244.67
Min	27.41	24.15	22.88	12.19	25.43	79.96	39.64	24.15	9.15	5.41	5.51	7.58	5.41

WATER YEAR 1993

KHONG RIVER BASIN

Huai Bang I at Ban Non Yang, Muk Dahan (KH.79)

Location	Lat.16-28-49 N., Long. 104-20-08 E., on right bank at the bridge on highway, Ban Non Yang, Amphoe Kham Cha I, Muk Dahan.
Drainage Area	110 sq.km.
Method of Sampling	Depth Integrating
Instrument Used	US.D - 49
Period of Available Records	1986 - Cont'd
Actual Measurement	1986 - Cont'd
Remarks	Continued Sediment Station Using Rating Curve Water Year 1986 - 1993

RID Computer Center, Processing : 19-APR-1995 14:11:36.75

LQS/LQS02D/12

Station - Ban Non Yang, K.A. Nong Sung, Muk Dahan, (KH.79)
Stream - Huai Bang I
River - Khong
River System - Khong River

Royal Irrigation Department
Thailand
Hydrology Division 010180
1.42889
QS = 6.9322 QW

Water Year - 1993

Suspended Sediment, in Tons per Day, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.05	0.16	18.40	1.12	0.19	27.15	6.93	0.70	0.22	0.19	0.34	1.12	
2	0.05	0.12	2.43	1.01	126.92	17.35	6.44	0.70	0.22	0.19	0.51	1.12	
3	0.05	0.12	1.12	0.80	156.30	7.94	5.50	0.60	0.22	0.19	0.70	1.24	
4	0.05	0.10	0.80	2.65	13.81	16.31	4.60	0.60	0.22	0.19	0.80	1.24	
5	0.05	0.10	0.80	5.04	5.96	18.40	4.16	0.60	0.22	0.19	1.12	1.24	
6	0.05	0.07	1.01	23.50	6.44	6.93	3.75	0.60	0.19	0.19	1.12	1.24	
7	0.05	0.07	5.50	4.16	11.44	7.43	3.34	0.51	0.19	0.19	0.60	1.24	
8	19.33	11.44	1.24	1.61	3.75	187.44	3.10	0.51	0.19	0.19	0.26	1.24	
9	2.87	1.24	0.90	1.01	71.11	68.14	2.87	0.51	0.19	0.19	0.42	1.42	
10	0.90	0.80	0.60	0.90	4.16	38.17	2.65	0.51	0.19	0.19	0.51	1.42	
11	0.51	0.26	0.90	0.80	2.43	36.53	2.43	0.51	0.19	0.19	0.51	1.61	
12	0.22	0.16	1.01	4.16	1.42	9.97	2.21	0.42	0.19	0.19	0.60	1.61	
13	0.12	0.12	1.01	13.09	9.32	19.33	2.21	0.42	0.26	0.19	0.70	1.81	
14	0.10	0.10	0.90	9.32	65.21	30.19	2.21	0.42	0.22	0.16	0.80	1.81	
15	0.12	4.60	0.80	21.39	13.81	21.39	2.01	0.42	0.22	0.16	0.90	1.61	
16	0.12	50.25	0.60	5.04	5.04	24.65	1.81	0.42	0.22	0.16	1.12	1.61	
17	0.12	2.65	0.51	2.21	3.34	102.78	1.61	0.42	0.22	0.16	1.24	1.61	
18	0.10	232.91	5.04	1.42	9.32	33.31	1.61	0.42	0.22	0.16	1.42	1.61	
19	0.10	12.26	2.21	1.12	3.75	191.45	1.61	0.34	0.22	0.16	1.42	1.61	
20	0.10	13.81	0.90	1.01	2.87	564.88	1.42	0.34	0.22	0.16	1.61	1.81	
21	28.66	96.17	0.70	6.93	2.21	3375.62	1.42	0.34	0.22	0.16	1.61	1.81	
22	41.52	6.44	0.60	1.42	1.24	134.09	1.42	0.34	0.22	0.16	1.81	1.81	
23	1.61	2.65	0.51	0.80	16.31	48.47	1.24	0.34	0.19	0.16	1.81	1.81	
24	0.70	4.16	0.42	0.70	20.42	33.31	1.12	0.34	0.19	0.16	1.61	1.81	
25	0.51	80.24	13.09	0.51	5.96	23.50	1.12	0.34	0.19	0.16	1.61	2.21	
26	0.34	38.17	2.65	0.42	2.87	17.35	1.01	0.26	0.19	0.16	1.42	1.24	
27	0.22	4.16	1.61	0.34	2.21	13.81	1.01	0.26	0.19	0.16	1.24	0.90	
28	0.19	23.50	5.04	0.26	1.81	11.44	0.90	0.26	0.19	0.16	1.24	0.60	
29	0.19	137.72	4.16	0.22	297.93	9.97	0.90	0.26	0.19	0.16		0.51	
30	0.16	50.25	2.01	0.22	141.38	7.94	0.80	0.22	0.19	0.16		0.42	
31		6.44		0.19	261.87		0.80		0.19	0.19		0.34	
Total	99.16	781.24	77.47	113.37	1270.80	5105.24	74.21	12.93	6.38	5.38	29.05	42.68	7617.91 Ton
Mean	3.31	25.20	2.58	3.66	40.99	170.17	2.39	0.43	0.21	0.17	1.04	1.38	
Max	41.52	232.91	18.40	23.50	297.93	3375.62	6.93	0.70	0.26	0.19	1.81	2.21	3375.62
Min	0.05	0.07	0.42	0.19	0.19	6.93	0.80	0.22	0.19	0.16	0.26	0.34	0.05

WATER YEAR 1993

CHI RIVER BASIN

Chi River at Ban Tha Nang Luan, Khon Kaen (E.9)

Location	Lat. 16°-05'-49" N., Long. 102°-34'-23" E., on left bank about 80 meters downstream from the bridge on highway, Amphoe Chonnabot, Khon Kaen.
Drainage Area	11,020 sq.km.
Method of Sampling	Depth Integrating
Instrument Used	US.D - 49
Period of Available Records	1992 - Cont'd
Actual Measurement	1992 - Cont'd
Remarks	Continued Sediment Station Using Rating Curve Water Year 1992 - 1993

RID Computer Center, Processing : 19-APR-1995 14:11:19.69

LQS/LQS02D/12

Station - Ban Tha Nang Luan, Chonnabot, Khon Kaen, (E.9)
Stream - Chi
River - Chi
River System - Chi River

Royal Irrigation Department
Thailand
Hydrology Division 010180
1.28218
QS = 3.5137 QW

Water Year - 1993

Suspended Sediment, in Tons per Day, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	18.81	15.11	319.61	5.21	0.53	66.43	1401.18	51.20	9.66	2.64	6.68	0.85	
2	12.56	12.20	248.59	5.02	0.45	75.50	1409.60	45.42	10.22	3.16	8.27	0.82	
3	9.10	9.10	257.36	5.21	0.36	100.37	1443.39	41.12	11.14	3.16	6.16	0.82	
4	7.20	7.73	311.97	5.41	0.18	241.48	1439.16	38.58	11.49	2.64	4.06	0.82	
5	6.16	5.91	323.26	6.94	0.06	432.91	1426.47	33.62	12.91	2.31	3.33	0.88	
6	7.20	4.82	308.35	20.12	0.00	584.52	1405.39	29.09	11.49	2.47	3.16	0.85	
7	7.47	3.69	286.22	22.80	0.00	733.25	1371.80	23.48	8.55	2.47	2.81	0.88	
8	6.94	3.16	241.48	16.24	0.00	879.39	1330.06	18.16	6.16	2.64	2.31	0.88	
9	5.91	2.81	181.48	14.00	0.75	739.24	1272.11	14.74	5.02	2.47	2.81	0.88	
10	5.41	2.47	109.31	11.49	26.26	657.96	1198.45	11.85	4.44	2.81	3.69	0.85	
11	5.21	2.47	100.37	8.55	22.80	702.89	1101.77	10.22	4.06	2.31	3.16	0.88	
12	5.21	2.14	80.05	6.94	13.64	631.29	995.05	8.82	3.69	1.83	2.14	0.91	
13	16.62	1.83	62.84	4.82	8.82	454.73	866.65	8.00	3.51	1.75	1.83	1.05	
14	45.42	1.75	51.20	3.88	5.02	319.61	712.01	8.55	3.33	1.67	1.67	1.23	
15	56.95	1.67	50.06	3.16	2.31	355.78	564.32	9.10	3.16	1.67	1.44	1.44	
16	47.17	1.67	55.79	3.33	1.09	485.16	419.44	9.38	2.98	1.59	1.30	1.59	
17	33.62	2.81	60.47	3.51	0.78	584.52	329.00	8.00	3.16	1.52	1.16	1.52	
18	29.81	2.31	48.05	3.88	0.50	550.04	268.08	6.42	3.16	1.37	0.98	1.44	
19	65.23	1.83	35.25	2.98	0.39	457.49	246.75	5.21	2.98	1.16	0.88	1.37	
20	77.01	1.52	23.48	2.47	0.16	487.96	222.45	4.63	2.81	1.02	0.75	1.30	
21	59.29	1.37	16.24	1.67	0.00	1166.03	202.01	3.69	2.81	0.91	0.62	1.23	
22	38.58	1.44	12.56	1.23	0.00	1511.50	190.55	3.33	2.81	0.88	0.62	1.09	
23	24.17	4.82	10.51	1.16	0.00	1702.26	187.51	3.51	3.16	0.85	0.53	1.37	
24	16.24	11.85	12.20	0.98	0.28	1808.37	182.99	3.69	3.16	0.88	0.69	1.59	
25	12.56	15.86	12.20	0.75	0.56	1817.27	171.03	4.25	3.16	0.88	0.78	1.83	
26	9.66	46.29	8.55	0.75	0.39	1759.56	169.55	4.82	2.98	0.82	0.78	2.47	
27	7.20	182.99	7.73	0.85	0.28	1671.58	138.51	5.41	3.33	0.78	0.78	2.98	
28	8.55	302.69	10.51	0.78	0.21	1571.65	105.49	6.42	2.81	0.78	0.82	2.64	
29	14.74	393.42	8.55	0.69	0.10	1481.62	87.74	8.00	2.47	0.82		1.75	
30	17.38	449.35	6.68	0.62	1.37	1418.03	72.51	8.55	2.14	0.85		1.37	
31		416.73		0.53	15.11		68.85		2.31	1.23		1.05	
Total	677.38	1913.81	3260.92	165.97	102.40	25448.39	20999.87	437.26	155.06	52.34	64.21	40.63	53318.24 Ton
Mean	22.58	61.74	108.70	5.35	3.30	848.28	677.42	14.58	5.00	1.69	2.29	1.31	
Max	77.01	449.35	323.26	22.80	26.26	1817.27	1443.39	51.20	12.91	3.16	8.27	2.98	1817.27
Min	5.21	1.37	6.68	0.53	0.00	66.43	68.85	3.33	2.14	0.78	0.53	0.82	0.00

WATER YEAR 1993

CHI RIVER BASIN

Chi River at Ban Nong O, Chaiyaphum (E.32A)

Location	Lat. 15°-54'-40" N., Long. 101°-42'-40" E., on left bank about 500 meters north of Ban Nong O, about 600 meters upstream from E.32 gaging station, Amphoe Ban Khwao, Chaiyaphum.
Drainage Area	2,905 sq.km.
Method of Sampling	Depth Integrating
Instrument Used	US.D - 49
Period of Available Records	1979 - Cont'd
Actual Measurement	1979 - Cont'd
Remarks	Continued Sediment Station Using Rating Curve Water Year 1993

RID Computer Center, Processing : 19-APR-1995 14:11:44.49

LQS/LQS02D/12

Station - Ban Nong O, Ban Khwao, Chaiyaphum, (E.32A)
Stream - Chi
River - Chi
River System - Chi River

Royal Irrigation Department
Thailand
Hydrology Division 260494
1.26250
QS = 3.3869 QW

Water Year - 1993

Suspended Sediment, in Tons per Day, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.59	1.24	186.22	30.82	3.17	168.69	232.57	20.11	4.49	0.44	0.31	0.00	
2	0.59	0.59	164.85	19.19	1.24	180.34	438.52	18.27	4.49	0.74	0.31	0.00	
3	0.31	0.19	220.27	8.13	15.58	134.78	335.52	16.47	4.49	0.74	0.31	0.00	
4	0.31	0.00	93.94	4.49	75.58	118.44	226.40	14.71	4.49	0.74	0.31	0.00	
5	0.31	0.00	54.65	2.56	72.33	204.10	166.77	13.84	4.49	0.74	0.31	0.00	
6	0.31	0.00	39.16	1.41	31.84	417.47	138.46	12.99	5.18	0.74	0.31	0.00	
7	0.19	0.00	28.81	1.97	18.27	224.36	114.87	12.99	6.62	0.74	0.31	0.00	
8	21.04	0.00	21.99	1.97	11.32	155.32	97.37	12.15	5.89	0.74	0.44	0.00	
9	72.33	0.00	21.04	6.62	5.89	107.80	85.49	11.32	3.82	0.74	0.44	0.00	
10	37.04	0.00	32.87	5.89	3.17	147.78	75.58	10.50	3.82	1.24	0.44	0.00	
11	18.27	0.00	33.90	1.97	2.56	589.02	69.11	10.50	3.82	1.41	0.44	0.00	
12	8.13	0.00	51.24	1.24	1.97	483.66	61.21	10.50	4.49	1.97	0.44	0.00	
13	14.71	0.00	30.82	1.24	1.24	200.10	54.65	10.50	4.49	1.41	0.44	0.00	
14	155.32	0.00	16.47	1.24	1.24	138.46	46.77	10.50	3.82	1.41	3.17	0.31	
15	62.77	0.00	15.58	1.24	1.07	122.03	42.38	10.50	3.82	1.41	3.82	1.97	
16	28.81	24.86	12.99	1.24	1.07	118.44	39.16	9.69	3.82	1.24	0.90	0.08	
17	16.47	11.32	12.15	1.41	1.07	232.57	35.98	8.90	3.17	1.07	1.97	0.74	
18	8.13	8.90	9.69	1.97	1.24	431.48	31.84	8.90	1.41	0.74	1.07	1.41	
19	4.49	1.41	5.89	1.24	5.18	490.86	30.82	8.90	1.41	0.44	1.07	0.74	
20	1.97	16.47	3.82	1.24	6.62	1250.99	31.84	8.90	1.41	0.44	1.07	0.74	
21	1.97	14.71	2.56	1.24	3.17	2229.25	34.94	8.90	1.07	0.44	1.07	1.07	
22	13.84	138.46	1.97	1.24	3.82	2721.78	38.09	7.36	0.90	0.31	0.74	1.07	
23	30.82	502.93	1.41	1.07	5.18	2625.93	32.87	6.62	0.74	0.31	0.31	0.74	
24	24.86	471.69	0.90	1.07	32.87	1857.88	28.81	6.62	0.74	0.31	0.08	1.24	
25	16.47	517.48	1.07	1.07	42.38	1053.48	25.84	5.89	0.74	0.31	0.00	5.89	
26	8.90	306.88	7.36	1.24	29.81	787.92	24.86	6.62	0.74	0.31	0.00	2.56	
27	3.82	72.33	4.49	1.24	17.37	745.41	23.90	6.62	0.74	0.31	0.00	1.07	
28	1.41	43.47	3.82	1.24	11.32	614.13	23.90	5.89	0.74	0.31	0.00	0.90	
29	1.41	122.03	14.71	1.24	8.13	586.52	22.94	6.62	0.74	0.31		0.90	
30	1.41	405.87	12.99	1.24	20.11	488.46	21.99	5.89	0.74	0.31		0.90	
31		259.67		1.24	92.24		20.11		0.59	0.31		0.90	
Total	557.00	2920.50	1107.63	110.21	528.05	19627.45	2653.56	308.17	87.92	22.68	20.08	23.23	27966.48 Ton
Mean	18.57	94.21	36.92	3.56	17.03	654.25	85.60	10.27	2.84	0.73	0.72	0.75	
Max	155.32	517.48	220.27	30.82	92.24	2721.78	438.52	20.11	6.62	1.97	3.82	5.89	2721.78
Min	0.19	0.00	0.90	1.07	1.07	107.80	20.11	5.89	0.59	0.31	0.00	0.00	0.00

WATER YEAR 1993

CHI RIVER BASIN

Nam Yang at Ban Kaeng Yao, Kalasin (E.54)

Location	Lat. 16°26'29" N., Long. 104°02'07" E., on left bank at Ban Kaeng Yao about 2 kilometers downstream from proposed of USBR Damsite, Amphoe Kuchinarai, Kalasin.
Drainage Area	1,511 sq.km.
Method of Sampling	Depth Integrating
Instrument Used	US.D - 49
Period of Available Records	1986 - Cont'd
Actual Measurement	1986 - Cont'd
Remarks	Continued Sediment Station Using Rating Curve Water Year 1993

RID Computer Center, Processing : 19-APR-1995 14:11:28.02 LQS/LQS02D/12

Station - Ban Kaeng Yao, Kuchinarai, Kalasin, (E.54)
Stream - Nam Yang
River - Chi
River System - Chi River

Royal Irrigation Department
Thailand
Hydrology Division 010180
1.47052
QS = 4.8084 QW

Water Year - 1993

Suspended Sediment, in Tons per Day, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	1.03	1.58	14.32	29.08	21.86	1733.43	190.33	6.68	4.12	0.45	0.66	0.66	
2	1.16	1.30	13.33	14.32	19.60	1497.05	167.84	8.30	4.46	1.03	0.55	0.66	
3	0.90	1.16	17.42	11.41	273.22	1622.95	125.68	9.60	3.79	1.16	0.55	0.66	
4	0.55	1.03	13.33	10.49	825.91	1497.05	109.94	20.72	3.46	1.03	0.78	0.55	
5	0.55	0.90	10.95	63.77	1659.52	1011.81	98.59	7.07	2.55	1.16	0.45	0.55	
6	0.55	0.66	7.89	199.58	1604.77	728.77	98.59	5.91	2.55	1.03	0.45	0.55	
7	1.16	0.45	5.17	408.28	996.19	566.03	67.03	7.89	2.27	0.90	0.45	0.45	
8	1.16	0.66	4.12	323.53	443.90	556.31	39.67	7.48	2.00	1.16	0.45	0.45	
9	12.84	1.44	2.55	273.22	252.87	1305.90	39.67	8.30	2.00	1.03	0.45	0.45	
10	32.93	1.58	3.15	228.15	142.08	1461.67	26.60	9.60	2.27	1.03	1.16	0.45	
11	20.72	0.78	2.55	172.27	70.34	1479.33	18.50	10.04	2.55	0.78	3.15	0.55	
12	11.88	0.90	1.44	159.10	31.63	1586.65	14.32	7.07	1.74	0.66	2.85	0.55	
13	10.95	0.66	1.74	252.87	23.01	1752.07	10.95	6.68	1.44	0.45	3.15	1.03	
14	10.95	0.66	2.27	471.24	13.33	1789.54	10.95	8.30	2.00	0.45	3.15	2.27	
15	12.84	1.03	10.49	595.54	18.50	1659.52	10.49	10.49	2.00	0.66	3.15	2.00	
16	10.95	0.66	6.68	686.87	32.93	1188.69	11.41	10.95	2.00	0.66	2.27	2.00	
17	8.30	0.45	3.79	605.48	87.64	814.93	14.32	10.49	2.00	0.90	1.74	3.79	
18	6.68	0.90	10.49	417.10	73.71	718.22	15.33	8.30	2.27	0.78	1.74	3.46	
19	6.29	0.66	7.89	208.97	91.25	707.72	9.60	8.30	2.55	0.78	2.27	3.15	
20	5.17	1.16	11.41	109.94	133.80	825.91	23.01	7.48	1.44	0.78	2.27	2.85	
21	3.46	1.16	7.48	84.09	146.27	1865.23	17.42	6.68	1.30	0.66	1.74	2.00	
22	5.17	1.44	5.91	129.72	113.81	4384.41	12.84	5.91	1.58	0.66	1.44	1.74	
23	4.46	1.30	6.29	137.92	117.73	5354.73	21.86	5.91	1.30	0.66	1.44	4.12	
24	4.46	4.12	7.07	125.68	133.80	3773.01	13.33	5.91	1.30	0.66	1.30	2.55	
25	4.12	6.29	12.36	60.57	133.80	2298.95	13.33	5.91	1.30	0.66	1.16	6.68	
26	3.46	7.89	12.84	27.83	154.79	1374.44	16.37	5.91	1.16	0.66	1.03	12.36	
27	3.15	6.68	21.86	13.33	102.33	814.93	18.50	5.91	0.78	0.66	0.66	7.89	
28	3.15	7.48	26.60	10.04	121.68	489.75	9.60	5.53	0.66	0.66	0.66	6.29	
29	2.00	12.84	25.38	8.73	223.30	299.36	8.73	4.81	0.55	0.66		4.81	
30	3.15	21.86	31.63	10.49	452.96	208.97	8.73	4.46	0.55	0.66		4.46	
31		21.86		63.77	848.02		7.48		0.45	0.66		3.15	
Total	194.14	111.54	308.40	5913.38	9364.55	45367.33	1251.01	236.59	60.39	24.14	41.12	83.13	62955.73 Ton
Mean	6.47	3.60	10.28	190.75	302.08	1512.24	40.36	7.89	1.95	0.78	1.47	2.68	
Max	32.93	21.86	31.63	686.87	1659.52	5354.73	190.33	20.72	4.46	1.16	3.15	12.36	5354.73
Min	0.55	0.45	1.44	8.73	13.33	208.97	7.48	4.46	0.45	0.45	0.45	0.45	0.45

WATER YEAR 1993

MUN RIVER BASIN

Lam Dom Yai at Det Udom, Ubon Ratchathani (M.80)

Location	Lat. 14°-53'-53" N., Long. 105°-05'-08" E., on left bank about 20 meters downstream from the bridge on road, Amphoe Det Udom, Ubon Ratchathani.
Drainage Area	3,363 sq.km.
Method of Sampling	Depth Integrating
Instrument Used	US.D - 49
Period of Available Records	1978 - Cont'd
Actual Measurement	1978 - Cont'd
Remarks	Continued Sediment Station Using Rating Curve Water Year 1978 - 1993

RID Computer Center, Processing : 19-APR-1995 14:11:12.91

LQS/LQS02D/12

Station - Det Udom, Det Udom, Ubon Ratchathani, (M.80)
Stream - Lam Dom Yai
River - Mun
River System - Mun

Royal Irrigation Department
Thailand
Hydrology Division
1.30424
QS = 2.2408 QW

Water Year - 1993

Suspended Sediment, in Tons per Day, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	4.48	6.45	11.48	343.58	389.64	393.54	437.01	259.30	26.78	4.48	5.53	6.45	
2	4.48	6.45	11.48	245.23	374.14	552.74	543.26	227.90	29.68	5.00	5.53	6.45	
3	4.48	6.45	10.42	164.91	477.94	543.26	538.53	200.80	26.78	5.00	5.53	5.53	
4	4.48	6.45	9.39	136.84	557.50	654.60	538.53	184.29	26.78	5.00	5.53	5.53	
5	5.00	6.45	10.42	139.89	533.81	620.20	468.77	168.11	26.78	5.53	6.45	5.53	
6	5.00	6.45	9.39	130.77	401.37	689.42	397.45	155.42	26.78	5.53	6.45	5.53	
7	5.00	6.45	10.42	121.78	351.16	1092.21	347.37	142.97	23.95	5.53	6.45	5.00	
8	5.00	6.45	9.39	114.42	295.26	1803.49	321.07	130.77	23.95	5.53	7.40	6.45	
9	4.48	6.45	10.42	103.57	248.73	2659.09	298.92	118.82	21.19	5.53	7.40	7.40	
10	3.97	6.45	11.48	99.30	207.50	2844.94	295.26	112.23	21.19	5.00	7.40	8.38	
11	4.48	5.53	11.48	110.05	164.91	2600.57	277.15	107.88	21.19	5.00	7.40	8.38	
12	4.48	5.53	12.56	491.77	139.89	2151.77	269.97	101.43	21.19	5.53	7.40	9.39	
13	4.48	5.00	11.48	859.01	127.76	1430.59	207.50	95.08	21.19	5.53	8.38	8.38	
14	4.48	5.53	10.42	591.07	105.72	1014.86	174.54	92.98	23.95	5.53	8.38	8.38	
15	4.48	5.53	9.39	378.00	124.76	1604.36	158.57	83.34	23.95	5.53	7.40	7.40	
16	5.00	5.53	8.38	306.26	181.02	1901.52	149.16	70.02	21.19	5.53	7.40	7.40	
17	5.00	6.45	7.40	234.79	177.77	1754.93	142.97	64.85	15.94	5.53	7.40	7.40	
18	5.53	6.45	7.40	177.77	171.31	1371.55	155.42	64.85	15.94	5.53	7.40	7.40	
19	5.53	5.53	6.45	136.84	284.36	1236.07	287.99	59.77	14.79	5.00	7.40	8.38	
20	5.53	5.53	5.53	118.82	699.45	1172.74	459.65	54.79	14.79	5.00	7.40	8.38	
21	5.53	5.00	5.53	124.76	649.66	1293.73	591.07	54.79	14.79	5.53	7.40	7.40	
22	6.45	5.53	6.45	130.77	586.25	1345.49	548.00	54.79	14.79	5.53	8.38	8.38	
23	5.53	6.45	7.40	130.77	524.40	1191.66	496.40	45.15	13.67	5.53	7.40	10.42	
24	5.53	7.40	2.54	181.02	433.02	1185.34	459.65	41.94	13.67	5.53	7.40	12.56	
25	6.45	8.38	1.28	130.77	381.87	1053.37	425.05	38.78	12.56	5.53	7.40	15.94	
26	8.38	7.40	5.00	112.23	269.97	780.85	505.70	35.69	11.48	5.53	7.40	21.19	
27	8.38	9.39	13.67	101.43	207.50	595.90	533.81	32.65	8.38	5.53	7.40	13.67	
28	7.40	11.48	93.68	97.18	210.87	548.00	468.77	29.68	3.97	5.53	7.40	11.48	
29	6.45	13.67	168.91	97.18	227.90	581.43	397.45	26.78	3.97	5.53		10.42	
30	6.45	14.79	253.12	136.84	221.05	519.71	336.04	29.68	4.48	5.53		9.39	
31		13.67		381.87	224.47		313.65		5.00	5.53		9.39	
Total	161.91	224.27	752.36	6629.49	9950.96	37187.93	11544.68	2885.53	554.74	166.67	199.81	273.38	70531.75 Ton
Mean	5.40	7.23	25.08	213.85	321.00	1239.60	372.41	96.18	17.89	5.38	7.14	8.82	
Max	8.38	14.79	253.12	859.01	699.45	2844.94	591.07	259.30	29.68	5.53	8.38	21.19	2844.94
Min	3.97	5.00	1.28	97.18	105.72	393.54	142.97	26.78	3.97	4.48	5.53	5.00	1.28

WATER YEAR 1993

NAKHON NAYOK RIVER BASIN

Khlong Samo Pun at Prachin Buri, Prachin Buri (NY.4)

Location	Lat. 14°17'23" N., Long. 101°24'16" E., on left bank at the bridge of Chanthaburi-Khao Yai highway, Amphoe Muang, Prachin Buri.
Drainage Area	128 sq.km.
Method of Sampling	Depth Integrating
Instrument Used	US.D - 49
Period of Available Records	1986 - Cont'd
Actual Measurement	1986 - Cont'd
Remarks	Continued Sediment Station Using Rating Curve Water Year 1986 - 1993

RID Computer Center, Processing : 19-APR-1995 14:12:35.41

LQS/LQS02D/12

Station - Haew Narok, Muang, Prachin Buri, (NY.4)
Stream - Khlong Samopun
River - Mae Nam Nakhon Nayok
River System - Nakhon Nayok River

Royal Irrigation Department
Thailand
Hydrology Division

QS = 0.5416 QW$^{1.64356}$

Water Year - 1993

Suspended Sediment, in Tons per Day, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.00	0.01	1.56	39.99	519.09	52.40	46.92	1.48	0.07	0.00	0.00	0.00	
2	0.00	0.01	1.56	18.53	303.48	64.93	45.15	1.32	0.04	0.00	0.00	0.00	
3	0.00	0.01	1.25	10.63	160.73	97.75	39.99	1.25	0.05	0.00	0.00	0.00	
4	0.00	0.01	0.96	6.94	363.54	72.03	27.46	1.17	0.07	0.00	0.00	0.00	
5	0.00	0.01	0.83	5.82	134.82	108.87	22.52	1.17	0.05	0.00	0.00	0.00	
6	0.00	0.00	0.83	10.63	127.19	62.63	18.53	1.17	0.04	0.00	0.00	0.00	
7	0.00	0.00	1.10	7.33	190.51	43.40	14.85	1.10	0.03	0.00	0.00	0.00	
8	0.00	0.00	1.80	5.82	748.54	41.68	12.68	1.03	0.03	0.00	0.00	0.00	
9	0.00	0.00	1.56	4.45	180.37	322.81	10.63	0.96	0.03	0.00	0.00	0.00	
10	0.00	0.00	2.64	3.89	123.44	2465.55	8.74	0.90	0.03	0.00	0.00	0.00	
11	0.00	0.00	8.14	3.89	112.45	250.11	7.33	0.77	0.03	0.00	0.00	0.00	
12	0.00	0.00	6.56	4.78	67.27	103.25	6.18	0.77	0.04	0.00	0.00	0.00	
13	0.01	0.00	6.56	4.17	89.71	62.63	5.46	0.77	0.04	0.00	0.00	0.00	
14	0.01	0.00	7.33	39.99	393.38	50.55	4.78	0.71	0.03	0.00	0.00	0.00	
15	0.01	0.00	4.17	24.62	329.47	67.27	3.89	0.71	0.03	0.00	0.00	0.00	
16	0.01	0.00	2.87	16.65	273.34	50.55	3.37	0.65	0.03	0.00	0.00	0.00	
17	0.01	0.00	1.64	11.98	393.38	58.12	3.12	0.65	0.02	0.00	0.00	0.00	
18	0.01	0.00	1.56	8.74	385.42	56.19	3.63	0.65	0.02	0.00	0.00	0.01	
19	0.00	0.01	1.72	6.94	138.70	64.93	3.37	0.23	0.02	0.00	0.00	0.01	
20	0.00	1.80	3.12	6.94	76.93	142.63	3.37	0.23	0.02	0.00	0.00	0.00	
21	0.00	1.64	1.80	5.82	74.47	200.87	2.87	0.21	0.01	0.00	0.00	0.00	
22	1.56	2.87	1.56	4.78	95.04	488.82	2.41	0.18	0.01	0.00	0.00	0.00	
23	0.65	1.56	1.10	27.46	106.05	170.44	1.98	0.18	0.01	0.00	0.00	0.00	
24	0.16	1.10	1.25	9.99	92.36	138.70	1.80	0.16	0.01	0.00	0.00	0.00	
25	0.08	12.68	1.48	10.63	60.36	97.75	1.72	0.14	0.01	0.00	0.00	0.00	
26	0.05	4.45	1.56	56.19	43.40	100.48	3.12	0.12	0.01	0.00	0.00	0.00	
27	0.03	1.89	26.03	20.49	31.94	106.05	2.87	0.12	0.01	0.00	0.00	0.00	
28	0.03	1.32	95.04	69.63	31.94	87.09	2.19	0.12	0.01	0.00	0.00	0.01	
29	0.02	1.80	79.42	625.07	35.07	62.63	2.19	0.10	0.00	0.00		0.01	
30	0.01	1.25	100.48	155.96	38.32	45.15	1.89	0.08	0.00	0.00		0.01	
31		1.80		130.98	43.40		1.64		0.00	0.00		0.01	
Total	2.65	34.22	367.48	1359.73	5764.11	5736.26	316.65	19.10	0.80	0.00	0.00	0.06	13601.06 Ton
Mean	0.09	1.10	12.25	43.86	185.94	191.21	10.21	0.64	0.03	0.00	0.00	0.00	
Max	1.56	12.68	100.48	625.07	748.54	2465.55	46.92	1.48	0.07	0.00	0.00	0.01	2465.55
Min	0.00	0.00	0.83	3.89	31.94	41.68	1.64	0.08	0.00	0.00	0.00	0.00	0.00

WATER YEAR 1993

PRACHIN BURI RIVER BASIN

Prachin Buri River at Kabin Buri, Prachin Buri (KGT.3)

Location — Lat. 13°59'05" N., Long. 101°42'32" E., on left bank infront of Amphoe Kabin Buri office and about 500 meters downstream from the confluence of Lam Prong and Lam Hanuman, Amphoe Kabin Buri, Prachin Buri.

Drainage Area — 7,502 sq.km.

Method of Sampling — Depth Integrating

Instrument Used — US.D - 49

Period of Available Records — 1964 - Cont'd

Actual Measurement — 1966 - 1968, 1970 - 1972, 1982 - Cont'd

Remarks — Continued Sediment Station

Using Rating Curve Water Year 1966 - 1993

RID Computer Center, Processing : 19-APR-1995 14:11:59.34

LQS/LQS02D/12

Station - A.Kabin Buri, Kabin Buri, Prachin Buri, (KGT.3)
Stream - Prachin Buri
River - Prachin Buri
River System - Prachin Buri River

Royal Irrigation Department
Thailand
Hydrology Division 052694
1.17762
QS = 4.3769 QW

Water Year - 1993

Suspended Sediment, in Tons per Day, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	1.5	17.2	104.5	945.2	432.2	3274.0	4718.0	1862.9	95.5	32.6	44.7	46.2	
2	6.5	12.9	76.1	760.3	939.4	2839.4	4416.6	1491.3	95.5	32.6	50.7	43.3	
3	7.6	8.2	54.4	403.5	1062.2	2544.8	4356.6	1240.1	95.5	28.4	52.2	46.2	
4	12.9	6.5	49.2	230.8	951.0	2441.5	4876.5	991.8	95.5	22.4	59.0	40.4	
5	10.5	3.9	39.0	154.3	980.1	2667.8	4803.8	780.6	95.5	20.4	62.8	40.4	
6	6.5	2.4	27.8	133.4	806.5	3390.3	4706.2	646.1	88.9	20.4	60.5	40.4	
7	3.4	1.5	23.1	133.4	725.7	3797.3	4610.3	549.8	86.5	18.5	60.5	40.4	
8	3.4	0.7	59.0	130.8	991.8	4050.3	4213.9	477.9	86.5	16.6	62.8	41.8	
9	8.7	0.3	69.0	95.5	1448.0	4393.2	3014.1	411.7	69.0	14.7	57.4	44.7	
10	4.9	0.0	57.4	80.1	1062.2	5144.9	2005.0	364.1	62.8	11.1	57.4	44.7	
11	4.4	0.0	119.7	72.9	951.0	6259.1	1747.8	307.5	69.0	11.1	71.3	44.7	
12	3.4	0.0	159.6	74.5	1026.9	6356.4	1686.9	277.4	74.5	10.5	74.5	43.3	
13	3.4	0.0	537.0	321.3	841.7	5844.9	1393.7	262.1	80.1	10.5	74.5	43.3	
14	6.5	1.1	494.7	665.9	1050.4	5158.4	690.1	238.4	80.1	9.9	69.0	43.3	
15	9.3	0.3	503.1	1740.2	1566.1	4864.6	858.9	220.6	80.1	9.3	57.4	50.7	
16	9.9	0.3	392.3	2181.4	1946.7	4755.0	968.4	204.8	80.1	6.0	71.3	54.4	
17	7.1	0.0	264.9	1649.0	2153.8	4731.3	968.4	197.5	80.1	4.9	59.0	54.4	
18	4.4	0.7	169.4	1026.9	2791.6	4815.7	870.3	182.0	88.9	4.4	67.4	55.9	
19	3.4	102.9	110.4	695.7	3626.3	4536.8	864.6	166.7	86.5	4.4	67.4	59.0	
20	4.4	204.8	107.0	563.8	3992.6	5158.4	1163.2	164.1	86.5	3.9	62.8	60.5	
21	6.5	166.7	67.4	469.6	4084.9	5899.9	1347.1	161.4	81.7	3.9	60.5	64.3	
22	8.2	81.7	47.7	361.1	4321.6	6217.5	1551.1	144.7	77.7	3.9	57.4	57.4	
23	21.7	52.2	31.9	271.7	4476.6	6314.7	1747.8	135.1	64.3	3.9	57.4	55.9	
24	34.7	67.4	34.0	223.4	4839.4	6189.8	1796.3	126.5	59.0	3.9	57.4	55.9	
25	26.4	90.5	64.3	184.7	5305.5	5899.9	1414.6	122.2	55.9	2.9	65.9	55.9	
26	26.4	130.8	246.9	159.6	5695.6	5243.9	1963.5	122.2	54.4	2.4	67.4	46.2	
27	19.8	133.4	281.3	139.4	5668.3	4852.8	2413.4	118.0	49.2	2.4	60.5	41.8	
28	11.1	169.4	353.1	135.1	5615.1	4585.3	2639.3	108.7	49.2	3.9	54.4	39.0	
29	9.3	128.2	621.0	173.9	5441.1	4974.7	2544.8	107.0	47.7	6.5		36.1	
30	13.5	93.8	786.2	212.2	4937.5	5219.8	2320.2	101.2	39.0	10.5		30.5	
31		144.7		262.1	3889.0		2199.9		32.6	25.7		28.4	
Total	299.7	1622.5	5951.4	14651.7	83620.8	142422.4	74871.3	12284.4	2287.8	362.5	1723.5	1449.4	341547.4 Ton
Mean	10.0	52.3	198.4	472.6	2697.4	4747.4	2415.2	409.5	73.8	11.7	61.6	46.8	
Max	34.7	204.8	786.2	2181.4	5695.6	6356.4	4876.5	1862.9	95.5	32.6	74.5	64.3	6356.4
Min	1.5	0.0	23.1	72.9	432.2	2441.5	690.1	101.2	32.6	2.4	44.7	28.4	0.0

WATER YEAR 1993

PRACHIN BURI RIVER BASIN

Khlong Phra Sathung at Ban Wang Khian, Prachin Buri (KGT.10)

Location	Lat. 13°48'29" N., Long. 102°03'35" E., on left bank near Saha Charoen Sawmill, Ban Wang Khian, Amphoe Sa Kaeo, Prachin Buri.
Drainage Area	2,523 sq.km.
Method of Sampling	Depth Integrating
Instrument Used	US.D - 49
Period of Available Records	1967 - Cont'd
Actual Measurement	1969 - Cont'd
Remarks	Continued Sediment Station Using Rating Curve Water Year 1993

RID Computer Center, Processing : 19-APR-1995 14:12:06.69

LQS/LQS02D/12

Station - Ban Wang Khian, A.Muang, Sa Kaeo, (KGT.10)
Stream - Khlong Phra Sathung
River - Khlong Phra Prong
River System - Prachin Buri River

Royal Irrigation Department
Thailand
Hydrology Division

1.62702
QS = 4.0063 QW

Water Year - 1993

Suspended Sediment, in Tons per Day, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	34.7	28.6	50.6	99.5	51.8	3714.4	3250.1	1724.6	31.6	5.8	0.2	0.0	
2	17.1	18.7	65.1	87.0	56.8	3160.1	4709.9	948.9	31.6	5.8	0.1	0.0	
3	9.5	11.4	61.7	70.4	66.8	3071.1	14547.8	556.2	29.6	5.4	0.0	0.0	
4	2.6	7.3	40.1	55.5	92.8	5446.3	22286.7	400.9	28.6	5.4	0.0	0.1	
5	0.5	6.9	36.8	53.0	97.2	11759.9	26582.0	266.0	27.7	5.4	0.0	0.2	
6	0.2	4.0	56.8	83.2	196.4	18881.2	18881.2	200.6	30.6	5.4	0.0	0.4	
7	0.0	7.3	90.8	53.0	140.2	22286.7	5171.5	148.7	14.5	4.3	0.0	0.6	
8	25.8	8.6	61.7	49.3	123.6	9832.0	1420.1	97.2	10.9	1.4	0.2	0.9	
9	35.8	10.4	106.3	35.8	72.1	3196.0	1128.6	90.8	17.1	1.7	0.3	1.7	
10	17.1	5.0	243.4	39.0	390.2	5146.8	3071.1	87.0	13.9	2.6	0.3	2.8	
11	13.9	1.4	252.3	65.1	70.4	5024.0	3232.0	81.3	15.0	3.7	0.1	4.0	
12	10.0	1.9	1320.1	1785.8	113.3	2725.0	1408.9	75.7	15.5	3.7	0.0	5.4	
13	9.0	2.3	502.3	2455.1	113.3	1835.3	618.5	68.6	17.9	4.7	0.1	6.5	
14	22.1	20.4	958.5	1276.5	514.1	2469.1	593.3	63.4	21.3	5.4	2.1	9.0	
15	23.0	23.9	328.3	3124.4	2143.1	2567.5	1408.9	63.4	21.3	3.4	1.7	11.4	
16	41.2	25.8	101.7	1442.7	2130.0	6572.1	1652.3	58.4	16.3	1.7	0.8	13.4	
17	39.0	2399.7	65.1	422.7	1986.9	6517.9	929.6	56.8	15.5	1.7	0.9	17.1	
18	65.1	683.4	60.0	270.6	3638.5	4023.9	823.6	50.6	17.1	1.9	2.6	20.4	
19	53.0	644.2	45.8	120.9	5073.0	3695.4	2886.2	47.0	13.9	1.6	1.2	23.9	
20	40.1	110.9	35.8	79.4	7806.7	4182.3	4288.2	45.8	13.4	1.7	0.6	90.8	
21	63.4	81.3	26.7	63.4	6928.3	3525.8	6572.1	45.8	11.4	1.6	0.4	58.4	
22	53.0	87.0	45.8	54.2	4926.5	4142.5	8394.6	44.6	10.0	0.9	0.8	200.6	
23	60.0	101.7	26.7	56.8	9951.1	7151.1	7981.3	42.3	9.5	1.6	0.6	54.2	
24	72.1	180.3	123.6	70.4	18610.4	5496.8	8624.3	41.2	10.4	1.1	0.2	23.9	
25	51.8	145.8	1628.5	75.7	25840.6	2182.9	6928.3	45.8	8.6	0.4	0.1	95.0	
26	43.5	196.4	771.5	75.7	28525.6	2696.1	7662.3	42.3	7.7	0.0	0.0	70.4	
27	48.1	169.5	1222.9	87.0	18408.3	4083.0	8694.7	42.3	6.1	0.0	0.0	35.8	
28	63.4	87.0	275.2	75.7	5907.6	5171.5	6626.4	37.9	3.4	0.0	0.0	6.1	
29	60.0	73.9	467.5	49.3	2130.0	6845.5	4063.3	34.7	5.8	0.0		3.7	
30	43.5	72.1	108.6	44.6	1640.4	5370.8	4950.8	33.7	4.3	0.0		2.3	
31		60.0		61.7	4222.2		2754.1		6.1	0.2		2.1	
Total	1018.5	5277.1	9180.2	12383.4	151968.2	172773.0	192142.7	5542.5	486.6	78.5	13.3	761.1	551625.2 Ton
Mean	34.0	170.2	306.0	399.5	4902.2	5759.1	6198.2	184.7	15.7	2.5	0.5	24.6	
Max	72.1	2399.7	1628.5	3124.4	28525.6	22286.7	26582.0	1724.6	31.6	5.8	2.6	200.6	28525.6
Min	0.0	1.4	26.7	35.8	51.8	1835.3	593.3	33.7	3.4	0.0	0.0	0.0	0.0

WATER YEAR 1993

PRACHIN BURI RIVER BASIN

Khlong Phra Prong at Ban Kaeng, Prachin Buri (KGT.12)

Location	Lat. 13°-56'-02" N., Long. 101°-58'-41" E., on left bank near the railway station at Ban Kaeng and about 200 meters upstream from Thot Saphon Sawmill, Amphoe Sa Kaeo, Prachin Buri.
Drainage Area	1,540 sq.km.
Method of Sampling	Depth Integrating
Instrument Used	US.D - 49
Period of Available Records	1967 - Cont'd
Actual Measurement	1969 - Cont'd
Remarks	Continued Sediment Station Using Rating Curve Water Year 1969 - 1993

RID Computer Center, Processing : 19-APR-1995 14:12:13.53

LQS/LQS02D/12

Station - Ban Kaeng, A.Muang, Sa Kaeo, (KGT.12)
Stream - Khlong Pra Prong
River - Prachin Buri
River System - Prachin Buri River

Royal Irrigation Department
Thailand
Hydrology Division
1.09095
QS = 3.6479 QW

Water Year - 1993

Suspended Sediment, in Tons per Day, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	1.71	0.30	12.75	2.09	4.21	129.92	233.76	218.82	15.20	2.78	0.00	0.00	
2	9.48	0.23	10.35	2.43	6.09	132.17	229.48	194.48	15.20	2.67	0.00	0.00	
3	6.93	0.23	7.18	2.09	9.48	138.95	247.30	152.58	14.58	2.32	0.00	0.00	
4	3.41	0.17	5.06	3.02	12.45	153.35	297.47	117.21	13.37	2.20	0.00	0.00	
5	2.43	0.05	3.57	7.18	22.04	175.37	340.57	93.62	12.75	2.01	0.00	0.00	
6	1.94	0.05	2.55	5.68	34.97	246.17	380.43	76.23	12.45	1.94	0.00	0.00	
7	1.49	0.17	2.09	4.21	41.75	319.36	379.08	65.53	11.87	1.86	0.00	0.00	
8	1.27	0.17	1.94	3.13	36.70	348.24	237.14	55.67	12.14	1.86	0.00	0.00	
9	0.91	0.17	1.94	2.43	32.29	385.83	147.27	47.09	12.45	1.79	0.00	0.00	
10	0.70	0.17	2.09	2.09	27.78	448.33	112.01	42.92	11.87	1.71	0.00	0.00	
11	0.77	0.00	3.02	2.78	26.84	533.18	86.34	37.19	11.26	1.71	0.00	0.00	
12	0.77	0.00	4.53	6.30	25.53	575.46	71.94	33.44	10.35	1.64	0.00	0.00	
13	0.91	0.00	3.73	8.96	26.51	573.95	61.29	30.00	9.48	1.64	0.00	0.00	
14	0.91	0.00	5.68	8.96	33.44	546.21	52.88	27.78	9.48	1.49	0.00	0.00	
15	0.70	0.00	7.43	11.57	45.27	506.04	52.24	26.18	8.96	1.49	0.00	0.00	
16	0.70	0.23	5.47	13.37	79.83	449.69	68.37	24.59	9.22	1.42	0.00	0.00	
17	0.63	0.17	3.41	17.68	132.17	392.58	64.82	22.36	8.45	1.42	0.00	0.00	
18	0.56	0.17	2.67	29.63	199.75	327.46	60.59	20.47	7.69	0.00	0.00	0.00	
19	0.36	2.09	3.02	30.76	286.00	304.37	55.67	21.44	7.69	0.00	0.00	0.00	
20	0.56	2.67	2.67	29.25	376.39	312.43	54.97	18.91	7.43	0.00	0.00	0.00	
21	0.77	2.43	2.43	24.27	452.43	369.65	57.07	17.96	6.30	0.00	0.00	0.00	
22	0.63	3.89	1.56	17.96	464.76	404.76	76.95	17.37	5.88	0.00	0.00	0.00	
23	0.63	8.96	1.34	12.45	457.90	414.26	87.79	17.37	4.86	0.00	0.00	0.00	
24	0.56	14.89	1.34	9.48	507.42	406.12	100.94	16.42	5.27	0.00	0.00	0.00	
25	0.56	21.44	1.64	6.51	572.43	354.88	139.70	16.42	4.53	0.00	0.00	0.00	
26	0.43	14.26	1.86	6.51	618.07	313.59	169.06	14.89	4.21	0.00	0.00	0.00	
27	0.36	22.04	2.20	4.86	653.26	290.58	208.21	15.83	3.73	0.00	0.00	0.00	
28	0.30	21.44	2.01	3.41	618.07	271.15	231.62	15.20	3.25	0.00	0.00	0.00	
29	0.23	19.55	1.79	2.90	441.50	255.23	215.63	14.89	2.90	0.00		0.00	
30	0.36	19.83	1.56	2.67	242.78	241.65	210.33	16.10	2.67	0.00		0.00	
31		16.10		3.13	152.58		223.08		2.67	0.00		0.00	
Total	41.97	171.87	108.88	287.76	6640.69	10320.93	4954.00	1488.96	268.16	31.95	0.00	0.00	24315.17 Ton
Mean	1.40	5.54	3.63	9.28	214.22	344.03	159.81	49.63	8.65	1.03	0.00	0.00	
Max	9.48	22.04	12.75	30.76	653.26	575.46	380.43	218.82	15.20	2.78	0.00	0.00	653.26
Min	0.23	0.00	1.34	2.09	4.21	129.92	52.24	14.89	2.67	0.00	0.00	0.00	0.00

WATER YEAR 1993

PRACHIN BURI RIVER BASIN

Khlong Si Yat at Ban Tha Kloi, Chachoengsao (KGT.18)

Location	Lat. 13°-28'-29" N., Long. 101°-37'-44" E., on left bank at ban tha kloi, Amphoe Sanam Chai Khet, Chachoengsao.
Drainage Area	951 sq.km.
Method of Sampling	Depth Integrating
Instrument Used	US.D - 49
Period of Available Records	1986 - Cont'd
Actual Measurement	1986 - Cont'd
Remarks	Continued Sediment Station Using Rating Curve Water Year 1986 - 1993

RID Computer Center, Processing : 19-APR-1995 14:12:21.55

LQS/LQS02D/12

Station - Ban Tha Kloi, K.A.Tha Ta Kiap, Chachoengsao, (KGT.18)
Stream - Khlong Si Yat
River - Bang Pakong
River System - Prachin Buri River

Royal Irrigation Department
Thailand
Hydrology Division
1.21492
QS = 2.9712 QW

Water Year - 1993

Suspended Sediment, in Tons per Day, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.23	0.86	1.10	4.20	1.79	276.07	206.04	21.51	1.34	0.35	0.18	0.10	
2	0.16	0.92	1.41	3.41	1.79	221.27	231.52	14.47	1.34	0.35	0.30	0.10	
3	0.14	0.52	1.73	2.65	4.09	179.46	335.20	11.01	1.34	0.30	0.27	0.08	
4	0.14	0.86	2.13	2.23	11.98	268.36	241.86	8.83	1.28	0.30	0.16	0.08	
5	0.10	1.28	2.44	2.54	17.53	641.20	222.97	8.00	1.04	0.30	0.14	0.08	
6	0.10	0.80	2.23	2.33	9.93	682.53	128.84	6.81	0.92	0.30	0.12	0.08	
7	0.23	0.42	2.54	6.48	6.65	226.38	78.99	6.23	0.80	0.30	0.12	0.06	
8	0.37	0.30	1.93	11.65	5.02	93.66	56.66	5.62	0.74	0.25	0.12	0.06	
9	0.30	0.23	2.03	6.36	3.86	70.56	47.44	5.26	0.69	0.25	0.10	0.04	
10	0.23	0.18	5.26	4.90	8.83	149.80	71.44	4.90	0.66	0.30	0.20	0.06	
11	0.23	0.63	8.83	5.62	58.37	106.57	70.56	4.55	0.63	0.27	0.25	3.75	
12	3.97	0.52	25.14	5.02	80.02	75.01	43.34	4.20	0.63	0.25	0.20	3.63	
13	2.33	0.37	13.28	4.55	49.92	96.86	30.94	3.86	0.63	0.23	0.18	1.16	
14	2.13	0.30	9.04	4.32	42.53	128.84	24.09	3.52	0.63	0.23	0.18	0.52	
15	1.22	0.40	21.00	4.43	78.99	171.74	19.98	3.30	0.58	0.23	0.18	0.50	
16	0.92	0.35	12.63	5.38	75.01	364.91	17.98	3.08	0.58	0.20	0.16	0.37	
17	0.63	0.50	6.98	4.32	70.56	206.04	15.33	3.08	0.52	0.20	0.16	0.30	
18	0.52	1.86	4.90	4.32	49.09	130.11	13.61	2.65	0.52	0.20	0.14	0.27	
19	0.42	2.03	3.63	3.97	30.29	118.79	39.66	2.44	0.52	0.18	0.14	0.25	
20	0.37	1.66	2.76	3.08	22.02	171.74	181.10	2.33	0.50	0.18	0.16	0.25	
21	0.35	1.16	3.08	2.23	18.97	278.00	126.32	2.23	0.47	0.18	0.14	3.08	
22	0.47	0.98	2.97	1.79	56.66	270.28	63.54	2.13	0.47	0.16	0.14	2.33	
23	0.42	0.69	2.54	1.53	459.19	162.90	40.35	1.93	0.47	0.16	0.14	2.03	
24	0.66	1.47	3.52	1.28	781.96	101.15	34.25	1.79	0.47	0.16	0.14	1.04	
25	1.41	2.44	3.19	1.73	362.54	112.58	31.60	1.79	0.42	0.14	0.14	0.66	
26	0.86	4.78	4.78	4.32	161.44	194.33	75.90	1.66	0.42	0.12	0.14	0.52	
27	0.52	5.50	11.33	3.52	122.54	330.87	173.22	1.60	0.42	0.12	0.14	0.45	
28	0.42	4.20	10.16	2.23	126.32	322.25	84.17	1.53	0.42	0.18	0.12	0.40	
29	0.40	6.81	7.49	1.73	152.70	264.52	55.81	1.47	0.40	0.18		0.37	
30	0.37	11.33	5.62	3.19	372.19	270.28	41.04	1.41	0.40	0.18		0.30	
31		5.62		2.33	369.65		32.26		0.37	0.20		0.27	
Total	20.62	59.97	185.67	117.64	3612.43	6687.06	2836.01	143.19	20.62	6.95	4.56	23.19	13717.91 Ton
Mean	0.69	1.93	6.19	3.79	116.53	222.90	91.48	4.77	0.67	0.22	0.16	0.75	
Max	3.97	11.33	25.14	11.65	781.96	682.53	335.20	21.51	1.34	0.35	0.30	3.75	781.96
Min	0.10	0.18	1.10	1.28	1.79	70.56	13.61	1.41	0.37	0.12	0.10	0.04	0.04

WATER YEAR 1993

PRACHIN BURI RIVER BASIN

Khlong Luang at Ban Mai, Chon Buri (KGT.19)

Location	Lat. 13-23-17 N., Long. 101-20-40 E., on left bank about 4 kilometers east of Khok Pho market and about 16 kilometers from Amphoe Phanat Nikhom, Chon Buri.
Drainage Area	535 sq.km.
Method of Sampling	Depth Integrating
Instrument Used	US.D - 49
Period of Available Records	1988 - Cont'd
Actual Measurement	1988 - Cont'd
Remarks	Continued Sediment Station Using Rating Curve Water Year 1993

RID Computer Center, Processing : 19-APR-1995 14:12:27.93

LQS/LQS02D/12

Station - Ban Mai, Phanat Nikhom, Chon Buri, (KGT.19)
Stream - Khlong Luang
River - Bang Pakong
River System - Prachin Buri River

Royal Irrigation Department
Thailand
Hydrology Division

1.23206
QS = 5.9861 QW

Water Year - 1993

Suspended Sediment, in Tons per Day, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.93	2.24	5.99	3.86	5.33	212.17	209.29	14.93	2.49	2.00	0.15	0.00	
2	0.72	2.30	13.89	3.59	3.72	119.52	268.32	10.27	2.30	2.00	0.00	0.00	
3	0.58	2.24	9.87	3.32	3.59	77.59	341.42	7.34	2.18	1.94	0.00	0.00	
4	0.44	2.12	4.27	3.06	33.85	150.41	391.52	6.21	2.24	1.76	0.00	0.00	
5	0.35	2.18	7.80	2.80	22.60	496.36	360.00	5.55	2.24	1.58	0.00	0.00	
6	0.27	2.12	32.02	5.33	14.93	502.81	244.38	4.69	2.18	1.41	0.00	0.00	
7	0.19	1.94	32.62	54.43	12.35	275.89	92.17	4.06	2.06	1.30	0.00	0.00	
8	0.02	1.88	52.43	49.78	4.48	142.73	59.17	4.06	2.12	1.14	0.00	0.00	
9	0.00	1.88	108.22	7.11	3.45	170.13	82.40	3.86	2.06	1.14	0.00	0.00	
10	0.00	1.88	144.88	4.27	4.69	254.80	196.68	3.32	2.00	1.14	0.00	0.00	
11	0.00	1.76	242.90	3.59	32.02	400.62	305.15	3.19	2.18	0.82	0.00	0.00	
12	2.00	1.64	222.32	3.06	81.43	229.63	152.85	2.93	2.06	0.67	0.00	0.00	
13	60.53	1.53	123.68	2.80	40.71	84.34	55.11	2.93	2.06	0.58	0.00	0.00	
14	12.35	1.47	57.13	6.66	17.06	49.78	44.56	2.93	2.00	0.44	0.00	1.82	
15	4.69	1.36	73.43	10.27	40.08	35.08	39.45	2.49	1.94	0.35	0.00	0.82	
16	4.48	1.25	29.61	11.51	35.70	72.60	35.08	2.49	1.82	0.63	0.00	0.48	
17	7.80	1.70	11.51	36.32	62.82	120.56	23.75	2.36	1.70	0.63	0.00	0.98	
18	5.11	2.30	7.34	27.23	68.49	157.75	23.17	2.42	1.58	0.63	0.00	1.47	
19	2.93	2.24	5.33	40.08	32.02	162.68	51.10	2.55	1.58	0.63	0.00	1.47	
20	2.36	2.18	4.69	20.35	13.89	253.31	82.40	2.55	1.64	0.63	0.00	2.12	
21	2.24	2.18	3.86	5.77	8.04	384.72	120.56	2.42	1.64	0.44	0.00	2.36	
22	3.86	2.18	3.45	3.86	8.27	398.34	207.85	2.42	1.64	0.44	0.00	5.77	
23	36.94	2.36	3.32	5.77	85.31	242.90	199.25	2.49	1.58	0.39	0.00	3.32	
24	54.43	4.27	3.32	8.66	263.80	102.14	36.94	2.55	1.53	0.63	0.00	2.36	
25	7.34	7.34	7.11	7.57	402.90	61.22	27.82	2.49	1.41	0.63	0.00	2.06	
26	3.86	6.66	24.90	39.45	259.29	57.81	77.59	2.36	1.53	0.63	0.00	1.94	
27	2.55	14.41	64.43	6.88	265.31	94.15	88.24	2.30	1.58	0.63	0.00	2.49	
28	2.36	7.57	20.35	3.59	219.41	195.40	41.99	2.30	1.64	0.63	0.00	3.59	
29	2.30	5.77	7.11	3.32	154.07	260.79	33.23	2.24	1.70	0.63		2.42	
30	2.30	10.27	5.33	4.27	195.40	229.63	53.10	2.30	1.82	0.63		2.30	
31		15.99		3.06	222.32		26.06		1.94	0.63		1.76	
Total	223.93	117.21	1333.11	391.62	2617.33	5995.86	3970.60	115.00	58.44	27.73	0.15	39.53	14890.51 Ton
Mean	7.46	3.78	44.44	12.63	84.43	199.86	128.08	3.83	1.89	0.89	0.01	1.28	
Max	60.53	15.99	242.90	54.43	402.90	502.81	391.52	14.93	2.49	2.00	0.15	5.77	502.81
Min	0.00	1.25	3.32	2.80	3.45	35.08	23.17	2.24	1.41	0.35	0.00	0.00	0.00

WATER YEAR 1993

MAE KLONG RIVER BASIN

Huai Tha Khaei at Ban Bung, Ratchaburi (K.25)

Location	Lat. 13-25-42 N., Long. 99-24-25 E., on left bank at Ban Bung, Tambon Suan Phung, Amphoe Suan Phung, Ratchaburi.
Drainage Area	482 sq.km.
Method of Sampling	Depth Integrating
Instrument Used	US.D - 49
Period of Available Records	1991 - Cont'd
Actual Measurement	1991 - Cont'd
Remarks	Continued Sediment Station Using Rating Curve Water Year 1993

RID Computer Center, Processing : 19-APR-1995 14:12:55.69

LQS/LQS02D/12

Station - Ban Bung, Suan Phung, Ratchaburi, (K.25)
Stream - Huai Tha Khoei
River - Lam Pha Chi
River System - Mae Klong

Royal Irrigation Department
Thailand
Hydrology Division 250594
1.36504
QS = 8.9356 QW

Water Year - 1993

Suspended Sediment, in Tons per Day, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	1.42	1.57	7.74	2.56	1.89	2.73	381.67	461.98	19.93	118.42	2.91	193.09	
2	0.99	1.57	9.55	2.91	1.89	2.56	921.91	373.04	19.18	105.00	4.96	193.09	
3	0.99	1.42	6.59	2.73	1.73	2.39	386.01	311.00	16.97	88.40	8.94	193.09	
4	0.86	1.57	5.49	8.33	1.73	2.05	477.82	256.89	15.54	69.21	14.14	193.09	
5	0.86	1.42	4.45	4.96	2.05	1.89	209.93	215.62	21.46	54.68	19.18	193.09	
6	0.86	1.42	10.81	2.91	1.89	1.89	144.95	183.17	43.91	54.68	23.02	193.09	
7	0.86	1.42	49.22	2.73	1.73	1.89	112.62	156.64	92.02	46.54	27.85	193.09	
8	0.86	1.27	9.55	2.56	1.57	1.89	112.62	133.51	144.95	29.52	32.07	193.09	
9	0.73	1.42	14.14	2.56	1.57	1.89	270.16	116.48	198.66	16.97	37.33	193.09	
10	0.86	1.42	8.33	2.39	1.57	1.73	304.09	101.25	215.62	8.33	42.60	195.87	
11	1.57	1.27	6.03	2.22	1.73	1.73	126.77	88.40	218.48	6.03	47.87	198.66	
12	1.27	27.85	5.49	2.22	1.73	1.73	142.64	77.78	221.36	4.96	54.68	193.09	
13	1.89	15.54	5.49	2.39	1.73	1.73	304.09	69.21	218.48	4.96	63.16	193.09	
14	1.27	4.45	3.95	2.39	1.73	1.73	381.67	60.30	215.62	4.45	99.38	193.09	
15	1.13	3.47	3.95	2.39	1.73	1.89	399.09	53.30	215.62	3.47	112.62	193.09	
16	0.99	16.25	3.47	2.39	1.57	1.89	958.34	47.87	215.62	3.47	120.37	193.09	
17	0.86	32.93	3.28	2.56	1.57	1.73	504.53	41.31	212.77	3.47	124.55	193.09	
18	0.86	5.49	3.28	3.47	1.57	1.89	427.31	38.22	209.93	2.91	131.26	193.09	
19	2.05	4.96	3.28	2.56	1.57	19.18	1370.31	34.67	209.93	2.73	135.78	193.09	
20	1.42	3.95	3.10	2.22	1.57	24.60	1421.17	32.93	207.09	2.91	142.64	193.09	
21	1.13	3.47	3.10	2.22	1.73	10.81	1579.57	31.21	207.09	2.73	147.27	193.09	
22	3.95	3.28	3.10	2.05	1.57	35.55	1180.98	38.22	204.27	2.73	154.28	193.09	
23	6.03	3.95	2.91	2.05	1.73	844.83	2909.42	32.07	204.27	2.73	159.00	193.09	
24	2.39	6.59	2.91	2.05	1.73	2511.41	6104.23	27.85	204.27	2.56	161.38	193.09	
25	2.22	4.96	2.91	1.89	1.57	493.80	3196.74	26.21	204.27	2.56	166.16	193.09	
26	2.22	3.47	2.91	1.89	1.42	198.66	1638.26	25.40	204.27	2.56	185.64	193.09	
27	3.28	3.28	2.91	1.89	1.57	124.55	1013.69	23.02	204.27	2.56	193.09	193.09	
28	1.89	14.14	2.73	1.73	1.42	114.54	872.12	21.46	201.46	2.56	193.09	193.09	
29	1.73	77.78	2.56	1.73	1.89	209.93	1051.05	19.93	175.83	2.56		193.09	
30	1.57	10.81	2.56	1.73	1.73	364.47	764.38	19.18	159.00	2.39		193.09	
31		5.49		1.89	3.95		585.06		133.51	2.39		193.09	
Total	49.01	267.88	195.79	80.57	54.43	4987.56	30253.20	3118.12	5035.65	659.44	2605.22	5994.14	53301.01 Ton
Mean	1.63	8.64	6.53	2.60	1.76	166.25	975.91	103.94	162.44	21.27	93.04	193.36	
Max	6.03	77.78	49.22	8.33	3.95	2511.41	6104.23	461.98	221.36	118.42	193.09	198.66	6104.23
Min	0.73	1.27	2.56	1.73	1.42	1.73	112.62	19.18	15.54	2.39	2.91	193.09	0.73

WATER YEAR 1993

PHETCHABURI RIVER BASIN

Huai Phak at Ban Kariang, Phetchaburi (B.8)

Location	Lat. 12°-48'-49" N., Long. 99°-41'-32" E., on left bank at Ban Kariang, Tambon Song Phi Nong, Amphoe Tha Yang, Phetchaburi.
Drainage Area	264 sq.km.
Method of Sampling	Depth Integrating
Instrument Used	US.DH - 59
Period of Available Records	1986 - Cont'd
Actual Measurement	1986 - Cont'd
Remarks	Continued Sediment Station Using Rating Curve Water Year 1993

RID Computer Center, Processing : 19-APR-1995 14:12:42.23

LQS/LQS02D/12

Station - Ban Kariang, Tha Yang, Phetchaburi, (B.8)
Stream - Huai Phak
River - Phetchaburi
River System - Phetchaburi River

Royal Irrigation Department
Thailand
Hydrology Division 250594
1.34201
QS = 8.1115 QW

Water Year - 1993

Suspended Sediment, in Tons per Day, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.00	0.37	3.64	1.06	0.23	5.91	106.46	85.83	2.14	0.27	0.42	0.00	
2	0.00	0.32	3.64	1.00	0.23	3.90	382.16	53.88	2.14	0.27	0.42	0.00	
3	0.00	0.32	4.36	1.00	0.23	3.03	93.05	35.12	2.14	0.32	0.42	0.00	
4	0.00	0.27	9.78	1.00	4.36	2.45	62.52	25.10	1.98	0.32	0.42	0.00	
5	0.00	0.19	35.12	0.87	4.55	2.45	38.96	18.52	1.83	0.32	0.42	0.00	
6	0.00	0.15	7.47	0.69	2.14	2.29	25.97	15.50	1.68	0.32	0.42	0.00	
7	0.00	0.11	5.03	0.42	1.54	1.83	46.61	12.99	1.54	0.32	0.42	0.00	
8	0.00	0.07	6.52	0.52	1.26	1.68	78.76	11.18	1.26	0.37	0.42	0.00	
9	0.00	0.02	14.48	0.58	1.06	1.54	44.25	9.78	1.19	0.37	0.42	0.00	
10	0.00	0.00	8.77	0.42	1.06	1.54	35.12	8.44	1.06	0.37	0.42	0.00	
11	0.00	0.00	41.91	0.32	1.40	1.54	21.95	7.15	1.06	0.37	0.42	0.00	
12	0.00	0.00	25.97	0.32	1.40	1.54	19.88	6.52	1.06	0.37	0.42	0.00	
13	0.00	12.50	11.53	0.32	1.26	1.26	25.97	5.61	1.06	0.42	0.32	0.00	
14	0.00	7.15	8.44	0.42	1.40	1.26	25.10	4.83	1.26	0.42	0.32	0.00	
15	0.00	4.09	6.52	0.42	1.26	1.40	32.30	4.36	1.26	0.42	0.32	0.00	
16	0.00	2.78	4.83	0.52	1.19	1.54	35.12	3.90	1.26	0.42	0.27	0.00	
17	0.00	2.14	4.09	0.58	1.06	2.14	46.61	3.37	1.19	0.42	0.23	0.00	
18	0.00	1.68	3.20	1.98	1.00	4.55	122.92	3.20	1.19	0.42	0.19	0.00	
19	3.37	2.14	2.61	1.54	1.00	6.21	40.92	3.03	1.26	0.42	0.15	0.00	
20	1.26	2.78	2.14	1.06	1.00	8.11	26.85	3.03	1.19	0.52	0.11	0.00	
21	0.52	2.45	1.83	1.00	1.00	7.79	20.56	4.09	1.00	0.52	0.07	0.00	
22	0.87	6.52	1.26	1.00	1.00	7.79	98.57	9.44	0.75	0.52	0.04	0.00	
23	3.90	30.46	1.19	0.69	0.75	5.91	284.07	6.83	0.58	0.52	0.00	0.00	
24	1.68	135.71	1.00	0.42	0.87	32.30	168.78	4.55	0.42	0.52	0.00	0.00	
25	1.54	22.66	1.00	0.37	2.29	43.08	149.26	3.90	0.37	0.52	0.00	0.00	
26	1.40	11.18	1.00	0.32	5.91	24.23	125.32	3.64	0.32	0.42	0.00	0.00	
27	1.06	7.79	1.26	0.27	11.53	66.95	85.83	3.03	0.27	0.42	0.00	0.00	
28	0.87	5.91	1.19	0.23	5.03	149.26	932.14	2.78	0.27	0.42	0.00	0.00	
29	0.75	5.03	1.00	0.23	4.36	168.78	707.19	2.61	0.27	0.42		0.00	
30	0.52	9.78	1.06	0.19	6.83	382.16	340.35	2.45	0.27	0.42		0.00	
31		5.32		0.27	14.99		152.01		0.27	0.42		0.00	
Total	17.74	279.89	221.84	20.03	83.19	944.42	4375.56	364.66	33.54	12.57	7.06	0.00	6360.50 Ton
Mean	0.59	9.03	7.39	0.65	2.68	31.48	141.15	12.16	1.08	0.41	0.25	0.00	
Max	3.90	135.71	41.91	1.98	14.99	382.16	932.14	85.83	2.14	0.52	0.42	0.00	932.14
Min	0.00	0.00	1.00	0.19	0.23	1.26	19.88	2.45	0.27	0.27	0.00	0.00	0.00

WATER YEAR 1993

WEST COAST-GULF BASIN

Khlong Bang Saphan Yai at Ban Wang Yao, Prachuap Khiri Khan (GT.7)

Location	Lat. 11-14-02 N., Long. 99-26-35 E., on left bank near the bridge of Phet Kasem Highway at Ban Wang Yao, Tambon Ron Thong, Amphoe Bang Saphan, Prachuap Khiri Khan.
Drainage Area	346 sq.km.
Method of Sampling	Depth Integrating
Instrument Used	US.DH - 59
Period of Available Records	1984 - Cont'd
Actual Measurement	1984 - Cont'd
Remarks	Continued Sediment Station Using Rating Curve Water Year 1993

RID Computer Center, Processing : 19-APR-1995 14:13:03.82

LQS/LQS02D/12

Station - Wang Yao, Bang Saphan, Prachuap, (GT.7)
Stream - Bang Saphan Yai
River - Bang Saphan Yai
River System - West Coast-Gulf

Royal Irrigation Department
Thailand
Hydrology Division 250594
1.41714
QS = 26.4884 QW

Water Year - 1993

Suspended Sediment, in Tons per Day, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	30.32	19.31	273.99	70.74	65.78	56.19	102.60	1352.07	97.05	19.31	15.98	1.01	
2	26.49	26.49	615.00	60.93	56.19	51.56	335.59	771.90	102.60	19.31	15.98	22.81	
3	26.49	26.49	125.66	56.19	56.19	51.56	1854.95	540.62	75.80	19.31	22.81	12.84	
4	22.81	19.31	97.05	51.56	60.93	65.78	896.20	367.73	65.78	19.31	34.30	12.84	
5	22.81	19.31	615.00	42.67	47.05	102.60	692.14	304.33	60.93	22.81	34.30	12.84	
6	19.31	22.81	169.15	38.42	34.30	86.23	304.33	244.61	56.19	26.49	26.49	30.32	
7	19.31	47.05	451.73	38.42	51.56	80.97	384.12	182.25	51.56	26.49	22.81	19.31	
8	19.31	42.67	1003.85	42.67	38.42	97.05	3512.27	162.71	47.05	22.81	19.31	15.98	
9	19.31	47.05	367.73	42.67	15.98	97.05	922.78	143.83	47.05	22.81	19.31	15.98	
10	19.31	70.74	634.04	38.42	97.05	102.60	596.14	131.64	42.67	22.81	19.31	12.84	
11	19.31	273.99	692.14	42.67	80.97	97.05	6486.14	119.77	42.67	22.81	15.98	9.92	
12	30.32	65.78	367.73	137.70	80.97	91.59	3512.27	108.23	42.67	22.81	12.84	7.23	
13	38.42	47.05	162.71	169.15	162.71	86.23	2228.32	108.23	42.67	22.81	12.84	2.71	
14	60.93	34.30	216.23	97.05	367.73	102.60	949.58	102.60	42.67	22.81	12.84	0.00	
15	80.97	30.32	119.77	70.74	169.15	113.96	653.24	91.59	42.67	22.81	9.92	0.00	
16	65.78	65.78	97.05	56.19	131.64	91.59	1003.85	86.23	42.67	22.81	9.92	15.98	
17	47.05	108.23	65.78	56.19	97.05	91.59	1539.65	80.97	42.67	22.81	9.92	12.84	
18	38.42	56.19	56.19	51.56	80.97	86.23	4676.00	75.80	38.42	22.81	9.92	19.31	
19	75.80	97.05	56.19	47.05	75.80	86.23	6486.14	70.74	38.42	19.31	9.92	38.42	
20	51.56	137.70	56.19	42.67	65.78	80.97	2445.81	75.80	38.42	19.31	7.23	70.74	
21	38.42	86.23	47.05	38.42	70.74	75.80	1086.90	125.66	34.30	19.31	4.81	7100.85	
22	34.30	70.74	47.05	56.19	86.23	65.78	672.61	230.29	34.30	19.31	4.81	12602.57	
23	30.32	125.66	56.19	47.05	86.23	65.78	896.20	119.77	30.32	19.31	2.71	1278.61	
24	42.67	202.44	70.74	42.67	75.80	113.96	812.73	91.59	30.32	19.31	2.71	417.52	
25	34.30	108.23	60.93	42.67	65.78	202.44	812.73	75.80	26.49	19.31	0.00	2848.92	
26	30.32	70.74	51.56	38.42	56.19	156.34	833.37	70.74	26.49	19.31	0.00	5236.17	
27	26.49	91.59	65.78	42.67	51.56	216.23	3127.99	65.78	26.49	19.31	0.00	2577.68	
28	26.49	162.71	80.97	80.97	47.05	451.73	22264.76	60.93	26.49	19.31	0.00	1464.49	
29	22.81	522.47	65.78	70.74	47.05	162.71	13770.12	60.93	26.49	19.31		711.84	
30	19.31	182.25	80.97	91.59	51.56	131.64	5236.17	60.93	22.81	19.31		771.90	
31		113.96		80.97	65.78		2757.13		22.81	15.98		367.73	
Total	1039.46	2994.64	6870.20	1886.02	2540.19	3362.04	91852.83	6084.07	1367.94	651.64	356.97	35712.20	154718.20 Ton
Mean	34.65	96.60	229.01	60.84	81.94	112.07	2962.99	202.80	44.13	21.02	12.75	1152.01	
Max	80.97	522.47	1003.85	169.15	367.73	451.73	22264.76	1352.07	102.60	26.49	34.30	12602.57	22264.76
Min	19.31	19.31	47.05	38.42	15.98	51.56	102.60	60.93	22.81	15.98	0.00	0.00	0.00

WATER YEAR 1993

WEST COAST-GULF BASIN

Khlong Thap Sakae at Ban Klang, Prachuap Khiri Khan (GT.9)

Location	Lat. 11°29'39" N., Long. 99°36'21" E., on right bank at Ban Klang, Tambon Thap Sakae, Amphoe Thap Sakae, Prachuap Khiri Khan.
Drainage Area	120 sq.km.
Method of Sampling	Depth Integrating
Instrument Used	US.DH - 59
Period of Available Records	1988 - Cont'd
Actual Measurement	1988 - Cont'd
Remarks	Continued Sediment Station Using Rating Curve Water Year 1988 - 1993

RID Computer Center, Processing : 19-APR-1995 14:13:16.70

LQS/LQS02D/12

Station - Ban Klang, Thap Sakae, Prachuap Khiri Khan, (GT.9)
Stream - Khlong Thap Sakae
River - Khlong Thap Sakae
River System - West Coast-Gulf

Royal Irrigation Department
Thailand
Hydrology Division 250594
1.28866
QS = 33.3894 QW

Water Year - 1993

Suspended Sediment, in Tons per Day, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	11.93	3.66	29.99	3.15	2.17	9.92	8.95	161.62	12.97	1.50	0.70	0.53	
2	10.92	3.15	21.87	2.65	1.29	10.92	303.21	85.27	9.92	1.08	1.72	0.70	
3	8.95	2.65	15.09	2.65	1.29	6.47	92.77	61.19	8.95	1.08	4.74	0.53	
4	8.00	2.17	10.92	2.17	1.08	8.00	136.37	51.51	7.08	1.08	8.00	0.36	
5	6.47	2.17	8.00	2.65	1.29	5.88	335.31	37.75	5.88	6.47	4.74	0.36	
6	5.88	2.17	7.08	2.65	2.65	5.88	235.27	29.99	5.31	8.00	2.65	0.36	
7	5.31	2.17	8.00	2.17	1.72	5.31	170.25	21.87	4.74	4.20	1.50	0.36	
8	4.74	2.17	9.92	2.65	1.72	5.88	174.60	16.18	3.66	3.15	1.08	0.22	
9	4.20	1.72	11.93	2.65	2.17	7.08	235.27	14.02	3.15	2.17	0.89	0.22	
10	4.20	1.29	8.00	2.65	4.74	8.00	49.15	11.93	2.65	2.17	0.70	0.22	
11	3.66	1.29	8.00	3.15	2.17	5.88	58.73	11.93	2.65	1.50	0.70	0.22	
12	3.66	1.29	11.93	3.15	2.65	4.74	124.11	11.93	3.15	1.29	0.53	0.22	
13	15.09	1.29	9.92	2.65	4.74	4.20	81.57	9.92	3.15	1.29	0.53	0.09	
14	51.51	8.95	10.92	2.65	10.92	8.00	49.15	8.95	2.65	1.29	0.53	0.53	
15	92.77	5.88	7.08	3.15	10.92	7.08	104.28	8.00	2.65	1.08	0.53	0.89	
16	61.19	4.74	6.47	3.15	8.95	5.88	100.41	6.47	3.15	1.50	0.53	0.53	
17	29.99	4.20	5.31	7.08	5.31	4.20	61.19	6.47	2.17	1.08	0.53	0.36	
18	31.68	3.66	4.74	6.47	3.66	3.66	81.57	6.47	2.17	0.89	0.53	0.53	
19	21.87	14.02	4.20	4.20	3.66	3.66	53.90	5.88	2.65	0.89	0.36	1.50	
20	16.18	12.97	3.66	3.15	2.65	2.65	315.96	6.47	1.29	0.89	0.36	15.09	
21	12.97	16.18	3.15	2.65	2.65	4.74	136.37	9.92	1.29	0.70	2.65	381.43	
22	10.92	11.93	2.65	2.65	4.20	7.08	116.09	11.93	4.20	0.70	0.89	217.43	
23	9.92	8.95	3.66	2.65	5.31	5.88	73.77	11.93	4.74	0.70	0.89	42.23	
24	8.95	7.08	3.15	2.65	4.20	4.74	284.30	9.92	3.66	0.70	0.53	29.99	
25	8.00	5.88	2.17	2.65	3.66	3.66	409.88	9.92	2.65	0.70	0.53	17.29	
26	7.08	5.31	2.17	1.72	56.30	8.00	161.62	8.95	2.65	0.70	0.36	56.30	
27	5.88	7.08	2.17	1.08	14.02	6.47	104.28	7.08	2.17	1.08	0.36	46.82	
28	5.31	7.08	2.17	7.08	7.08	6.47	1599.94	5.88	2.65	0.89	0.36	39.98	
29	4.74	8.00	2.17	2.65	5.31	14.02	1315.33	5.31	2.17	0.70		23.44	
30	4.20	18.79	3.15	1.50	5.31	11.93	607.53	5.88	1.72	0.70		20.31	
31		33.39		1.08	8.95		303.21		1.29	0.70		12.97	
Total	476.17	211.28	229.64	93.20	192.74	196.28	7884.34	660.54	119.18	50.87	38.42	912.01	11064.67 Ton
Mean	15.87	6.82	7.65	3.01	6.22	6.54	254.33	22.02	3.84	1.64	1.37	29.42	
Max	92.77	33.39	29.99	7.08	56.30	14.02	1599.94	161.62	12.97	8.00	8.00	381.43	1599.94
Min	3.66	1.29	2.17	1.08	1.08	2.65	8.95	5.31	1.29	0.70	0.36	0.09	0.09

WATER YEAR 1993

WEST COAST-GULF BASIN

Khlong Cha Kra at Ban Cha Kra Bon, Prachuap Khiri Khan (GT.18)

Location	Lat.11°-26'-46" N., Long. 99°-34'-10" E., on left bank at the bridge of Phet Kasem Highway near the guidepost 371, Tambon Na Hu Kwang, Amphoe Thap Sakae, Prachuap Khiri Khan.
Drainage Area	93 sq.km.
Method of Sampling	Depth Integrating
Instrument Used	US.DH - 59
Period of Available Records	1988 - Cont'd
Actual Measurement	1988 - Cont'd
Remarks	Continued Sediment Station Using Rating Curve Water Year 1993

RID Computer Center, Processing : 19-APR-1995 14:13:25.92

LQS/LQS02D/12

Station - Ban Cha Kra Bon, Thap Sakae, Prachuap Khiri Khan, (GT.18)
Stream - Khlong Cha Kra
River - Khlong Cha Kra
River System - West Coast-Gulf

Royal Irrigation Department
Thailand
Hydrology Division 250594
1.68696
QS = 15.5111 QW

Water Year - 1993

Suspended Sediment, in Tons per Day, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.10	0.10	11.33	1.50	0.86	6.92	7.70	125.29	12.26	2.15	1.21	0.70	
2	0.10	0.07	9.12	1.40	0.70	4.66	302.72	105.75	8.29	2.15	1.21	0.70	
3	0.13	0.04	4.19	8.29	0.63	3.31	103.47	60.92	5.66	2.15	1.40	0.70	
4	0.10	0.02	3.31	4.66	0.86	4.19	222.57	48.69	5.15	2.15	1.40	0.70	
5	0.10	0.02	10.65	1.50	0.70	6.37	576.93	40.64	4.66	2.15	1.21	0.70	
6	0.10	0.02	34.64	0.32	0.50	4.66	262.63	34.64	4.19	2.15	1.21	0.70	
7	0.07	0.04	31.78	1.40	0.50	3.74	185.25	30.39	3.74	2.15	1.21	0.70	
8	0.07	0.04	8.29	1.21	0.50	3.74	297.47	25.09	3.74	2.15	1.03	0.70	
9	0.07	0.04	6.37	1.21	1.40	3.31	134.62	22.60	3.31	2.15	1.03	0.70	
10	0.07	0.04	3.74	1.03	10.65	6.37	68.41	19.64	3.31	2.15	1.03	0.70	
11	0.07	0.02	42.20	1.03	9.76	5.66	62.76	17.39	3.31	2.15	1.03	0.70	
12	0.04	1.21	18.50	1.21	7.70	4.66	100.65	16.57	3.31	1.81	1.03	0.70	
13	0.37	0.50	14.73	11.33	39.10	4.19	62.76	15.51	3.31	1.81	0.94	0.70	
14	31.78	0.32	12.99	4.19	108.62	3.74	39.10	12.99	2.90	1.81	0.94	0.70	
15	33.20	0.27	6.37	2.90	37.59	2.90	79.27	12.26	2.90	1.81	0.94	1.03	
16	7.70	0.27	4.19	18.50	18.50	2.15	64.62	11.33	2.90	1.81	0.94	3.74	
17	2.51	0.17	2.51	9.12	11.33	2.15	52.07	10.65	2.90	1.81	0.86	1.81	
18	0.94	10.65	1.50	4.66	8.29	2.51	70.33	10.65	2.90	1.81	0.86	1.21	
19	0.86	14.73	1.40	2.90	6.37	2.15	37.59	9.76	2.90	1.50	0.86	1.40	
20	0.63	6.92	1.40	2.15	4.19	1.81	266.79	9.76	2.51	1.50	0.86	47.03	
21	0.50	7.70	1.03	1.50	9.76	3.74	72.77	9.76	2.51	1.50	0.70	545.34	
22	0.37	2.90	2.90	1.50	9.12	2.51	96.21	12.26	2.51	1.50	0.70	91.31	
23	0.37	1.81	1.40	1.81	5.66	1.81	68.41	9.76	2.51	1.40	0.70	25.09	
24	0.32	1.21	2.51	1.40	5.15	2.15	154.08	7.70	2.51	1.40	0.70	13.72	
25	0.27	1.50	1.40	0.94	4.19	5.66	188.85	6.37	2.51	1.21	0.70	10.65	
26	0.22	2.51	1.21	0.94	2.90	8.29	147.47	5.66	2.51	1.21	0.70	34.64	
27	0.17	3.31	1.40	0.86	2.15	12.26	351.60	5.66	2.51	1.21	0.70	25.09	
28	0.13	3.31	1.40	0.86	1.50	12.26	3147.40	5.66	2.51	1.21	0.70	91.31	
29	0.10	3.31	1.21	0.86	1.40	16.57	1883.37	5.15	2.51	1.21		37.59	
30	0.10	2.51	1.40	0.94	1.40	7.70	537.56	8.29	2.15	1.21		25.09	
31		1.81		0.86	7.70		199.84		2.15	1.21		15.51	
Total	81.56	67.37	245.07	92.98	319.68	152.14	9845.27	716.79	111.04	53.59	26.80	981.36	12693.65 Ton
Mean	2.72	2.17	8.17	3.00	10.31	5.07	317.59	23.89	3.58	1.73	0.96	31.66	
Max	33.20	14.73	42.20	18.50	108.62	16.57	3147.40	125.29	12.26	2.15	1.40	545.34	3147.40
Min	0.04	0.02	1.03	0.32	0.50	1.81	7.70	5.15	2.15	1.21	0.70	0.70	0.02

WATER YEAR 1993

SOUTHERN PENINSULA EAST COAST

Khlong Phum Duang at Khiri Ratthanikhom, Surat Thani (X.36)

Location	Lat. 9°-01'-46" N., Long. 98°-58'-00" E., on left bank at Ban Tha Khanon, Amphoe Khiri Ratthanikhom, Surat Thani.
Drainage Area	3,012 sq.km.
Method of Sampling	Depth Integrating
Instrument Used	US.D - 49
Period of Available Records	1989 - Cont'd
Actual Measurement	1989 - Cont'd
Remarks	Continued Sediment Station Using Rating Curve Water Year 1993

RID Computer Center, Processing : 19-APR-1995 14:13:32.45

I.QS/I.QS02D/12

Station - Khiri Ratthanikhom, Khiri Ratthanikhom, Surat Thani, (X.36)
Stream - Khlong Phum Duang
River - Tapi
River System - Peninsular East Coast

Royal Irrigation Department
Thailand
Hydrology Division 210694
1.27591
QS = 1.2871 QW

Water Year - 1993

Suspended Sediment, in Tons per Day, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	195.20	179.53	265.19	521.49	871.46	595.85	741.01	801.11	3119.27	201.54	179.53	672.53	
2	188.90	41.00	272.49	570.70	626.29	460.05	651.88	746.34	1431.16	192.04	290.92	408.02	
3	142.91	82.22	317.15	429.53	399.48	492.43	460.05	536.15	835.32	182.64	254.33	359.33	
4	182.64	433.86	363.22	247.14	290.92	605.96	403.74	340.02	719.79	225.85	176.43	305.85	
5	268.84	460.05	290.92	101.43	250.73	2035.65	741.01	287.22	492.43	279.83	201.54	86.28	
6	164.71	473.26	156.46	170.27	324.74	1620.92	1401.30	367.12	378.87	371.02	182.64	72.39	
7	88.32	478.04	204.98	156.46	279.83	1275.91	1993.35	343.86	506.91	276.16	167.48	5.90	
8	279.83	351.58	355.45	164.71	287.22	895.73	2285.96	302.10	482.82	268.84	110.81	355.45	
9	225.85	336.18	374.94	185.76	767.72	757.01	1349.36	390.98	446.91	148.30	117.96	506.91	
10	185.76	272.49	347.71	167.48	778.47	714.50	944.71	403.74	347.71	80.21	110.81	555.84	
11	164.71	355.45	320.94	101.43	641.60	468.85	616.11	395.22	340.02	86.28	167.48	492.43	
12	66.90	355.45	328.54	74.24	420.90	473.26	1103.38	395.22	283.52	290.92	176.43	347.71	
13	47.63	305.85	247.14	192.04	276.16	651.88	1290.53	276.16	276.16	631.37	294.64	94.51	
14	11.86	343.86	137.84	198.36	332.36	585.77	1181.78	506.91	302.10	672.53	336.18	225.85	
15	74.24	247.14	290.92	204.98	328.54	672.53	1082.20	254.33	229.37	429.53	657.06	302.10	
16	132.81	309.61	386.75	179.53	182.64	693.45	829.60	382.80	185.76	137.84	641.60	302.10	
17	140.37	185.76	482.82	204.98	340.02	667.38	425.21	351.58	1319.88	103.75	688.20	127.81	
18	127.81	355.45	433.86	185.76	516.62	631.37	261.56	332.36	1860.00	208.43	741.01	225.85	
19	151.01	294.64	302.10	86.28	497.25	901.82	416.59	371.02	746.34	487.62	871.46	240.00	
20	201.54	229.37	215.36	192.04	371.02	1461.17	585.77	336.18	403.74	531.25	835.32	464.44	
21	261.56	302.10	222.34	101.43	309.61	1341.98	595.85	328.54	313.38	371.02	714.50	90.37	
22	313.38	332.36	279.83	161.95	204.98	907.92	575.68	283.52	944.71	521.49	773.09	44.29	
23	250.73	298.37	309.61	195.20	142.91	871.46	719.79	309.61	1582.50	247.14	751.67	167.48	
24	236.44	336.18	302.10	550.90	425.21	871.46	725.08	283.52	920.15	66.90	767.72	135.32	
25	261.56	408.02	294.64	2876.92	575.68	932.41	730.38	254.33	511.76	120.40	565.74	198.36	
26	110.81	340.02	108.44	3368.20	580.72	823.88	662.19	247.14	521.49	211.88	122.86	140.37	
27	355.45	287.22	47.63	2896.95	482.82	590.78	600.87	254.33	621.16	198.36	137.84	290.92	
28	363.22	283.52	78.21	2640.87	408.02	841.32	730.38	225.85	290.92	254.33	20.64	176.43	
29	290.92	290.92	367.12	2866.92	395.22	883.58	709.22	3283.42	208.43	159.20		473.26	
30	298.37	250.73	367.12	2212.68	390.98	751.67	693.45	6708.20	204.98	374.94		560.78	
31		446.91		1297.85	478.04		641.60		305.85	302.10		751.67	
Total	5784.28	9667.14	8471.82	23504.48	13178.16	25477.95	26149.59	20298.88	21133.41	8633.71	11055.89	9180.55	182535.86 Ton
Mean	192.81	311.84	282.39	758.21	425.10	849.27	843.54	676.63	681.72	278.51	394.85	296.15	
Max	363.22	478.04	482.82	3368.20	871.46	2035.65	2285.96	6708.20	3119.27	672.53	871.46	751.67	6708.20
Min	11.86	41.00	47.63	74.24	142.91	460.05	261.56	225.85	185.76	66.90	20.64	5.90	5.90

WATER YEAR 1993

SOUTHERN PENNINSULA EAST COAST

Khlong Tha Di at Ban Pak Prik, Nakhon Si Thammarat (X.55)

Location	Lat. 08-23-53 N., Long. 99-50-15 E., on left bank at the bridge on road, Ban Pak Prik, Amphoe Lan Saka, Nakhon Si Thammarat.
Drainage Area	105 sq.km.
Method of Sampling	Depth Integrating
Instrument Used	US.D - 49
Period of Available Records	1989 - Cont'd
Actual Measurement	1989 - Cont'd
Remarks	Continued Sediment Station Using Rating Curve Water Year 1989 - 1993

RID Computer Center, Processing : 19-APR-1995 14:13:38.29

LQS/LQS02D/12

Station - Ban Pak Prik, Lan Saka, Nakhon Si Thammarat, (X.55)
Stream - Khlong Tha Di
River - Khlong Tha Di
River System - Peninsular East Coast

Royal Irrigation Department
Thailand
Hydrology Division 270694
1.49076
QS = 1.2642 QW

Water Year - 1993

Suspended Sediment, in Tons per Day, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	5.68	8.04	4.60	3.61	3.29	2.00	2.69	264.40	397.36	26.51	8.04	3.45	
2	6.25	10.36	4.35	2.84	2.84	2.00	2.41	158.92	356.78	24.48	6.83	3.29	
3	7.13	12.30	4.10	2.13	2.55	3.61	2.41	50.34	291.31	23.00	89.67	3.29	
4	4.87	8.36	3.93	1.74	3.77	4.87	2.55	29.33	241.64	30.61	51.36	3.14	
5	4.60	7.43	3.45	2.41	4.10	3.61	11.12	22.02	259.71	23.00	22.02	3.14	
6	4.35	6.83	3.77	1.87	2.55	3.77	5.40	73.06	417.04	21.07	14.34	3.14	
7	4.10	6.54	6.54	2.27	2.84	2.55	4.35	49.33	633.06	19.19	11.51	2.99	
8	3.93	6.25	3.61	1.87	2.84	2.69	6.54	160.77	381.21	16.93	10.36	2.99	
9	3.61	6.25	3.14	1.62	2.99	2.27	4.87	65.18	246.12	16.05	9.32	2.99	
10	3.45	5.96	2.69	1.87	2.99	2.13	4.35	35.24	197.32	14.76	8.68	3.14	
11	4.10	6.83	2.55	2.00	2.41	2.00	3.77	30.61	221.84	14.76	8.04	2.69	
12	4.60	5.40	4.87	1.50	2.13	1.87	3.61	49.33	211.39	14.76	7.43	2.55	
13	3.77	11.12	2.84	1.26	2.00	2.00	3.45	40.78	226.19	13.93	7.43	2.55	
14	106.08	7.73	2.41	1.08	1.74	1.62	3.29	37.28	230.57	13.10	16.93	2.41	
15	172.05	9.99	2.27	1.08	1.38	1.50	3.14	27.02	232.77	12.30	11.51	2.41	
16	33.89	7.13	2.13	4.10	1.74	2.84	5.96	21.54	378.00	11.51	8.04	2.55	
17	41.49	15.19	1.87	1.62	1.17	3.77	7.73	18.28	303.82	10.74	6.83	21.54	
18	50.34	13.10	10.36	1.38	1.08	7.13	4.10	16.49	228.38	9.65	6.54	59.74	
19	26.00	24.48	2.99	1.50	0.99	4.60	3.29	14.76	205.32	11.51	5.96	25.49	
20	26.00	13.10	2.55	1.62	9.00	4.10	3.14	14.76	213.43	9.65	5.68	129.71	
21	51.36	27.54	2.55	1.50	2.84	3.29	3.61	22.51	237.20	21.54	5.13	129.71	
22	21.54	11.51	2.00	0.99	3.45	7.13	7.43	66.29	2101.67	12.70	4.60	137.58	
23	18.28	9.32	2.00	1.87	3.93	3.61	10.74	84.81	427.00	10.74	4.10	37.28	
24	15.62	9.99	1.74	4.87	8.04	4.35	12.30	46.34	232.77	9.65	4.10	44.38	
25	13.51	10.74	1.50	4.87	3.61	3.77	7.13	30.61	170.15	9.00	3.93	172.05	
26	11.12	10.36	1.38	3.45	4.35	8.04	43.41	23.98	128.16	8.36	3.61	353.89	
27	10.36	8.36	2.13	3.14	2.99	3.93	13.51	28.06	89.67	8.04	3.61	98.39	
28	9.99	7.73	2.13	8.68	2.69	3.45	21.07	129.71	59.74	8.04	3.45	50.34	
29	9.00	7.43	4.10	7.43	3.14	2.84	23.98	7571.24	39.37	7.73		37.98	
30	8.36	5.68	3.93	8.04	2.13	2.84	20.59	397.36	33.23	7.43		48.33	
31		4.87		4.60	2.41		142.55		28.69	6.83		33.23	
Total	685.43	305.92	98.48	88.81	93.98	104.18	394.49	9580.35	9420.91	447.57	349.05	1426.36	22995.53 Ton
Mean	22.85	9.87	3.28	2.86	3.03	3.47	12.73	319.35	303.90	14.44	12.47	46.01	
Max	172.05	27.54	10.36	8.68	9.00	8.04	142.55	7571.24	2101.67	30.61	89.67	353.89	7571.24
Min	3.45	4.87	1.38	0.99	0.99	1.50	2.41	14.76	28.69	6.83	3.45	2.41	0.99

WATER YEAR 1993

SOUTHERN PENNINSULA EAST COAST

Khlong Ban Tan at Ban Wang Kong, Nakhon Si Thammarat (X.70)

Location	Lat.08-25-35 N., Long. 99-51-53 E.,On left bank upstream side of the bridge, Ban Wang Kong, Amphoe Muang, Nakhon Si Thammarat.
Drainage Area	39 sq.km.
Method of Sampling	Depth Integrating
Instrument Used	US.D - 49
Period of Available Records	1989 -Cont'd
Actual Measurement	1989 - Cont'd
Remarks	Continued Sediment Station Using Rating Curve Water Year 1989 - 1993

RID Computer Center, Processing : 19-APR-1995 14:13:46.55 LQS/LQS02D/12

Station - Ban Wang Kong, Muang, Nakhon Si Thammarat, (X.70)
Stream - Khlong Ban Tan
River - Khlong Ban Tan
River System - Peninsular East Coast

Royal Irrigation Department
Thailand
Hydrology Division 210694
1.47299
QS = 3.3404 QW

Water Year - 1993

Suspended Sediment, in Tons per Day, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	1.38	2.63	2.63	1.06	0.68	0.41	1.06	206.08	134.98	10.39	5.08	2.91	
2	1.38	4.59	2.63	0.87	0.74	0.57	0.87	46.54	115.14	8.87	4.75	3.05	
3	1.73	4.92	3.64	0.87	0.74	0.57	0.80	15.54	63.70	8.14	31.63	2.91	
4	1.38	3.34	3.34	0.87	0.80	0.57	0.74	9.07	28.05	10.67	17.02	2.49	
5	1.38	2.91	3.34	1.17	0.80	0.57	1.38	6.49	21.32	8.33	7.62	2.36	
6	1.17	2.63	2.77	0.87	0.68	0.51	1.50	28.63	167.42	6.68	6.49	2.36	
7	1.17	2.49	2.77	0.80	0.68	0.46	1.38	9.07	387.75	5.77	5.43	2.23	
8	1.17	2.10	2.23	0.80	0.62	0.46	1.17	59.32	317.51	5.60	4.92	2.23	
9	1.06	2.10	2.10	0.80	0.57	0.41	1.06	17.68	117.60	5.08	5.95	2.36	
10	1.17	2.10	1.85	0.80	0.68	0.41	1.17	9.34	55.03	4.75	4.42	2.23	
11	1.17	2.23	1.98	0.80	0.57	0.41	1.27	9.89	71.85	4.59	4.10	2.10	
12	1.17	1.98	2.10	0.74	0.57	0.36	0.96	18.70	39.83	4.92	3.95	2.10	
13	1.06	2.36	1.73	0.68	0.51	0.46	0.87	10.96	27.47	4.92	3.64	1.73	
14	78.13	2.91	1.50	0.68	0.51	0.36	0.96	9.07	19.22	4.59	5.08	1.73	
15	84.72	4.42	1.38	0.68	0.46	0.36	0.80	8.33	15.22	4.92	7.11	1.73	
16	12.58	3.05	1.38	2.36	0.46	0.62	2.36	6.68	153.60	5.25	6.68	1.73	
17	10.17	10.96	1.38	0.87	0.46	0.46	2.91	5.77	141.97	5.77	4.75	13.19	
18	12.88	7.11	1.73	0.87	0.41	0.87	1.38	4.75	86.95	5.25	4.26	20.26	
19	9.89	8.87	1.50	0.80	0.41	0.62	1.06	4.10	49.32	5.43	3.95	11.47	
20	10.67	5.77	1.38	0.74	3.34	0.57	1.27	3.79	31.63	5.95	3.95	36.60	
21	14.90	5.77	1.27	0.68	0.62	0.57	1.17	5.95	98.39	11.76	3.64	29.82	
22	10.17	3.95	1.17	0.62	0.57	6.68	0.96	28.05	598.42	6.31	2.77	17.35	
23	9.89	3.49	1.17	0.68	0.57	1.17	2.36	25.74	173.68	5.60	3.05	11.17	
24	6.13	3.05	1.06	0.68	0.80	1.85	4.42	21.32	106.66	5.60	2.77	13.72	
25	4.75	3.05	0.96	0.80	0.57	4.10	2.49	13.72	55.03	5.25	3.05	74.90	
26	4.10	3.95	0.96	0.68	0.57	6.92	5.77	9.07	36.60	4.92	2.63	204.41	
27	3.79	5.43	0.87	0.68	0.51	2.36	6.31	19.74	26.89	4.75	2.77	47.23	
28	3.34	4.26	0.96	0.87	0.46	1.73	4.42	168.98	19.74	4.75	2.63	21.32	
29	3.05	3.79	1.38	0.96	0.46	1.17	3.95	4145.87	15.54	4.59		15.22	
30	2.77	3.34	1.27	1.17	0.46	1.06	13.19	222.93	13.42	4.75		15.22	
31		2.91		0.80	0.46		51.44		11.47	4.59		13.19	
Total	298.32	122.46	54.43	26.75	20.74	37.64	121.45	5151.17	3201.40	188.74	164.09	581.32	9968.51 Ton
Mean	9.94	3.95	1.81	0.86	0.67	1.25	3.92	171.71	103.27	6.09	5.86	18.75	
Max	84.72	10.96	3.64	2.36	3.34	6.92	51.44	4145.87	598.42	11.76	31.63	204.41	4145.87
Min	1.06	1.98	0.87	0.62	0.41	0.36	0.74	3.79	11.47	4.59	2.63	1.73	0.36

WATER YEAR 1993

SOUTHERN PENINSULA EAST COAST

Khlong U Taphao at Ban Bang Sala, Songkhla (X.90)

Location	Lat. 6-55-39 N., Long. 100-26-37 E., on left bank about 5 meters upstream from the bridge on highway and near the Phatthana Tambon Street, Amphoe Hat Yai, Songkhla.
Drainage Area	1,562 sq.km.
Method of Sampling	Depth Integrating
Instrument Used	US.DH - 59
Period of Available Records	1982 - Cont'd
Actual Measurement	1982 - Cont'd
Remarks	Continued Sediment Station Using Rating Curve Water Year 1993

RID Computer Center, Processing : 19-APR-1995 14:13:54.94

LQS/LQS02D/12

Station - Ban Bang Sala, Hat Yai, Songkhla, (X.90)
Stream - Khlong U Taphao
River - Khlong U Taphao
River System - Peninsular East Coast

Royal Irrigation Department
Thailand
Hydrology Division 160694
0.92013
QS = 8.8172 QW

Water Year - 1993

Suspended Sediment, in Tons per Day, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	8.41	15.53	18.21	19.35	98.34	8.41	35.90	190.25	614.96	386.14	43.74	18.59	
2	19.35	14.37	14.76	18.97	90.94	8.82	30.12	208.69	536.21	337.95	43.03	18.21	
3	22.74	13.20	18.59	19.73	71.67	9.22	30.12	242.98	432.66	297.54	43.74	17.07	
4	34.47	11.22	29.39	21.62	52.14	12.41	25.71	259.96	366.23	259.96	44.44	16.68	
5	38.05	9.63	40.90	20.86	35.90	10.83	23.49	247.23	328.48	229.07	44.44	15.92	
6	43.03	7.59	66.58	22.37	25.71	11.22	29.39	218.41	301.12	203.26	44.44	15.14	
7	42.32	6.35	86.76	22.74	25.71	20.86	51.45	178.91	361.53	182.65	44.44	14.76	
8	35.90	6.35	92.60	23.86	24.23	69.98	95.83	143.92	528.54	168.57	40.90	14.76	
9	33.74	6.77	95.04	21.24	23.11	94.25	115.45	121.15	574.44	154.39	37.34	14.37	
10	26.45	9.22	90.94	18.59	20.11	101.62	110.64	104.90	500.38	142.96	35.19	14.37	
11	20.11	13.59	89.28	17.07	18.21	105.75	104.11	94.25	428.03	135.30	34.47	15.92	
12	18.59	9.22	64.54	16.68	15.92	95.04	90.94	87.62	396.65	125.22	35.90	16.68	
13	17.45	12.80	66.58	16.68	14.76	73.36	86.76	82.63	415.27	117.08	32.30	30.85	
14	17.07	20.86	90.94	15.92	12.80	50.05	116.30	141.05	481.04	109.01	39.48	38.05	
15	17.07	18.97	120.38	14.37	11.62	40.90	145.83	210.85	469.44	102.47	41.61	27.92	
16	19.73	20.86	60.43	11.62	10.43	42.32	190.25	234.45	632.79	96.69	60.43	44.44	
17	58.37	19.35	61.80	10.43	9.63	56.99	255.72	241.94	1061.11	91.74	54.22	52.14	
18	73.36	14.76	52.84	9.22	9.22	54.92	302.31	222.71	1539.91	86.76	52.14	61.12	
19	66.58	18.21	34.47	11.22	8.00	50.05	309.47	244.07	1353.36	80.95	44.44	68.28	
20	87.62	21.99	89.28	12.02	7.18	43.03	271.61	247.23	1005.32	74.17	43.03	81.76	
21	83.43	16.30	77.60	10.83	7.59	43.74	248.33	236.58	806.94	71.67	33.02	103.26	
22	62.49	18.21	70.79	10.03	10.03	43.03	225.89	223.75	781.96	67.47	24.97	125.22	
23	50.75	14.37	62.49	9.22	13.98	48.65	198.93	194.59	771.24	63.85	23.49	141.05	
24	45.85	28.65	54.92	9.22	17.83	74.17	185.46	166.69	908.09	62.49	22.37	142.01	
25	44.44	43.74	41.61	10.83	16.30	101.62	184.52	149.64	1047.19	60.43	21.62	174.22	
26	38.05	51.45	32.30	17.45	18.97	81.76	187.33	153.44	1019.29	56.99	20.49	223.75	
27	34.47	33.74	26.45	20.86	18.59	70.79	202.21	131.58	953.57	54.92	19.35	222.71	
28	23.49	23.86	23.11	45.15	14.76	67.47	210.85	130.04	785.53	52.84	18.97	215.15	
29	18.21	23.49	21.24	72.48	12.41	59.06	214.11	322.55	671.04	50.75		211.89	
30	15.92	20.49	21.24	96.69	10.43	46.55	202.21	564.32	568.11	47.95		203.26	
31		17.45		105.75	9.22		191.37		466.80	44.44		183.59	
Total	1117.51	562.59	1716.06	753.07	735.74	1596.87	4672.61	5996.38	21107.23	4015.68	1044.00	2543.14	45860.88 Ton
Mean	37.25	18.15	57.20	24.29	23.73	53.23	150.73	199.88	680.88	129.54	37.29	82.04	
Max	87.62	51.45	120.38	105.75	98.34	105.75	309.47	564.32	1539.91	386.14	60.43	223.75	1539.91
Min	8.41	6.35	14.76	9.22	7.18	8.41	23.49	82.63	301.12	44.44	18.97	14.37	6.35

WATER YEAR 1993

SOUTHERN PENINSULA EAST COAST

Khlong Sadao at Ban Phrai, Songkhla (X.111)

Location — Lat. 6°-39'-37" N., Long. 100°-26'-09" E., on left bank at Ban Phrai, Amphoe Sadao, Songkhla.

Drainage Area — 256 sq.km.

Method of Sampling — Depth Integrating

Instrument Used — US.DH - 59

Period of Available Records — 1980 - Cont'd

Actual Measurement — 1980 - Cont'd

Remarks — Continued Sediment Station

Using Rating Curve Water Year 1980 - 1993

RID Computer Center, Processing : 19-APR-1995 14:14:02.38

LQS/LQS02D/12

Station - Ban Phrai, Sadao, Songkhla, (X.111)
Stream - Khlong Sadao
River - Khlong Lam
River System - Peninsular East Coast

Royal Irrigation Department
Thailand
Hydrology Division 160694
1.27131
QS = 2.7303 QW

Water Year - 1993

Suspended Sediment, in Tons per Day, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	2.73	0.33	0.74	1.28	3.81	2.80	1.19	16.82	130.33	13.67	1.28	0.24	
2	2.73	0.27	1.28	1.89	2.52	1.83	1.43	14.11	63.48	11.79	1.25	0.24	
3	2.73	0.18	2.46	1.28	1.43	1.25	1.89	9.97	37.79	9.56	1.19	0.24	
4	2.73	0.17	8.09	1.07	1.61	0.91	1.43	7.31	32.11	9.02	1.07	0.24	
5	2.87	0.17	11.79	0.99	1.34	1.34	1.28	5.81	21.88	8.75	2.22	0.24	
6	2.46	0.13	3.23	3.15	1.16	44.92	4.49	4.84	15.81	8.35	1.37	0.24	
7	1.83	0.09	20.59	1.77	2.66	36.58	9.70	3.92	26.75	7.83	1.34	0.27	
8	1.46	0.31	13.82	1.25	2.22	22.97	3.59	3.30	52.62	7.18	1.28	0.27	
9	1.16	0.33	3.23	0.67	1.46	16.01	2.32	3.01	52.62	4.96	1.28	0.27	
10	0.77	0.52	3.30	0.67	1.10	8.62	3.66	2.73	40.86	3.08	1.25	0.27	
11	0.69	0.64	7.18	0.64	0.96	3.52	4.04	2.39	81.64	2.32	1.19	0.31	
12	0.69	0.91	23.85	0.54	0.77	2.09	3.59	3.59	80.50	2.22	1.07	0.59	
13	0.67	1.19	11.79	0.38	0.69	1.64	18.48	62.26	55.84	2.12	1.16	0.77	
14	0.67	3.66	6.05	0.18	0.64	1.58	20.80	197.41	37.79	2.12	1.93	7.57	
15	0.67	2.39	19.95	0.17	0.67	2.94	19.53	180.27	27.43	2.02	3.37	2.29	
16	0.67	1.19	8.89	0.08	0.85	2.66	45.87	110.71	57.03	2.02	1.61	1.43	
17	0.77	1.16	3.74	0.02	0.85	1.89	52.95	55.44	61.04	1.99	1.28	1.43	
18	1.19	0.85	2.32	0.13	0.74	2.32	52.95	32.70	68.55	1.99	1.07	1.43	
19	1.07	1.10	1.64	0.05	0.82	3.23	33.59	17.23	60.24	1.93	0.96	3.37	
20	0.82	0.99	3.44	0.05	0.67	2.46	20.59	19.11	46.82	1.83	0.85	11.51	
21	0.82	0.85	2.46	0.05	0.67	3.81	16.42	12.22	38.70	1.80	0.69	38.70	
22	1.64	0.82	1.93	0.09	0.99	3.44	10.25	9.43	41.48	1.61	0.82	68.00	
23	1.80	1.70	1.61	0.33	0.85	2.46	28.11	8.35	60.24	1.61	0.85	40.24	
24	3.59	0.85	1.70	0.49	0.99	1.99	42.10	13.38	150.94	1.52	0.77	63.07	
25	1.64	1.07	1.64	1.43	1.43	15.20	31.23	9.02	88.58	1.52	0.64	73.77	
26	0.91	0.67	1.61	4.26	1.19	7.44	13.82	8.62	63.07	1.43	0.52	57.03	
27	0.69	0.67	1.52	40.55	0.82	3.30	12.50	6.67	51.32	1.37	0.49	26.75	
28	0.67	0.67	1.34	42.72	0.77	2.12	36.28	9.43	40.24	1.28	0.38	13.23	
29	0.67	1.77	1.37	39.62	1.61	1.77	40.24	49.70	30.07	1.25		8.89	
30	0.67	1.61	1.34	32.40	1.02	1.70	26.07	244.19	22.31	1.28		5.44	
31		1.02		12.22	0.96		22.31		15.81	1.28		3.66	
Total	42.48	28.28	173.90	190.42	38.27	204.79	582.70	1123.94	1653.89	120.70	33.18	432.00	4624.55 Ton
Mean	1.42	0.91	5.80	6.14	1.23	6.83	18.80	37.46	53.35	3.89	1.19	13.94	
Max	3.59	3.66	23.85	42.72	3.81	44.92	52.95	244.19	150.94	13.67	3.37	73.77	244.19
Min	0.67	0.09	0.74	0.02	0.64	0.91	1.19	2.39	15.81	1.25	0.38	0.24	0.02

WATER YEAR 1993

SOUTHERN PENINSULA EAST COAST

Khlong Lam at Ban Thung Prap (1), Songkhla (X.113)

Location	Lat. 6°37'59" N., Long. 100°23'46" E., on right bank at Ban Thung Prap (1), Amphoe Sadao, Songkhla.
Drainage Area	129 sq.km.
Method of Sampling	Depth Integrating
Instrument Used	US.DH - 59
Period of Available Records	1980 - Cont'd
Actual Measurement	1980 - Cont'd
Remarks	Continued Sediment Station Using Rating Curve Water Year 1993

RID Computer Center, Processing : 19-APR-1995 14:14:10.09

LQS/LQS02D/12

Station - Ban Thung Prap 1, Sadao, Songkhla, (X.113)
Stream - Khlong Lam
River - Khlong U Taphao
River System - Peninsular East Coast

Royal Irrigation Department
Thailand
Hydrology Division 160694
1.81521
QS = 7.4509 QW

Water Year - 1993

Suspended Sediment, in Tons per Day, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.60	0.74	0.56	0.84	2.27	0.56	0.89	21.66	3.60	3.31	0.79	0.69	
2	1.00	0.60	93.95	0.74	1.89	0.56	1.05	6.15	2.52	2.86	0.74	0.69	
3	0.65	0.52	4.97	0.69	1.48	0.84	0.94	5.67	2.27	2.69	0.74	0.69	
4	0.60	0.52	102.57	0.65	1.29	0.65	1.29	4.00	7.45	2.60	0.74	0.69	
5	0.60	0.48	5.31	0.65	1.17	0.52	8.28	3.31	2.60	2.52	0.74	0.60	
6	0.56	0.48	6.66	0.65	1.11	102.57	151.16	2.95	2.95	2.35	0.74	0.65	
7	0.65	0.44	6.28	0.60	1.35	64.01	9.75	2.60	19.52	2.12	0.74	0.65	
8	0.60	0.44	2.19	0.60	1.23	7.32	3.13	2.35	34.06	2.04	0.79	0.65	
9	0.56	0.48	1.61	0.60	0.94	10.06	2.04	2.12	4.64	1.89	0.69	1.05	
10	0.52	0.60	3.22	0.56	0.84	3.22	5.55	1.97	4.86	1.89	0.69	67.24	
11	0.52	0.65	106.11	0.52	0.79	1.97	2.27	1.75	1537.27	1.68	0.69	5.43	
12	0.52	2.86	32.47	0.60	0.74	1.35	11.66	5.20	106.11	1.54	0.69	2.19	
13	0.60	10.06	3.70	0.52	0.74	1.82	66.15	5.08	6.40	1.48	0.79	169.95	
14	0.60	3.90	2.60	0.56	0.69	5.79	4.21	5.31	4.64	1.35	1.23	57.75	
15	0.56	1.75	28.65	0.52	0.65	7.18	69.43	4.64	4.97	1.35	30.15	4.75	
16	27.91	6.66	3.60	0.52	0.60	10.06	6.28	3.80	104.33	1.29	2.35	3.50	
17	3.50	3.31	2.19	0.44	0.60	2.60	190.30	2.27	26.46	1.23	1.41	3.41	
18	1.54	1.68	1.68	0.48	0.56	5.08	11.01	1.89	211.68	1.17	1.00	2.86	
19	1.75	1.11	1.54	0.44	0.52	3.13	4.31	1.82	11.33	1.11	0.89	5.79	
20	3.90	0.89	4.64	0.44	0.52	2.77	3.31	2.12	12.00	1.05	0.79	4.42	
21	1.35	0.79	2.60	0.44	0.52	4.31	3.50	1.61	5.31	0.94	0.74	3872.07	
22	0.84	36.51	1.61	0.56	0.48	2.43	87.31	1.54	9.75	0.94	0.74	145.98	
23	2.35	2.77	1.29	1.17	1.41	1.97	178.31	2.60	145.98	0.89	0.69	219.03	
24	10.69	5.43	1.23	0.89	1.82	1.54	15.93	7.05	257.47	0.84	0.65	66.15	
25	2.19	1.41	1.11	1.48	0.89	5.91	5.08	2.04	17.49	0.89	1.35	30.15	
26	1.35	1.00	0.94	20.79	0.65	2.60	3.60	1.89	12.00	0.89	0.94	7.18	
27	0.94	0.79	0.94	25.75	0.60	1.61	3.60	1.54	7.05	0.84	0.79	5.31	
28	5.91	0.74	0.89	85.68	0.65	1.29	193.79	3.04	5.55	0.84	0.74	4.42	
29	1.89	0.74	0.89	75.06	0.56	1.05	21.66	53.75	4.64	0.84		4.00	
30	1.05	0.69	0.94	5.55	0.52	0.94	5.08	6.66	4.10	0.89		3.70	
31		0.56		3.31	0.52		7.45		3.70	0.84		3.13	
Total	76.30	89.60	426.94	232.30	28.60	255.71	1078.32	168.38	2582.70	47.16	54.03	4694.77	9734.81 Ton
Mean	2.54	2.89	14.23	7.49	0.92	8.52	34.78	5.61	83.31	1.52	1.93	151.44	
Max	27.91	36.51	106.11	85.68	2.27	102.57	193.79	53.75	1537.27	3.31	30.15	3872.07	3872.07
Min	0.52	0.44	0.56	0.44	0.48	0.52	0.89	1.54	2.27	0.84	0.65	0.60	0.44

WATER YEAR 1993

SOUTHERN PENINSULA EAST COAST

Khlong Waeng at Waeng, Narathiwat (X.121)

Location	Lat. 5-55-26 N., Long. 101-53-14 E., on right bank at the bridge of Sungai Kolok -Malasia Highway, Amphoe Waeng, Narathiwat.
Drainage Area	43 sq.km.
Method of Sampling	Depth Integrating
Instrument Used	US.D - 49
Period of Available Records	1985 - Cont'd
Actual Measurement	1985 - cont'd
Remarks	Continued Sediment Station Using Rating Curve Water Year 1985 - 1993

RID Computer Center, Processing : 19-APR-1995 14:14:16.62 LQS/LQS02D/12

Station - Waeng, Waeng, Narathiwat, (X.121)
Stream - Khlong Waeng
River - Kolok
River System - Peninsular East Coast

Royal Irrigation Department
Thailand
Hydrology Division 160694
1.34030
QS = 1.8199 QW

Water Year - 1993

Suspended Sediment, in Tons per Day, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	4.89	1.82	1.70	17.88	8.29	8.29	50.08	149.64	17.01	20.09	6.62	2.99	
2	4.89	1.70	1.58	7.16	3.27	8.87	35.63	105.78	15.74	17.45	4.89	2.59	
3	4.45	1.46	1.46	5.11	3.13	10.06	24.32	61.00	16.59	16.59	24.32	2.86	
4	4.03	1.35	1.46	3.82	2.59	9.46	17.88	41.99	14.15	16.16	14.15	3.42	
5	3.62	1.35	1.35	3.42	2.72	8.87	16.16	27.78	18.32	14.15	8.01	3.13	
6	3.27	1.24	2.72	4.45	12.34	6.62	11.98	26.04	16.59	14.15	7.44	2.99	
7	3.13	1.13	4.89	3.27	4.89	5.56	10.36	24.89	22.37	11.98	6.35	3.13	
8	2.99	1.13	3.42	4.24	4.24	4.67	9.46	33.16	21.45	10.36	6.08	2.86	
9	2.86	1.46	2.99	8.29	3.13	4.67	18.76	66.05	14.90	9.46	5.56	2.59	
10	2.72	2.59	2.59	4.67	2.86	19.20	13.42	29.54	31.34	8.58	6.89	2.72	
11	2.86	2.19	4.67	3.42	2.45	11.28	24.89	25.46	125.44	8.29	6.08	2.45	
12	8.01	1.70	6.08	2.99	2.19	22.83	15.32	19.20	33.77	7.72	5.11	2.45	
13	5.33	1.46	3.42	2.72	2.07	10.66	17.45	24.89	20.54	7.44	7.44	2.86	
14	4.03	1.35	2.86	2.45	1.82	16.16	11.28	17.01	17.45	6.62	4.89	2.59	
15	2.72	1.24	2.32	2.32	2.59	9.76	9.76	34.39	19.64	6.08	7.44	11.98	
16	2.86	1.13	1.82	2.07	7.44	8.29	9.16	17.01	26.04	5.82	5.56	5.33	
17	3.62	1.24	2.32	4.45	8.58	8.29	12.34	13.42	47.94	5.56	4.89	15.32	
18	7.16	2.07	19.64	2.99	3.82	8.29	8.87	10.97	91.80	5.11	4.45	14.52	
19	8.29	3.42	8.58	4.89	6.62	17.45	9.16	10.06	38.14	4.67	4.24	23.76	
20	5.82	4.67	6.08	4.45	7.16	56.05	10.06	21.45	36.88	4.45	3.82	10.97	
21	4.45	2.45	4.45	3.62	5.11	31.34	7.72	11.98	59.34	4.24	3.62	20.09	
22	4.24	1.58	3.27	10.06	12.70	15.32	7.44	35.01	148.30	3.82	3.27	16.16	
23	4.03	1.24	2.72	4.45	7.72	98.19	3.27	23.29	491.69	4.03	3.13	17.45	
24	3.62	1.13	2.45	3.27	8.29	17.45	7.44	29.54	156.41	3.82	3.13	22.83	
25	2.99	1.58	2.19	3.13	10.97	25.46	19.64	35.63	120.61	3.62	2.99	18.76	
26	2.72	2.07	2.19	3.82	5.33	18.32	9.16	21.91	88.64	3.42	2.86	11.28	
27	2.59	8.29	2.19	2.99	10.97	14.52	10.06	130.32	56.87	3.27	2.86	9.76	
28	2.45	5.82	2.72	2.59	27.78	12.70	9.46	41.35	41.35	3.62	2.72	9.16	
29	2.32	2.99	2.32	2.32	10.97	50.82	9.46	26.61	32.55	3.62		11.63	
30	2.07	2.19	3.62	2.07	9.46	43.95	24.89	20.09	26.61	5.11		10.36	
31		1.94		1.94	9.76		223.79		22.37	10.06		8.29	
Total	119.03	66.98	110.07	135.32	211.26	583.40	668.67	1135.46	1890.84	249.36	168.81	277.28	5616.48 Ton
Mean	3.97	2.16	3.67	4.37	6.81	19.45	21.57	37.85	60.99	8.04	6.03	8.94	
Max	8.29	8.29	19.64	17.88	27.78	98.19	223.79	149.64	491.69	20.09	24.32	23.76	491.69
Min	2.07	1.13	1.35	1.94	1.82	4.67	3.27	10.06	14.15	3.27	2.72	2.45	1.13

WATER YEAR 1993

SOUTHERN PENINSULA EAST COAST

Khlong Chandi at Ban Chandi Nua, Nakhon Si Thammarat (X.163)

Location	Lat. 8°-20'-34" N., Long. 99°-37'-12" E., on left bank at the bridge on road near Wat Manao Wan, Amphoe Chawang, Nakhon Si Thammarat.
Drainage Area	97 sq.k.m.
Method of Sampling	Depth Integrating
Instrument Used	US.D - 49
Period of Available Records	1989 - Cont'd
Actual Measurement	1989 - Cont'd
Remarks	Continued Sediment Station Using Rating Curve Water Year 1989 - 1993

RID Computer Center, Processing : 19-APR-1995 14:14:26.19

LQS/LQS02D/12

Station - Ban Chandi Nua, Chawang, Nakhon Si Thammarat, (X.163)
Stream - Khlong Chandi
River - Tapi
River System - Peninsular East Coast

Royal Irrigation Department
Thailand
Hydrology Division 210694
1.65653
QS = 1.0471 QW

Water Year - 1993

Suspended Sediment, in Tons per Day, Water Year April 1, 1993 to March 31, 1994

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	2.19	1.54	1.14	2.98	3.64	4.34	21.51	130.61	715.60	84.88	27.55	15.06	
2	2.00	1.40	1.14	2.38	2.77	6.18	12.19	101.30	286.25	82.91	28.83	14.08	
3	3.64	1.54	1.40	1.83	2.57	28.83	14.08	67.81	192.23	71.47	60.72	14.08	
4	2.19	1.54	1.26	1.54	4.34	34.18	20.37	58.99	157.96	75.21	60.72	15.06	
5	2.00	1.54	1.26	4.59	2.98	21.51	39.88	41.36	130.61	66.01	32.81	14.08	
6	2.00	1.40	1.26	2.98	3.19	22.67	77.10	64.22	130.61	64.22	30.14	13.12	
7	2.19	1.26	34.18	2.57	3.19	11.28	49.06	47.48	217.78	62.46	27.55	13.12	
8	2.00	1.26	2.98	2.19	2.77	10.24	28.83	57.29	185.16	57.29	27.55	13.12	
9	1.83	1.26	1.83	1.83	2.57	8.74	27.55	41.36	141.11	55.60	26.30	13.12	
10	1.83	2.98	1.40	1.54	2.57	10.24	22.67	39.88	121.12	52.29	25.06	16.07	
11	1.83	2.98	1.83	1.26	2.38	9.23	20.37	39.88	125.71	50.67	23.86	13.12	
12	1.83	1.83	3.64	1.26	2.00	6.90	19.26	42.86	103.43	47.48	22.67	13.12	
13	1.83	6.18	1.54	1.26	1.83	6.18	30.14	39.88	97.09	45.92	22.67	13.12	
14	8.74	2.00	1.26	1.26	1.68	9.23	22.67	36.98	86.87	42.86	27.55	12.19	
15	21.51	1.83	1.14	1.26	1.54	7.34	19.26	26.30	82.91	41.36	27.55	12.19	
16	3.87	1.68	1.14	3.41	1.40	7.80	26.30	36.98	1444.81	41.36	23.86	13.12	
17	2.98	1.83	1.14	1.40	1.40	7.80	20.37	28.83	1131.03	39.88	22.67	36.98	
18	4.59	2.19	1.68	1.40	1.40	17.11	14.08	26.30	221.53	36.98	21.51	95.01	
19	3.64	2.38	1.26	1.68	1.40	13.12	17.11	23.86	154.68	35.57	21.51	32.81	
20	2.77	1.83	1.54	1.14	4.10	14.08	13.12	23.86	130.61	42.86	20.37	45.92	
21	10.75	1.68	2.77	1.68	2.19	10.75	15.06	30.14	206.67	47.48	19.26	55.60	
22	2.77	1.54	1.54	1.40	3.19	11.28	36.98	75.21	2408.36	36.98	19.26	64.22	
23	2.38	3.64	1.54	5.63	2.77	7.80	34.18	64.22	384.54	34.18	18.17	41.36	
24	2.00	2.19	1.40	5.36	5.10	9.23	30.14	35.57	241.27	31.46	17.11	38.42	
25	2.00	1.54	1.14	5.63	5.36	41.36	21.51	28.83	195.80	31.46	16.07	62.46	
26	2.00	1.68	1.68	6.46	5.10	23.86	64.22	26.30	151.93	30.14	16.07	62.46	
27	1.83	1.54	1.40	5.36	3.64	19.26	23.86	22.67	133.21	30.14	15.06	52.29	
28	1.68	2.19	2.00	12.19	3.87	18.17	30.14	58.99	118.85	28.83	15.06	45.92	
29	1.68	1.68	5.10	27.55	4.59	11.28	34.18	3801.25	105.58	28.83		39.88	
30	1.68	1.26	3.19	17.11	5.36	27.55	34.18	384.54	97.09	28.83		23.86	
31		1.26		7.34	6.90		146.48		88.87	27.55		31.46	
Total	104.23	60.65	85.78	135.47	97.79	437.54	986.85	5503.75	9989.27	1453.16	717.51	946.42	20518.42 Ton
Mean	3.47	1.96	2.86	4.37	3.15	14.58	31.83	183.46	322.23	46.88	25.63	30.53	
Max	21.51	6.18	34.18	27.55	6.90	41.36	146.48	3801.25	2408.36	84.88	60.72	95.01	3801.25
Min	1.68	1.26	1.14	1.14	1.40	4.34	12.19	22.67	82.91	27.55	15.06	12.19	1.14