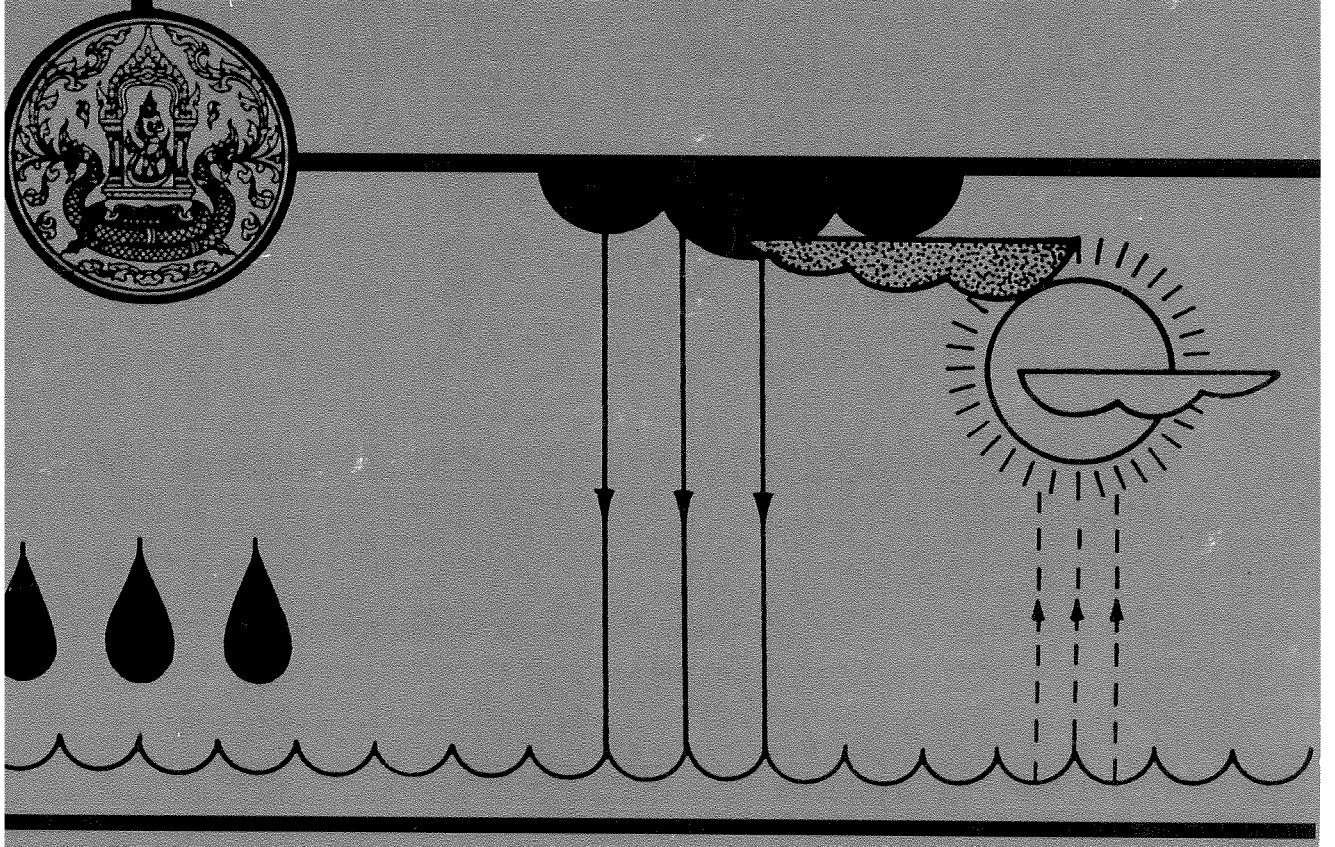
THAILAND
HYDROLOGICAL YEARBOOK

WATER YEAR 1977
VOLUME 20



ROYAL IRRIGATION DEPARTMENT
HYDROLOGY DIVISION
BANGKOK

THAILAND
HYDROLOGICAL YEARBOOK

WATER YEAR 1977
VOLUME 20

Hydrology No. 601/81

Thailand

Hydrological Yearbook

Water Year 1977

Volume 20

Royal Irrigation Department
Hydrology Division
Bangkok

FOREWORD

The programme of yearbook publications 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 presents records, during the 1965 water year, of stage and discharge of 59 streams at 86 actual streamflow calibrating sites and at 27 previously calibrated ones. Up till now 19 volumes of yearbooks presenting streamflow data as early as 1912 up to 1976 totalling 3,212 station-years of record had been published.

This Volume 20, which is the twentieth issue of the series, was prepared by the Data Processing Section. It presents records, during the 1977 water year, of stage and discharge of 121 streams at 115 currently calibrating sites and at 77 previously or subsequently calibrating ones.

Some remarks are made under each station description.

Hydrology Division
February 1981

ACKNOWLEDGEMENTS

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.

We also wish to express our sincere appreciation to the Chief of Public Relation and Printing Services Section, Program Coordination and Budget Division, and his efficient staff whose kind assistance and co-ordinated effort have contributed to the success of this Volume 20 issue.

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LOCATION MAP OF HYDROLOGIC OBSERVATION STATION IN 1977 WATER YEAR.

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ILLUSTRATION OF STREAM GAGING ACTIVITIES

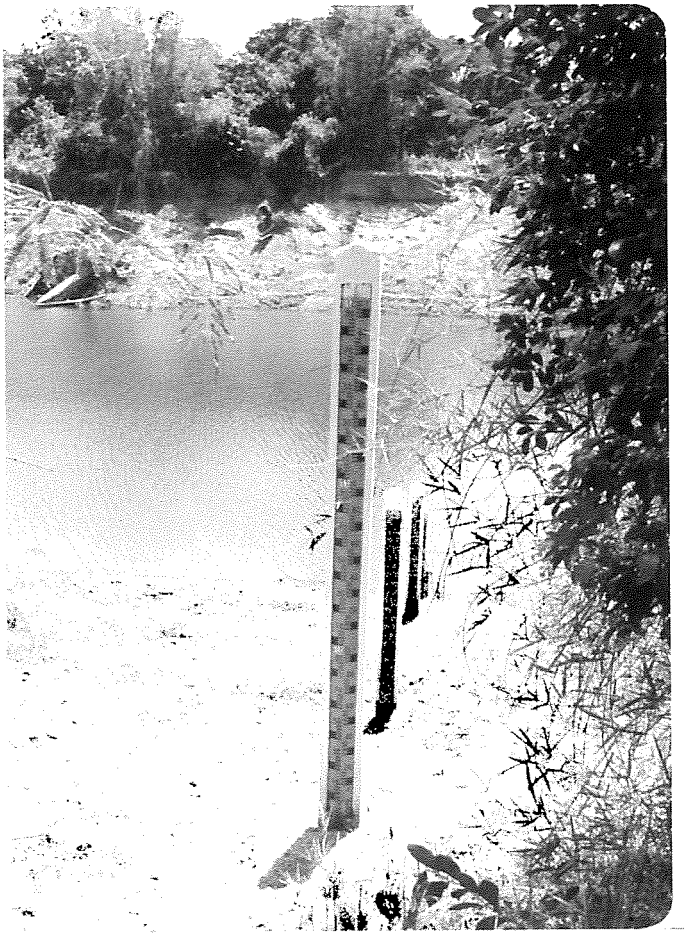

Fig. 1 Typical vertical staff gage



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



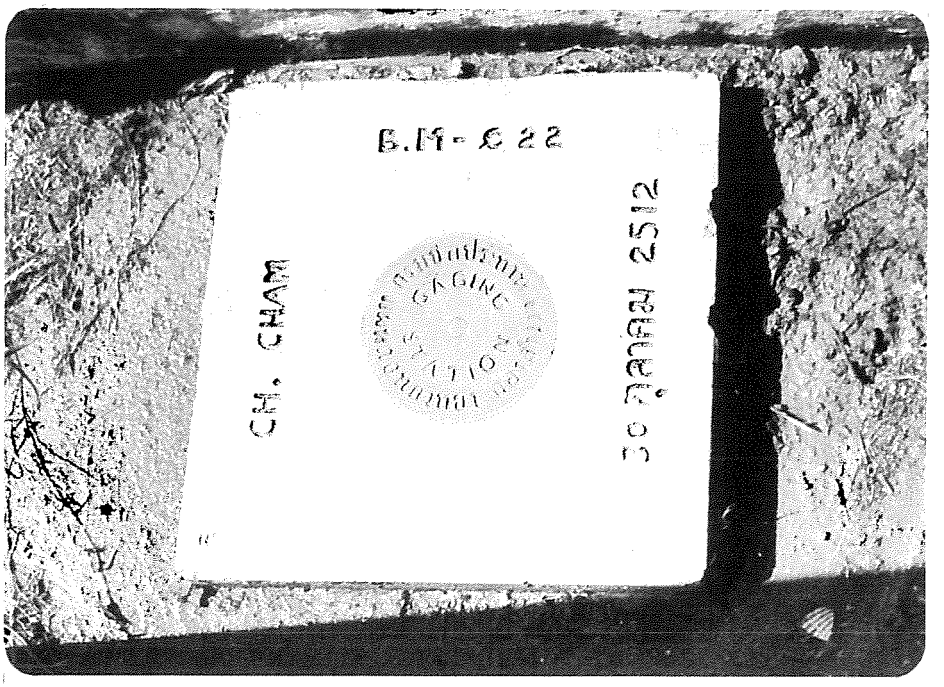

Fig. 3 Standard bench mark.



Fig. 4 Close – up of rating operation.

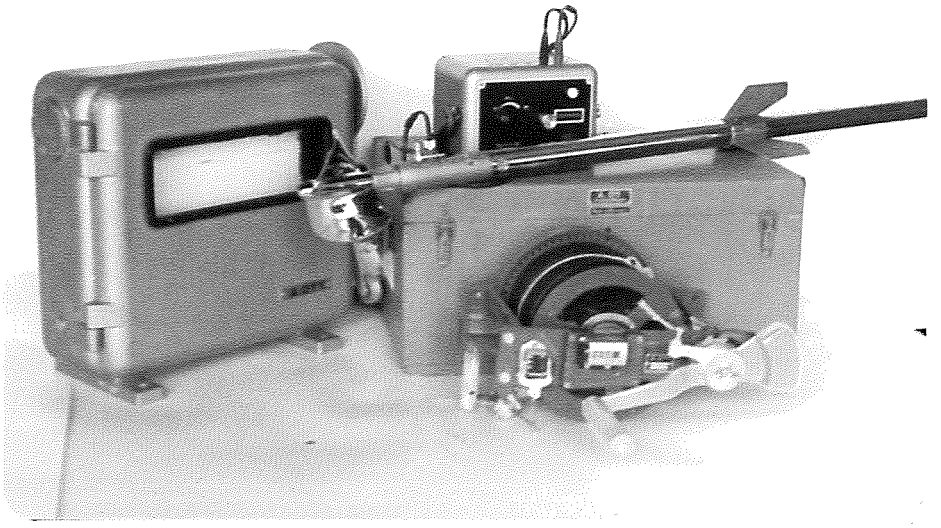

Fig. 5 Standard hydrologic equipment.

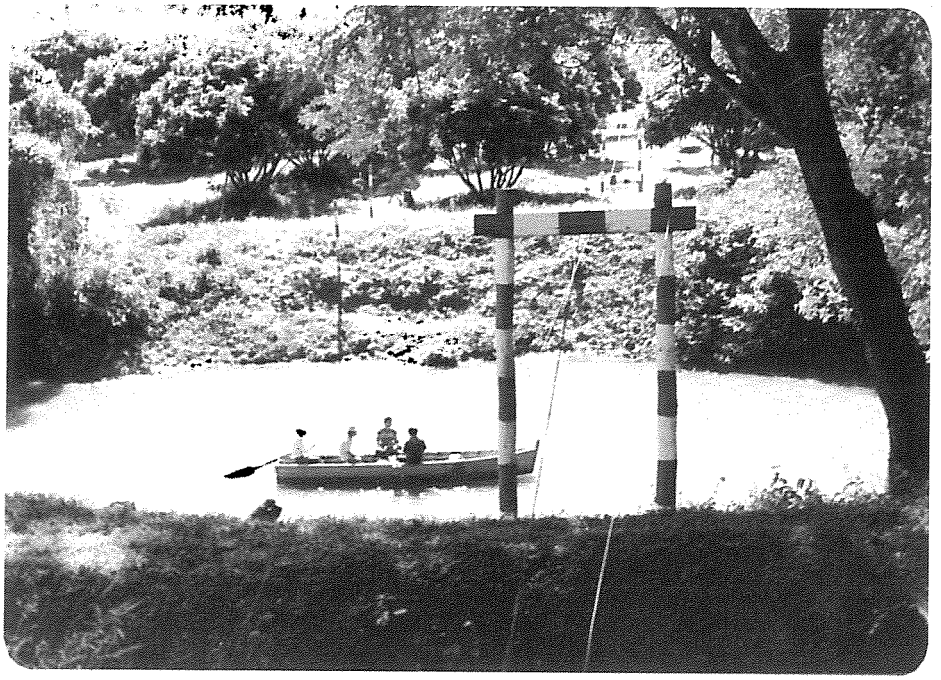

Fig. 6 Measuring line.

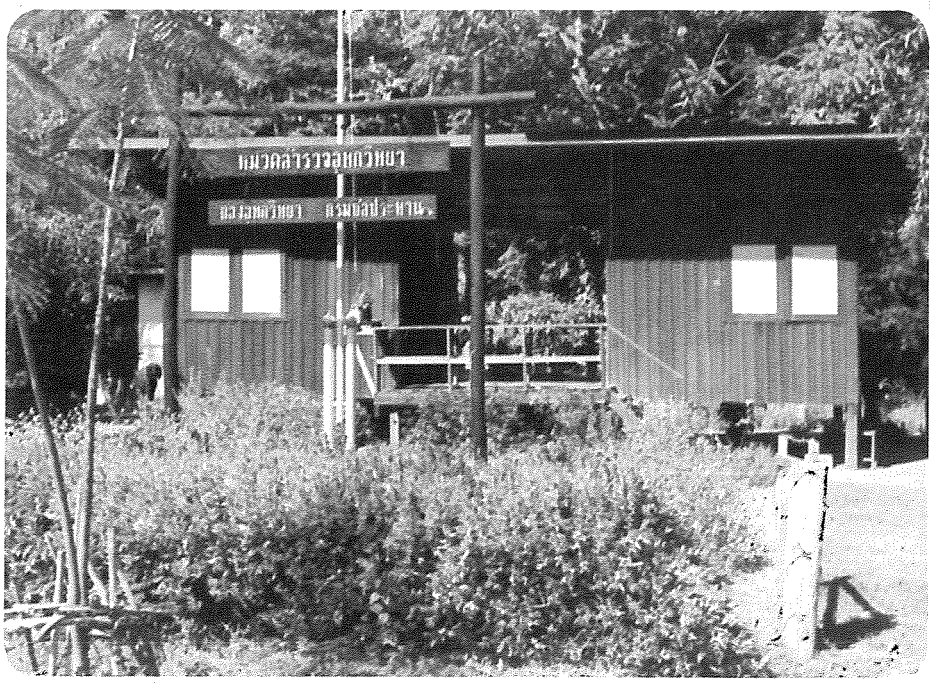

Fig. 7 Camp for hydrological station.

HYDROLOGICAL YEAR BOOK PUBLICATION

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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 XXI. 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 letter 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	May 1980
18	1975	182	August 1980
19	1976	184	November 1980
20	1977	192	February 1981

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

STANDARD OF STREAMFLOW DATA PROCUREMENT

* * * * * * *

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. For 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

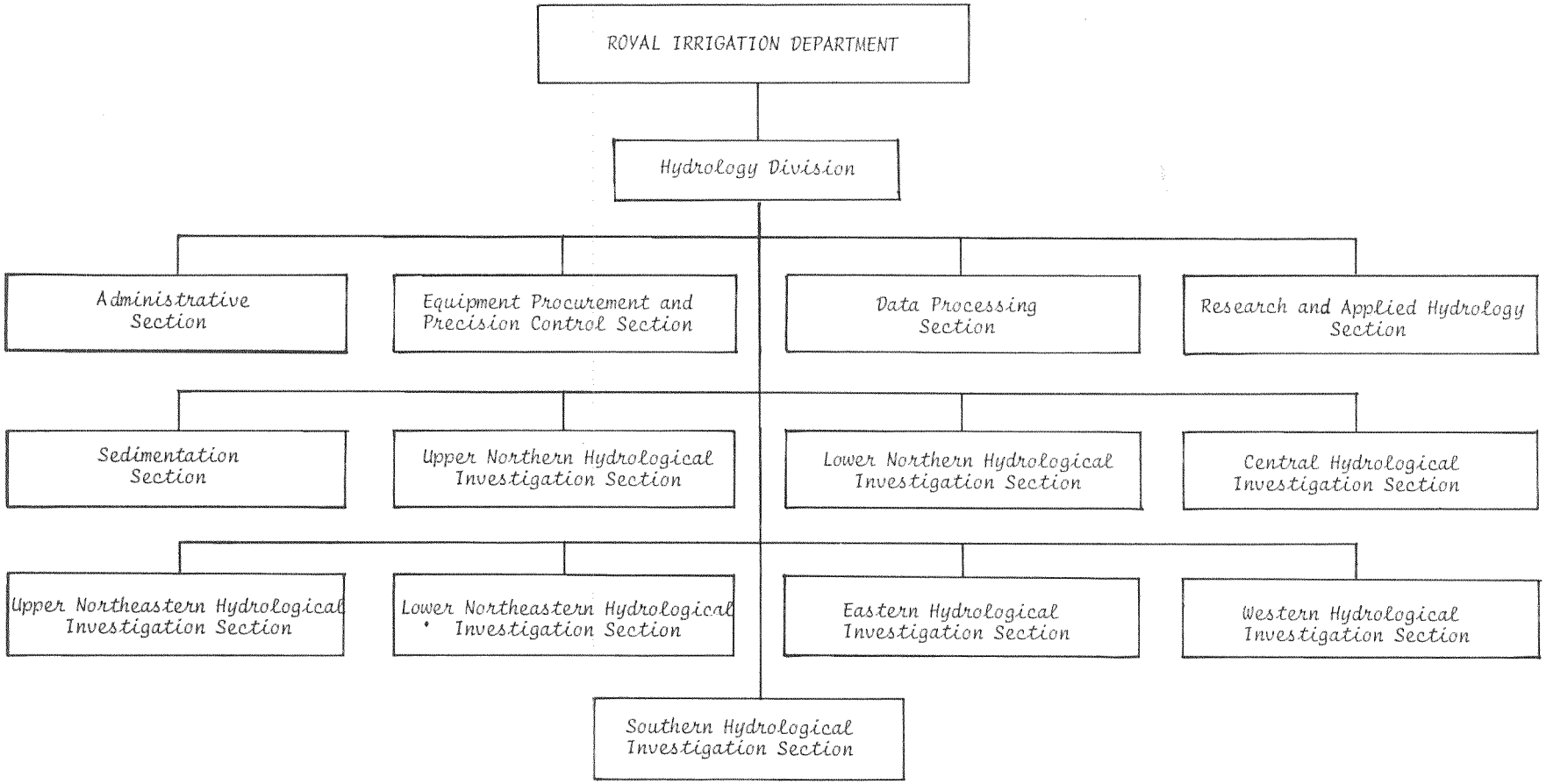
The Royal Irrigation Department (RID) has developed data system which includes computerization of storage, processing and retrieval of rainfall data since 1969. During the streamflow data system was being developed at RID in 1976, the National Economic and Social Development Board has made in agreement 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 card 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 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

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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 - May 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 units published herein to the English units.

Multiply metric or Thai units	By	To obtain English units
	Length	
millimeters (mm)	.03973	inches (in)
meters (m)	39.37	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	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 1977

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
PING RIVER BASIN

Ping River at Chiang Mai, 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 at: + 300.80 m. (M.S.L.)

Bench Mark: B.M. - H.S.

Location: On left bank near automatic gage building.
Elevation: + 305.310 m. (M.S.L.)

Gage Reading Frequency: Recording

Basis of Mean Daily Gage Height: Arithmetic mean of 24 hourly readings.

Period of Available Gage Records: 1917 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, no shifting adjustment for flow computation.

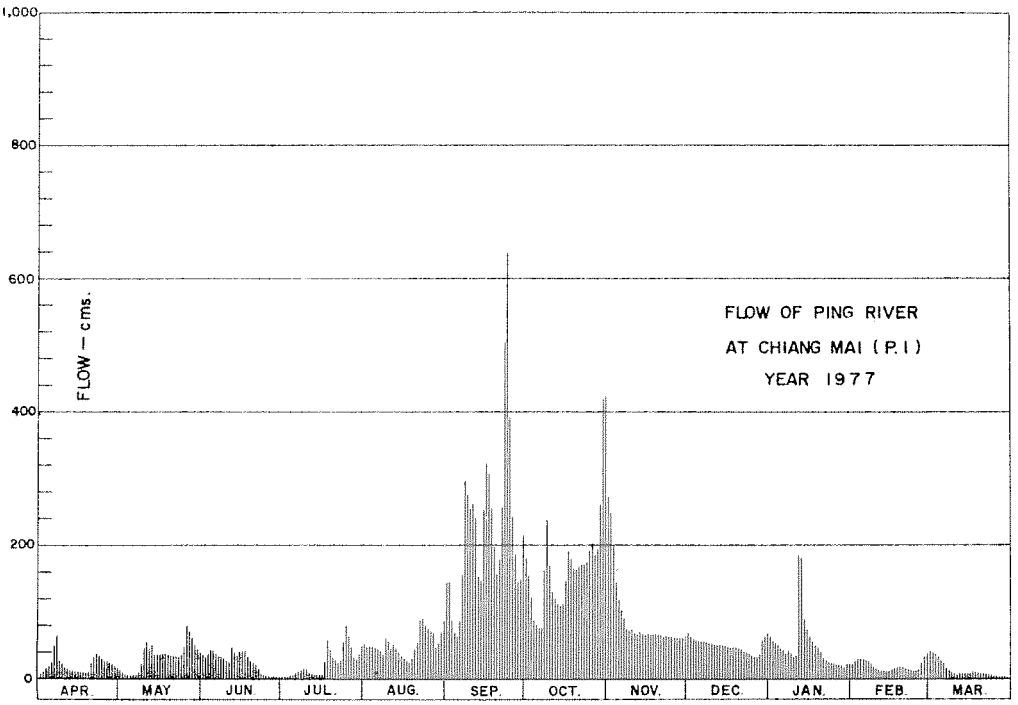
Overbank Flow Conditions: No overbank flow.

General Description: Records good. Stage-discharge relation defined by 29 discharge measurements made in 1977. Upstream state diversions for irrigation of about 11,200 hectares at Mae Faek Weir.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	301.06	301.21	301.47	300.93	301.64	302.05	302.31	302.95	301.72	301.72	301.33	301.53
2	.15	.11	.46	.93	.57	.06	.08	.69	.70	.65	.41	.51
3	.27	.05	.52	.95	.58	301.89	301.99	.39	.68	.62	.42	.51
4	.36	.03	.54	.98	.59	.77	.86	.15	.67	.60	.43	.46
5	.38	.00	.51	301.02	.55	.72	.82	.04	.66	.57	.44	.40
6	301.56	301.04	301.45	301.11	301.54	301.70	301.79	301.94	301.65	301.53	301.43	301.34
7	.46	.06	.43	.15	.50	302.16	.80	.87	.64	.51	.42	.23
8	.37	.12	.42	.18	.49	303.06	302.23	.85	.65	.53	.36	.14
9	.31	.22	.39	.21	.67	302.92	.58	.81	.65	.51	.28	.09
10	.27	.56	.36	.24	.65	.76	.27	.76	.64	.46	.24	.04
11	301.25	301.64	301.32	301.22	301.54	302.83	302.10	301.76	301.63	301.50	301.24	301.02
12	.22	.57	.56	.15	.63	.53	.04	.78	.61	302.34	.25	.03
13	.19	.58	.50	.06	.65	.20	.00	.76	.63	.31	.24	.04
14	.18	.47	.44	.03	.55	.17	301.99	.74	.61	301.90	.24	.05
15	.16	.48	.51	.01	.49	.67	.96	.72	.60	.78	.22	.04
16	301.14	301.48	301.50	301.11	301.42	303.21	302.05	301.75	301.59	301.66	301.26	301.05
17	.13	.49	.54	.45	.37	.11	301.89	.74	.58	.61	.28	.07
18	.12	.49	.45	.67	.35	302.60	.79	.74	.58	.59	.28	.07
19	.10	.46	.39	.57	.42	.35	.73	.73	.58	.58	.28	.06
20	.28	.45	.35	.46	.53	.22	.72	.73	.58	.46	.28	.03
21	301.46	301.45	301.32	301.40	301.65	302.29	301.74	301.72	301.57	301.43	301.28	301.02
22	.51	.43	.24	.36	.86	.81	.75	.71	.53	.41	.23	300.99
23	.45	.44	.07	.39	.87	303.85	.75	.71	.52	.40	.15	.97
24	.42	.49	.05	.66	.79	304.43	.75	.70	.50	.38	.16	.95
25	.40	.60	.00	.80	.79	303.54	.88	.70	.48	.36	.16	.91
26	301.39	301.81	300.97	301.75	301.75	302.62	301.95	301.70	301.46	301.33	301.23	300.89
27	.35	.74	.95	.63	.73	.30	.84	.71	.46	.31	.38	.87
28	.33	.68	.94	.46	.59	.07	.92	.71	.50	.31	.47	.87
29	.30	.61	.93	.42	.66	.18	302.68	.71	.68	.30		.87
30	.29	.56	.93	.46	.72	.46	303.66	.73	.70	.36		.87
31		.50		.60	.87		.67		.76	.38		.87
Mean	301.29	301.41	301.33	301.31	301.61	302.55	302.08	301.86	301.60	301.56	301.29	301.15
Max.	301.56	301.81	301.56	301.80	301.87	304.43	303.67	302.95	301.76	302.34	301.47	301.53
Min.	301.06	301.00	300.93	300.93	301.35	301.70	301.72	301.70	301.46	301.30	301.15	300.87

WATER YEAR 1977 : Max. 304.43 m. Min. 300.87 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	5.40	13	35	0.90	55	141	179	279	66	66	22	42
2	9.50	7.50	34	0.90	46	144	148	248	63	56	29	39
3	17	5.00	40	1.50	48	92	110	197	60	53	30	39
4	24	4.20	43	2.40	49	73	88	144	59	50	31	34
5	26	3.00	39	3.80	44	66	81	120	58	46	32	28
6	45	4.60	33	7.50	43	63	76	101	56	42	31	23
7	34	5.40	31	9.50	38	146	78	89	55	39	30	14
8	25	8.00	30	11	37	296	162	86	56	42	24	9.00
9	20	13	27	13	59	275	238	80	56	39	18	6.60
10	17	45	24	15	56	256	170	72	55	34	15	4.60
11	15	55	21	13	43	264	133	72	54	38	15	3.80
12	13	46	45	9.50	54	230	120	75	51	186	15	4.20
13	11	48	38	5.40	56	155	112	72	54	179	15	4.60
14	11	35	32	4.20	44	148	110	69	51	94	15	5.00
15	10	36	39	3.40	37	246	105	66	50	75	13	4.60
16	9.00	36	39	7.50	30	320	141	70	49	58	16	5.00
17	8.50	37	43	33	25	304	92	69	48	51	18	5.80
18	8.00	37	33	59	23	239	76	69	48	49	18	5.80
19	7.00	34	27	46	30	188	67	67	48	48	18	5.40
20	18	33	23	34	42	159	66	67	48	34	18	4.20
21	34	33	21	28	56	175	69	66	46	31	18	3.80
22	39	31	15	24	88	261	70	64	42	29	14	2.70
23	33	32	5.80	27	89	468	70	64	39	28	9.50	2.10
24	30	37	5.00	58	76	640	70	63	38	26	10	1.50
25	28	50	3.00	78	76	390	91	63	36	24	10	0.30
26	27	80	2.10	67	70	241	103	63	34	22	14	0.00
27	23	69	1.50	54	67	177	84	64	34	20	26	0.00
28	22	60	1.20	34	49	146	98	64	38	20	35	0.00
29	19	51	0.90	30	58	151	247	64	60	19		0.00
30	18	45	0.90	34	66	213	420	67	63	24		0.00
31		38		50	89		422		72	26		0.00
Total	606.40	1,031.70	732.40	764.50	1,643	6,667	4,096	2,754	1,587	1,548	559.50	298.00
Mean	20.2	33.3	24.4	24.6	53.0	222	132	91.8	51.2	49.9	19.9	9.61
Max.	45	80	45	78	89	640	422	279	72	186	35	42
Min.	5.40	3.00	0.90	0.90	23	63	66	63	34	19	9.50	0.00
Runoff - mcm.	52.392	89.139	63.279	66.053	141.955	576.029	353.895	237.946	137.117	133.747	48.341	25.747

WATER YEAR 1977 : Max. 640 Min. 0.00 Mean 61.1 Annual Runoff 1,925.640 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sept. 24	05.00	304.50	662				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
PING RIVER BASIN

Ping River at Tak, Tak (P. 2A)

Location: Lat. 16°-51'-14" 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 at: + 104.00 m. (M.S.L.)

Bench Mark: B.M. - H.S.

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 hourly 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, no shifting adjustment for flow computation.

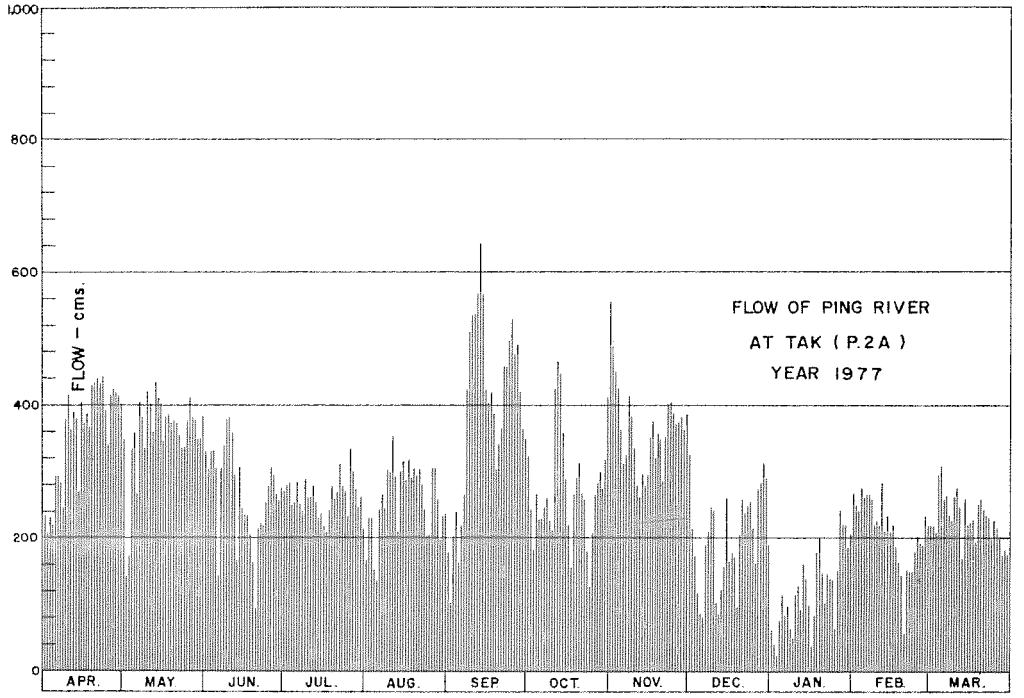
Overbank Flow Conditions: No overbank flow.

General Description: Records fair. Stage-discharge relation defined by 53 discharge measurements made in 1977. Flow regulated by Bhumiphol Dam reservoir since 1964, upstream state diversions for irrigation of about 40,300 hectares.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	105.56	105.83	105.78	105.65	105.39	105.41	105.77	106.26	105.77	105.06	105.64	105.52
2	.49	.32	.72	.67	.54	.21	.58	.12	.51	104.98	.60	.52
3	.55	.41	.79	.68	.54	.48	.43	.05	.40	.91	.58	.50
4	.52	.88	.79	.60	.35	.57	.63	105.99	.25	105.12	.66	.71
5	.70	.85	.73	.61	.29	.38	.54	.86	.15	.24	.63	.74
6	105.70	105.64	105.32	105.68	105.58	105.52	105.55	105.75	105.13	105.14	105.64	105.62
7	.68	.95	.73	.60	.64	.60	.59	.54	.45	.19	.64	.63
8	.82	.90	.81	.58	.59	.99	.63	.97	.50	.07	.62	.56
9	.89	.80	.89	.69	.72	106.17	.54	.91	.60	.02	.53	.54
10	.97	.98	.90	.63	.72	.22	.51	.80	.58	.24	.54	.63
11	105.86	105.94	105.85	105.63	105.84	106.23	105.99	105.67	105.20	105.28	105.52	105.54
12	.92	.85	.71	.67	.70	.28	106.08	.63	.15	.17	.68	.59
13	.89	106.01	.39	.61	.50	.43	.04	.72	.26	.37	.50	.40
14	.65	105.96	.73	.55	.74	.27	105.85	.67	.36	.31	.56	.62
15	.95	.94	.59	.57	.75	105.99	.69	.71	.62	.19	.50	.52
16	105.88	105.82	105.56	105.52	105.69	105.94	105.56	105.84	105.39	104.97	105.52	105.53
17	.91	.90	.56	.50	.76	.98	.36	.89	.42	105.14	.45	.54
18	.86	.91	.49	.58	.70	.91	.64	.77	.35	.42	.38	.46
19	106.00	.88	.38	.67	.73	.73	.70	.85	.18	.47	.33	.60
20	.01	.89	.18	.62	.71	.81	.75	.83	.49	.29	.04	.62
21	106.02	105.88	105.51	105.65	105.73	105.86	105.65	105.69	105.62	105.20	105.35	105.58
22	.01	.84	.53	.74	.67	106.06	.62	.84	.57	.33	.34	.56
23	.03	.79	.52	.67	.58	.06	.47	.94	.60	.31	.34	.55
24	105.92	.85	.60	.65	.48	.14	.28	.95	.61	.30	.42	.47
25	.81	.89	.61	.56	.48	.21	.43	.91	.51	.07	- .48	.54
26	105.97	105.96	105.73	105.80	105.73	106.10	105.64	105.88	105.38	105.29	105.45	105.51
27	.99	.90	.71	.72	.73	.13	.68	.89	.66	.58	.45	.48
28	.98	.89	.64	.66	.61	105.98	.72	.90	.69	.53	.56	.41
29	.97	.83	.62	.59	.45	.86	.66	.86	.75	.52		.43
30	.94	.60	.67	.63	.56	.83	.76	.91	.70	.44		.41
31		.90		.51	.57		.89		.45	.49		.41
Mean	105.85	105.84	105.63	105.63	105.61	105.91	105.65	105.85	105.46	105.25	105.50	105.54
Max.	106.03	106.01	105.90	105.80	105.84	106.43	106.08	106.26	105.77	105.58	105.68	105.74
Min.	105.49	105.32	105.18	105.50	105.29	105.21	105.28	105.54	105.13	104.91	105.04	105.40

WATER YEAR 1977 : Max. 106.43 m. Min. 104.91 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	235	350	327	271	167	175	323	556	323	62	267	219
2	207	143	301	280	227	105	243	487	215	41	251	219
3	231	175	332	284	227	203	183	453	171	25	243	211
4	219	373	332	251	153	239	263	424	119	78	276	296
5	292	359	305	255	133	164	227	364	87	116	263	310
6	292	267	143	284	243	219	231	314	81	84	267	259
7	284	405	305	251	267	251	247	227	191	99	267	263
8	345	382	341	243	247	424	263	415	211	64	259	235
9	377	336	377	288	301	511	227	387	251	51	223	227
10	415	420	382	263	301	536	215	336	243	116	227	263
11	364	401	359	263	354	541	424	280	102	129	219	277
12	391	359	296	280	292	566	467	263	87	93	284	247
13	377	434	167	255	211	643	448	301	122	160	211	171
14	271	410	305	231	310	561	359	280	157	139	235	259
15	405	401	247	239	314	424	288	296	259	99	211	219
16	373	345	235	219	288	401	235	354	167	39	219	223
17	387	382	235	211	318	420	157	377	179	84	191	227
18	364	387	207	243	292	387	267	323	153	179	164	195
19	429	373	164	280	305	305	292	359	96	199	146	251
20	434	377	96	259	296	341	314	350	207	133	56	259
21	439	373	215	271	305	364	271	288	259	102	153	243
22	434	354	223	310	280	458	259	354	239	146	150	235
23	443	332	219	280	243	458	199	401	251	139	150	231
24	391	359	251	271	203	497	129	405	255	136	179	199
25	341	377	280	235	203	531	183	387	215	64	203	227
26	415	410	305	336	305	477	267	373	164	133	191	215
27	424	382	296	301	305	492	284	377	276	243	191	203
28	420	377	267	276	255	420	301	382	288	223	235	175
29	415	350	259	247	191	364	276	364	314	219		183
30	401	351	280	263	235	350	318	387	292	187		175
31		382		215	239		377		191	207		175
Total	10,815	11,126	8,051	8,155	8,010	11,827	8,537	10,864	6,165	3,789	5,931	7,091
Mean	360	359	268	263	258	394	275	362	199	122	212	229
Max.	443	434	382	336	354	643	467	556	323	243	284	310
Min.	207	143	96	211	133	105	129	227	81	25	56	171
Runoff - mcm.	934.416	961.286	695.606	704.592	692.064	1,021.853	737.597	938.650	532.656	327.370	512.438	612.662

WATER YEAR 1977 : Max. 643 Min. 25 Mean 27.5 Annual Runoff 8,671.190 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sept. 13	09.00	106.59	728				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
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 highway bridge Chiang Mai – Fang, Amphoe Mae Taeng, Chiang Mai.

Drainage Area: 1,902 Sq.km.

Type of Gage: Staff gage.

Zero Gage at Bottom at: + 333.745 m. (M.S.L.)

Bench Mark: B.M. – H.S./R.I.D. No. 3

Location: Near the gage observer's house.
Elevation: + 336.934 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: 1955–1960, 1967 to date.
Rated by Float: –
Rated by Current Meter: 1955–1960, 1967 to date.

Stability of Channel Regimes: Fairly stable, no shifting adjustment for flow computation.

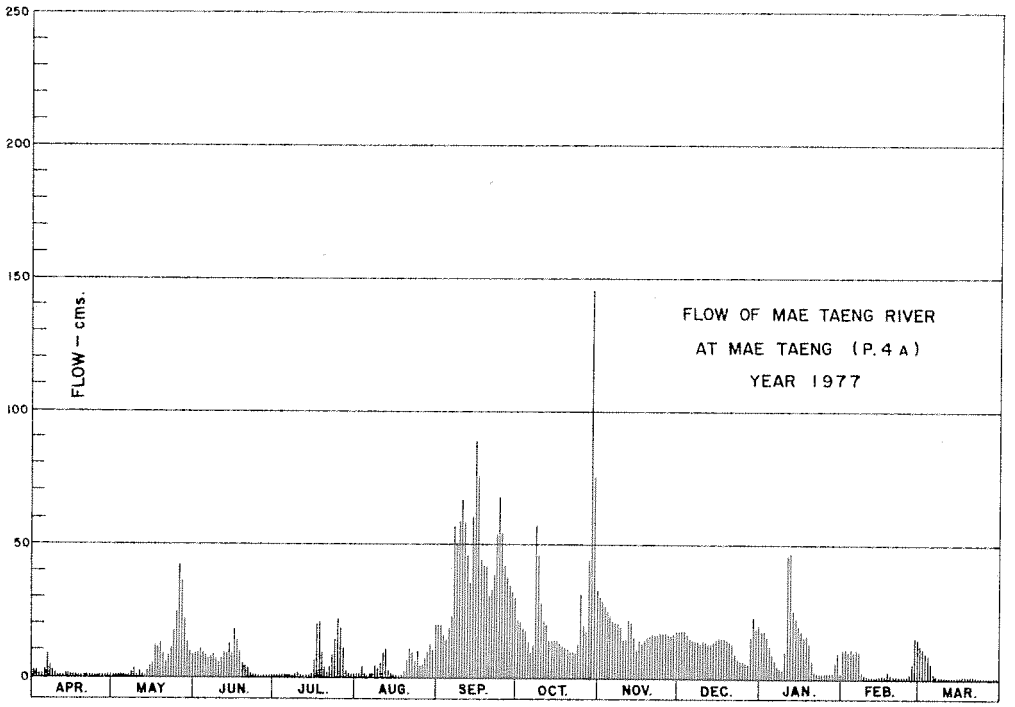
Overbank Flow Conditions: No overbank flow.

General Description: Records fair, stage-discharge relation defined by 29 discharge measurements made in 1977. Upstream state diversions for irrigation of about 23,700 hectares at Mae Faeng Weir.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	335.04	334.85	335.37	334.84	335.01	335.65	335.71	335.89	335.60	335.62	335.42	335.48
2	.05	.85	.38	.82	.00	.66	.69	.87	.62	.61	.42	.43
3	334.92	.84	.43	.81	.18	.56	.67	.82	.60	.57	.41	.39
4	.90	.84	.38	.84	.04	.53	.59	.78	.56	.48	.43	.35
5	335.26	.84	.33	.87	334.95	.61	.48	.73	.53	.38	.41	.24
6	335.34	334.83	335.30	334.93	335.03	335.73	335.40	335.68	335.52	335.26	335.42	335.02
7	.15	.87	.32	.87	.09	336.33	.46	.69	.51	.17	.40	334.94
8	.01	.98	.35	.90	.18	.24	336.33	.67	.50	.14	.07	.92
9	334.93	335.13	.27	.95	.14	.39	.16	.64	.49	.10	334.96	.91
10	.91	334.93	.24	335.02	.19	.47	335.86	.52	.50	.13	.95	.90
11	334.88	335.08	335.30	334.91	335.36	336.34	335.71	335.53	335.49	336.16	334.94	334.90
12	.90	334.97	.36	.87	.43	.14	.65	.70	.48	.18	.93	.89
13	.94	.89	.36	.89	.11	.00	.51	.68	.47	335.79	.92	.89
14	.97	.96	.47	.91	.01	.22	.51	.56	.50	.71	.91	.89
15	.94	335.16	.37	335.00	334.97	.72	.52	.43	.53	.67	.90	.88
16	334.93	335.29	335.59	335.22	334.93	336.58	335.51	335.50	335.54	335.60	334.89	334.88
17	.92	.44	.44	.65	.94	.15	.49	.49	.54	.53	.85	.91
18	.91	.42	.34	.69	.93	.10	.44	.50	.53	.56	335.07	.91
19	.90	.47	.20	.38	335.01	.10	.42	.55	.52	.47	334.96	.91
20	.89	.30	.18	.12	.21	335.90	.43	.55	.52	.20	.88	.90
21	334.89	335.21	335.13	335.03	335.43	335.93	335.40	335.57	335.48	335.06	334.88	334.90
22	.88	.33	334.97	.16	.33	336.04	.39	.56	.33	.03	.90	.89
23	.87	.45	.92	.37	.19	.24	.37	.58	.30	.01	.88	.88
24	.86	.64	.90	.61	.41	.49	.47	.59	.27	.02	.87	.87
25	.85	.85	.90	.70	.26	.25	.91	.58	.25	334.99	.88	.86
26	334.85	336.09	334.89	335.64	335.20	336.12	335.67	335.59	335.25	335.00	334.92	334.85
27	.86	335.98	.89	.43	.31	.03	.62	.58	.24	334.99	335.19	.84
28	.86	.65	.88	.07	.41	335.98	.97	.57	.55	335.03	.53	.84
29	.85	.49	.88	.03	.49	.93	337.25	.59	.72	.21		.83
30	.85	.39	.88	.00	.41	.89	336.71	.61	.63	.36		.83
31		.35		.00	.67		335.96		.66	.04		.83
Mean	334.94	335.23	335.19	335.11	335.19	336.08	335.72	335.62	335.49	335.36	335.27	334.97
Max.	335.34	336.09	335.59	335.70	335.67	336.72	337.25	335.89	335.72	336.18	335.53	335.48
Min.	334.85	334.83	334.88	334.81	334.93	335.53	335.37	335.43	335.24	334.09	334.85	334.83

WATER YEAR 1977 : Max. 337.25 m. Min. 334.81 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	1.96	0.30	9.36	0.28	1.54	20	22	30	18	18	11	13
2	2.10	0.30	9.64	0.24	1.40	20	21	29	18	18	11	11
3	0.60	0.28	11	0.22	4.56	16	20	27	18	16	10	9.92
4	0.40	0.28	9.64	0.28	1.96	15	18	25	16	13	11	8.80
5	6.44	0.28	8.24	0.34	0.90	18	13	23	15	9.64	10	5.96
6	8.52	0.26	7.40	0.70	1.88	23	10	21	14	6.44	11	1.68
7	3.90	0.34	7.96	0.34	1.66	57	12	21	14	4.34	10	0.80
8	1.54	1.20	8.80	0.40	4.56	51	57	20	14	3.68	2.38	0.60
9	0.70	3.46	6.68	0.90	3.68	61	46	19	13	2.80	1.00	0.50
10	0.50	0.70	5.96	1.68	4.78	67	29	14	14	3.46	0.90	0.40
11	0.36	2.52	7.40	0.50	9.08	56	22	15	13	46	0.80	0.40
12	0.40	1.10	9.08	0.34	11	45	20	22	13	47	0.70	0.38
13	0.80	0.38	9.08	0.38	3.02	36	14	21	13	26	0.60	0.38
14	1.10	1.00	13	0.50	1.54	50	14	16	14	22	0.50	0.38
15	0.80	4.12	9.36	1.40	1.10	89	14	11	15	20	0.40	0.36
16	0.70	6.16	18	5.48	0.70	76	14	14	15	18	0.38	0.36
17	0.60	12	12	20	0.80	45	13	13	15	15	0.30	0.50
18	0.50	11	8.50	21	0.70	42	12	14	15	16	2.38	0.50
19	0.40	13	5.00	9.64	1.54	42	11	16	14	13	1.00	0.50
20	0.38	7.40	4.56	3.24	5.24	31	11	16	14	5.00	0.36	0.40
21	0.38	5.24	3.46	1.82	11	33	10	16	13	2.24	0.36	0.40
22	0.36	8.24	1.10	4.12	8.24	39	10	16	8.24	1.82	0.40	0.38
23	0.34	12	0.60	9.36	4.78	51	9.36	16	7.40	1.54	0.36	0.36
24	0.32	19	0.40	18	10	68	13	17	6.68	1.68	0.34	0.34
25	0.30	29	0.40	22	6.44	52	31	17	6.20	1.30	0.36	0.32
26	0.30	42	0.38	19	5.00	43	20	17	6.20	1.40	0.60	0.30
27	0.32	35	0.38	11	7.68	38	18	17	5.96	1.30	4.78	0.28
28	0.32	20	0.36	2.38	10	35	35	16	16	1.68	15	0.28
29	0.30	13	0.36	1.82	13	33	146	17	23	5.24		0.26
30	0.30	9.92	0.36	1.40	10	30	88	18	19	9.08		0.26
31		8.80		1.40	20		34		20	1.96		0.26
Total	35.94	268.28	188.48	160.16	167.72	1,282	807.36	554	426.68	352.60	107.90	60.26
Mean	1.20	8.65	6.28	5.17	3.89	42.7	26.0	17.2	13.9	8.97	3.85	1.95
Max.	8.52	42	18	22	20	89	146	30	23	47	15	13
Min.	0.30	0.26	0.36	0.22	0.70	15	9.36	11	5.96	1.30	0.30	0.26
Runoff – mcm.	3.105	23.179	16.285	13.838	14.491	110.765	69.756	47.866	36.865	30.465	9.322	5.026

WATER YEAR 1977 : Max. 146 Min. 0.22 Mean 12.1 Annual Runoff 381.143 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Oct.29	21.00	337.56	184				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
PING RIVER BASIN

Mae Kuang River at Lamphun, Lamphun (P. 5)

Location: Lat. 18°-34'-32" N., Long. 99°-00'-44" E., on right bank about 10 meters downstream from Tha Sing Phitak Bridge, Amphoe Muang, Lamphun.

Drainage Area: 1,569 Sq.km.

Type of Gage: Staff gage.

Zero Gage at Bottom at: + 289.30 m. (M.S.L.)

Bench Mark: B.M. - H.S./RID No. 7

Location: On right bank near abutment of bridge.
Elevation: + 295.790 m. (M.S.L.)

Gage Reading Frequency: 9-time daily readings at 01.00, 03.00, 06.00, 09.00, 12.00, 15.00, 18.00, 21.00 and 24.00 hours.

Basis of Mean Daily Gage Height: Arithmetic mean of 9 readings.

Period of Available Gage Records: 1951 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, no shifting adjustment for flow computation.

Overbank Flow Conditions: No overbank flow.

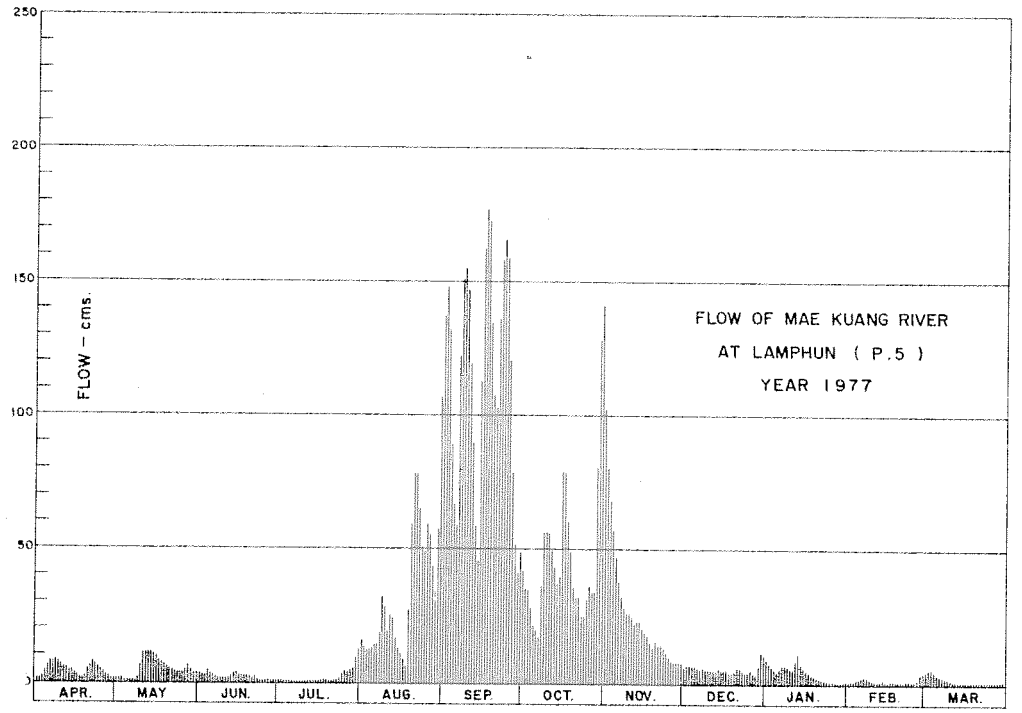
General Description: Records fair, stage-discharge relation defined by 28 discharge measurements made in 1977. Upstream state diversions for irrigation of about 9,600 hectares at Mae Kuang Weir.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	289.28	289.35	289.49	289.20	290.17	292.73	291.00	292.25	289.74	289.88	289.19	289.61
2	.34	.28	.48	.17	.08	293.02	290.80	291.81	.75	.75	.20	.63
3	.40	.28	.45	.18	.00	292.85	.81	.58	.75	.70	.25	.62
4	.49	.27	.56	.17	.02	.11	.57	.31	.74	.64	.29	.55
5	.70	.25	.53	.17	.06	291.56	.37	.10	.74	.60	.35	.47
6	289.86	289.23	289.46	289.15	290.11	291.39	290.32	290.87	289.64	289.62	289.42	289.45
7	.86	.20	.41	.15	.09	292.55	.22	.72	.67	.75	.44	.43
8	.85	.19	.33	.15	.21	293.05	.76	.60	.72	.78	.43	.38
9	.76	.19	.32	.15	.70	.14	291.31	.54	.66	.70	.35	.32
10	.70	.66	.34	.15	.60	292.99	.34	.52	.64	.63	.30	.31
11	289.67	289.99	289.28	289.16	290.31	292.60	291.31	290.50	289.63	289.54	289.29	289.25
12	.63	.95	.28	.18	.49	.06	.21	.39	.66	.85	.27	.25
13	.59	.97	.45	.22	.46	291.38	.04	.45	.67	.99	.27	.24
14	.55	.97	.50	.25	.21	291.07	290.85	.42	.71	.77	.28	.19
15	.50	.96	.48	.24	.03	292.36	.96	.34	.68	.62	.26	.18
16	289.46	289.86	289.44	289.23	289.90	293.22	291.80	290.31	289.65	289.56	289.26	289.16
17	.37	.77	.45	.36	.83	.48	.79	.26	.65	.53	.25	.17
18	.28	.75	.41	.30	.74	.40	.41	.16	.60	.48	.28	.16
19	.32	.73	.38	.31	290.37	292.83	.05	.07	.59	.47	.27	.18
20	.66	.68	.38	.30	291.31	.35	290.82	.17	.64	.41	.25	.14
21	289.71	289.64	289.31	289.25	291.79	292.27	290.71	290.10	289.69	289.39	289.23	289.13
22	.84	.57	.38	.28	.78	.83	.71	.13	.70	.37	.20	.13
23	.75	.53	.27	.30	.43	293.14	.51	.08	.65	.35	.20	.13
24	.65	.53	.26	.35	.23	.32	.49	289.96	.57	.28	.19	.13
25	.58	.53	.24	.48	.15	.19	.71	.91	.57	.25	.15	.18
26	289.49	289.54	289.26	289.58	291.40	292.48	290.84	289.84	289.63	289.26	289.18	289.12
27	.45	.59	.24	.54	.32	291.76	.76	.85	.58	.25	.15	.11
28	.38	.74	.22	.67	.02	.24	.76	.80	.52	.22	.54	.11
29	.36	.64	.21	.63	290.08	290.90	291.74	.83	.72	.21		.10
30	.35	.54	.19	.82	291.08	291.17	292.70	.80	290.03	.20		.10
31		.54		290.04	292.13		.92		289.95	.20		.09
Mean	289.56	289.57	289.36	289.32	290.63	292.41	291.05	290.45	289.68	289.52	289.27	289.25
Max.	289.86	289.99	289.56	290.04	292.13	293.48	292.92	292.25	290.03	289.99	289.54	289.63
Min.	289.28	289.19	289.19	289.15	289.74	290.96	290.22	289.80	289.52	289.20	289.15	289.09

WATER YEAR 1977 : Max. 293.48 m. Min. 289.09 m.

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	1.04	1.70	3.28	0.40	16	130	43	102	6.92	9.44	0.38	4.94
2	1.60	1.04	3.16	0.34	13	148	35	79	7.10	7.10	0.40	5.22
3	2.20	1.04	2.80	0.36	12	137	35	68	7.10	6.20	0.80	5.08
4	3.28	0.96	4.24	0.34	12	94	27	56	6.92	5.36	1.12	4.10
5	6.20	0.80	3.82	0.34	13	67	21	47	6.92	4.80	1.70	3.04
6	9.08	0.64	2.92	0.30	14	59	20	37	5.36	5.08	2.44	2.80
7	9.08	0.40	2.32	0.30	14	119	17	32	5.78	7.10	2.68	2.56
8	8.90	0.38	1.50	0.30	17	149	34	28	6.56	7.64	2.56	2.00
9	7.28	0.38	1.40	0.30	32	155	56	26	5.64	6.20	1.70	1.40
10	6.20	5.64	1.60	0.30	28	146	57	26	5.36	5.22	1.20	1.30
11	5.78	11	1.04	0.32	19	122	56	25	5.22	3.96	1.12	0.80
12	5.22	11	1.04	0.36	25	92	51	22	5.64	8.90	0.96	0.80
13	4.66	11	2.80	0.56	24	59	44	23	5.78	11	0.96	0.72
14	4.10	11	3.40	0.80	17	45	37	23	6.38	7.46	1.04	0.38
15	3.40	11	3.16	0.72	12	108	41	20	5.92	5.08	0.88	0.36
16	2.92	9.08	2.68	0.64	10	160	79	19	5.50	4.24	0.88	0.32
17	1.90	7.46	2.80	1.80	8.54	177	78	18	5.50	3.82	0.80	0.34
18	1.04	7.10	2.32	1.20	6.92	172	60	15	4.80	3.16	1.04	0.32
19	1.40	6.74	2.00	1.30	21	136	45	13	4.66	3.04	0.96	0.36
20	5.64	5.92	2.00	1.20	56	108	36	16	5.36	2.32	0.80	0.28
21	6.38	5.36	1.30	0.80	78	103	32	14	6.06	2.10	0.64	0.26
22	8.72	4.38	2.00	1.04	78	136	32	15	6.38	1.90	0.40	0.26
23	7.10	3.82	0.96	1.20	61	155	25	13	5.50	1.70	0.40	0.26
24	5.50	3.82	0.88	1.70	52	166	25	11	4.38	1.04	0.38	0.26
25	4.52	3.82	0.72	3.16	49	158	32	10	4.38	0.80	0.30	0.24
26	3.28	3.96	0.88	4.52	60	115	36	8.72	5.22	0.88	0.36	0.24
27	2.80	4.66	0.72	3.96	56	77	34	8.90	4.52	0.80	0.30	0.22
28	2.00	6.92	0.56	5.78	43	52	34	8.00	3.68	0.56	3.96	0.22
29	1.80	5.36	0.48	5.22	34	41	76	8.54	6.56	0.48		0.20
30	1.70	3.96	0.38	8.36	46	49	128	8.00	12	0.40		0.20
31		3.96		12	96		141		11	0.40		0.18
Total	134.72	154.30	59.16	59.92	1,023.46	3,435	1,467	800.16	188.10	128.18	31.16	39.66
Mean	4.49	4.97	1.97	1.93	33.0	114	47.3	26.6	6.06	4.13	1.11	1.27
Max.	9.08	11	4.24	12	96	177	141	102	12	11	3.96	5.22
Min.	1.04	0.38	0.38	0.30	8.54	41	17	8	3.68	0.40	0.30	0.18
Runoff - mcm.	11.640	13.331	5.111	5.177	88.427	296.784	126.749	69.134	16.252	11.075	2.692	3.427

WATER YEAR 1977 : Max. 177 Min. 0.18 Mean 20.6 Annual Runoff 649.799 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sept. 17	18.00	293.53	180				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
PING RIVER BASIN

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

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

Drainage Area: 42,700 Sq.km.

Type of Gage: Water-stage recorder.

Zero Gage at Bottom at: + 72.00 m. (M.S.L.)

Bench Mark: B.M. - H.S./R.I.D.

Location: Near the gage observer's house.
Elevation: + 77.642 m. (M.S.L.)

Gage Reading Frequency: Recording

Basis of Mean Daily Gage Height: Arithmetic mean of 24 hourly 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: Fairly stable, no shifting adjustment for flow computation.

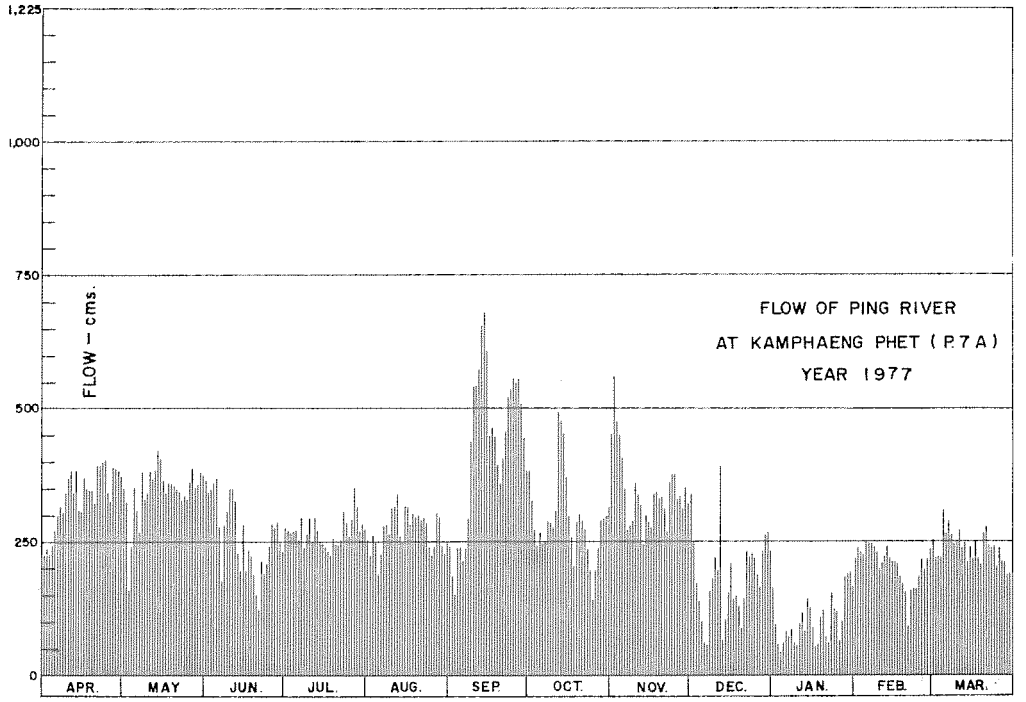
Overbank Flow Conditions: No overbank flow.

General Description: Records good. Stage-discharge relation defined by 42 discharge measurements made in 1977. Flow completely regulated by Phumiphol Dam reservoir and diverted for irrigation of about 40,300 hectares above gage site.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	74.20	74.56	74.59	74.36	74.26	74.25	74.63	74.83	74.53	73.97	74.18	74.29
2	.24	.34	.40	.33	.21	.08	.44	75.04	.23	.56	.24	.21
3	.21	73.94	.44	.33	.31	73.95	.31	74.86	.02	.47	.22	.21
4	.24	74.18	.46	.34	.27	74.24	.26	.79	73.90	.42	.21	.21
5	.34	.55	.47	.34	.08	.25	.33	.68	.71	.57	.29	.45
6	74.43	74.44	74.24	74.29	74.28	74.17	74.27	74.51	73.55	73.66	74.27	74.33
7	.36	.33	.04	.41	.37	.31	.29	.32	.53	.61	.27	.39
8	.43	.63	.38	.25	.37	.44	.39	.38	.95	.68	.25	.31
9	.54	.50	.50	.34	.32	.83	.38	.65	74.05	.54	.22	.26
10	.60	.53	.54	.41	.46	75.00	.36	.58	.20	.50	.12	.28
11	74.63	74.63	74.54	74.28	74.47	75.01	74.48	74.40	74.12	73.72	74.17	74.36
12	.53	.59	.46	.41	.55	.05	.89	.33	.66	.82	.20	.25
13	.63	.63	.21	.32	.31	.24	.86	.27	73.57	.67	.26	.28
14	.44	.72	.11	.28	.28	.29	.79	.41	.70	.93	.19	.17
15	.44	.68	.37	.28	.47	.03	.54	.39	.95	.86	.17	.26
16	74.61	74.58	74.12	74.25	74.46	74.79	74.39	74.36	74.16	73.70	74.17	74.19
17	.54	.53	.23	.22	.37	.82	.27	.53	73.92	.48	.15	.28
18	.54	.58	.21	.20	.43	.78	.14	.54	.94	.53	.08	.18
19	.54	.58	.06	.37	.41	.65	.39	.51	.86	.75	.02	.15
20	.73	.57	73.96	.34	.42	.58	.43	.52	.67	.85	73.97	.32
21	74.66	74.55	73.83	74.34	74.40	74.70	74.40	74.45	74.11	73.62	73.70	74.36
22	.66	.54	74.19	.38	.41	.81	.34	.34	.22	.54	.99	.26
23	.67	.50	.10	.45	.37	.96	.26	.58	.19	.96	74.00	.24
24	.68	.52	.16	.40	.24	75.00	.11	.62	.22	.85	.00	.26
25	.53	.50	.26	.31	.20	.04	73.92	.62	.18	.83	.10	.14
26	74.49	74.61	74.37	74.41	74.28	75.02	74.18	74.51	74.08	73.57	74.18	74.25
27	.65	.64	.36	.56	.43	.03	.31	.52	73.99	.70	.12	.17
28	.64	.56	.39	.43	.40	74.91	.40	.46	.27	74.07	.18	.16
29	.63	.57	.28	.34	.26	.75	.41	.56	.32	.10		.09
30	.61	.38	.22	.37	.20	.64	.42	.49	.33	.11		.10
31		.35		.35	.27		.49		.22	.02		.06
Mean	74.51	74.51	74.28	74.34	74.34	74.72	74.38	74.53	74.04	73.73	74.14	74.24
Max.	74.73	74.72	74.59	74.56	74.53	75.29	74.89	75.04	74.66	74.11	74.29	74.45
Min.	74.20	73.98	73.83	74.20	74.08	73.95	73.92	74.27	73.53	73.42	73.70	74.06

WATER YEAR 1977 : Max. 75.29 m. Min. 73.42 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	222	352	364	276	242	239	381	465	340	154	216	253
2	236	270	290	267	225	184	305	558	232	64	236	225
3	225	157	305	267	259	149	259	478	167	50	229	225
4	236	216	313	270	246	236	242	448	136	43	225	225
5	270	348	317	270	184	239	267	402	92	65	253	309
6	301	305	236	253	249	212	246	332	62	82	246	267
7	313	267	173	294	280	259	253	264	59	72	246	287
8	301	381	283	239	280	305	287	283	149	86	239	259
9	344	328	328	270	263	465	283	389	176	60	229	242
10	368	340	344	294	313	540	276	360	222	54	196	249
11	381	381	344	249	317	545	320	290	196	94	212	276
12	340	364	313	294	340	577	492	267	393	117	222	239
13	381	381	225	263	259	654	478	246	65	84	242	249
14	305	418	193	249	249	679	448	294	90	144	219	212
15	305	402	280	249	316	554	344	287	149	126	212	242
16	372	360	196	239	313	448	287	276	209	90	212	219
17	344	340	232	229	280	461	246	340	141	51	206	249
18	344	360	225	222	301	444	203	344	146	59	184	216
19	344	360	179	280	294	389	287	332	126	101	168	206
20	423	356	152	270	298	360	301	336	84	124	154	264
21	393	348	119	270	290	410	290	309	193	74	90	276
22	393	344	219	283	294	456	270	270	229	60	159	242
23	397	328	190	309	280	522	242	360	219	152	162	236
24	402	336	209	290	236	540	193	376	229	124	162	242
25	340	328	242	259	222	558	141	376	216	119	190	203
26	324	372	280	294	249	549	216	332	184	65	216	239
27	389	385	276	352	301	554	259	336	159	90	196	212
28	385	352	287	301	290	500	290	313	246	182	216	209
29	381	356	249	270	242	431	294	352	263	190		187
30	372	283	229	280	222	385	298	324	267	193		190
31		273		273	246		324		229	168		179
Total	10,131	10,391	7,592	8,425	8,380	12,844	9,022	10,339	5,668	3,137	5,737	7,328
Mean	338	335	253	272	270	428	291	345	183	101	205	236
Max.	423	418	364	352	340	679	492	558	393	193	253	306
Min.	222	157	119	222	184	149	141	246	59	43	90	179
Runoff - mcm.	875.318	897.782	655.949	727.920	724.032	1,109.722	779.501	893.290	489.715	271.037	495.677	633.139

WATER YEAR 1977 : Max. 679 Min. 43 Mean 271 Annual Runoff 8,553.082 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sept. 13	23.00	75.44	754				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
PING RIVER BASIN

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

Location: Lat. 17°-44'-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 at: + 134.00 m. (M.S.L.)

Bench Mark: B.M. – H.S.

Location: About 25 meters north of the gage site.
Elevation: + 143.825 m. (M.S.L.)

Gage Reading Frequency: Recording

Basis of Mean Daily Gage Height: Arithmetic mean of 24 hourly 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: Fairly stable with variable water surface slope, no shifting adjustment for flow computation.

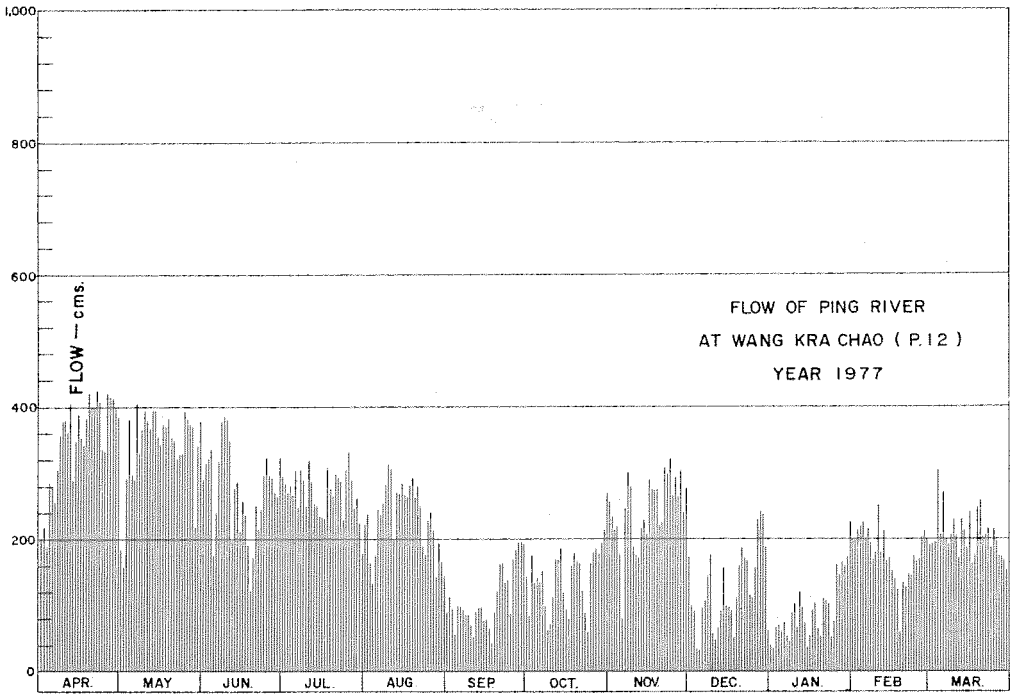
Overbank Flow Conditions: No overbank flow.

General Description: Records fair. Stage-discharge relation defined by 45 discharge measurements made in 1977. Flow regulated by Phumiphol Dam reservoir and diverted for irrigation of about 28,000 hectares at above gage site.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	134.87	134.81	135.32	135.33	135.00	134.12	134.50	135.15	134.51	133.83	134.87	134.81
2	.97	.62	.42	.29	.06	.31	.05	.06	.19	.52	.86	.84
3	.80	135.32	.45	.22	134.67	.16	.73	134.94	.12	.90	.94	.85
4	135.28	.70	.50	.27	.47	133.75	.46	.97	133.48	.92	.98	135.38
5	.27	.38	134.72	.21	.82	134.12	.51	.72	.45	.84	135.00	134.92
6	135.16	135.31	135.13	135.37	135.10	134.21	134.46	134.02	134.17	133.96	134.88	135.23
7	.34	.79	.42	.12	.07	.18	.59	135.10	.26	.74	.95	134.87
8	.60	.49	.68	.38	.17	.09	.28	.37	.52	.65	.85	.87
9	.67	.65	.71	.31	.30	.06	133.85	.23	.73	134.09	.68	.96
10	.69	.75	.70	.12	.42	133.92	.96	134.80	133.78	.24	.79	135.02
11	135.60	135.71	135.56	135.44	135.38	133.64	134.50	134.73	133.66	133.90	135.13	134.84
12	.79	.63	134.86	.19	134.86	134.12	.69	.71	.94	134.38	134.76	.71
13	.29	.75	135.24	.14	135.23	.20	.71	.96	134.15	.22	.93	135.02
14	.53	.75	.30	.13	.23	.18	.79	135.02	.61	133.91	.68	134.93
15	.73	.58	134.94	.04	.30	133.99	.37	134.91	.20	.49	.71	.80
16	135.61	135.53	135.15	135.05	135.22	134.02	134.15	135.32	134.21	133.81	134.59	135.08
17	.53	.66	.07	.02	.21	133.88	.02	.25	.12	134.14	.50	134.65
18	.72	.65	134.75	.40	.30	.58	.64	.24	133.73	.23	.39	.75
19	.85	.70	.38	.26	.33	134.19	.74	.26	134.38	133.83	133.80	135.11
20	.77	.59	.84	.21	.19	.47	.67	134.98	.64	.74	134.46	.16
21	135.77	135.56	135.13	135.35	135.27	134.65	134.65	135.00	134.80	134.30	134.43	134.89
22	.86	.45	134.94	.34	.09	.67	.29	.40	.70	.26	.56	.90
23	.78	.48	135.15	.30	134.81	.47	.07	.36	.68	.21	.55	.93
24	.51	.48	.34	.03	.74	.49	133.82	.45	.33	133.71	.73	.80
25	.50	.74	.45	.40	135.03	.10	134.62	.20	.29	.97	.67	.95
26	135.85	135.71	135.33	135.50	135.09	134.70	134.76	135.32	134.74	134.64	134.71	134.83
27	.83	.67	.32	.30	134.93	.80	.80	.20	135.04	.54	.88	.71
28	.81	.65	.22	.12	.52	.85	.75	.38	.09	.66	.73	.71
29	.78	.16	.19	.19	.85	.85	.84	.08	.07	.63		.68
30	.70	.52	.45	134.98	.74	.97	.94	.25	134.65	.59		.59
31		.68		.72	.54		135.22		133.57	135.01		135.11
Mean	135.54	135.53	135.22	135.22	135.03	134.26	134.50	135.08	134.32	134.08	134.71	134.90
Max.	135.86	135.79	135.71	135.50	135.42	134.97	135.22	135.45	135.09	135.01	135.13	135.38
Min.	134.80	134.62	134.38	134.72	134.47	133.58	133.82	134.02	133.45	133.49	133.80	134.59

WATER YEAR 1977 : Max. 135.86 m. Min. 133.45 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	200	189	291	293	224	90	139	254	140	38	200	189
2	218	157	314	284	236	112	83	236	98	37	198	194
3	187	291	321	269	165	95	175	213	90	68	213	196
4	282	381	333	280	135	55	133	218	35	70	220	304
5	280	304	173	267	191	90	140	173	33	63	224	209
6	257	288	250	302	244	100	133	80	96	74	201	271
7	295	403	314	248	238	97	152	244	106	54	214	200
8	357	331	376	304	259	87	109	302	142	47	196	191
9	374	369	383	288	286	84	63	271	175	87	167	216
10	379	393	381	248	314	70	74	187	57	104	185	228
11	357	383	347	319	304	46	139	175	48	68	250	194
12	403	364	198	263	198	90	168	172	72	121	180	172
13	284	393	273	252	271	99	172	216	93	101	211	228
14	340	393	286	250	271	97	185	228	156	69	167	211
15	388	352	213	232	286	77	120	207	99	35	172	187
16	359	340	254	234	269	80	93	291	100	60	152	240
17	340	371	238	228	267	66	80	275	90	92	139	162
18	386	369	178	309	286	42	160	273	53	103	123	178
19	419	381	121	278	293	98	177	278	121	62	59	246
20	398	355	194	267	263	134	165	220	160	54	133	257
21	398	347	250	297	280	162	162	224	187	111	128	203
22	422	321	213	295	242	165	110	309	170	106	148	205
23	410	328	254	286	189	134	85	300	167	100	146	211
24	335	328	295	230	177	137	61	321	115	52	175	187
25	333	391	321	309	230	88	157	265	110	75	165	214
26	419	383	293	333	242	170	180	291	117	160	172	192
27	414	374	291	286	211	187	187	265	232	145	201	172
28	409	369	269	248	142	196	178	304	242	164	211	172
29	401	257	263	263	196	196	194	240	238	159		167
30	381	338	321	220	177	218	213	275	162	152		152
31		376		173	145		269		41	226		246
Total	10,425	10,619	8,208	8,355	7,231	3,362	4,456	7,307	3,805	2,857	4,950	6,394
Mean	347	342	274	269	233	112	144	243	123	92.2	177	206
Max.	422	403	383	333	314	218	269	321	242	226	250	304
Min.	187	157	121	173	135	42	61	80	33	35	59	152
Runoff - mcm.	900.720	917.482	709.171	721.872	624.758	290.477	384.998	631.325	328.752	246.845	427.680	552.442

WATER YEAR 1977 : Max. 422 Min. 33 Mean 214 Annual Runoff 6,736.522 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Apr.9	12.00	136.04	468				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
PING RIVER BASIN

Mae Taeng River at Ban Muang Kut, Chiang Mai (P. 13)

Location: Lat. 19°-12'-38" N., Long. 98°-52'-20" E., on left bank about 1 kilometer downstream from Ban Kut, Amphoe Mae Taeng, Chiang Mai.

Drainage Area: 1,765 Sq.km.

Type of Gage: Staff gage.

Zero Gage at Bottom at: + 441.12 m. (M.S.L.)

Bench Mark: B.M./R.I.D. No. 6

Location: Near the gage site.
Elevation: + 444.360 m. (M.S.L.)

Gage Reading Frequency: 5-time daily readinngs 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: 1952 to date.

Rating Operation:

Period of Rating: 1952-1971.
Rated by Float: -
Rated by Current Meter: 1952-1971.

Stability of Channel Regimes: Stable, no shifting adjustment for flow computation.

Overbank Flow Conditions: No overbank flow.

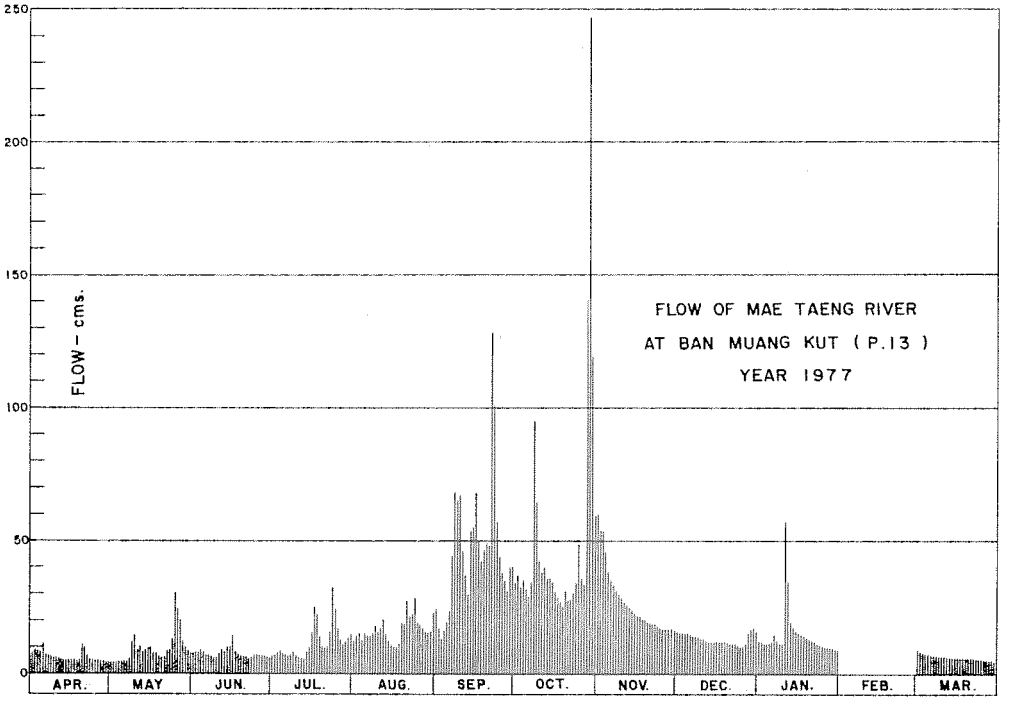
General Description: Records fair. Stage-discharge relation defined by 619 discharge measurements made during 1969-1971.

Remarks: No records on February 1-28, 1977.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	441.77	441.59	441.76	441.70	441.95	442.29	442.46	442.83	442.09	441.97		441.82
2	.83	.59	.78	.75	442.02	.14	.51	.76	.07	.94		.78
3	.80	.59	.80	.76	.04	441.96	.42	.74	.07	.93		.76
4	.79	.60	.83	.80	441.97	442.13	.47	.60	.05	.92		.75
5	.92	.60	.78	.77	442.07	.16	.42	.53	.04	.91		.74
6	441.75	441.62	441.73	441.75	442.03	442.29	442.37	442.49	442.04	441.94		441.73
7	.71	.61	.74	.72	.03	443.49	.47	.44	.03	441.01		.73
8	.70	.66	.71	.74	.07	442.92	443.19	.41	.02	441.94		.72
9	.68	.97	.70	.78	.15	.89	442.74	.37	.01	.91		.72
10	.69	442.02	.70	.74	.04	.91	.59	.35	.00	.92		.71
11	441.67	441.81	441.76	441.70	442.13	442.67	442.52	442.33	441.99	442.80		441.70
12	.66	.89	.84	.67	.20	.51	.56	.31	.98	.45		.70
13	.65	.77	.80	.66	.03	.39	.47	.29	.97	.20		.70
14	.65	.81	.88	.77	441.97	.74	.48	.27	.97	.12		.69
15	.65	.85	.87	.85	.93	.77	.45	.25	.96	.09		.69
16	441.64	441.86	442.02	442.07	441.90	442.92	442.40	442.23	441.96	442.06		441.69
17	.64	.76	441.81	.30	.87	.71	.35	.21	.96	.03		.68
18	.63	.77	.73	.25	.95	.58	.33	.20	.95	.01		.68
19	.64	.71	.71	.01	442.16	.64	.30	.19	.95	.00		.67
20	.91	.69	.71	441.89	.16	.69	.40	.18	.94	441.98		.67
21	441.77	441.70	441.69	441.86	442.33	442.68	442.34	442.16	441.93	441.06		441.67
22	.68	.80	.68	.90	.23	443.47	.36	.15	.93	.95		.66
23	.65	.81	.70	442.08	.24	.16	.38	.15	.92	.93		.66
24	.64	.99	.73	.42	.34	442.81	.46	.14	.91	.91		.65
25	.63	442.38	.73	.27	.17	.63	.78	.13	.89	.89		.65
26	441.63	442.28	441.72	442.06	442.14	442.53	442.48	442.13	441.88	441.88		441.64
27	.62	.08	.73	441.96	.12	.45	.43	.12	.91	.87		.64
28	.61	441.94	.70	.91	.08	.41	443.20	.11	442.06	.86		.63
29	.61	.87	.70	.96	.04	.56	444.21	.11	.09	.85		.63
30	.61	.81	.67	.99	.09	.55	443.21	.10	.13	.84		.62
31		.77		442.07	.27		442.82		.06	.83		.62
Mean	441.69	441.81	441.76	441.91	442.09	442.63	442.60	442.31	441.99	442.03		441.69
Max.	441.92	442.38	442.02	442.42	442.34	443.49	444.21	442.83	442.17	442.80		441.82
Min.	441.61	441.59	441.67	441.66	441.87	441.96	442.30	442.10	441.88	441.83		441.62

WATER YEAR 1977 : Max. 444.21 m. Min. 441.59 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	7.50	4.05	7.30	6.10	12	24	34	60	16	12		8.50
2	8.75	4.05	7.70	7.10	14	18	37	54	15	12		7.70
3	8.10	4.05	8.10	7.30	15	12	32	53	15	11		7.30
4	7.90	4.20	8.75	8.10	12	17	35	43	15	11		7.10
5	11	4.20	7.50	7.50	15	19	32	39	15	11		6.90
6	7.10	4.50	6.70	7.10	14	24	29	36	15	12		6.70
7	6.30	4.35	6.90	6.50	14	131	35	33	14	14		6.70
8	6.10	5.30	6.30	6.90	15	68	95	31	14	12		6.50
9	5.70	12	6.10	7.70	18	65	53	29	14	11		6.50
10	5.90	14	6.10	6.90	15	67	42	28	13	11		6.30
11	5.50	8.30	7.30	6.10	17	47	38	27	13	57		6.10
12	5.30	10	9.00	5.50	20	37	40	25	13	34		6.10
13	5.10	7.50	8.10	5.30	14	30	35	24	12	20		6.10
14	5.10	8.30	10	7.50	12	53	36	23	12	17		5.90
15	5.10	9.25	9.75	9.25	11	55	34	22	12	16		5.90
16	4.90	9.50	14	15	10	68	31	21	12	15		5.90
17	4.90	7.30	8.30	25	9.75	50	28	21	12	14		5.70
18	4.70	7.50	6.70	22	12	42	27	20	12	14		5.70
19	4.90	6.30	6.30	14	19	45	25	20	12	13		5.50
20	11	5.90	6.30	10	19	49	31	19	12	13		5.50
21	9.75	6.10	5.90	9.50	27	48	27	19	11	12		5.50
22	5.70	8.10	5.70	10	21	128	28	18	11	12		5.30
23	5.10	8.30	6.10	16	22	91	30	18	11	11		5.30
24	4.90	13	6.70	32	27	58	34	18	11	11		5.10
25	4.70	30	6.70	23	19	45	48	17	10	10		5.10
26	4.70	24	6.50	15	18	39	36	17	10	10		4.90
27	4.50	19	6.70	12	17	34	33	17	11	9.75		4.90
28	4.35	12	6.10	11	16	31	96	17	15	9.50		4.70
29	4.35	9.75	6.10	12	15	40	246	17	16	9.25		4.70
30	4.35	8.30	5.50	13	16	40	97	16	17	9.00		4.50
31		7.50		15	23		59		16	8.75		4.50
Total	183.25	286.60	219.20	359.35	508.75	1,475	1,483	802	407	442.25		183.10
Mean	6.11	9.24	7.31	11.6	16.4	49.2	47.8	26.7	13.1	14.3		5.91
Max.	11	30	14	32	27	131	246	60	17	57		8.50
Min.	4.35	4.05	5.50	5.30	9.75	12	25	16	10	8.75		4.50
Runoff - mcm.	15.833	24.762	18.939	31.048	43.956	127.440	128.131	69.293	35.165	38.210		15.820

WATER YEAR 1977 : Max. 246 Min. 405 Mean Annual Runoff mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Oct.29	09.00	444.80	362				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
PING RIVER BASIN

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 on Hot – Mae Sariang highway at kilometer marker 7+500, Amphoe Hot, Chiang Mai.

Drainage Area: 3,853 Sq.km.

Type of Gage: water-stage recorder.

Zero Gage at Bottom at: + 275.844 m. (M.S.L.)

Bench Mark: B.M. – H.S./RID No. 13

Location: Infront of the office of station P14
Elevation: + 282.079 m. (M.S.L.)

Gage Reading Frequency: Recording

Basis of Mean Daily Gage Height: Arithmetic mean of 24 hourly 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, no shifting adjustment for flow computation.

Overbank Flow Conditions: No overbank flow.

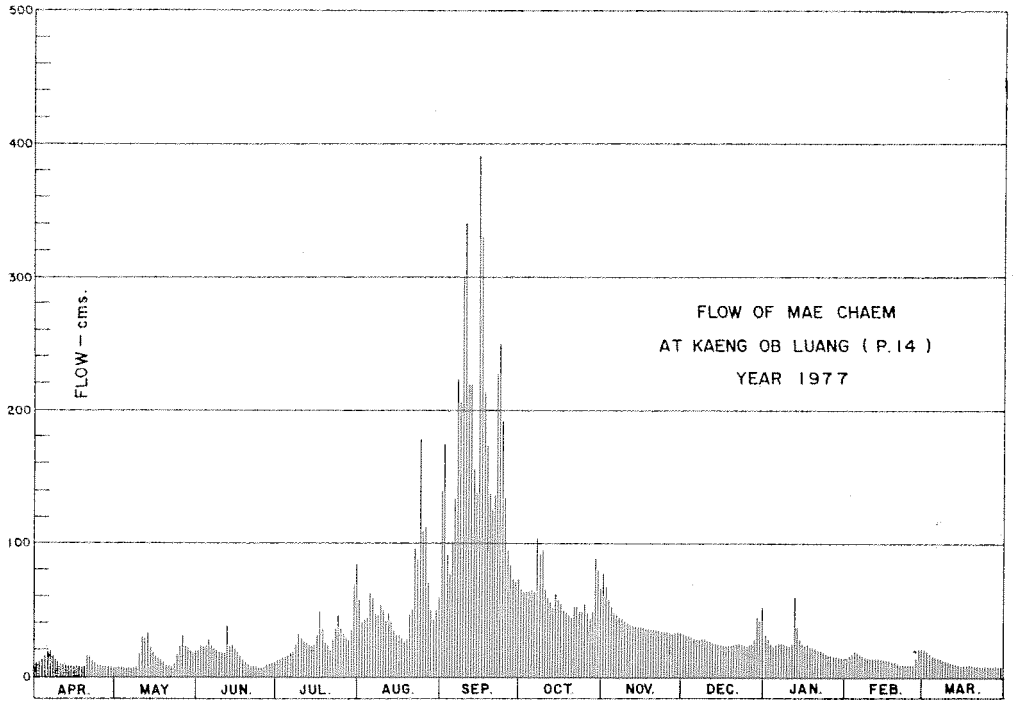
General Description: Records fair. Stage-discharge relation defined by 28 discharge measurements made in 1977.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	276.85	276.79	277.05	276.92	277.47	278.06	277.58	277.69	277.23	277.25	276.97	277.06
2	.88	.79	276.94	.93	.35	.35	.56	.57	.22	.18	.98	.03
3	.93	.78	.89	.95	.37	277.81	.57	.50	.21	.14	277.01	.01
4	.98	.78	.95	.97	.38	.68	.57	.46	.20	.10	.05	276.99
5	277.03	.78	277.01	.99	.56	.84	.58	.42	.18	.09	.03	.97
6	277.05	276.78	276.93	277.01	277.53	278.29	277.56	277.41	277.19	277.12	277.02	276.96
7	276.98	.77	.88	.03	.41	.62	.89	.39	.19	.14	276.99	.94
8	.90	.77	.85	.11	.40	.53	.80	.37	.18	.13	.97	.93
9	.87	.78	.82	.23	.48	.98	.82	.35	.18	.11	.96	.92
10	.84	277.04	.81	.18	.45	279.18	.61	.33	.17	.10	.95	.90
11	276.84	277.20	276.80	277.14	277.36	278.60	277.53	277.33	277.16	277.13	276.94	276.88
12	.83	.04	277.30	.13	.41	.60	.49	.31	.15	.53	.94	.87
13	.82	.25	.10	.11	.34	.26	.46	.30	.14	.31	.94	.85
14	.82	.08	.12	.10	.27	.12	.56	.30	.13	.18	.94	.84
15	.80	.00	.06	.09	.23	279.40	.53	.30	.12	.14	.93	.84
16	276.80	276.96	277.04	277.21	277.24	279.13	277.49	277.30	277.12	277.12	276.92	276.84
17	.80	.94	276.97	.44	.18	278.57	.43	.29	.11	.09	.91	.84
18	.79	.92	.94	.32	.16	.32	.43	.28	.11	.08	.89	.83
19	.80	.87	.88	.17	.23	.13	.41	.28	.11	.08	.88	.83
20	.96	.83	.86	.11	.41	.05	.38	.27	.11	.06	.86	.83
21	276.97	276.80	276.80	277.05	277.45	278.10	277.46	277.27	277.15	277.05	276.84	276.82
22	.92	.80	.80	.18	.83	.60	.47	.26	.15	.05	.84	.82
23	.85	.79	.80	.27	.77	.76	.42	.25	.13	.04	.84	.82
24	.82	277.02	.80	.40	278.37	.31	.42	.25	.11	.01	.84	.82
25	.81	.06	.80	.30	277.93	.01	.48	.25	.10	276.98	.84	.81
26	276.80	277.23	276.80	277.23	277.94	277.81	277.41	277.24	277.09	276.98	276.84	276.81
27	.80	.12	.83	.22	.61	.74	.37	.23	.09	.98	.97	.81
28	.80	.08	.86	.17	.45	.65	.46	.24	.15	.98	277.06	.80
29	.80	.04	.88	.27	.37	.64	.77	.25	.38	.97		.80
30	.79	.04	.90	.61	.43	.65	.68	.25	.36	.97		.80
31		.05		.74	.53		.59		.46	.97		.80
Mean	276.86	276.94	276.91	277.18	277.48	278.29	277.54	277.33	277.17	277.10	276.93	276.87
Max.	277.05	277.25	277.30	277.74	278.37	279.40	277.89	277.69	277.46	277.46	277.06	277.06
Min.	276.79	276.77	276.80	276.92	277.16	277.64	277.37	277.23	277.09	276.97	276.84	276.80

WATER YEAR 1977 : Max. 279.40 m. Min. 276.77 m.

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	9.00	6.60	19	12	53	128	65	78	31	34	14	20
2	10	6.60	13	12	41	174	63	64	31	28	15	18
3	12	6.20	11	13	43	93	64	56	30	25	17	17
4	15	6.20	13	14	44	77	64	52	29	22	19	15
5	18	6.20	17	15	63	97	65	48	28	24	18	14
6	19	6.20	12	17	59	164	63	47	28	23	17	14
7	15	5.80	10	18	47	223	104	45	28	25	15	13
8	11	5.80	9.00	23	46	206	92	43	28	24	14	12
9	10	6.20	7.80	31	54	296	95	41	28	23	14	12
10	8.60	18	7.40	28	51	340	68	40	27	22	13	11
11	8.60	29	7.00	25	42	219	59	40	26	24	13	10
12	8.20	18	37	24	47	219	55	38	25	59	13	10
13	7.80	33	22	23	41	160	52	37	25	38	13	9.00
14	7.80	21	23	22	35	137	63	37	24	28	13	8.60
15	7.00	16	20	24	31	390	59	37	23	25	12	8.60
16	7.00	14	18	30	32	329	55	37	23	23	12	8.60
17	7.00	13	14	50	28	213	49	36	23	24	11	8.60
18	6.60	12	13	39	26	169	49	35	23	21	11	8.20
19	7.00	9.80	10	27	31	139	47	35	23	21	10	8.20
20	14	8.20	9.40	23	47	126	44	35	23	20	9.40	8.20
21	14	7.00	7.00	19	51	134	52	35	25	19	8.60	7.80
22	12	7.00	7.00	28	96	219	53	34	25	19	8.60	7.80
23	9.00	6.60	7.00	35	88	250	48	33	24	18	8.60	7.80
24	7.80	17	7.00	46	178	168	48	33	23	17	8.60	7.80
25	7.40	20	7.00	37	109	120	54	33	22	15	8.60	7.40
26	7.00	31	7.00	31	111	93	47	32	24	15	8.60	7.40
27	7.00	23	8.20	31	68	84	43	31	24	15	14	7.40
28	7.00	21	9.40	27	51	73	52	32	25	15	20	7.00
29	7.00	18	10	35	43	72	88	33	44	14		7.00
30	6.60	18	11	68	49	73	77	33	42	14		7.00
31		19		84	59		66		52	14		7.00
Total	293.40	435.40	323.20	911	1,764	5,185	1,903	1,210	856	708	359	315.40
Mean	9.78	14.0	12.4	29.4	56.9	172	61.4	40.3	27.6	22.8	12.8	10.2
Max.	19	33	37	84	178	390	104	78	52	59	20	20
Min.	6.60	5.80	7.00	12	26	72	43	31	22	14	8.60	7.00
Runoff - mcm.	25.350	37.618	32.244	78.710	152.410	447.984	164.419	104.544	73.958	61.171	31.018	27.250

WATER YEAR 1977 : Max. 390 Min. 5.80 Mean 39.2 Annual Runoff 1,236.678 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sept. 15	11.00	280.10	558				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
PING RIVER BASIN

Ping River at Khlong Khlung, Kamphaeng Phet (P. 15)

Location: Lat. 16°-12'-50" N., Long. 99°-43'-26" E., on right bank infront of Wat Si Phirom, Amphoe Khlong Khlung, Kamphaeng Phet.

Drainage Area: 43,805 Sq.km.

Type of Gage: Staff gage.

Zero Gage at Bottom at: + 51.555 m. (M.S.L.)

Bench Mark: B.M. - H.S.

Location: Near the top of vertical staff gage.
Elevation: + 56.442 m. (M.S.L.)

Gage Reading Frequency: 7-time daily readings at 06.00, 09.00, 12.00, 15.00, 18.00, 24.00 and 01.00 hours.

Basis of Mean Daily Gage Height: Arithmetic mean of 7 readings.

Period of Available Gage Records: 1954 to date.

Rating Operation:

Period of Rating: 1967-1974.
Rated by Float: -
Rated by Current Meter: 1967-1974.

Stability of Channel Regimes: Fairly stable, no shifting adjustment for flow computation.

Overbank Flow Conditions: No overbank flow.

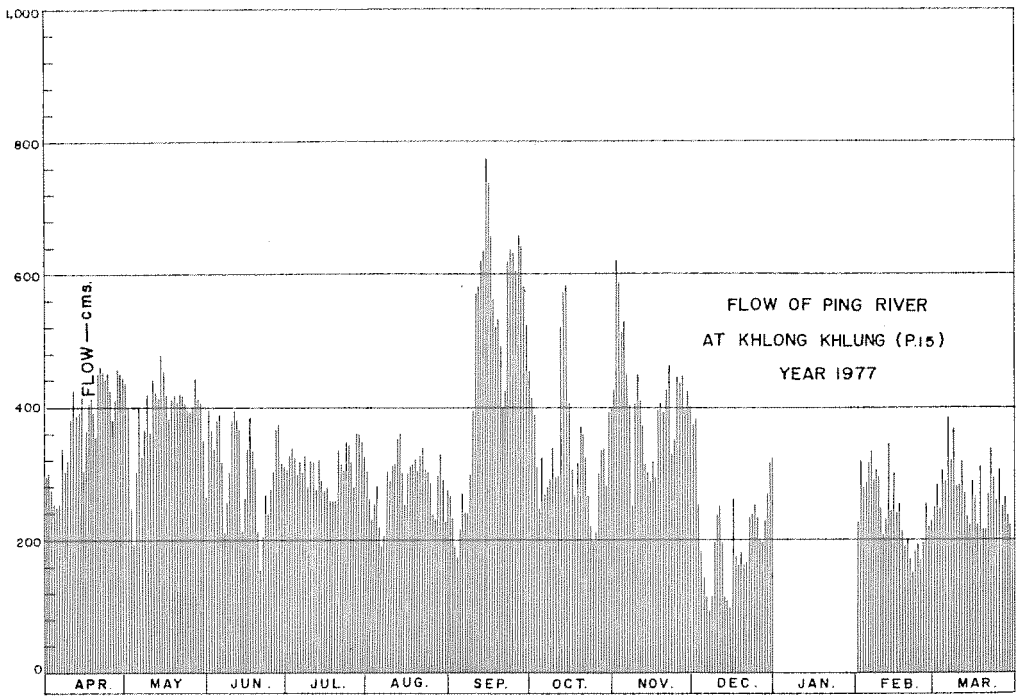
General Description: Records fair. Stage-discharge relation defined by 96 discharge measurements made during 1967-1974. Flow regulated by Bhumiphol Dam reservoir.

Remarks: No records on January 1-31, 1977.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	54.18	54.54	54.46	54.20	54.11	54.08	54.51	54.47	54.39		53.90	54.03
2	.11	.46	.42	.27	53.97	53.92	.45	.97	.41		54.24	.14
3	.03	53.93	.28	.30	54.07	.72	.20	.89	53.96		.12	.02
4	.03	.82	.41	.26	.13	.87	.00	.73	.78		.14	.19
5	.02	54.33	.44	.18	53.93	54.11	.26	.77	.65		.20	.13
6	54.31	54.45	54.33	54.25	53.82	54.01	54.09	54.59	53.50		54.29	54.41
7	.24	.26	53.87	.19	.96	.00	.12	.42	.40		.28	.24
8	.19	.39	54.08	.27	54.19	.17	.16	53.97	.48		.15	.37
9	.34	.51	.31	.13	.15	.48	.30	54.52	.86		.20	.13
10	.43	.34	.45	.25	.23	.86	.17	.58	.98		.13	.14
11	54.53	54.56	54.46	54.24	54.25	54.89	54.17	54.47	54.04		53.86	54.24
12	.42	.51	.40	.11	.35	.98	.71	.34	53.82		54.01	.21
13	.44	.49	.35	.25	.35	55.00	.87	.22	.49		.32	.00
14	.49	.65	53.91	.17	53.98	.30	.89	.20	.48		.01	53.92
15	.19	.61	54.11	.11	54.17	.21	.65	.15	.42		.18	54.16
16	54.45	54.57	54.40	54.13	54.22	54.84	54.22	54.24	54.08		54.00	54.11
17	.49	.41	.43	.06	.22	.75	.05	.15	53.76		.05	53.92
18	.48	.49	.25	.07	.24	.78	.20	.44	.71		53.89	54.22
19	.33	.50	.19	.05	.19	.68	.38	.47	.77		.82	53.91
20	.59	.46	53.87	.31	.26	.47	.38	.41	.72		.85	.91
21	54.61	54.50	53.68	54.25	54.30	54.56	54.28	54.54	53.68		53.75	54.07
22	.56	.50	.90	.19	.20	.98	.19	.62	.97		.67	.29
23	.56	.47	54.10	.32	.21	55.01	53.95	.26	.99		.80	.17
24	.59	.45	.00	.32	.14	.00	.85	.35	54.05		.83	.06
25	.51	.44	.15	.30	53.99	54.91	.83	.57	.03		.73	.21
26	54.40	54.47	54.21	54.12	53.96	55.06	54.17	54.55	53.85		53.87	54.00
27	.53	.57	.39	.36	54.20	.02	.29	.57	.83		54.05	.08
28	.60	.49	.39	.36	.27	54.87	.29	.44	.93		53.92	.01
29	.57	.48	.23	.34	.17	.75	.09	.52	54.13			53.96
30	.57	.44	.21	.28	53.95	.60	.43	.47	.23			.85
31		.08		.24	54.10		.45		.24			.91
Mean	54.39	54.42	54.22	54.22	54.14	54.63	54.28	54.46	53.86		54.01	54.10
Max.	54.61	54.65	54.46	54.36	54.35	55.30	54.89	54.97	54.41		54.32	54.41
Min.	54.02	53.82	53.68	54.05	53.82	53.72	53.83	53.97	53.40		53.67	53.85

WATER YEAR 1977 : Max. 55.30 m. Min. m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	299.2	432.0	400.8	306.0	275.4	266.0	420.0	404.6	374.2		214.0	251.0
2	275.4	400.8	385.6	329.8	233.6	219.6	397.0	620.2	381.8		319.6	285.6
3	251.0	222.4	333.2	340.0	263.0	165.4	306.0	583.4	230.8		278.8	248.0
4	251.0	192.4	381.8	326.4	282.2	205.9	242.0	511.2	181.6		285.6	302.6
5	248.0	351.4	393.2	299.2	222.4	275.4	326.4	528.8	148.0		306.0	282.2
6	343.8	397.0	351.4	323.0	192.4	245.0	269.0	452.0	114.0		336.6	381.8
7	319.6	326.4	205.9	302.6	230.8	242.0	278.8	385.6	92.0		333.2	319.6
8	302.6	374.2	266.0	329.8	302.6	295.8	292.4	233.6	109.6		289.0	366.6
9	355.2	420.0	343.8	282.2	289.0	408.4	340.0	424.0	203.2		306.0	282.2
10	389.4	355.2	397.0	323.0	316.2	569.6	295.8	448.0	236.4		282.2	285.6
11	428.0	440.0	400.8	319.6	323.0	583.4	295.8	404.6	254.0		203.2	319.6
12	385.6	420.0	378.0	275.4	359.0	624.8	502.4	355.2	192.4		245.0	309.4
13	393.2	412.2	359.0	323.0	359.0	634.0	574.2	312.8	111.8		347.6	242.0
14	412.2	477.0	216.8	295.8	236.4	775.3	583.4	306.0	109.6		245.0	219.6
15	302.6	460.2	275.4	275.4	295.8	730.9	477.0	289.0	96.4		299.2	292.4
16	397.0	444.0	378.0	282.2	312.8	560.4	312.8	319.6	266.0		242.0	275.4
17	412.2	381.8	389.4	260.0	312.8	520.0	257.0	289.0	176.2		257.0	219.6
18	408.4	412.2	323.0	263.0	319.6	533.2	306.0	393.2	162.7		211.3	312.8
19	351.4	416.0	302.6	257.0	302.6	489.6	370.4	404.6	178.9		192.4	216.8
20	452.0	400.8	205.9	343.8	326.4	404.6	370.4	381.8	165.4		200.5	216.8
21	460.2	416.0	155.2	323.0	340.0	440.0	333.2	432.0	155.2		173.5	263.0
22	440.0	416.0	214.0	302.6	306.0	624.8	302.6	464.4	233.6		152.8	336.6
23	440.0	404.6	272.0	347.6	369.4	638.6	228.0	326.4	239.2		187.0	295.8
24	452.0	397.0	242.0	347.6	285.6	634.0	200.5	359.0	257.0		195.1	260.0
25	420.0	393.2	289.0	340.0	239.2	592.6	195.1	444.0	251.0		168.1	309.4
26	378.0	404.6	309.4	278.8	230.8	661.6	295.8	436.0	200.5		205.9	242.0
27	428.0	444.0	374.2	362.8	306.0	643.2	336.6	444.0	195.1		257.0	266.0
28	456.0	412.2	374.2	362.8	329.8	574.2	336.6	393.2	222.4		219.6	245.0
29	444.0	408.4	316.2	355.2	295.8	520.0	269.0	424.0	282.2			230.8
30	444.0	393.2	309.4	333.2	228.0	456.0	389.4	404.6	316.2			200.5
31		266.0		319.6	272.0		397.0		319.6			216.8
Total	11,340.0	12,091.2	9,543.2	9,730.4	8,897.6	14,534.3	10,500.6	12,174.8	6,457.0		6,953.2	8,495.5
Mean	378.0	390.0	318.1	313.9	287.0	484.5	338.7	405.8	208.3		248.3	274.0
Max.	460.2	477.0	400.8	362.8	359.0	775.3	583.4	620.2	381.8		347.6	381.8
Min.	248.0	192.4	155.2	257.0	192.4	165.4	195.1	233.6	92.0		152.8	200.5
Runoff - mcm.	979.78	1,044.68	824.53	840.71	768.75	1,255.76	907.25	1,051.90	557.88		600.76	734.01

WATER YEAR 1977 : Max. 775.3 Min. Mean Annual Runoff mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sept. 14	6.00	55.30	775.30				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
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 about 300 meters upstream from district office, Tambon Sieo, Amphoe Banphot Phisai, Nakhon Sawan.

Drainage Area: 45,851 Sq.km.

Type of Gage: Staff gage.

Zero Gage at Bottom at: + 32.00 m. (M.S.L.)

Bench Mark: B.M. – H.S.

Location: At the post of transmission line near gage site.
Elevation: + 37.697 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.
Rated by Float: –
Rated by Current Meter: 1960, 1967-1974.

Stability of Channel Regimes: Stable, no shifting adjustment for flow computation.

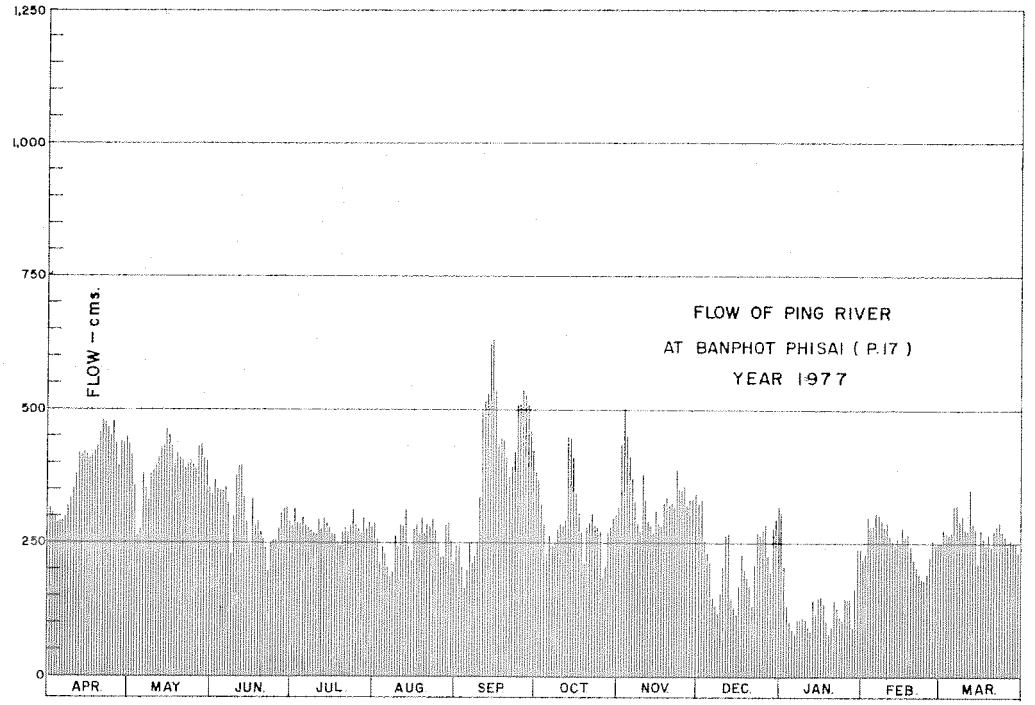
Overbank Flow Conditions: No overbank flow.

General Description: Records fair. Stage-discharge relation defined by 126 discharge measurements made during 1967-1974. Flow regulated by Bhumiphol Dam reservoir and diverted for irrigation of about 40,300 hectares above gage site.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	35.40	35.76	35.46	35.27	35.30	35.15	35.56	35.42	35.42	35.36	35.05	35.14
2	.37	.70	.71	.38	.16	.15	.55	.77	.44	.08	.12	.25
3	.33	.55	.51	.29	.02	.01	.40	.94	.32	34.65	.33	.24
4	.30	.21	.51	.30	.14	34.81	.24	.78	.09	.47	.27	.22
5	.31	.27	.50	.34	.13	.99	.09	.69	.02	.38	.29	.25
6	35.32	35.60	35.52	35.29	34.98	35.16	35.21	35.59	34.77	34.36	35.36	35.40
7	.38	.54	.42	.26	.91	.00	.15	.43	.63	.53	.34	.40
8	.42	.43	.09	.25	35.14	.14	.18	.34	.57	.52	.31	.31
9	.49	.60	.43	.23	.21	.22	.26	.24	.79	.53	.27	.33
10	.54	.62	.58	.23	.14	.75	.30	.59	35.04	.51	.31	.26
11	35.62	35.66	35.64	35.33	35.30	35.93	35.26	35.49	35.22	34.45	35.21	35.25
12	.71	.71	.64	.26	.28	.98	.31	.31	.23	.38	.19	.30
13	.70	.74	.54	.33	.38	36.02	.79	.28	34.72	.73	.15	.26
14	.72	.76	.37	.29	.20	.25	.79	.23	.60	.59	.37	.26
15	.70	.84	.15	.26	.04	.29	.70	.37	.57	.73	.16	.02
16	35.66	35.81	35.45	35.22	35.26	36.01	35.47	35.28	34.81	34.74	35.27	35.25
17	.71	.72	.29	.22	.29	35.75	.37	.26	35.25	.68	.21	.18
18	.73	.67	.31	.17	.22	.80	.28	.42	34.94	.50	.22	.15
19	.79	.70	.27	.16	.32	.77	.02	.45	.91	.33	.10	.22
20	.84	.68	.20	.25	.23	.66	.28	.41	.84	.45	.04	.14
21	35.88	35.68	35.14	35.27	35.29	35.57	35.31	35.42	34.66	34.71	34.97	35.24
22	.87	.63	34.94	.24	.27	.65	.36	.38	.98	.63	.66	.28
23	.83	.64	35.17	.28	.32	.76	.28	.30	35.23	.47	.88	.30
24	.81	.67	.20	.38	.24	.96	.26	.48	.22	.51	.89	.23
25	.87	.63	.20	.28	.16	.97	.05	.50	.26	.74	.95	.21
26	35.71	35.62	35.29	35.25	35.07	36.04	34.91	35.52	35.29	34.72	35.05	35.15
27	.64	.75	.36	.23	.08	.01	.90	.41	.07	.73	.18	.19
28	.78	.76	.39	.33	.28	.02	35.24	.44	34.95	.42	.15	.16
29	.77	.69	.40	.27	.30	35.84	.29	.44	35.26	.95		.16
30	.79	.67	.30	.31	.18	.72	.33	.48	.34	35.12		.08
31		.52		.28	.03		.32		.39	.13		.08
Mean	35.63	35.64	35.37	35.27	35.19	35.65	35.31	35.45	35.03	34.65	35.15	35.22
Max.	35.88	35.76	35.71	35.38	35.38	36.29	35.79	35.94	35.44	35.36	35.36	35.40
Min.	35.30	35.21	34.94	35.16	34.91	34.81	34.91	35.23	34.57	34.36	34.66	35.02

WATER YEAR 1977 : Max. 36.29 m. Min. 34.36 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	318	435	337	279	287	245	369	324	324	306	219	243
2	309	415	418	312	248	245	365	439	330	227	237	273
3	296	365	352	284	212	209	318	501	293	130	296	270
4	287	262	352	287	243	164	270	442	229	98	279	265
5	290	279	349	299	240	205	229	412	212	84	284	273
6	293	382	356	284	202	248	262	379	155	81	306	318
7	312	362	324	276	186	207	245	327	127	109	299	318
8	324	327	229	273	243	243	254	299	116	107	290	290
9	346	382	327	267	262	265	276	270	160	108	279	296
10	342	389	375	267	243	432	287	379	217	105	287	276
11	389	402	395	296	287	497	276	346	265	95	262	273
12	418	418	395	276	281	516	290	290	267	84	256	349
13	415	429	362	296	312	531	446	281	144	147	245	276
14	422	435	309	284	259	621	446	267	121	119	309	276
15	415	464	245	276	217	637	415	309	116	147	248	212
16	402	453	333	265	276	527	340	281	164	149	279	273
17	418	422	284	265	284	432	309	276	273	136	262	254
18	425	405	290	251	265	449	281	324	193	103	265	245
19	446	415	279	248	293	439	212	333	186	76	232	265
20	464	408	259	273	267	402	281	321	171	95	217	243
21	479	408	243	279	284	372	290	324	132	142	200	270
22	475	392	193	270	279	398	306	312	202	127	132	281
23	460	395	251	281	293	435	281	387	267	98	180	287
24	453	405	259	312	270	508	276	343	264	105	182	267
25	475	392	259	281	248	512	219	349	276	149	195	262
26	418	389	284	273	224	539	186	356	284	144	219	245
27	395	432	305	267	227	527	205	321	224	147	254	256
28	442	435	315	296	281	531	270	330	195	90	245	248
29	439	412	318	279	287	464	284	330	276	195		248
30	446	405	287	290	254	422	296	343	299	237		227
31		366		281	214		293		315	240		227
Total	11,833	12,270	9,285	8,667	7,968	12,222	9,077	10,195	6,797	4,179	6,958	8,306
Mean	394	402	309	279	257	407	293	340	219	135	248	274
Max.	479	435	418	312	312	637	446	501	330	306	306	318
Min.	287	262	193	248	186	164	186	267	116	81	132	212
Runoff - RCM.	1,022.371	1,060.128	802.224	148.829	688.435	1,055.981	784.253	880.848	587.261	361.066	601.171	717.638

WATER YEAR 1977 : Max. 637 Min. 81 Mean 295 Annual Runoff 9,310.205 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sept. 14	18.00	36.40	681				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
PING RIVER BASIN

Ping River at Ban Tha Sala, Chiang Mai (P. 19A)

Location: Lat. 18°-25'-29" N., Long. 98°-42'-17" E., on left bank about 300 meters downstream from confluence with Li River, Amphoe Chom Thong, Chiang Mai.

Drainage Area: 14,023 Sq.km.

Type of Gage: Water-stage recorder.

Zero Gage at Bottom at: + 271.351 m. (M.S.L.)

Bench Mark: B.M. - H.S./R.I.D.

Location: Infront of the office of station P.19A.
Elevation: + 275.682 m. (M.S.L.)

Gage Reading Frequency: Recording

Basis of Mean Daily Gage Height: Arithmetic mean of 24 hourly readings.

Period of Available Gage Records: 1958 to date.

Rating Operation:

Period of Rating: 1958 to date.
Rated by Float: -
Rated by Current Meter: 1958 to date.

Stability of Channel Regimes: Stable, no shifting adjustment for flow computation.

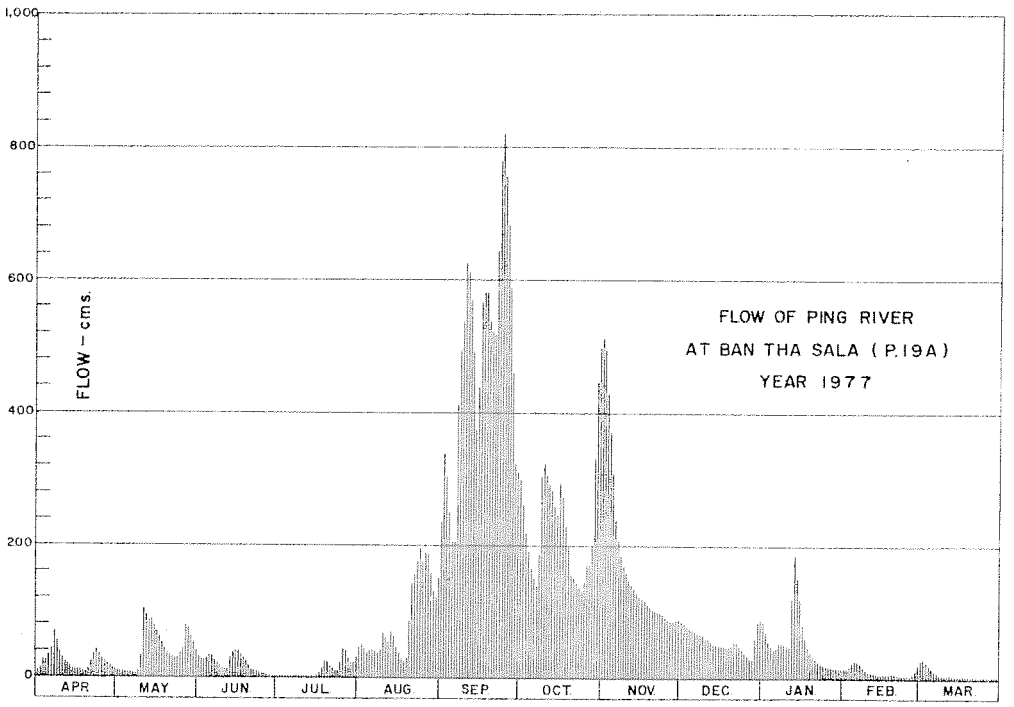
Overbank Flow Conditions: No overbank flow.

General Description: Records fair. Stage-discharge relation defined by 170 discharge measurements made in 1977, upstream stage diversions for irrigation of about 28,000 hectares at above gage site.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	272.33	272.34	272.59	272.18	272.73	274.03	274.26	275.18	273.04	273.04	272.41	272.56
2	.39	.32	.55	.17	.77	.45	.06	.09	.00	272.95	.38	.59
3	.53	.30	.53	.16	.70	.29	273.88	274.82	272.97	.82	.44	.53
4	.53	.30	.58	.16	.67	.03	.71	.52	.94	.74	.52	.49
5	.60	.28	.62	.15	.71	273.79	.56	.24	.94	.71	.54	.45
6	272.74	272.27	272.61	272.14	272.70	273.81	273.46	273.99	272.93	272.72	272.53	272.37
7	.88	.26	.54	.15	.69	274.77	.39	.81	.90	.80	.50	.31
8	.80	.26	.48	.17	.66	275.10	.71	.67	.89	.78	.47	.28
9	.64	.25	.45	.15	.74	.24	274.28	.57	.89	.78	.43	.24
10	.57	.58	.42	.16	.95	.58	.38	.50	.85	.67	.37	.20
11	272.51	273.16	272.39	272.17	272.87	275.54	274.32	273.43	272.83	272.66	272.33	272.20
12	.46	.12	.39	.16	.81	.45	.21	.40	.82	.99	.30	.22
13	.43	.02	.60	.16	.92	.11	.18	.37	.77	273.68	.28	.22
14	.41	.05	.64	.16	.88	274.16	.06	.33	.76	.51	.27	.20
15	.38	.00	.67	.16	.75	.95	.01	.29	.76	.33	.24	.21
16	272.36	272.94	272.68	272.16	272.67	275.37	274.25	273.26	272.77	273.03	272.23	272.22
17	.34	.86	.62	.25	.59	.43	.13	.26	.76	272.86	.22	.22
18	.32	.80	.58	.39	.52	.43	273.91	.21	.76	.75	.22	.20
19	.30	.72	.48	.54	.58	.28	.73	.17	.74	.67	.24	.19
20	.37	.66	.43	.53	273.01	.21	.53	.14	.75	.62	.26	.19
21	272.52	272.62	272.39	272.44	273.38	275.20	273.47	273.14	272.81	271.56	272.25	272.18
22	.64	.59	.35	.39	.51	.53	.44	.14	.81	.52	.22	.15
23	.69	.56	.34	.36	.63	276.02	.39	.13	.74	.48	.20	.14
24	.63	.59	.31	.35	.74	.16	.34	.11	.69	.46	.18	.12
25	.57	.65	.27	.51	.61	275.98	.42	.08	.64	.44	.17	.10
26	272.52	272.75	272.26	272.72	273.69	275.72	273.58	273.04	272.60	272.42	272.19	271.10
27	.48	.98	.22	.71	.69	.37	.59	.02	.59	.41	.27	.09
28	.43	.94	.20	.61	.55	274.86	.69	.02	.59	.40	.49	.09
29	.40	.87	.19	.51	.39	.41	274.33	.05	.78	.40		.09
30	.37	.79	.18	.50	.28	.34	.87	.06	273.02	.38		.07
31		.70		.59	.49		275.11		.05	.38		.07
Mean	272.50	272.66	272.45	272.32	273.03	275.03	273.91	273.53	272.82	272.74	272.32	272.23
Max.	272.88	273.16	272.68	272.72	273.74	276.16	275.11	275.18	273.05	273.68	272.54	272.59
Min.	272.30	272.25	272.18	272.14	272.52	273.79	273.34	273.02	272.59	272.38	272.17	272.07

WATER YEAR 1977 : Max. 276.16 m. Min. 272.07 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	10	18	31	2.40	46	250	297	512	87	87	15	28
2	13	9.20	27	2.10	50	338	255	489	81	74	13	31
3	25	8.00	25	1.80	42	303	221	424	77	57	17	25
4	25	8.00	30	1.80	39	250	192	355	73	47	24	21
5	32	7.00	34	1.50	43	205	166	292	73	43	26	18
6	47	6.50	33	1.20	42	209	150	242	71	44	25	12
7	64	6.00	26	1.50	41	412	138	209	68	54	22	8.60
8	54	6.00	20	2.10	38	419	192	185	66	52	20	7.00
9	36	5.50	18	1.50	47	528	301	168	66	52	16	5.00
10	29	30	15	1.80	74	627	323	156	60	39	12	3.00
11	23	104	13	2.10	63	614	309	145	58	38	10	3.00
12	19	98	13	1.80	55	587	286	140	57	80	8.00	4.00
13	16	84	32	1.80	70	494	280	135	50	187	7.00	4.00
14	15	88	36	1.80	64	375	255	129	49	158	6.50	3.00
15	13	81	39	1.80	48	455	246	123	49	129	5.00	3.50
16	12	73	40	1.80	39	564	294	119	50	85	4.50	4.00
17	10	62	34	5.50	31	581	269	119	49	62	4.00	4.00
18	9.20	54	30	13	24	581	227	111	49	48	4.00	3.00
19	8.00	44	20	26	30	539	195	105	47	39	5.00	2.70
20	12	38	16	25	82	520	161	101	48	34	6.00	2.70
21	24	34	17	17	137	517	151	101	55	28	5.50	2.40
22	36	31	11	13	158	611	146	101	55	24	4.00	1.50
23	41	28	10	12	178	772	138	99	47	20	3.00	1.20
24	35	31	8.60	11	197	822	131	96	41	19	2.40	0.60
25	29	37	6.50	23	175	758	143	92	36	17	2.10	0.00
26	24	48	6.00	44	188	671	170	87	32	15	2.70	0.00
27	20	78	4.00	43	188	564	171	84	31	15	6.50	0.00
28	16	73	3.00	33	164	433	188	84	31	14	21	0.00
29	14	63	2.70	23	138	329	312	88	52	14		0.00
30	12	53	2.40	22	122	314	436	88	84	13		0.00
31		42		31	154		494		88	13		0.00
Total	723.20	1,340.20	599.20	370.30	2,767	14,714	7,237	5,179	1,780	1,601	297.20	198.20
Mean	24.1	43.2	19.9	11.9	89.2	490	233	172	57.4	516	10.6	6.39
Max.	64	104	40	44	197	822	494	512	88	187	26	31
Min.	8.00	5.50	2.40	1.20	24	205	131	84	31	13	2.10	0.00
Runoff - mcm.	62.484	115.793	51.771	31.994	239.069	1,271.290	625.277	447.466	153.792	138.326	25.678	17.124

WATER YEAR 1977 : Max. 822 Min. 0.00 Mean 101 Annual Runoff 3,180.064 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sept. 23	24.00	276	840				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
PING RIVER BASIN

Mae Rim near 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 Chiang Mai – Fang highway bridge, Amphoe Mae Rim, Chiang Mai.

Drainage Area: 515 Sq.km.

Type of Gage: Staff gage.

Zero Gage at Bottom at: + 319.69 m. (M.S.L.)

Bench Mark: B.M. – H.S./RID No. 4

Location: In the vicinity of gage observer's house.
Elevation: + 321.955 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.
Rated by Float: –
Rated by Current Meter: 1954–1960, 1977.

Stability of Channel Regimes: Rather unstable, no shifting adjustment for flow computation.

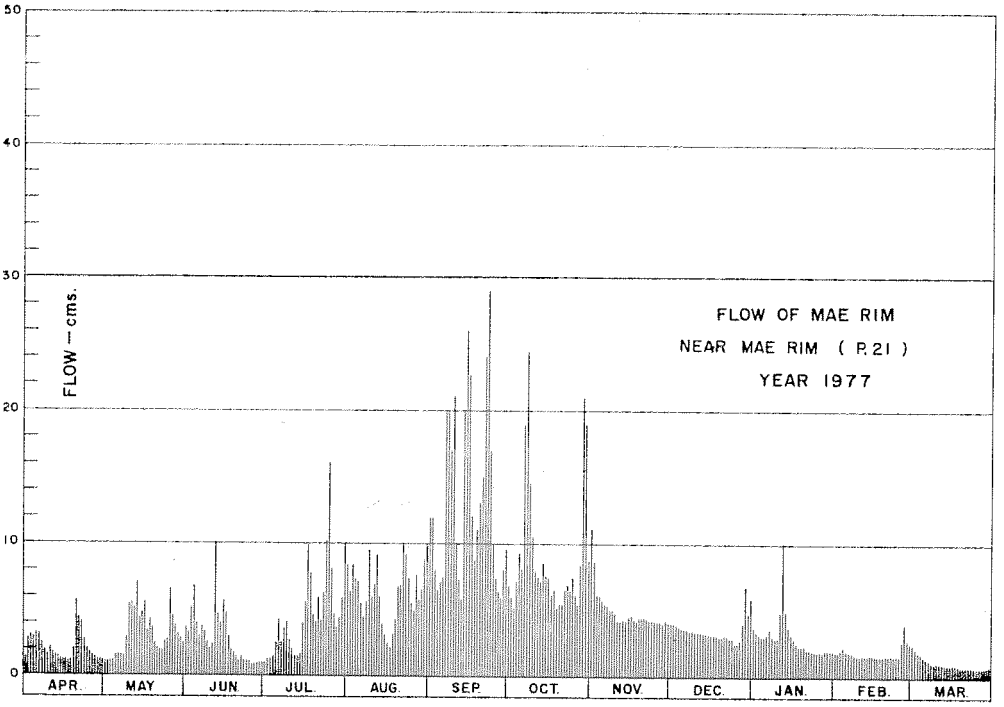
Overbank Flow Conditions: No overbank flow.

General Description: Records fair. Stage-discharge relation defined by 29 discharge measurements made in 1977.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	320.37	320.35	320.70	320.35	321.13	321.43	321.00	321.36	320.74	320.72	320.48	320.55
2	.60	.34	.67	.38	320.97	.37	320.93	.16	.74	.67	.47	.52
3	.62	.36	.85	.40	321.14	.13	.86	320.95	.73	.65	.51	.47
4	.61	.36	321.01	.40	.04	320.98	321.03	.94	.72	.63	.54	.45
5	.64	.42	320.75	.57	.03	321.03	.21	.91	.70	.63	.49	.43
6	320.63	320.43	320.83	320.76	320.90	321.08	321.12	320.88	320.70	320.65	320.47	320.40
7	.55	.43	.72	.58	.78	.87	.40	.88	.69	.70	.45	.38
8	.49	.42	.67	.70	.90	.84	322.13	.84	.68	.64	.44	.35
9	.44	.61	.57	.75	321.21	.72	321.67	.84	.68	.62	.43	.33
10	.51	.88	.51	.60	320.93	.90	.26	.82	.68	.60	.43	.36
11	320.47	320.89	320.55	320.51	321.01	321.25	321.11	320.76	320.67	320.82	320.44	320.34
12	.43	.85	321.29	.43	.19	.09	.07	.76	.67	321.25	.44	.33
13	.41	321.03	320.80	.41	320.93	320.92	.04	.77	.66	320.84	.43	.31
14	.38	320.77	.74	.46	.74	321.44	.15	.76	.65	.72	.44	.32
15	.37	.81	.90	.63	.63	322.17	.08	.79	.65	.67	.44	.31
16	320.36	320.89	320.91	320.90	320.57	322.03	321.07	320.80	320.64	320.62	320.42	320.32
17	.34	.69	.63	321.29	.51	321.39	320.95	.78	.64	.58	.41	.33
18	.34	.79	.51	.10	.59	.17	.99	.76	.64	.54	.41	.30
19	.50	.71	.46	320.82	.77	.31	.84	.78	.63	.53	.43	.29
20	.90	.57	.41	.75	321.00	.46	.89	.78	.62	.54	.43	.29
21	320.77	320.51	320.36	320.93	321.02	321.60	320.87	320.78	320.64	320.50	320.42	320.28
22	.75	.50	.42	.74	.24	322.05	.99	.77	.63	.50	.41	.28
23	.59	.50	.36	.96	.19	.31	321.02	.76	.61	.49	.42	.27
24	.51	.58	.36	321.23	.06	321.71	320.98	.76	.61	.48	.43	.28
25	.46	.59	.35	.63	320.89	.23	321.08	.75	.67	.48	.42	.27
26	320.43	320.98	320.31	321.12	320.84	321.06	320.94	320.75	320.55	320.49	320.57	320.27
27	.40	.78	.32	320.80	321.09	320.97	.88	.75	.59	.48	.73	.27
28	.39	.72	.32	.70	320.91	.92	321.13	.74	.74	.50	.59	.29
29	.38	.63	.33	.77	.98	321.11	.91	.77	321.00	.50		.29
30	.36	.60	.32	.92	321.16	.22	.80	.75	320.81	.49		.30
31		.57		321.26	.26		.16		.93	.49		.33
Mean	320.50	320.63	320.59	320.76	320.95	321.42	321.14	320.33	320.68	320.61	320.46	320.33
Max.	320.90	321.03	321.29	321.63	321.26	322.31	322.13	321.36	321.00	321.25	320.73	320.55
Min.	320.34	320.34	320.31	320.35	320.51	320.92	320.84	320.74	320.55	320.48	320.41	320.27

WATER YEAR 1977 : Max. 322.31 m. Min. 320.27 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	1.22	1.10	3.60	1.10	8.22	12	6.70	11	4.00	3.80	1.88	2.40
2	2.80	1.04	3.36	1.28	6.37	12	5.93	8.64	4.00	3.36	1.82	2.16
3	2.96	1.16	5.10	1.40	8.36	8.22	5.20	6.15	3.90	3.20	2.08	1.82
4	2.88	1.16	6.81	1.40	7.14	6.48	7.03	6.04	3.80	3.04	2.32	1.70
5	3.12	1.52	4.10	2.56	7.03	7.03	9.34	5.71	3.60	3.04	1.94	1.58
6	3.04	1.58	3.04	4.20	5.60	7.58	8.08	5.40	3.60	3.20	1.82	1.40
7	2.40	1.58	3.80	2.64	4.40	20	12	5.40	3.52	3.60	1.70	1.28
8	1.94	1.52	3.36	3.60	5.60	20	25	5.00	3.44	3.12	1.64	1.10
9	1.64	2.88	2.56	4.10	9.34	17	16	5.00	3.44	2.96	1.58	0.98
10	2.08	5.40	2.08	2.80	5.93	21	10	4.80	3.44	2.80	1.58	1.16
11	1.82	5.50	2.40	2.08	6.81	10	7.94	4.20	3.36	4.80	1.64	1.04
12	1.58	5.10	10	1.58	9.06	7.69	7.47	4.20	3.36	10	1.64	0.98
13	1.46	7.03	4.60	1.46	5.93	5.82	7.14	4.30	3.28	5.00	1.58	0.86
14	1.28	4.30	4.00	1.76	4.00	13	8.50	4.20	3.20	3.80	1.64	0.92
15	1.22	4.70	5.60	3.04	3.04	26	7.58	4.50	3.20	3.36	1.64	0.86
16	1.16	5.50	5.71	5.60	2.56	23	7.47	4.60	3.12	2.96	1.52	0.92
17	1.04	3.52	3.04	10	2.08	12	6.15	4.40	3.12	2.64	1.46	0.98
18	1.04	4.50	2.08	7.80	2.72	8.78	6.59	4.20	3.12	2.32	1.46	0.80
19	2.00	3.70	1.76	4.80	4.30	11	5.00	4.40	3.04	2.24	1.58	0.76
20	5.60	2.56	1.46	4.10	6.70	13	5.50	4.40	2.96	2.32	1.58	0.76
21	4.30	2.08	1.16	5.93	6.92	15	5.30	4.40	3.12	2.00	1.52	0.76
22	4.10	2.00	1.52	4.00	10	24	6.59	4.30	3.04	2.00	1.46	0.72
23	2.72	2.00	1.16	6.26	9.06	29	6.92	4.20	2.88	1.94	1.52	0.68
24	2.08	2.64	1.16	10	7.36	17	6.48	4.20	2.88	1.88	1.58	0.72
25	1.76	2.72	1.10	16	5.50	10	7.58	4.10	2.56	1.88	1.52	0.68
26	1.58	6.48	0.86	8.08	5.00	7.36	6.04	4.10	2.40	1.94	2.56	0.68
27	1.40	4.40	0.92	4.60	7.69	6.37	5.40	4.10	2.72	1.88	3.90	0.68
28	1.34	3.80	0.92	3.60	5.71	5.82	8.22	4.00	4.00	2.00	2.72	0.76
29	1.28	3.04	0.98	4.30	6.48	7.94	21	4.30	6.70	2.00		0.76
30	1.16	2.80	0.92	5.82	8.64	9.48	19	4.10	4.70	1.94		0.80
31		2.56		10	10		8.64		5.93	1.94		0.98
Total	64.00	99.87	89.16	145.89	197.55	393.57	275.79	148.34	109.43	92.96	50.88	32.64
Mean	2.13	3.22	2.97	4.71	6.37	13.1	8.90	4.94	3.53	3.00	1.82	1.05
Max.	5.60	7.03	10	16	10	29	25	11	6.70	10	3.90	2.40
Min.	1.04	1.04	0.86	1.10	2.08	5.82	5.00	4.00	2.40	1.88	1.46	0.68
Runoff - MCM.	5.530	8.629	7.703	12.605	17.068	34.004	23.828	12.816	9.459	8.032	4.396	2.820

WATER YEAR 1977 : Max. 29 Min. 0.68 Mean 4.66 Annual Runoff 146.887 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sept. 15	21.00	322.41	32				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
PING RIVER BASIN

Mae Khan River at Ban Mae Khan, Chiang Mai (P. 23)

Location: Lat. 18°-31'-37" N., Long. 98°-51'-42" E., on left bank downstream site of Mae Khan Bridge, Amphoe San Pa Tong, Chiang Mai.

Drainage Area: 1,777 Sq.km.

Type of Gage: Staff gage.

Zero Gage at Bottom at: + 289.622 m. (M.S.L.)

Bench Mark: B.M. - H.S.

Location: About 10 meters in the line of vertical staff gage.
Elevation: + 289.483 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, 1967, 1969 to date.
Rated by Float: -
Rated by Current Meter: 1954-1960, 1967, 1969 to date.

Stability of Channel Regimes: Fairly stable, no shifting adjustment for flow computation.

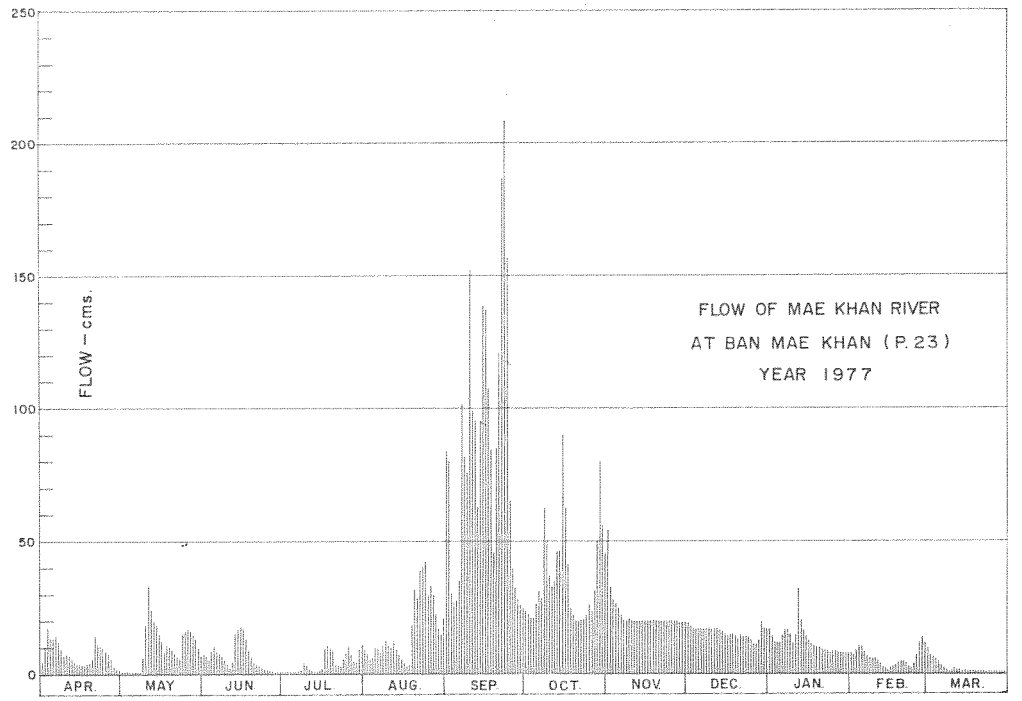
Overbank Flow Conditions: No overbank flow.

General Description: Records fair. Stage-discharge relation defined by 31 discharge measurements made in 1977.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	286.91	286.75	287.14	286.68	287.21	288.32	287.52	287.97	287.42	287.37	287.18	287.22
2	287.27	.73	.10	.70	.14	.27	.50	.70	.41	.31	.15	.17
3	.38	.83	.07	.69	.08	287.68	.47	.59	.39	.27	.20	.12
4	.30	.79	.17	.70	.10	.58	.47	.55	.39	.26	.24	.12
5	.30	.72	.21	.69	.19	.60	.59	.54	.39	.27	.23	.05
6	287.31	286.69	287.18	286.69	287.19	287.71	287.64	287.50	287.38	287.33	287.19	287.02
7	.27	.67	.15	.69	.15	288.48	.59	.45	.38	.39	.14	286.98
8	.18	.65	.12	.85	.22	.31	288.07	.45	.38	.38	.11	.95
9	.12	.65	.06	287.04	.29	.23	287.93	.47	.37	.33	.11	.90
10	.13	287.35	.00	.01	.25	.91	.72	.45	.37	.27	.11	.90
11	287.10	287.88	286.98	286.93	287.22	288.46	287.67	287.45	287.37	287.33	287.10	286.95
12	.09	.56	287.07	.86	.28	.43	.73	.45	.37	.66	.08	.86
13	.06	.45	.33	.79	.25	.08	.87	.45	.36	.46	.02	.86
14	.00	.42	.33	.81	.16	.44	.88	.45	.35	.36	286.99	.82
15	.00	.36	.40	.76	.09	.81	288.38	.45	.34	.32	.99	.79
16	287.00	287.26	287.38	286.84	287.06	288.79	288.09	287.45	287.32	287.27	286.99	286.77
17	.01	.18	.28	287.20	.02	.48	287.69	.45	.33	.24	287.01	.77
18	.04	.23	.19	.24	.00	.29	.53	.45	.33	.23	.04	.77
19	.06	.21	.12	.21	.31	287.87	.48	.45	.32	.22	.07	.76
20	.12	.19	.06	.17	.66	288.32	.45	.45	.30	.22	.09	.74
21	287.31	287.14	287.01	287.03	287.61	288.61	287.44	287.45	287.33	287.20	287.07	286.73
22	.24	.11	.03	.02	.77	289.16	.47	.45	.32	.20	.04	.71
23	.21	.08	286.97	.03	.78	.30	.45	.45	.32	.20	.01	.67
24	.20	.34	.92	.11	.81	288.96	.52	.44	.32	.18	286.99	.62
25	.17	.35	.89	.18	.61	.09	.55	.44	.29	.18	287.04	.62
26	287.13	287.37	286.86	287.23	287.68	287.79	287.51	287.45	287.25	287.19	287.14	286.62
27	.07	.35	.82	.14	.63	.67	.69	.44	.25	.18	.30	.62
28	286.99	.32	.84	.06	.49	.61	.97	.43	.30	.18	.31	.62
29	.92	.28	.81	.08	.37	.55	288.27	.43	.44	.18		.62
30	.86	.19	.77	.19	.33	.54	.01	.43	.39	.18		.62
31		.11		.27	.47		287.86		.37	.18		.62
Mean	287.12	287.12	287.07	286.97	287.33	288.24	287.71	287.48	287.35	287.27	287.10	286.82
Max.	287.38	286.69	287.40	287.27	287.81	289.30	288.38	287.97	287.44	287.66	287.31	287.22
Min.	286.86	286.65	286.71	286.68	287.00	287.54	287.44	287.43	287.25	287.18	286.99	286.62

WATER YEAR 1977 : Max. 289.30 m. Min. 286.62 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	1.65	0.27	7.40	0.030	10	84	24	54	19	17	8.80	10
2	12	0.18	6.00	0.050	7.40	80	23	34	18	14	7.75	8.45
3	17	0.80	5.10	0.040	5.40	33	21	28	17	12	9.50	6.70
4	13	0.45	8.45	0.050	6.00	27	21	26	17	12	11	6.70
5	13	0.14	10	0.040	9.15	28	28	25	17	12	11	4.50
6	14	0.04	8.80	0.040	9.15	35	31	23	17	15	9.15	3.60
7	12	0.02	7.75	0.040	7.75	101	28	20	17	17	7.40	2.70
8	8.80	0.00	6.70	1.00	10	83	62	20	17	17	6.35	2.25
9	6.70	0.00	4.80	4.20	13	76	51	21	17	15	6.35	1.50
10	7.05	16	3.00	3.30	11	152	36	20	17	12	6.35	1.50
11	6.00	33	2.70	1.95	10	99	33	20	17	15	6.00	2.25
12	5.70	26	5.10	1.10	13	96	36	20	17	32	5.40	1.10
13	4.80	20	15	0.45	11	63	46	20	16	21	3.60	1.10
14	3.00	19	17	0.60	8.10	97	47	20	16	16	2.85	0.70
15	3.00	16	18	0.32	5.10	139	90	20	15	14	2.85	0.45
16	3.00	12	17	0.92	4.80	137	64	20	14	12	2.85	0.36
17	3.30	8.80	13	9.50	3.60	101	34	20	15	11	3.30	0.36
18	4.20	11	9.15	11	3.00	82	25	20	15	11	4.20	0.36
19	4.80	10	6.70	10	14	46	22	20	14	10	5.10	0.32
20	6.70	9.15	4.80	8.45	32	84	20	20	13	10	5.70	0.23
21	14	7.40	3.30	3.90	29	115	20	20	15	9.50	5.10	0.18
22	11	6.35	3.90	3.60	39	187	21	20	14	9.50	4.20	0.09
23	10	5.40	2.55	3.90	40	208	20	20	14	9.50	3.30	0.02
24	9.50	15	1.80	6.35	42	159	24	20	14	8.80	2.85	0.00
25	8.45	16	1.40	8.80	29	64	26	20	13	8.80	4.20	0.00
26	7.05	17	1.10	11	33	40	23	20	11	9.15	7.40	0.00
27	5.10	16	0.70	7.40	30	33	34	20	11	8.80	13	0.00
28	2.85	14	0.90	4.80	22	29	54	19	13	8.80	14	0.00
29	1.80	13	0.60	5.40	17	26	80	19	20	8.80		0.00
30	1.10	9.15	0.36	9.15	15	25	57	19	17	8.80		0.00
31		6.35		12	21		45		17	8.80		0.00
Total	220.55	308.50	193.06	129.36	510.45	2,529	1,146	668	484	394.25	179.55	55.42
Mean	7.35	9.95	6.43	4.17	16.4	84.3	36.9	22.2	15.6	12.7	6.41	1.78
Max.	17	33	18	12	42	208	90	54	20	32	14	10
Min.	1.10	0.00	0.36	0.030	3.00	25	20	19	11	8.80	2.85	0.00
Runoff – mcm.	19.055	26.654	16.680	11.177	44.103	218.506	99.014	57.716	41.818	34.063	15.513	4.788

WATER YEAR 1977 : Max. 208 Min. 0.00 Mean 18.7 Annual Runoff 589.087 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sept.22	24.00	289.70	272				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
PING RIVER BASIN

Mae Klang River at Chom Thong, Chiang Mai (P. 24A)

Location: Lat. 18°-25'-01" N., Long. 98°-40'-29" E., on left bank about 5 kilometers upstream from Mae Klang Bridge, at Pracha Uthit Bridge, Amphoe Chom Thong, Chiang Mai.

Drainage Area: –

Type of Gage: Staff gage.

Zero Gage at Bottom at: + 274.69 m. (M.S.L.)

Bench Mark: B.M. – H.S.

Location: B.M.1 near the gage observer's house, B.M.2 on left Bank abutment of the Pracha Uthit Bridge.
Elevation: B.M.1 = 277.954 m. (M.S.L.), B.M.2 = 280.309 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: Fairly stable, no shifting adjustment for flow computation.

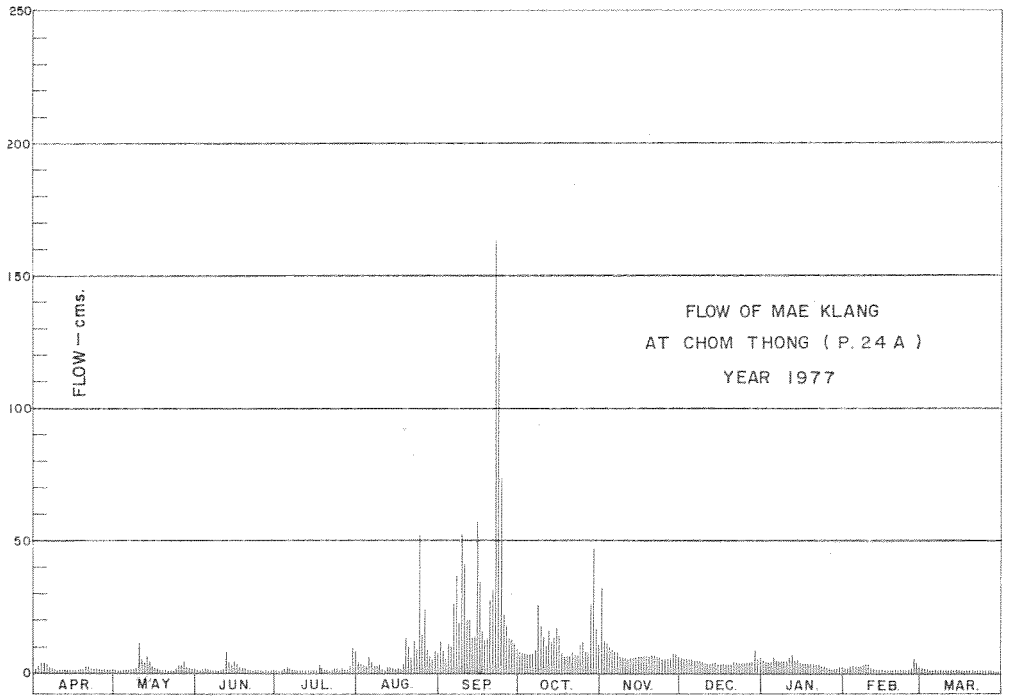
Overbank Flow Conditions: Overbank flow starts at elevation + 278.75 m. (M.S.L.) and is included.

General Description: Records fair. Stage-discharge relation defined by 139 discharge measurements made in 1977.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	275.56	275.43	275.51	275.47	275.74	276.13	275.95	276.75	275.84	275.78	275.61	275.59
2	.74	.43	.47	.44	.68	275.95	.91	.11	.84	.76	.61	.56
3	.69	.44	.56	.48	.69	.84	.94	.07	.82	.75	.68	.54
4	.72	.45	.60	.60	.65	276.07	.94	.06	.81	.74	.73	.53
5	.71	.45	.54	.60	.85	.06	.93	275.97	.81	.74	.65	.53
6	275.59	275.45	275.48	275.60	275.72	276.51	275.91	275.94	275.78	275.85	275.64	275.51
7	.54	.45	.42	.45	.63	.88	276.01	.95	.80	.80	.66	.51
8	.51	.45	.41	.52	.65	.36	.56	.87	.79	.77	.69	.51
9	.49	.57	.40	.50	.70	277.23	.32	.84	.76	.75	.68	.51
10	.49	276.08	.42	.44	.60	276.95	.16	.81	.74	.74	.67	.50
11	275.47	275.66	275.51	275.44	275.59	276.41	276.05	275.81	275.71	275.82	275.58	275.51
12	.47	.75	.95	.42	.62	.40	.26	.83	.70	.90	.54	.50
13	.47	.86	.72	.42	.64	.17	.07	.85	.74	.79	.54	.51
14	.46	.72	.70	.44	.61	.21	.24	.84	.75	.75	.52	.50
15	.47	.58	.76	.52	.54	277.33	.31	.85	.70	.73	.52	.50
16	275.47	275.54	275.68	275.52	275.52	276.56	276.13	275.88	275.70	275.71	275.52	275.49
17	.47	.52	.61	.68	.52	.27	275.96	.89	.70	.70	.52	.49
18	.53	.49	.58	.62	.63	.13	.89	.87	.71	.69	.55	.49
19	.49	.48	.58	.56	276.18	.19	.86	.87	.71	.68	.52	.48
20	.65	.47	.55	.50	.01	.65	.88	.85	.70	.67	.53	.49
21	275.61	275.45	275.49	275.49	275.85	276.75	275.91	275.85	275.79	275.66	275.52	275.48
22	.55	.45	.45	.51	276.12	278.67	.89	.85	.75	.66	.52	.48
23	.52	.45	.44	.60	.00	277.99	.92	.85	.73	.65	.53	.49
24	.50	.61	.44	.59	277.22	276.97	276.07	.84	.72	.64	.52	.49
25	.49	.68	.51	.57	276.23	.51	.11	.84	.72	.63	.52	.48
26	275.48	275.69	275.46	275.60	276.52	276.29	275.90	275.84	275.72	275.62	275.52	275.49
27	.47	.78	.51	.55	.02	.18	.98	.84	.71	.64	.82	.49
28	.47	.56	.44	.50	275.85	.11	276.81	.84	.79	.59	.72	.48
29	.45	.54	.43	.71	.79	.09	277.01	.91	.96	.59		.48
30	.44	.49	.41	276.00	.97	.01	276.31	.86	.82	.63		.48
31		.47		275.94	.93		.10		.85	.63		.47
Mean	275.53	275.56	275.53	275.56	275.85	276.52	276.11	275.91	275.76	275.71	275.59	275.50
Max.	275.74	276.08	275.95	276.00	277.22	278.67	277.01	276.75	275.96	275.90	275.82	275.59
Min.	275.44	275.43	275.40	275.42	275.52	275.84	275.86	275.81	275.70	275.59	275.52	275.47

WATER YEAR 1977 : Max. 278.67 m. Min. 275.40 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	1.60	0.65	1.10	0.85	4.10	12	8.00	32	5.80	4.70	2.15	1.90
2	4.10	0.65	0.85	0.70	3.20	8.00	7.20	12	5.80	4.40	2.15	1.60
3	3.35	0.70	1.60	0.90	3.35	5.80	7.80	11	5.40	4.25	3.20	1.40
4	3.80	0.75	2.00	2.00	2.75	11	7.80	10	5.20	4.10	3.95	1.30
5	3.65	0.75	1.40	2.00	6.00	10	7.60	8.40	5.20	4.10	2.75	1.30
6	1.90	0.75	0.90	2.00	3.80	23	7.20	7.80	4.70	6.00	2.60	1.10
7	1.40	0.75	0.60	0.75	2.45	37	9.25	8.00	5.00	5.00	2.90	1.10
8	1.10	0.75	0.55	1.20	2.75	19	25	6.40	4.85	4.55	3.35	1.10
9	0.95	0.70	0.50	1.00	3.50	52	18	5.80	4.40	4.25	3.20	1.10
10	0.95	11	0.60	0.70	2.00	40	13	5.20	4.10	4.10	3.05	1.00
11	0.85	2.90	1.10	0.70	1.90	20	10	5.20	3.65	5.40	1.80	1.10
12	0.85	4.25	8.00	0.60	2.30	20	16	5.60	3.50	7.00	1.40	1.00
13	0.85	6.20	3.80	0.60	2.60	13	11	6.00	4.10	4.85	1.40	1.10
14	0.80	3.80	3.50	0.70	2.15	14	15	5.80	4.25	4.25	1.20	1.00
15	0.85	1.80	4.40	1.20	1.40	57	17	6.00	3.50	3.95	1.20	1.00
16	0.85	1.40	3.20	1.20	1.20	25	12	6.60	3.50	3.65	1.20	0.95
17	0.85	1.20	2.15	3.20	1.20	16	8.20	6.80	3.50	3.50	1.20	0.95
18	1.30	0.95	1.80	2.30	2.45	12	6.80	6.40	3.65	3.35	1.50	0.95
19	0.95	0.90	1.80	1.60	13	14	6.20	6.40	3.65	3.20	1.20	0.90
20	2.75	0.85	1.50	1.00	9.25	28	6.60	6.00	3.50	3.05	1.30	0.95
21	2.15	0.75	0.95	0.95	6.00	32	7.20	6.00	4.85	2.90	1.20	0.90
22	1.50	0.75	0.75	1.10	12	163	6.80	6.00	4.25	2.90	1.20	0.90
23	1.20	0.75	0.70	2.00	9.00	97	7.40	6.00	3.95	2.75	1.30	0.95
24	1.00	2.15	0.70	3.35	52	41	11	5.80	3.80	2.60	1.20	0.95
25	0.95	3.20	1.10	1.70	15	23	12	5.80	3.80	2.45	1.20	0.90
26	0.90	3.35	0.80	2.00	24	17	7.00	5.80	3.80	2.30	1.20	0.95
27	0.85	4.70	1.10	1.50	9.50	13	8.60	5.80	3.65	2.60	5.40	0.95
28	0.85	1.60	0.70	1.00	6.00	12	34	7.80	4.85	1.90	3.80	0.90
29	0.75	1.40	0.65	3.65	4.85	11	42	7.20	8.20	1.90		0.90
30	0.70	0.95	0.55	9.00	8.40	9.25	17	6.20	5.40	2.45		0.90
31		0.85		7.80	7.60		11		6.00	2.45		0.85
Total	44.55	62.15	49.35	59.25	225.70	855.05	383.65	229.80	139.80	114.85	59.20	32.85
Mean	1.48	2.00	1.64	1.91	7.28	28.5	12.4	7.66	4.51	3.70	2.11	1.06
Max.	4.10	11	8.00	9.00	52	163	42	32	8.20	7.00	5.40	1.90
Min.	0.70	0.65	0.50	0.60	1.20	5.80	6.20	5.20	3.50	1.90	1.20	1.85
Runoff - mcm.	3.849	5.370	4.264	5.119	19.500	73.876	33.147	19.855	12.079	9.923	5.115	2.838

WATER YEAR 1977 : Max. 163 Min. 0.50 Mean 6.18 Annual Runoff 194.936 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sept.22	12.00	278.92	232				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
PING RIVER BASIN

Huai Mae Nai at Ban Mae Nai, Chiang Mai (P. 27A)

Location: Lat. 18°-53'-18" N., Long. 98°-55'-00" E., on left bank about 3 kilometers upstream from station P27, Ban Mae Nai, Amphoe Mae Rim, Chiang Mai.

Drainage Area: 18 Sq.km.

Type of Gage: Water-stage recorder.

Zero Gage at Bottom at: + 0.00 m.

Bench Mark: B.M. - H.S.

Location: Near the top of vertical staff gage.
Elevation: + 3.263 m. (A.D.)

Gage Reading Frequency: Recording

Basis of Mean Daily Gage Height: Arithmetic mean of 24 hourly readings.

Period of Available Gage Records: 1967 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, no shifting adjustment for flow computation.

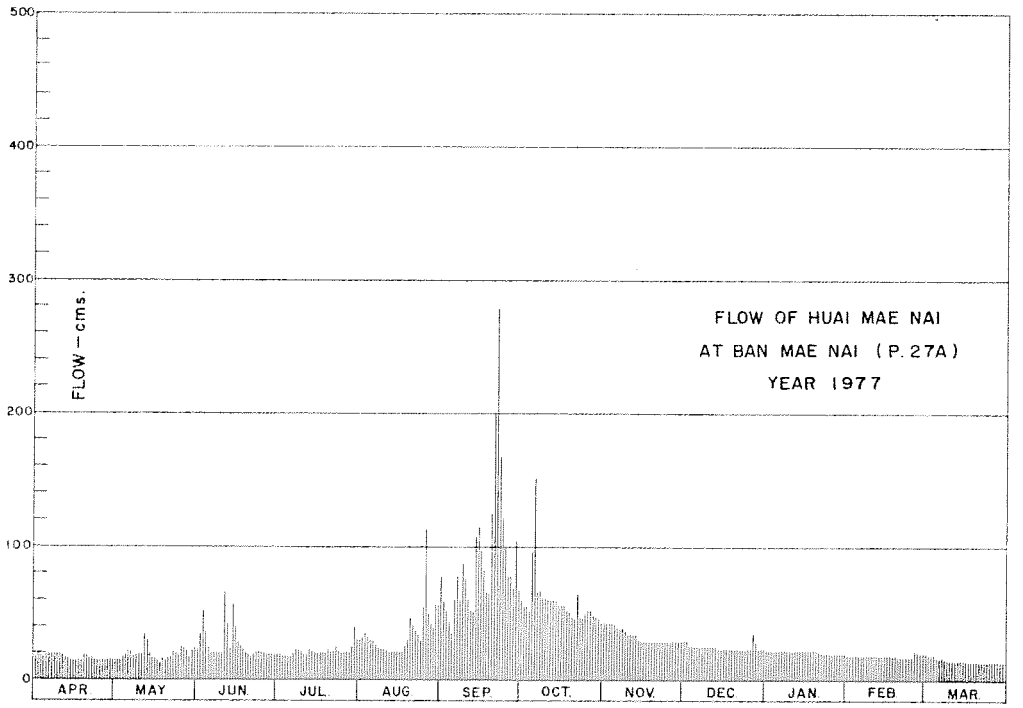
Overbank Flow Conditions: No overbank flow.

General Description: Records good. Stage-discharge relation defined by 39 discharge measurements made in 1977.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.25	0.24	0.28	0.26	0.31	0.41	0.38	0.34	0.31	0.29	0.26	0.27
2	.27	.24	.33	.26	.32	.37	.37	.34	.31	.28	.26	.26
3	.25	.24	.36	.25	.32	.36	.37	.34	.30	.28	.26	.26
4	.25	.25	.31	.25	.31	.35	.36	.34	.30	.28	.26	.26
5	.26	.26	.28	.25	.31	.32	.41	.34	.30	.28	.26	.25
6	0.26	0.28	0.26	0.25	0.31	0.40	0.49	0.33	0.30	0.28	0.26	0.25
7	.26	.27	.26	.26	.29	.41	.39	.33	.30	.28	.26	.25
8	.26	.25	.26	.28	.29	.38	.39	.33	.30	.28	.26	.24
9	.26	.26	.26	.28	.29	.42	.38	.33	.30	.28	.26	.24
10	.26	.26	.26	.27	.29	.39	.38	.32	.30	.28	.26	.24
11	0.26	0.26	0.39	0.26	0.27	0.38	0.38	0.32	0.30	0.28	0.26	0.24
12	.25	.32	.32	.26	.27	.36	.38	.32	.30	.28	.26	.24
13	.25	.31	.29	.28	.27	.36	.38	.32	.30	.28	.26	.24
14	.24	.26	.37	.27	.27	.44	.38	.31	.29	.28	.26	.24
15	.24	.24	.33	.26	.27	.45	.37	.31	.29	.28	.26	.24
16	0.24	0.24	0.31	0.26	0.27	0.43	0.37	0.31	0.29	0.28	0.26	0.24
17	.24	.23	.30	.26	.27	.41	.37	.31	.29	.28	.26	.23
18	.24	.22	.29	.26	.30	.39	.36	.31	.29	.28	.26	.23
19	.27	.23	.27	.27	.31	.39	.36	.31	.29	.28	.26	.23
20	.25	.23	.26	.28	.35	.44	.35	.31	.29	.28	.25	.23
21	0.25	0.23	0.25	0.27	0.34	0.55	0.35	0.31	0.29	0.28	0.25	0.23
22	.25	.24	.26	.28	.32	.59	.39	.31	.29	.27	.25	.23
23	.24	.27	.27	.30	.32	.50	.35	.31	.29	.27	.25	.23
24	.24	.25	.27	.27	.31	.46	.35	.31	.29	.27	.25	.23
25	.24	.27	.27	.27	.36	.44	.36	.31	.29	.27	.25	.23
26	0.24	0.30	0.26	0.27	0.45	0.41	0.36	0.31	0.29	0.27	0.28	0.23
27	.24	.29	.26	.27	.36	.41	.36	.31	.32	.27	.28	.23
28	.24	.27	.26	.27	.34	.40	.35	.31	.30	.27	.27	.23
29	.24	.25	.26	.31	.33	.44	.35	.31	.29	.27		.23
30	.24	.28	.26	.33	.37	.40	.35	.31	.29	.27		.23
31		.29		.31	.37		.34		.29	.27		.23
Mean	0.25	0.26	0.29	0.27	0.31	0.41	0.37	0.32	0.24	0.28	0.26	0.24
Max.	0.27	0.32	0.39	0.33	0.45	0.59	0.49	0.34	0.31	0.29	0.28	0.27
Min.	0.24	0.22	0.25	0.25	0.27	0.32	0.34	0.31	0.29	0.27	0.25	0.23

WATER YEAR 1977 : Max. 0.59 m. Min. 0.22 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.17	0.15	0.22	0.19	0.29	0.77	0.59	0.42	0.29	0.23	0.19	0.20
2	0.20	0.15	0.38	0.19	0.34	0.55	0.55	0.42	0.29	0.22	0.19	0.19
3	0.17	0.15	0.51	0.17	0.34	0.51	0.55	0.42	0.25	0.22	0.19	0.19
4	0.17	0.17	0.29	0.17	0.29	0.46	0.51	0.42	0.25	0.22	0.19	0.19
5	0.19	0.19	0.22	0.17	0.29	0.34	0.77	0.42	0.25	0.22	0.19	0.17
6	0.19	0.22	0.19	0.17	0.29	0.68	1.50	0.38	0.25	0.22	0.19	0.17
7	0.19	0.20	0.19	0.19	0.23	0.77	0.64	0.38	0.25	0.22	0.19	0.17
8	0.19	0.17	0.19	0.22	0.23	0.59	0.64	0.38	0.25	0.22	0.19	0.15
9	0.19	0.19	0.19	0.22	0.23	0.86	0.59	0.38	0.25	0.22	0.19	0.15
10	0.19	0.19	0.19	0.20	0.23	0.64	0.59	0.34	0.25	0.22	0.19	0.15
11	0.19	0.19	0.64	0.19	0.20	0.59	0.59	0.34	0.25	0.22	0.19	0.15
12	0.17	0.34	0.34	0.19	0.20	0.51	0.59	0.34	0.25	0.22	0.19	0.15
13	0.17	0.29	0.23	0.22	0.20	0.51	0.59	0.34	0.25	0.22	0.19	0.15
14	0.15	0.19	0.55	0.20	0.20	1.04	0.59	0.29	0.23	0.22	0.19	0.15
15	0.15	0.15	0.38	0.19	0.20	1.13	0.55	0.29	0.23	0.22	0.19	0.15
16	0.15	0.15	0.29	0.19	0.20	0.95	0.55	0.29	0.23	0.22	0.19	0.15
17	0.15	0.14	0.25	0.19	0.20	0.77	0.55	0.29	0.23	0.22	0.19	0.14
18	0.15	0.12	0.23	0.19	0.25	0.64	0.51	0.29	0.23	0.22	0.19	0.14
19	0.20	0.14	0.20	0.20	0.29	0.64	0.51	0.29	0.23	0.22	0.19	0.14
20	0.17	0.14	0.19	0.22	0.46	1.04	0.46	0.29	0.23	0.22	0.17	0.14
21	0.17	0.14	0.17	0.20	0.42	1.98	0.46	0.29	0.23	0.22	0.17	0.14
22	0.17	0.15	0.19	0.22	0.34	2.77	0.64	0.29	0.23	0.20	0.17	0.14
23	0.15	0.20	0.20	0.25	0.34	1.59	0.46	0.29	0.23	0.20	0.17	0.14
24	0.15	0.17	0.20	0.20	0.29	1.23	0.46	0.29	0.23	0.20	0.17	0.14
25	0.15	0.20	0.20	0.20	0.51	1.04	0.51	0.29	0.23	0.20	0.17	0.14
26	0.15	0.25	0.19	0.20	1.13	0.77	0.51	0.29	0.23	0.20	0.22	0.14
27	0.15	0.23	0.19	0.20	0.51	0.77	0.51	0.29	0.34	0.20	0.22	0.14
28	0.15	0.20	0.19	0.20	0.42	0.68	0.46	0.29	0.25	0.20	0.20	0.14
29	0.15	0.17	0.19	0.29	0.38	1.04	0.46	0.29	0.23	0.20		0.14
30	0.15	0.22	0.19	0.38	0.55	0.68	0.46	0.29	0.23	0.20		0.14
31		0.23		0.29	0.55		0.42		0.23	0.20		0.14
Total	5.04	5.79	7.78	6.50	10.60	26.54	17.77	9.91	7.60	6.63	5.27	4.73
Mean	0.17	0.19	0.26	0.21	0.34	0.88	0.57	0.33	0.24	0.21	0.19	0.15
Max.	0.20	0.34	0.64	0.38	1.13	2.77	1.50	0.42	0.29	0.23	0.22	0.20
Min.	0.15	0.12	0.17	0.17	0.20	0.34	0.42	0.29	0.23	0.20	0.20	0.14
Runoff - mcm.	0.435	0.500	0.672	0.562	0.916	2.293	1.535	0.856	0.657	0.573	0.455	0.409

WATER YEAR 1977 : Max. 2.77 Min. 0.12 Mean 0.31 Annual Runoff 9.863 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
May. 12	24.00	1.14	11				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
PING RIVER BASIN

Mae Ngat River at Ban Mai, Chiang Mai (P. 28)

Location: Lat. 19°-10'-10" N., Long. 99°-03'-09" E., on left bank about 2 kilometers upstream from Mae Ngat Weir, at Ban Mai, Amphoe Mae Taeng, Chiang Mai.

Drainage Area: 1,261 Sq.km.

Type of Gage: Staff gage

Zero Gage at Bottom at: + 346.403 m. (M.S.L.)

Bench Mark: B.M. – H.S.

Location: Near the vertical staff gage.
Elevation: + 358.567 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 to date.
Rated by Float: –
Rated by Current Meter: 1966 to date.

Stability of Channel Regimes: Fairly stable, no shifting adjustment for flow computation.

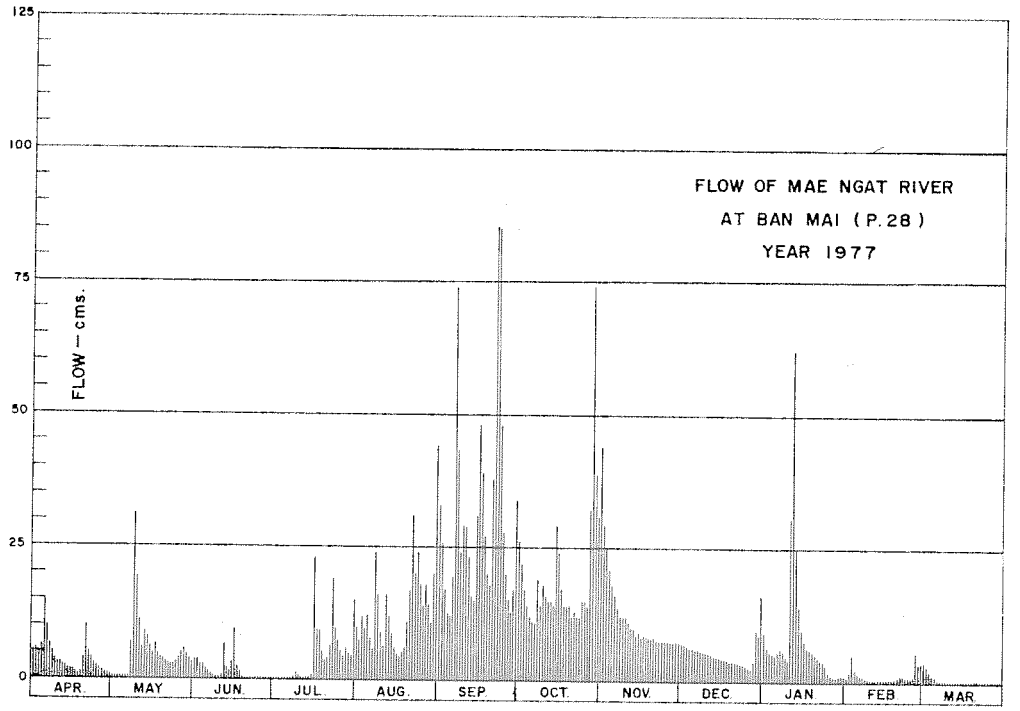
Overbank Flow Conditions: No overbank flow.

General Description: Records fair. Stage-discharge relation defined by 186 discharge measurements made in 1977. Flow regulated by Mae Ngat Weir which built by the local residents for irrigation.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	347.21	347.10	347.28	347.00	347.53	348.14	347.98	348.37	347.44	347.51	347.13	347.29
2	.39	.09	.29	.00	.46	347.98	.90	.08	.43	.42	.13	.25
3	.38	.08	.24	.01	.59	.74	.73	347.96	.42	.38	.35	.20
4	.42	.07	.24	.02	.55	.64	.67	.85	.41	.36	.21	.16
5	.70	.06	.20	.02	.60	.60	.59	.78	.41	.34	.17	.14
6	347.55	347.06	347.17	347.02	347.46	347.66	347.56	347.72	347.40	347.38	347.14	347.10
7	.42	.06	.14	.00	.40	348.90	.58	.65	.40	.40	.14	.06
8	.35	.07	.13	.00	.94	.19	.81	.61	.39	.38	.11	.06
9	.29	348.10	.10	.15	.71	347.95	.67	.60	.38	.33	.10	.04
10	.26	347.81	.09	.13	.50	348.05	.78	.59	.37	.31	.10	.03
11	347.26	347.58	347.07	347.06	347.41	348.06	347.71	347.56	347.36	347.52	347.09	347.03
12	.24	.39	.42	.03	.71	347.92	.69	.54	.35	348.70	.08	.02
13	.22	.48	.21	.02	.61	.72	.69	.52	.34	347.97	.07	.02
14	.20	.46	.18	.04	.49	.69	.66	.49	.33	.65	.07	.01
15	.20	.41	.26	.11	.41	348.10	348.05	.50	.32	.52	.07	.01
16	347.17	347.34	347.51	347.92	347.36	348.44	347.94	347.48	347.31	347.45	347.08	347.01
17	.15	.42	.24	.51	.33	.27	.75	.48	.30	.41	.07	.03
18	.13	.34	.17	.53	.37	.02	.67	.48	.30	.39	.10	.02
19	.15	.30	.10	.37	.41	347.84	.65	.47	.29	.37	.10	.02
20	.30	.29	.08	.28	.58	.78	.66	.46	.28	.34	.13	.02
21	347.54	347.28	347.06	347.32	347.73	348.25	347.61	347.46	347.27	347.32	347.16	347.03
22	.37	.25	.05	.42	348.09	349.09	.62	.45	.27	.30	.16	.01
23	.30	.24	.03	.79	347.84	.09	.60	.45	.26	.29	.13	.02
24	.25	.27	.03	.52	.95	348.45	.61	.45	.25	.25	.11	.02
25	.22	.28	.02	.45	.76	.04	.70	.44	.24	.18	.12	.01
26	347.20	347.31	347.01	347.38	347.65	347.82	347.68	347.44	347.22	347.15	347.13	347.01
27	.18	.37	.00	.31	.78	.70	.66	.44	.21	.14	.38	.01
28	.15	.39	.00	.39	.65	.63	348.13	.44	.28	.13	.27	.00
29	.14	.34	.04	.36	.58	.74	.90	.45	.52	.14		.00
30	.12	.30	.02	.82	.84	348.17	.35	.45	.49	.14		.00
31		.26		.70	348.36		.09		.71	.14		.00
Mean	347.28	347.32	347.15	347.28	347.63	348.05	347.80	347.59	347.35	347.40	347.14	347.05
Max.	347.70	348.10	347.51	347.92	348.36	349.09	348.90	348.37	347.71	348.70	347.38	347.29
Min.	347.12	347.06	347.00	347.00	347.33	347.60	347.56	347.44	347.21	347.13	347.07	347.00

WATER YEAR 1977 : Max. 349.09 m. Min. 347.00 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	5.20	0.50	3.60	0.10	9.90	33	26	44	7.20	9.30	0.95	3.80
2	5.80	0.46	3.80	0.10	7.80	26	22	30	6.90	6.60	0.95	3.00
3	5.60	0.42	2.80	0.14	12	17	17	25	6.60	5.60	5.00	2.00
4	6.60	0.38	2.80	0.18	10	13	14	21	6.30	5.20	2.20	1.40
5	15	0.34	2.00	0.18	12	12	12	18	6.30	4.80	1.55	1.10
6	10	0.34	1.55	0.18	7.80	14	11	16	6.00	5.60	1.10	0.50
7	6.60	0.34	1.10	0.10	6.00	74	11	14	6.00	6.00	1.10	0.34
8	5.00	0.38	0.95	0.10	24	35	19	12	5.80	5.60	0.65	0.34
9	3.80	31	0.50	1.25	16	24	14	12	5.60	4.60	0.50	0.26
10	3.20	19	0.46	0.95	9.00	29	18	12	5.40	4.20	0.50	0.22
11	3.20	11	0.38	0.34	6.30	29	16	11	5.20	9.60	0.46	0.22
12	2.80	5.80	6.60	0.22	16	23	15	10	5.00	62	0.42	0.18
13	2.40	8.40	2.20	0.18	12	16	15	9.60	4.80	25	0.38	0.18
14	2.00	7.80	1.70	0.26	8.70	15	14	8.70	4.60	14	0.38	0.14
15	2.00	6.30	3.20	0.65	6.30	31	29	9.00	4.40	9.60	0.38	0.14
16	1.55	4.80	9.30	23	5.20	48	24	8.40	4.20	7.50	0.42	0.14
17	1.25	6.60	2.80	9.30	4.60	39	17	8.40	4.00	6.30	0.38	0.22
18	0.95	4.80	1.55	9.90	5.40	27	14	8.40	4.00	5.80	0.50	0.18
19	1.25	4.00	0.50	5.40	6.30	20	14	8.10	3.80	5.40	0.50	0.18
20	4.00	3.80	0.42	3.60	11	18	14	7.80	3.60	4.80	0.95	0.18
21	10	3.60	0.34	4.40	17	38	12	7.80	3.40	4.40	1.40	0.22
22	5.40	3.00	0.30	6.60	31	85	13	7.50	3.40	4.00	1.40	0.14
23	4.00	2.80	0.22	19	20	85	12	7.50	3.20	3.80	0.95	0.18
24	3.00	3.40	0.22	9.60	24	48	12	7.50	3.00	3.00	0.65	0.18
25	2.40	3.60	0.18	7.50	18	28	15	7.20	2.80	1.70	0.80	0.14
26	2.00	4.20	0.14	5.60	14	20	15	7.20	2.40	1.25	0.95	0.14
27	1.70	5.40	0.10	4.20	18	15	14	7.20	2.20	1.10	5.60	0.14
28	1.25	5.80	0.10	5.80	14	13	32	7.20	3.60	0.95	3.40	0.10
29	1.10	4.80	0.26	5.20	11	17	74	7.50	9.60	1.10		0.10
30	0.80	4.00	0.18	4.40	20	34	43	7.50	8.70	1.10		0.10
31		3.20		15	44		31		16	1.10		0.10
Total	116.85	160.26	50.25	143.43	427.30	926	609	367.50	164	231	34.42	16.26
Mean	3.89	5.17	1.67	4.63	13.8	30.9	19.6	12.2	5.29	7.45	1.23	0.52
Max.	15	31	9.30	23	44	85	74	44	16	62	5.60	3.80
Min.	0.80	0.34	0.10	0.10	4.60	12	11	7.20	2.20	0.95	0.38	0.10
Runoff - mcm.	10.096	13.846	4.342	12.392	36.919	80.006	52.618	31.752	14.170	19.958	2.974	1.405

WATER YEAR 1977 : Max. 85 Min. 0.10 Mean 8.89 Annual Runoff 280.478 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sept.7	9.00	350	147				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
PING RIVER BASIN

Mae Li River at Ban Hong, Lamphun (P. 29)

Location: Lat. 18°-18'-35" N., Long. 98°-49'-35" E., on right bank at Kaeo Sonthi Bridge, Amphoe Ban Hong, Lamphun.

Drainage Area: 1,970 Sq.km.

Type of Gage: Staff gage.

Zero Gage at Bottom at: + 0.00 m. (A.D.)

Bench Mark: B.M. B29

Location: About 35 meters from the top of vertical staff gage.
Elevation: + 2.483 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 to date.
Rated by Float: -
Rated by Current Meter: 1969 to date.

Stability of Channel Regimes: Stable, no shifting adjustment for flow computation.

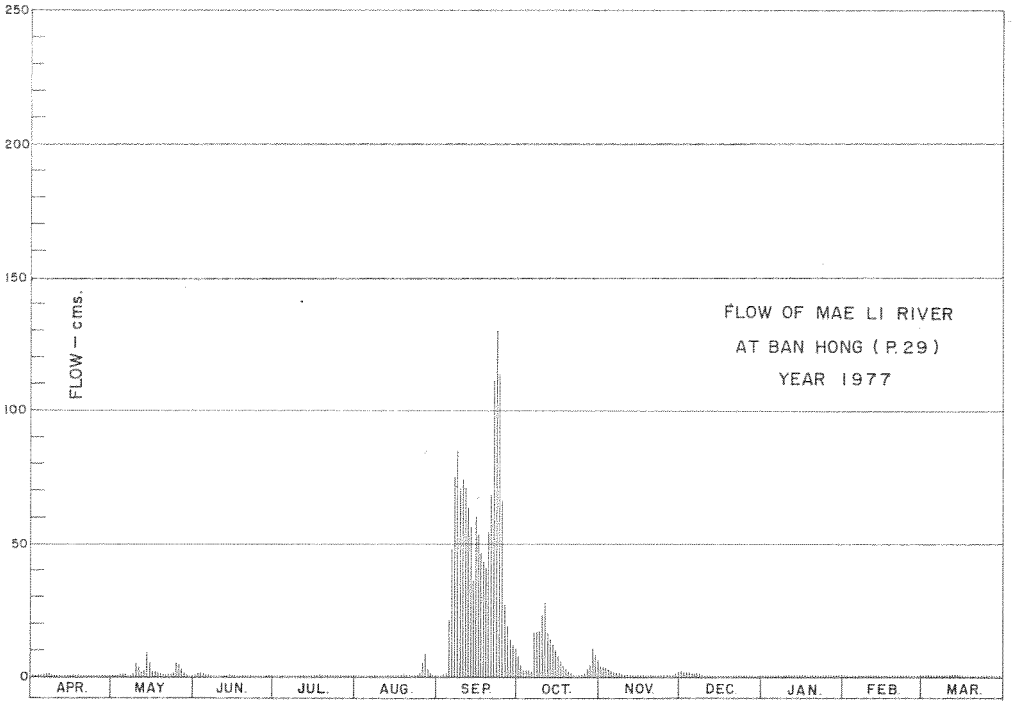
Overbank Flow Conditions: No overbank flow.

General Description: Records fair. Stage-discharge relation defined by 25 discharge measurements made in 1977.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.41	0.34	0.50	0.25	0.28	0.56	0.99	0.79	0.75	0.33	0.25	0.42
2	.42	.59	.65	.24	.25	.51	.87	.83	.67	.32	.25	.41
3	.44	.49	.61	.26	.25	.58	.73	.80	.67	.36	.24	.37
4	.48	.42	.62	.27	.25	.76	.73	.78	.66	.35	.25	.28
5	.57	.43	.56	.26	.24	.73	.76	.66	.68	.35	.28	.26
6	0.62	0.54	0.47	0.28	0.24	1.60	0.64	0.69	0.68	0.34	0.28	0.25
7	.60	.55	.47	.28	.24	.89	1.19	.66	.68	.37	.30	.25
8	.55	.43	.40	.26	.24	2.00	.20	.65	.54	.38	.30	.25
9	.54	.47	.33	.29	.23	1.91	.22	.60	.48	.36	.28	.25
10	.51	.85	.36	.30	.23	.84	.31	.60	.50	.35	.27	.25
11	0.45	0.77	0.43	0.28	0.25	1.91	1.38	0.55	0.46	0.34	0.26	0.25
12	.46	.71	.34	.27	.25	.85	.20	.51	.42	.33	.26	.24
13	.44	.74	.30	.26	.24	.72	.14	.51	.36	.32	.25	.24
14	.40	1.01	.65	.27	.22	.49	.09	.47	.34	.32	.25	.24
15	.38	0.88	.65	.26	.24	.77	.03	.45	.33	.31	.25	.23
16	0.39	0.73	0.56	0.29	0.24	1.71	0.96	0.48	0.34	0.30	0.25	0.24
17	.39	.70	.47	.29	.24	.62	.89	.52	.35	.31	.24	.23
18	.37	.70	.40	.27	.25	.59	.83	.49	.33	.29	.24	.24
19	.37	.64	.35	.29	.25	.55	.76	.46	.37	.29	.25	.24
20	.47	.56	.32	.31	.24	.71	.67	.47	.35	.30	.25	.24
21	0.55	0.46	0.33	0.32	0.28	1.85	0.58	0.43	0.40	0.30	0.24	0.23
22	.45	.45	.32	.29	.27	2.17	.49	.38	.46	.29	.25	.23
23	.42	.47	.30	.28	.28	.35	.46	.34	.44	.28	.25	.24
24	.45	.69	.26	.27	.59	.22	.47	.34	.45	.26	.25	.24
25	.48	.79	.26	.29	.38	1.78	.54	.39	.44	.26	.25	.24
26	0.43	0.85	0.25	0.28	0.78	1.41	0.48	0.37	0.43	0.26	0.26	0.24
27	.44	.74	.25	.27	.99	.27	.71	.36	.43	.25	.42	.24
28	.39	.66	.26	.28	.75	.15	.82	.44	.45	.25	.32	.24
29	.38	.54	.25	.28	.62	.08	1.04	.65	.45	.25		.23
30	.34	.49	.26	.28	.57	.04	0.99	.75	.42	.25		.24
31		.47		.28	.55		0.90		.39	.25		.25
Mean	0.45	0.61	0.40	0.27	0.36	1.55	0.87	0.53	0.31	0.30	0.26	0.26
Max.	0.62	1.01	0.65	0.31	0.99	2.35	1.38	0.83	0.75	0.38	0.42	0.42
Min.	0.34	0.34	0.25	0.24	0.22	0.51	0.46	0.34	0.33	0.25	0.24	0.23

WATER YEAR 1977 : Max. 2.35 m. Min. 0.22 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.15	0.08	0.40	0.02	0.04	0.88	8.62	3.80	3.00	0.07	0.02	0.18
2	0.18	1.12	1.60	0.02	0.02	0.48	5.54	4.66	1.76	0.06	0.02	0.15
3	0.23	0.37	1.28	0.03	0.02	1.04	2.60	4.00	1.76	0.09	0.02	0.10
4	0.34	0.18	1.36	0.03	0.02	3.20	2.60	3.60	1.68	0.08	0.02	0.04
5	0.96	0.20	0.88	0.03	0.02	2.60	3.20	1.68	1.84	0.08	0.04	0.03
6	1.36	0.72	0.32	0.04	0.02	45	1.52	1.92	1.84	0.09	0.04	0.02
7	1.20	0.80	0.32	0.04	0.02	72	17	1.68	1.44	0.10	0.05	0.02
8	0.80	0.20	0.12	0.03	0.02	85	17	1.60	0.72	0.11	0.05	0.02
9	0.72	0.32	0.07	0.04	0.01	74	18	1.20	0.34	0.09	0.04	0.02
10	0.48	5.10	0.09	0.05	0.01	67	23	1.20	0.40	0.08	0.03	0.02
11	0.26	3.40	0.20	0.04	0.02	74	28	0.80	0.29	0.08	0.03	0.02
12	0.29	2.20	0.08	0.03	0.02	68	17	0.48	0.18	0.07	0.03	0.02
13	0.23	2.80	0.05	0.03	0.02	55	15	0.48	0.09	0.06	0.02	0.02
14	0.12	9.40	1.60	0.03	0.01	36	13	0.32	0.08	0.06	0.02	0.02
15	0.11	5.76	1.60	0.03	0.02	60	10	0.26	0.07	0.06	0.02	0.01
16	0.11	2.60	0.88	0.04	0.02	54	7.88	0.34	0.08	0.05	0.02	0.02
17	0.11	2.00	0.32	0.04	0.02	47	5.98	0.56	0.08	0.06	0.02	0.01
18	0.10	2.00	0.12	0.03	0.02	44	4.66	0.37	0.07	0.04	0.02	0.02
19	0.10	1.52	0.08	0.04	0.02	41	3.20	0.29	0.10	0.04	0.02	0.02
20	0.32	0.88	0.06	0.06	0.02	54	1.76	0.32	0.08	0.05	0.02	0.02
21	0.80	0.29	0.07	0.06	0.04	68	1.04	0.20	0.12	0.05	0.02	0.01
22	0.26	0.26	0.06	0.04	0.03	106	0.37	0.11	0.29	0.04	0.02	0.01
23	0.18	0.32	0.05	0.04	0.04	130	0.29	0.08	0.23	0.04	0.02	0.02
24	0.26	1.92	0.03	0.03	1.12	113	0.32	0.08	0.26	0.03	0.02	0.02
25	0.34	3.80	0.03	0.04	0.10	61	0.72	0.11	0.23	0.03	0.02	0.02
26	0.20	5.10	0.02	0.04	3.60	30	0.34	0.10	0.20	0.03	0.03	0.02
27	0.23	2.80	0.02	0.03	8.62	20	2.20	0.09	0.20	0.02	0.06	0.02
28	0.11	1.68	0.05	0.04	3.00	15	4.44	0.23	0.26	0.02	0.18	0.02
29	0.11	0.72	0.02	0.04	1.36	12	11	1.60	0.26	0.02		0.01
30	0.08	0.37	0.05	0.04	0.96	11	8.62	3.00	0.18	0.02		0.02
31		0.32		0.04	0.80		6.20		0.11	0.02		0.02
Total	10.74	59.23	11.83	1.14	20.06	1,450.20	241.10	35.16	18.24	1.73	0.92	0.97
Mean	0.35	1.91	0.39	0.03	0.64	48.3	7.77	1.17	0.58	0.05	0.03	0.03
Max.	1.36	9.40	1.60	0.06	8.62	130	28	4.66	3.00	0.11	0.18	0.18
Min.	0.08	0.08	0.02	0.02	0.01	0.48	0.29	0.08	0.07	0.02	0.02	0.01
Runoff – mcm.	0.928	5.117	1.022	0.099	1.733	125.297	20.831	3.038	1.576	0.149	0.079	0.084

WATER YEAR 1977 : Max. 130 Min. 0.01 Mean 5.07 Annual Runoff 159.954 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sept. 23	18.00	2.39	136				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
PING RIVER BASIN

Mae Kuang River at Ban Kiang Kha Mai, Chiang Mai (P. 30)

Location: Lat. 18°-56'-35" N., Long. 99°-08'-20" E., on right bank at Ban Kiang Kha Mai, Amphoe Doi Saket, Chiang Mai.

Drainage Area: 466 Sq.km.

Type of Gage: Water-stage recorder.

Zero Gage at Bottom at: + 344.544 m. (M.S.L.)

Bench Mark: B.M. – H.S.

Location: Infront of automatic gage site.
Elevation: + 349.874 m. (M.S.L.)

Gage Reading Frequency: Recording

Basis of Mean Daily Gage Height: Arithmetic mean of 24 hourly readings.

Period of Available Gage Records: 1967 to date.

Rating Operation:

Period of Rating: 1967-1973.
Rated by Float: –
Rated by Current Meter: 1967-1973.

Stability of Channel Regimes: Fairly stable, no shifting adjustment for flow computation.

Overbank Flow Conditions: No overbank flow.

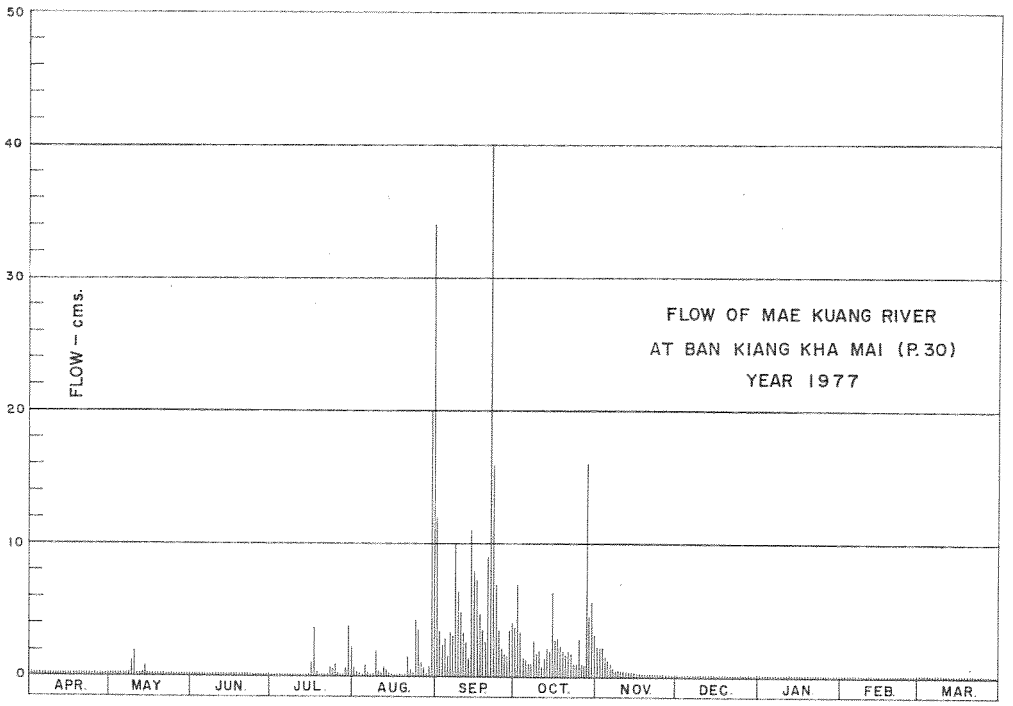
General Description: Records fair. Stage-discharge relation defined by 679 discharge measurements made during 1969-1973.

Remarks: Discharge record for periods of no flow are omitted.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	345.32	345.23	345.28	345.21	345.54	346.03	345.77	345.69	345.42	345.35	345.25	345.28
2	.33	.23	.30	.24	.48	345.76	.89	.68	.41	.33	.24	.25
3	.31	.24	.36	.23	.45	.70	.75	.69	.40	.32	.24	.23
4	.32	.25	.32	.22	.44	.73	.64	.63	.39	.32	.26	.23
5	.39	.27	.28	.22	.58	.64	.62	.62	.39	.34	.26	.21
6	345.35	345.27	345.27	345.21	345.49	345.75	345.59	345.60	345.38	345.38	345.25	345.21
7	.36	.27	.26	.21	.42	.74	.59	.54	.37	.36	.25	.21
8	.34	.30	.25	.40	.98	.99	.72	.51	.37	.34	.25	.20
9	.31	.61	.24	.34	.67	.87	.65	.52	.37	.32	.24	.19
10	.30	.66	.27	.29	.51	.82	.67	.52	.36	.31	.25	.17
11	345.29	345.45	345.26	345.25	345.50	345.74	345.56	345.51	345.35	345.35	345.24	345.17
12	.29	.34	.32	.23	.72	.70	.63	.51	.35	.48	.24	.16
13	.28	.46	.32	.23	.50	.63	.68	.49	.35	.37	.23	.15
14	.28	.56	.29	.25	.44	346.01	.67	.49	.35	.35	.35	.15
15	.28	.40	.29	.40	.43	345.92	.87	.48	.35	.33	.23	.15
16	345.27	345.32	345.28	345.46	345.40	345.90	345.72	345.46	345.34	345.31	345.23	345.17
17	.27	.31	.26	.77	.39	.89	.73	.45	.34	.31	.23	.17
18	.25	.31	.23	.50	.46	.81	.70	.45	.34	.31	.25	.15
19	.35	.29	.22	.42	.44	.76	.67	.45	.34	.30	.24	.15
20	.38	.28	.22	.36	.47	.72	.65	.45	.34	.29	.24	.16
21	345.39	345.28	345.21	345.37	345.64	345.84	345.67	345.45	345.34	345.29	345.25	345.17
22	.33	.27	.21	.38	.53	346.50	.65	.45	.34	.27	.25	.17
23	.30	.26	.21	.56	.49	.12	.60	.43	.34	.27	.25	.17
24	.29	.31	.21	.55	.80	345.89	.59	.43	.33	.26	.24	.16
25	.28	.38	.21	.59	.76	.76	.72	.43	.33	.26	.23	.15
26	345.28	345.35	345.20	345.47	345.61	345.68	345.59	345.43	345.33	345.26	345.37	345.15
27	.28	.36	.21	.41	.56	.65	.58	.43	.33	.26	.44	.16
28	.25	.38	.22	.43	.48	.64	.78	.44	.37	.26	.31	.16
29	.23	.36	.23	.44	.58	.76	346.12	.43	.47	.26	–	.15
30	.23	.31	.21	.78	346.20	.79	345.85	.43	.38	.27	–	.15
31	–	.29	–	.69	.42	–	.74	–	.38	.26	–	.15
Mean	345.30	345.34	345.25	345.39	345.59	345.82	345.69	345.50	345.36	345.31	345.25	345.17
Max.	345.39	345.66	345.36	345.78	346.42	346.50	346.12	345.69	345.47	345.48	345.44	345.28
Min.	345.23	345.23	345.21	345.21	345.42	345.63	345.56	345.43	345.33	345.26	345.23	345.15

WATER YEAR 1977 : Max. 346.50 m. Min. 345.23 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.00	0.00	0.00	0.00	0.64	12	3.66	2.26	0.08	0.00	0.00	0.00
2					0.32	3.48	6.90	2.12	0.04			
3					0.20	2.40	3.30	2.26	0.00			
4					0.16	2.94	1.56	1.42				
5					0.88	1.56	1.28	1.28				
6					0.36	3.30	0.94	1.00				
7					0.08	3.12	0.94	0.64				
8		0.00			10	10	2.76	0.46				
9		1.14			1.98	6.30	1.70	0.52				
10		1.84			0.46	4.80	1.98	0.52				
11		0.20			0.40	3.12	0.76	0.46		0.00		
12		0.00			2.76	2.40	1.42	0.46		0.32		
13		0.24			0.40	1.42	2.12	0.36		0.00		
14		0.76			0.16	11	1.98	0.36				
15		0.00		0.00	0.12	7.92	6.30	0.32				
16				0.24	0.00	7.20	2.76	0.24				
17				3.66	0.00	6.90	2.94	0.20				
18				0.40	0.24	4.50	2.40	0.20				
19				0.08	0.16	3.48	1.98	0.20				
20				0.00	0.28	2.76	1.70	0.20				
21				0.00	1.56	5.40	1.98	0.20				
22				0.00	0.58	40	1.70	0.20				
23				0.76	0.36	16	1.00	0.12				
24				0.70	4.20	6.90	0.94	0.12				
25				0.94	3.48	3.48	2.76	0.12				
26				0.28	1.14	2.12	0.94	0.12			0.00	
27				0.04	0.76	1.70	0.88	0.12			0.16	
28				0.12	0.32	1.56	3.84	0.16	0.00		0.00	
29				0.16	0.88	3.48	16	0.12	0.28		–	
30	0.00		0.00	3.84	20	4.02	5.70	0.12	0.00		–	
31	–	0.00	–	2.26	34	–	3.12	–	0.00	0.00	–	0.00
Total	0.00	4.18	0.00	13.48	86.88	185.26	88.24	16.88	0.40	0.32	0.16	0.00
Mean	0.00	0.13	0.00	0.43	2.80	6.17	2.84	0.56	0.012	0.010	0.006	0.00
Max.	0.00	1.84	0.00	3.84	34	40	16	2.26	0.28	0.32	0.16	0.00
Min.	0.00	0.00	0.00	0.00	0.08	1.42	0.76	0.12	0.00	0.00	0.00	0.00
Runoff - mcm.	0.000	0.361	0.000	1.165	7.506	16.006	7.624	1.459	0.034	0.028	0.014	0.000

WATER YEAR 1977 : Max. 40 Min. 0.00 Mean 1.08 Annual Runoff 34.197 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sept. 22	11.00	346.81	69				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
PING RIVER BASIN

Huai Mae Raka at Ban Khlong Pradu, Tak (P. 32)

Location: Lat. 16°-55'-27" N., Long. 99°-18'-09" E., on right bank about 500 meters upstream from Ban Wang Prachop, Amphoe Muang, Tak.

Drainage Area: 342 Sq.km.

Type of Gage: Water-stage recorder.

Zero Gage at Bottom at: + 0.00 m. (A.D.)

Bench Mark: B.M. - H.S.

Location: On right bank near automatic gage building.
Elevation: + 3.516 m. (A.D.)

Gage Reading Frequency: Recording

Basis of Mean Daily Gage Height: Arithmetic mean of 24 hourly 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, no shifting adjustment for flow computation.

OverbankFlow Conditions: No overbank flow.

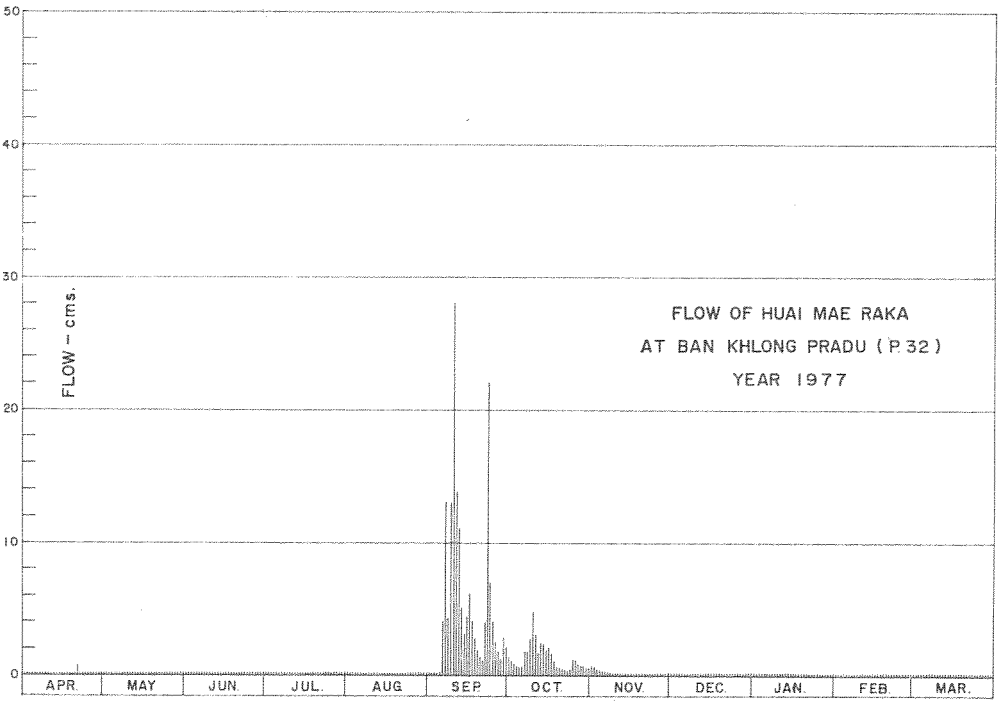
General Description: Records fair. Stage-discharge relation defined by 16 discharge measurements made in 1977.

Remarks: Gage Height and Discharge record for periods of no flow are omitted.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1		-0.10	-0.16				0.30	0.19	-0.06			
2		-0.10	-0.16				.25	.18	-0.06			
3		-0.12	-0.16				.21	.12	-0.06			
4		-0.14	-0.17				.18	.10	-0.06			
5		-0.14	-0.17				.16	.09	-0.06			
6		-0.13	-0.18				0.17	0.08	-0.06			
7		-0.15	-0.20			1.24	.37	.06	-0.06			
8		-0.16	-0.21			0.65	.37	.05	-0.06			
9		-0.15	-0.23			1.24	.49	.03	-0.06			
10		-0.13	-0.24			.92	.68	.02	-0.06			
11		-0.14	-0.24			1.30	0.52	0.01	-0.07			
12		-0.14	-0.25			.11	.36	-0.02	-0.07			
13		-0.05	-0.27			0.76	.46	-0.03	-0.08			
14		0.02	-0.28			.53	.45	-0.04	-0.09			
15		.00	-0.28			.61	.37	-0.04				
16		-0.06	-0.30			0.81	0.42	-0.04				
17		-0.08	-0.30			.63	.35	-0.04				
18		-0.09	-0.30			.49	.26	-0.04				
19		-0.11	-0.31			.37	.19	-0.04				
20		-0.12	-0.33			.30	.15	-0.04				
21	0.19	-0.14				0.25	0.13	-0.04				
22	.02	-0.15				.61	.12	-0.05				
23	-0.03	-0.16				1.67	.10	-0.06				
24	-0.06	-0.03				.87	.10	-0.06				
25	-0.08	-0.02				.62	.28	-0.06				
26	-0.08	-0.07				0.46	0.28	-0.06				
27	-0.09	-0.09				.34	.21	-0.06				
28	-0.10	-0.11				.28	.18	-0.06				
29	-0.10	-0.14				.51	.20	-0.06				
30	-0.10	-0.15				.41	.16	-0.06				
31		-0.16					.15					
Mean	-0.014	-0.11	-0.16			0.60	0.28	0.00	-0.029			
Max.	0.19	0.02	-0.16			1.92	0.68	0.19	-0.06			
Min.	-0.10	-0.16	-0.33			0.30	0.10	-0.06	-0.09			

WATER YEAR 1977 : Max. 1.92 m. Min. -0.33 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1		0.00	0.00				1.40	0.76	0.04			
2							1.10	0.72	0.04			
3							0.86	0.48	0.04			
4							0.72	0.40	0.04			
5							0.64	0.37	0.04			
6							0.68	0.34	0.04			
7						13	1.82	0.28	0.04			
8						4.30	1.82	0.25	0.04			
9						13	2.81	0.19	0.04			
10						28	4.60	0.16	0.04			
11						14	3.08	0.13	0.03			
12		0.00				11	1.76	0.08	0.03			
13		0.05				5.52	2.54	0.07	0.02			
14		0.08				3.17	2.45	0.06	0.01			
15		0.10				3.90	1.82	0.06				
16		0.04				6.13	2.18	0.06				
17		0.02				4.10	1.70	0.06				
18		0.01				2.81	1.16	0.06				
19		0.00				1.82	0.76	0.06				
20		0.00	0.00			1.40	0.60	0.06				
21	0.76	0.00				1.10	0.52	0.06				
22	0.16	0.00				3.90	0.48	0.05				
23	0.07	0.00				22	0.40	0.04				
24	0.04	0.07				6.91	0.40	0.04				
25	0.02	0.08				4.00	1.28	0.04				
26	0.02	0.03				2.54	1.28	0.04				
27	0.01	0.01				1.64	0.86	0.04				
28	0.00	0.00				1.28	0.72	0.04				
29	0.00	0.00				2.99	0.80	0.04				
30	0.00	0.00				2.09	0.64	0.04				
31		0.00					0.60					
Total	1.08	0.49				160.60	42.48	5.08	0.49			
Mean	0.036	0.016				5.35	1.37	0.17	0.016			
Max.	0.76	0.08				28	4.60	0.76	0.04			
Min.	0.00	0.00				0.00	0.40	0.04	0.00			
Runoff - mcm.	0.093	0.042				13.876	3.670	0.439	0.042			

WATER YEAR 1977 : Max. 28 Min. 0.00 Mean 0.57 Annual Runoff 18.163 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
PING RIVER BASIN

Mae Kuang River at Ban Pha Taek, Chiang Mai (P. 34)

Location: Lat. 18°-56'-22" N., Long. 99°-07'-25" E., on left bank at Ban Pha Taek, Amphoe Doi Saket, Chiang Mai.

Drainage Area: 566 Sq.km.

Type of Gage: Staff gage.

Zero Gage at Bottom at: + 339.350 m. (M.S.L.)

Bench Mark: B.M. - H.S.

Location: Near the vertical staff gage.
Elevation: + 344.446 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: 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, no shifting adjustment for flow computation.

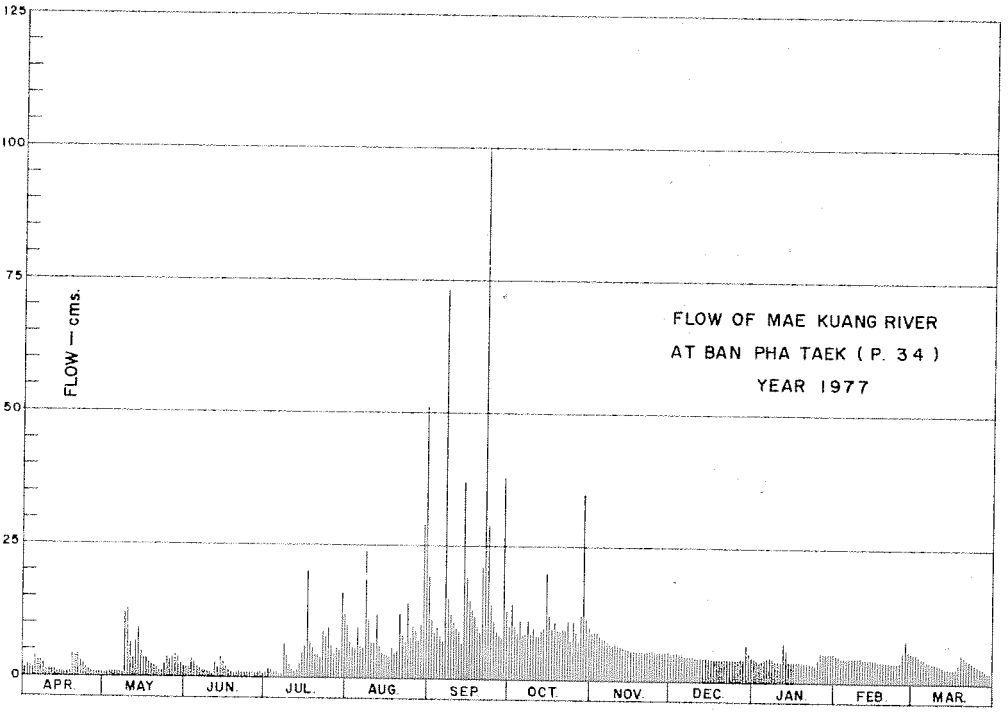
Overbank Flow Conditions: No overbank flow.

General Description: Records fair. Stage-discharge relation defined by 122 discharge measurements made in 1977.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	339.95	339.89	339.97	339.92	340.30	340.53	340.31	340.27	340.13	340.09	340.12	340.14
2	.99	.89	.97	.96	.20	.34	.42	.27	.13	.08	.12	.13
3	.97	.90	340.05	.94	.17	.26	.31	.27	.13	.08	.11	.11
4	.96	.91	.03	.92	.15	.30	.26	.24	.13	.08	.11	.10
5	340.06	.91	339.98	.92	.29	.25	.33	.23	.12	.09	.11	.09
6	340.02	339.91	339.96	339.90	340.17	340.22	340.25	340.22	340.12	340.11	340.11	340.08
7	.03	.89	.93	.90	.15	341.20	.27	.21	.11	.11	.11	.08
8	339.99	.89	.93	340.18	.63	340.44	.35	.19	.11	.09	.11	.07
9	.94	340.37	.92	.06	.34	.36	.26	.19	.11	.08	.11	.06
10	.94	.41	.90	.00	.20	.34	.29	.20	.10	.08	.11	.05
11	339.92	340.18	339.90	339.96	340.20	340.29	340.25	340.19	340.10	340.08	340.10	340.04
12	.92	.07	340.03	.93	.36	.27	.25	.18	.10	.21	.10	.03
13	.90	.20	339.97	.93	.18	.20	.28	.17	.10	.16	.10	.02
14	.90	.28	340.07	340.01	.12	.83	.31	.16	.10	.08	.10	.02
15	.89	.12	.02	.11	.11	.53	.56	.16	.10	.08	.09	.02
16	339.89	340.06	339.99	340.17	340.10	340.45	340.36	340.15	340.10	340.08	340.09	340.02
17	.91	.07	.94	.56	.09	.40	.29	.15	.10	.08	.08	.02
18	.92	.01	.91	.20	.16	.36	.34	.15	.10	.07	.08	.06
19	340.09	.00	.90	.15	.12	.32	.28	.15	.10	.07	.08	.13
20	.08	339.98	.90	.09	.14	.27	.28	.15	.09	.07	.08	.12
21	340.10	339.95	339.93	340.10	340.37	340.58	340.29	340.15	340.09	340.06	340.08	340.10
22	.03	.93	.92	.08	.25	341.42	.29	.15	.09	.06	.08	.09
23	.00	.94	.92	.26	.21	340.71	.35	.15	.09	.05	.08	.08
24	339.96	340.01	.92	.24	.43	.43	.22	.15	.09	.05	.08	.06
25	.94	.07	.92	.29	.23	.34	.33	.14	.09	.09	.08	.05
26	339.92	340.05	339.92	340.17	340.28	340.27	340.27	340.14	340.09	340.15	340.15	340.03
27	.91	.08	.92	.11	.26	.25	.22	.14	.09	.14	.24	.01
28	.90	.09	.92	.15	.21	.24	.38	.14	.09	.14	.15	.00
29	.90	.06	.93	.14	.31	.84	.80	.14	.19	.14		339.99
30	.89	.01	.92	.47	.71	.41	.40	.14	.14	.14		340.00
31		339.98		.38	.99		.31		.12	.13		.03
Mean	339.96	340.03	339.94	340.10	340.27	340.45	340.32	340.17	340.10	340.09	340.10	340.05
Max.	340.10	340.41	340.07	340.56	340.99	341.42	340.27	340.27	340.19	340.21	340.24	340.14
Min.	339.89	339.89	339.90	339.90	340.09	340.20	340.22	340.14	340.09	340.05	240.08	339.99

WATER YEAR 1977 : Max. 341.42 m. Min. 339.89 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	1.55	0.72	1.85	1.10	10	19	10	8.90	5.12	4.19	4.88	5.36
2	2.15	0.72	1.85	1.70	6.80	11	14	8.90	5.12	3.98	4.88	5.12
3	1.85	0.80	3.35	1.40	6.08	8.60	10	8.90	5.12	3.98	4.64	4.64
4	1.70	0.95	2.93	1.10	5.60	10	8.60	8.00	5.12	3.98	4.64	4.40
5	3.56	0.95	2.00	1.10	9.50	8.30	11	7.70	4.88	4.19	4.64	4.19
6	2.72	0.95	1.70	0.80	6.08	7.40	8.30	7.40	4.88	4.64	4.64	3.98
7	2.93	0.72	1.25	0.80	5.60	73	8.90	7.10	4.64	4.64	4.64	3.98
8	2.15	0.72	1.25	6.32	24	15	11	6.56	4.64	4.19	4.64	3.77
9	1.40	12	1.10	3.56	11	12	8.60	6.56	4.64	3.98	4.64	3.56
10	1.40	13	0.80	2.30	6.80	11	9.50	6.80	4.40	3.98	4.64	3.35
11	1.10	6.32	0.80	1.70	6.80	9.50	8.30	6.56	4.40	3.98	4.40	3.14
12	1.10	3.77	2.93	1.25	12	8.90	8.30	6.32	4.40	7.10	4.40	2.93
13	0.80	6.80	1.85	1.25	6.32	6.80	9.20	6.08	4.40	5.84	4.40	2.72
14	0.80	9.20	3.77	2.51	4.88	37	10	5.84	4.40	3.98	4.40	2.72
15	0.72	4.88	2.72	4.64	4.64	19	20	5.84	4.40	3.98	4.19	2.72
16	0.72	3.56	2.15	6.08	4.40	15	12	5.60	4.40	3.98	4.19	2.72
17	0.95	3.77	1.40	20	4.19	13	9.50	5.60	4.40	3.98	3.98	2.72
18	1.10	2.51	0.95	6.80	5.84	12	11	5.60	4.40	3.77	3.98	3.56
19	4.19	2.30	0.80	5.60	4.88	10	9.20	5.60	4.40	3.77	3.98	5.12
20	3.98	2.00	0.80	4.19	5.36	8.90	9.20	5.60	4.19	3.77	3.98	4.88
21	4.40	1.55	1.25	4.40	12	21	9.50	5.60	4.19	3.56	3.98	4.40
22	2.93	1.25	1.10	3.98	8.30	100	9.50	5.60	4.19	3.56	3.98	4.19
23	2.30	1.40	1.10	8.60	7.10	29	11	5.60	4.19	3.35	3.98	3.98
24	1.70	2.51	1.10	8.00	14	14	7.40	5.60	4.19	3.35	3.98	3.56
25	1.40	3.77	1.10	9.50	7.70	11	11	5.36	4.19	4.19	3.98	3.35
26	1.10	3.35	1.10	6.08	9.20	8.90	8.90	5.36	4.19	5.60	5.60	2.93
27	0.95	3.98	1.10	4.64	8.60	8.30	7.40	5.36	4.19	5.36	8.00	2.51
28	0.80	4.19	1.10	5.60	7.10	8.00	12	5.36	4.19	5.36	5.60	2.30
29	0.80	3.56	1.25	5.36	10	38	35	5.36	6.56	5.36		2.15
30	0.72	2.51	1.10	16	29	13	13	5.36	5.36	5.36		2.30
31		2.00		12	51		10		4.88	5.12		2.93
Total	53.97	106.71	47.55	158.36	314.77	566.60	341.30	190.02	142.67	136.07	127.88	110.18
Mean	1.79	3.42	1.58	5.10	10.1	18.9	11.0	6.33	4.60	4.38	4.56	3.55
Max.	4.40	13	3.77	20	51	100	35	8.90	6.56	7.10	8.00	5.36
Min.	0.72	0.72	0.80	0.80	4.19	6.80	7.40	5.36	4.19	3.35	3.90	2.15
Runoff - mcm.	4.663	9.220	4.108	13.682	27.196	48.954	29.488	16.418	12.327	11.756	11.049	9.519

WATER YEAR 1977 : Max. 100 Min. 0.72 Mean 6.29 Annual Runoff 198.381 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sept. 7	06.00	342.08	197				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
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 at: + 0.00 m. (A.D.)

Bench Mark: B.M. – H.S.

Location: Infront of P.35 Station office.
Elevation: B.M.1 = + 4.502 m. (A.D.), B.M.2 = 4.472 m. (A.D.)

Gage Reading Frequency: 14-time daily readings at 06.00-18.00 and 21.00 hours.

Basis of Mean Daily Gage Height: Arithmetic mean of 14 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, no shifting adjustment for flow computation.

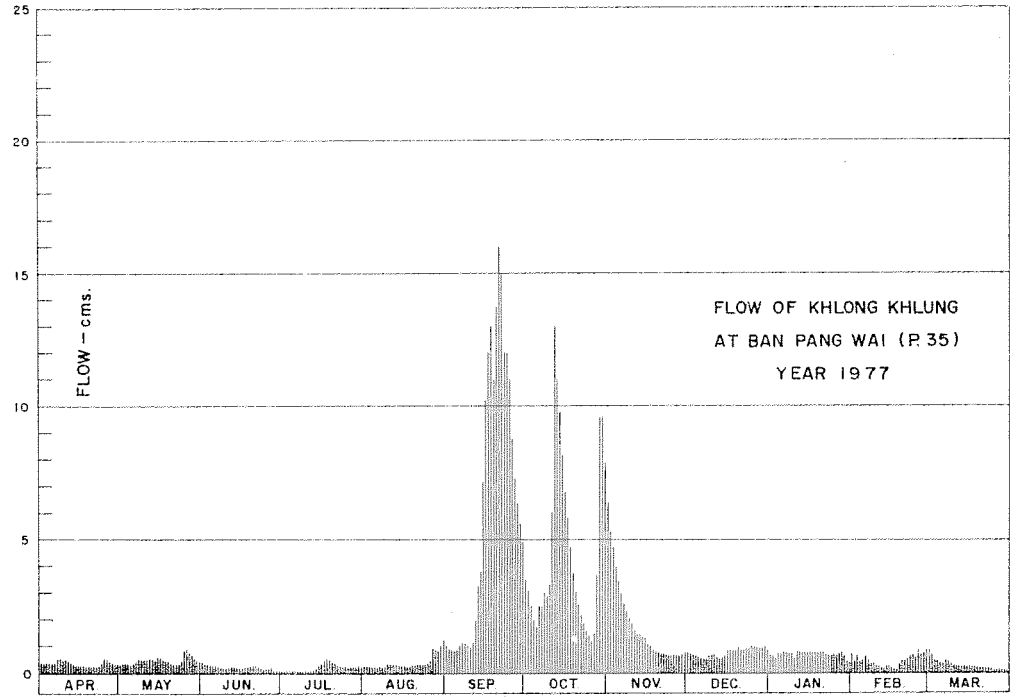
Overbank Flow Conditions: No overbank flow.

General Description: Records good. Stage-discharge relation defined by 172 discharge measurements made in 1977.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.25	0.24	0.26	0.16	0.22	0.46	0.75	0.97	0.38	0.36	0.37	0.42
2	.25	.25	.25	.16	.23	.42	.71	.89	.37	.35	.29	.35
3	.25	.24	.24	.16	.22	.41	.65	.85	.36	.33	.35	.29
4	.26	.25	.23	.16	.21	.40	.60	.80	.34	.38	.27	.28
5	.25	.24	.23	.17	.21	.41	.57	.74	.33	.37	.30	.26
6	0.25	0.26	0.22	0.17	0.20	0.45	0.65	0.70	0.31	0.40	0.34	0.24
7	.30	.28	.21	.16	.21	.48	.65	.66	.30	.38	.29	.29
8	.32	.30	.20	.16	.20	.49	.70	.63	.32	.37	.25	.28
9	.29	.29	.20	.16	.20	.47	.69	.60	.35	.38	.25	.25
10	.30	.30	.19	.16	.24	.44	.73	.58	.35	.32	.23	.23
11	0.27	0.29	0.20	0.15	0.24	0.49	0.79	0.55	0.36	0.40	0.23	0.22
12	.26	.30	.21	.15	.24	.56	1.37	.53	.30	.40	.20	.22
13	.24	.30	.20	.15	.24	.67	.27	.53	.31	.37	.19	.21
14	.23	.29	.20	.16	.23	.77	.21	.52	.32	.38	.21	.21
15	.23	.32	.19	.22	.23	1.02	.10	.51	.35	.37	.21	.21
16	0.23	0.31	0.19	0.24	0.21	1.22	1.00	0.47	0.41	0.38	0.20	0.21
17	.22	.29	.20	.27	.21	.32	0.93	.45	.41	.38	.18	.20
18	.21	.28	.21	.33	.21	.36	.85	.41	.40	.38	.17	.20
19	.22	.27	.21	.30	.22	.28	.77	.40	.41	.39	.24	.19
20	.22	.25	.23	.27	.24	.38	.70	.39	.43	.39	.29	.19
21	0.22	0.24	0.23	0.25	0.25	1.53	0.65	0.37	0.41	0.39	0.29	0.19
22	.22	.24	.20	.24	.24	.45	.61	.37	.41	.35	.31	.19
23	.23	.25	.19	.23	.24	.34	.58	.35	.43	.35	.35	.18
24	.26	.27	.18	.23	.24	.33	.54	.34	.44	.36	.36	.18
25	.31	.41	.18	.23	.25	.25	.52	.35	.47	.36	.33	.17
26	0.30	0.42	0.18	0.22	0.29	1.14	0.50	0.36	0.44	0.35	0.41	0.17
27	.27	.38	.18	.22	.44	.03	.53	.35	.43	.38	.36	.17
28	.26	.34	.17	.21	.42	0.97	.76	.35	.43	.38	.37	.17
29	.25	.31	.17	.21	.41	.94	1.20	.37	.43	.34		.17
30	.25	.28	.17	.22	.42	.86	.20	.39	.44	.27		.17
31		.27		.21	.52		.08		.42	.26		.17
Mean	0.25	0.29	0.20	0.20	0.26	0.88	0.80	0.53	0.38	0.36	0.28	0.22
Max.	0.32	0.42	0.26	0.33	0.52	1.53	1.37	0.97	0.47	0.40	0.41	0.42
Min.	0.21	0.24	0.17	0.15	0.20	0.40	0.50	0.34	0.30	0.26	0.17	0.17

WATER YEAR 1977 : Max. 1.53 m. Min. 0.15 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.35	0.32	0.38	0.04	0.26	1.04	3.50	6.38	0.74	0.68	0.71	0.88
2	0.35	0.35	0.35	0.04	0.29	0.88	3.10	5.26	0.71	0.65	0.47	0.65
3	0.35	0.32	0.32	0.04	0.26	0.84	2.50	4.70	0.68	0.59	0.65	0.47
4	0.38	0.35	0.29	0.04	0.23	0.80	2.00	4.00	0.62	0.74	0.41	0.44
5	0.35	0.32	0.29	0.08	0.23	0.84	1.76	3.40	0.59	0.71	0.50	0.38
6	0.35	0.38	0.26	0.08	0.20	1.00	2.50	3.00	0.53	0.80	0.62	0.32
7	0.50	0.44	0.23	0.04	0.23	1.12	2.50	2.60	0.50	0.74	0.47	0.47
8	0.56	0.50	0.20	0.04	0.20	1.16	3.00	2.30	0.56	0.71	0.35	0.44
9	0.47	0.47	0.20	0.04	0.20	1.08	2.90	2.20	0.65	0.74	0.35	0.35
10	0.50	0.50	0.16	0.04	0.32	0.96	3.30	1.84	0.65	0.56	0.29	0.29
11	0.41	0.47	0.20	0.00	0.32	1.16	3.90	1.60	0.68	0.80	0.29	0.26
12	0.38	0.50	0.23	0.00	0.32	1.68	13	1.44	0.56	0.80	0.20	0.26
13	0.32	0.50	0.20	0.00	0.32	2.70	11	1.44	0.53	0.71	0.16	0.23
14	0.29	0.47	0.20	0.04	0.29	3.70	9.80	1.36	0.56	0.74	0.23	0.23
15	0.29	0.56	0.16	0.26	0.29	7.08	8.20	1.28	0.65	0.71	0.23	0.23
16	0.29	0.53	0.16	0.32	0.23	10	6.80	1.08	0.84	0.74	0.20	0.23
17	0.26	0.47	0.20	0.41	0.23	12	5.82	1.00	0.84	0.74	0.12	0.20
18	0.23	0.44	0.23	0.59	0.23	13	4.70	0.84	0.80	0.74	0.08	0.20
19	0.26	0.41	0.23	0.50	0.26	11	3.70	0.80	0.84	0.77	0.32	0.16
20	0.26	0.35	0.29	0.41	0.32	13	3.00	0.77	0.92	0.77	0.47	0.16
21	0.26	0.32	0.29	0.35	0.35	16	2.50	0.71	0.84	0.77	0.47	0.16
22	0.26	0.32	0.20	0.32	0.32	15	2.10	0.71	0.84	0.65	0.53	0.16
23	0.29	0.35	0.16	0.29	0.32	12	1.84	0.65	0.92	0.65	0.65	0.12
24	0.38	0.41	0.12	0.29	0.32	12	1.52	0.62	0.96	0.68	0.68	0.12
25	0.53	0.84	0.12	0.29	0.35	11	1.36	0.65	1.08	0.68	0.59	0.08
26	0.50	0.88	0.12	0.29	0.47	8.76	1.20	0.68	0.96	0.65	0.84	0.08
27	0.41	0.74	0.12	0.29	0.96	7.22	1.44	0.65	0.92	0.74	0.68	0.08
28	0.38	0.62	0.08	0.23	0.88	6.38	3.60	0.65	0.92	0.74	0.71	0.08
29	0.35	0.53	0.08	0.23	0.84	5.96	9.60	0.71	0.92	0.62		0.08
30	0.35	0.44	0.08	0.29	0.88	4.84	9.60	0.77	0.96	0.41		0.08
31		0.41		0.23	1.36		7.92		0.88	0.38		0.08
Total	10.86	14.51	6.15	6.11	12.28	184.20	139.66	53.89	23.65	21.41	12.27	7.97
Mean	0.36	0.47	0.20	0.20	0.40	6.14	4.50	1.80	0.76	0.69	0.44	0.26
Max.	0.56	0.88	0.38	0.59	1.36	16	13	6.38	1.08	0.80	0.84	0.88
Min.	0.23	0.32	0.08	0.00	0.20	0.80	1.20	0.62	0.50	0.38	0.08	0.08
Runoff - mcm.	0.938	1.254	0.531	0.528	1.061	15.915	12.067	4.656	2.043	1.850	1.060	0.689

WATER YEAR 1977 : Max. 16 Min. 0.00 Mean 1.35 Annual Runoff 42.592 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sept. 21	06.00	1.67	19				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
PING RIVER BASIN

Nam Mae Lai at Ban Huai Kaeo, Chiang Mai (P. 36)

Location: Lat. 18°-51'-26" N., Long. 99°-17'-12" E., on right bank of Nam Mae Lai at Ban Huai Kaeo, Tambon Huai Kaeo, Amphoe San Kamphaeng, Chiang Mai.

Drainage Area: 35 Sq.km.

Type of Gage: Staff gage.

Zero Gage at Bottom at: + 558.80 m. (M.S.L.)

Bench Mark: B.M. - H.S.

Location: Beside house of gage observer.
Elevation: + 565.610 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: Fairly stable because of backwater effect, no shifting adjustment for flow computation.

Overbank Flow Conditions: No overbank flow.

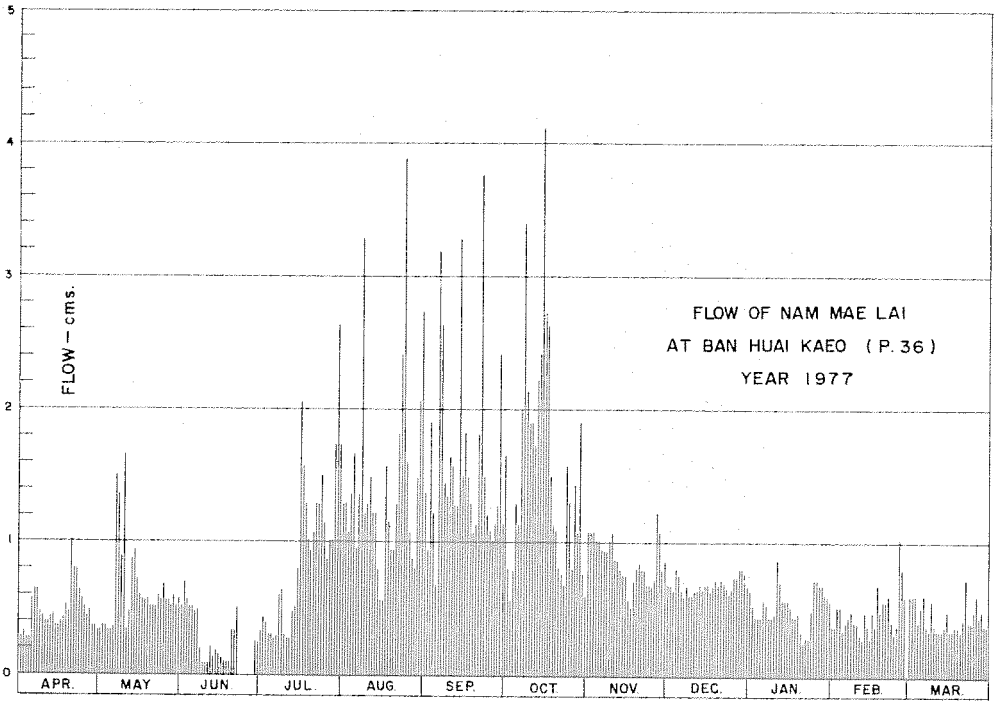
General Description: Records fair. Stage-discharge relation defined by 220 discharge measurements made in 1977.

Remarks: Flow is completely diverted June 23-28, 1977.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	559.26	559.28	559.33	559.28	559.47	559.48	559.52	559.44	559.37	559.36	559.29	559.35
2	.28	.29	.37	.31	.47	.42	.40	.44	.37	.33	.29	.35
3	.26	.29	.34	.30	.44	.55	.34	.44	.36	.31	.33	.35
4	.26	.28	.33	.27	.48	.46	.40	.43	.40	.31	.33	.30
5	.34	.28	.33	.27	.52	.37	.47	.43	.39	.31	.28	.33
6	559.36	559.29	559.32	559.26	559.42	559.68	559.45	559.42	559.36	559.34	559.30	559.35
7	.36	.50	.32	.27	.48	.63	.63	.42	.35	.33	.31	.29
8	.32	.48	.25	.35	.69	.50	.70	.42	.37	.31	.32	.28
9	.31	.41	.19	.36	.46	.48	.58	.43	.35	.31	.30	.34
10	.30	.52	.19	.27	.47	.52	.55	.44	.35	.32	.30	.29
11	559.30	559.28	559.19	559.26	557.50	559.51	559.55	559.41	559.36	559.41	559.27	559.28
12	.31	.32	.24	.26	.46	.47	.53	.41	.36	.37	.26	.28
13	.31	.41	.21	.32	.46	.47	.59	.40	.37	.34	.32	.28
14	.29	.42	.23	.33	.40	.69	.61	.39	.36	.34	.29	.29
15	.29	.38	.22	.40	.34	.50	.76	.39	.37	.34	.26	.32
16	559.30	559.35	559.21	559.57	559.34	559.54	559.64	559.34	559.37	559.33	559.32	559.28
17	.31	.34	.20	.51	.51	.50	.63	.33	.36	.31	.29	.28
18	.33	.34	.20	.47	.45	.47	.50	.38	.37	.31	.37	.29
19	.32	.34	.20	.43	.42	.44	.45	.40	.38	.32	.32	.29
20	.43	.33	.28	.42	.42	.45	.44	.41	.37	.28	.34	.28
21	559.40	559.33	559.28	559.44	559.47	559.55	559.40	559.40	559.38	559.25	559.34	559.31
22	.40	.33	.33	.47	.54	.73	.39	.40	.35	.26	.35	.38
23	.36	.35		.47	.61	.50	.37	.37	.34	.26	.30	.30
24	.34	.34		.50	.74	.46	.51	.37	.33	.32	.27	.30
25	.33	.37		.44	.51	.44	.47	.37	.34	.38	.29	.32
26	559.31	559.34		559.41	559.44	559.43	559.40	559.38	559.36	559.38	559.43	559.35
27	.32	.34		.43	.41	.45	.49	.46	.36	.37	.40	.31
28	.29	.33		.43	.40	.47	.44	.44	.40	.37	.35	.32
29	.29	.35	559.25	.53	.49	.61	.55	.40	.40	.35		.29
30	.28	.33	.25	.63	.57	.45	.39	.41	.39	.35		.29
31		.34		.53	.64		.35		.37	.34		.30
Mean	559.32	559.35		559.39	559.48	559.50	559.50	559.40	559.37	559.33	559.31	559.31
Max.	559.43	559.52		559.63	559.74	559.73	559.76	559.46	559.40	559.41	559.43	559.38
Min.	559.26	559.28		559.26	559.34	559.37	559.34	559.33	559.33	559.25	559.26	559.28

WATER YEAR 1977 : Max. 559.76 m. Min. 559.19 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.28	0.34	0.52	0.34	1.29	1.36	1.66	1.08	0.68	0.64	0.37	0.60
2	0.34	0.37	0.68	0.44	1.29	0.94	0.80	1.08	0.68	0.52	0.37	0.60
3	0.28	0.37	0.56	0.40	1.08	1.90	0.56	1.08	0.64	0.44	0.52	0.60
4	0.28	0.34	0.52	0.31	1.36	1.22	0.80	1.01	0.80	0.44	0.52	0.40
5	0.56	0.34	0.52	0.31	1.66	0.68	1.29	1.01	0.76	0.44	0.34	0.52
6	0.64	0.37	0.48	0.28	0.94	3.18	1.15	0.94	0.64	0.56	0.40	0.60
7	0.64	1.50	0.48	0.31	1.36	2.63	2.63	0.94	0.60	0.52	0.44	0.37
8	0.48	1.36	0.25	0.60	3.29	1.50	3.40	0.94	0.68	0.44	0.48	0.34
9	0.44	0.87	0.09	0.64	1.22	1.36	2.14	1.01	0.60	0.44	0.40	0.56
10	0.40	1.66	0.09	0.31	1.29	1.66	1.90	1.08	0.60	0.48	0.40	0.37
11	0.40	0.34	0.09	0.28	1.50	1.58	1.90	0.87	0.64	0.87	0.31	0.34
12	0.44	0.48	0.22	0.28	1.22	1.29	1.74	0.87	0.64	0.68	0.28	0.34
13	0.44	0.87	0.13	0.48	1.22	1.29	2.22	0.80	0.68	0.56	0.48	0.34
14	0.37	0.94	0.19	0.52	0.80	3.29	2.41	0.76	0.64	0.56	0.37	0.37
15	0.37	0.72	0.16	0.80	0.56	1.50	4.12	0.76	0.68	0.56	0.28	0.48
16	0.40	0.60	0.13	2.06	1.56	1.82	2.74	0.56	0.68	0.52	0.48	0.34
17	0.44	0.56	0.10	1.58	1.58	1.50	2.63	0.52	0.64	0.44	0.37	0.34
18	0.52	0.56	0.10	1.29	1.15	1.29	1.50	0.72	0.68	0.44	0.68	0.37
19	0.48	0.56	0.10	1.01	0.94	1.08	1.15	0.80	0.72	0.48	0.48	0.37
20	1.01	0.52	0.34	0.94	0.94	1.15	1.08	0.87	0.68	0.34	0.56	0.34
21	0.80	0.52	0.34	1.08	1.29	1.90	0.80	0.80	0.72	0.25	0.56	0.44
22	0.80	0.52	0.52	1.29	1.82	3.76	0.76	0.80	0.60	0.28	0.60	0.72
23	0.64	0.60		1.29	2.41	1.50	0.68	0.68	0.56	0.28	0.40	0.40
24	0.56	0.56		1.50	3.88	1.22	1.58	0.68	0.52	0.48	0.31	0.40
25	0.52	0.68		1.08	1.58	1.08	1.29	0.68	0.56	0.72	0.37	0.48
26	0.44	0.56		0.87	1.08	1.01	0.80	0.72	0.64	0.72	1.01	0.60
27	0.48	0.56		1.01	0.87	1.15	1.43	1.22	0.64	0.68	0.80	0.44
28	0.37	0.52		1.01	0.80	1.29	1.08	1.08	0.80	0.68	0.60	0.48
29	0.37	0.60	0.25	1.74	1.43	2.41	1.90	0.80	0.80	0.60		0.37
30	0.34	0.52	0.25	2.63	2.06	1.15	0.76	0.87	0.76	0.60		0.37
31		0.56		1.74	2.74		0.60		0.68	0.56		0.40
Total	14.53	19.87		28.42	45.21	48.69	49.50	26.03	20.64	16.22	13.18	13.69
Mean	0.48	0.64		0.92	1.46	1.62	1.60	0.87	0.66	0.52	0.47	0.44
Max.	1.01	1.66		2.63	3.88	3.76	4.12	1.22	0.80	0.87	1.01	0.72
Min.	0.28	0.34		0.28	0.56	0.68	0.56	0.52	0.52	0.25	0.28	0.34
Runoff – mcm.	1.255	1.717		2.455	3.906	4.207	4.277	2.249	1.783	1.401	1.139	1.183

WATER YEAR 1977 : Max. 4.12 Min. 0.09 Mean Annual Runoff mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sept. 6	21.00	560.46	18				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
PING RIVER BASIN

Huai Mae Phaem at Ban Huai Kaeo, Chiang Mai (P. 37)

Location: Lat. 18°-50'-48" N., Long. 99°-16'-22" E., on right bank of Huai Mae Phaem about 2 kilometers from Nam Mae Lai, Ban Huai Kaeo, Amphoe San Kamphaeng, Chiang Mai.

Drainage Area: 14 Sq.km.

Type of Gage: Staff gage.

Zero Gage at Bottom at: + 527.23 m. (M.S.L.)

Bench Mark: B.M. – H.S.

Location: About 8 meters from staff gage.
Elevation: + 531.056 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, no shifting adjustment but periodic curves are used for flow computation.

Overbank Flow Conditions: No overbank flow.

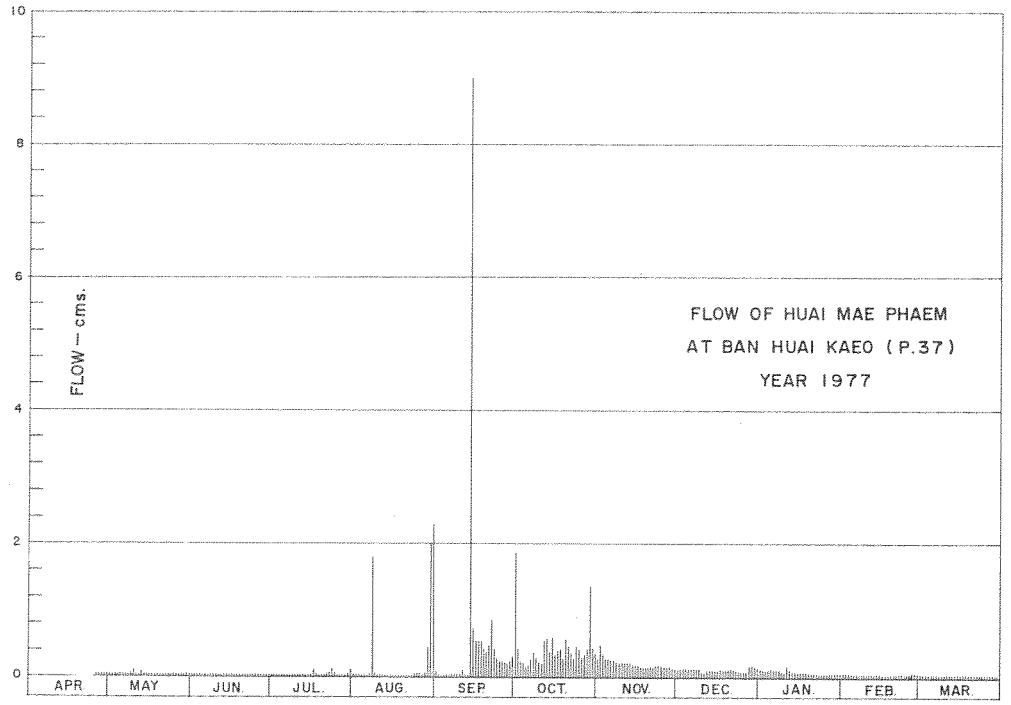
General Description: Records poor. Stage-discharge relation defined by 195 discharge measurements made in 1977.

Remarks: Stream gaging began on April 26, 1977.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1		527.59	527.57	527.54	527.67	527.71	528.07	527.79	527.73	527.73	527.69	527.67
2		.61	.58	.55	.66	.63	527.83	.85	.73	.72	.69	.66
3		.59	.57	.56	.66	.59	.77	.81	.73	.72	.68	.66
4		.60	.56	.56	.64	.58	.76	.79	.73	.72	.68	.65
5		.60	.56	.54	.65	.57	.74	.79	.73	.73	.67	.65
6		257.60	527.55	527.56	527.63	527.75	527.75	527.78	527.73	527.72	572.67	527.65
7		.59	.54	.56	.67	.86	.79	.78	.73	.72	.67	.65
8		.61	.53	.58	528.06	.68	.82	.77	.73	.72	.67	.64
9		.61	.54	.63	527.70	.68	.79	.76	.73	.71	.67	.64
10		.72	.56	.57	.63	.66	.77	.77	.71	.71	.67	.64
11		527.64	527.56	527.56	527.66	527.72	527.76	527.77	527.71	527.74	527.66	527.64
12		.65	.57	.56	.67	.69	.86	.77	.72	.72	.66	.64
13		.70	.56	.59	.61	.65	.87	.76	.72	.71	.66	.63
14		.67	.56	.58	.59	528.75	.82	.75	.72	.71	.67	.63
15		.62	.56	.58	.57	527.91	.87	.75	.72	.71	.66	.64
16		527.60	527.56	527.64	527.55	527.86	527.81	527.75	527.71	527.71	527.65	527.63
17		.59	.55	.72	.55	.86	.83	.74	.72	.71	.65	.63
18		.58	.54	.66	.56	.86	.83	.74	.72	.71	.65	.64
19		.58	.53	.65	.57	.83	.79	.74	.72	.70	.65	.64
20		.57	.53	.62	.61	.82	.87	.74	.72	.69	.66	.64
21		527.57	527.54	527.65	527.60	527.85	527.84	527.74	527.73	527.69	527.66	527.64
22		.56	.52	.68	.61	.92	.81	.74	.72	.69	.66	.64
23		.63	.55	.71	.63	.83	.79	.75	.72	.69	.66	.63
24		.63	.53	.73	.70	.79	.84	.75	.71	.69	.65	.64
25		.62	.53	.69	.68	.78	.83	.75	.71	.69	.66	.63
26	526.61	527.61	527.54	527.65	527.69	527.78	527.80	527.74	527.71	527.69	527.67	527.63
27	.61	.57	.55	.62	.61	.77	.81	.74	.71	.70	.70	.63
28	.60	.57	.53	.61	.59	.76	.83	.74	.74	.70	.68	.63
29	.59	.58	.53	.62	.84	.78	.99	.73	.75	.69		.63
30	.59	.56	.53	.67	.93	.80	.83	.73	.74	.69		.62
31		.58		.72	.97		.81		.73	.69		.62
Mean		527.61	527.55	527.63	527.67	527.79	527.82	527.76	527.72	527.71	527.67	527.64
Max.		527.72	527.58	527.73	528.06	528.75	528.07	527.85	527.75	527.73	527.70	527.67
Min.		527.56	527.53	527.54	527.55	527.57	527.74	527.73	527.71	527.69	527.65	527.62

WATER YEAR 1977 : Max. 528.75 m. Min. 527.53 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1		0.007	0.006	0.003	0.047	0.088	1.87	0.28	0.13	0.13	0.058	0.047
2		0.014	0.006	0.004	0.042	0.025	0.42	0.50	0.13	0.11	0.058	0.042
3		0.007	0.006	0.005	0.042	0.007	0.23	0.34	0.13	0.11	0.053	0.042
4		0.008	0.005	0.005	0.030	0.006	0.21	0.28	0.13	0.11	0.053	0.036
5		0.008	0.005	0.003	0.036	0.006	0.16	0.28	0.13	0.13	0.047	0.036
6		0.008	0.004	0.005	0.025	0.18	0.18	0.25	0.13	0.11	0.047	0.036
7		0.007	0.003	0.005	0.047	0.54	0.28	0.25	0.13	0.11	0.047	0.036
8		0.014	0.002	0.006	1.80	0.053	0.38	0.23	0.13	0.11	0.047	0.030
9		0.014	0.003	0.025	0.064	0.053	0.28	0.21	0.13	0.088	0.047	0.030
10		0.11	0.005	0.006	0.025	0.042	0.23	0.23	0.088	0.088	0.047	0.030
11		0.030	0.005	0.005	0.042	0.11	0.21	0.23	0.088	0.16	0.042	0.030
12		0.036	0.006	0.005	0.047	0.058	0.54	0.23	0.11	0.11	0.042	0.030
13		0.064	0.005	0.007	0.014	0.036	0.58	0.21	0.11	0.088	0.042	0.025
14		0.047	0.005	0.006	0.007	9.00	0.38	0.18	0.11	0.088	0.047	0.025
15		0.019	0.005	0.006	0.006	0.76	0.58	0.18	0.11	0.088	0.042	0.030
16		0.008	0.005	0.030	0.004	0.54	0.34	0.18	0.11	0.088	0.036	0.025
17		0.007	0.004	0.11	0.004	0.54	0.42	0.16	0.13	0.088	0.036	0.025
18		0.006	0.003	0.042	0.005	0.54	0.42	0.16	0.11	0.088	0.036	0.030
19		0.006	0.002	0.036	0.006	0.42	0.28	0.16	0.11	0.064	0.036	0.030
20		0.006	0.002	0.019	0.014	0.38	0.58	0.16	0.11	0.058	0.042	0.030
21		0.006	0.003	0.036	0.008	0.50	0.46	0.16	0.13	0.058	0.042	0.030
22		0.025	0.002	0.053	0.014	0.83	0.34	0.16	0.11	0.058	0.042	0.030
23		0.025	0.004	0.088	0.025	0.42	0.28	0.18	0.11	0.058	0.042	0.025
24		0.025	0.002	0.13	0.064	0.28	0.46	0.18	0.088	0.058	0.036	0.030
25		0.019	0.002	0.058	0.053	0.25	0.42	0.18	0.088	0.058	0.042	0.025
26	0.014	0.014	0.003	0.036	0.058	0.25	0.30	0.16	0.088	0.058	0.047	0.025
27	0.014	0.006	0.004	0.019	0.014	0.23	0.34	0.16	0.088	0.064	0.064	0.025
28	0.008	0.006	0.002	0.014	0.007	0.21	0.42	0.16	0.16	0.064	0.053	0.025
29	0.007	0.006	0.002	0.019	0.46	0.25	1.28	0.13	0.18	0.058		0.025
30	0.007	0.005	0.002	0.047	2.01	0.30	0.42	0.13	0.16	0.058		0.019
31		0.006		0.11	2.29		0.34		0.13	0.058		0.019
Total		0.549	0.113	0.943	7.317	16.904	13.630	6.300	3.688	2.666	1.273	0.923
Mean		0.018	0.004	0.030	0.236	0.56	0.440	0.210	0.119	0.086	0.045	0.030
Max.		0.11	0.006	0.13	1.80	9.00	1.87	0.50	0.18	0.13	0.064	0.047
Min.		0.005	0.002	0.003	0.004	0.006	0.16	0.13	0.088	0.058	0.036	0.019
Runoff — MCM.		0.047	0.010	0.081	0.632	1.460	1.178	0.544	0.319	0.230	0.110	0.080

WATER YEAR 1977 : Max. 9.00 Min. 0.002 Mean Annual Runoff mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sept. 14	04.00	530.55	42				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
WANG RIVER BASIN

Wang River at Lampang, Lampang (W. 1A)

Location: Lat. 18°-17'-24" N., Long. 99°-29'-40" E., on left bank about 300 meters upstream from Kittikhachon II Bridge, Amphoe Muang, Lampang.

Drainage Area: 3,481 Sq.km.

Type of Gage: Water-stage recorder.

Zero Gage at Bottom at: + 227.790 m. (M.S.L.)

Bench Mark: B.M. - W1A

Location: Near the top of vertical staff gage.
Elevation: + 234.247 m. (M.S.L.)

Gage Reading Frequency: Recording

Basis of Mean Daily Gage Height: Arithmetic mean of 24 hourly readings.

Period of Available Gage Records: 1966 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, no shifting adjustment for flow computation.

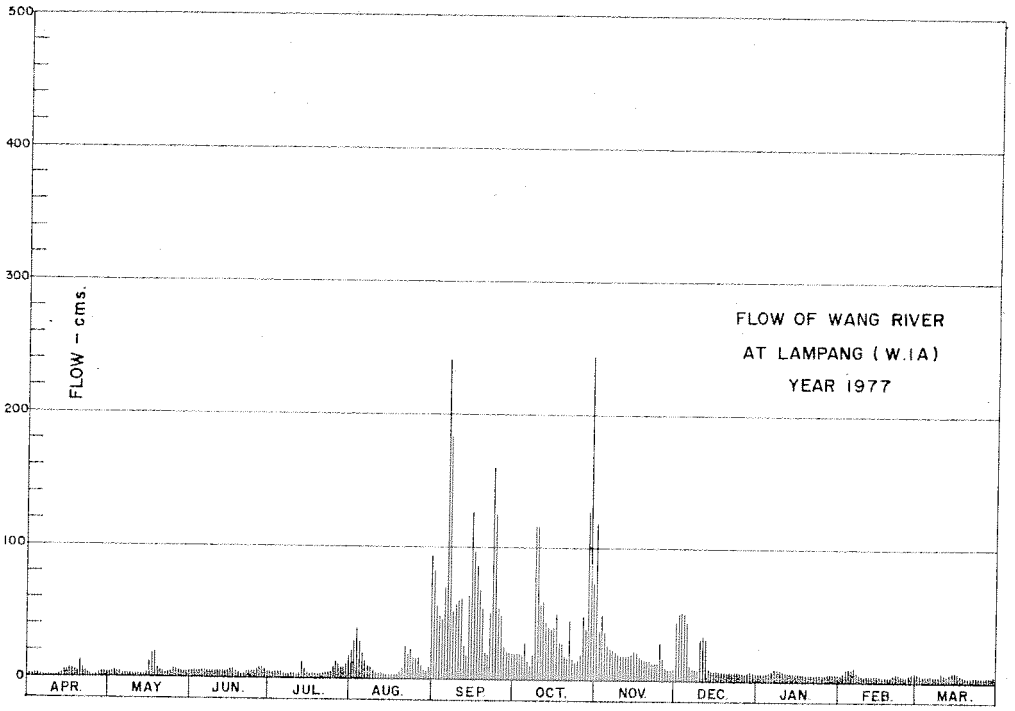
Overbank Flow Conditions: No overbank flow.

General Description: Records fair. Stage-discharge relation defined by 109 discharge measurements made in 1977.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	228.05	228.24	228.34	228.26	228.78	229.64	228.74	229.99	229.16	228.33	228.29	228.36
2	.11	.26	.33	.28	.98	.37	.75	.08	.28	.32	.33	.31
3	.12	.33	.32	.27	229.10	.23	.74	.26	.28	.32	.47	.25
4	.15	.29	.32	.28	228.95	.20	.73	.08	.26	.32	.49	.28
5	.11	.28	.33	.27	.75	.48	.92	228.89	.18	.33	.50	.27
6	228.06	228.22	228.33	228.22	228.56	230.88	228.61	228.85	228.55	228.38	228.51	228.25
7	.03	.20	.32	.16	.50	.44	.52	.81	.47	.49	.38	.23
8	227.99	.18	.31	.17	.44	229.25	.73	.79	.44	.49	.29	.22
9	.97	.16	.31	.26	.32	.35	229.96	.74	.43	.44	.27	.22
10	228.05	.19	.28	.24	.26	.38	.96	.72	.97	.38	.26	.35
11	228.00	228.16	228.28	228.19	228.27	229.40	229.33	228.72	229.00	228.36	228.27	228.27
12	.05	.17	.28	.20	.26	228.92	.38	.71	228.97	.35	.26	.25
13	.17	.16	.28	.57	.23	.72	.18	.73	.49	.34	.26	.31
14	.33	.16	.28	.39	.22	229.28	.12	.74	.41	.33	.26	.39
15	.33	.18	.31	.28	.21	230.05	.09	.79	.39	.33	.27	.39
16	228.35	228.58	228.38	228.26	228.21	229.80	229.11	228.78	228.37	228.32	228.26	228.39
17	.34	.73	.36	.24	.20	.69	.28	.71	.42	.32	.24	.32
18	.34	.74	.28	.22	.22	.49	228.91	.65	.38	.31	.23	.24
19	.29	.45	.25	.21	.28	.31	.89	.63	.36	.30	.24	.21
20	.56	.34	.17	.19	.44	228.77	.68	.63	.35	.30	.24	.20
21	228.37	228.30	228.16	228.21	228.85	228.73	228.67	228.63	228.34	228.30	228.28	228.20
22	.26	.26	.28	.24	.72	229.15	229.19	.59	.34	.30	.34	.20
23	.14	.26	.30	.28	.81	230.32	228.64	.59	.35	.30	.30	.21
24	.10	.28	.31	.27	.67	.06	.59	.59	.34	.30	.25	.20
25	.06	.37	.30	.43	.63	229.34	.63	.91	.33	.30	.24	.21
26	228.08	228.36	228.37	228.57	228.68	229.24	228.74	228.73	228.32	228.30	228.24	228.20
27	.17	.32	.41	.52	.54	228.85	229.24	.49	.32	.32	.33	.20
28	.31	.31	.41	.44	.38	.77	.09	.44	.32	.34	.34	.21
29	.30	.31	.38	.45	.32	.77	.90	.41	.33	.33		.23
30	.27	.31	.29	.51	.47	.74	230.90	.42	.34	.32		.22
31		.32		.70	229.77		229.56		.33	.32		.22
Mean	228.18	228.30	228.31	228.31	228.55	229.39	229.09	228.77	228.57	228.34	228.31	228.26
Max.	228.56	228.74	228.41	228.70	229.77	230.88	230.90	229.99	229.28	228.49	228.51	228.39
Min.	227.97	228.16	228.16	228.16	228.20	228.72	228.52	228.41	228.32	228.30	228.23	228.20

WATER YEAR 1977 : Max. 230.90 m. Min. 227.97 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	1.75	4.30	6.50	4.70	22	81	20	118	43	6.25	5.30	7.00
2	2.33	4.70	6.25	5.10	32	58	20	38	51	6.00	6.25	5.75
3	2.46	6.25	6.00	4.90	39	48	20	50	51	6.00	9.75	4.50
4	2.85	5.30	6.00	5.10	30	45	19	38	50	6.00	10	5.10
5	2.33	5.10	6.25	4.90	20	67	29	27	44	6.25	10	4.90
6	1.84	3.90	6.25	3.90	13	240	14	25	12	7.50	11	4.50
7	1.57	3.50	6.00	2.98	10	175	11	23	9.75	10	7.50	4.10
8	1.22	3.24	5.75	3.11	9.00	49	19	22	9.00	10	5.30	3.90
9	1.06	2.98	5.75	4.70	6.00	56	115	19	8.75	9.00	4.90	3.90
10	1.75	3.37	5.10	4.30	4.90	59	115	19	31	7.50	4.70	6.75
11	1.30	2.98	5.10	3.37	4.90	60	55	19	33	7.00	4.90	4.90
12	1.75	3.11	5.10	3.50	4.70	28	59	18	31	6.75	4.70	4.50
13	3.11	2.98	5.10	13	4.10	18	44	19	10	6.50	4.70	5.75
14	6.25	2.98	5.10	7.75	3.90	51	40	20	8.25	6.25	4.70	7.75
15	6.25	3.24	5.75	5.10	3.70	125	38	22	7.75	6.25	4.90	7.75
16	6.75	12	7.50	4.70	3.70	97	40	22	7.25	6.00	4.70	7.75
17	6.50	19	7.00	4.30	3.50	86	51	18	8.50	6.00	4.30	6.00
18	6.50	20	5.10	3.90	3.90	68	28	16	7.50	5.75	4.10	4.30
19	5.30	9.45	4.50	3.70	5.10	53	27	15	7.00	5.50	4.30	3.70
20	13	6.50	3.11	3.37	9.00	21	17	15	6.75	5.50	4.30	3.50
21	7.25	5.50	2.98	3.70	25	19	17	15	6.50	5.50	5.10	3.50
22	4.70	4.70	5.10	4.30	19	42	45	13	6.50	5.50	6.50	3.50
23	2.72	4.70	5.50	5.10	23	159	16	13	6.75	5.50	5.50	3.70
24	2.20	5.10	5.75	4.90	17	127	13	13	6.50	5.50	4.50	3.50
25	1.84	7.25	5.50	8.75	15	56	15	28	6.25	5.50	4.30	3.70
26	2.02	7.00	7.25	13	17	48	20	19	6.00	5.50	4.30	3.50
27	3.11	6.00	8.25	11	12	25	48	10	6.00	6.00	6.25	3.50
28	5.75	5.75	8.25	9.00	7.50	21	38	9.00	6.00	6.50	6.50	3.70
29	5.50	5.75	7.50	9.25	6.00	21	108	8.25	6.25	6.25		4.10
30	4.90	5.75	5.30	11	9.75	20	243	8.50	6.50	6.00		3.90
31		6.00		18	94		74		6.25	6.00		3.90
Total	115.86	188.38	174.59	194.38	477.45	2,023	1,418	699.75	506.00	199.75	163.25	146.80
Mean	3.86	6.08	5.92	6.27	15.4	67.4	45.7	23.3	16.3	6.44	5.83	4.74
Max.	13	20	8.25	18	94	240	243	118	51	10	11	7.75
Min.	1.06	2.98	2.98	2.98	3.50	18	11	8.25	6.00	5.50	4.10	3.50
Runoff - mcm.	10.010	16.276	15.084	16.794	41.252	174.787	122.515	60.458	43.718	17.258	14.105	12.684

WATER YEAR 1977 : Max. 243 Min. 1.06 Mean 17.3 Annual Runoff 544.941 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Oct.30	03.00	231.34	318				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
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 at: + 161.00 m. (M.S.L.)

Bench Mark: B.M. - H.S.

Location: Near automatic gage building.
Elevation: + 167.556 m. (M.S.L.)

Gage Reading Frequency: Recording

Basis of Mean Daily Gage Height: Arithmetic mean of 24 hourly 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, no shifting adjustment for flow computation.

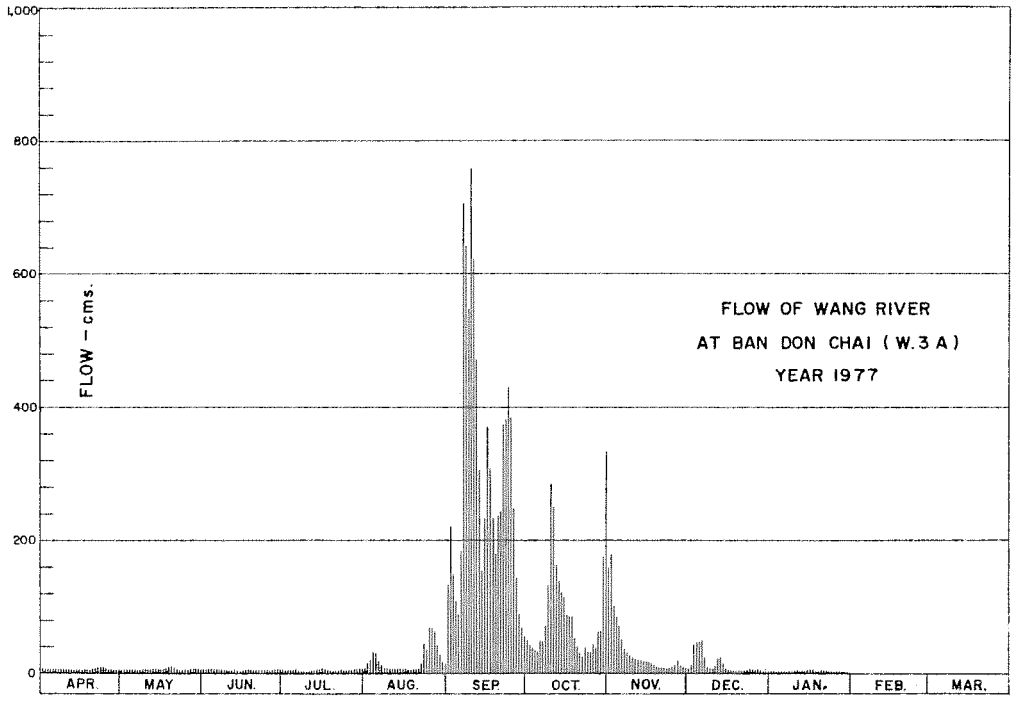
Overbank Flow Conditions: No overbank flow.

General Description: Records good. Stage-discharge relation defined by 23 discharge measurements made in 1977.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	162.00	161.94	162.05	162.04	162.13	163.02	162.68	163.37	162.09	161.90	161.74	161.75
2	.00	.95	.05	.02	.27	.70	.58	.49	.22	.89	.75	.82
3	161.99	.91	.03	.00	.33	.38	.54	.00	.58	.89	162.00	.84
4	.96	.91	.06	161.99	.47	.08	.50	162.89	.61	.88	161.91	.84
5	.99	.92	.05	.99	.45	162.93	.49	.80	.62	.87	.93	.80
6	162.03	161.96	162.05	161.99	162.29	163.47	162.64	162.63	162.63	161.87	161.98	161.78
7	.03	.96	.05	162.00	.27	165.51	.62	.52	.36	.87	162.01	.77
8	.00	.95	.04	.00	.20	.35	.84	.46	.16	.88	.01	.75
9	.00	.94	.01	161.98	.17	164.97	163.23	.42	.11	.96	161.96	.73
10	161.95	.93	.00	.96	.14	165.67	164.00	.39	.09	.99	.89	.73
11	161.93	161.94	162.00	161.98	162.10	165.03	163.87	162.37	162.15	161.96	161.87	161.72
12	.93	.95	161.98	162.00	.09	164.53	.40	.35	.36	.92	.83	.70
13	.93	162.02	.98	161.97	.10	163.79	.25	.32	.39	.91	.81	.70
14	.91	.09	.95	.97	.12	.35	.14	.29	.27	.91	.82	.74
15	.91	.04	.94	162.04	.11	.71	.07	.30	.10	.89	.79	.74
16	161.91	162.02	161.96	162.15	162.08	164.34	162.91	162.29	162.05	161.88	161.79	161.74
17	.92	.01	.97	.05	.05	.04	.90	.29	.02	.87	.79	.75
18	.99	.07	.97	.01	.04	163.78	.90	.26	.01	.86	.73	.80
19	162.00	.18	162.00	.00	.04	.49	.66	.22	161.99	.86	.73	.80
20	.00	.21	161.98	161.98	.03	.78	.52	.19	.99	.84	.73	.78
21	162.01	162.11	161.94	161.97	162.09	163.82	162.44	162.18	161.95	161.84	161.73	161.78
22	.19	.04	.92	.96	.26	164.36	.35	.18	.95	.84	.73	.78
23	.19	.01	.90	.96	.61	.39	.56	.18	.94	.79	.72	.76
24	.11	.00	.91	.98	.52	.56	.49	.18	.92	.78	.72	.68
25	.09	.00	.97	.98	.78	.12	.45	.17	.92	.78	.72	.65
26	161.99	162.01	161.98	162.00	162.67	163.45	162.58	162.22	161.92	161.78	161.72	161.63
27	.99	.04	.98	.03	.67	.23	.53	.34	.92	.78	.71	.63
28	162.00	.07	.99	.13	.58	162.94	.73	.23	.91	.78	.71	.63
29	161.99	.05	162.03	.15	.43	.82	.75	.14	.91	.77		.63
30	.94	.04	.05	.11	.31	.68	163.73	.11	.89	.77		.62
31		.05		.10	.24		164.20		.90	.77		.62
Mean	162.00	162.02	161.99	162.01	162.28	163.91	162.89	162.43	162.13	161.86	161.81	161.73
Max.	162.19	162.21	162.06	162.15	162.78	165.67	164.20	163.49	162.63	161.99	162.01	161.84
Min.	161.91	161.91	161.90	161.96	162.03	162.68	162.35	162.11	161.89	161.77	161.71	161.62

WATER YEAR 1977 : Max. 165.67 m. Min. 161.62 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	6.00	4.80	7.00	6.80	8.60	103	56	159	7.80	4.00	0.80	1.00
2	6.00	5.00	7.00	6.40	16	220	44	180	12	3.80	1.00	2.40
3	5.80	4.20	6.60	6.00	20	160	40	100	44	3.80	6.00	2.80
4	5.20	4.20	7.20	5.80	33	111	36	85	47	3.60	4.20	2.80
5	5.80	4.40	7.00	5.80	31	90	35	72	48	3.40	4.60	2.00
6	6.00	5.20	7.00	5.80	17	177	51	50	50	3.40	5.60	1.60
7	6.60	5.20	7.00	6.00	16	705	48	38	23	3.40	6.20	1.40
8	6.00	5.00	6.80	6.00	10	657	78	32	9.20	3.60	6.20	1.00
9	6.00	4.80	6.20	5.60	9.40	547	135	28	8.70	5.20	5.20	0.60
10	5.00	4.60	6.00	5.20	8.80	756	286	25	7.80	5.80	3.80	0.60
11	4.60	4.80	6.00	5.60	8.00	565	256	24	9.00	5.20	3.40	0.40
12	4.60	5.00	5.60	6.00	7.80	422	164	22	23	4.40	2.60	0.00
13	4.60	6.40	5.60	5.40	8.00	239	138	20	25	4.20	2.20	0.00
14	4.20	7.80	5.00	5.40	8.40	155	120	17	16	4.20	2.40	0.80
15	4.20	6.80	4.80	6.80	8.20	222	110	18	8.00	3.80	1.80	0.80
16	4.20	6.40	5.20	9.00	7.60	371	87	17	7.00	3.60	1.80	0.80
17	4.40	6.20	5.40	7.00	7.00	295	86	17	6.40	3.40	1.80	1.00
18	5.80	7.40	5.40	6.20	6.80	237	86	15	6.20	3.20	0.60	2.00
19	6.00	9.60	6.00	6.00	6.80	180	53	12	5.80	3.20	0.60	2.00
20	6.00	11	5.60	5.60	6.60	237	38	9.80	5.80	2.80	0.60	1.60
21	6.20	8.20	4.80	5.40	7.80	245	30	9.60	5.00	2.80	0.60	1.60
22	9.80	6.80	4.40	5.20	15	376	22	9.60	5.00	2.80	0.60	1.60
23	9.80	6.20	4.00	5.20	47	384	42	9.60	4.80	1.80	0.40	1.20
24	8.20	6.00	4.20	5.60	38	430	35	9.60	4.40	1.60	0.40	0.00
25	7.80	6.00	5.40	5.60	69	314	31	9.40	4.40	1.60	0.40	0.00
26	5.80	6.20	5.60	6.00	68	173	44	12	4.40	1.60	0.40	0.00
27	5.80	6.80	5.60	6.60	68	135	39	21	4.40	1.60	0.20	0.00
28	6.00	7.40	5.80	8.60	44	92	62	12	4.20	1.60	0.20	0.00
29	5.80	7.00	6.60	9.00	29	75	65	8.80	4.20	1.40		0.00
30	4.80	6.80	7.00	8.20	19	56	226	8.20	3.80	1.40		0.00
31		7.00		8.00	16		334		4.00	1.40		0.00
Total	229.80	193.40	175.80	195.80	662.80	8,729	2,877	1,050.60	417.80	97.60	64.60	30.00
Mean	7.66	6.24	5.86	6.32	21.4	291	92.8	35.0	13.5	3.15	2.31	0.968
Max.	9.80	11	7.20	9.00	69	756	334	180	50	5.80	6.20	2.80
Min.	4.20	4.20	4.00	5.20	6.60	56	22	8.20	3.80	1.40	0.20	0.00
Runoff - mcm.	19.855	16.710	15.189	16.917	57.266	754.185	248.573	90.772	36.091	8.433	5.581	2.592

WATER YEAR 1977 : Max. 756 Min. 0.00 Mean 40.3 Annual Runoff 1,272.171 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sept. 8	03.00	165.85	817				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
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 Wang Man Bridge, Amphoe Sam Ngao, Tak.

Drainage Area: 10,507 Sq.km.

Type of Gage: Water-stage recorder.

Zero Gage at Bottom at: + 130.00 m. (M.S.L.)

Bench Mark: B.M. - H.S.

Location: Infront of Wat Wang Man.
Elevation: + 136.07 m. (M.S.L.)

Gage Reading Frequency: Recording

Basis of Mean Daily Gage Height: Arithmetic mean of 24 hourly 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, no shifting adjustment for flow computation.

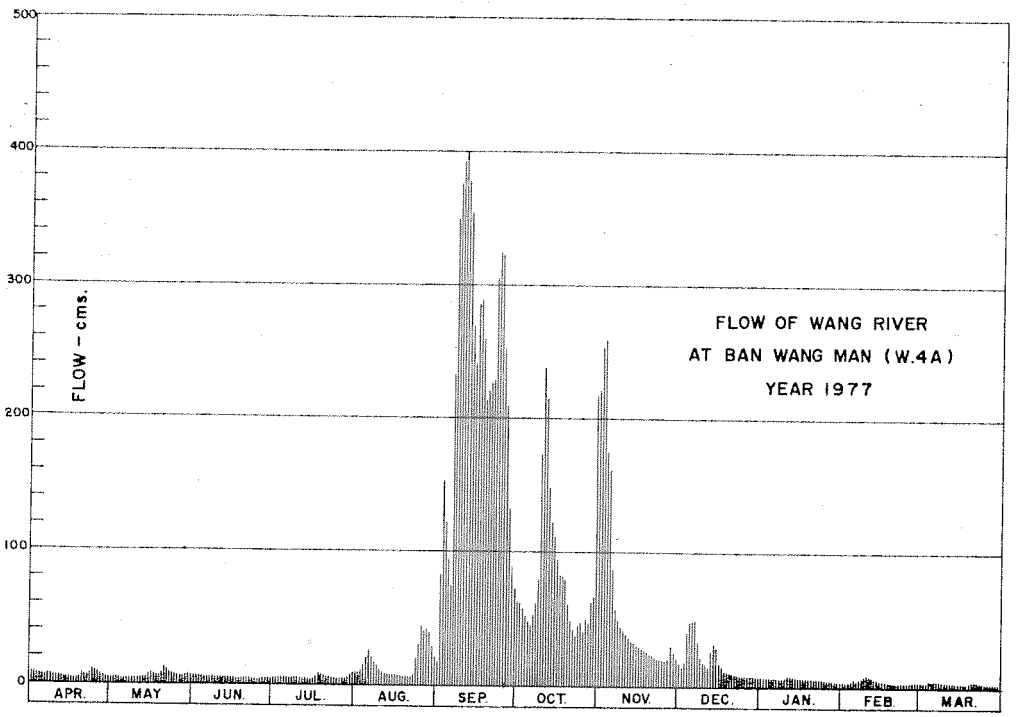
Overbank Flow Conditions: Overbank flow starts at elevation + 135.90 m. (M.S.L.), records are channel flow only.

General Description: Records good. Stage-discharge relation defined by 49 discharge measurements made in 1977. Upstream state diversions for irrigation of about 12,320 hectares.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	131.19	130.94	131.07	131.00	131.25	131.65	132.74	134.62	131.60	131.16	130.95	130.95
2	.15	.92	.07	.05	.24	132.64	.71	.89	.54	.16	.95	.92
3	.11	.95	.06	.04	.33	133.95	.62	.95	.56	.16	.95	.92
4	.09	.93	.04	.04	.55	.55	.51	.20	132.23	.16	.96	.98
5	.03	.93	.04	.01	.69	.11	.42	.05	.42	.16	131.07	131.03
6	131.08	130.90	131.04	131.00	131.89	132.95	132.36	132.91	132.46	131.14	131.04	131.03
7	.09	.90	.04	.00	.73	134.67	.52	.66	.47	.12	.11	130.99
8	.07	.91	.04	.00	.60	135.66	.56	.46	.21	.11	.20	.95
9	.03	.93	.05	.00	.53	.86	.98	.35	131.78	.10	.25	.93
10	.01	.93	.04	130.98	.41	.98	134.18	.27	.62	.14	.28	.93
11	131.00	130.92	131.02	130.95	131.34	136.03	134.76	132.22	131.56	131.26	131.21	130.93
12	130.97	.92	.00	.93	.28	135.93	.55	.16	.52	.28	.14	.92
13	.94	.94	130.99	.93	.23	.66	133.92	.11	.88	.25	.09	.90
14	.92	.97	.99	.95	.18	134.97	.65	.05	132.05	.19	.07	.86
15	.90	131.05	.98	.93	.18	.79	.49	.01	131.98	.18	.04	.86
16	130.90	131.18	130.95	130.93	131.18	135.17	133.33	131.98	131.67	131.19	131.03	130.88
17	.91	.12	.93	131.08	.14	.19	.07	.95	.53	.17	.00	.86
18	.88	.07	.93	.26	.10	134.96	.05	.92	.44	.14	130.96	.87
19	.96	.04	.93	.15	.08	.54	.03	.89	.39	.12	.94	.96
20	131.13	.18	.94	.09	.07	.12	132.70	.83	.37	.11	.92	.98
21	131.09	131.41	130.96	131.04	131.07	134.66	132.45	131.80	131.34	131.09	130.93	131.00
22	.09	.39	.95	.01	.06	.68	.35	.75	.30	.08	.92	130.98
23	.13	.23	.92	130.98	.14	135.28	.18	.72	.26	.07	.92	.93
24	.35	.17	.90	.96	.73	.47	.36	.71	.26	.05	.90	.88
25	.30	.10	.88	.95	132.00	.45	.44	.69	.25	.04	.91	.85
26	131.20	131.07	130.88	130.95	132.35	134.95	132.28	131.68	131.22	131.03	130.92	130.84
27	.12	.05	.92	.95	.26	.21	.45	.75	.21	.00	.97	.82
28	.06	.05	.94	.96	.29	133.69	.41	132.00	.20	130.99	.97	.81
29	.01	.08	.97	131.02	.22	.21	.73	131.93	.20	.97		.81
30	130.95	.12	.96	.23	.01	132.96	.81	.76	.18	.96		.80
31		.10		.29	131.79		134.56		.16	.95		.78
Mean	131.05	131.04	130.98	131.02	131.51	134.53	132.98	132.44	131.61	131.11	131.02	130.91
Max.	131.35	131.41	131.07	131.29	132.35	136.03	134.76	134.95	132.47	131.28	131.28	131.03
Min.	130.88	130.90	130.88	130.93	131.06	131.65	132.18	131.68	131.16	130.95	130.90	130.78

WATER YEAR 1977 : Max. 136.03 m. Min. 130.78 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	7.85	4.10	6.05	5.00	8.75	18	64	222	17	7.40	4.25	4.25
2	7.25	3.80	6.05	5.75	8.60	58	62	252	15	7.40	4.25	3.80
3	6.65	4.25	5.90	5.60	10	153	57	259	16	7.40	4.25	3.80
4	6.35	3.95	5.60	5.60	15	118	52	177	39	7.40	4.40	4.70
5	5.45	3.95	5.60	5.15	20	86	47	163	47	7.40	6.05	5.45
6	6.20	3.50	5.60	5.00	26	75	45	73	49	7.10	5.60	5.45
7	6.35	3.50	5.60	5.00	21	228	52	59	50	6.80	6.65	4.85
8	6.05	3.65	5.60	5.00	17	349	54	49	38	6.65	8.00	4.25
9	5.45	3.95	5.75	5.00	15	376	77	44	22	6.50	8.75	3.95
10	5.15	3.95	5.60	4.90	12	392	175	41	18	7.10	9.20	3.95
11	5.00	3.80	5.30	4.25	10	399	238	39	16	8.90	8.15	3.95
12	4.55	3.80	5.00	3.95	9.20	385	214	36	15	9.20	7.10	3.80
13	4.10	4.10	4.85	3.95	8.45	349	150	34	26	8.75	6.35	3.50
14	3.80	4.55	4.85	4.25	7.70	262	126	32	32	7.85	6.05	3.10
15	3.50	5.75	4.70	3.95	7.70	241	113	31	29	7.70	5.60	3.10
16	3.50	7.70	4.25	3.95	7.70	286	101	29	19	7.85	5.45	3.30
17	3.65	6.80	3.95	6.20	7.10	289	83	28	15	7.55	5.00	3.10
18	3.30	6.05	3.95	8.90	6.50	261	82	27	12	7.10	4.40	3.20
19	4.40	5.60	3.95	7.25	6.20	213	80	26	11	6.80	4.10	4.40
20	6.95	7.70	4.10	6.35	6.05	169	61	24	11	6.65	3.80	4.70
21	6.35	12	4.40	5.60	6.05	227	49	23	10	6.35	3.95	5.00
22	6.35	11	4.25	5.15	5.90	229	44	21	9.50	6.20	3.80	4.70
23	6.95	8.45	3.80	4.90	7.10	300	37	21	8.80	6.05	3.80	3.95
24	10	7.55	3.50	4.40	21	324	45	20	8.80	5.75	3.50	3.30
25	9.50	6.50	3.30	4.25	30	321	48	20	8.75	5.60	3.65	3.00
26	8.00	6.05	3.30	4.25	44	259	41	19	8.30	5.45	3.80	2.90
27	6.80	5.75	3.80	4.25	40	178	49	21	8.15	5.00	4.55	2.70
28	5.90	5.75	4.10	4.40	42	130	47	30	8.00	4.85	4.55	2.60
29	5.15	6.20	4.55	5.30	39	92	63	27	8.00	4.55		2.60
30	4.25	6.80	4.40	8.45	30	76	67	22	7.70	4.40		2.50
31		6.50		9.35	22		216		7.40	4.25		2.30
Total	174.75	177.00	141.65	165.30	517.00	6,843	2,639	1,869	590.60	207.95	149.00	116.15
Mean	5.82	5.71	4.72	5.33	6.68	228	85.0	62.3	19.0	6.71	5.32	3.75
Max.	10	12	6.05	9.35	44	399	238	259	50	9.20	9.20	5.45
Min.	3.30	3.50	3.30	3.95	5.90	18	37	19	7.40	4.25	3.50	2.30
Runoff - mcm.	15.098	15.293	12.238	14.282	44.669	591.235	228.100	161.482	51.028	17.967	12.874	10.035

WATER YEAR 1977 : Max. 399 Min. 2.30 Mean 37.2 Annual Runoff 1,174.300 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sept. 11	06.00	136.04	400				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
WANG RIVER BASIN

Wang River at Kiu Lom, Lampang (W. 10A)

Location: Lat. 18°-31'-16" N., Long. 99°-37'-52" E., on left bank about 800 meters downstream from Kiu Lom Damsite, Amphoe Chae Hom, Lumpang.

Drainage Area: 2,798 Sq.km.

Type of Gage: Water-stage recorder.

Zero Gage at Bottom at: + 258.961 m. (M.S.L.)

Bench Mark: B.M. - H.S.

Location: On right side of automatic gage building.
Elevation: + 265.638 m. (M.S.L.)

Gage Reading Frequency: Recording

Basis of Mean Daily Gage Height: Arithmetic mean of 24 hourly readings.

Period of Available Gage Records: 1966 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, no shifting adjustment for flow computation.

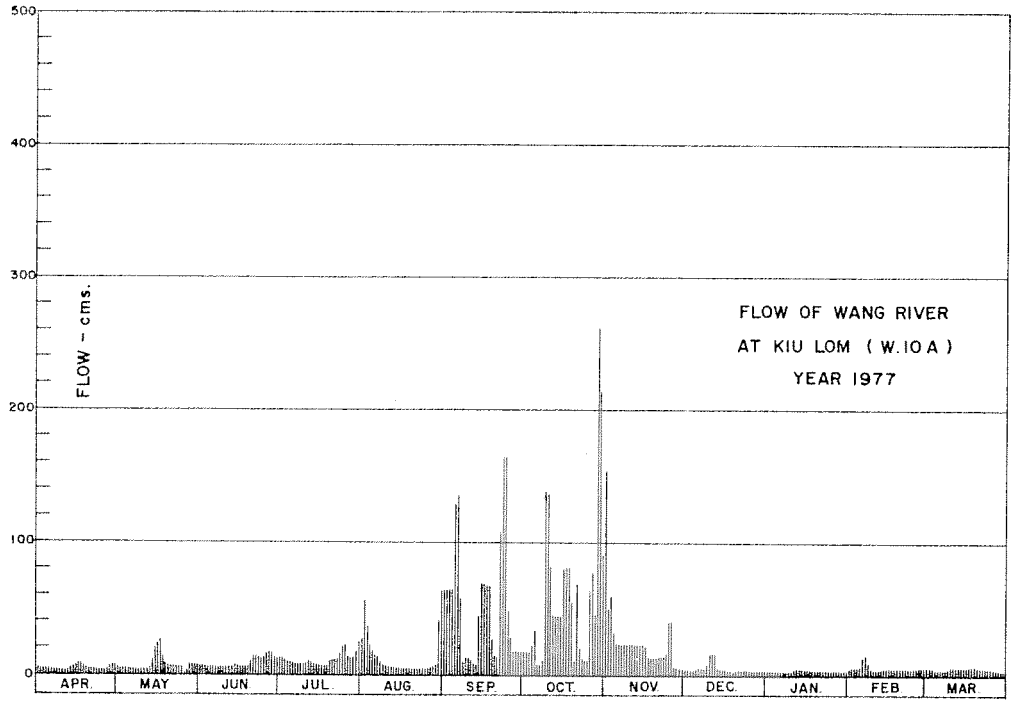
Overbank Flow Conditions: No overbank flow.

General Description: Records fair. Stage-discharge relation defined by 24 discharge measurements made in 1977. Flow is under construction of Kiu Lom Dam.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	259.03	259.03	259.11	259.20	259.45	259.92	259.29	260.83	259.02	258.97	259.05	259.03
2	.03	.03	.11	.20	.82	.92	.29	259.76	.02	.97	.08	.03
3	.03	.03	.11	.20	.65	.92	.29	.87	.02	.97	.08	.03
4	.03	.03	.11	.20	.40	.92	.29	.52	.02	.97	.08	.02
5	.03	.02	.10	.15	.31	260.56	.57	.37	.02	.97	.08	.02
6	259.02	259.02	259.10	259.09	259.24	260.67	259.11	259.37	259.05	257.07	259.18	259.02
7	.02	.02	.10	.09	.24	259.43	.11	.37	.05	.07	.25	.02
8	.01	.02	.10	.09	.11	.13	259.42	.37	.05	.05	.12	.02
9	.01	.02	.09	.08	.07	.20	260.66	.37	.04	.03	.03	.05
10	.00	.02	.09	.08	.07	.21	.65	.37	260.96	.03	.03	.04
11	259.00	259.02	259.09	259.14	259.07	259.16	260.02	259.37	260.96	259.03	259.03	259.04
12	.04	.02	.09	.18	.07	.10	259.69	.37	.96	.03	.03	.04
13	.06	.02	.08	.12	.07	.10	.69	.37	259.04	.03	.03	.04
14	.09	.13	.08	.08	.07	.66	.69	.37	.04	.02	.03	.04
15	.09	.34	.08	.11	.07	.96	.69	.35	.04	.02	.03	.04
16	259.09	259.40	259.08	259.11	259.07	259.96	260.09	259.35	259.04	259.02	259.03	259.04
17	.09	.44	.08	.11	.07	.95	.09	.21	.03	.02	.03	.04
18	.07	.22	.08	.11	.07	.95	.09	.21	.02	.02	.03	.04
19	.04	.08	.08	.11	.07	.51	259.78	.21	.00	.02	.03	.04
20	.03	.08	.17	.16	.07	.22	.18	.21	.00	.02	.03	.04
21	259.02	259.08	259.23	259.18	259.07	259.22	259.97	259.21	259.00	259.02	259.03	259.03
22	.01	.08	.23	.18	.07	260.25	.34	.21	.00	.02	.03	.03
23	.00	.08	.22	.18	.07	.93	.18	.21	.00	.02	.03	.03
24	258.99	.08	.22	.29	.07	.93	.18	.26	258.98	.02	.03	.02
25	.98	.08	.22	.37	.07	259.83	.18	.62	.98	.02	.03	.02
26	258.98	258.79	259.29	259.40	259.07	259.51	259.89	259.62	258.98	259.02	259.03	259.02
27	259.06	.98	.29	.24	.08	.29	260.07	.04	.97	.02	.03	.02
28	.08	259.11	.28	.24	.09	.29	259.71	.04	.97	.02	.03	.00
29	.07	.11	.22	.24	.10	.29	261.77	.04	.97	.02		.00
30	.07	.11	.20	.24	.59	.29	.63	.04	.97	.03		.00
31		.11		.45	.92		260.17		.97	.03		.00
Mean	259.03	259.09	259.14	259.18	259.20	259.69	259.79	259.38	259.21	259.18	259.05	259.02
Max.	259.09	259.44	259.29	259.45	259.92	260.93	261.77	260.83	260.96	259.07	259.25	259.05
Min.	258.98	258.79	259.08	259.08	259.07	259.10	259.11	259.04	258.97	258.97	259.03	259.00

WATER YEAR 1977 : Max. 261.77 m. Min. 258.79 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	4.20	4.20	7.50	12	27	64	17	154	3.80	2.10	5.00	4.20
2	4.20	4.20	7.50	12	55	64	17	50	3.80	2.10	6.20	4.20
3	4.20	4.20	7.50	12	41	64	17	59	3.80	2.10	6.20	4.20
4	4.20	4.20	7.50	12	24	64	17	31	3.80	2.10	6.20	3.80
5	4.20	3.80	7.00	9.50	19	127	35	22	3.80	2.10	6.20	3.80
6	3.80	3.80	7.00	6.60	14	138	7.50	22	5.00	5.80	11	3.80
7	3.80	3.80	7.00	6.60	14	26	7.50	22	5.00	5.80	15	3.80
8	3.40	3.80	7.00	6.60	7.50	8.50	25	22	5.00	5.00	8.00	3.80
9	3.40	3.80	6.60	6.20	5.80	12	137	22	4.60	4.20	4.20	5.00
10	3.00	3.80	6.60	6.20	5.80	13	136	22	169	4.20	4.20	4.60
11	3.00	3.80	6.60	9.00	5.80	10	73	22	169	4.20	4.20	4.60
12	4.60	3.80	6.60	11	5.80	7.00	44	22	169	4.20	4.20	4.60
13	5.40	3.80	6.20	8.00	5.80	7.00	44	22	4.60	4.20	4.20	4.60
14	6.60	8.50	6.20	6.20	5.80	42	44	22	4.60	3.80	4.20	4.60
15	6.60	20	6.20	7.50	5.80	67	44	21	4.60	3.80	4.20	4.60
16	6.60	24	6.20	7.50	5.80	67	80	21	4.60	3.80	4.20	4.60
17	6.60	26	6.20	7.50	5.80	66	80	13	4.20	3.80	4.20	4.60
18	5.80	13	6.20	7.50	5.80	66	80	13	3.80	3.80	4.20	4.60
19	4.60	6.20	6.20	7.50	5.80	31	51	13	3.00	3.80	4.20	4.60
20	4.20	6.20	10	10	5.80	13	11	13	3.00	3.80	4.20	4.60
21	3.80	6.20	14	11	5.80	13	68	13	3.00	3.80	4.20	4.20
22	3.40	6.20	14	11	5.80	96	20	13	3.00	3.80	4.20	4.20
23	3.00	6.20	13	11	5.80	165	11	13	3.00	3.80	4.20	4.20
24	2.70	6.20	13	17	5.80	165	11	16	2.40	3.80	4.20	3.80
25	2.40	6.20	13	22	5.80	56	11	39	2.40	3.80	4.20	3.80
26	2.40	0.00	17	24	5.80	31	61	39	2.40	3.80	4.20	3.80
27	5.40	2.40	17	14	6.20	17	78	4.60	2.10	3.80	4.20	3.00
28	6.20	7.50	17	14	6.60	17	46	4.60	2.10	3.80	4.20	3.00
29	5.80	7.50	17	14	7.00	17	260	4.60	2.10	3.80		3.00
30	5.80	7.50	13	14	36	17	244	4.60	2.10	4.20		3.00
31		7.50	12	27	64		88		2.10	4.20		3.00
Total	133.30	218.30	280.80	350.40	425.70	1,550.50	1,865.00	759.40	604.70	117.30	147.80	126.20
Mean	4.40	7.04	9.36	11.3	13	51.7	60.2	25.3	19.5	3.78	5.27	4.07
Max.	6.60	26	17	27	64	165	260	154	169	5.80	15	5.00
Min.	2.40	0.00	6.20	6.20	5.80	7.00	7.50	4.60	2.10	2.10	4.20	3.00
Runoff - mcm.	11.517	18.861	24.261	30.275	36.780	133.963	161.136	65.612	52.246	10.135	12.770	10.904

WATER YEAR 1977 : Max. 260 Min. 0.00 Mean 18.02 Annual Runoff 568.460 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Oct.29	10.00-11.00	261.81	265				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
WANG RIVER BASIN

Mae Chang River at Ban Sop Po, Lampang (W. 15A)

Location: Lat. 18°-08'-09" N., Long. 99°-34'-51" E., on right bank about 1.5 kilometers upstream from Ban Sop Po, Amphoe Mae Tha, Lampang.

Drainage Area: 1,119 Sq.km.

Type of Gage: Water-stage recorder.

Zero Gage at Bottom at: + 240.120 m. (M.S.L.)

Bench Mark: B.M. - H.S.

Location: Infront of the camp of station W15
Elevation: + 251.680 m. (M.S.L.)

Gage Reading Frequency: Recording

Basis of Mean Daily Gage Height: Arithmetic mean of 24 hourly readings.

Period of Available Gage Records: 1972 to date.

Rating Operation:

Period of Rating: 1972-1974.
Rated by Float: -
Rated by Current Meter: 1972-1974.

Stability of Channel Regimes: Stable, no shifting adjustment for flow computation.

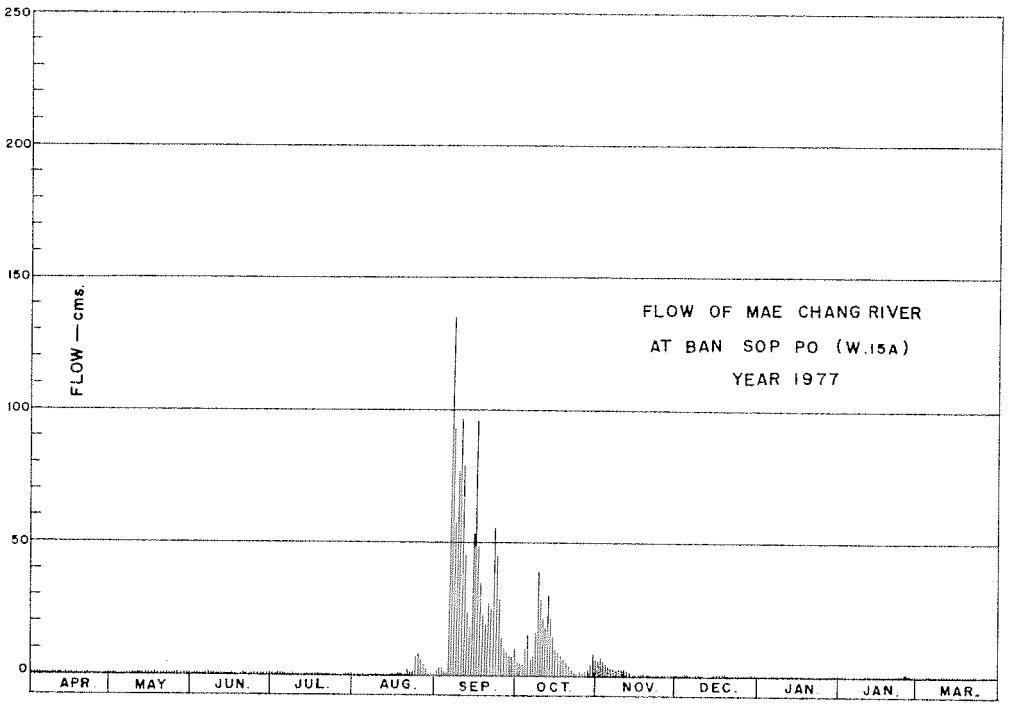
Overbank Flow Conditions: No overbank flow.

General Description: Records fair. Stage-discharge relation defined by 1,006 discharge measurements made during 1970-1974.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	240.50	240.55	240.87	240.42	240.42	241.10	241.37	241.33	240.75	240.56	240.50	240.48
2	.50	.55	.85	.42	.42	.15	.31	.37	.74	.56	.50	.48
3	.51	.58	.82	.42	.42	.03	.25	.29	.73	.56	.51	.47
4	.54	.60	.90	.42	.42	240.98	.49	.20	.73	.56	.52	.47
5	.56	.59	.85	.41	.44	.94	.76	.14	.71	.56	.55	.47
6	240.56	240.53	240.78	240.41	240.56	242.51	241.48	241.09	240.71	240.56	240.54	240.47
7	.55	.47	.69	.41	.62	243.84	.38	.03	.70	.56	.56	.48
8	.55	.47	.65	.41	.63	242.77	.59	240.98	.69	.56	.57	.48
9	.60	.47	.64	.41	.59	243.17	242.46	.95	.70	.56	.56	.47
10	.58	.48	.62	.41	.58	.36	.27	.93	.71	.57	.53	.46
11	240.58	240.94	240.62	240.42	240.56	243.12	241.98	240.92	240.71	240.56	240.52	240.46
12	.60	.96	.58	.43	.72	242.20	.81	.91	.70	.56	.52	.47
13	.59	.90	.57	.46	.65	241.76	242.26	.89	.70	.56	.53	.48
14	.59	.83	.55	.48	.61	242.02	241.98	.85	.68	.56	.51	.48
15	.60	.76	.56	.57	.57	243.37	.71	.82	.65	.56	.51	.48
16	240.60	240.73	240.55	240.56	240.53	242.65	241.52	240.81	270.62	240.56	240.51	240.47
17	.60	.72	.55	.54	.52	.56	.46	.80	.62	.56	.51	.46
18	.59	.71	.54	.52	.94	.06	.37	.80	.62	.56	.52	.47
19	.59	.65	.54	.51	241.00	241.87	.34	.78	.62	.56	.51	.47
20	.58	.64	.54	.50	240.81	242.16	.30	.78	.61	.55	.51	.48
21	240.54	240.62	240.51	240.50	241.12	242.02	241.21	240.77	240.58	240.52	240.51	240.47
22	.52	.61	.47	.49	.01	.75	.05	.76	.58	.52	.51	.48
23	.52	.64	.45	.47	240.95	.66	240.99	.75	.58	.52	.47	.47
24	.53	.62	.45	.45	241.41	.07	.99	.75	.59	.52	.47	.47
25	.52	.62	.44	.44	.45	241.77	241.01	.75	.58	.52	.48	.47
26	240.54	240.61	240.44	240.42	241.34	241.59	241.04	240.76	240.57	240.52	240.48	240.47
27	.54	.60	.44	.42	.14	.52	.05	.75	.56	.51	.48	.47
28	.54	.60	.44	.41	.11	.49	.12	.76	.56	.50	.48	.47
29	.55	.61	.44	.40	240.92	.44	.26	.76	.58	.49		.48
30	.55	.62	.43	.41	.84	.54	.48	.75	.58	.49		.49
31		.63		.42	.91		.35		.58	.50		.48
Mean	240.55	240.64	240.59	240.45	240.78	242.11	241.47	240.90	240.64	240.54	240.51	240.47
Max.	240.60	240.96	240.90	240.57	241.45	243.84	242.46	241.37	240.75	240.57	240.57	240.49
Min.	240.50	240.47	240.43	240.40	240.42	240.94	240.99	240.75	240.56	240.49	240.47	240.46

WATER YEAR 1977 : Max. 243.84 m. Min. 240.40 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.00	0.00	0.95	0.00	0.00	2.72	6.58	5.88	0.42	0.01	0.00	0.00
2	0.00	0.00	0.84			3.36	5.53	6.58	0.39	0.01		
3	0.00	0.03	0.69			2.03	4.68	5.22	0.35	0.01		
4	0.00	0.05	1.10			1.60	8.81	4.00	0.35	0.01		
5	0.01	0.04	0.84		0.00	1.35	15	3.23	0.28	0.01		
6	0.01	0.00	0.52		0.01	42	8.62	2.62	0.28	0.01	0.00	
7	0.00	0.00	0.23		0.09	134	6.75	2.03	0.25	0.01	0.01	
8	0.00	0.00	0.15		0.11	56	11	1.60	0.23	0.01	0.02	
9	0.05	0.00	0.13		0.04	82	39	1.41	0.25	0.01	0.01	
10	0.03	0.00	0.09		0.03	95	31	1.29	0.28	0.02	0.00	
11	0.03	1.35	0.09		0.01	78	21	1.23	0.28	0.01		
12	0.05	1.48	0.03		0.32	28	17	1.16	0.25	0.01		
13	0.04	1.10	0.02		0.15	15	30	1.05	0.25	0.01		
14	0.04	0.74	0.00	0.00	0.07	22	21	0.84	0.21	0.01		
15	0.05	0.45	0.01	0.02	0.02	96	14	0.69	0.15	0.01		
16	0.05	0.35	0.00	0.01	0.00	49	9.44	0.64	0.09	0.01		
17	0.05	0.32		0.00	0.00	44	8.24	0.59	0.09	0.01		
18	0.04	0.28			1.35	24	6.58	0.59	0.09	0.01		
19	0.04	0.15			1.73	18	6.06	0.52	0.09	0.01		
20	0.03	0.13			0.64	27	5.36	0.52	0.07	0.00		
21	0.00	0.09			2.98	22	4.14	0.49	0.03			
22		0.07			1.83	55	2.23	0.45	0.03			
23		0.13			1.41	50	1.67	0.42	0.03			
24		0.09			7.29	24	1.67	0.42	0.04			
25		0.09			8.05	15	1.83	0.42	0.03			
26		0.07			6.06	11	2.13	0.45	0.02			
27		0.05			3.23	9.44	2.23	0.42	0.01			
28		0.05			2.85	8.81	2.98	0.45	0.01		0.00	
29		0.07			1.23	7.86	4.82	0.45	0.03			
30	0.00	0.09	0.00		0.79	10	8.62	0.42	0.03			
31		0.11		0.00	1.16		6.23		0.03	0.00		0.00
Total	0.52	7.38	5.69	0.03	41.45	1,034.17	314.20	46.08	4.94	0.20	0.04	0.00
Mean	0.017	0.238	0.190	0.000	1.33	34.5	10.1	1.53	0.159	0.006	0.00	0.00
Max.	0.05	1.48	1.10	0.02	8.05	134	39	6.58	0.42	0.02	0.02	0.00
Min.	0.00	0.00	0.00	0.00	0.00	1.35	1.67	0.42	0.01	0.00	0.00	0.00
Runoff - mcm.	0.045	0.638	0.492	0.002	3.581	89.352	27.147	3.981	0.427	0.017	0.003	0.000

WATER YEAR 1977 : Max. 134 Min. 0.00 Mean 3.98 Annual Runoff 125.686 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sept. 6	22.00	245.08	269				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
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 at: + 0.00 m. (A.D.)

Bench Mark: B.M. - H.S.

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 hourly 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: Fairly stable, no shifting adjustment for flow computation.

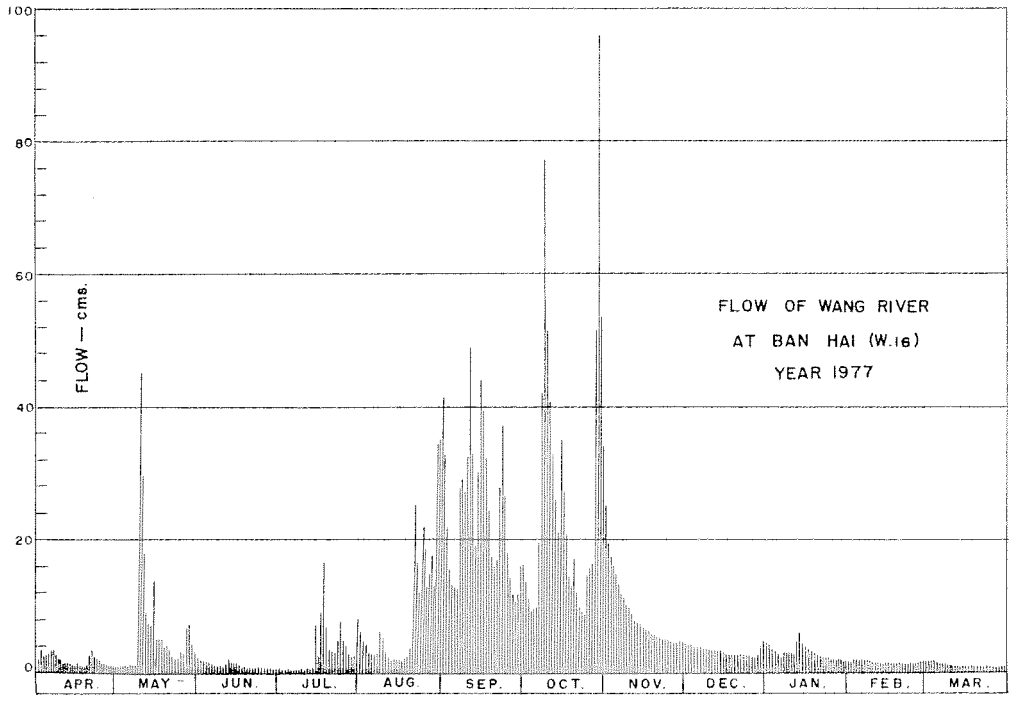
Overbank Flow Conditions: No overbank flow.

General Description: Records good. Stage-discharge relation defined by 234 discharge measurements made in 1977.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.48	0.39	0.57	0.32	0.87	1.85	1.22	1.53	0.76	0.76	0.52	0.53
2	.69	.39	.55	.32	.76	.48	.13	.38	.74	.70	.52	.52
3	.59	.39	.52	.34	.70	.22	.05	.28	.75	.68	.57	.52
4	.56	.38	.51	.34	.69	.12	.01	.22	.74	.66	.56	.50
5	.65	.39	.48	.34	.69	.12	.02	.21	.72	.65	.56	.49
6	0.67	0.41	0.46	0.33	0.64	1.09	1.04	1.14	0.72	0.64	0.55	0.47
7	.65	.40	.44	.32	.68	.57	.44	.09	.71	.66	.53	.44
8	.60	.43	.43	.32	.89	.59	2.06	.05	.71	.66	.51	.43
9	.55	.85	.41	.33	.73	.55	.49	.03	.70	.65	.50	.42
10	.51	1.95	.41	.32	.64	.71	.12	.01	.70	.64	.50	.41
11	0.50	1.32	0.40	0.32	0.57	2.01	1.84	0.99	0.69	0.63	0.49	0.41
12	.48	0.97	.55	.31	.54	1.59	.64	.95	.68	.79	.49	.41
13	.47	.93	.48	.34	.55	.32	.49	.94	.68	.87	.47	.40
14	.45	.93	.46	.37	.55	.66	.39	.93	.67	.76	.47	.40
15	.44	1.15	.48	.92	.54	.91	.73	.91	.65	.71	.46	.40
16	0.43	0.80	0.41	0.62	0.52	1.79	1.56	0.90	0.64	0.68	0.47	0.40
17	.42	.81	.39	1.10	.56	.67	.32	.88	.64	.66	.47	.39
18	.41	.77	.38	.25	.60	.44	.18	.86	.63	.65	.47	.39
19	.43	.71	.37	0.85	.64	.26	.12	.85	.63	.63	.46	.39
20	.58	.70	.37	.68	.88	.24	.26	.84	.63	.62	.46	.39
21	0.67	0.64	0.37	0.69	1.49	1.75	1.11	0.82	0.63	0.59	0.46	0.39
22	.60	.59	.36	.66	.26	.57	.04	.81	.63	.56	.47	.38
23	.55	.57	.36	.78	.10	.77	.01	.81	.62	.56	.47	.38
24	.50	.59	.35	.96	.25	.54	0.99	.81	.61	.55	.48	.37
25	.47	.67	.34	.82	.42	.36	1.19	.80	.60	.55	.49	.37
26	0.45	0.63	0.34	0.74	1.14	1.19	1.22	0.77	0.60	0.55	0.52	0.37
27	.43	.90	.33	.66	.23	.10	.25	.78	.60	.55	.51	.37
28	.42	.94	.33	.62	.31	.06	.97	.78	.61	.54	.52	.37
29	.41	.80	.33	.61	.14	.11	2.76	.80	.75	.53		.37
30	.40	.67	.33	.70	.73	.23	.17	.78	.80	.53		.37
31		.61		1.02	.73		1.70		.77	.53		.37
Mean	0.52	0.76	0.42	0.59	0.90	1.45	1.47	0.97	0.68	0.64	0.50	0.41
Max.	0.69	1.93	0.57	1.25	1.73	2.01	2.76	1.53	0.80	0.87	0.57	0.53
Min.	0.40	0.38	0.33	0.31	0.52	1.06	0.99	0.77	0.60	0.53	0.46	0.37

WATER YEAR 1977 : Max. 2.76 m. Min. 0.31 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	1.40	0.95	2.20	0.60	6.05	41	16	26	4.48	4.48	1.70	1.80
2	3.58	0.95	2.00	0.60	4.48	24	13	20	4.22	3.70	1.70	1.70
3	2.40	0.95	1.70	0.70	3.70	16	11	17	4.35	3.46	2.20	1.70
4	2.10	0.90	1.60	0.70	3.58	13	9.30	16	4.22	3.22	2.10	1.50
5	3.10	0.95	1.40	0.70	3.58	13	9.60	15	3.96	3.10	2.10	1.45
6	3.34	1.05	1.30	0.65	2.98	12	10	13	3.96	2.98	2.00	1.35
7	3.10	1.00	1.20	0.60	3.46	28	23	12	3.83	3.22	1.80	1.20
8	2.50	1.15	1.15	0.60	6.35	29	51	11	3.83	3.22	1.60	1.15
9	2.00	5.75	1.05	0.65	4.09	27	77	9.90	3.70	3.10	1.50	1.10
10	1.60	45	1.05	0.60	2.98	34	54	9.30	3.70	2.98	1.50	1.05
11	1.50	19	1.00	0.60	2.20	49	40	8.75	3.58	2.86	1.45	1.05
12	1.40	8.25	2.00	0.55	1.90	29	31	7.75	3.46	4.87	1.45	1.05
13	1.35	7.25	1.40	0.70	2.00	19	25	7.50	3.46	6.05	1.35	1.00
14	1.25	7.25	1.30	0.85	2.00	32	21	7.25	3.34	4.48	1.35	1.00
15	1.20	14	1.40	7.00	1.90	44	35	6.75	3.10	3.83	1.30	1.00
16	1.15	5.00	1.05	2.74	1.70	38	27	6.50	2.98	3.46	1.35	1.00
17	1.10	5.15	0.95	12	2.10	32	19	6.20	2.98	3.22	1.35	0.95
18	1.05	4.61	0.90	17	2.50	23	14	5.90	2.86	3.10	1.35	0.95
19	1.15	3.83	0.85	5.75	2.98	17	13	5.75	2.86	2.86	1.30	0.95
20	2.30	3.70	0.85	3.46	6.20	16	17	5.60	2.86	2.74	1.30	0.95
21	3.34	3.10	0.85	3.58	25	17	12	5.30	2.86	2.40	1.30	0.95
22	2.50	2.40	0.80	3.22	17	28	10	5.15	2.86	2.10	1.35	0.90
23	2.00	2.20	0.80	4.74	12	37	9.30	5.15	2.74	2.10	1.35	0.90
24	1.50	2.40	0.75	8.00	17	27	8.75	5.15	2.62	2.00	1.40	0.85
25	1.35	3.34	0.70	5.30	22	20	15	5.00	2.50	2.00	1.45	0.85
26	1.25	2.86	0.70	4.22	13	15	16	4.61	2.50	2.00	1.70	0.85
27	1.15	6.50	0.65	3.22	16	12	17	4.74	2.50	2.00	1.60	0.85
28	1.10	7.50	0.65	2.74	18	11	47	4.74	2.62	1.90	1.70	0.85
29	1.05	5.00	0.65	2.62	13	12	96	5.00	4.35	1.80		0.85
30	1.00	3.34	0.65	3.70	35	16	57	4.74	5.00	1.80		0.85
31		2.62		9.60	35		34		4.61	1.80		0.85
Total	54.81	177.95	33.55	107.99	289.73	731.00	837.95	266.73	106.89	92.83	43.60	33.45
Mean	1.83	5.74	1.12	3.48	9.35	24.4	26.9	8.89	3.45	2.99	1.56	1.08
Max.	3.58	45	2.20	17	35	49	96	26	5.00	6.05	2.20	1.80
Min.	1.00	0.90	0.65	0.55	1.70	11	8.75	4.61	2.50	1.80	1.30	0.85
Runoff - mcm.	4.736	15.375	2.899	9.330	25.033	63.158	72.399	23.045	9.235	8.020	3.767	2.890

WATER YEAR 1977 : Max. 96 Min. 0.55 Mean 7.61 Annual Runoff 239.887 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Oct. 29	20.00	3.32	143				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
YOM RIVER BASIN

Yom River at Phrae, Phrae (Y. 1B)

Location: Lat. 18°-08'-29" N., Long. 100°-07'-43" E., on right bank beside the Wat Si Suphan, Tambon Pa Mad, Amphoe Muang, Phrae.

Drainage Area: 7,622 Sq.km.

Type of Gage: Water-stage recorder.

Zero Gage at Bottom at: + 143.60 m. (M.S.L.)

Bench Mark: B.M. - H.S.

Location: On right bank near automatic gage building.
Elevation: + 153.660 m. (M.S.L.)

Gage Reading Frequency: Recording

Basis of Mean Daily Gage Height: Arithmetic mean of 24 hourly readings.

Period of Available Gage Records: 1972 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, no shifting adjustment for flow computation.

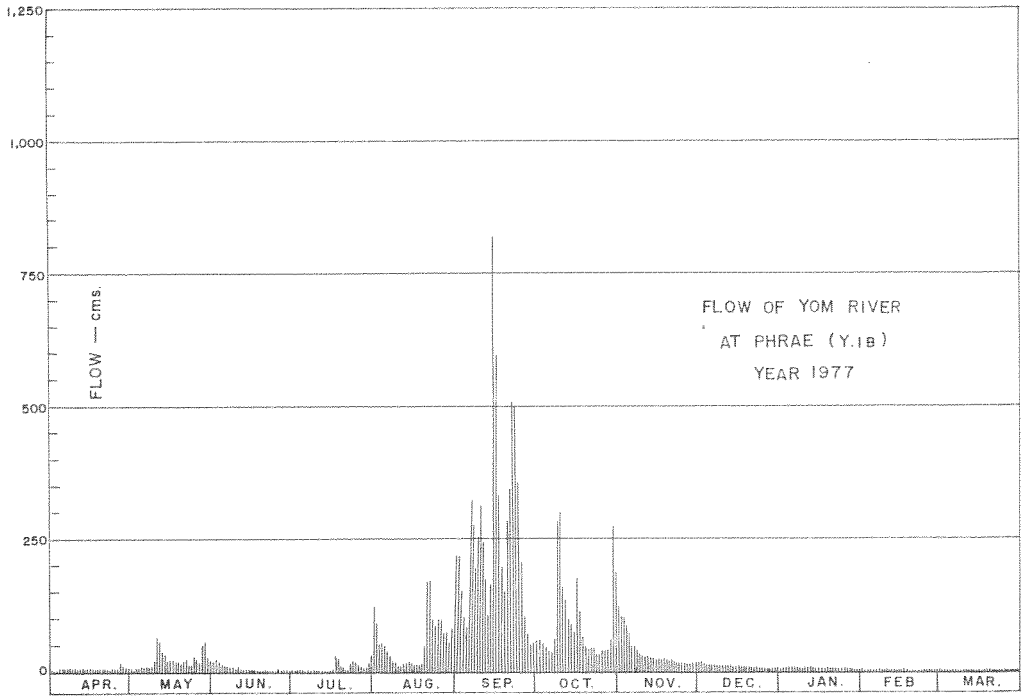
Overbank Flow Conditions: No overbank flow.

General Description: Records good. Stage-discharge relation defined by 94 discharge measurements made in 1977. Upstream state diversions for irrigation of about 24,000 hectares at Mae Yom Weir.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	144.56	144.54	145.04	144.40	146.37	147.08	145.75	146.20	144.99	144.70	144.53	144.51
2	.55	.49	.12	.46	145.93	.08	.67	.20	.94	.72	.53	.50
3	.53	.50	.03	.46	.64	146.54	.65	.20	.92	.76	.54	.51
4	.66	.60	144.90	.44	.66	.08	.56	.00	.90	.73	.53	.52
5	.67	.54	.85	.42	.41	145.94	.44	145.80	.89	.70	.53	.50
6	144.66	144.51	144.82	144.43	145.28	147.43	145.40	145.54	144.87	144.69	144.54	144.46
7	.66	.48	.78	.43	.17	.67	.40	.44	.84	.68	.55	.44
8	.66	.50	.78	.43	.04	146.91	.99	.34	.82	.66	.53	.43
9	.67	.59	.73	.43	144.92	147.19	147.45	.25	.86	.66	.52	.45
10	.68	145.34	.67	.43	.82	.62	.53	.22	.83	.65	.52	.46
11	144.68	145.77	144.59	144.41	144.85	147.24	146.59	145.20	144.83	144.64	144.52	144.44
12	.68	.50	.58	.40	.96	146.79	.47	.23	.88	.66	.52	.44
13	.66	.40	.56	.42	.93	.23	.16	.17	.85	.65	.52	.44
14	.64	.26	.52	.45	.99	.78	.07	.14	.79	.64	.51	.44
15	.61	.02	.56	.47	.93	149.76	145.91	.10	.76	.63	.49	.45
16	144.60	145.09	144.56	144.56	144.87	148.89	146.78	145.14	144.75	144.62	144.48	144.46
17	.60	.08	.54	145.26	.88	147.80	147.13	.14	.73	.60	.48	.45
18	.57	.03	.51	.04	.91	146.98	145.75	.11	.72	.56	.48	.44
19	.57	144.97	.50	144.80	145.11	.57	.51	.07	.70	.56	.47	.44
20	.60	.92	.48	.63	146.01	147.70	.43	.05	.67	.56	.47	.44
21	144.56	145.10	144.47	144.62	146.74	147.81	145.55	145.02	144.67	144.57	144.47	144.43
22	.56	144.97	.47	.70	.75	148.52	.52	.01	.67	.57	.46	.43
23	.56	.85	.46	145.10	.18	.48	.38	144.98	.66	.54	.46	.44
24	.56	.87	.47	.05	145.99	147.59	.26	.97	.64	.55	.48	.43
25	.56	145.23	.45	144.87	146.13	.03	.43	.96	.63	.55	.48	.43
26	144.66	144.97	144.43	144.82	146.10	146.38	145.41	144.94	144.60	144.53	144.48	144.43
27	.99	.98	.43	.71	145.87	145.96	.50	.93	.62	.53	.49	.43
28	.69	145.65	.42	.68	.89	.77	.45	.95	.64	.53	.50	.41
29	.65	.69	.41	.74	.66	.62	.85	.97	.63	.52	-	.41
30	.61	.26	.41	145.01	.86	.69	147.37	145.03	.64	.51	-	.41
31	-	.05	-	.43	146.66	-	146.85	-	.66	.52	-	.42
Mean	144.63	144.99	144.62	144.66	145.56	147.10	146.97	145.28	144.76	144.61	144.50	144.45
Max.	144.99	145.77	145.12	145.43	146.75	149.76	147.53	146.20	144.99	144.76	144.55	144.52
Min.	144.53	144.48	144.41	144.40	144.82	145.62	145.26	144.93	144.60	144.51	144.46	144.41

WATER YEAR 1977 : Max. 149.76 m. Min. 144.40 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	5.20	4.80	21	1.80	125	224	64	106	19	9.00	4.60	4.20
2	5.00	3.78	24	3.12	80	224	58	106	17	9.60	4.60	4.00
3	4.60	4.00	20	3.12	55	145	56	106	16	11	4.80	4.20
4	7.80	6.00	15	2.68	57	94	49	86	15	9.90	4.60	4.40
5	8.10	4.80	13	2.24	40	81	41	68	15	9.00	4.60	4.00
6	7.80	4.20	13	2.46	32	284	39	48	14	8.70	4.80	3.12
7	7.80	3.56	11	2.46	26	329	39	41	13	8.40	5.00	2.68
8	7.80	4.00	11	2.46	21	197	85	36	13	7.80	4.60	2.46
9	8.10	5.80	9.90	2.46	16	242	288	30	14	7.80	4.40	2.90
10	8.40	36	8.10	2.46	13	320	303	29	13	7.50	4.40	3.12
11	8.40	66	5.80	2.02	13	251	152	28	13	7.20	4.40	2.68
12	8.40	45	5.60	1.80	17	180	136	29	14	7.80	4.40	2.68
13	7.80	39	5.20	2.24	16	109	102	26	13	7.50	4.40	2.68
14	7.20	31	4.40	2.90	19	178	93	25	12	7.20	4.20	2.68
15	6.30	20	5.20	3.34	16	818	78	23	11	6.90	3.78	2.90
16	6.00	23	5.20	5.20	14	594	178	25	10	6.60	3.56	3.12
17	6.00	22	4.80	31	14	354	232	25	9.90	6.00	3.56	2.90
18	5.40	20	4.20	21	15	208	64	23	9.60	5.20	3.56	2.68
19	5.40	18	4.00	12	23	149	46	22	9.00	5.20	3.34	2.68
20	6.00	16	3.56	6.90	87	335	41	21	8.10	5.20	3.34	2.68
21	5.20	23	3.34	6.60	173	356	48	20	8.10	5.40	3.34	2.46
22	5.20	18	3.34	9.00	174	506	46	19	8.10	5.40	3.12	2.46
23	5.20	13	3.12	23	104	497	39	18	7.80	4.80	3.12	2.68
24	5.20	14	3.34	20	85	314	31	18	7.20	5.00	3.56	2.46
25	5.20	29	2.90	14	99	216	41	17	6.90	5.00	3.56	2.46
26	7.80	18	2.46	13	96	26	40	17	6.00	4.60	3.56	2.46
27	19	18	2.46	9.30	74	82	45	16	6.60	4.60	3.78	2.46
28	8.70	56	2.24	8.40	76	66	42	17	7.20	4.60	4.00	2.02
29	7.50	59	2.02	10	57	54	72	18	6.90	4.40	–	2.02
30	6.30	31	2.02	19	73	59	274	20	7.20	4.20	–	2.02
31	–	21	–	41	161	–	188	–	7.50	4.40	–	2.46
Total	212.80	676.94	221.20	286.96	1,871	7,592	3,010	1,083	338.10	205.90	112.98	88.72
Mean	7.09	21.8	7.37	9.26	60.3	253	97.1	36.1	10.9	6.63	4.03	2.86
Max.	19	66	24	41	174	818	303	106	19	11	5.00	4.40
Min.	4.60	3.56	2.02	1.80	13	54	31	16	6.00	4.20	3.12	2.02
Runoff - mcm.	18.386	58.488	19.112	24.793	161.654	655.949	260.064	93.571	29.213	17.774	9.761	7.665

WATER YEAR 1977 : Max. 818 Min. 1.80 Mean 43.0 Annual Runoff 1,356.429 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sept. 15	15.00	150.25	954				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
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 Sawankhalok Bridge, Amphoe Sawankhalok, Sukhothai.

Drainage Area: 13,583 Sq.km.

Type of Gage: Water-stage recorder.

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

Bench Mark: B.M. - H.S.

Location: On left side of automatic gage building.
Elevation: + 60.599 m. (M.S.L.)

Gage Reading Frequency: Recording

Basis of Mean Daily Gage Height: Arithmetic mean of 24 hourly readings.

Period of Available Gage Records: 1957 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, no shifting adjustment for flow computation.

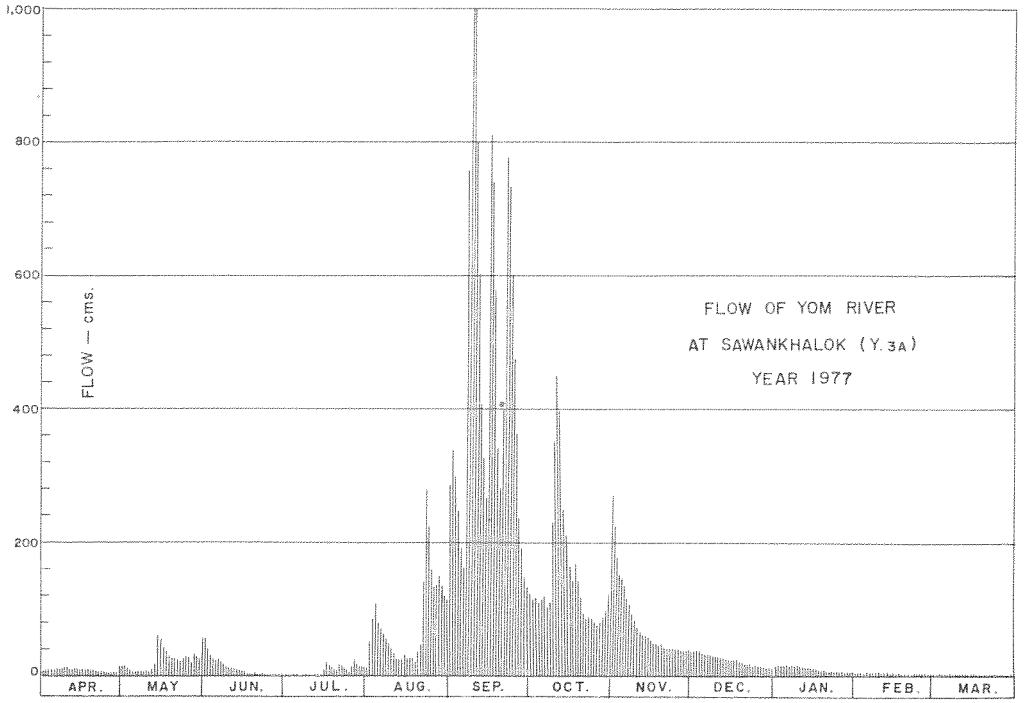
Overbank Flow Conditions: No overbank flow.

General Description: Records good. Stage-discharge relation defined by 49 discharge measurements made in 1977. Upstream state diversions for irrigation of about 24,000 hectares at Mae Yom Weir.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	51.73	51.87	52.63	51.45	51.94	54.96	53.47	54.86	52.37	51.92	51.69	51.64
2	.72	.78	.35	.44	52.28	55.40	.40	.37	.41	.95	.68	.64
3	.73	.72	.18	.43	53.10	.05	.46	53.86	.42	.94	.68	.65
4	.74	.68	.13	.42	.31	54.78	.34	.73	.37	.96	.68	.65
5	.75	.68	.15	.42	52.93	.13	.43	.72	.33	.95	.71	.65
6	51.75	51.71	52.17	51.41	52.85	53.85	53.48	53.56	52.30	51.96	51.74	51.65
7	.78	.70	.08	.41	.73	57.32	.29	.34	.28	.96	.75	.65
8	.85	.70	51.94	.42	.56	58.13	.25	.16	.26	.96	.75	.65
9	.84	.69	.87	.44	.45	56.81	54.42	.01	.25	.95	.75	.67
10	.81	.67	.84	.42	.34	60.29	55.82	52.91	.22	.96	.75	.60
11	51.78	51.65	51.80	51.41	52.22	58.58	56.19	52.82	52.20	51.95	51.75	51.64
12	.77	.64	.78	.41	.16	56.90	55.41	.74	.19	.92	.73	.63
13	.77	52.07	.77	.43	.14	55.81	54.69	.71	.16	.90	.71	.64
14	.77	.74	.72	.42	.19	54.85	.58	.68	.15	.88	.70	.64
15	.77	.56	.67	.42	.27	.78	.19	.66	.14	.87	.69	.63
16	51.77	52.46	51.63	51.39	52.20	57.86	53.88	52.60	52.15	51.87	51.69	51.61
17	.74	.34	.60	.44	.20	58.44	.68	.53	.12	.85	.67	.57
18	.71	.17	.59	.43	.18	56.88	.97	.51	.10	.84	.67	.56
19	.70	.18	.58	.42	.11	55.49	.81	.51	.08	.81	.65	.55
20	.70	.16	.56	.60	.38	54.91	.54	.49	.07	.81	.65	.55
21	51.67	52.13	51.55	52.04	52.48	55.76	53.22	52.46	52.05	51.80	51.63	51.55
22	.69	.11	.54	51.93	53.58	56.53	.06	.44	.01	.78	.63	.55
23	.69	.09	.51	.82	54.90	58.23	.11	.44	51.98	.77	.63	.55
24	.69	.23	.49	.77	.38	57.68	.07	.44	.96	.76	.63	.54
25	.67	.22	.48	.70	53.86	56.46	.00	.44	.95	.76	.63	.53
26	51.64	52.06	51.47	52.00	53.58	55.38	52.94	52.43	51.94	51.74	51.63	51.53
27	.63	.01	.45	.14	.72	54.60	.97	.42	.92	.74	.63	.53
28	.63	.28	.45	51.99	.78	.12	53.09	.40	.91	.73	.63	.52
29	.61	.16	.45	.92	.56	53.76	.25	.39	.90	.72		.52
30	.95	.14	.45	.91	.39	.56	.28	.37	.88	.71		.51
31		.66		.88	.38		.87		.88	.70		.51
Mean	51.73	52.04	51.76	51.60	52.88	56.04	53.75	52.90	52.13	51.85	51.68	51.59
Max.	51.95	52.74	52.63	52.14	54.90	60.29	56.19	54.86	52.42	51.96	51.75	51.67
Min.	51.61	51.64	51.45	51.39	51.94	53.56	52.94	52.37	51.88	51.70	51.63	51.51

WATER YEAR 1977 : Max. 60.29 m. Min. 51.39 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	8.90	13	56	2.00	16	286	122	274	39	15	7.70	6.20
2	8.60	10	38	1.80	34	341	116	216	42	16	7.40	6.20
3	8.90	8.60	28	1.60	90	297	121	161	42	16	7.40	6.50
4	9.20	7.40	25	1.40	108	265	111	148	39	17	7.40	6.50
5	9.50	7.40	26	1.40	77	189	119	147	37	16	8.30	6.50
6	9.50	8.30	27	1.20	71	160	123	131	35	17	9.20	6.50
7	10	8.00	23	1.20	65	629	106	111	34	17	9.50	6.50
8	12	8.00	16	1.40	51	759	102	95	33	17	9.50	6.50
9	12	7.70	13	1.80	44	548	221	83	32	16	9.50	7.10
10	12	7.10	12	1.40	37	1,227	401	76	30	17	9.50	5.00
11	10	6.50	11	1.20	30	832	452	69	29	16	9.50	6.20
12	10	6.20	10	1.20	27	562	342	64	28	15	8.90	5.90
13	10	22	10	1.60	26	398	254	62	27	14	8.30	6.20
14	10	64	8.60	1.40	28	273	241	60	26	13	8.00	6.20
15	10	51	7.10	1.40	33	265	196	58	26	13	7.70	5.90
16	10	45	5.90	0.90	29	716	163	54	26	13	7.70	5.30
17	9.20	37	5.00	1.80	29	808	143	49	25	12	7.10	4.40
18	8.30	27	4.80	1.60	28	559	172	48	24	12	7.10	4.20
19	8.00	28	4.60	1.40	24	354	156	48	23	11	6.50	4.00
20	8.00	27	4.20	5.00	40	280	129	46	22	11	6.50	4.00
21	7.10	25	4.00	21	46	391	100	45	21	11	5.90	4.00
22	7.70	24	3.80	15	133	503	87	43	19	10	5.90	4.00
23	7.70	23	3.20	12	279	775	91	43	18	10	5.90	4.00
24	7.70	31	2.80	10	217	687	88	43	17	9.80	5.90	3.80
25	7.10	30	2.60	8.00	161	493	82	43	16	9.80	5.90	3.60
26	6.20	22	2.40	19	133	338	78	43	16	9.20	5.90	3.60
27	5.90	19	2.00	26	147	243	80	42	15	9.20	5.90	3.60
28	5.90	34	2.00	18	153	188	89	41	14	8.90	5.90	3.40
29	5.30	27	2.00	15	131	151	102	40	14	8.60		3.40
30	16	26	2.00	14	115	131	105	39	13	8.30		3.20
31		58		13	114		162		13	8.00		3.20
Total	270.70	718.20	362	203.70	2,514	13,648	4,854	2,422	795	396.80	209.90	155.60
Mean	9.02	23.2	12.1	6.57	81.1	455	156	80.7	25.6	12.8	7.50	5.02
Max.	16	64	56	26	279	1,227	452	274	42	17	9.50	7.10
Min.	5.30	6.20	2.00	0.90	16	131	78	39	13	8.00	5.90	3.20
Runoff - mcm.	23.388	62.052	31.277	17.600	217.210	1,179.187	419.386	209.261	68.688	34.283	18.135	13.444

WATER YEAR 1977 : Max. 1,227 Min. 0.90 Mean 72.7 Annual Runoff 2,293.911 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sept. 10	13.00	60.75	1,356				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
YOM RIVER BASIN

Yom River at Sukhothai, Sukhothai (Y. 4)

Location: Lat. 17°-00'-18" N., Long. 99°-49'-31" E., on left bank infront of the governer's house, Amphoe Muang, Sukhothai.

Drainage Area: 17,731 Sq.km.

Type of Gage: Staff gage.

Zero Gage at Bottom at: + 44.00 m. (M.S.L.)

Bench Mark: B.M. - H.S.

Location: At about 22 meters from the top of the vertical staff gage.
Elevation: + 47.579 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.
Rated by Float: -
Rated by Current Meter: 1954-1956, 1967-1970.

Stability of Channel Regimes: Unstable, no shifting adjustment for flow computation.

Overbank Flow Conditions: Overbank flow starts at elevation + 49.00 m. (M.S.L.), records are channel flow only.

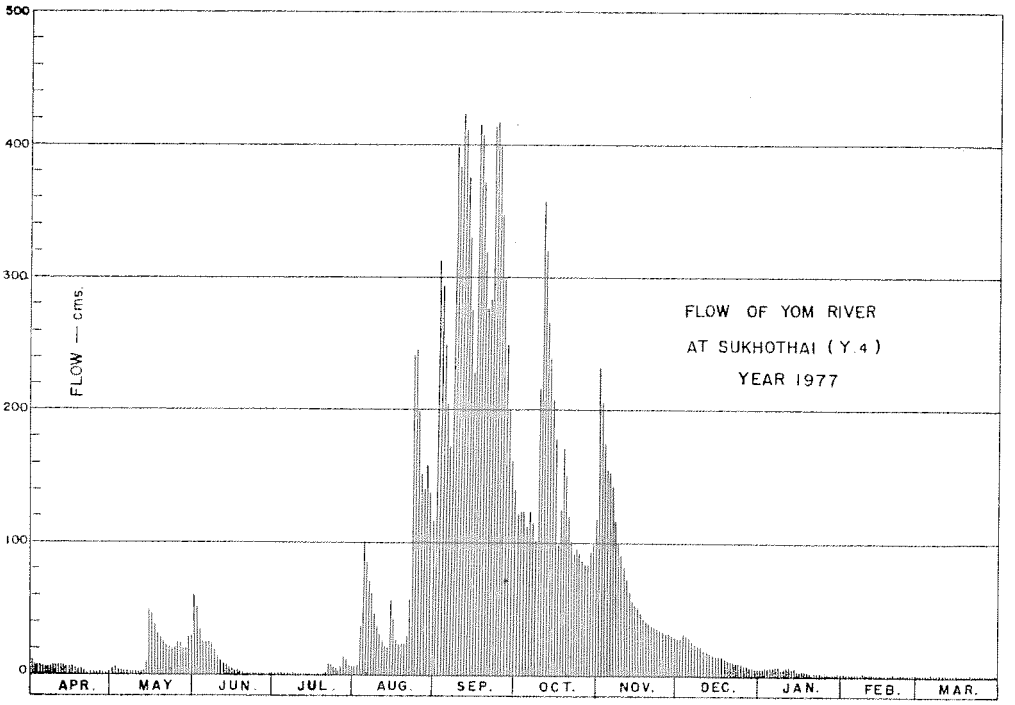
General Description: Records fair. Stage-discharge relation defined by 40 discharge measurements made in 1970. Upstream state diversions for irrigation of about 24,000 hectares.

Remarks: Discharge record for periods of no flow are omitted.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	55.42	45.30	47.28	44.81	45.46	48.64	48.19	48.98	46.46	45.45	45.03	44.89
2	.41	.44	.19	.81	.59	49.25	.09	.91	.47	.50	.02	.90
3	.40	.33	46.75	.81	46.32	.20	.12	.63	.56	.51	.02	.88
4	.40	.24	.45	.80	47.89	.07	.08	.40	.56	.50	.01	.88
5	.38	.17	.30	.79	.84	48.85	.00	.41	.47	.52	.02	.87
6	45.38	45.18	46.36	44.77	47.44	48.55	48.12	48.34	46.38	45.51	45.04	44.86
7	.38	.23	.34	.77	.33	49.06	.05	.16	.27	.53	.08	.86
8	.41	.23	.14	.77	.07	.42	47.88	47.95	.22	.53	.09	.85
9	.51	.21	45.98	.84	46.79	.40	48.43	.77	.19	.52	.10	.86
10	.52	.18	.77	.89	.55	.43	49.12	.63	.14	.51	.10	.84
11	45.48	45.16	45.67	44.85	46.33	49.45	49.35	47.53	46.09	45.51	45.10	44.83
12	.42	.12	.61	.77	.13	.43	.26	.41	.05	.50	.07	.79
13	.40	.15	.56	.75	.14	.37	.04	.28	.00	.47	.06	.76
14	.39	46.17	.48	.76	.18	.14	48.98	.14	45.94	.43	.02	.74
15	.40	47.05	.41	.80	47.17	48.95	.82	.09	.92	.37	44.98	.72
16	45.40	46.98	45.30	44.84	46.37	49.38	48.54	47.02	45.90	45.34	44.96	44.71
17	.38	.83	.19	.81	.32	.44	47.84	46.95	.87	.32	.95	.69
18	.33	.56	.10	.81	.33	.43	48.40	.84	.83	.29	.95	.69
19	.28	.29	.05	.77	.25	.32	.54	.81	.80	.26	.90	.69
20	.27	.21	.04	.75	.31	.15	.07	.79	.77	.23	.88	.69
21	45.24	46.18	45.02	45.38	46.64	49.17	48.01	46.77	45.73	45.22	44.87	44.66
22	.21	.14	.00	.59	47.34	.43	47.81	.71	.68	.20	.88	.64
23	.23	.11	44.99	.53	49.02	.44	.74	.66	.67	.18	.85	.64
24	.22	.13	.96	.43	.03	.44	.80	.63	.63	.15	.84	.64
25	.21	.32	.95	.31	48.68	.41	.74	.61	.60	.13	.85	.61
26	45.17	46.31	44.91	45.19	48.36	49.27	47.65	46.60	45.57	45.13	44.88	44.62
27	.12	.12	.86	.60	.28	.05	.60	.58	.54	.10	.92	.65
28	.11	.10	.84	.78	.44	48.80	.71	.54	.51	.08	.90	.64
29	.09	.45	.84	.62	.33	.53	.82	.50	.49	.07		.62
30	.07	.37	.82	.55	.13	.31	.90	.48	.45	.06		.62
31		.52		.50	.02		48.11		.43	.04		.60
Mean	45.32	45.90	45.57	45.05	47.16	49.16	48.22	47.34	45.94	45.33	44.98	44.74
Max.	45.52	47.05	47.28	45.78	49.03	49.45	49.35	48.98	46.56	45.53	45.10	44.90
Min.	45.07	45.12	44.82	44.75	45.46	48.31	47.60	46.48	45.43	45.04	44.84	44.60

WATER YEAR 1977 : Max. 49.45 m. Min. 44.60 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	6.30	4.50	62	0.05	6.90	183	132	234	29	6.75	1.80	0.45
2	6.15	6.60	57	0.05	9.30	313	122	220	29	7.50	1.70	0.50
3	6.00	4.95	38	0.05	25	293	125	182	32	7.70	1.70	0.40
4	6.00	3.90	29	0.00	103	255	121	155	32	7.50	1.60	0.40
5	5.70	3.20	25	0.00	99	210	113	156	29	7.90	1.70	0.35
6	5.70	3.30	26	0.00	72	172	125	148	27	7.70	1.90	0.30
7	5.70	3.80	26	0.00	65	252	118	129	24	8.10	2.30	0.30
8	6.15	3.80	21	0.00	51	399	102	108	23	8.10	2.40	0.25
9	7.70	3.60	17	0.20	39	383	158	94	22	7.90	2.50	0.25
10	7.90	3.30	13	0.45	31	408	268	84	21	7.70	2.50	0.20
11	7.20	3.10	11	0.25	26	424	358	77	20	7.70	2.50	0.15
12	6.30	2.70	9.70	0.00	21	408	317	70	19	7.90	2.20	0.00
13	6.00	3.00	8.70	0.00	21	368	248	62	17	7.05	2.10	
14	5.85	22	7.20	0.00	22	274	234	55	16	6.45	1.70	
15	6.00	50	6.15	0.00	56	228	206	52	16	5.55	1.30	
16	6.00	47	4.50	0.20	27	373	171	49	15	5.10	1.10	
17	5.70	41	3.40	0.05	25	416	99	46	15	4.80	1.00	
18	4.95	32	2.50	0.05	26	408	155	41	14	4.40	1.00	
19	4.30	25	2.00	0.00	24	343	171	40	13	4.10	0.50	
20	4.20	23	1.90	0.00	25	277	120	39	13	3.80	0.40	
21	3.90	22	1.70	5.85	34	284	114	38	12	3.70	0.35	
22	3.60	21	1.50	9.30	66	408	97	36	11	3.50	0.40	
23	3.80	20	1.40	8.10	243	416	91	35	11	3.30	0.25	
24	3.70	21	1.10	6.45	245	416	96	34	10	3.00	0.20	
25	3.60	25	1.00	4.65	188	391	91	33	9.50	2.80	0.25	
26	3.20	25	0.60	3.40	151	321	85	33	8.90	2.80	0.40	
27	2.70	20	0.30	9.50	142	250	82	32	8.30	2.50	0.70	
28	2.60	20	0.20	13	159	203	89	31	7.70	2.30	0.50	
29	2.40	29	0.20	9.90	147	170	98	30	7.35	2.20		
30	2.20	27	0.10	8.50	126	145	104	29	6.75	2.10		
31		31		7.50	115		124		6.45	1.90		0.00
Total	151.50	550.75	379.15	87.50	2,390.20	9,391	4,534	2,372	524.95	163.40	36.95	3.55
Mean	5.05	17.8	12.6	2.82	77.1	313	146	79.1	16.9	5.27	1.32	0.114
Max.	7.90	50	62	13	245	424	358	234	32	8.10	2.50	0.50
Min.	2.20	2.70	0.10	0.00	6.90	145	82	29	6.45	1.90	0.20	0.00
Runoff - MCM.	13.090	47.585	32.758	7.560	206.513	811.382	391.738	204.941	45.356	14.118	3.192	0.307

WATER YEAR 1977 : Max. 424 Min. 0.00 Mean 56.4 Annual Runoff 1,778.540 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sept. 17	24.00	49.46	432				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
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 above Kaeng Luang, Amphoe Si Satchanalai, Sukhothai.

Drainage Area: 12,658 Sq.km.

Type of Gage: Water-stage recorder.

Zero Gage at Bottom at: + 59.00 m. (M.S.L.)

Bench Mark: B.M. - Y6

Location: Near automatic gage building.
Elevation: + 68.928 m. (M.S.L.)

Gage Reading Frequency: Recording

Basis of Mean Daily Gage Height: Arithmetic mean of 24 hourly 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, no shifting adjustment for flow computation.

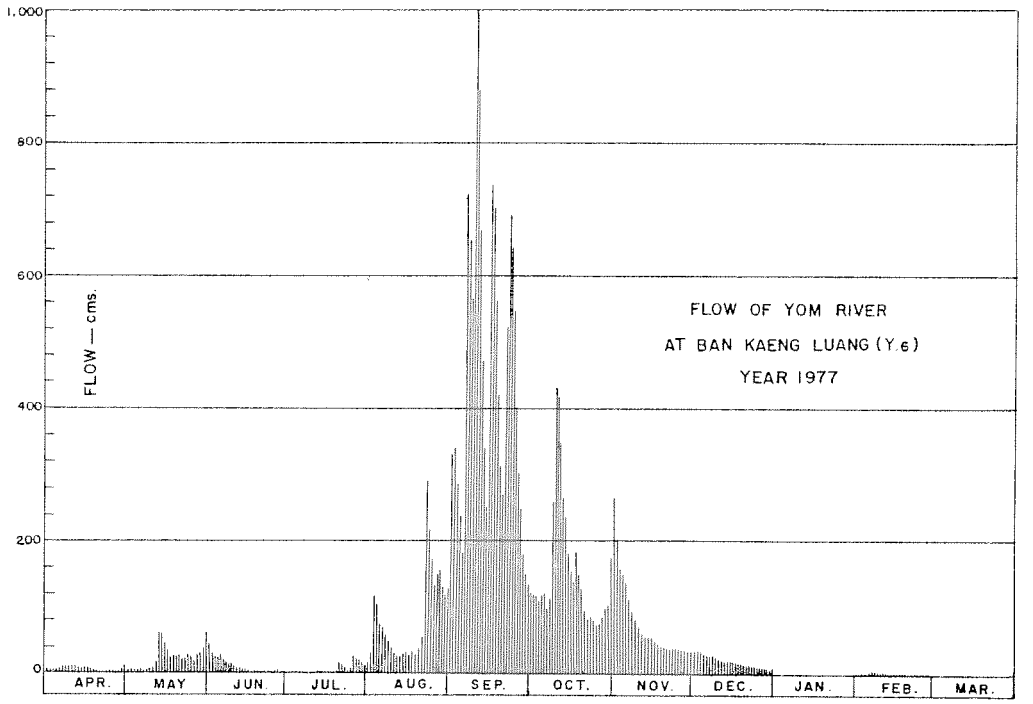
Overbank Flow Conditions: No overbank flow.

General Description: Records good. Stage-discharge relation defined by 119 discharge measurements made in 1977. Flow diverted for irrigation of about 24,000 hectares at above gage site.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	59.88	59.96	60.70	59.62	60.23	62.67	61.37	62.33	60.46	60.04	59.78	59.71
2	.88	.87	.44	.60	.60	.70	.35	61.97	.50	.04	.76	.73
3	.88	.86	.32	.60	61.35	.46	.36	.64	.48	.05	.75	.74
4	.90	.84	.29	.59	.26	.26	.29	.62	.44	.06	.79	.74
5	.90	.87	.34	.59	60.96	61.81	.39	.57	.41	.05	.83	.74
6	59.90	59.88	60.36	59.58	60.94	61.77	61.38	61.44	60.38	60.05	59.85	59.74
7	.97	.86	.20	.58	.81	64.22	.21	.25	.36	.05	.85	.73
8	60.00	.86	.11	.60	.67	63.89	.33	.10	.35	.04	.85	.75
9	59.97	.84	.06	.62	.58	.64	62.24	60.99	.33	.04	.85	.75
10	.96	.80	.03	.60	.47	65.93	63.12	.91	.29	.06	.84	.72
11	59.94	59.80	60.00	59.60	60.38	64.05	63.07	60.84	60.28	60.04	59.84	59.70
12	.94	.82	59.98	.60	.35	63.33	62.56	.78	.26	.01	.81	.69
13	.94	60.57	.94	.60	.34	62.81	.20	.74	.23	59.99	.79	.67
14	.94	.83	.88	.60	.42	.23	.15	.74	.23	.97	.79	.66
15	.94	.71	.82	.58	.46	.55	61.82	.71	.21	.96	.77	.65
16	59.92	60.60	59.79	59.60	60.39	64.26	61.65	60.67	60.20	59.96	59.76	59.65
17	.89	.42	.79	.63	.41	.12	.52	.60	.18	.93	.75	.64
18	.86	.30	.77	.61	.34	63.29	.80	.59	.16	.91	.74	.64
19	.85	.31	.76	.60	.36	62.62	.57	.59	.15	.89	.72	.62
20	.84	.30	.73	60.14	.54	.35	.31	.57	.13	.88	.71	.62
21	59.85	60.27	59.72	60.19	60.78	63.16	61.13	60.55	60.11	59.88	59.71	59.64
22	.86	.24	.70	.07	61.86	.93	.04	.52	.10	.86	.70	.63
23	.86	.25	.68	59.96	62.46	64.11	.08	.53	.08	.85	.70	.62
24	.84	.39	.67	.91	61.96	63.75	.04	.51	.06	.84	.70	.61
25	.81	.31	.65	.97	.65	.08	60.98	.51	.05	.83	.69	.61
26	59.79	60.20	59.63	60.37	61.49	62.52	60.93	60.49	60.03	59.82	59.69	59.61
27	.78	.22	.63	.27	.66	.11	61.03	.48	.01	.81	.70	.60
28	.78	.39	.62	.24	.63	61.80	.10	.47	.01	.80	.70	.60
29	.79	.34	.62	.11	.46	.56	.26	.46	59.99	.80		.60
30	60.08	.50	.62	.08	.36	.44	.24	.45	.97	.79		.59
31		.84		.08	.49		62.02		60.00	.78		.58
Mean	59.89	60.20	59.93	59.80	60.96	63.01	61.56	60.89	60.21	59.94	59.76	59.66
Max.	60.08	60.84	60.70	60.37	62.46	65.93	63.12	62.33	60.50	60.06	59.85	59.75
Min.	59.78	59.80	59.62	59.58	60.23	61.44	60.93	60.45	59.97	59.78	59.69	59.58

WATER YEAR 1977 : Max. 65.93 m. Min. 59.58 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	6.40	9.40	53	1.20	22	335	122	270	36	13	3.60	2.20
2	6.40	6.10	34	1.00	45	341	120	208	38	13	3.20	2.60
3	6.40	5.80	27	1.00	120	294	121	158	37	13	3.00	2.80
4	7.00	5.20	25	0.90	109	258	113	155	34	13	3.80	2.80
5	7.00	6.10	28	0.90	77	183	125	148	33	13	4.90	2.80
6	7.00	6.40	30	0.80	75	177	124	131	31	13	5.50	2.80
7	9.80	5.80	20	0.80	63	723	103	108	30	13	5.50	2.60
8	11	5.80	15	1.00	51	627	118	91	29	13	5.50	3.00
9	9.80	5.20	13	1.20	44	559	254	80	28	13	5.50	3.00
10	9.40	4.00	12	1.00	36	1,290	433	72	25	13	5.20	2.40
11	8.60	4.00	11	1.00	31	672	421	66	25	13	5.20	2.00
12	8.60	4.60	10	1.00	29	482	313	60	24	11	4.30	1.90
13	8.60	43	8.60	1.00	28	364	247	57	22	11	3.80	1.70
14	8.60	65	6.40	1.00	33	252	238	57	22	9.80	3.80	1.60
15	8.60	54	4.60	0.80	36	311	185	54	21	9.40	3.40	1.50
16	7.80	45	3.80	1.00	31	735	159	51	20	9.40	3.20	1.50
17	6.70	33	3.80	1.30	33	693	141	45	19	8.20	3.00	1.40
18	5.80	26	3.40	1.10	28	473	182	44	18	7.40	2.80	1.40
19	5.50	27	3.20	1.00	30	325	148	44	17	6.70	2.40	1.20
20	5.20	26	2.60	17	41	274	115	43	16	6.40	2.20	1.20
21	5.50	24	2.40	19	60	442	94	41	15	6.40	2.20	1.40
22	5.80	22	2.00	14	191	638	85	39	15	5.80	2.00	1.30
23	5.80	23	1.80	9.40	294	290	89	40	14	5.50	2.00	1.20
24	5.20	31	1.70	7.40	207	588	85	39	13	5.20	2.00	1.10
25	4.30	27	1.50	9.80	159	424	79	39	13	4.90	1.90	1.10
26	3.80	20	1.30	30	137	306	74	37	12	4.60	1.90	1.10
27	3.60	21	1.30	24	161	232	84	37	11	4.30	2.00	1.00
28	3.60	31	1.20	22	156	182	91	36	11	4.00	2.00	1.00
29	3.80	28	1.20	15	133	146	109	36	11	4.00		1.00
30	14	38	1.20	14	121	131	107	35	9.80	3.80		0.90
31		66		14	137		216		11	3.60		0.80
Total	209.60	718.40	330.00	214.60	2,718	13,147	4,895	2,321	660.80	274.40	95.80	54.30
Mean	6.99	23.2	11.0	6.92	87.7	438	158	77.4	21.3	8.85	3.42	1.75
Max.	14	66	53	30	294	1,290	433	270	38	13	5.50	3.00
Min.	3.60	4.00	1.20	0.80	22	131	74	35	9.80	3.60	1.90	0.80
Runoff - MCM.	18.109	62.070	28.512	18.541	234.835	1,135.901	422.928	200.534	57.093	23.708	8.277	4.692

WATER YEAR 1977 : Max. 1,290 Min. 0.80 Mean 70.2 Annual Runoff 2,215.201 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sept. 10	11.00	66.46	1,498				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
YOM RIVER BASIN

Mae Ngao River at Ngao, Lampang (Y. 13)

Location: Lat. 18°-45'-06" N., Long. 99°-58'-53" E., on left bank at downstream side of Ngao Bridge, Amphoe Ngao, Lampang.

Drainage Area: 382 Sq.km.

Type of Gage: Water-stage recorder.

Zero Gage at Bottom at: + 266.658 m. (M.S.L.)

Bench Mark: B.M. - H.S.

Location: On left bank about 100 meters upstream from gage site.
Elevation: + 273.180 m. (M.S.L.)

Gage Reading Frequency: Recording

Basis of Mean Daily Gage Height: Arithmetic mean of 24 hourly readings.

Period of Available Gage Records: 1957 to date.

Rating Operation:

Period of Rating: 1957-1958, 1969 to date.
Rated by Float: -
Rated by Current Meter: 1957-1958, 1969 to date.

Stability of Channel Regimes: Stable, no shifting adjustment for flow computation.

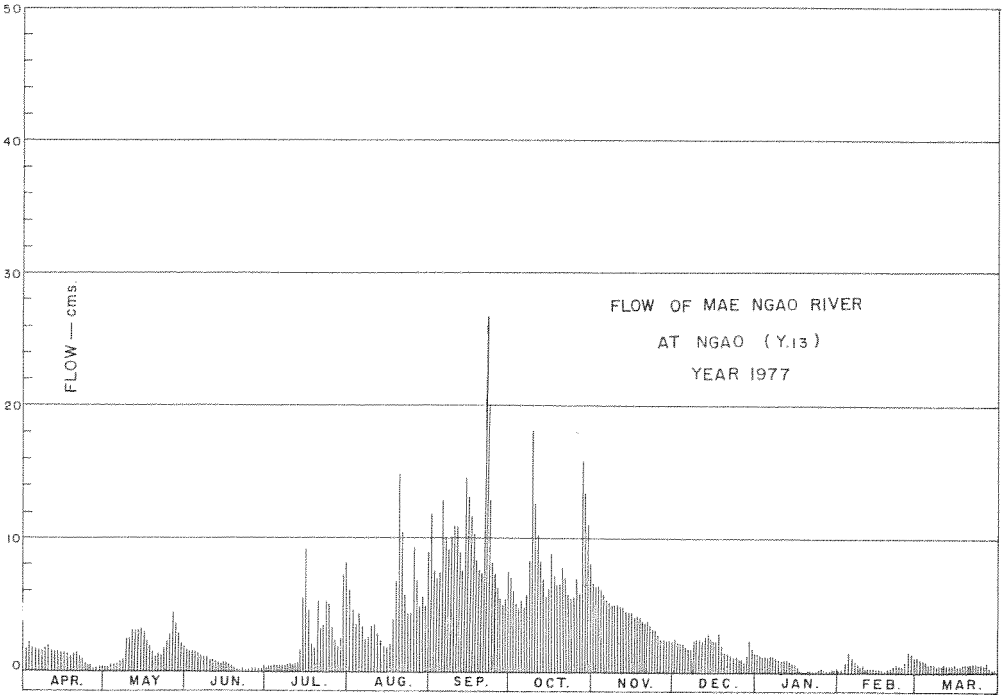
Overbank Flow Conditions: No overbank flow.

General Description: Records good. Stage-discharge relation defined by 27 discharge measurements made in 1977.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	266.66	266.53	266.67	266.53	266.94	267.13	266.96	266.93	266.73	266.64	266.52	266.60
2	.70	.54	.65	.54	.86	.03	.88	.92	.72	.63	.52	.58
3	.69	.53	.66	.54	.85	266.95	.85	.92	.71	.63	.57	.58
4	.67	.55	.65	.54	.78	.98	.85	.90	.71	.62	.64	.56
5	.66	.55	.63	.55	.83	267.16	.87	.89	.70	.62	.61	.56
6	266.66	266.57	266.62	266.55	266.79	267.06	266.84	266.87	266.68	266.63	266.58	266.56
7	.66	.58	.62	.55	.72	.07	.92	.86	.67	.63	.57	.56
8	.68	.59	.61	.55	.73	.04	267.07	.85	.71	.60	.55	.55
9	.71	.72	.59	.55	.77	.09	.33	.86	.73	.59	.55	.55
10	.68	.72	.58	.56	.79	.10	.15	.86	.72	.58	.55	.55
11	266.65	266.74	266.59	266.56	266.78	267.11	267.10	266.85	266.73	266.59	266.52	266.55
12	.65	.75	.57	.57	.74	.03	.00	.84	.72	.60	.52	.55
13	.65	.75	.56	.59	.72	266.98	266.94	.83	.74	.58	.53	.55
14	.65	.76	.56	.71	.70	267.25	.89	.83	.74	.56	.52	.55
15	.63	.76	.57	267.00	.70	.21	.93	.82	.72	.56	.52	.55
16	266.64	266.73	266.56	267.04	266.69	267.15	267.03	266.81	266.72	266.53	266.52	266.55
17	.63	.70	.54	266.86	.75	.10	266.96	.81	.72	.51	.52	.55
18	.61	.67	.51	.71	.89	.01	.93	.81	.74	.50	.52	.55
19	.64	.63	.49	.65	267.01	266.98	.94	.79	.67	.50	.53	.56
20	.66	.61	.50	.78	.25	.97	267.00	.79	.64	.50	.53	.56
21	266.63	266.61	266.51	266.87	267.09	267.26	266.96	266.79	266.63	266.50	266.54	266.56
22	.59	.62	.51	.76	266.88	.60	.90	.78	.63	.51	.56	.56
23	.56	.68	.51	.80	.83	.18	.88	.77	.61	.52	.55	.56
24	.55	.70	.51	.87	.81	.03	.88	.76	.62	.51	.54	.56
25	.54	.74	.51	.86	.93	266.95	.95	.76	.61	.52	.56	.56
26	266.51	266.74	266.53	266.78	267.05	266.91	266.89	266.72	266.58	266.52	266.61	266.56
27	.52	.81	.52	.72	266.95	.87	.91	.73	.58	.52	.65	.57
28	.52	.76	.52	.69	.85	.85	267.28	.72	.60	.51	.63	.52
29	.53	.73	.52	.74	.89	.89	.16	.73	.72	.53		.49
30	.52	.70	.53	.98	.85	.98	.06	.72	.68	.53		.47
31		.68		267.01	267.03		266.97		.65	.53		.48
Mean	266.62	266.67	266.56	266.71	266.85	267.06	266.94	266.82	266.68	266.56	266.55	266.55
Max.	266.71	266.81	266.67	267.04	267.25	267.60	267.33	266.93	266.74	266.64	266.65	266.60
Min.	266.51	266.53	266.49	266.53	266.69	266.85	266.84	266.72	266.58	266.50	266.52	266.47

WATER YEAR 1977 : Max. 267.60 m. Min. 266.47 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	1.60	0.30	1.70	0.30	6.80	12	7.20	6.60	2.60	1.40	0.70	1.00
2	2.00	0.40	1.50	0.40	5.20	8.90	5.60	6.40	2.40	1.30	0.20	0.80
3	1.90	0.70	1.60	0.40	5.00	7.00	5.00	6.40	2.20	1.30	0.70	0.80
4	1.70	0.50	1.50	0.40	3.60	7.60	5.00	6.00	2.20	1.20	1.40	0.60
5	1.60	0.50	1.30	0.50	4.60	13	5.40	5.80	2.00	1.20	1.10	0.60
6	1.60	0.70	1.20	0.50	3.80	9.80	4.80	5.40	1.80	1.30	0.80	0.60
7	1.60	0.80	1.20	0.50	2.40	10	6.40	5.20	1.70	1.30	0.70	0.60
8	1.80	0.90	1.10	0.50	2.60	9.20	10	5.00	2.20	1.00	0.50	0.50
9	2.20	2.40	0.90	0.50	3.40	11	18	5.20	2.60	0.90	0.50	0.50
10	1.80	2.40	0.80	0.60	3.80	11	12	5.20	2.40	0.80	0.50	0.50
11	1.50	2.80	0.90	0.60	3.60	11	11	5.00	2.60	0.90	0.20	0.50
12	1.50	3.00	0.70	0.70	2.80	8.90	8.00	4.80	2.40	1.00	0.20	0.50
13	1.50	3.00	0.60	0.90	2.40	7.60	6.80	4.60	2.80	0.80	0.30	0.50
14	1.50	3.20	0.60	2.20	2.00	15	5.80	4.60	2.80	0.60	0.20	0.50
15	1.30	3.20	0.70	8.00	2.00	14	6.60	4.40	2.40	0.60	0.20	0.50
16	1.40	2.60	0.60	9.20	1.90	12	8.90	4.20	2.40	0.30	0.20	0.50
17	1.30	2.00	0.40	5.20	3.00	11	7.20	4.20	2.40	0.10	0.20	0.50
18	1.10	1.70	0.10	2.20	5.80	8.30	6.60	4.20	2.80	0.00	0.20	0.50
19	1.40	1.30	0.00	1.50	8.30	7.60	6.80	3.80	1.70	0.00	0.30	0.60
20	1.60	1.10	0.00	3.60	15	7.40	8.00	3.80	1.40	0.00	0.30	0.60
21	1.30	1.10	0.10	5.40	11	16	7.20	3.80	1.30	0.00	0.40	0.60
22	0.90	1.20	0.10	3.20	5.60	27	6.00	3.60	1.30	0.10	0.60	0.60
23	0.60	1.80	0.10	4.00	4.60	13	5.60	3.40	1.10	0.20	0.50	0.60
24	0.50	2.00	0.10	5.40	4.20	8.90	5.60	3.20	1.20	0.10	0.40	0.60
25	0.40	2.80	0.10	5.20	6.60	7.00	7.00	3.20	1.10	0.20	0.60	0.60
26	0.10	2.80	0.30	3.60	9.50	6.20	5.80	2.40	0.80	0.20	1.10	0.60
27	0.20	4.20	0.20	2.40	7.00	5.40	6.20	2.60	0.80	0.20	1.50	0.70
28	0.20	3.20	0.20	1.90	5.00	5.00	16	2.40	1.00	0.10	1.30	0.20
29	0.30	2.60	0.20	2.80	5.80	5.80	13	2.60	2.40	0.30		0.00
30	0.20	2.00	0.30	7.60	5.00	7.60	9.80	2.40	1.80	0.30		0.00
31		1.80		8.30	8.90		7.40		1.50	0.30		0.00
Total	36.60	58.60	19.10	88.50	161.20	304.20	244.70	130.40	59.10	18.00	15.30	16.20
Mean	1.22	1.89	0.64	2.82	5.20	10.1	7.89	4.35	1.91	0.58	0.55	0.52
Max.	2.20	4.20	1.70	9.20	15	27	18	6.60	2.80	1.40	1.50	1.00
Min.	0.10	0.30	0.00	0.30	1.90	5.00	4.80	2.40	0.80	0.00	0.20	0.00
Runoff - mcm.	3.162	5.063	1.650	7.646	13.928	26.283	21.142	11.266	5.106	1.555	1.322	1.400

WATER YEAR 1977 : Max. 27 Min. 0.00 Mean 3.15 Annual Runoff 99.524 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sept.22	11.00	267.87	38				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
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 highway No. 101 (Si Satchanalai – Den Chai) at kilometer marker 44, Amphoe Si Satchanalai, Sukhothai.

Drainage Area: 12,131 Sq.km.

Type of Gage: Staff gage.

Zero Gage at Bottom at: + 65.10 m. (M.S.L.)

Bench Mark: B.M. – H.S. No. 1

Location: Infront of the camp of station Y14
Elevation: + 77.575 m. (M.S.L.)

Gage Reading Frequency: 24-time daily readings at 01.00-24.00 hours.

Basis of Mean Daily Gage Height: Arithmetic mean of 24 hourly 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: Fairly stable by some silting, no shifting adjustment for flow computation.

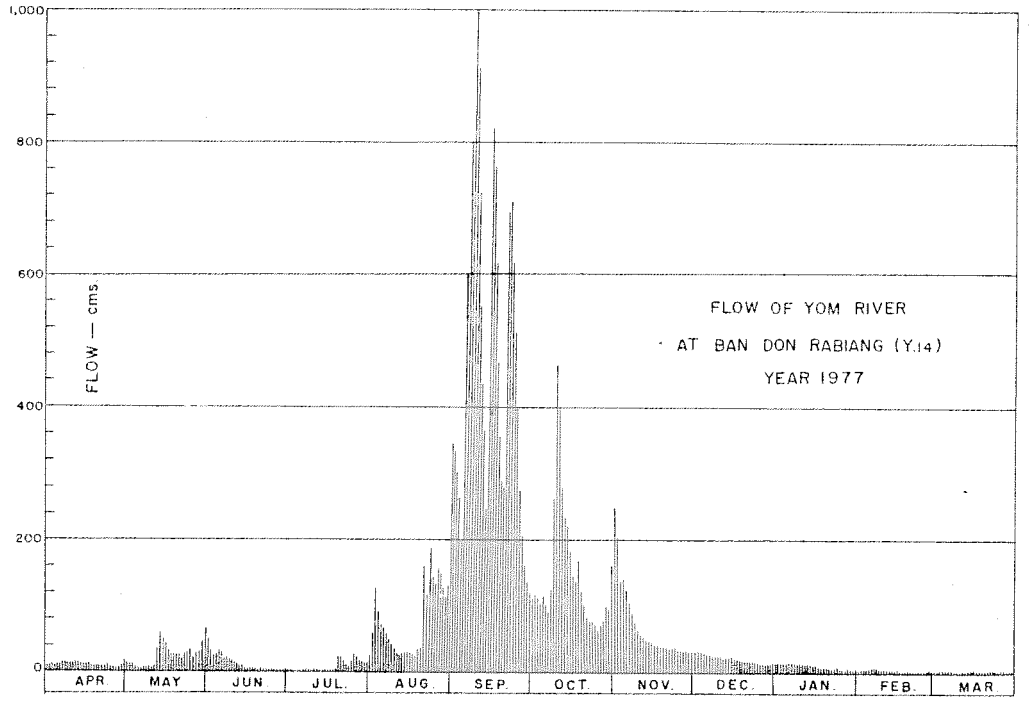
Overbank Flow Conditions: No overbank flow.

General Description: Records fair. Stage-discharge relation defined by 51 discharge measurements made in 1977.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	66.00	66.05	66.59	65.73	66.36	68.95	67.32	68.36	66.42	66.08	65.84	65.81
2	.00	.03	.38	.73	.84	.86	.36	67.88	.45	.08	.83	.82
3	.00	.03	.33	.72	67.46	.56	.32	.57	.42	.09	.84	.82
4	.02	65.95	.33	.72	.14	.26	.23	.58	.38	.07	.89	.82
5	.02	.94	.41	.71	66.91	67.72	.37	.51	.36	.09	.92	.83
6	66.03	65.94	66.32	65.70	66.90	67.95	67.30	67.32	66.33	66.09	65.92	65.83
7	.10	.94	.22	.72	.71	71.25	.12	.12	.32	.08	.93	.83
8	.07	.94	.25	.75	.61	70.30	.52	66.98	.31	.09	.93	.85
9	.04	.94	.12	.73	.52	.52	68.48	.87	.28	.08	.92	.83
10	.04	.93	.70	.73	.42	72.82	69.60	.79	.27	.08	.90	.80
11	66.04	65.91	66.08	65.72	66.36	70.48	69.31	66.72	66.26	66.07	65.88	65.77
12	.04	66.10	.04	.71	.34	69.60	68.58	.68	.24	.04	.67	.77
13	.04	.79	.00	.69	.37	68.87	.26	.65	.22	.03	.86	.75
14	.04	.71	65.94	.70	.44	.28	.16	.64	.22	.02	.84	.74
15	.04	.59	.92	.72	.42	69.10	67.77	.60	.22	.02	.83	.73
16	66.03	66.51	65.91	65.75	66.39	71.24	67.61	66.55	66.21	66.00	65.83	65.72
17	.00	.36	.90	.73	.39	70.69	.53	.52	.19	65.98	.82	.72
18	65.97	.33	.89	.71	.32	69.51	.81	.52	.17	.97	.80	.72
19	.96	.34	.87	.84	.48	68.73	.45	.52	.16	.95	.79	.71
20	.95	.33	.86	66.31	.49	.51	.20	.50	.14	.95	.79	.71
21	65.97	66.31	65.85	66.21	67.75	69.76	67.01	66.48	66.13	65.93	65.79	65.72
22	.99	.25	.82	.09	68.37	70.72	66.97	.46	.12	.92	.79	.70
23	.98	.36	.80	.00	.52	.79	67.00	.45	.10	.92	.80	.70
24	.97	.40	.78	65.99	67.92	.24	66.94	.45	.09	.90	.78	.70
25	.94	.30	.77	66.14	.57	69.28	.87	.44	.08	.90	.78	.70
26	65.93	66.23	65.77	66.39	67.51	68.61	66.83	66.43	66.06	65.89	65.78	65.69
27	.93	.38	.75	.27	.70	.13	.97	.42	.05	.88	.80	.68
28	.92	.43	.75	.17	.59	67.78	67.05	.41	.04	.88	.81	.68
29	.93	.24	.75	.13	.39	.53	.20	.40	.03	.87		.68
30	66.12	.66	.74	.12	.32	.41	.17	.39	.02	.86		.67
31		.86		.16	.75		68.35		.05	.86		.65
Mean	66.00	66.26	66.00	65.89	67.00	69.34	67.56	66.80	66.20	65.98	65.84	65.74
Max.	66.12	66.86	66.59	66.39	68.52	72.82	69.60	68.36	66.45	66.09	65.93	65.85
Min.	65.92	65.91	65.74	65.69	66.32	67.41	66.83	66.39	66.02	65.86	65.78	65.65

WATER YEAR 1977 : Max. 72.82 m. Min. 65.65 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	11	13	46	2.60	30	348	113	252	33	15	4.20	4.30
2	11	12	31	2.60	66	333	118	183	35	15	4.90	4.60
3	11	12	28	2.40	129	284	113	142	33	15	5.20	4.60
4	12	9.00	28	2.40	94	237	103	144	31	14	6.70	4.60
5	12	8.60	33	2.20	72	162	119	135	30	15	7.80	4.90
6	12	8.60	27	2.00	71	193	111	113	28	15	7.80	4.90
7	16	8.60	22	2.40	56	822	92	92	27	15	8.20	4.90
8	14	8.60	23	3.00	48	604	136	78	27	15	8.20	5.50
9	13	8.60	17	2.60	41	650	271	69	25	15	7.80	4.90
10	13	8.20	16	2.60	33	1,299	464	62	24	15	7.00	4.00
11	13	7.40	15	2.40	30	642	412	57	24	14	6.40	4.40
12	13	16	13	2.20	28	464	287	53	23	13	6.10	4.40
13	13	62	11	1.90	30	335	237	51	22	12	5.80	3.00
14	13	56	8.60	2.00	35	240	222	50	22	12	5.20	2.80
15	13	46	7.80	2.40	33	374	168	47	22	12	4.90	2.60
16	12	40	7.40	3.00	31	820	147	43	21	11	4.90	2.40
17	11	30	7.00	2.60	31	688	138	41	20	10	4.60	2.40
18	10	28	6.70	2.20	27	448	173	41	19	10	4.00	2.40
19	9.40	28	6.10	5.20	38	311	128	41	19	9.00	3.80	2.20
20	9.00	28	5.80	27	38	276	100	39	18	9.00	3.80	2.20
21	9.80	27	5.50	21	165	493	81	38	17	8.20	3.80	2.40
22	11	23	4.60	15	253	695	77	36	17	7.80	3.80	2.00
23	10	30	4.00	11	277	711	80	35	16	7.80	4.00	2.00
24	10	32	3.60	11	189	591	75	35	15	7.00	3.60	2.00
25	8.60	26	3.40	18	142	406	69	35	15	7.00	3.60	2.00
26	8.20	22	3.40	31	135	292	65	34	14	5.70	3.60	1.90
27	8.20	31	3.00	24	159	218	77	33	13	5.40	4.00	1.80
28	7.80	34	3.00	19	145	169	85	33	13	5.40	4.30	1.80
29	8.20	23	3.00	17	121	138	100	32	12	5.10		1.80
30	17	52	2.80	17	113	123	97	31	12	4.80		1.70
31		68		19	165		250		13	4.80		1.50
Total	340.20	806.60	395.70	278.70	2,825	13,366	4,708	2,075	660	330.00	148.00	96.90
Mean	11.3	26.0	13.2	8.99	91.1	445	152	69.1	21.3	10.6	5.28	3.12
Max.	17	68	46	31	277	1,299	464	252	35	15	8.20	5.50
Min.	7.80	7.40	2.80	1.90	27	123	65	31	12	4.80	3.60	1.50
Runoff - mcm.	29.393	69.690	34.188	24.080	244.080	1,154.822	406.771	179.280	57.024	28.512	12.787	8.372

WATER YEAR 1977 : Max. 1,299 Min. 1.50 Mean 71.3 Annual Runoff 2,249.001 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sept. 10	06.00	73.64	1,605				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
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 infront of Amphoe Sam Ngam, Phichit.

Drainage Area: 21,415 Sq.km.

Type of Gage: Staff gage.

Zero Gage at Bottom at: + 31.490 m. (M.S.L.)

Bench Mark: B.M. - RID Y17

Location: About 6 meters downstream from the gage site.
Elevation: + 37.838 m. (M.S.L.)

Gage Reading Frequency: 5-7 time daily readings at 01.00, 06.00, 09.00, 12.00, 15.00, 18.00 and 24.00 hours.

Basis of Mean Daily Gage Height: Arithmetic mean of 5-7 readings.

Period of Available Gage Records: 1967 to date.

Rating Operation:

Period of Rating: 1967
Rated by Float: -
Rated by Current Meter: 1967

Stability of Channel Regimes: Fairly stable, no shifting adjustment for flow computation.

Overbank Flow Conditions: Overbank flow starts at elevation + 36.92 m. (M.S.L.). Records are channel flow only.

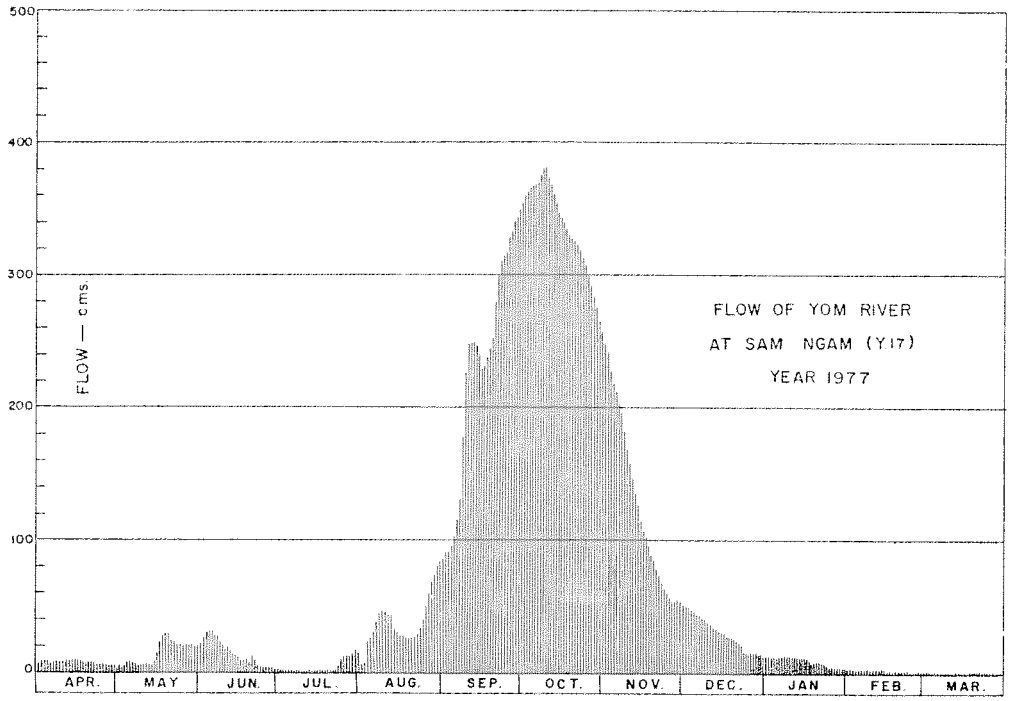
General Description: Records fair. Stage-discharge relation defined by 87 discharge measurements made in 1967. Upstream state diversions for irrigation of about 24,000 hectares.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	32.20	32.09	32.61	31.98	32.20	33.90	36.91	36.06	33.22	32.36	32.05	31.95
2	.22	.17	.68	.98	.13	.95	.93	35.94	.20	.33	.05	.93
3	.23	.06	.81	.99	.63	.99	.94	.83	.18	.32	.04	.92
4	.22	.19	.83	.98	.71	34.02	.95	.73	.14	.33	31.93	.88
5	.20	.24	.84	.98	.76	.26	.97	.65	.12	.35	32.02	.86
6	32.20	32.23	32.78	31.97	32.88	34.37	36.97	35.54	33.09	32.36	31.99	31.85
7	.21	.21	.74	.96	33.08	.58	.97	.48	.04	.36	32.00	.84
8	.22	.18	.71	.98	.14	35.05	37.00	.31	.03	.36	31.99	.81
9	.23	.17	.66	.97	.17	.79	.02	.14	.01	.37	.99	.80
10	.23	.17	.50	.94	.15	36.04	.01	.00	32.96	.37	32.01	.77
11	32.24	32.18	32.54	31.92	33.11	36.04	36.98	34.87	32.93	32.37	32.02	31.76
12	.25	.17	.48	.90	.10	.05	.95	.72	.88	.36	.03	.75
13	.26	.16	.41	.91	.05	.04	.93	.59	.84	.35	.03	.74
14	.28	.19	.39	.94	32.85	.01	.89	.47	.81	.34	.02	.73
15	.28	.29	.36	.97	.79	35.85	.85	.28	.79	.33	.01	.72
16	32.29	32.50	32.32	31.96	32.75	35.83	36.82	34.19	32.79	32.32	31.98	31.70
17	.19	.72	.31	.96	.73	.90	.81	.12	.75	.29	.97	.70
18	.22	.76	.28	.95	.72	.96	.77	33.99	.72	.27	.92	.71
19	.20	.82	.23	.95	.72	36.05	.75	.90	.72	.25	.91	.71
20	.21	.81	.19	.94	.73	.14	.74	.78	.69	.24	.89	.72
21	32.22	32.69	32.37	31.95	32.75	36.42	36.73	33.69	32.65	32.22	31.86	31.73
22	.18	.67	.24	.98	.79	.57	.71	.58	.61	.20	.85	.72
23	.16	.64	.12	32.05	.83	.64	.68	.49	.46	.19	.82	.71
24	.16	.63	.10	.21	.92	.66	.63	.43	.44	.14	.83	.71
25	.15	.63	.09	.36	33.20	.69	.60	.38	.43	.15	.83	.70
26	32.15	32.59	32.08	32.38	33.37	36.76	36.54	33.33	32.46	32.14	31.84	31.69
27	.15	.64	.06	.37	.53	.79	.49	.28	.46	.12	.81	.69
28	.16	.63	.02	.36	.64	.83	.41	.32	.44	.12	.85	.68
29	.10	.62	.01	.43	.73	.84	.34	.29	.43	.10		
30	.10	.58	.00	.46	.85	.88	.24	.25	.39	.10		.69
31		.60		.49	.85		.15		.38	.07		.70
Mean	32.20	32.43	32.39	32.07	33.00	35.76	36.76	34.42	32.78	32.26	31.95	31.76
Max.	32.29	32.82	32.84	32.49	33.85	36.88	37.02	36.06	33.22	32.37	32.05	31.95
Min.	32.10	32.06	32.00	31.90	32.13	33.90	36.15	33.25	32.38	32.07	31.81	31.68

WATER YEAR 1977 : Max. 37.02 m. Min. 31.68 m.

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	7.80	4.90	22	2.73	7.80	88	357	251	51	13	4.10	2.22
2	8.40	6.98	25	2.73	5.94	91	361	240	50	12	4.10	1.88
3	8.70	4.30	31	2.90	23	94	363	230	49	11	3.90	1.71
4	8.40	7.50	32	2.73	26	96	365	221	47	12	1.88	1.08
5	7.80	9.00	32	2.73	29	108	369	215	46	12	3.50	0.84
6	7.80	8.70	30	2.56	34	118	369	205	44	13	2.90	0.72
7	8.10	8.10	28	2.39	44	133	369	200	42	13	3.10	0.60
8	8.40	7.24	26	2.73	47	167	376	187	41	13	2.90	0.24
9	8.70	6.98	24	2.56	48	227	381	174	40	13	2.90	0.12
10	8.70	6.98	18	2.05	47	249	378	163	38	13	3.30	0.00
11	9.00	7.24	19	1.71	45	249	371	154	36	13	3.50	
12	9.30	6.98	17	1.37	45	250	365	143	34	13	3.70	
13	9.60	6.72	14	1.54	42	249	361	133	32	12	3.70	
14	10	7.50	13	2.05	33	246	353	125	31	12	3.50	
15	10	10	13	2.56	30	232	346	112	30	12	3.30	
16	10	18	11	2.39	28	230	340	106	30	11	2.73	
17	7.50	27	11	2.39	27	236	339	102	28	10	2.56	
18	8.40	29	10	2.22	27	242	332	94	27	9.90	1.71	
19	7.80	31	8.70	2.22	27	250	329	88	27	9.30	1.54	
20	8.10	31	7.50	2.05	27	258	327	81	25	9.00	1.20	
21	8.40	25	13	2.22	28	287	325	76	24	8.40	0.84	
22	7.24	25	9.00	2.73	30	304	322	70	22	7.80	0.72	
23	6.72	23	5.68	4.10	32	312	318	65	16	7.50	0.36	
24	6.72	23	5.16	8.10	36	315	311	62	15	6.20	0.48	
25	6.46	23	4.90	13	50	319	307	59	15	6.46	0.48	
26	6.46	21	4.70	13	59	330	300	56	16	6.20	0.60	
27	6.46	23	4.39	13	67	335	294	54	16	5.68	0.24	
28	6.72	23	3.50	13	73	342	285	56	15	5.68	0.72	
29	5.16	23	3.30	15	78	344	278	54	15	5.16		
30	5.16	21	3.10	16	85	351	268	52	13	5.16		
31		22		17	85		259		13	4.50		0.00
Total	238.00	497.12	448.84	163.76	1,265.74	7,052	10,418	3,828	928	304.94	64.40	9.41
Mean	7.93	16.0	15.0	5.28	40.8	235	336	128	29.9	9.84	2.30	0.30
Max.	10	31	32	17	85	351	381	251	51	13	4.10	2.22
Min.	5.16	4.30	3.10	1.37	5.94	88	259	52	13	4.50	0.24	0.00
Runoff - MCM.	20.563	42.951	38.780	14.149	109.360	609.293	900.115	330.739	80.179	26.347	5.564	0.813

WATER YEAR 1977 : Max. 381 Min. 0.00 Mean 69.1 Annual Runoff 2,178.853 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Oct.9	18.00	37.02	381				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
YOM RIVER BASIN

Nam Ngim at Ban Hae, Chiang Rai (Y. 19)

Location: Lat. 19°-18'-10" N., Long. 100°-23'-35" E., on left bank about 200 meters downstream from confluence with Huai Nam Kha and about 300 meters upstream from Ban Hae Weir, Amphoe Pong, Chiang Rai.

Drainage Area: 155 Sq.km.

Type of Gage: Water-stage recorder.

Zero Gage at Bottom at: + 346.316 m. (M.S.L.)

Bench Mark: B.M. - H.S.

Location: Near automatic gage building.
Elevation: + 350.401 m. (M.S.L.)

Gage Reading Frequency: Recording

Basis of Mean Daily Gage Height: Arithmetic mean of 24 hourly readings.

Period of Available Gage Records: 1968 to date.

Rating Operation:

Period of Rating: 1968-1971.
Rated by Float: -
Rated by Current Meter: 1968-1971.

Stability of Channel Regimes: Stable, no shifting adjustment for flow computation.

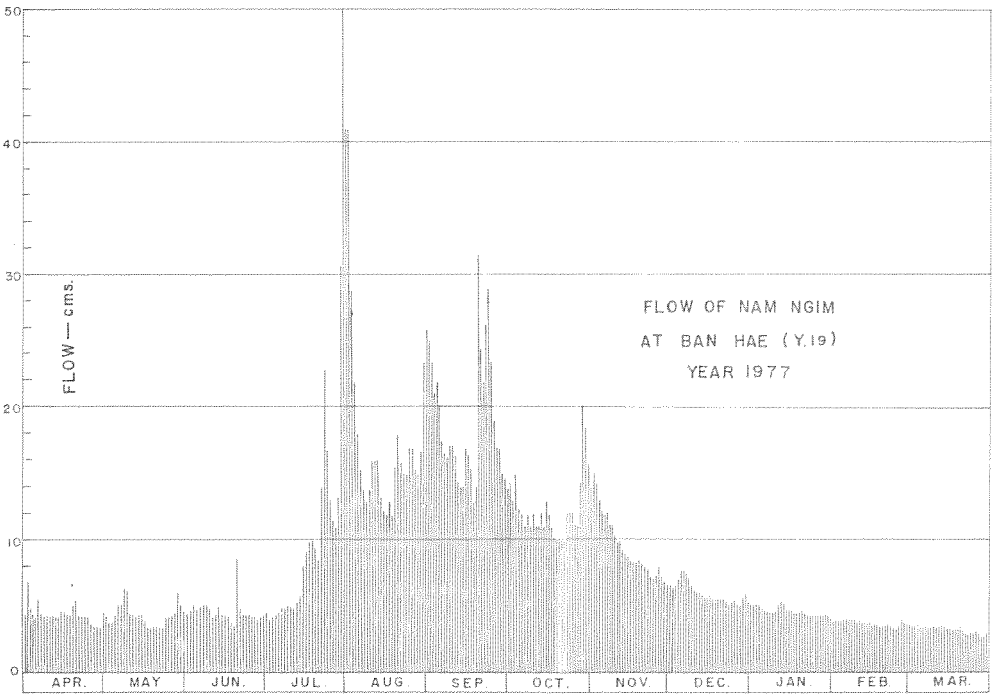
Overbank Flow Conditions: No overbank flow.

General Description: Records fair. Stage-discharge relation defined by 173 discharge measurements made in 1971.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	347.11	347.13	347.13	347.14	347.92	347.69	347.44	347.45	347.22	347.16	347.10	347.08
2	.22	.12	.12	.11	.78	.64	.41	.47	.22	.16	.10	.07
3	.13	.09	.15	.12	.67	.60	.48	.44	.23	.16	.10	.07
4	.11	.10	.16	.12	.59	.62	.45	.42	.25	.15	.10	.07
5	.11	.14	.14	.13	.52	.55	.39	.40	.26	.14	.11	.07
6	347.16	347.16	347.15	347.13	347.48	347.52	347.38	347.39	347.26	347.14	347.11	347.07
7	.12	.16	.16	.15	.45	.49	.37	.38	.25	.14	.11	.07
8	.12	.21	.16	.15	.43	.52	.38	.37	.23	.13	.10	.07
9	.12	.22	.15	.16	.44	.52	.37	.35	.21	.14	.10	.07
10	.12	.16	.13	.15	.50	.52	.40	.34	.21	.14	.09	.07
11	347.12	347.12	347.12	347.15	347.50	347.49	347.36	347.32	347.20	347.16	347.10	347.07
12	.12	.13	.13	.15	.49	.45	.37	.32	.20	.17	.09	.07
13	.12	.12	.16	.17	.44	.44	.38	.31	.19	.16	.09	.07
14	.14	.13	.12	.19	.42	.52	.36	.29	.18	.14	.09	.07
15	.14	.12	.12	.27	.40	.52	.42	.29	.19	.14	.08	.06
16	347.13	347.10	347.12	347.28	347.38	347.49	347.39	347.28	347.18	347.13	347.08	346.06
17	.13	.08	.11	.32	.42	.45	.35	.28	.18	.13	.08	.06
18	.12	.08	.09	.32	.40	.43	.34	.28	.18	.13	.08	.06
19	.16	.08	.09	.32	.52	.78	.34	.28	.18	.13	.08	.06
20	.13	.08	.29	.30	.55	.69	.34	.27	.18	.13	.08	.06
21	347.12	347.08	347.15	347.28	347.49	347.62	347.34	347.27	347.18	347.12	347.08	347.05
22	.12	.08	.13	.48	.46	.75	.34	.26	.17	.12	.08	.04
23	.12	.08	.13	.64	.47	.73	.38	.25	.16	.12	.08	.04
24	.11	.11	.13	.51	.51	.65	.40	.24	.17	.12	.07	.04
25	.10	.12	.13	.45	.51	.57	.40	.24	.17	.12	.07	.04
26	347.08	347.12	347.12	347.40	347.51	347.53	347.36	347.25	347.16	347.12	347.09	347.04
27	.08	.11	.12	.37	.46	.51	.37	.27	.16	.12	.10	.03
28	.08	.15	.11	.35	.46	.47	.53	.24	.17	.12	.09	.03
29	.08	.21	.11	.56	.54	.46	.59	.23	.20	.12		.03
30	.08	.15	.13	348.08	.66	.45	.54	.22	.18	.11		.02
31		.14		347.92	.70		.46		.16	.10		.02
Mean	347.12	347.12	347.13	347.31	347.51	347.55	347.40	347.31	347.19	347.13	347.09	347.05
Max.	347.22	347.22	347.29	348.08	347.92	347.78	347.59	347.47	347.26	347.17	347.11	347.08
Min.	347.08	347.08	347.09	347.11	347.38	347.44	347.34	347.22	347.16	347.10	347.07	347.02

WATER YEAR 1977 : Max. 348.08 m. Min. 347.02 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	4.12	4.56	4.56	4.78	41	25	14	14	6.68	5.22	3.90	3.58
2	6.68	4.34	4.34	4.12	31	23	13	15	6.68	5.22	3.90	3.42
3	4.56	3.74	5.00	4.34	24	21	15	14	6.97	5.22	3.90	3.42
4	4.12	3.90	5.22	4.34	20	22	14	13	7.55	5.00	3.90	3.42
5	4.12	4.78	4.78	4.56	17	18	12	12	7.84	4.78	4.12	3.42
6	5.22	5.22	5.00	4.56	15	17	12	12	7.84	4.78	4.12	3.42
7	4.34	5.22	5.22	5.00	14	16	11	12	7.55	4.78	4.12	3.42
8	4.34	6.39	5.22	5.00	13	17	12	11	6.97	4.56	3.90	3.42
9	4.34	6.68	5.00	5.22	14	17	11	11	6.39	4.78	3.90	3.42
10	4.34	5.22	4.56	5.00	16	17	12	10	6.39	4.78	3.74	3.42
11	4.34	4.34	4.34	5.00	16	16	11	10	6.10	5.22	3.90	3.42
12	4.34	4.56	4.56	5.00	16	14	11	10	6.10	5.44	3.74	3.42
13	4.34	4.34	5.22	5.44	14	14	12	9.34	5.88	5.22	3.74	3.42
14	4.78	4.56	4.34	5.88	13	17	11	8.71	5.66	4.78	3.74	3.42
15	4.78	4.34	4.34	8.13	12	17	13	8.71	5.88	4.78	3.58	3.26
16	4.56	3.90	4.34	8.42	12	16	12	8.42	5.66	4.56	3.58	3.26
17	4.56	3.58	4.12	10	13	14	11	8.42	5.66	4.56	3.56	3.26
18	4.34	3.58	3.74	10	12	13	10	8.42	5.66	4.56	3.58	3.26
19	5.22	3.58	3.74	10	17	31	10	8.42	5.66	4.56	3.58	3.26
20	4.56	3.58	8.71	9.00	18	25	10	8.13	5.66	4.56	3.58	3.26
21	4.34	3.58	5.00	8.42	16	22	10	8.13	5.66	4.34	3.58	3.10
22	4.34	3.58	4.56	15	15	29	10	7.84	5.44	4.34	3.58	2.94
23	4.34	3.58	4.56	23	15	28	12	7.55	5.22	4.34	3.58	2.94
24	4.12	4.12	4.56	17	17	23	12	7.26	5.44	4.34	3.42	2.94
25	3.90	4.34	4.56	14	17	19	12	7.26	5.44	4.34	3.42	2.94
26	3.58	4.34	4.34	12	17	17	11	7.55	5.22	4.34	3.74	2.94
27	3.58	4.12	4.34	11	15	17	11	8.13	5.22	4.34	3.90	2.78
28	3.58	5.00	4.12	11	15	15	17	7.26	5.44	4.34	3.74	2.78
29	3.58	6.39	4.12	19	18	15	20	6.97	6.10	4.34		2.78
30	3.58	5.00	4.56	55	24	14	18	6.68	5.66	4.12		2.62
31		4.78		41	26		15		5.22	3.90		2.62
Total	130.94	139.24	141.07	350.21	543	569	385	287.20	188.84	144.44	105.06	98.98
Mean	4.36	4.49	4.70	11.3	17.5	18.9	12.4	9.57	6.09	4.66	3.75	3.19
Max.	6.68	6.68	8.71	55	41	31	20	15	7.84	5.44	4.12	3.58
Min.	3.58	3.58	3.74	4.12	12	14	10	6.68	5.22	3.90	3.42	2.62
Runoff - mcm.	11.313	12.03	12.188	30.258	46.915	49.162	33.264	24.814	16.315	12.480	9.077	8.552

WATER YEAR 1977 : Max. 55 Min. 2.62 Mean 8.44 Annual Runoff 266.369 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sept. 19	12.00	348.28	77				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
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 at below Sop Ngao about 1 kilometer, Tambon Tow Poon, Amphoe Song Phrae.

Drainage Area: 5,410 Sq.km.

Type of Gage: Water-stage recorder.

Zero Gage at Bottom at: + 180.976 m. (M.S.L.)

Bench Mark: B.M. - H.S.

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 hourly 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: Fairly stable, no shifting adjustment for flow computation.

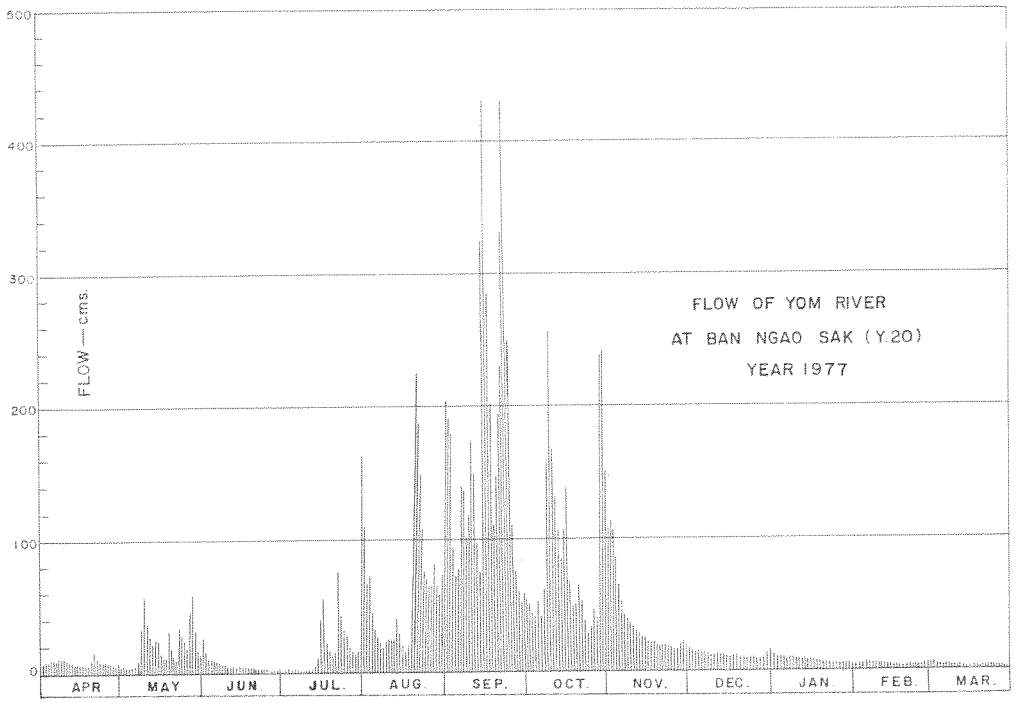
Overbank Flow Conditions: No overbank flow.

General Description: Records fair. Stage-discharge relation defined by 166 discharge measurements made in 1977.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	181.89	181.81	182.28	181.72	183.33	184.04	182.65	183.23	182.13	182.05	181.82	181.89
2	.93	.80	.08	.72	182.83	183.92	.63	.33	.12	.02	.83	.86
3	.93	.79	.00	.71	.91	.20	.58	.22	.11	.00	.83	.84
4	.94	.80	181.97	.78	.51	182.91	.55	182.94	.10	181.98	.85	.84
5	.97	.82	.95	.75	.36	.98	.71	.76	.09	.97	.88	.83
6	181.95	181.86	181.94	181.72	182.29	183.55	182.50	182.62	182.08	181.98	181.86	181.81
7	182.03	.84	.91	.71	.20	.53	.77	.51	.08	.98	.86	.80
8	181.99	182.04	.88	.71	.19	.21	183.62	.46	.06	.99	.85	.78
9	.99	.57	.86	.71	.30	.59	184.40	.41	.06	.97	.84	.77
10	.94	.69	.84	.71	.25	.84	183.84	.39	.05	.96	.82	.76
11	181.92	182.36	181.83	181.70	182.27	183.61	183.77	182.35	182.05	181.95	181.82	181.76
12	.91	.24	.81	.71	.28	.09	.34	.32	.04	.95	.81	.76
13	.91	.20	.80	.82	.51	182.76	.22	.29	.03	.96	.80	.75
14	.89	.29	.80	.99	.31	185.00	.06	.26	.02	.95	.80	.74
15	.88	.16	.81	182.51	.19	.46	.47	.25	.02	.95	.79	.74
16	181.87	182.08	181.81	182.73	182.12	184.76	183.55	182.24	182.01	181.94	181.79	181.74
17	.86	.03	.80	.38	.14	183.92	182.96	.23	.00	.93	.78	.74
18	.86	181.99	.79	.20	.61	.29	.70	.21	.00	.91	.78	.74
19	.85	182.36	.78	.09	183.31	.85	.63	.20	181.99	.89	.77	.74
20	182.08	.08	.77	.02	.78	184.03	.83	.18	.99	.88	.78	.74
21	181.99	181.99	181.76	182.15	184.19	184.47	182.74	182.18	181.98	181.87	181.78	181.74
22	.96	.94	.74	.96	183.39	185.47	.58	.18	.97	.86	.80	.74
23	.92	182.42	.74	.49	182.92	184.78	.45	.17	.96	.86	.80	.73
24	.89	.28	.71	.35	.90	.01	.39	.15	.96	.86	.79	.73
25	.87	.20	.71	.31	.83	183.44	.45	.15	.95	.86	.82	.72
26	181.86	182.14	181.71	182.19	182.86	183.07	182.64	182.14	181.95	181.85	181.83	181.72
27	.86	.67	.71	.13	183.01	182.86	.50	.15	.95	.85	.86	.72
28	.84	.75	.70	.05	182.79	.75	.99	.22	.94	.85	.90	.72
29	.82	.26	.69	.03	.76	.68	184.30	.21	.97	.84		.72
30	.82	.13	.69	.59	.97	.77	.31	.16	182.07	.84		.72
31		.06		183.74	183.68		183.48		.09	.83		.72
Mean	181.91	182.15	181.83	182.11	182.74	183.69	183.05	182.40	182.03	181.92	181.82	181.73
Max.	182.08	182.69	182.28	183.74	184.19	185.47	184.40	183.33	182.13	182.05	181.90	181.89
Min.	181.82	181.79	181.69	181.70	182.12	182.68	182.39	182.14	181.94	181.83	181.77	181.72

WATER YEAR 1977 : Max. 185.47 m. Min. 181.69 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	7.70	5.30	27	3.00	115	205	52	105	18	14	5.60	7.70
2	9.20	5.00	15	3.00	67	188	50	115	17	13	5.90	6.80
3	9.20	4.75	12	2.75	74	102	47	104	17	12	5.90	6.20
4	9.60	5.00	11	4.50	42	74	44	77	16	11	6.50	6.20
5	11	5.60	10	3.75	32	80	57	61	16	11	7.40	5.90
6	10	6.80	9.60	3.00	27	141	41	50	15	11	6.80	5.30
7	13	6.20	8.40	2.75	22	139	62	42	15	11	6.80	5.00
8	12	14	7.40	2.75	21	103	149	38	14	12	6.50	4.50
9	12	46	6.80	2.75	28	146	255	35	14	11	6.20	4.25
10	9.60	55	6.20	2.75	25	177	177	33	14	10	5.60	4.00
11	8.80	32	5.90	2.50	26	148	167	31	14	10	5.60	4.00
12	8.40	24	5.30	2.75	27	91	116	29	14	10	5.30	4.00
13	8.40	22	5.00	5.60	42	61	104	27	13	10	5.00	3.75
14	7.70	27	5.00	12	29	347	88	26	13	10	5.00	3.50
15	7.40	20	5.30	42	21	428	131	25	13	10	4.75	3.50
16	7.10	15	5.30	58	17	309	141	24	12	9.60	4.75	3.50
17	6.80	13	5.00	33	18	188	78	24	12	9.20	4.50	3.50
18	6.80	12	4.75	22	49	111	56	23	12	8.40	4.50	3.50
19	6.50	32	4.50	16	113	178	50	22	12	7.70	4.25	3.50
20	15	15	4.25	13	169	203	67	21	12	7.40	4.50	3.50
21	12	12	4.00	19	226	265	59	21	11	7.10	4.50	3.50
22	10	9.60	3.50	28	112	430	47	21	11	6.80	5.00	3.50
23	8.80	35	3.50	40	75	312	37	20	11	6.80	5.00	3.25
24	7.70	27	2.75	31	73	200	33	19	11	6.80	4.75	3.25
25	7.10	22	2.75	29	67	128	37	19	10	6.80	5.60	3.00
26	6.80	18	2.75	21	69	89	51	18	10	6.50	5.90	3.00
27	6.80	54	2.75	18	83	69	41	19	10	6.50	6.80	3.00
28	6.20	60	2.50	14	63	60	81	23	9.60	6.50	8.00	3.00
29	5.60	26	2.25	13	61	54	241	23	11	6.20		3.00
30	5.60	18	2.25	47	79	62	242	20	15	6.20		3.00
31		14		164	157		133		16	5.90		3.00
Total	262.80	661.25	192.70	711.85	2,029.00	5,088	2,934	1,115	408.60	280.40	156.90	126.60
Mean	8.76	21.3	6.42	23.0	65.4	170	94.6	37.2	13.2	9.04	5.60	4.08
Max.	15	55	27	164	226	430	255	115	18	14	8.00	7.70
Min.	5.60	4.75	2.25	2.50	17	54	33	18	9.60	5.90	4.25	3.00
Runoff - mcm.	22.706	57.132	16.649	61.504	175.306	439.603	253.498	96.336	35.303	24.266	13.556	10.938

WATER YEAR 1977 : Max. 430 Min. 2.25 Mean 38.3 Annual Runoff 1,206.757 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sept. 14	18.00	187.83	933				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
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.

Type of Gage: Staff gage.

Zero Gage at Bottom at: + 192.18 m. (M.S.L.)

Bench Mark: B.M. - R.I.D.

Location: Near the gage site.
Elevation: BM1 = 199.362 m. (M.S.L.), BM2 = + 196.922 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: 1922-1956, 1962 to date.

Rating Operation:

Period of Rating: 1954-1956.
Rated by Float: -
Rated by Current Meter: 1954-1956.

Stability of Channel Regimes: Rather unstable, no shifting adjustment for flow computation.

Overbank Flow Conditions: No overbank flow.

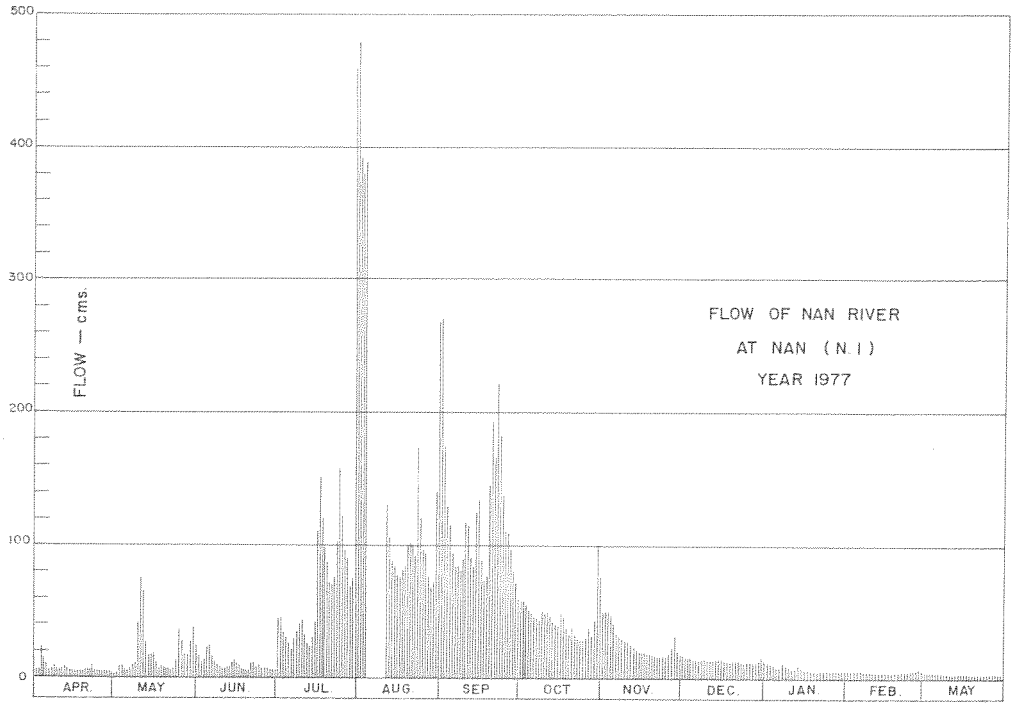
General Description: Records fair. Stage discharge relation defined by 614 discharge measurements made during 1954-1956.

Remarks: No records on August 4-10, 1977.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	192.85	192.77	193.22	193.62	195.80	195.24	193.81	193.68	193.22	193.12	192.94	192.96
2	.95	193.06	.11	.64	.75	194.69	.78	.71	.22	.12	.93	.94
3	193.31	.05	.14	.50	.79	.40	.75	.69	.21	.10	.93	.93
4	.10	192.99	.31	.44		.29	.71	.63	.20	.08	.94	.91
5	192.99	.91	.37	.39		.12	.68	.56	.18	.05	.94	.89
6	192.93	192.98	193.19	193.30		194.03	193.64	193.48	193.18	193.03	192.94	192.87
7	.97	193.07	.12	.41		.04	.63	.46	.18	.14	.93	.85
8	193.04	.08	.08	.49		.00	.61	.44	.18	.10	.92	.85
9	192.94	.58	.04	.58		.08	.70	.41	.18	.07	.91	.84
10	.96	.95	.01	.61		.39	.67	.40	.17	.04	.90	.83
11	193.01	193.85	192.98	193.47	194.41	194.30	193.65	193.39	193.17	193.02	192.89	192.82
12	.03	.39	193.01	.38	.22	.08	.63	.34	.17	.02	.88	.82
13	192.94	.23	.04	.32	.06	.03	.60	.32	.17	.03	.87	.81
14	.90	.24	.16	.43	.03	.37	.57	.30	.17	.07	.87	.81
15	.89	.25	.14	.57	193.98	.47	.56	.29	.17	.01	.86	.81
16	192.87	193.14	193.09	194.26	193.94	194.07	193.67	193.28	193.17	193.00	192.86	192.81
17	.84	.00	.03	.54	194.00	193.93	.63	.27	.16	122.98	.86	.81
18	.87	.04	192.98	.32	.03	.96	.54	.26	.16	.97	.86	.81
19	.92	.03	.95	.14	.18	194.51	.47	.25	.16	.97	.86	.81
20	193.00	.01	.91	193.93	.19	.80	.53	.25	.15	.96	.86	.80
21	192.94	192.98	193.10	193.89	194.16	194.64	193.48	193.24	193.15	192.96	192.86	192.80
22	193.06	.89	.07	.95	.10	.97	.44	.24	.15	.96	.91	.80
23	192.95	193.11	.02	194.19	.69	.74	.43	.24	.14	.96	.90	.79
24	.90	.12	.04	.59	.34	.45	.41	.24	.14	.96	.91	.78
25	.88	.50	192.97	.37	.14	.26	.43	.24	.14	.96	.92	.78
26	192.87	193.36	193.02	194.16	194.11	194.24	193.58	193.26	193.14	192.95	192.98	192.83
27	.86	.24	.01	193.99	193.95	.13	.52	.35	.14	.94	193.01	.82
28	.86	.22	192.98	.87	.88	193.97	.45	.47	.12	.94	192.99	.81
29	.83	.39	.96	.95	.92	.90	.62	.30	.13	.94	-	.80
30	.79	.53	.96	196.09	194.47	.80	194.18	.24	.22	.94	-	.80
31	-	.36	-	.17	195.22	-	193.94	-	.20	.94	-	.80
Mean	192.94	193.27	193.07	193.95		194.30	193.62	193.37	193.17	193.01	192.01	192.83
Max.	193.31	193.95	193.37	196.07	195.80	195.24	194.18	193.71	193.23	193.14	193.01	192.96
Min.	192.79	192.77	192.91	193.30	193.88	193.80	193.41	194.24	193.13	192.94	192.86	192.78

WATER YEAR 1977 : Max. 196.07 m. Min. 192.77 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	4.25	3.05	16	44	391	272	60	49	17	12	5.60	5.90
2	5.75	9.05	11	45	380	174	57	51	16	12	5.45	5.60
3	22	8.62	12	34	389	128	55	50	16	11	5.45	5.45
4	11	6.35	22	30		114	51	45	15	9.90	5.60	5.15
5	6.35	5.15	25	26		94	49	39	14	8.62	5.60	4.85
6	5.45	6.20	15	21		84	45	33	14	7.77	5.60	4.55
7	6.05	9.47	12	28		85	45	31	14	12	5.45	4.25
8	8.20	9.90	9.90	34		81	43	30	14	11	5.30	4.25
9	5.60	40	8.20	40		90	50	28	14	9.47	5.15	4.10
10	5.90	75	6.92	43		126	48	27	14	8.20	5.00	3.95
11	6.92	64	6.20	32	130	115	49	26	14	7.35	4.85	3.80
12	7.77	26	6.92	26	105	90	45	24	14	7.35	4.70	3.80
13	5.60	17	8.20	23	88	84	42	23	14	7.77	4.55	3.65
14	5.00	17	13	29	84	124	40	21	14	9.47	4.55	3.65
15	4.85	18	12	41	79	139	39	20	14	6.92	4.40	3.65
16	4.55	12	10	110	74	89	48	20	14	6.50	4.40	3.65
17	4.10	6.50	7.77	150	81	73	45	19	13	6.20	4.40	3.65
18	4.55	8.20	6.20	117	84	77	37	19	13	6.05	4.40	3.65
19	5.30	7.77	5.75	96	101	145	32	18	13	6.05	4.40	3.65
20	6.50	6.92	5.15	73	102	192	37	18	13	5.90	4.40	3.50
21	5.60	6.20	11	69	99	166	33	17	13	5.90	4.40	3.50
22	9.05	4.85	9.47	75	92	221	30	17	13	5.90	5.15	3.50
23	5.75	11	7.35	102	174	182	29	17	12	5.90	5.00	3.35
24	5.00	12	8.20	157	120	136	28	17	12	5.90	5.15	3.20
25	4.70	34	6.05	124	96	110	29	17	12	5.90	5.30	3.20
26	4.55	25	7.35	99	93	108	40	19	12	5.75	6.20	3.95
27	4.40	17	6.92	80	75	95	36	24	12	5.60	6.92	3.80
28	4.40	16	6.20	67	68	78	31	32	12	5.60	6.35	3.65
29	3.95	26	5.90	75	72	70	44	21	12	5.60	–	3.50
30	3.35	37	5.90	459	139	59	101	17	16	5.60	–	3.50
31	–	26	–	479	268	–	74	–	15	5.60	–	3.50
Total	186.44	571.23	293.55	2,828		3,601	1,392	789	425	234.77	143.72	123.35
Mean	6.21	18.4	9.78	91.2	*141	120	449	26.3	13.7	7.57	5.13	3.98
Max.	22	75	25	479	391	272	101	51	17	12	6.92	5.90
Min.	3.35	3.05	5.15	21	68	59	28	17	12	5.60	4.40	3.20
Runoff – mcm.	16.108	49.354	25.363	244.339	*377.598	311.126	120.269	68.170	36.720	20.284	12.417	10.657

WATER YEAR 1977 : Max. 479 Min. 3.05 Mean * 41.0 Annual Runoff* 1,292.405 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Jul. 31	06.00	197.32	858				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
NAN RIVER BASIN

Nan River at Uttaradit, Uttaradit (N. 2B)

Location: Lat. 17°-36'-30" N., Long. 100°-06'-06" E., on right bank at Uttaradit about 700 meters downstream from N2A, Amphoe Muang, Uttaradit.

Drainage Area: 16,865 Sq.km.

Type of Gage: Water-stage recorder.

Zero Gage at Bottom at: + 52.30 m. (M.S.L.)

Bench Mark: B.M. - H.S.

Location: Behind the automatic gage building.
Elevation: + 62.517 m. (M.S.L.)

Gage Reading Frequency: Recording

Basis of Mean Daily Gage Height: Arithmetic mean of 24 hourly readings.

Period of Available Gage Records: 1973 to date.

Rating Operation:

Period of Rating: 1970-1974.
Rated by Float: -
Rated by Current Meter: 1970-1974.

Stability of Channel Regimes: Stable, no shifting adjustment for flow computation.

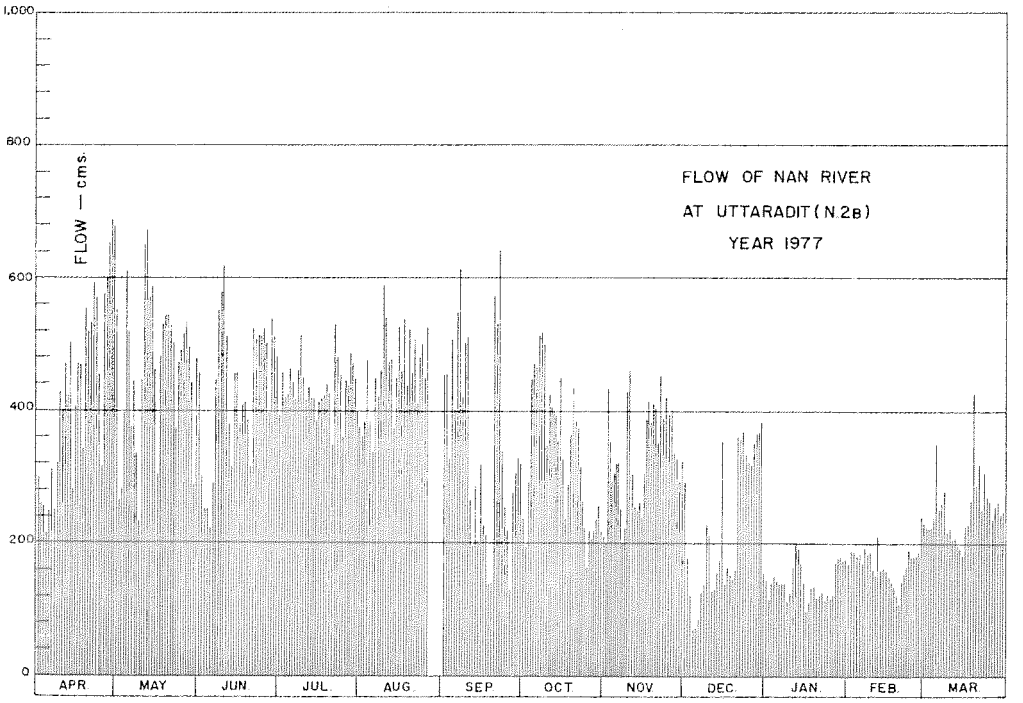
Overbank Flow Conditions: No overbank flow.

General Description: Records fair. Stage-discharge relation defined by 202 discharge measurements made during 1970-1974.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	54.92	55.96	55.60	55.34	55.22	55.60	54.61	54.40	54.88	54.00	54.18	54.55
2	.73	57.75	54.93	.61	.31	.60	.36	55.51	.24	53.78	.32	.54
3	.70	.83	55.68	.46	.69	.06	.88	.18	53.82	.98	.32	.54
4	.47	56.02	.69	.49	.33	.80	55.58	54.90	.38	54.05	.26	.63
5	.67	.17	.54	.64	.11	.39	.66	55.03	.38	53.99	.30	55.16
6	54.97	55.28	54.88	55.55	55.58	55.96	55.64	55.03	53.50	53.98	54.20	54.68
7	.68	.55	55.56	.45	.47	56.18	.82	54.66	.87	.99	.39	.73
8	55.13	.09	.92	.62	.62	55.47	.84	.41	.97	.96	.28	.82
9	.49	54.60	56.06	.83	56.10	.78	.76	55.50	54.57	.75	.32	.48
10	.37	55.56	.19	.58	55.93	.81	.16	.62	.48	.85	.14	.53
11	55.66	56.28	55.80	55.45	55.66	54.75	55.48	54.96	53.89	54.15	54.07	54.43
12	.47	.36	.32	.53	.69	.36	.38	.71	.90	.40	.46	.45
13	.78	.03	.01	.47	.26	.85	.36	.66	54.07	.34	.11	.36
14	54.82	.09	.61	.46	.58	.41	.19	.73	.22	.17	.15	.35
15	55.40	55.62	.61	.32	.87	55.02	.58	.62	55.18	53.97	.13	.27
16	55.66	54.95	55.50	55.44	55.61	54.55	55.06	55.25	53.95	53.63	54.07	54.54
17	.65	55.70	.42	.46	.92	.45	54.42	.44	54.16	.76	.02	.56
18	.13	.88	.44	.47	.53	53.95	.87	.31	.07	.92	53.97	.75
19	.97	.93	.32	.54	.86	.99	55.33	.42	.01	.94	.85	55.50
20	.84	.95	.00	.49	.61	56.04	.51	.41	.12	.81	.72	54.86
21	55.90	55.88	55.86	55.16	55.80	55.89	55.31	55.17	55.22	53.85	54.00	55.02
22	56.11	.78	.80	.88	.43	56.27	.26	54.59	.19	.87	.10	54.68
23	.03	.27	.82	.70	.70	55.11	54.97	55.34	.25	.78	.17	.96
24	55.60	.67	.82	.59	.77	54.70	.54	.47	.09	.85	.32	.77
25	.01	.74	.87	.20	.58	.48	.12	.35	.04	.79	.24	.75
26	56.05	55.82	55.78	55.56	55.86	53.89	54.50	55.39	55.01	53.83	54.26	54.61
27	.14	.90	.37	.53		54.81	.44	.11	.17	54.19	.29	.70
28	.30	.75	.92	.72		.95	.57	.06	.22	.26	.65	.74
29	.41	.54	.82	.65		55.07	.71	54.89	.22	.26	-	.64
30	.37	54.86	.72	.57		.02	.53	55.05	.32	.22	-	.67
31	-	55.69	-	.29		-	.47	-	54.07	.25	-	.70
Mean	55.48	55.62	55.58	55.51		55.17	55.06	55.05	54.52	53.98	54.22	54.67
Max.	56.41	56.36	56.19	55.88	56.10	56.27	55.84	55.62	55.32	54.40	54.65	55.50
Min.	54.47	54.60	55.54	55.16	55.10	53.89	54.12	54.40	53.38	54.63	53.72	54.27

WATER YEAR 1977 : Max. 56.41 m. Min. 53.38 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	298	549	454	389	361	454	236	200	290	142	167	225
2	260	264	300	457	381	454	194	431	176	114	188	223
3	254	280	250	418	477	326	290	352	119	139	188	223
4	211	566	252	425	386	506	449	294	71	149	179	240
5	248	610	223	464	336	401	470	320	71	141	185	347
6	308	374	290	441	449	549	464	320	83	139	170	250
7	250	441	444	415	420	614	511	246	125	141	198	260
8	341	332	538	459	459	420	517	202	138	137	182	278
9	425	227	577	514	588	501	496	428	229	110	188	213
10	396	444	617	449	541	509	347	459	213	122	162	221
11	470	646	506	415	470	264	423	306	128	163	152	205
12	420	671	384	436	477	194	398	256	129	200	210	208
13	501	568	316	420	370	284	393	246	152	191	157	194
14	278	585	456	418	449	202	354	260	173	166	163	192
15	403	459	456	384	525	318	449	238	352	138	160	180
16	470	304	379	413	457	225	326	367	135	96	152	223
17	467	480	408	418	535	208	203	413	164	111	145	227
18	341	528	413	420	436	135	288	381	152	132	138	264
19	552	541	384	438	522	141	386	408	143	134	122	428
20	517	546	314	425	457	521	431	405	159	117	106	286
21	533	528	522	347	506	530	381	349	361	122	142	318
22	591	501	506	528	410	642	370	451	354	125	156	250
23	568	372	511	480	480	336	308	389	367	114	166	306
24	454	472	511	451	498	254	223	420	332	122	188	268
25	316	490	525	356	449	213	159	391	322	115	176	264
26	574	511	501	444	525	128	216	401	316	120	179	236
27	601	533	396	436		276	206	336	349	169	183	254
28	652	493	538	485		304	229	326	366	179	244	262
29	687	438	511	467		328	256	292	366	179	–	242
30	674	286	485	446		318	221	324	384	173	–	248
31	–	477	–	377		–	211	–	152	177	–	254
Total	13,060	14,516	12,967	13,435	11,967/26day	10,605	10,405	10,211	6,871	4,377	4,746	7,789
Mean	435	468	432	433	*460	353	335	340	222	141	169	251
Max.	687	671	617	528	588	642	517	459	384	200	244	428
Min.	211	227	223	347	334	128	159	200	71	96	106	180
Runoff – mcm.	1,128.384	1,254.182	1,120.348	1,160.784	*1,231.880	916.272	898.992	882.230	593.654	378.172	410.054	672.696

WATER YEAR 1977 : Max. 642 Min. 71 Mean 338 Annual Runoff 10,647.648 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sept. 22	12.00	56.41	687				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
NAN RIVER BASIN

Nan River at Phichai, Uttaradit (N. 4A)

Location: Lat. 17°-16'-58" N., Long. 101°-04'-53" E., on left bank about 2.5 kilometers downstream from Amphoe Phichai Office, Ban Wang Phaniat, Amphoe Phichai, Uttaradit.

Drainage Area: 19,383 Sq.km.

Type of Gage: Water-stage recorder.

Zero Gage at Bottom at: + 44.00 m. (M.S.L.)

Bench Mark: B.M. - H.S.

Location: Near the gage site.
Elevation: + 53.327 m. (M.S.L.)

Gage Reading Frequency: Recording.

Basis of Mean Daily Gage Height: Arithmetic mean of 24 hourly readings.

Period of Available Gage Records: 1973 to date.

Rating Operation:

Period of Rating: 1974
Rated by Float: -
Rated by Current Meter: 1974

Stability of Channel Regimes: Fairly stable, no shifting adjustment for flow computation.

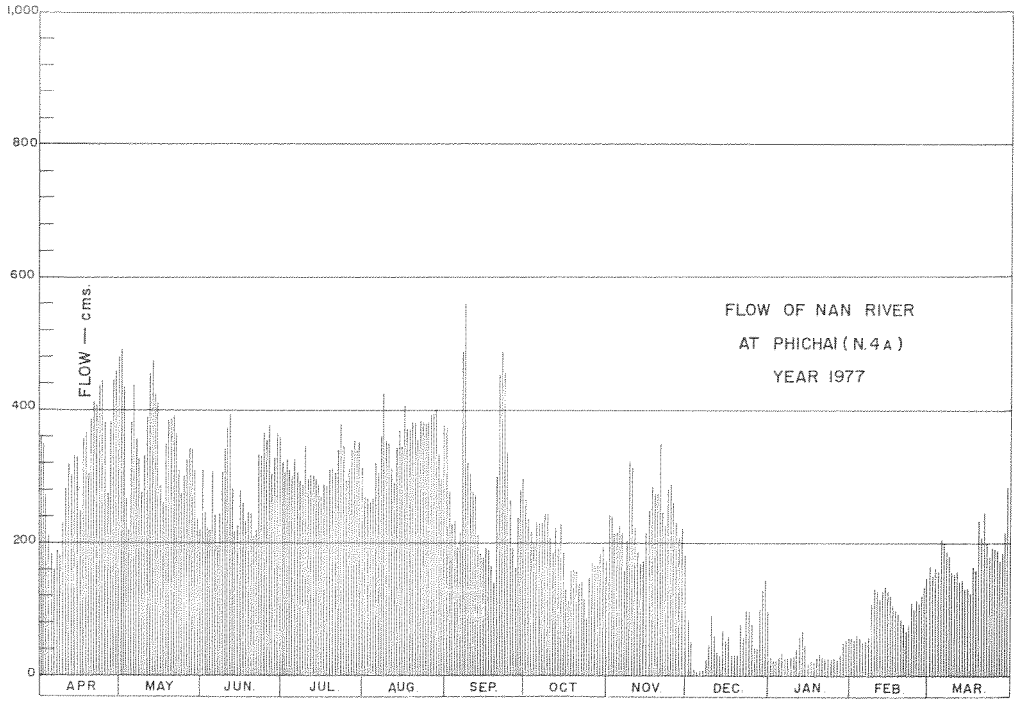
Overbank Flow Conditions: No overbank flow.

General Description: Records fair. Stage-discharge relation defined by 28 discharge measurements made in 1974.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	47.57	47.57	47.30	47.36	47.06	47.64	47.04	46.92	45.72	45.06	44.42	46.41
2	.06	.06	46.92	.27	.06	.10	46.87	.89	.36	.00	.39	.29
3	46.72	46.72	.76	.37	.01	46.82	.70	.72	44.83	44.98	.47	.38
4	.60	.61	47.30	.25	.04	.86	.60	.74	.59	45.04	.47	.33
5	.42	.42	.29	.41	.36	.58	.84	.81	.36	.17	.36	.68
6	46.32	46.32	46.88	47.39	47.27	46.74	46.83	46.72	44.50	45.03	45.37	46.64
7	.56	.56	.60	.25	.57	48.24	.84	.34	.71	.05	.41	.55
8	.49	.49	47.28	.17	.92	.58	.91	.69	45.02	.04	.94	.51
9	.83	.83	.48	.47	.55	47.36	.93	47.37	.29	.05	46.13	.34
10	47.13	47.13	.64	.50	.52	.28	.70	.32	.77	.07	.10	.30
11	47.35	47.73	47.75	47.20	47.31	47.10	46.53	46.77	45.44	45.22	45.99	46.35
12	.26	48.06	.21	.26	.18	.09	.78	.52	.16	.44	46.10	.22
13	.42	.16	46.74	.24	.49	46.70	.56	.43	.07	.54	.18	.25
14	.41	47.91	.81	.19	.63	.53	.81	.46	.20	.30	45.94	.14
15	46.95	.84	47.11	.16	.49	.49	.54	.73	.38	44.88	.92	.14
16	47.19	47.16	47.01	47.06	47.83	46.58	46.10	46.94	45.45	45.00	45.97	46.07
17	.56	.02	46.83	.17	.64	.57	45.96	47.16	.07	44.92	.86	.41
18	.61	.51	.93	.15	.64	.38	46.35	.10	.11	45.03	.83	.35
19	.27	.70	.92	.30	.70	.21	.36	.12	.09	.13	.74	.85
20	.73	.71	.68	.30	.68	47.25	.33	.10	.08	.11	.66	.68
21	47.84	47.74	46.77	47.27	47.54	48.06	46.18	47.51	45.62	45.02	45.56	46.93
22	.81	.60	47.42	.46	.70	.23	.20	46.60	.43	.04	.65	.63
23	.98	.28	.42	.67	.69	.08	45.98	47.11	.85	.03	.96	.49
24	48.01	.12	.60	.49	.68	47.44	.74	.15	.83	.02	.87	.59
25	47.69	.24	.55	.20	.69	.03	46.27	.17	.64	.05	.99	.58
26	47.09	47.37	47.67	47.30	47.75	46.58	46.43	46.95	45.25	44.98	45.94	46.56
27	.68	.48	.26	.46	.75	.39	.39	.82	.25	45.08	46.07	.44
28	48.01	.48	.39	.54	.79	.91	.40	.69	.95	.35	.17	.54
29	.10	.30	.61	.46	.43	47.13	.52	.79	46.12	.37	-	.75
30	.20	46.87	.58	.53	.23	.23	.60	45.68	.23	.41	-	47.16
31	-	.75	-	.30	.66	-	.44	-	45.85	.44	-	46.96
Mean	47.33	47.25	47.19	47.33	47.51	47.11	46.51	46.84	45.33	45.12	45.80	46.50
Max.	48.20	48.16	47.75	47.67	47.92	48.58	47.04	47.51	46.23	45.54	46.18	47.16
Min.	46.32	46.32	46.60	47.06	47.01	46.21	45.74	45.68	44.36	44.88	45.36	46.07

WATER YEAR 1977 : Max. 48.58 m. Min. 44.36 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	358	491	309	320	268	372	265	244	84	28	56	166
2	268	431	244	304	268	275	236	239	51	24	53	150
3	213	261	219	322	260	228	210	213	14	23	60	162
4	195	217	309	300	265	235	195	216	2.70	27	54	155
5	168	381	307	329	320	192	231	227	0.00	36	51	207
6	154	435	238	325	304	216	230	213	0.00	26	52	201
7	189	351	195	300	358	489	231	157	7.50	27	55	187
8	178	322	306	287	425	559	243	208	25	27	108	181
9	230	275	341	340	354	320	246	322	45	27	131	157
10	280	331	372	345	349	306	210	313	90	29	127	151
11	318	389	392	292	311	275	184	220	58	40	114	158
12	302	453	394	302	289	273	222	183	35	58	127	141
13	331	473	216	299	343	210	189	169	29	67	137	145
14	329	423	227	290	370	184	227	174	38	46	108	132
15	249	410	277	285	343	178	186	214	52	17	106	132
16	290	285	260	268	408	192	127	248	58	24	112	123
17	356	261	230	287	372	190	111	285	29	19	100	166
18	366	347	246	283	372	162	158	275	32	26	96	158
19	304	383	244	309	383	140	159	273	30	33	86	233
20	389	385	207	309	379	300	155	275	30	32	78	207
21	410	391	220	304	353	453	137	347	74	25	68	246
22	404	364	331	338	383	487	139	195	57	27	77	199
23	437	306	331	377	381	457	113	277	98	26	111	178
24	443	273	364	343	379	334	86	283	96	25	101	193
25	381	299	354	292	381	263	147	287	76	27	114	192
26	273	322	377	309	392	192	169	249	42	23	108	189
27	379	341	302	338	392	164	164	228	42	30	123	171
28	443	341	325	353	400	243	165	208	109	50	135	186
29	461	309	366	338	332	280	183	223	129	52	–	217
30	481	236	360	351	297	297	195	80	143	56	–	285
31	–	217	–	309	375	–	171	–	98	58	–	251
Total	9,579	10,703	8,763	9,748	10,806	8,466	5,684	7,045	1,674.20	1,035	2,648	5,619
Mean	319	345	292	314	348	285	183	231	54.0	33.4	94.6	181
Max.	481	491	392	377	425	559	265	347	143	67	137	285
Min.	154	217	195	268	260	140	86	80	0.00	17	51	123
Runoff - mcm.	827.626	924.739	757.123	842.227	933.638	731.462	491.098	608.688	144.651	89.424	228.787	485.482

WATER YEAR 1977 : Max. 559 Min. 0.00 Mean 220 Annual Runoff 7,064.945 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sept. 7	22.00	48.97	641				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
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 Post Office and about 1 kilometer upstream from gaging station N5, Amphoe Muang, Phitsanulok.

Drainage Area: 25,286 Sq.km.

Type of Gage: Water-stage recorder.

Zero Gage at Bottom at: + 34.570 m. (M.S.L.)

Bench Mark: B.M. - H.S.

Location: Near automatic gage building.
Elevation: + 45.227 m. (M.S.L.)

Gage Reading Frequency: Recording

Basis of Mean Daily Gage Height: Arithmetic mean of 24 hourly 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: Fairly stable, no shifting adjustment for flow computation.

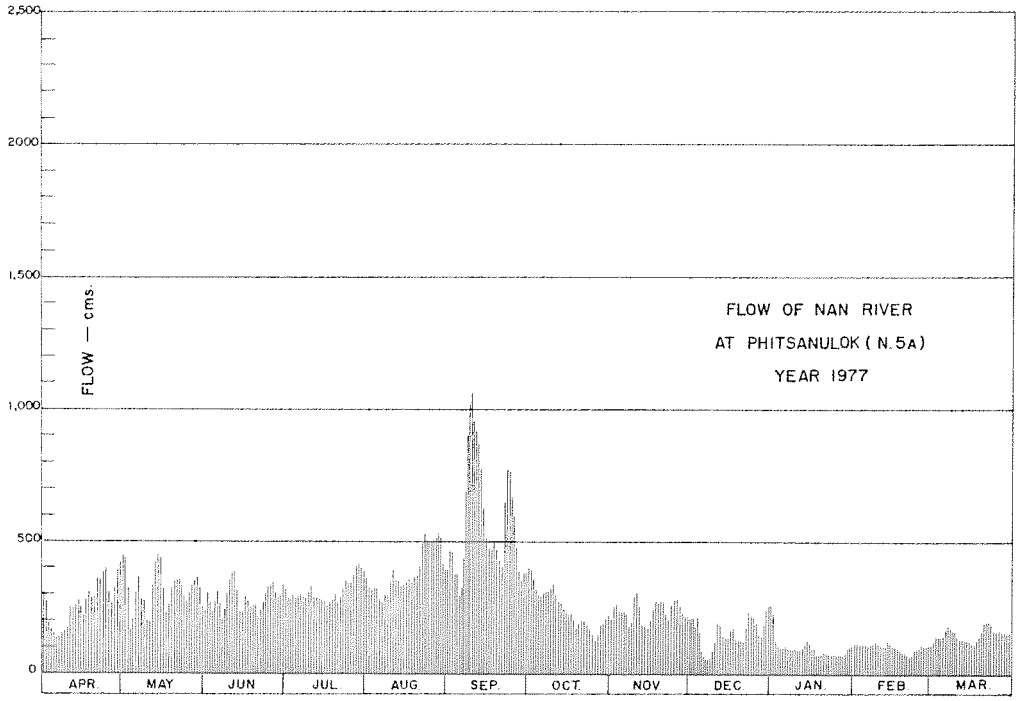
Overbank Flow Conditions: No overbank flow.

General Description: Records good. Stage-discharge relation defined by 70 discharge measurements made in 1977. Flow regulated by Sirikit Dam since June 5, 1971.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	37.80	38.81	37.17	37.93	38.20	38.95	38.46	36.84	36.91	37.04	35.88	35.93
2	.40	.69	.73	.62	37.91	.93	.40	37.25	.95	36.14	.90	36.24
3	36.69	37.70	.36	.52	.76	.32	.12	.42	.61	35.77	.86	.22
4	.45	36.52	.15	.70	.90	.28	37.74	.16	.98	.69	.93	.23
5	.31	37.15	.76	.55	.91	37.63	.56	.10	35.56	.69	.91	.22
6	36.09	38.17	37.80	37.66	37.47	38.08	37.72	37.16	35.22	35.83	35.83	36.57
7	.23	.16	.24	.71	.40	40.25	.78	.05	.03	.73	.86	.68
8	.39	37.52	36.91	.62	.67	42.01	.77	36.62	.07	.66	.89	.46
9	.43	.46	37.67	.53	.65	.31	.86	.79	.47	.67	36.03	.44
10	.64	36.88	38.08	.86	38.04	41.87	38.01	37.66	.81	.64	35.96	.33
11	37.27	36.68	38.30	37.96	38.42	41.73	37.72	37.74	36.77	35.56	35.85	36.14
12	.27	38.00	.39	.63	.13	.51	.45	.21	.70	.66	.78	.16
13	.40	.65	37.81	.58	.04	40.95	.45	36.73	.32	.94	.81	.08
14	.48	.87	.11	.58	37.98	.07	.25	.56	.20	36.06	36.01	.05
15	.23	.65	.16	.50	.89	39.38	.09	.54	.20	35.99	35.75	35.94
16	36.95	38.37	37.60	37.43	38.08	39.00	37.06	36.77	36.44	35.78	35.74	35.92
17	37.50	37.05	.48	.36	.12	.00	.04	37.24	.54	.52	.72	.87
18	.78	.24	.27	.43	37.97	.19	36.69	.46	.14	.24	.60	36.17
19	.56	.78	.32	.52	38.23	38.92	.48	.44	.07	.28	.52	.24
20	.56	38.03	.37	.68	.20	.66	.78	.49	.05	.43	.41	.66
21	38.14	38.09	36.99	37.40	38.45	38.47	36.88	37.45	36.03	35.46	35.29	36.82
22	.09	.10	37.19	.61	39.24	40.40	.80	36.97	.63	.36	.16	.82
23	.24	37.97	.91	.83	.40	.87	.63	.76	37.14	.32	.38	.72
24	.47	.60	.86	38.11	.21	.85	.45	37.33	.02	.33	.53	.40
25	.22	.45	.95	.02	.21	.23	.16	.49	36.94	.29	.65	.46
26	37.45	37.79	37.95	37.97	39.22	39.45	35.89	37.55	36.68	35.32	35.87	36.48
27	.37	38.01	38.04	38.24	.34	38.56	36.33	.36	.23	.28	.84	.45
28	38.22	.14	37.59	.52	.45	37.99	.68	.13	.26	.31	.82	.36
29	.48	.17	.68	.61	.24	38.27	.73	36.97	37.00	.67	-	.35
30	.72	37.97	38.01	.47	38.54	.33	.87	37.01	.27	.81	-	.41
31	-	.34	-	.40	.38	-	.97	-	.37	.85	-	.36
Mean	37.39	37.84	37.59	37.79	38.34	39.61	37.19	37.14	36.37	35.65	35.74	36.33
Max.	38.72	38.87	38.39	38.61	39.45	42.31	38.46	37.74	37.37	37.04	36.03	36.82
Min.	36.09	36.52	36.91	37.36	37.40	37.63	35.89	36.54	35.03	35.24	35.16	35.87

WATER YEAR 1977 : Max. 42.31 m. Min. 35.03 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	313	444	237	330	365	463	399	200	208	222	112	116
2	264	429	304	290	327	460	391	246	212	133	114	142
3	185	390	259	278	308	381	355	266	177	104	111	140
4	161	168	234	300	326	375	305	236	216	97	116	141
5	148	234	308	282	327	292	283	229	88	97	115	140
6	129	361	313	295	272	349	303	236	67	108	108	173
7	141	360	245	301	264	657	310	223	56	98	111	184
8	155	278	208	290	296	996	309	178	58	95	113	162
9	159	271	296	280	294	1,066	321	195	82	96	124	160
10	180	205	349	321	344	964	340	295	107	94	119	150
11	248	184	378	332	394	934	303	305	193	88	110	133
12	246	339	390	292	356	886	270	241	186	95	104	135
13	264	423	314	286	344	776	270	189	149	117	107	128
14	274	452	230	286	336	628	246	172	138	127	123	126
15	244	423	236	276	325	523	228	170	138	121	102	117
16	212	387	288	268	349.	470	225	193	160	104	101	116
17	276	223	274	259	355	470	222	245	170	85	100	112
18	310	245	248	268	335	497	185	271	133	68	91	136
19	283	310	254	278	369	459	164	269	128	71	85	142
20	283	343	260	298	365	425	194	275	126	80	79	182
21	357	351	217	264	397	400	205	270	124	82	71	198
22	351	352	239	289	504	681	196	215	179	76	64	198
23	370	335	327	317	526	762	179	192	233	73	77	188
24	400	288	321	353	499	758	161	156	220	74	86	156
25	368	270	332	342	499	654	135	275	211	71	94	162
26	270	312	332	335	501	533	113	282	184	73	112	164
27	260	340	344	370	518	412	150	259	141	71	109	161
28	368	357	287	407	533	338	184	232	143	73	108	152
29	401	361	298	418	504	374	189	215	218	96	–	151
30	433	335	340	400	409	382	204	219	248	107	–	157
31	–	257	–	391	388	–	215	–	260	110	–	152
Total	8,055	9,937	8,662	9,696	11,929	17,365	7,554	7,049	4,953	3,006	2,866	4,674
Mean	268	320	289	313	385	579	244	235	160	97.0	102	151
Max.	433	452	390	418	533	1,066	399	305	260	222	124	198
Min.	129	168	208	259	264	292	113	170	56	68	64	112
Runoff - mcm.	695.952	858.557	748.397	837.734	1,030.666	336	652.666	609.034	427.939	259.718	247.622	403.834

WATER YEAR 1977 : Max. 1,066 Min. 56 Mean 262 Annual Runoff 8,272.454 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sept. 9	01.00	42.42	1,093				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
NAN RIVER BASIN

Nan River at Phichit, Phichit (N. 7)

Location: Lat. 16°-26'-31" N., Long. 100°-21'-11" E., on right bank infront of Phichit Phitthaya School, Amphoe Muang, Phichit.

Drainage Area: 29,153 Sq.km.

Type of Gage: Staff gage.

Zero Gage at Bottom at: + 26.00 m. (M.S.L.)

Bench Mark: B.M. - R.I.D. No. 4

- Location: On right bank about 78 meters downstream from gage site.
- Elevation: + 37.273 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: 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, no shifting adjustment for flow computation.

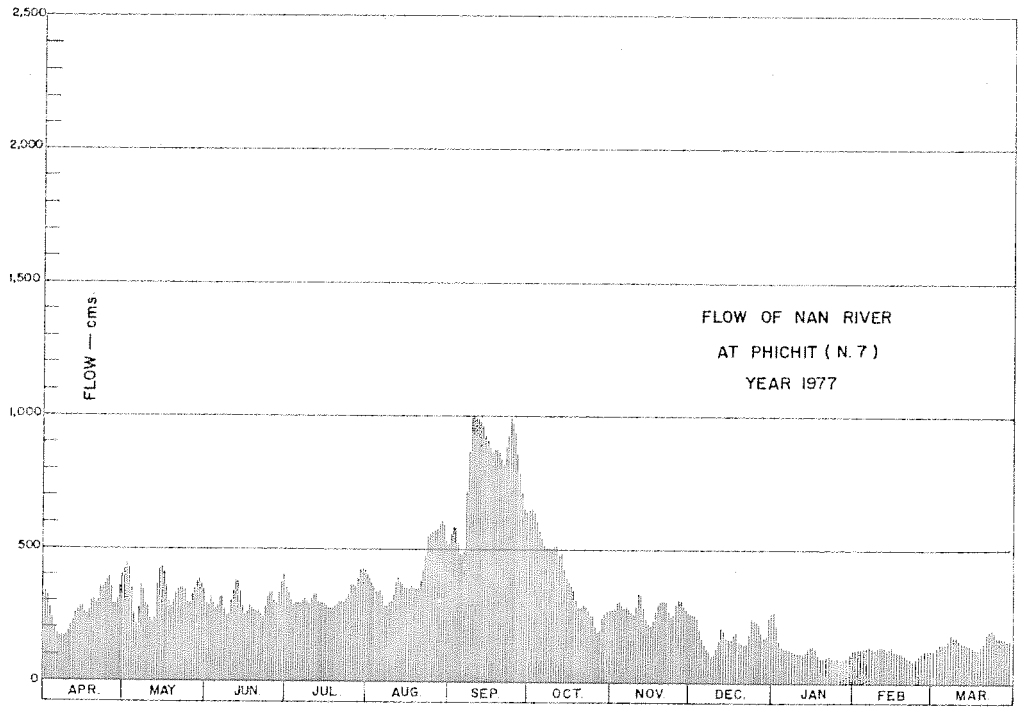
Overbank Flow Conditions: No overbank flow.

General Description: Records fair. Stage-discharge relation defined by 34 discharge measurements made in 1977. Flow completely regulated by Sirikit Dam since June 5, 1971.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	30.17	30.99	29.62	30.26	30.73	31.93	32.73	20.56	29.38	29.51	27.83	27.81
2	29.97	31.09	.62	.13	.54	32.29	.79	.53	.36	.61	.84	.92
3	.47	30.79	.94	29.76	.26	.25	.69	.82	.30	28.32	.86	28.14
4	28.85	29.76	.52	.76	.11	31.75	.38	.88	28.94	27.96	.84	.16
5	.57	28.79	.56	.79	.23	.35	31.94	.67	.32	.84	.96	.17
6	28.41	29.51	29.99	29.74	30.16	31.45	31.74	29.55	27.99	27.82	27.94	28.18
7	.41	30.40	.94	.88	29.70	32.78	.66	.61	.73	.89	.83	.43
8	.38	.20	.36	.94	.68	34.45	.58	.44	.50	.78	.83	.61
9	.46	29.77	.27	.79	.83	35.22	.56	.26	.49	.73	.86	.45
10	.75	.53	.91	.78	.96	.22	.63	.54	.76	.72	.98	.44
11	29.07	29.00	30.30	30.08	30.47	35.21	31.68	30.16	28.20	27.67	27.97	28.29
12	.40	.11	.56	.09	.67	.19	.35	.13	.94	.64	.94	.12
13	.45	30.28	.50	29.78	.46	.10	.10	29.56	.83	.73	.76	.09
14	.57	.91	29.90	.79	.40	34.87	30.91	.16	.53	.96	.80	.05
15	.63	31.04	.30	.73	.27	.65	.63	.00	.35	28.01	.94	.00
16	29.30	30.88	29.39	29.65	30.23	34.42	30.36	28.95	28.39	27.97	27.75	27.95
17	.26	.45	.66	.56	.36	.33	.28	29.26	.64	.81	.65	.90
18	.70	29.63	.58	.54	.31	.41	.12	.66	.68	.54	.62	.83
19	.90	.57	.45	.66	.30	.39	29.69	.83	.30	.30	.56	28.06
20	.70	.99	.47	.71	.50	.23	29.53	.86	.18	.30	.44	.19
21	29.88	30.25	29.47	29.83	30.67	34.03	29.66	29.86	28.13	27.43	27.34	28.64
22	30.32	.31	.19	.82	31.11	.56	.68	.78	.15	.46	.24	.74
23	.36	.32	.65	.82	.91	35.01	.56	.31	.80	.36	.12	.80
24	.55	.19	30.05	.99	32.03	.26	.33	.27	29.22	.31	.27	.70
25	.67	29.74	.09	30.33	.06	.08	.23	.68	.17	.31	.49	.41
26	30.32	29.80	30.11	30.41	32.15	34.62	28.79	29.89	29.07	27.28	27.61	28.42
27	29.61	30.20	29.61	.35	.19	.04	.67	.96	28.77	.29	.82	.43
28	.84	.41	30.05	.72	.39	33.27	29.13	.74	.36	.27	.81	.39
29	30.48	.70	.48	.92	.46	32.77	.38	.53	.46	.31	-	.29
30	.78	.45	.74	.92	.26	.71	.43	.42	29.14	.63	-	.31
31	-	.24	-	.83	31.68	-	.51	-	.42	.80	-	.34
Mean	29.57	30.14	29.81	30.01	30.84	33.89	30.60	29.59	28.14	27.74	27.71	28.26
Max.	30.78	31.09	30.74	30.92	32.46	35.26	32.79	30.16	29.42	29.51	27.98	28.80
Min.	28.38	28.79	29.19	29.54	29.68	31.35	28.67	28.95	27.49	27.27	27.12	27.81

WATER YEAR 1977 : Max. 35.20 m. Min. 27.12 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	338	429	281	348	399	542	641	275	257	270	124	123
2	316	441	281	333	378	585	649	272	255	235	125	130
3	266	406	313	295	348	580	639	301	249	160	126	146
4	204	295	271	295	331	520	596	307	213	133	125	147
5	180	199	275	298	344	472	543	286	160	125	133	148
6	167	270	318	293	337	484	519	274	135	123	132	149
7	167	363	313	307	289	647	509	280	117	128	124	168
8	164	341	255	313	287	877	500	263	104	121	124	183
9	171	296	246	298	302	991	497	245	103	118	126	170
10	195	272	310	297	315	991	506	273	120	117	135	169
11	226	219	352	328	371	989	512	337	150	114	134	157
12	259	230	381	329	393	986	472	333	213	112	132	144
13	264	350	374	297	370	973	442	275	203	118	120	142
14	276	419	309	298	363	938	419	235	176	133	122	138
15	282	435	249	292	349	905	388	219	162	137	132	136
16	249	416	258	284	344	873	359	214	165	134	119	132
17	245	368	285	275	359	860	359	245	186	123	113	129
18	289	282	277	273	353	871	332	285	189	106	111	124
19	309	276	264	285	352	869	288	302	158	92	108	140
20	289	318	266	290	352	846	272	305	149	92	100	149
21	307	346	266	302	393	818	285	305	145	100	94	186
22	354	353	238	301	443	892	287	297	146	102	88	195
23	359	354	284	301	539	959	275	250	200	96	82	200
24	379	340	324	318	554	997	252	246	241	93	90	191
25	395	293	329	355	557	970	242	287	236	93	103	167
26	354	299	331	364	568	901	199	308	226	91	111	168
27	280	341	280	357	573	820	188	315	197	91	123	168
28	303	364	324	398	597	712	232	293	163	90	123	165
29	372	396	372	420	606	646	257	272	171	93	–	157
30	405	368	400	420	581	639	262	261	233	112	–	159
31	–	345	–	410	512	–	270	–	261	122	–	161
Total	8,362	10,424	9,026	9,974	12,859	24,152	12,179	8,360	5,683	3,774	3,279	4,841
Mean	279	336	301	322	415	805	393	279	183	122	117	156
Max.	405	441	400	420	606	997	649	337	261	270	135	200
Min.	164	199	238	273	287	472	188	214	103	90	82	123
Runoff - mcm.	722.477	900.634	779.846	861.754	1,111.018	2,086.733	1,052.266	722.304	491.011	326.074	283.306	418.262

WATER YEAR 1977 : Max. 997 Min. 82 Mean 309 Annual Runoff 9,755.685 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sept. 9	19.00	35.33	1,007				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
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 100 meters upstream from Bang Mun Nak market, Amphoe Bang Mun Nak, Phichit.

Drainage Area: 32,878 Sq.km.

Type of Gage: Staff gage.

Zero Gage at Bottom at: + 19.800 m. (M.S.L.)

Bench Mark: B.M. – H.S. No. 8

Location: Infront of gage observer's house.
Elevation: + 30.523 m. (M.S.L.)

Gage Reading Frequency: 9-time daily readings at 01.00, 06.00, 09.00, 12.00, 15.00, 18.00, 21.00 and 24.00 hours.

Basis of Mean Daily Gage Height: Arithmetic mean of 9 readings.

Period of Available Gage Records: 1951 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: Fairly stable because of backwater effect, no shifting adjustment for flow computation.

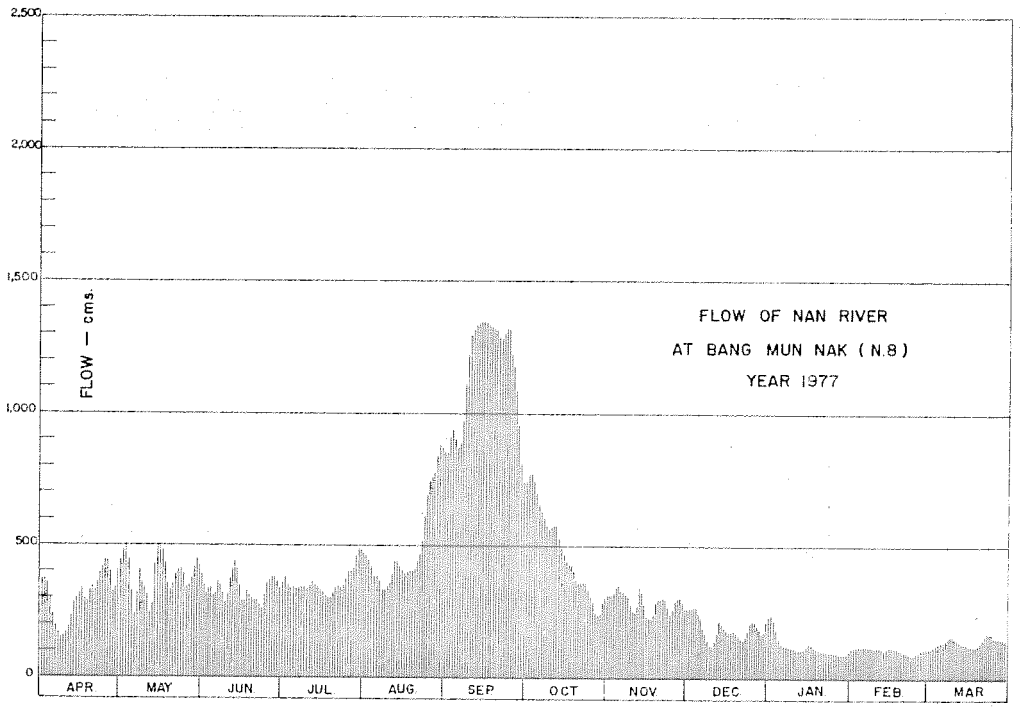
Overbank Flow Conditions: No overbank flow.

General Description: Records fair. Stage-discharge relation defined by 34 discharge measurements made in 1977.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	24.17	24.93	24.26	24.19	24.87	27.17	27.43	24.41	24.03	23.76	22.07	22.06
2	.22	25.08	23.82	.29	.78	.51	.59	.40	.04	.76	.11	.06
3	.03	.06	24.00	.15	.56	.65	.58	.49	.02	.20	.15	.22
4	23.55	24.60	.05	23.95	.33	.48	.41	.73	.02	22.61	.16	.41
5	.10	23.64	23.78	24.01	.28	.28	.14	.68	23.74	.30	.18	.46
6	22.85	23.23	23.94	23.99	24.31	27.36	26.86	24.52	23.30	22.18	22.19	22.47
7	.66	24.07	24.16	.96	.11	.81	.70	.45	.02	.18	.16	.54
8	.56	.46	23.97	24.05	23.89	28.63	.47	.37	22.63	.21	.11	.83
9	.67	23.99	.53	.05	.97	29.19	.29	.10	.13	.11	.10	.81
10	.73	.96	.73	23.98	24.06	.45	.27	23.84	.10	.06	.15	.67
11	22.98	23.64	24.22	24.03	24.28	29.57	26.35	23.84	22.64	22.03	22.21	22.68
12	23.39	.23	.51	.20	.67	.65	.21	24.65	23.08	21.98	.22	.52
13	.63	.76	.67	.10	.68	.72	25.96	.46	.57	.95	.13	.42
14	.68	24.65	.46	.00	.55	.72	.81	.03	.38	22.08	.03	.40
15	.79	25.05	23.94	23.96	.47	.74	.62	23.72	.14	.30	.11	.31
16	23.94	25.06	23.55	23.90	24.34	29.70	25.42	23.59	22.99	22.37	22.15	22.26
17	.64	24.89	.74	.81	.36	.63	.26	.58	23.02	.27	.05	.17
18	.62	.41	.87	.72	.45	.60	.23	.92	.10	.09	21.96	.13
19	.97	23.85	.72	.73	.40	.57	.04	24.21	22.99	21.89	.90	.16
20	24.04	.96	.67	.86	.50	.50	24.77	.29	.77	.81	.73	.38
21	23.87	24.26	23.68	23.94	24.69	29.37	24.74	24.32	22.67	21.75	21.73	22.56
22	24.20	.41	.56	24.03	.90	.38	.78	.35	.61	.70	.63	.95
23	.44	.44	.40	23.99	25.52	.52	.75	.19	.74	.67	.52	.99
24	.52	.44	.87	24.03	26.12	.60	.58	23.78	23.32	.66	.45	23.03
25	.71	.24	24.14	.29	.48	.52	.29	.93	.54	.64	.59	22.84
26	24.69	23.99	24.20	24.42	26.65	29.39	24.01	24.20	23.49	21.62	21.77	22.69
27	.29	24.15	.26	.44	.73	.05	23.73	.33	.36	.60	.90	.69
28	23.85	.43	.31	.50	27.05	28.47	.73	.30	.09	.60	22.06	.70
29	24.22	.61	.18	.86	.31	27.65	24.10	.12	22.83	.58	–	.65
30	.65	.74	23.98	.98	.35	.43	.28	23.91	23.21	.59	–	.58
31	–	.42	–	.95	.22	–	.34	–	.61	.98	–	.60
Mean	23.75	24.31	23.97	24.14	25.09	28.84	25.57	24.19	23.17	22.11	21.98	22.52
Max.	24.71	25.08	24.67	24.98	27.35	29.74	27.59	24.73	24.04	23.76	22.22	23.03
Min.	22.56	23.23	23.40	23.72	23.89	27.17	23.73	23.58	22.10	21.58	21.45	22.06

WATER YEAR 1977 : Max. 29.74 m. Min. 21.45 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	365	479	379	368	470	849	743	315	270	241	118	118
2	373	502	316	383	457	913	772	314	271	237	120	118
3	345	499	341	362	424	939	770	325	268	190	122	126
4	278	430	348	334	389	907	740	356	268	148	123	136
5	218	291	310	342	382	869	693	349	239	130	124	139
6	185	235	333	340	386	884	651	329	198	124	124	139
7	161	351	364	335	356	970	627	320	176	124	123	143
8	149	409	337	348	326	1,128	594	310	149	125	120	162
9	162	340	275	348	337	1,240	569	278	121	120	120	161
10	170	335	303	338	349	1,292	566	249	120	118	122	151
11	202	291	373	345	382	1,316	577	249	149	116	125	152
12	256	235	416	370	440	1,332	557	345	180	114	126	142
13	289	307	440	355	442	1,346	522	321	222	112	121	136
14	296	437	409	341	422	1,346	501	270	204	119	116	135
15	312	497	333	335	410	1,350	475	237	185	130	120	130
16	333	499	278	327	391	1,342	447	224	173	133	122	128
17	291	473	305	314	394	1,328	425	223	176	128	117	123
18	288	401	323	302	407	1,322	421	257	182	119	113	121
19	337	320	302	303	400	1,316	396	291	173	110	110	123
20	347	335	295	321	415	1,302	361	301	158	106	103	134
21	323	379	296	333	443	1,276	357	304	151	104	103	145
22	370	401	279	345	475	1,278	362	308	148	102	99	170
23	406	406	257	340	570	1,306	358	289	156	101	95	173
24	418	406	323	345	666	1,322	336	243	200	100	92	176
25	446	376	361	383	726	1,224	301	258	219	100	98	163
26	443	340	370	403	755	1,182	267	290	214	99	105	152
27	383	362	379	406	769	1,091	238	306	203	98	110	152
28	320	404	386	415	827	952	238	302	181	98	118	153
29	373	431	367	469	875	783	278	280	162	97	–	150
30	437	451	338	487	882	743	300	256	191	98	–	146
31	–	403	–	482	858	–	307	–	226	114	–	147
Total	9,276	12,025	10,136	11,219	15,825	34,448	14,749	8,699	5,933	3,855	3,209	4,444
Mean	309	388	338	362	510	1,148	476	290	191	124	115	143
Max.	446	502	440	487	882	1,350	772	356	271	241	126	176
Min.	149	235	257	302	326	849	238	223	120	97	92	118
Runoff – mcm.	801.446	1,038.960	875.750	969.322	1,367.280	2,976.307	1,274.314	751.594	512.611	333.072	277.258	383.962

WATER YEAR 1977 : Max. 1,350 Min. 92 Mean 367 Annual Runoff 11,561.875 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sept. 15	6.00	29.75	1,352				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
NAN RIVER BASIN

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

Location: Lat. 16°-12'-42" N., Long. 100°-25'-01" E., on right bank about 1 kilometer downstream from Wat Theva Prasat, Tambon Huai Ket, Amphoe Taphan Hin, Phichit.

Drainage Area: 30,765 Sq.km.

Type of Gage: Water-stage recorder.

Zero Gage at Bottom at: + 22.41 m. (M.S.L.)

Bench Mark: B.M. - H.S.

Location: On right bank along the vertical staff gage line.
Elevation: + 33.173 m. (M.S.L.)

Gage Reading Frequency: Recording

Basis of Mean Daily Gage Height: Arithmetic mean of 24 hourly readings.

Period of Available Gage Records: 1971 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, no shifting adjustment for flow computation.

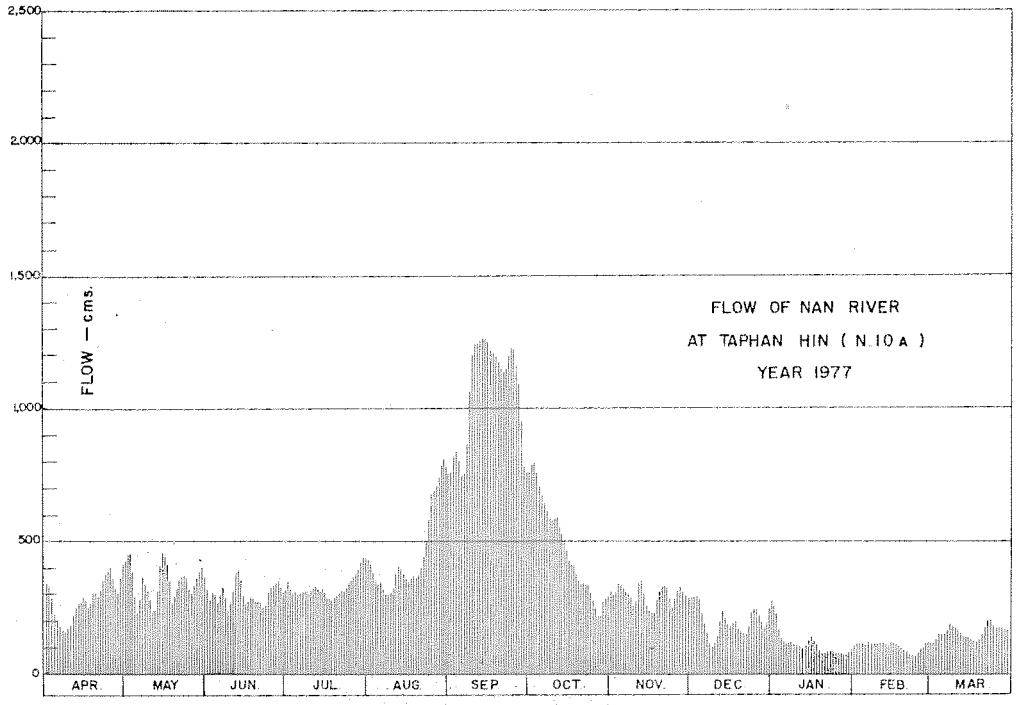
Overbank Flow Conditions: No overbank flow.

General Description: Records fair. Stage-discharge relation defined by 85 discharge measurements made in 1977.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	26.18	26.82	26.04	26.19	26.82	29.02	29.02	25.88	25.78	25.64	24.03	24.04
2	.14	27.04	25.68	.22	.69	.36	.22	.84	.74	.49	.07	.06
3	25.86	26.98	.97	.02	.45	.51	.23	.98	.76	24.89	.11	.28
4	.32	.34	.91	25.88	.22	.26	28.99	26.19	.79	.38	.10	.44
5	24.96	25.33	.63	.98	.20	28.94	.64	.08	.38	.17	.11	.42
6	24.75	25.21	25.94	25.92	26.24	28.93	28.42	25.95	24.98	24.07	24.15	24.44
7	.58	26.19	26.10	.93	25.98	29.55	.25	.93	.65	.16	.09	.55
8	.55	.40	25.79	26.00	.80	30.71	27.97	.85	.19	.12	.07	.84
9	.68	.01	.39	25.97	.93	31.41	.83	.54	23.81	.10	.06	.74
10	.76	25.83	.65	.88	.99	.61	.84	.42	24.07	23.99	.12	.67
11	25.07	25.45	26.21	26.03	26.28	31.66	27.92	26.09	24.37	23.97	24.16	24.62
12	.44	.13	.49	.18	.68	.71	.75	.33	25.02	.91	.16	.45
13	.59	.96	.60	.03	.59	.74	.44	25.99	.28	.90	.07	.38
14	.54	26.75	.29	25.96	.46	.72	.28	.58	24.99	24.08	23.99	.36
15	.75	27.05	25.72	26.01	.39	.70	.06	.35	.80	.27	24.13	.27
16	25.66	26.99	25.49	25.84	26.25	31.58	26.83	25.28	24.69	24.31	24.09	24.21
17	.38	.75	.76	.77	.34	.47	.70	.22	.81	.17	23.97	.15
18	.66	.19	.81	.69	.42	.43	.68	.72	.94	23.97	.93	.10
19	.97	25.59	.67	.77	.35	.39	.44	.97	.73	.72	.86	.20
20	.92	.95	.64	.82	.49	.29	.15	26.03	.54	.60	.77	.40
21	25.81	26.23	25.66	25.91	26.65	31.09	26.17	26.08	24.50	23.65	23.69	24.63
22	26.24	.34	.47	.99	.95	.20	.22	.07	.44	.72	.60	.96
23	.38	.39	.45	.93	27.64	.43	.17	25.78	.71	.72	.50	.95
24	.49	.35	.97	26.03	28.16	.56	25.95	.37	25.31	.65	.47	.97
25	.68	.07	26.11	.28	.55	.52	.63	.76	.41	.64	.66	.75
26	26.58	25.85	26.16	26.39	28.62	31.24	25.34	26.00	25.35	23.64	23.80	24.66
27	.03	26.12	.21	.39	.70	30.82	.08	.11	.18	.61	.95	.68
28	25.75	.39	.28	.57	29.07	.04	.24	.03	24.83	.61	24.05	.67
29	26.31	.56	.06	.87	.26	29.09	.62	25.83	.62	.56	-	.61
30	.67	.68	25.95	.97	.28	28.99	.74	.71	25.09	.73	-	.56
31	-	.49	-	.90	.05	-	.79	-	.50	.97	-	.59
Mean	26.69	25.24	25.90	26.11	27.05	30.70	27.05	25.83	24.94	24.05	23.96	24.50
Max.	26.68	27.07	26.60	26.97	29.28	31.74	29.23	26.33	25.79	25.64	24.16	24.97
Min.	24.55	25.13	25.39	25.69	25.80	28.93	25.08	25.22	23.81	23.56	23.47	24.04

WATER YEAR 1977 : Max. 31.74 m. Min. 23.47 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	339	423	321	341	425	760	760	301	269	273	111	112
2	334	456	278	345	407	816	792	296	284	257	114	114
3	298	447	312	319	374	842	794	313	287	193	118	133
4	238	360	304	301	345	799	755	341	290	142	117	148
5	200	239	272	313	342	747	699	326	245	123	118	146
6	179	226	308	306	347	746	664	309	202	114	121	148
7	162	341	329	307	313	848	637	307	169	122	116	159
8	159	368	290	316	291	1,057	593	297	125	119	114	188
9	172	317	246	312	307	1,194	572	262	92	117	114	178
10	180	295	274	301	315	1,234	574	249	114	107	119	171
11	211	252	343	320	352	1,244	586	328	141	105	122	166
12	251	217	380	339	405	1,254	560	359	206	100	122	149
13	268	311	394	320	393	1,260	514	315	234	99	114	142
14	262	415	354	311	376	1,256	490	267	203	115	107	140
15	285	457	282	317	367	1,252	458	241	184	132	120	132
16	276	449	257	296	348	1,228	426	234	173	136	116	127
17	245	415	287	288	360	1,206	408	227	185	123	105	121
18	276	337	292	279	371	1,198	405	282	198	105	102	117
19	312	268	277	288	361	1,190	373	312	177	85	96	126
20	306	309	273	293	380	1,170	335	320	158	76	89	144
21	292	346	276	304	401	1,130	338	326	154	79	82	167
22	347	360	255	315	443	1,152	345	325	148	85	76	200
23	365	367	252	307	544	1,198	338	289	175	85	69	199
24	380	361	312	320	623	1,224	309	244	237	79	67	201
25	405	325	330	352	680	1,216	272	287	248	79	80	179
26	391	297	337	367	696	1,160	240	316	241	79	91	170
27	320	332	343	367	709	1,078	212	330	223	77	103	172
28	285	367	352	390	768	936	229	320	187	77	113	171
29	356	389	324	432	799	771	271	295	166	73	–	165
30	404	405	309	446	803	755	284	281	213	85	–	160
31	–	380	–	436	765	–	290	–	258	105	–	163
Total	8,498	10,831	9,163	10,248	14,410	31,921	14,523	8,899	6,206	3,546	2,936	4,808
Mean	283	349	305	330	465	1,064	468	297	200	114	105	159
Max.	405	457	394	446	803	1,260	794	359	290	273	122	201
Min.	159	217	246	279	291	746	212	227	92	73	67	112
Runoff – MCM.	734.227	935.798	791.683	885.427	1,245.024	2,757.974	1,254.787	768.874	536.199	306.305	253.671	415.411

WATER YEAR 1977 : Max. 1,260 Min. 67 Mean 345 Annual Runoff 10,885.450 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sept. 13	06.00	31.75	1,262				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
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 the road Phasom - Silot at Ban Hat Phai, Amphoe Tha Pla, Uttaradit.

Drainage Area: 15,718 Sq.km.

Type of Gage: Staff gage.

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

Bench Mark: B.M. - R.I.D.

- Location: On right bank infront of N12A station office.
- Elevation: BM1 = + 84.00 m. (M.S.L.), BM2 = + 83.655 m. (M.S.L.)

Gage Reading Frequency: 18-time daily readings at 03.00, 06.00-21.00 and 24.00 hours.

Basis of Mean Daily Gage Height: Arithmetic mean of 18 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, no shifting adjustment for flow computation.

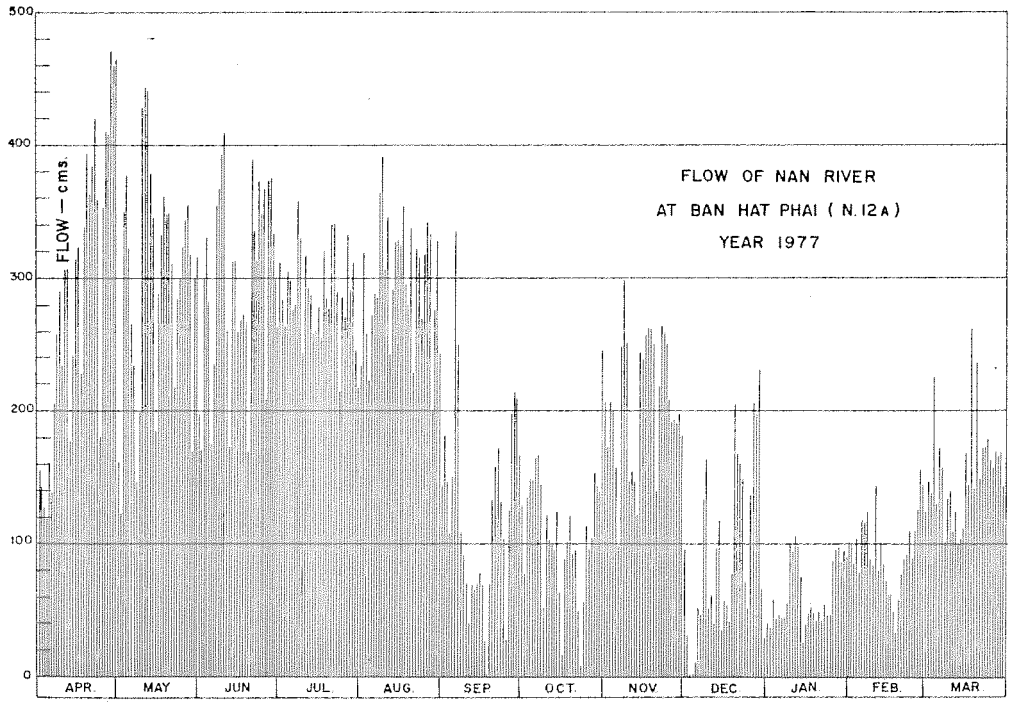
Overbank Flow Conditions: No overbank flow.

General Description: Records good. Stage-discharge relation defined by 108 discharge measurements made in 1977.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	71.38	71.40	71.48	72.42	71.93	71.27	71.15	71.71	70.90	70.37	70.94	71.12
2	.28	.11	72.32	.22	72.46	.56	70.73	.50	.27	.31	.94	.30
3	.15	72.64	.53	.13	.09	.28	71.21	.73	69.81	.58	.81	.23
4	.08	.80	.25	.38	71.84	70.99	.31	.69	.76	.41	.97	.87
5	.41	.47	71.51	.33	72.18	71.32	.31	.37	70.01	.43	.75	.17
6	71.22	72.13	71.94	72.20	72.28	72.56	71.44	70.92	70.51	70.45	71.07	71.49
7	.72	71.93	72.67	.23	.26	.04	.45	72.02	.45	.41	.06	.37
8	72.08	.29	.74	.69	.73	71.00	.27	.34	71.20	.43	.12	70.95
9	.29	.68	.90	.53	.89	70.85	70.50	.05	.43	.54	70.83	71.19
10	71.93	73.10	.99	71.99	.38	.66	71.09	71.30	70.50	.93	.79	.24
11	72.38	73.19	72.10	72.45	72.62	70.37	70.96	71.36	70.61	70.88	71.29	71.01
12	.39	.18	71.50	.30	71.99	.66	.94	.30	.37	.98	70.76	.12
13	71.52	72.81	72.42	.26	72.30	.64	.89	.11	.90	.90	.95	70.92
14	72.17	.61	.43	.09	.51	.69	71.12	72.00	71.07	.71	.78	.97
15	.44	71.58	.10	.10	.52	.75	70.62	71.96	70.31	.19	.69	71.02
16	72.48	72.28	72.15	72.21	72.50	70.67	70.08	72.08	70.56	70.38	70.69	71.46
17	71.89	.54	.19	.07	.67	.21	.83	.12	.53	.47	.61	.28
18	72.57	.71	.15	.47	.32	69.80	.95	.11	.39	.52	.47	72.12
19	.90	.63	71.47	.25	.23	70.67	71.10	.05	.74	.45	.29	71.26
20	.72	.63	72.47	.21	.57	71.20	70.86	71.24	71.72	.40	.57	.95
21	72.84	72.41	72.87	72.59	71.90	71.38	70.89	71.82	71.43	70.47	70.74	71.31
22	73.05	71.81	.42	.59	72.48	.49	.48	72.13	.39	.39	.83	.49
23	72.69	72.25	.78	.28	.45	.17	69.95	.10	.29	.53	.87	.49
24	71.54	.35	.63	71.79	.16	70.96	70.54	.04	70.67	.44	71.00	.54
25	72.66	.48	.74	72.26	.46	.22	71.05	71.74	.51	.46	70.84	.42
26	73.00	72.60	71.75	72.16	72.60	71.12	70.90	71.63	71.25	70.82	71.01	71.37
27	72.98	.67	72.78	.54	.54	.68	.97	.64	.73	.89	.13	.47
28	73.33	.45	.79	.30	71.69	.79	71.35	.62	.67	.91	.36	.44
29	.27	71.47	.52	.42	72.20	.74	.26	.68	.91	.82	-	.47
30	.30	72.34	.12	.01	.52	.44	.25	.55	70.65	.89	-	.27
31	-	.44	-	71.81	71.99	-	72.01	-	.22	.84	-	.69
Mean	72.25	72.32	72.32	72.27	72.33	71.07	70.98	71.73	70.80	70.59	70.86	71.35
Max.	73.33	73.19	72.99	72.69	72.89	72.56	72.01	72.34	71.91	70.98	71.36	72.12
Min.	71.08	71.11	71.47	71.79	71.69	69.80	69.95	70.92	69.76	70.19	70.29	70.92

WATER YEAR 1977 : Max. 73.33 m. Min. 69.76 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	157	160	170	311	233	143	127	202	96	40	101	124
2	144	122	294	278	318	181	76	173	32	35	101	147
3	127	349	330	264	257	144	135	205	0.50	59	85	138
4	118	376	283	305	221	107	148	198	0.00	43	104	225
5	161	320	174	296	272	150	148	156	11	45	78	130
6	137	264	235	275	288	335	165	98	52	46	117	172
7	204	233	354	280	285	250	166	247	46	43	116	156
8	256	146	366	357	364	108	143	298	134	45	124	102
9	289	198	393	330	391	90	51	251	164	55	88	133
10	233	428	408	242	305	68	120	147	51	100	83	139
11	305	444	259	316	345	40	103	155	62	94	146	109
12	306	442	173	291	242	68	101	147	40	106	79	124
13	176	378	311	285	291	65	95	122	96	96	102	98
14	270	344	313	257	327	71	124	244	117	73	82	104
15	315	184	259	259	328	78	63	238	35	25	71	111
16	322	288	267	277	325	69	16	256	57	40	62	168
17	228	332	273	254	354	27	88	262	54	48	62	144
18	337	361	267	320	294	0.00	102	261	41	53	48	262
19	393	347	169	283	280	69	121	251	77	46	33	142
20	362	347	320	277	337	134	91	139	204	42	58	236
21	383	310	388	340	229	157	95	218	164	48	77	148
22	419	216	311	340	322	172	49	264	159	41	88	172
23	357	283	393	288	316	130	7.50	259	146	54	92	172
24	179	299	347	214	269	103	55	250	69	46	108	179
25	352	322	366	285	318	28	114	207	52	47	89	163
26	410	342	208	269	342	124	96	191	140	86	109	156
27	407	354	373	332	332	198	104	193	205	95	125	169
28	470	316	374	291	200	214	153	190	197	97	155	165
29	459	169	328	311	275	207	142	198	230	86	–	169
30	464	298	262	245	328	165	140	180	66	95	–	143
31	–	315	–	216	242	–	245	–	28	89	–	200
Total	8,740	9,287	8,948	8,888	9,230	3,695	3,383.50	6,200	2,825.50	1,918	2,583	4,800
Mean	291	299	29.8	287	298	123	109	207	91.1	61.9	92.2	155
Max.	470	444	408	357	391	335	245	298	230	106	155	262
Min.	118	122	169	214	200	0.00	7.50	98	0.00	25	33	98
Runoff – mcm.	755.136	802.397	773.107	767.923	797.472	319.248	292.334	535.680	244.123	165.715	223.171	414.720

WATER YEAR 1977 : Max. 470 Min. 0.00 Mean 193 Annual Runoff 6,091.026 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Apr.20	19.00	73.87	572				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
NAN RIVER BASIN

Nan River at Chum Saeng, Nakhon Sawan (N. 14A)

Location: Lat. 15°-53'-56" N., Long. 100°-18'-34" E., on right bank infront of Wat Luang Pho Khaeo about 1 kilometer upstream from N14, Amphoe Chum Saeng, Tambon Plikul, Nakhon Sawan.

Drainage Area: 33,182 Sq.km.

Type of Gage: Water-stage recorder.

Zero Gage at Bottom at: + 19.00 m. (M.S.L.)

Bench Mark: B.M. - H.S.

Location: Infront of automatic building.
Elevation: + 27.842 m. (M.S.L.)

Gage Reading Frequency: Recording

Basis of Mean Daily Gage Height: Arithmetic mean of 24 hourly readings.

Period of Available Gage Records: 1971 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 by some scouring, no shifting adjustment but periodic curves are used for flow computation.

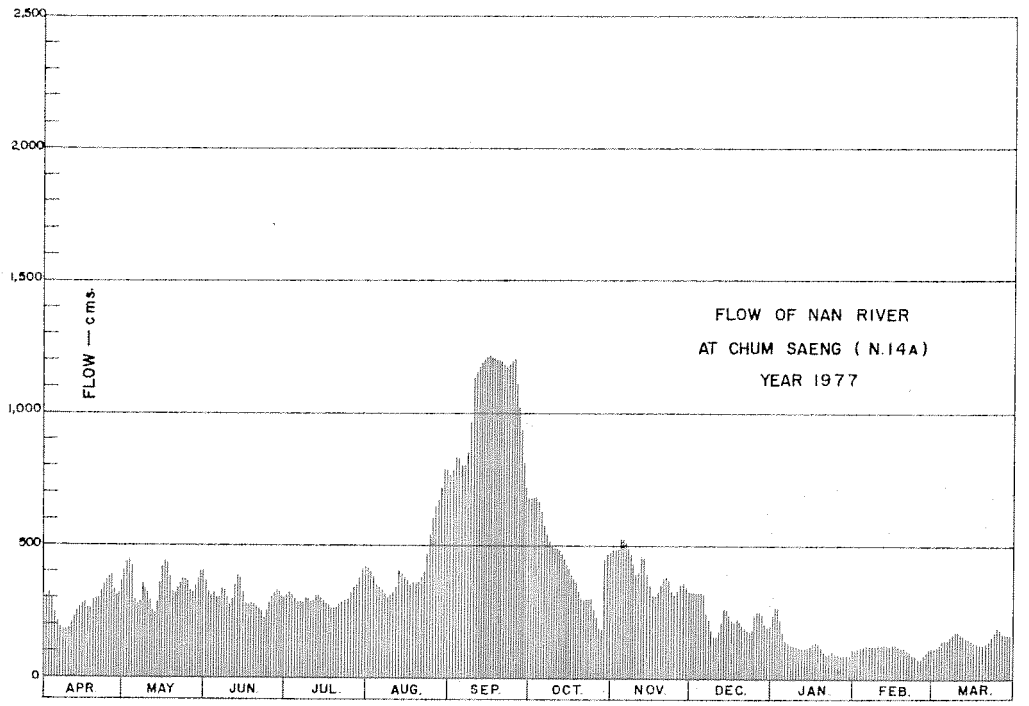
Overbank Flow Conditions: No overbank flow.

General Description: Records fair. Stage-discharge relation defined by 34 discharge measurements made in 1977.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	22.08	22.79	22.49	22.11	22.81	24.89	25.78	23.25	22.20	21.75	20.20	20.23
2	.19	.95	.15	.21	.76	25.07	.83	.27	.22	.76	.24	.24
3	.11	23.00	.13	.19	.59	.27	.85	.34	.20	.41	.27	.36
4	21.77	22.78	.23	.09	.38	.25	.73	.50	.20	20.87	.32	.52
5	.37	.02	.06	21.98	.26	.07	.52	.48	.20	.54	.32	.55
6	21.14	21.41	22.07	21.99	22.29	25.09	25.27	23.36	21.67	20.40	20.35	20.57
7	20.99	.92	.28	.96	.23	.35	.14	.26	.37	.33	.36	.66
8	.89	22.39	.23	22.01	.06	26.00	24.94	.14	.08	.35	.32	.84
9	.91	.31	21.87	.08	.09	.52	.79	22.90	20.69	.31	.32	.92
10	.97	.14	.84	21.99	.18	.83	.75	.63	.62	.24	.33	.85
11	21.13	21.92	22.19	21.98	22.30	26.99	24.77	22.80	20.93	20.20	20.39	20.80
12	.45	.50	.49	22.13	.61	27.06	.75	23.08	21.29	.18	.36	.72
13	.70	.72	.64	.14	.74	.13	.60	22.99	.76	.14	.33	.63
14	.78	22.39	.59	.05	.66	.18	.51	.64	.70	.20	.27	.58
15	.88	.85	.25	.00	.58	.23	.40	.32	.49	.36	.31	.53
16	21.89	22.98	21.85	21.94	22.44	27.23	24.26	22.16	21.29	20.45	20.34	20.45
17	.71	.91	.84	.87	.39	.19	.08	.09	.25	.45	.26	.41
18	.70	.64	.95	.80	.44	.16	.00	.25	.37	.32	.19	.35
19	.95	.22	.90	.78	.45	.16	23.87	.47	.31	.13	.16	.35
20	22.10	.15	.81	.83	.47	.14	.65	.57	.11	19.91	.07	.46
21	22.01	22.33	21.76	21.90	22.59	27.06	23.57	22.58	20.97	19.84	19.99	20.59
22	.18	.47	.70	.98	.73	.04	.60	.57	.88	.90	.89	.90
23	.41	.55	.50	22.00	23.15	.10	.61	.42	.88	.93	.77	20.03
24	.50	.56	.75	.00	.67	.16	.51	.13	21.31	.87	.69	.07
25	.62	.46	22.03	.16	.99	.18	.27	.13	.60	.83	.74	20.99
26	22.69	22.23	22.13	22.31	24.23	27.12	23.02	22.32	21.63	19.83	19.87	20.82
27	.47	.24	.20	.39	.31	26.95	22.79	.45	.57	.81	20.03	.80
28	.09	.46	.26	.44	.58	.64	.72	.45	.34	.80	.19	.80
29	.20	.63	.25	.69	.86	.05	.95	.34	20.97	.80	-	.78
30	.55	.74	.05	.83	25.02	25.83	23.15	.21	21.10	.83	-	.72
31	-	.72	-	.86	.00	-	.20	-	.51	20.16	-	.70
Mean	21.85	22.40	22.08	22.12	23.00	26.50	24.25	22.70	21.41	20.80	20.17	20.65
Max.	22.69	23.00	22.64	22.86	25.02	27.23	25.85	23.50	22.22	21.76	20.39	21.07
Min.	20.89	21.41	21.50	21.78	22.06	24.89	22.72	22.09	20.62	19.80	19.69	20.23

WATER YEAR 1977 : Max. 27.23 m. Min. 19.69 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	305	401	365	309	414	766	674	484	322	266	114	116
2	320	436	312	323	406	799	684	487	325	266	117	117
3	309	444	312	321	380	835	688	499	322	227	120	127
4	267	409	326	301	349	831	664	526	322	172	124	141
5	223	298	303	293	331	799	624	523	322	143	124	143
6	199	277	304	294	335	802	577	502	256	130	126	145
7	184	285	334	290	326	849	553	486	223	124	127	153
8	174	350	326	296	303	970	517	466	193	126	124	170
9	176	338	299	305	307	1,069	491	428	156	123	124	177
10	182	314	276	294	319	1,131	484	386	150	117	124	170
11	198	285	321	293	337	1,163	488	412	178	114	129	166
12	231	237	365	312	383	1,177	484	457	214	112	127	159
13	259	261	388	314	403	1,191	459	442	266	109	124	151
14	269	350	380	301	391	1,202	444	388	259	114	120	146
15	281	420	329	295	379	1,213	425	348	236	127	123	142
16	282	441	277	288	358	1,213	402	316	214	134	125	134
17	260	430	276	279	350	1,204	372	307	210	134	119	131
18	259	388	289	271	358	1,198	360	329	223	124	113	126
19	289	325	283	269	359	1,198	336	362	216	108	111	126
20	308	315	272	275	362	1,193	206	377	196	92	104	135
21	296	341	266	283	380	1,177	294	379	182	87	97	147
22	319	362	259	293	401	1,173	299	377	173	91	90	175
23	353	374	237	295	468	1,185	300	355	173	93	82	188
24	367	376	265	295	555	1,198	285	312	216	89	76	192
25	385	361	299	316	609	1,202	251	312	248	86	80	184
26	395	326	312	338	650	1,086	216	340	251	86	89	168
27	362	326	322	350	664	994	187	359	245	85	100	166
28	307	361	331	358	710	875	178	359	219	84	113	166
29	322	386	329	395	761	729	436	343	182	84	–	164
30	374	403	301	417	790	684	468	323	195	86	–	159
31	–	400	–	422	786	–	476	–	238	111	–	157
Total	8,455	11,022	9,258	9,691	13,924	31,106	13,426	11,976	7,125	3,843	3,146	4,741
Mean	282	355	309	313	449	1,037	433	399	230	124	112	153
Max.	395	444	388	422	790	1,213	688	526	325	266	129	192
Min.	174	277	237	269	303	684	178	307	150	84	76	116
Runoff - mcm.	730.512	952.301	799.891	837.302	1,203.034	2,687.558	1,160.006	1,034.726	615.600	332.035	271.814	409.622

WATER YEAR 1977 : Max. 1,213 Min. 76 Mean 350 Annual Runoff 11,034.403mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sept.25	24.00	27.25	1,217				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
NAN RIVER BASIN
Nan River at Ban Mon, Nan (N. 17)

Location: Lat. 19°-24'-34" N., Long. 100°-52'-05" E., on left bank at Ban Mon, Amphoe Thung Chang, Nan.

Drainage Area: 1,156 Sq.km.

Type of Gage: Staff gage.

Zero Gage at Bottom at: + 0.00 m. (A.D.)

Bench Mark: B.M. - H.S.

Location: About 20 meters from the top of vertical staff gage.
Elevation: + 13.390 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: 1963 to date.

Rating Operation:

Period of Rating: 1969-1973.
Rated by Float: -
Rated by Current Meter: 1969-1973.

Stability of Channel Regimes: Stable, no shifting adjustment for flow computation.

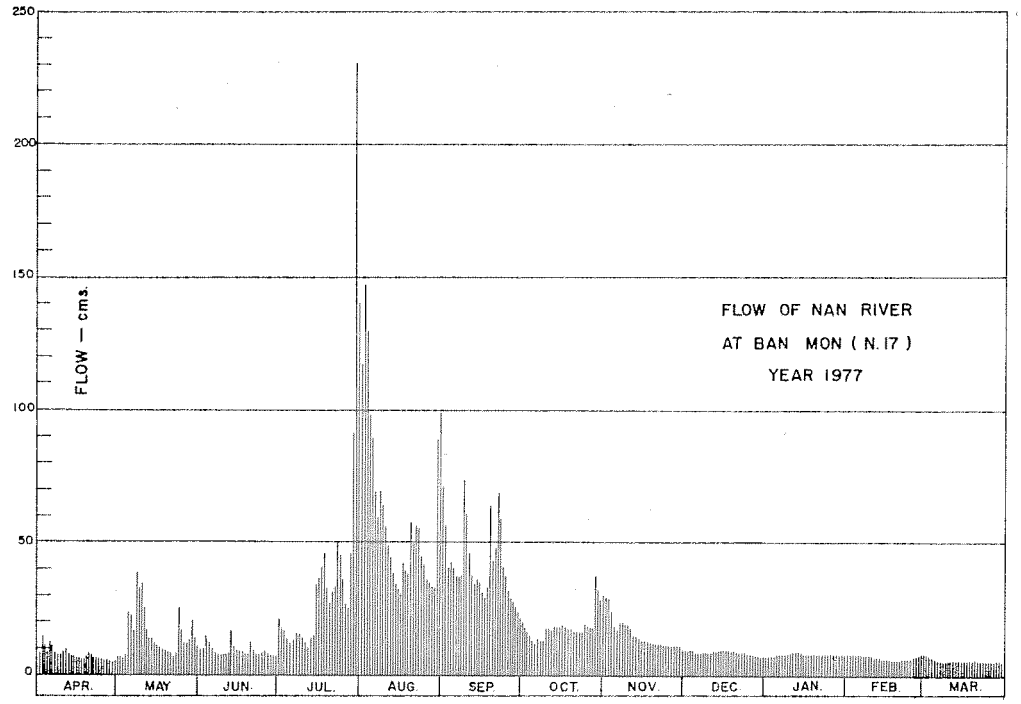
Overbank Flow Conditions: No overbank flow.

General Description: Records fair. Stage-discharge relation defined by 535 discharge measurements made during 1969-1971, 1973.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.58	0.56	0.66	0.99	2.38	1.81	0.97	1.19	0.66	0.56	0.59	0.59
2	.82	.56	.66	.90	.67	.59	.92	.16	.64	.57	.58	.57
3	.72	.52	.87	.88	.51	.40	.88	.00	.67	.57	.59	.56
4	.61	.56	.77	.79	.17	.45	.83	0.95	.65	.58	.60	.54
5	.74	1.06	.73	.73	.08	.39	.78	.92	.63	.59	.59	.50
6	0.70	1.02	0.67	0.76	1.85	1.34	0.75	0.89	0.63	0.60	0.58	0.49
7	.60	0.86	.62	.79	.70	.34	.80	.97	.63	.60	.58	.48
8	.58	1.38	.60	.86	.85	.35	.78	.97	.64	.59	.57	.48
9	.58	.25	.59	.83	.75	.88	.76	.95	.63	.59	.57	.49
10	.65	.27	.58	.78	.63	.67	.91	.93	.62	.60	.56	.49
11	0.69	1.01	0.57	0.72	1.52	1.46	0.91	0.87	0.62	0.62	0.56	0.50
12	.59	0.82	.61	.67	.44	.34	.90	.83	.65	.64	.55	.51
13	.57	.81	.89	.81	.36	.37	.93	.82	.64	.62	.55	.49
14	.56	.81	.69	.82	.27	.34	.92	.79	.65	.61	.54	.50
15	.55	.73	.65	1.27	.23	.29	.92	.78	.67	.60	.52	.51
16	0.54	0.71	0.64	1.34	1.20	1.21	0.93	0.77	0.67	0.59	0.52	0.52
17	.53	.68	.62	.40	.42	.16	.91	.76	.66	.59	.50	.51
18	.52	.65	.60	.50	.33	.28	.90	.74	.65	.58	.50	.50
19	.56	.64	.58	.24	.38	.76	.91	.73	.64	.60	.49	.49
20	.62	.63	.78	.11	.66	.42	.90	.75	.64	.60	.50	.50
21	0.58	0.60	0.64	1.23	1.54	1.53	0.90	0.74	0.62	0.59	0.52	0.49
22	.54	.56	.60	.28	.64	.83	.90	.73	.62	.60	.51	.50
23	.54	.62	.58	.57	.63	.61	.89	.71	.62	.60	.50	.49
24	.53	1.07	.61	.47	.48	.40	.88	.71	.61	.59	.50	.49
25	.52	0.84	.65	.31	.42	.28	.93	.70	.60	.59	.53	.49
26	0.51	0.73	0.62	1.15	1.32	1.22	0.92	0.70	0.59	0.59	0.56	0.48
27	.50	.72	.59	.09	.27	.17	.91	.69	.58	.58	.58	.48
28	.49	.81	.57	.30	.25	.11	.90	.69	.57	.59	.60	.50
29	.48	.99	.57	2.09	.25	.07	1.33	.69	.56	.58	-	.49
30	.47	.84	.59	3.41	2.07	.02	.18	.68	.55	.59	-	.48
31	-	.69	-	2.69	.21	-	.13	-	.56	.59	-	.47
Mean	0.58	0.81	0.65	1.21	1.66	1.40	0.91	0.83	0.62	0.59	0.55	0.50
Max.	0.82	1.38	0.89	3.41	2.67	1.88	1.33	1.19	0.67	0.64	0.60	0.59
Min.	0.47	0.52	0.57	0.67	1.20	1.02	0.75	0.68	0.55	0.56	0.49	0.47

WATER YEAR 1977 : Max. 3.41 m. Min. 0.47 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	7.50	7.00	9.80	21	117	67	20	30	9.80	7.00	7.75	7.75
2	15	7.00	9.80	17	147	52	18	29	9.20	7.25	7.50	7.25
3	12	6.00	16	17	130	40	17	26	10	7.25	7.75	7.00
4	8.30	7.00	13	14	97	43	15	19	9.50	7.50	8.00	6.50
5	12	24	12	12	89	40	13	18	8.90	7.75	7.75	5.50
6	11	22	10	13	70	37	12	17	8.90	8.00	7.50	5.25
7	8.00	16	8.60	14	59	37	14	20	8.90	8.00	7.50	5.00
8	7.50	39	8.00	16	70	38	13	20	9.20	7.75	7.25	5.00
9	7.50	33	7.75	15	63	73	13	19	8.90	7.75	7.25	5.25
10	9.50	34	7.50	13	55	57	18	19	8.60	8.00	7.00	5.25
11	11	22	7.25	12	48	44	18	16	8.60	8.60	7.00	5.50
12	7.75	15	8.30	10	43	37	17	15	9.50	9.20	6.75	5.75
13	7.25	14	17	14	38	34	19	15	9.20	8.60	6.75	5.25
14	7.00	14	11	15	34	37	18	14	9.50	8.30	6.50	5.50
15	6.75	12	9.50	34	32	35	18	13	10	8.00	6.00	5.75
16	6.50	12	9.20	37	30	31	19	13	10	7.75	6.00	6.00
17	6.25	10	8.60	40	42	29	18	13	9.80	7.75	5.50	5.75
18	6.00	9.50	8.00	46	37	34	17	12	9.50	7.50	5.50	5.50
19	7.00	9.20	7.50	32	39	64	18	12	9.20	8.00	5.25	5.25
20	8.60	8.90	13	26	57	42	17	12	9.20	8.00	5.50	5.50
21	7.50	8.00	9.20	32	49	48	17	12	8.60	7.75	6.00	5.25
22	6.50	7.00	8.00	34	56	69	17	12	8.60	8.00	5.75	5.50
23	6.50	8.60	7.50	51	55	54	17	11	8.60	8.00	5.50	5.25
24	6.25	25	8.30	45	45	40	17	11	8.30	7.75	5.50	5.25
25	6.00	15	9.50	36	42	34	19	11	8.00	7.75	6.25	5.25
26	5.75	12	8.60	28	36	31	18	11	7.75	7.75	7.00	5.00
27	5.50	12	7.75	25	34	29	18	11	7.50	7.50	7.50	5.00
28	5.25	14	7.25	35	33	26	17	11	7.25	7.75	8.00	5.50
29	5.00	21	7.25	90	33	25	37	11	7.00	7.50	–	5.25
30	4.75	15	7.75	231	88	22	30	10	6.75	7.75	–	5.00
31	–	11	–	149	101	–	27	–	7.00	7.75	–	4.75
Total	231.40	469.20	282.90	1,174	1,869	1,249	566	463	271.75	243.20	187.50	172.50
Mean	7.71	15.1	9.43	37.9	60.3	41.6	18.2	15.4	8.77	7.84	6.70	5.56
Max.	15	39	17	231	147	73	37	30	10	9.20	8.00	7.75
Min.	4.75	6.00	7.25	10	30	22	12	10	6.75	7.00	5.25	4.75
Runoff – mcm.	19.993	40.539	24.442	101.434	161.482	107.914	48.902	40.003	23.479	21.012	16.200	14.904

WATER YEAR 1977 : Max. 231 Min. 4.75 Mean 19.7 Annual Runoff 620.304 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Jul. 30	18.00	3.83	292				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
NAN RIVER BASIN

Khwae Noi at Ban Yang, Phitsanulok (N. 22)

Location: Lat. 17°-01'-57" N., Long. 100°-22'-23" E., on left bank about 1 kilometer downstream from District Forestry Office, Amphoe Wat Bot, Phitsanulok.

Drainage Area: 4,841 Sq.km.

Type of Gage: Water-stage recorder.

Zero Gage at Bottom at: + 43.04 m. (M.S.L.)

Bench Mark: B.M. - H.S.

Location: Near the gage site.
Elevation: + 51.143 m. (M.S.L.)

Gage Reading Frequency: Recording

Basis of Mean Daily Gage Height: Arithmetic mean of 24 hourly readings.

Period of Available Gage Records: 1963 to date.

Rating Operation:

Period of Rating: 1963-1974.
Rated by Float: -
Rated by Current Meter: 1963-1974.

Stability of Channel Regimes: Fairly stable, no shifting adjustment for flow computation.

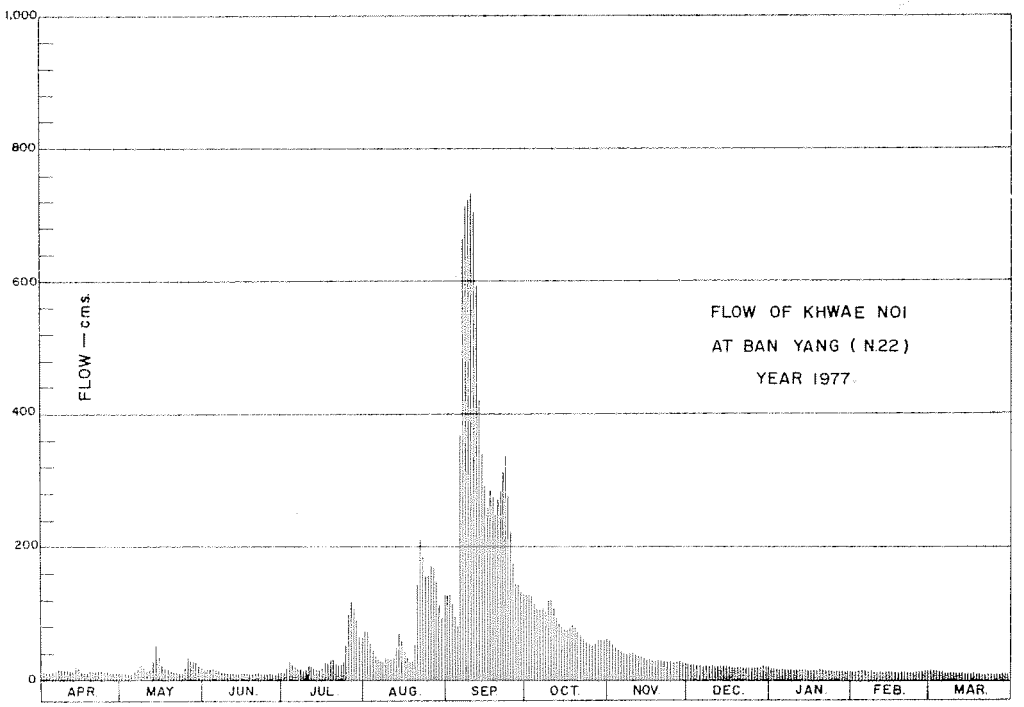
Overbank Flow Conditions: Overbank flow starts at elevation + 51.00 m. (M.S.L.), records are channel flow only.

General Description: Records fair. Stage-discharge relation defined by 1.322 discharge measurements made during 1967-1974.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	44.00	43.98	44.18	43.99	45.58	46.51	46.52	45.28	44.46	44.26	44.11	44.12
2	43.99	.95	.14	44.13	.52	.51	.53	.19	.44	.25	.11	.13
3	.98	.93	.18	.54	.24	.25	.38	.11	.44	.24	.13	.12
4	.99	.92	.22	.48	.00	45.90	.22	.01	.42	.23	.14	.09
5	44.06	44.01	.18	.37	44.78	.74	.11	44.92	.41	.23	.14	.06
6	44.08	44.07	44.11	44.26	44.66	49.28	46.14	44.90	44.40	44.23	44.12	44.03
7	.16	.16	.07	.24	.56	51.16	.18	.87	.39	.21	.12	.02
8	.15	.42	.04	.23	.50	.35	.07	.85	.39	.20	.11	.01
9	.13	.30	.01	.21	.67	.40	.35	.84	.39	.20	.10	.00
10	.09	.16	43.99	.18	.66	.44	.37	.84	.38	.20	.09	.00
11	44.07	44.07	43.97	44.41	44.64	51.32	46.13	44.81	44.37	44.20	44.09	43.99
12	.07	.16	.96	.33	.67	50.83	45.90	.75	.35	.19	.09	.98
13	.06	.56	.95	.21	45.08	49.72	.76	.71	.35	.19	.08	.97
14	.24	45.14	.95	.16	.52	.03	.67	.68	.35	.18	.08	.96
15	.31	44.64	44.01	.17	.29	48.61	.60	.66	.34	.16	.07	.96
16	44.16	44.39	44.00	44.26	44.92	48.23	45.58	44.63	44.33	44.16	44.06	43.96
17	.06	.24	43.98	.52	.70	.53	.67	.61	.32	.15	.05	.96
18	.01	.18	.95	.46	.58	.42	.72	.59	.30	.14	.04	.96
19	43.99	.16	.98	.61	.58	.12	.67	.57	.30	.15	.04	.95
20	44.05	.09	44.01	.66	45.13	.36	.52	.56	.30	.15	.04	.95
21	44.07	44.05	44.00	44.49	46.74	48.52	45.43	44.55	44.30	44.15	44.04	43.95
22	.04	.02	.03	.43	47.68	.83	.34	.55	.29	.14	.04	.95
23	.09	.01	43.98	.44	.34	49.04	.25	.54	.28	.13	.04	.95
24	.05	.03	.96	.56	46.94	48.88	.20	.53	.28	.13	.04	.95
25	.01	.31	.97	45.13	.99	.41	.16	.52	.27	.13	.04	.95
26	44.00	44.62	43.95	46.00	47.17	47.82	45.15	44.51	44.27	44.13	44.08	43.94
27	43.99	.55	.93	.34	.13	.19	.22	.50	.26	.12	.12	.94
28	.96	.51	.93	.17	46.76	46.74	.34	.54	.29	.12	.12	.94
29	.97	.49	44.03	45.82	.18	.56	.30	.49	.35	.12	-	.94
30	44.01	.35	.00	.39	45.81	.50	.34	.47	.33	.12	-	.95
31	-	.25	-	.41	46.48	-	-	-	.33	.11	-	.96
Mean	44.06	44.24	44.02	44.66	45.60	48.51	45.75	44.72	44.34	44.17	44.08	43.99
Max.	44.31	45.14	44.22	46.34	47.68	51.44	46.53	45.28	44.46	44.26	44.14	44.13
Min.	43.96	43.92	43.93	43.99	44.50	45.74	45.15	44.47	44.26	44.11	44.04	43.94

WATER YEAR 1977 : Max. 51.44 m. Min. 43.92 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	10	9.50	15	9.75	74	129	129	59	25	18	13	13
2	9.75	8.75	14	13	74	129	130	54	24	17	13	13
3	9.50	8.25	15	28	57	113	121	50	24	17	13	13
4	9.75	8.00	16	25	46	93	111	46	23	16	14	12
5	11	10	15	21	37	83	105	43	23	16	14	12
6	12	10	13	18	32	365	106	42	22	16	13	11
7	14	14	12	17	28	665	109	41	22	16	13	10
8	14	23	11	16	26	710	102	40	22	15	13	10
9	13	19	10	16	33	723	119	40	22	15	12	10
10	12	14	9.75	15	32	733	120	40	22	15	12	10
11	12	12	9.25	23	32	703	106	38	21	15	12	9.75
12	12	14	9.00	20	33	592	92	36	21	15	12	9.50
13	11	28	8.75	16	49	419	84	34	21	15	12	9.25
14	17	52	8.75	14	71	337	79	33	21	15	12	9.00
15	19	32	10	15	59	293	75	32	20	14	12	9.00
16	14	22	10	18	43	259	74	31	20	14	11	9.00
17	11	17	9.50	27	34	286	79	30	20	14	11	9.00
18	10	15	8.75	25	29	276	82	30	19	14	11	9.00
19	9.75	14	9.50	30	29	249	79	29	19	14	11	8.75
20	11	12	10	32	51	270	71	28	19	14	11	8.75
21	12	11	10	26	143	285	66	28	19	14	11	8.75
22	11	10	11	23	211	315	62	28	19	14	11	8.75
23	12	10	9.50	24	184	338	57	28	18	13	11	8.75
24	11	11	9.00	28	156	321	55	27	18	13	11	8.75
25	10	19	9.25	51	159	275	53	27	18	13	11	8.75
26	10	31	8.75	98	172	223	52	26	18	13	12	8.50
27	9.75	28	8.25	118	169	173	56	26	18	13	13	8.50
28	9.00	26	8.25	108	144	143	62	28	19	13	13	8.50
29	9.25	26	11	87	109	143	61	26	21	13	–	8.50
30	10	21	10	64	87	132	60	25	20	13	–	8.75
31	–	17	–	65	127	128	62	–	20	13	–	9.00
Total	345.75	554.50	319.25	1,090.75	2,527	9,759	2,619	1,045	638	450	338	299.50
Mean	11.5	17.9	10.6	35.2	81.5	325	84.5	34.8	20.6	14.5	12.1	9.66
Max.	19	52	16	118	211	733	130	59	25	18	14	13
Min.	9.00	8.00	8.25	9.75	26	83	52	25	18	13	11	8.50
Runoff – mcm.	29.873	47.909	27.583	94.241	218.333	843.178	226.282	90.288	55.123	38.880	29.203	25.877

WATER YEAR 1977 : Max. 733 Min. 8.00 Mean 54.7 Annual Runoff 1,726.769 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sept. 10	07.00	5,147	740				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
NAN RIVER BASIN

Nan River at Ban Phra Fang, Uttaradit (N. 23)

Location: Lat. 17°-38'-16" N., Long. 100°-14'-02" E., on right bank about 1 kilometer upstream from Wat Phra Fang and 1.5 kilometers from Phra Fang – Ngui – Ngarm road, Amphoe Muang, Uttaradit.

Drainage Area: 16,336 Sq.km.

Type of Gage: Staff gage.

Zero Gage at Bottom at: + 56.452 m. (M.S.L.)

Bench Mark: B.M. – H.S.

Location: About 9 meters from the top of vertical staff gage.
Elevation: + 69.923 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: 1963-1973.
Rated by Float: –
Rated by Current Meter: 1963-1973.

Stability of Channel Regimes: Stable, no shifting adjustment for flow computation.

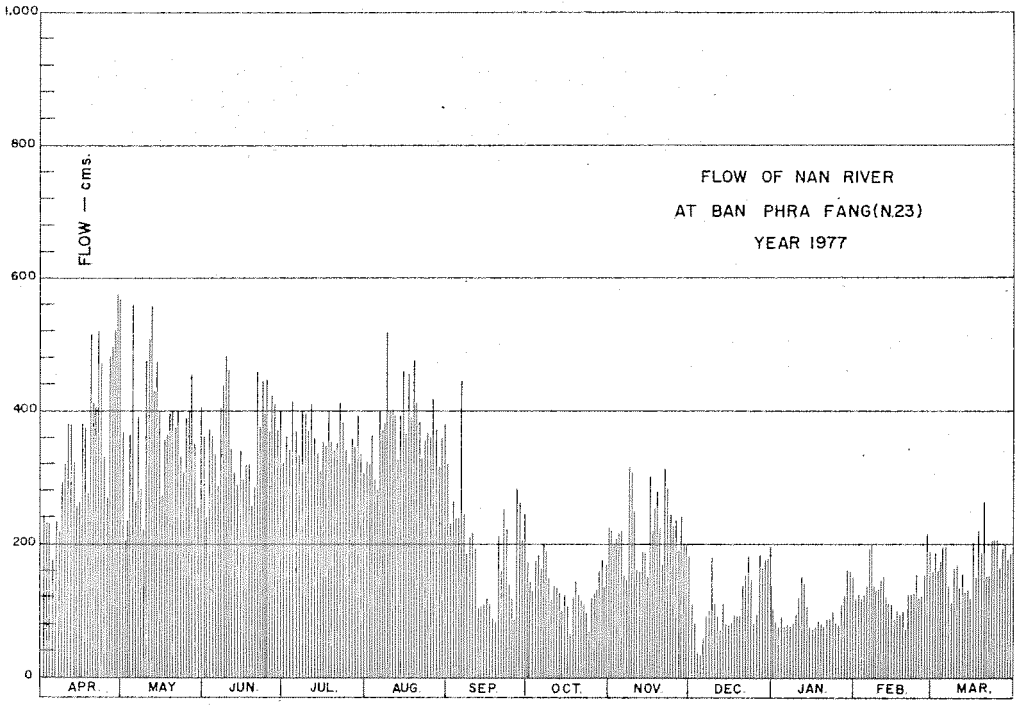
Overbank Flow Conditions: No overbank flow.

General Description: Records fair. Stage-discharge relation defined by 799 discharge measurements made during 1963-1973.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	59.06	59.80	59.72	59.52	59.54	59.12	58.62	58.94	58.57	57.98	58.19	58.53
2	58.98	58.81	.05	.73	.48	58.98	.39	.81	.03	.89	.27	.72
3	.98	59.13	.78	.61	.74	59.17	.28	.82	57.80	.84	.19	.56
4	.64	60.16	.73	60.00	.42	.03	.64	.89	.46	.98	.26	.65
5	.81	.67	.57	59.79	.29	.66	.70	.92	.40	.85	.36	.76
6	59.02	59.18	59.30	59.74	59.93	60.13	58.55	58.50	57.67	57.90	58.74	58.78
7	58.90	.89	.92	.58	.78	59.07	.78	.46	58.00	.84	.79	.33
8	59.34	.30	60.09	.91	.84	58.70	.72	59.47	.06	.89	.34	.15
9	.48	58.93	.33	.91	60.50	.87	.36	.42	.67	.91	.32	.56
10	.55	60.31	.23	.76	59.92	.91	.17	58.80	.14	58.02	.34	.60
11	59.83	60.44	59.61	59.97	59.93	57.98	58.37	58.55	58.00	58.24	58.46	58.33
12	.63	.60	.44	.78	.88	58.11	.36	.53	57.80	.48	.48	.51
13	.46	.06	.33	.61	.54	.12	.27	.72	58.16	.38	.10	.28
14	.13	.29	.61	.54	.86	.12	.06	.70	57.90	.05	.17	.33
15	.25	59.75	.61	.44	60.23	.15	.27	.48	.89	57.82	.13	.20
16	59.81	59.23	59.38	59.67	59.75	58.20	58.09	59.40	57.88	57.83	57.95	58.82
17	.78	.71	.49	.65	60.22	.09	57.74	58.92	58.00	.85	58.05	.48
18	.28	.81	.50	.92	59.88	57.93	58.21	59.12	.00	.93	.00	.91
19	60.47	.90	.13	.67	60.30	.92	.42	.27	57.97	.91	57.97	.71
20	59.98	.91	.33	.61	59.98	58.86	.25	58.84	58.05	.85	.81	59.19
21	59.94	59.79	60.22	59.67	59.84	58.54	58.21	58.59	58.38	57.96	58.27	58.49
22	60.50	.92	59.79	.97	.65	59.12	.13	59.46	.50	.95	.27	.49
23	.25	.54	60.14	.83	.70	58.90	.03	.12	.66	58.05	.30	.83
24	59.55	.43	59.91	.65	.76	.38	57.76	.06	.39	57.97	.52	.83
25	.21	.86	60.14	.53	.72	.19	58.22	58.96	57.88	.88	.18	.83
26	60.33	59.89	59.76	59.51	60.02	57.96	58.29	59.01	58.01	57.88	58.36	58.57
27	.36	60.19	60.03	.71	59.79	59.29	.32	58.73	.71	58.14	.51	.76
28	.48	59.67	59.95	.64	.78	.18	.55	59.05	.56	.24	.89	.80
29	.73	.51	.77	.89	.47	58.84	.63	58.61	.65	.52	–	.63
30	.70	.15	.93	.69	.72	59.09	.36	.80	.67	.52	–	.72
31	–	.94	–	.42	.81	–	.96	–	.77	.49	–	.59
Mean	60.25	59.77	59.73	59.71	60.14	58.69	58.34	58.90	58.15	58.03	58.29	58.61
Max.	60.73	60.67	60.33	59.97	60.50	60.13	58.96	59.47	58.77	58.52	58.89	59.19
Min.	58.64	58.81	59.05	59.00	59.29	57.92	57.74	59.40	57.40	57.82	57.81	58.15

WATER YEAR 1977 : Max. 60.73 m. Min. 57.40 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	243	376	360	324	327	254	172	223	164	91	116	158
2	230	203	241	362	316	230	140	203	97	80	125	188
3	230	255	372	340	364	262	127	204	70	74	116	163
4	175	448	362	416	306	238	175	215	38	91	124	177
5	203	561	333	374	282	243	185	220	33	75	136	195
6	236	264	284	364	402	442	161	154	57	81	191	198
7	217	394	400	334	372	245	198	149	93	74	199	133
8	291	284	434	398	384	185	188	315	100	80	134	111
9	316	222	482	398	520	212	136	306	180	82	131	163
10	329	478	462	368	400	219	113	201	110	95	134	169
11	382	506	340	410	402	91	137	161	93	122	149	133
12	343	558	309	372	392	106	136	158	70	151	151	155
13	313	428	289	340	327	107	125	188	112	139	105	127
14	255	474	340	327	388	107	100	185	81	99	113	133
15	275	366	340	309	462	111	125	151	80	72	109	117
16	378	272	298	351	366	117	104	302	79	73	87	204
17	372	358	318	347	460	104	64	220	93	75	99	151
18	281	378	320	400	392	85	118	254	93	85	93	219
19	513	396	255	351	476	83	144	279	89	82	89	187
20	412	398	289	340	412	211	123	207	99	75	71	265
21	404	374	460	351	384	160	118	167	139	88	125	153
22	520	400	374	410	347	254	109	313	154	87	125	153
23	466	327	444	382	356	217	97	254	179	99	129	206
24	329	307	398	347	368	139	66	243	140	89	157	206
25	269	388	444	325	360	116	119	227	79	79	115	206
26	482	394	368	322	420	88	128	235	94	79	136	164
27	488	454	422	358	374	282	131	190	187	110	155	195
28	515	351	406	345	372	264	161	241	163	122	215	201
29	575	322	370	394	315	207	174	171	177	157	–	174
30	568	258	402	354	360	248	136	201	180	157	–	188
31	–	404	–	306	378	–	227	–	196	153	–	167
Total	10,610	11,598	10,916	11,119	11,784	5,627	4,237	6,537	3,519	3,016	3,629	5,359
Mean	354	374	364	359	380	187	137	218	113	97.3	130	173
Max.	575	561	482	410	520	442	227	315	196	157	215	265
Min.	175	203	241	233	282	83	64	141	33	72	71	111
Runoff – mcm.	916.704	1,002.067	943.142	960.682	1,018.138	486.173	366.077	564.797	304.042	260.582	313.546	463.018

WATER YEAR 1977 : Max. 575 Min. 33 Mean 241 Annual Runoff 7,598.966 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Apr. 29	06.00	61.13	674				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
NAN RIVER BASIN

Khlong Khek 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 at: + 0.00 m. (A.D.)

Bench Mark: B.M. - H.S.

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 hourly readings.

Period of Available Gage Records: 1965 to date.

Rating Operation:

Period of Rating: 1965-1974.
Rated by Float: -
Rated by Current Meter: 1965-1974.

Stability of Channel Regimes: Fairly stable, no shifting adjustment for flow computation.

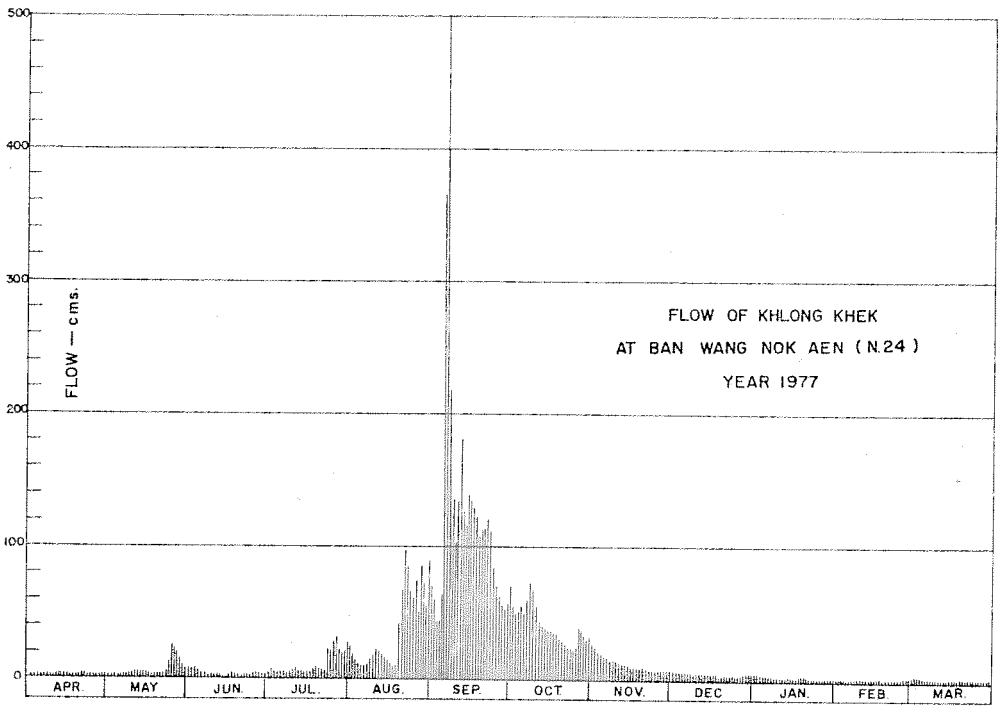
Overbank Flow Conditions: No overbank flow.

General Description: Records good. Stage-discharge relation defined by 1,421 discharge measurements made during 1965-1974.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.68	0.85	1.26	0.94	2.12	3.68	3.79	2.23	1.22	1.05	0.74	0.85
2	.68	.83	.30	1.31	1.81	.26	.23	.06	.20	.02	.73	.83
3	.67	.82	.34	.27	.67	2.86	.06	1.95	.19	0.99	.74	.82
4	.67	.88	.22	.15	.54	.93	.15	.86	.18	.98	.76	.81
5	.66	.87	.11	.08	.47	3.57	.27	.80	.15	.96	.75	.80
6	0.70	0.84	1.02	1.14	1.39	10.95	3.08	1.74	1.14	0.93	0.75	0.78
7	.74	.82	.01	.12	.47	9.44	.33	.69	.12	.92	.74	.77
8	.74	.90	0.99	.08	.54	6.94	.80	.66	.12	.92	.75	.75
9	.74	1.01	.95	.03	.87	5.48	.79	.65	.10	.91	.76	.74
10	.75	.03	.94	.07	.89	4.72	.41	.61	.08	.91	.75	.72
11	0.74	1.02	0.87	1.30	2.07	5.84	3.07	1.59	1.07	0.90	0.74	0.71
12	.80	.21	.82	.23	1.96	6.75	2.88	.56	.07	.89	.73	.70
13	.89	.14	.80	.12	.87	5.32	.75	.53	.06	.88	.72	.69
14	.87	.09	.78	.10	.73	.08	.66	.49	.05	.87	.71	.68
15	.79	.09	.79	.06	.58	.64	.62	.46	.04	.85	.70	.67
16	0.75	1.04	0.95	1.11	1.46	5.50	2.61	1.43	1.04	0.84	0.71	0.67
17	.72	0.96	1.06	.14	.36	.42	.58	.41	.03	.84	.69	.67
18	.70	.91	0.99	.21	.32	.14	.53	.39	.01	.83	.68	.66
19	.70	.89	.92	.39	2.23	4.84	.39	.37	.00	.82	.68	.65
20	.88	.90	.86	.28	3.04	5.00	.29	.35	.00	.82	.68	.64
21	0.95	0.98	0.84	1.19	3.65	4.99	2.22	1.33	1.00	0.81	0.69	0.64
22	.85	.94	.82	.10	4.50	5.22	.13	.31	.00	.80	.70	.63
23	.84	.89	.93	.04	.05	4.90	.08	.31	0.99	.79	.69	.62
24	.80	1.38	.90	2.03	3.57	.28	.04	.30	.98	.78	.69	.62
25	.91	.94	.90	1.96	.39	3.84	1.96	.28	.98	.78	.71	.62
26	0.98	2.19	1.11	2.35	3.87	3.55	2.18	1.28	1.00	0.77	0.76	0.61
27	.91	.01	.05	.48	.11	.38	.69	.27	.00	.76	.87	.61
28	.94	1.83	.00	.05	4.18	.24	.56	.26	.06	.76	.90	.60
29	.99	.57	0.99	1.84	3.69	.19	.36	.25	.08	.75	-	.59
30	.90	.38	.98	.97	.25	.43	.34	.23	.07	.75	-	.59
31	-	.27	-	2.21	4.26	-	.40	-	.06	.75	-	.59
Mean	0.80	1.14	0.98	1.40	2.48	4.95	2.75	1.52	1.07	0.86	0.73	0.69
Max.	0.99	2.19	1.34	2.48	4.50	10.95	3.80	2.23	1.22	1.05	0.90	0.85
Min.	0.66	0.82	0.78	0.94	1.32	2.86	1.96	1.23	0.98	0.75	0.68	0.59

WATER YEAR 1977 : Max. 10.95 m. Min. 0.59 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	1.20	2.40	7.24	3.20	24	68	71	26	6.68	4.40	1.58	2.40
2	1.20	2.24	7.80	7.96	17	55	54	22	6.40	4.04	1.51	2.24
3	1.15	2.16	8.44	7.38	14	43	49	20	6.26	3.70	1.58	2.16
4	1.15	2.64	6.68	5.70	12	45	51	18	6.12	3.60	1.72	2.08
5	1.10	2.56	5.14	4.76	10	64	55	17	5.70	3.40	1.65	2.00
6	1.30	2.32	4.04	5.56	9.24	536	49	16	5.56	3.10	1.65	1.86
7	1.58	2.16	3.92	5.28	10	373	57	15	5.28	3.00	1.58	1.79
8	1.58	2.80	3.70	4.76	12	191	72	14	5.28	3.00	1.65	1.65
9	1.58	3.92	3.30	4.16	18	132	71	14	5.00	2.90	1.72	1.58
10	1.65	4.16	3.20	4.64	19	104	59	13	4.76	2.90	1.65	1.44
11	1.58	4.04	2.56	7.80	22	145	49	13	4.64	2.80	1.58	1.37
12	2.00	6.54	2.16	6.82	20	182	43	12	4.64	2.72	1.51	1.30
13	2.72	5.56	2.00	5.28	18	126	40	12	4.52	2.64	1.44	1.25
14	2.56	4.88	1.86	5.00	16	117	38	11	4.40	2.56	1.37	1.20
15	1.93	4.88	1.93	4.52	13	138	36	10	4.28	2.40	1.30	1.15
16	1.65	4.28	3.30	5.14	10	132	36	9.91	4.28	2.32	1.37	1.15
17	1.44	3.40	4.52	5.56	8.76	129	35	9.57	4.16	2.32	1.25	1.15
18	1.30	2.90	3.70	6.54	8.12	119	34	9.24	3.92	2.24	1.20	1.10
19	1.30	2.72	3.00	9.24	26	108	30	8.92	3.80	2.16	1.20	1.05
20	2.64	2.80	2.48	7.52	48	114	28	8.60	3.80	2.16	1.20	1.00
21	3.30	3.60	2.32	6.26	67	114	26	8.28	3.80	2.08	1.25	1.00
22	2.40	3.20	2.16	5.00	95	122	24	7.96	3.80	2.00	1.30	0.95
23	2.32	2.72	3.10	4.28	80	110	23	7.96	3.70	1.93	1.25	0.90
24	2.00	9.08	2.80	22	67	88	22	7.80	3.60	1.86	1.25	0.90
25	2.90	20	2.80	20	59	75	20	7.52	3.60	1.86	1.37	0.90
26	3.60	25	5.14	29	74	64	25	7.52	3.80	1.79	1.72	0.85
27	2.90	21	4.40	33	50	58	38	7.38	3.80	1.72	2.56	0.85
28	3.20	18	3.80	22	84	54	35	7.24	4.52	1.72	2.80	0.80
29	3.70	12	3.70	18	68	52	30	7.10	4.76	1.65	–	0.76
30	2.80	9.08	3.60	20	54	60	29	6.82	4.64	1.65	–	0.76
31	–	7.38	–	26	87	–	31	–	4.52	1.65	–	0.76
Total	61.73	200.42	114.79	322.36	1,117.12	3,716	1,260	354.82	144.02	78.27	43.21	40.35
Mean	2.06	6.46	3.82	10.4	36.0	124	40.6	11.8	4.64	2.52	1.54	1.30
Max.	3.70	25	8.44	33	95	536	72	26	6.68	4.40	2.80	2.40
Min.	1.10	2.16	1.86	3.20	8.12	43	20	6.82	3.60	1.65	1.20	0.76
Runoff – mcm.	5.333	17.316	9.914	27.852	96.519	321.062	108.864	30.656	12.443	6.762	3.733	3.486

WATER YEAR 1977 : Max. 536 Min. 0.76 Mean 20.4 Annual Runoff 643.947 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sept. 6	01.00	11.72	634				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
NAN RIVER BASIN

Nan River at Tron, Uttaradit (N. 26)

Location: Lat. 17°-29'-00" N., Long. 100°-06'-58" E., on right bank about 500 meters upstream from Tron Railway Station, opposite to District Office of Amphoe Tron, Uttaradit.

Drainage Area: 17,350 Sq.km.

Type of Gage: Staff gage.

Zero Gage at Bottom at: + 49.30 m. (M.S.L.)

Bench Mark: B.M. – H.S. No. 1

Location: Infront of gage observer's house.
Elevation: + 58.880 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 to date.

Rating Operation:

Period of Rating: 1965-1974.
Rated by Float: –
Rated by Current Meter: 1965-1974.

Stability of Channel Regimes: Stable, no shifting adjustment for flow computation.

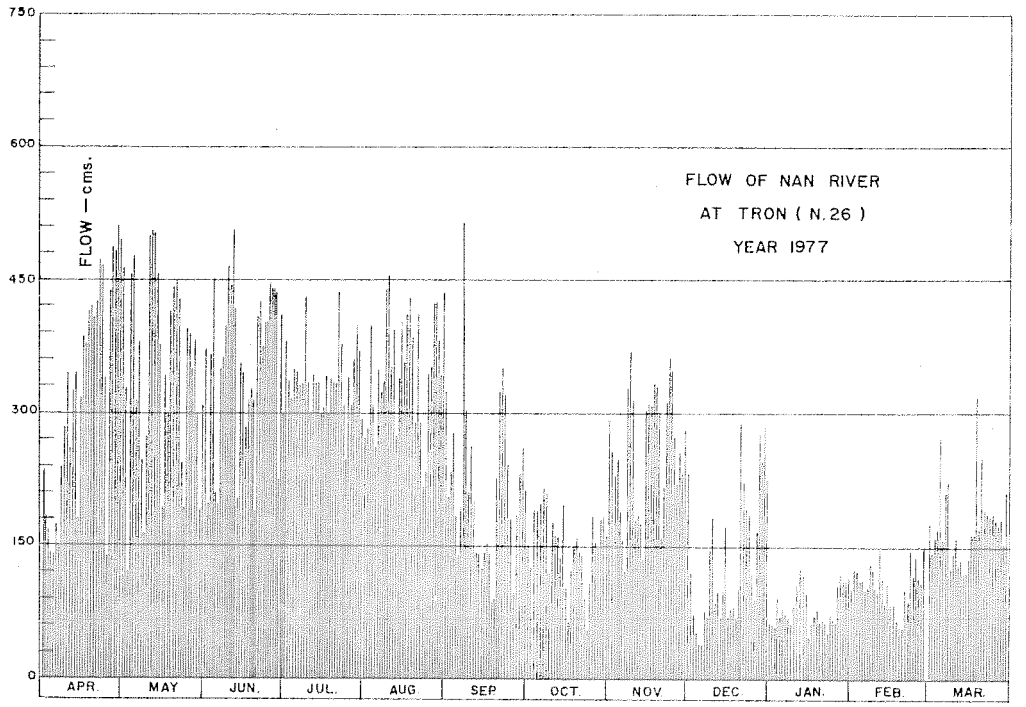
Overbank Flow Conditions: No overbank flow.

General Description: Records good. Stage-discharge relation defined by 227 discharge measurements made during 1969-1974.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	51.62	52.93	52.47	52.06	51.91	52.23	51.55	52.05	51.66	50.29	50.67	51.29
2	.36	.22	51.45	.51	.97	51.50	.12	51.83	50.87	.26	.90	.06
3	.23	50.86	52.44	.26	52.60	.96	50.88	.65	.38	.25	.87	.17
4	.03	52.89	.87	.18	.14	.36	51.41	.78	.19	.56	.77	.25
5	.02	53.00	51.51	.35	51.85	.01	.39	.74	49.98	.36	.78	.95
6	51.38	52.16	51.45	52.34	52.36	51.44	51.45	51.38	49.95	50.46	50.67	51.16
7	.10	.52	52.36	.25	.22	53.18	.58	50.87	50.43	.39	.68	.53
8	.71	51.75	.61	.27	.29	52.37	.57	52.24	.36	.32	.94	.61
9	.98	.19	.78	.77	.83	51.54	.54	.47	51.08	.27	.88	50.89
10	52.34	.93	.94	.27	.88	.87	50.84	.17	.36	.46	.69	51.04
11	51.84	53.12	52.84	52.08	52.39	51.46	51.30	51.32	50.48	50.82	50.62	51.18
12	52.23	.15	53.15	.31	.59	.07	.21	.37	.64	.94	51.10	50.94
13	.34	.13	51.49	.27	51.94	.06	.19	.28	.35	.89	50.74	.99
14	51.33	52.90	52.39	.27	52.31	50.89	.02	.00	.78	.83	.50	.85
15	52.17	.50	.34	.08	.64	51.05	.45	52.12	51.27	.60	.72	.85
16	52.55	51.41	52.00	52.12	52.41	51.13	50.68	52.15	50.36	50.11	50.48	51.00
17	.51	52.32	.17	.31	.67	.06	.31	.13	.45	.30	.50	.21
18	.69	.08	.24	.08	.77	50.50	.86	.28	.46	.40	.32	.21
19	.73	.69	.17	.30	.55	.60	51.10	.26	.33	.44	.25	52.19
20	.65	.82	51.40	.27	.02	51.65	.17	.10	.68	.29	.23	51.25
21	52.75	52.86	52.65	52.27	52.68	52.23	51.06	51.17	52.03	50.33	50.69	51.79
22	.98	.75	.74	.80	.02	.38	.04	.57	51.61	.30	.54	.40
23	.95	51.74	.49	.49	51.58	.21	50.55	52.16	.42	.18	51.08	.38
24	.30	.42	.63	.13	.69	51.74	.20	.43	.37	.38	50.82	.35
25	51.01	52.59	.64	51.77	52.33	.35	.74	.35	50.83	.32	51.00	.38
26	52.81	52.56	52.84	52.31	52.38	50.61	51.36	51.92	50.52	50.30	50.81	51.33
27	53.05	.36	.82	.13	.74	51.37	.15	.60	51.23	.72	.73	.27
28	.03	.52	.79	.42	.74	.71	.11	.81	.95	.86	51.10	.33
29	.17	.27	51.64	.61	.53	.83	.34	.67	.76	.76	–	.13
30	.10	51.40	52.67	.47	.32	.85	.34	.97	52.01	.78	–	.55
31	–	52.12	–	.05	.80	–	.20	–	51.63	.80	–	.32
Mean	52.16	52.33	52.37	52.28	52.36	51.54	51.12	51.83	50.92	50.48	50.72	51.28
Max.	53.17	53.15	53.15	52.80	52.88	53.18	51.58	52.47	52.03	50.94	51.10	52.19
Min.	51.01	50.86	51.40	51.77	51.58	50.50	50.20	50.87	49.95	50.11	50.23	50.85

WATER YEAR 1977 : Max. 53.18 m. Min. 49.95 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	223	462	370	295	270	325	212	293	230	63	101	175
2	184	324	197	378	279	204	151	257	121	60	124	142
3	166	120	364	331	396	278	122	228	72	59	121	158
4	140	454	450	316	309	184	191	249	53	90	111	169
5	138	476	206	347	260	137	189	242	39	70	112	276
6	187	313	197	345	349	196	197	187	37	80	101	156
7	146	380	349	329	324	513	217	121	77	73	102	209
8	238	244	398	333	336	351	215	327	70	66	129	222
9	281	161	432	430	442	210	210	370	144	61	122	123
10	345	273	464	333	454	263	118	315	184	80	103	141
11	258	500	444	298	354	198	176	179	82	116	96	159
12	325	506	506	340	394	142	163	186	98	129	148	129
13	345	502	203	333	274	142	161	173	69	123	108	135
14	180	456	354	333	340	123	138	136	112	117	84	119
15	315	376	345	298	404	142	197	306	172	94	106	119
16	386	191	284	306	358	152	102	311	70	47	82	136
17	378	342	315	340	410	142	65	307	79	64	84	163
18	414	298	327	298	430	84	120	334	80	74	66	163
19	422	414	315	338	386	94	148	331	67	78	59	318
20	406	440	190	333	288	228	158	302	102	63	57	169
21	426	448	406	333	412	325	142	158	289	67	103	250
22	472	426	424	436	288	352	141	215	222	64	88	190
23	466	242	374	374	217	322	89	313	193	52	144	187
24	338	193	402	307	234	242	54	362	186	72	116	183
25	137	394	404	247	343	183	108	347	117	66	136	187
26	438	388	444	340	352	95	184	271	86	64	115	180
27	486	349	440	307	424	186	155	220	166	106	107	172
28	482	380	434	360	424	238	149	254	276	120	148	180
29	511	333	226	398	382	257	180	231	246	110	–	152
30	496	190	410	370	342	260	182	279	286	112	–	212
31	–	306	–	293	436	–	162	–	225	114	–	179
Total	9,731	10,881	10,674	10,419	10,911	6,568	4,798	2,804	4,250	2,554	2,973	5,453
Mean	324	351	356	336	352	219	155	260	137	82.4	106	176
Max.	511	506	506	436	454	513	217	370	289	129	148	318
Min.	137	120	190	247	217	84	54	121	37	47	57	119
Runoff – MCM.	840.758	940.118	922.234	900.202	942.710	567.475	414.547	674.266	367.200	220.666	256.867	471.139

WATER YEAR 1977 : Max. 513 Min. 37 Mean 238 Annual Runoff 7,518.182 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sept. 7	09.00	53.29	536				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
NAN RIVER BASIN

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

Location: Lat. 17°-01'-37" N., Long. 100°-12'-12" E., on left bank about 200 meters downstream from Phrom Phiram railway station, Amphoe Phrom Phiram, Phitsanulok.

Drainage Area: 19,549 Sq.km.

Type of Gage: Staff gage.

Zero Gage at Bottom at: + 38.20 m. (M.S.L.)

Bench Mark: B.M. – H.S.

Location: About 10 meters from the top of vertical staff gage.
Elevation: + 48.244 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 to date.

Rating Operation:

Period of Rating: 1965–1974.
Rated by Float: –
Rated by Current Meter: 1965–1974.

Stability of Channel Regimes: Stable, no adjustment for flow computation.

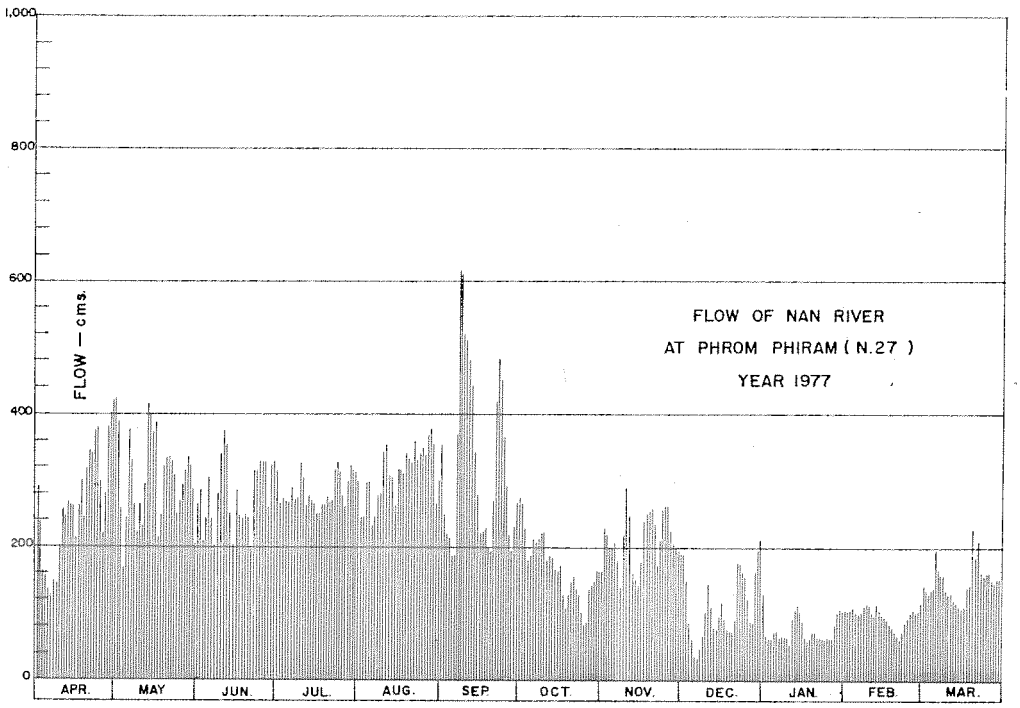
Overbank Flow Conditions: No overbank flow.

General Description: Records fair. Stage-discharge relation defined by 376 discharge measurements made during 1966–1974.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	41.80	42.87	41.55	41.97	41.58	42.31	41.63	40.59	40.82	40.22	39.96	40.18
2	.09	.44	.74	.53	.35	41.85	.43	41.23	.84	39.45	.94	.34
3	40.59	41.03	.02	.66	.40	.19	.12	.11	.21	.39	.96	.20
4	.50	40.63	.46	.62	.81	.09	40.76	40.89	39.61	.34	40.02	.30
5	.27	41.99	.89	.57	.84	40.81	.91	.97	.28	.49	39.91	.30
6	40.17	42.47	41.67	41.80	41.24	40.83	41.05	41.01	38.98	39.51	39.86	40.89
7	.45	41.75	40.95	.74	.54	42.44	.02	40.70	.89	.39	.90	.58
8	.37	.48	41.29	.60	.65	44.26	.09	.27	39.23	.40	40.04	.52
9	.76	.15	42.00	.70	.70	.19	.17	41.18	.53	.39	.05	.53
10	41.19	.55	.28	42.07	42.21	43.59	.18	.77	40.08	.39	.02	.24
11	41.46	41.26	42.49	41.87	42.33	43.45	40.75	41.46	40.41	39.22	39.91	40.22
12	.36	42.53	.27	.54	41.92	.23	.83	40.71	39.90	.73	.82	.23
13	.56	.81	41.54	.66	.91	42.97	.81	.50	.68	.97	40.06	.10
14	.54	.58	40.96	.60	.47	41.87	.66	.44	.53	40.02	39.94	.08
15	40.92	.43	41.54	.56	.64	.33	.53	.37	.79	39.90	.82	39.99
16	41.28	42.58	41.73	41.41	42.02	41.14	40.68	41.03	40.11	39.67	39.81	39.98
17	.79	41.09	.41	.44	41.91	.20	.35	.34	39.81	.35	.74	40.05
18	.87	.47	.37	.57	42.05	.24	39.92	.43	.53	.28	.63	.35
19	.37	42.01	.43	.54	.22	40.89	40.07	.48	.56	.42	.57	.40
20	42.04	.13	.37	.66	.10	.88	.41	.50	.49	.51	.46	41.22
21	42.24	42.15	40.90	41.58	42.05	42.18	40.51	41.31	39.70	39.45	39.32	40.77
22	.18	.12	41.81	.64	.36	43.00	.36	40.60	40.68	.36	.35	41.06
23	.48	41.94	.99	42.01	.08	.30	.25	41.05	.72	.40	.65	40.58
24	.53	.39	.98	.09	.19	.01	39.98	.46	.57	.35	.72	.50
25	41.98	.64	42.10	41.89	.28	42.33	.63	.55	.47	.39	.84	.56
26	41.13	41.83	42.10	41.47	42.14	41.66	39.71	41.52	40.05	39.38	39.98	40.55
27	.97	.97	.09	.77	.41	40.85	40.31	.22	39.68	.34	.89	.46
28	42.53	42.13	41.49	.89	.52	41.01	.38	40.99	.71	.59	.93	.40
29	.70	.02	42.03	42.06	.31	.41	.44	.93	40.72	.87	–	.48
30	.84	41.75	.12	41.98	41.54	.56	.61	.90	.96	.98	–	.46
31	–	40.98	–	.94	.82	–	.57	–	41.05	.92	–	.48
Mean	41.50	41.88	41.68	41.72	41.92	42.03	40.62	41.05	39.99	39.55	39.82	40.42
Max.	42.84	42.87	42.49	42.09	42.52	44.26	41.63	41.77	41.05	40.22	40.06	41.22
Min.	40.17	40.63	40.90	41.41	41.24	40.81	39.63	40.27	38.89	39.22	39.32	39.98

WATER YEAR 1977 : Max. 44.26 m. Min. 38.89 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	294	425	264	314	268	355	274	164	187	129	107	125
2	214	371	287	262	242	300	251	229	189	68	105	140
3	164	208	207	277	248	225	217	216	128	64	107	127
4	155	168	255	272	295	214	181	194	80	61	112	136
5	133	317	305	267	299	186	196	202	57	71	103	136
6	124	374	278	294	230	188	210	206	38	73	99	194
7	150	288	200	287	263	371	207	175	33	64	102	163
8	142	257	236	270	276	618	214	133	53	65	113	157
9	181	220	318	282	282	607	223	224	74	64	114	158
10	225	264	352	326	343	523	224	290	116	64	112	131
11	255	233	377	302	358	503	180	255	146	52	103	129
12	244	382	350	263	308	472	188	176	102	88	96	130
13	266	417	263	277	307	438	186	155	85	108	115	118
14	263	388	201	270	256	302	171	149	74	112	105	116
15	197	370	263	266	275	240	158	142	93	102	96	109
16	235	388	286	249	320	219	173	208	119	84	95	108
17	293	214	249	252	307	226	140	241	95	61	89	114
18	302	256	245	267	324	230	104	251	74	57	81	140
19	245	319	251	263	344	194	116	257	76	66	77	145
20	323	334	245	277	330	193	146	259	71	73	69	228
21	347	336	195	268	324	340	156	238	86	68	59	182
22	340	332	295	275	361	442	141	165	173	62	61	211
23	376	311	317	319	328	482	131	210	177	65	82	163
24	382	247	316	329	341	443	108	255	162	61	88	155
25	316	275	330	305	352	358	81	264	152	64	97	161
26	218	298	330	256	335	277	81	261	114	64	108	160
27	314	314	329	290	367	190	137	228	85	61	101	151
28	382	334	258	305	380	206	143	204	87	78	104	145
29	403	320	322	325	355	249	149	198	177	100	–	153
30	421	288	332	316	263	266	166	195	201	108	–	151
31	–	203	–	311	296	–	162	–	210	104	–	153
Total	7,904	9,451	8,456	8,836	9,577	9,857	5,220	6,344	3,514	2,361	2,700	4,589
Mean	263	305	282	285	309	328	168	211	113	76.2	96.4	148
Max.	421	425	377	329	380	618	274	290	210	129	115	228
Min.	124	168	195	249	230	186	81	133	33	52	59	108
Runoff – mcm.	682.906	816.566	730.598	763.430	827.453	851.645	451.008	548.122	303.610	203.990	233.280	396.490

WATER YEAR 1977 : Max. 618 Min. 33 Mean 216 Annual Runoff 6,809.098 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sept. 8	18.00	44.53	658				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
NAN RIVER BASIN

Khlong Tron at Ban Nam Lai, Uttaradit (N. 28)

Location: Lat. 17°-34'-10" N., Long. 100°-27'-04" E., on left bank at Ban Nam Lai, Amphoe Nam Pat, Uttaradit.

Drainage Area: 478 Sq.km.

Type of Gage: Staff gage.

Zero Gage at Bottom at: + 0.00 m. (A.D.)

Bench Mark: B.M. – H.S.

Location: Near staff gage site.
Elevation: + 6.039 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: 1967-1970.
Rated by Float: –
Rated by Current Meter: 1967-1970.

Stability of Channel Regimes: Stable, no shifting adjustment for flow computation.

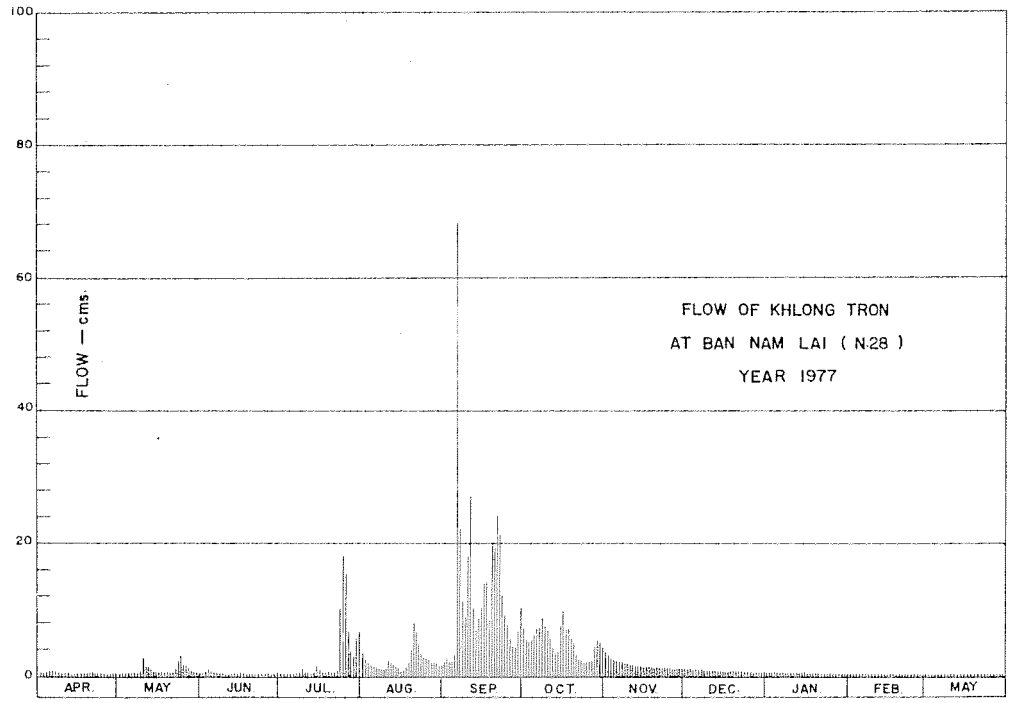
Overbank Flow Conditions: No overbank flow.

General Description: Records fair. Stage-discharge relation defined by 545 discharge measurements made during 1967-1970.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.50	0.45	0.55	0.42	1.07	0.89	1.37	1.03	0.70	0.58	0.49	0.46
2	.49	.46	.53	.42	0.96	.93	.22	0.98	.69	.57	.49	.46
3	.49	.46	.59	.42	.87	.87	.19	.93	.68	.57	.50	.45
4	.52	.47	.69	.41	.82	.86	.22	.90	.67	.56	.51	.45
5	.64	.48	.61	.40	.78	.99	.30	.88	.67	.56	.53	.45
6	0.60	0.48	0.56	0.40	0.75	3.51	1.39	0.86	0.67	0.56	0.52	0.45
7	.56	.48	.51	.46	.73	2.25	.38	.85	.66	.56	.51	.44
8	.54	.49	.51	.50	.70	1.65	.51	.84	.66	.56	.50	.44
9	.52	.62	.51	.53	.69	.51	.40	.83	.65	.55	.49	.44
10	.49	.95	.51	.68	.71	2.06	.37	.82	.65	.55	.49	.44
11	0.49	0.70	0.50	0.59	0.88	2.42	1.21	0.81	0.65	0.54	0.49	0.44
12	.49	.77	.50	.53	.83	1.63	.11	.79	.64	.54	.48	.43
13	.49	.70	.49	.52	.81	.35	.02	.78	.64	.54	.48	.43
14	.48	.61	.49	.50	.74	.50	.04	.77	.64	.54	.48	.43
15	.48	.57	.48	.79	.70	.62	.41	.76	.63	.53	.48	.43
16	0.48	0.56	0.48	0.69	0.63	1.83	1.63	0.76	0.63	0.53	0.47	0.43
17	.47	.55	.47	.61	.65	.84	.36	.75	.63	.53	.47	.42
18	.47	.55	.47	.59	.69	.46	.37	.75	.62	.53	.47	.42
19	.51	.54	.46	.63	.89	2.14	.24	.74	.62	.53	.47	.42
20	.51	.53	.46	.62	1.06	.11	0.98	.74	.62	.52	.48	.42
21	0.55	0.52	0.46	0.61	1.45	2.34	0.94	0.73	0.61	0.52	0.48	0.41
22	.53	.52	.45	.58	.27	.19	.92	.73	.61	.52	.48	.41
23	.49	.75	.45	.65	.06	1.76	.88	.72	.61	.52	.46	.41
24	.49	1.00	.44	1.61	0.96	.53	.88	.72	.60	.51	.46	.41
25	.49	0.81	.44	2.08	.94	.42	.88	.72	.61	.51	.46	.40
26	0.49	0.79	0.43	1.91	0.91	1.21	0.87	0.71	0.60	0.51	0.46	0.40
27	.49	.73	.43	.31	.87	.11	.89	.71	.59	.51	.46	.40
28	.49	.66	.42	.01	.82	.11	1.14	.71	.59	.50	.46	.40
29	.50	.63	.42	0.96	.88	.32	.21	.70	.59	.50	–	.40
30	.46	.60	.42	1.26	.77	.62	.20	.70	.58	.50	–	.39
31	–	.57	–	.34	.77	–	.13	–	.58	.50	–	.39
Mean	0.51	0.61	0.49	0.77	0.86	1.63	1.18	0.79	0.63	0.53	0.48	0.42
Max.	0.64	1.00	0.69	2.08	1.45	3.51	1.63	1.03	0.70	0.58	0.53	0.46
Min.	0.46	0.45	0.42	0.40	0.63	0.86	0.87	0.70	0.58	0.50	0.46	0.39

WATER YEAR 1977 : Max. 3.51 m. Min. 0.39 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.30	0.20	0.45	0.14	3.83	2.33	6.94	3.47	1.10	0.54	0.28	0.22
2	0.28	0.22	0.39	0.14	2.88	2.64	5.30	3.04	1.05	0.51	0.28	0.22
3	0.28	0.22	0.57	0.14	2.19	2.19	5.00	2.64	1.00	0.51	0.30	0.20
4	0.36	0.24	1.05	0.12	1.84	2.12	5.30	2.40	0.95	0.48	0.33	0.20
5	0.80	0.26	0.65	0.10	1.58	3.12	6.10	2.26	0.95	0.48	0.39	0.20
6	0.60	0.26	0.48	0.10	1.40	68	7.18	2.12	0.95	0.48	0.36	0.20
7	0.46	0.26	0.33	0.22	1.28	22	7.06	2.05	0.90	0.48	0.33	0.18
8	0.42	0.28	0.33	0.30	1.10	11	8.74	1.98	0.90	0.48	0.30	0.18
9	0.36	0.70	0.33	0.39	1.05	8.74	7.30	1.91	0.85	0.45	0.28	0.18
10	0.28	2.80	0.33	1.00	1.16	18	6.94	1.84	0.85	0.45	0.28	0.18
11	0.28	1.10	0.30	0.57	2.26	27	5.20	1.77	0.85	0.42	0.28	0.18
12	0.28	1.52	0.30	0.39	1.91	10	4.20	1.64	0.80	0.42	0.26	0.16
13	0.28	1.10	0.28	0.36	1.77	6.70	3.38	1.58	0.80	0.42	0.26	0.16
14	0.26	0.65	0.28	0.30	1.34	8.60	3.58	1.52	0.80	0.42	0.26	0.16
15	0.26	0.51	0.26	1.64	1.10	10	7.43	1.46	0.75	0.39	0.26	0.16
16	0.26	0.48	0.26	1.05	0.75	14	10	1.46	0.75	0.39	0.24	0.16
17	0.24	0.45	0.24	0.65	0.85	14	6.82	1.40	0.75	0.39	0.24	0.14
18	0.24	0.45	0.24	0.57	1.05	8.08	6.94	1.40	0.70	0.39	0.24	0.14
19	0.33	0.42	0.22	0.75	2.33	20	5.50	1.34	0.70	0.39	0.24	0.14
20	0.33	0.39	0.22	0.70	3.74	19	3.04	1.34	0.70	0.36	0.26	0.14
21	0.45	0.36	0.22	0.65	7.95	24	2.72	1.28	0.65	0.36	0.26	0.12
22	0.39	0.36	0.20	0.54	5.80	21	2.56	1.28	0.65	0.36	0.26	0.12
23	0.28	1.40	0.20	0.85	3.74	12	2.26	1.22	0.65	0.36	0.22	0.12
24	0.28	3.20	0.18	10	2.88	9.02	2.26	1.22	0.60	0.33	0.22	0.12
25	0.28	1.77	0.18	18	2.72	7.56	2.26	1.22	0.60	0.33	0.22	0.10
26	0.28	1.64	0.16	15	2.48	5.20	2.19	1.16	0.60	0.33	0.22	0.10
27	0.28	1.28	0.16	6.22	2.19	4.20	2.33	1.16	0.57	0.33	0.22	0.10
28	0.28	0.90	0.14	3.29	1.84	4.20	4.50	1.16	0.57	0.30	0.22	0.10
29	0.30	0.75	0.14	2.88	2.26	6.34	5.20	1.10	0.57	0.30	–	0.10
30	0.22	0.60	0.14	5.70	1.52	10	5.10	1.10	0.54	0.30	–	0.09
31	–	0.51	–	6.58	1.52	–	4.40	–	0.54	0.30	–	0.09
Total	9.96	25.28	9.23	79.34	70.30	381.04	157.71	50.52	23.64	12.45	7.51	4.66
Mean	0.33	0.81	0.31	2.56	2.27	12.7	5.09	1.68	0.76	0.40	0.27	0.15
Max.	0.80	3.20	1.05	18	7.95	68	10	3.47	1.10	0.54	0.39	0.22
Min.	0.22	0.20	0.14	0.10	0.75	2.12	2.19	1.10	0.54	0.30	0.22	0.09
Runoff – mcm.	0.860	2.184	0.797	6.855	6.075	32.922	13.626	4.365	2.042	1.076	0.649	0.403

WATER YEAR 1977 : Max. 68 Min. 0.09 Mean 2.28 Annual Runoff 71.854 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sept. 6	06.00	4.55	135				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
NAN RIVER BASIN

Khlong Tron at Ban Na Klam, Uttaradit (N. 28A)

Location: Lat. 17°-35'-00" N., Long. 100°-29'-30" E., on left bank at Ban Na Klam Bridge about 7 kilometers upstream from station N28, Amphoe Nam Pat, Uttaradit.

Drainage Area: 368 Sq.km.

Type of Gage: Water-stage recorder.

Zero Gage at Bottom at: + 0.00 m. (A.D.)

Bench Mark: B.M. - H.S.

Location: Near the gage site.
Elevation: + 18.208 m. (A.D.)

Gage Reading Frequency: Recording

Basis of Mean Daily Gage Height: Arithmetic mean of 24 hourly 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, no shifting adjustment for flow computation.

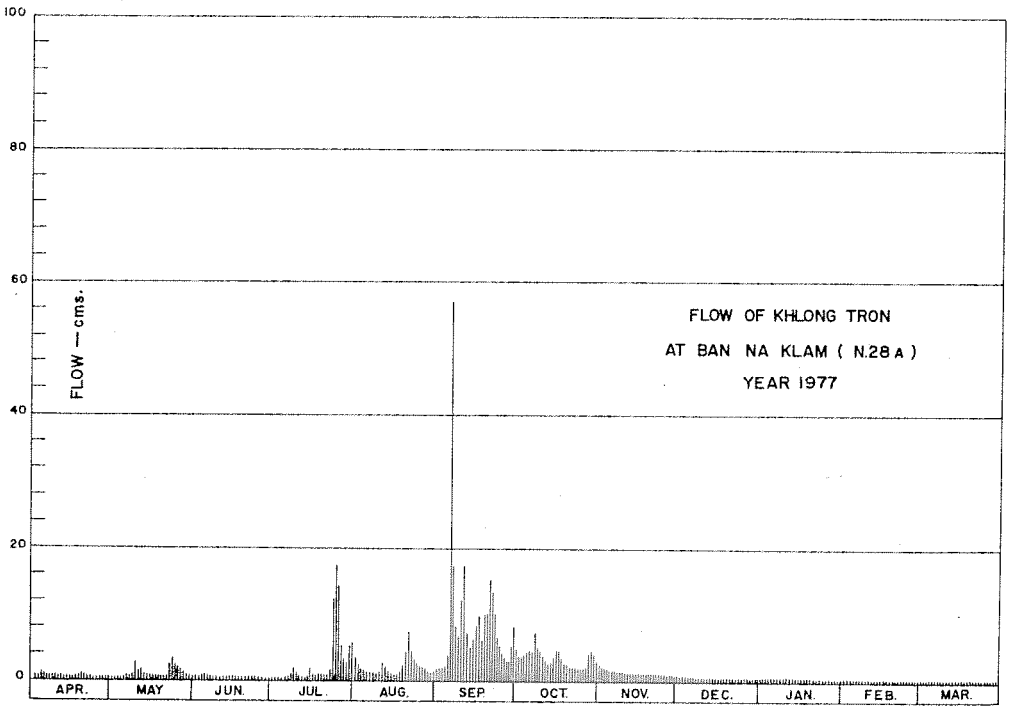
Overbank Flow Conditions: No overbank flow.

General Description: Records good. Stage-discharge relation defined by 176 discharge measurements made in 1977.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	1.31	1.28	1.36	1.25	1.77	1.56	1.84	1.67	1.41	1.35	1.27	1.25
2	.32	.26	.35	.26	.67	.57	.77	.62	.40	.35	.27	.24
3	.33	.28	.37	.24	.61	.59	.77	.59	.40	.34	.30	.23
4	.36	.29	.39	.25	.55	.58	.79	.57	.40	.34	.31	.23
5	.47	.28	.42	.28	.52	.79	.84	.55	.40	.34	.28	.23
6	1.39	1.33	1.39	1.32	1.50	3.26	1.85	1.54	1.40	1.35	1.27	1.26
7	.36	.38	.35	.35	.49	2.37	.82	.53	.40	.35	.27	.26
8	.36	.31	.32	.43	.47	.03	2.00	.52	.39	.34	.27	.24
9	.34	.48	.31	.56	.45	1.95	1.86	.53	.39	.34	.26	.21
10	.35	.68	.30	.47	.45	2.21	.82	.50	.37	.33	.25	.23
11	1.36	1.50	1.30	1.40	1.67	2.36	1.76	1.49	1.37	1.33	1.26	1.22
12	.36	.55	.30	.36	.60	1.99	.71	.48	.37	.32	.25	.19
13	.31	.47	.30	.34	.53	.85	.67	.48	.37	.32	.25	.19
14	.31	.40	.32	.36	.48	.92	.68	.48	.37	.32	.25	.19
15	.32	.42	.34	.58	.44	.95	.75	.48	.36	.31	.25	.19
16	1.31	1.39	1.34	1.44	1.43	2.06	1.84	1.47	1.36	1.30	1.25	1.18
17	.33	.36	.31	.41	.42	.11	.83	.47	.36	.30	.23	.19
18	.36	.39	.31	.38	.53	1.92	.73	.46	.36	.30	.24	.18
19	.38	.35	.30	.43	.65	2.12	.68	.46	.36	.29	.23	.20
20	.44	.33	.28	.42	.80	.23	.64	.46	.36	.29	.26	.20
21	1.36	1.32	1.30	1.40	2.00	2.30	1.61	1.46	1.35	1.29	1.24	1.21
22	.34	.30	.27	.40	1.86	.24	.59	.46	.35	.28	.28	.21
23	.31	.64	.30	.52	.74	.07	.59	.45	.35	.29	.26	.21
24	.29	.73	.29	2.19	.67	1.93	.57	.45	.35	.29	.23	.19
25	.31	.61	.24	.37	.66	.84	.57	.45	.35	.28	.24	.20
26	1.28	1.59	1.21	2.27	1.62	1.76	1.59	1.45	1.36	1.28	1.24	1.19
27	.27	.54	.21	1.87	.59	.71	.59	.44	.36	.28	.25	.20
28	.29	.46	.21	.71	.54	.68	.81	.42	.35	.28	.26	.20
29	.29	.43	.25	.66	.50	.88	.80	.42	.35	.27	-	.20
30	.27	.40	.25	.88	.49	2.02	.72	.42	.34	.27	-	.25
31	-	.37	-	.92	.51	-	-	-	.33	.27	-	.26
Mean	1.34	1.42	1.31	1.54	1.59	1.99	1.74	1.49	1.37	1.31	1.26	1.21
Max.	1.47	1.73	1.42	2.37	2.00	3.26	2.00	1.67	1.41	1.35	1.31	1.26
Min.	1.27	1.26	1.21	1.24	1.42	1.56	1.57	1.42	1.33	1.27	1.23	1.18

WATER YEAR 1977 : Max. 3.26 m. Min. 118 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.38	0.28	0.56	0.17	3.57	1.72	4.46	2.56	0.76	0.52	0.24	0.17
2	0.42	0.21	0.52	0.21	2.56	1.79	3.57	2.16	0.70	0.52	0.24	0.14
3	0.45	0.78	0.59	0.14	2.08	1.93	3.57	1.93	0.70	0.49	0.35	0.10
4	0.56	0.31	0.66	0.17	1.65	1.86	3.79	1.79	0.70	0.49	0.38	0.10
5	1.12	0.28	0.82	0.28	1.44	3.79	4.46	1.65	0.70	0.49	0.28	0.10
6	0.66	0.45	0.66	0.42	1.30	57	4.60	1.58	0.70	0.52	0.24	0.21
7	0.56	0.63	0.52	0.52	1.24	17	4.18	1.51	0.70	0.52	0.24	0.21
8	0.56	0.38	0.42	0.88	1.12	7.96	7.30	1.44	0.66	0.49	0.24	0.14
9	0.49	1.18	0.38	1.72	1.00	6.30	4.74	1.51	0.66	0.49	0.21	0.03
10	0.52	2.64	0.35	1.12	1.00	12	4.18	1.30	0.59	0.45	0.17	0.10
11	0.56	1.30	0.35	0.70	2.56	17	3.46	1.24	0.59	0.45	0.21	0.07
12	0.56	1.65	0.35	0.56	2.00	7.10	2.91	1.18	0.59	0.42	0.17	0.00
13	0.38	1.12	0.35	0.49	1.51	4.60	2.56	1.18	0.59	0.42	0.17	0.00
14	0.38	0.70	0.42	0.56	1.18	5.70	2.64	1.18	0.59	0.42	0.17	0.00
15	0.42	0.82	0.49	1.86	0.94	6.30	3.35	1.18	0.56	0.38	0.17	0.00
16	0.38	0.66	0.49	0.94	0.88	8.62	4.46	1.12	0.56	0.35	0.17	0.00
17	0.45	0.56	0.38	0.76	0.82	9.75	4.32	1.12	0.56	0.35	0.10	0.00
18	0.56	0.66	0.38	0.63	1.51	5.70	3.13	1.06	0.56	0.35	0.14	0.00
19	0.63	0.52	0.35	0.88	2.24	10	2.64	1.06	0.56	0.31	0.10	0.00
20	0.94	0.45	0.78	0.82	3.90	10	2.32	1.06	0.56	0.31	0.21	0.00
21	0.56	0.42	0.35	0.70	7.30	15	2.08	1.06	0.52	0.31	0.14	0.03
22	0.49	0.35	0.24	0.70	4.74	13	1.93	1.06	0.52	0.28	0.28	0.03
23	0.38	2.32	0.35	1.44	3.24	8.84	1.93	1.00	0.52	0.31	0.21	0.03
24	0.31	3.13	0.31	12	2.56	5.90	1.79	1.00	0.52	0.31	0.10	0.00
25	0.38	2.08	0.14	17	2.48	4.46	1.79	1.00	0.52	0.28	0.14	0.00
26	0.28	1.93	0.03	14	2.16	3.46	1.93	1.00	0.56	0.28	0.14	0.00
27	0.24	1.58	0.03	4.88	1.93	2.91	1.93	0.94	0.56	0.28	0.17	0.00
28	0.31	1.06	0.03	2.91	1.58	2.64	4.04	0.82	0.52	0.28	0.21	0.00
29	0.31	0.88	0.17	2.48	1.30	5.02	4.46	0.82	0.52	0.24	–	0.00
30	0.24	0.70	0.17	5.02	1.24	7.74	3.90	0.82	0.49	0.24	–	0.17
31	–	0.59	–	5.70	1.37	–	3.02	–	0.45	0.24	–	0.21
Total	14.48	30.12	11.14	80.66	64.40	265.09	105.44	38.33	18.29	11.79	5.59	1.84
Mean	0.48	0.97	0.37	2.60	2.08	8.84	3.40	1.28	0.59	0.38	0.20	0.06
Max.	1.12	3.13	0.82	17	7.30	57	7.30	2.56	0.76	0.52	0.38	0.21
Min.	0.24	0.21	0.03	0.14	0.82	1.72	1.79	0.82	0.45	0.24	0.10	0.00
Runoff – MCM.	1.251	2.602	0.962	6.969	5.564	22.904	9.110	3.312	1.580	1.019	0.483	0.159

WATER YEAR 1977 : Max. 57 Min. 0.00 Mean 1.77 Annual Runoff 55.915 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sept. 6	3.00	3.93	102				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
NAN RIVER BASIN

Lam Nam Than at Ban Phrao, Phitsanulok (N. 29)

Location: Lat. 17°-08'-05" N., Long. 100°-46'-42" E., on left bank at Ban Phrao about 800 meters downstream from purpose damsite, Amphoe Nakhon Thai, Phitsanulok.

Drainage Area: 6 Sq.km.

Type of Gage: Staff gage.

Zero Gage at Bottom at: + 0.00 m. (A.D.)

Bench Mark: B.M. - H.S.

Location: About 30 meters from the top of vertical staff gage.
Elevation: + 3.650 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: 1971-1972.
Rated by Float: -
Rated by Current Meter: 1971-1972.

Stability of Channel Regimes: Stable, no shifting adjustment for flow computation.

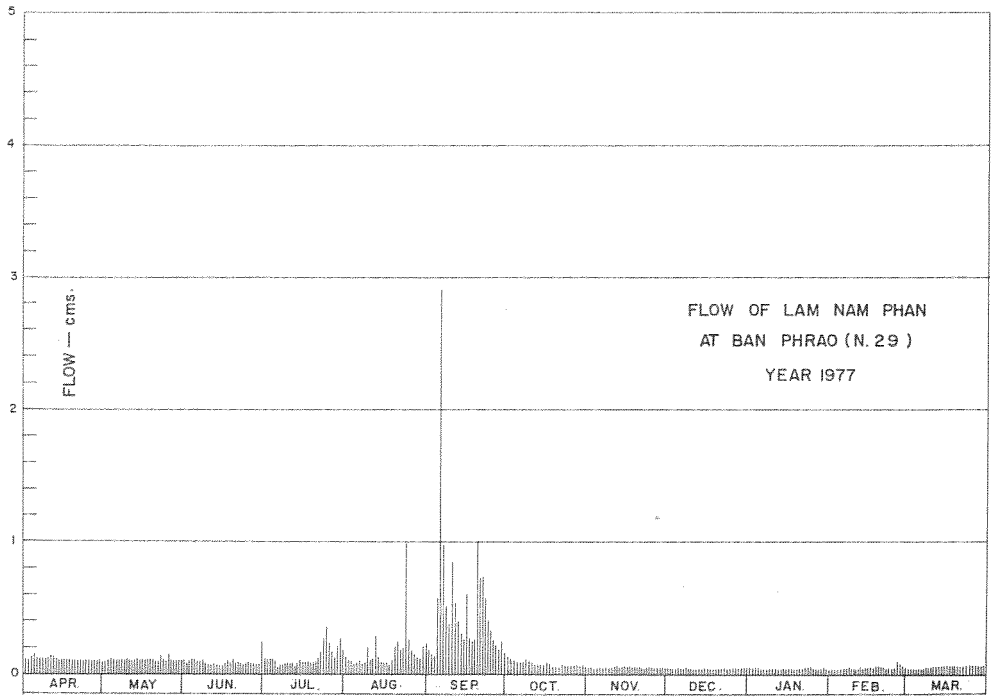
Overbank Flow Conditions: No overbank flow.

General Description: Records good. Stage-discharge relation defined by 138 discharge measurements made during 1971-1972.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.54	0.52	0.53	0.56	0.56	0.65	0.58	0.47	0.46	0.46	0.45	0.47
2	.54	.53	.52	.55	.53	.59	.56	.48	.46	.46	.45	.46
3	.54	.53	.54	.55	.53	.57	.54	.47	.46	.46	.45	.46
4	.58	.54	.54	.55	.51	.57	.54	.47	.46	.46	.45	.46
5	.56	.53	.53	.53	.51	.87	.53	.46	.46	.45	.45	.47
6	0.55	0.53	0.53	0.47	0.53	1.76	0.52	0.47	0.46	0.44	0.46	0.46
7	.55	.53	.53	.49	.51	.05	.52	.47	.46	.45	.47	.46
8	.55	.53	.53	.51	.51	0.83	.54	.47	.46	.45	.47	.48
9	.54	.53	.51	.51	.62	.73	.54	.47	.45	.45	.45	.47
10	.54	.54	.50	.52	.54	1.00	.53	.47	.45	.45	.45	.47
11	0.57	0.53	0.50	0.49	0.54	0.91	0.51	0.47	0.45	0.45	0.45	0.48
12	.55	.53	.51	.53	.70	.81	.50	.47	.45	.45	.46	.48
13	.54	.55	.50	.47	.56	.74	.50	.46	.45	.45	.47	.48
14	.53	.54	.50	.54	.53	.70	.50	.46	.45	.46	.47	.48
15	.53	.54	.49	.53	.52	.65	.49	.46	.45	.45	.47	.48
16	0.53	0.54	0.51	0.52	0.52	0.87	0.52	0.46	0.45	0.45	0.47	0.48
17	.53	.54	.53	.52	.51	.67	.51	.47	.45	.46	.47	.49
18	.52	.54	.50	.52	.48	.67	.50	.47	.45	.45	.46	.48
19	.53	.53	.54	.51	.58	.68	.47	.47	.45	.45	.46	.48
20	.53	.54	.51	.52	.67	1.08	.47	.47	.45	.45	.46	.48
21	0.53	0.52	0.52	0.53	0.66	0.93	0.46	0.46	0.45	0.45	0.46	0.48
22	.53	.52	.49	.58	.60	.95	.49	.46	.46	.46	.45	.48
23	.53	.57	.50	.61	.62	.85	.48	.46	.45	.48	.46	.48
24	.52	.53	.52	.72	1.07	.77	.46	.46	.45	.46	.45	.48
25	.53	.53	.52	.74	0.66	.73	.49	.46	.45	.46	.45	.48
26	0.53	0.57	0.51	0.63	0.60	0.66	0.49	0.47	0.47	0.45	0.54	0.48
27	.53	.53	.51	.58	.57	.64	.50	.47	.47	.46	.49	.48
28	.53	.53	.49	.55	.56	.60	.49	.47	.46	.46	.48	.48
29	.53	.53	.50	.64	.54	.67	.48	.47	.46	.47	-	.48
30	.53	.53	.66	.68	.63	.60	.48	.47	.46	.45	-	.49
31	-	.53	-	.60	.58	-	.47	-	.46	.45	-	.48
Mean	0.54	0.53	0.52	0.55	0.58	0.79	0.50	0.47	0.45	0.45	0.46	0.48
Max.	0.58	0.57	0.66	0.74	1.07	1.76	0.58	0.48	0.47	0.48	0.54	0.49
Min.	0.52	0.52	0.49	0.47	0.48	0.57	0.46	0.46	0.45	0.44	0.45	0.46

WATER YEAR 1977 : Max. 1.76 m. Min. 0.44 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.11	0.09	0.10	0.13	0.13	0.23	0.15	0.05	0.05	0.05	0.04	0.05
2	0.11	0.10	0.09	0.12	0.10	0.16	0.13	0.06	0.05	0.05	0.04	0.05
3	0.11	0.10	0.11	0.12	0.10	0.14	0.11	0.05	0.05	0.05	0.04	0.05
4	0.15	0.11	0.11	0.12	0.08	0.14	0.11	0.05	0.05	0.05	0.04	0.05
5	0.13	0.10	0.10	0.10	0.08	0.59	0.10	0.05	0.05	0.04	0.04	0.05
6	0.12	0.10	0.10	0.05	0.10	2.90	0.09	0.05	0.05	0.03	0.05	0.05
7	0.12	0.10	0.10	0.07	0.08	0.94	0.09	0.05	0.05	0.04	0.05	0.05
8	0.12	0.10	0.10	0.08	0.08	0.51	0.11	0.05	0.05	0.04	0.05	0.06
9	0.11	0.10	0.08	0.08	0.20	0.35	0.11	0.05	0.04	0.04	0.04	0.05
10	0.11	0.11	0.07	0.09	0.11	0.84	0.10	0.05	0.04	0.04	0.04	0.05
11	0.14	0.10	0.07	0.07	0.11	0.66	0.08	0.05	0.04	0.04	0.04	0.06
12	0.12	0.10	0.08	0.10	0.30	0.48	0.07	0.05	0.04	0.04	0.05	0.06
13	0.11	0.12	0.07	0.05	0.13	0.36	0.07	0.05	0.04	0.04	0.05	0.06
14	0.10	0.11	0.07	0.11	0.10	0.30	0.07	0.05	0.04	0.05	0.05	0.06
15	0.10	0.11	0.07	0.10	0.09	0.23	0.07	0.05	0.04	0.04	0.05	0.06
16	0.10	0.11	0.08	0.09	0.09	0.59	0.09	0.05	0.04	0.04	0.05	0.06
17	0.10	0.11	0.10	0.09	0.08	0.26	0.08	0.05	0.04	0.05	0.05	0.07
18	0.09	0.11	0.07	0.09	0.06	0.26	0.07	0.05	0.04	0.04	0.05	0.06
19	0.10	0.10	0.11	0.08	0.15	0.27	0.05	0.05	0.04	0.04	0.05	0.06
20	0.10	0.11	0.08	0.09	0.26	1.00	0.05	0.05	0.04	0.04	0.05	0.06
21	0.10	0.09	0.09	0.10	0.25	0.70	0.05	0.05	0.04	0.04	0.05	0.06
22	0.10	0.09	0.07	0.15	0.17	0.74	0.07	0.05	0.05	0.05	0.04	0.06
23	0.10	0.14	0.07	0.18	0.20	0.55	0.06	0.05	0.04	0.06	0.05	0.06
24	0.09	0.10	0.09	0.33	0.98	0.41	0.05	0.05	0.04	0.05	0.04	0.06
25	0.10	0.10	0.09	0.36	0.25	0.35	0.07	0.05	0.04	0.05	0.04	0.06
26	0.10	0.14	0.08	0.21	0.17	0.25	0.07	0.05	0.05	0.04	0.11	0.06
27	0.10	0.10	0.08	0.15	0.14	0.22	0.07	0.05	0.05	0.05	0.07	0.06
28	0.10	0.10	0.07	0.12	0.13	0.17	0.07	0.05	0.05	0.05	0.06	0.06
29	0.10	0.10	0.07	0.22	0.11	0.26	0.06	0.05	0.05	0.05	–	0.06
30	0.10	0.10	0.25	0.27	0.21	0.17	0.06	0.05	0.05	0.04	–	0.07
31	–	0.10	–	0.17	0.15	–	0.05	–	0.05	0.04	–	0.06
Total	3.24	3.25	2.72	4.09	5.19	15.03	2.48	1.51	1.39	1.37	1.38	1.79
Mean	0.11	0.10	0.09	0.13	0.17	0.50	0.08	0.05	0.04	0.04	0.05	0.06
Max.	0.15	0.14	0.25	0.36	0.98	2.90	0.15	0.06	0.05	0.06	0.11	0.07
Min.	0.09	0.09	0.07	0.05	0.06	0.14	0.05	0.05	0.04	0.03	0.04	0.05
Runoff - mcm.	0.280	0.281	0.235	0.353	0.448	1.299	0.214	0.130	0.120	0.118	0.119	0.155

WATER YEAR 1977 : Max. 2.90 Min. 0.03 Mean 0.12 Annual Runoff 3.753 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sept. 6	6.00	2.00	3.62				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
NAN RIVER BASIN

Nam Pat at Ban Wang Bang, Uttaradit (N. 33)

Location: Lat. 17°-43'-05" N., Long. 100°-34'-32" E., on right bank about 4.5 kilometers upstream confluence with Nan River and Ban Wang Bang, Tambon Saen To, Amphoe Nam Pat, Uttaradit.

Drainage Area: 2,463 Sq.km.

Type of Gage: Water-stage recorder.

Zero Gage at Bottom at: + 79.00 m. (M.S.L.)

Bench Mark: B.M. - H.S.

Location: Near the gage site.
Elevation: + 87.268 m. (M.S.L.)

Gage Reading Frequency: Recording

Basis of Mean Daily Gage Height: Arithmetic mean of 24 hourly 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, no shifting adjustment for flow computation.

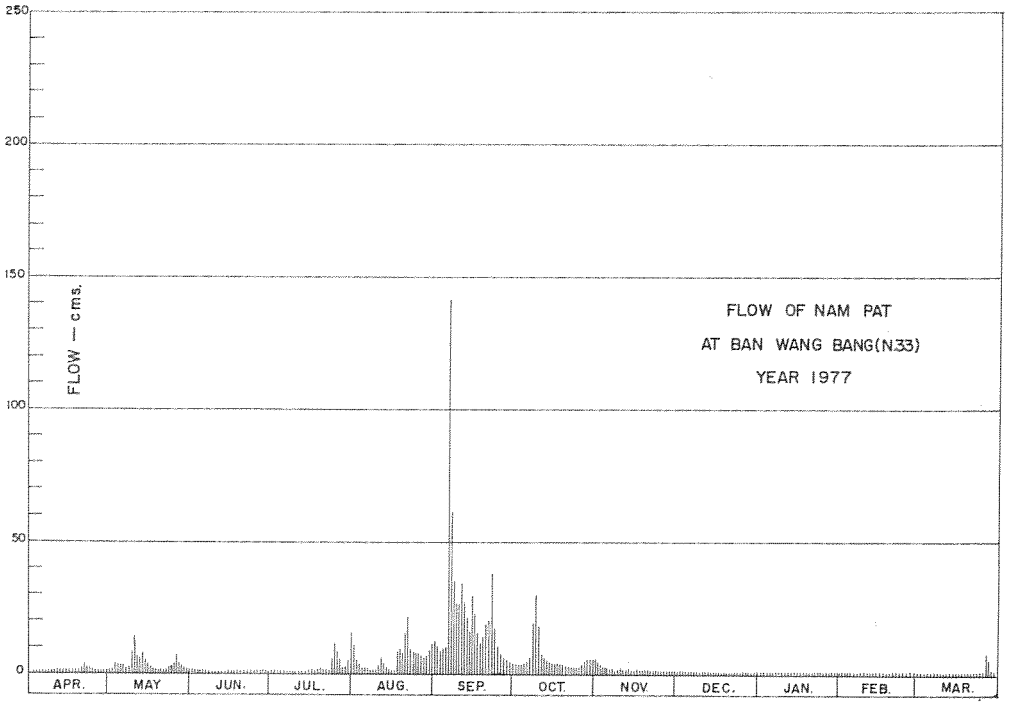
Overbank Flow Conditions: No overbank flow.

General Description: Records good. Stage-discharge relation defined by 108 discharge measurements made in 1977.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	79.58	79.58	79.69	79.41	80.55	80.60	80.00	80.10	79.64	79.46	79.29	79.35
2	.56	.62	.67	.47	.24	.47	.00	79.98	.64	.46	.32	.34
3	.55	80.03	.66	.51	.02	.36	79.96	.91	.64	.46	.33	.33
4	.57	79.93	.66	.48	79.92	.45	.97	.87	.65	.45	.33	.33
5	.60	.91	.70	.48	.88	.47	80.05	.83	.64	.45	.35	.33
6	79.59	80.02	79.67	79.47	79.90	82.23	80.12	79.82	79.62	79.44	79.38	79.31
7	.56	79.87	.61	.46	.81	81.48	.15	.79	.61	.43	.37	.31
8	.55	.75	.58	.47	.79	.08	.78	.76	.61	.44	.35	.29
9	.53	80.17	.57	.47	.75	80.94	81.02	.75	.60	.46	.36	.28
10	.53	.63	.54	.47	.72	.96	80.66	.74	.59	.46	.36	.28
11	79.54	80.35	79.52	79.44	80.13	81.10	80.38	79.72	79.58	79.44	79.33	79.27
12	.59	.08	.53	.41	.23	80.97	.20	.71	.57	.43	.34	.26
13	.58	.37	.57	.40	79.93	.80	.11	.70	.56	.42	.33	.25
14	.56	.21	.65	.57	.86	.69	.07	.69	.55	.42	.32	.26
15	.57	.03	.58	.78	.79	81.02	.04	.68	.55	.42	.30	.26
16	79.55	79.88	79.56	79.77	79.74	80.84	80.01	79.67	79.55	79.40	79.28	79.26
17	.53	.81	.56	.78	.70	.59	79.99	.67	.53	.38	.28	.25
18	.53	.76	.54	.72	80.40	.50	.97	.66	.52	.37	.29	.25
19	.58	.72	.53	.86	.46	.70	.98	.65	.51	.36	.28	.25
20	.57	.70	.51	.81	.34	.76	.93	.65	.51	.36	.28	.27
21	79.97	79.67	79.50	79.75	80.86	80.81	79.90	79.64	79.51	79.34	79.28	79.30
22	.97	.69	.49	.67	.67	81.16	.87	.64	.50	.33	.30	.32
23	.83	.86	.48	.67	.32	80.78	.83	.65	.49	.35	.31	.32
24	.74	.91	.47	80.26	.35	.57	.81	.65	.48	.34	.29	.31
25	.69	.82	.45	.56	.33	.42	.82	.65	.48	.33	.28	.29
26	79.65	80.24	79.43	80.42	80.29	80.28	79.94	79.64	79.48	79.35	79.28	79.43
27	.62	.07	.43	.09	.13	.18	80.10	.64	.47	.35	.30	80.33
28	.58	79.93	.41	79.89	.17	.12	.17	.64	.47	.34	.32	79.81
29	.59	.83	.40	.84	.25	.06	.09	.63	.46	.33	-	.69
30	.58	.77	.41	80.08	.46	.03	.13	.64	.45	.32	-	.60
31	-	.73	-	.72	.53	-	.14	-	.46	.30	-	.54
Mean	79.61	79.93	79.54	79.75	80.14	80.71	80.10	79.72	79.54	79.39	79.31	79.38
Max.	79.97	80.63	79.70	80.72	80.86	82.23	81.02	80.10	79.65	79.46	79.38	80.33
Min.	79.53	79.58	79.40	79.40	79.70	80.03	79.81	79.63	79.45	79.30	79.28	79.25

WATER YEAR 1977 : Max. 82.23 m. Min. 79.25 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.90	0.90	1.45	0.23	12	13	4.00	5.20	1.20	0.38	0.00	0.10
2	0.80	1.10	1.35	0.41	7.02	10	4.00	3.80	1.20	0.38	0.04	0.08
3	0.75	4.36	1.30	0.55	4.24	8.58	3.60	3.10	1.20	0.38	0.06	0.06
4	0.85	3.30	1.30	0.44	3.20	10	3.70	2.70	1.25	0.35	0.06	0.06
5	1.00	3.10	1.50	0.44	2.80	10	4.60	2.30	1.20	0.35	0.10	0.06
6	0.95	4.24	1.35	0.41	3.00	141	5.46	2.20	1.10	0.32	0.16	0.02
7	0.80	2.70	1.05	0.38	2.10	60	5.85	1.95	1.05	0.29	0.14	0.02
8	0.75	1.75	0.90	0.41	1.95	33	19	1.80	1.05	0.32	0.10	0.00
9	0.65	6.11	0.85	0.41	1.75	26	30	1.75	1.00	0.38	0.12	0.00
10	0.65	14	0.70	0.41	1.60	27	15	1.70	0.95	0.38	0.12	0.00
11	0.70	8.45	0.60	0.32	5.59	34	8.84	1.60	0.90	0.32	0.06	0.00
12	0.95	4.96	0.65	0.23	6.89	27	6.50	1.55	0.85	0.29	0.08	0.00
13	0.90	8.71	0.85	0.20	3.30	20	5.33	1.50	0.80	0.26	0.06	0.00
14	0.80	6.63	1.25	0.85	2.60	16	4.84	1.45	0.75	0.26	0.04	0.00
15	0.85	4.36	0.90	1.90	1.95	30	4.48	1.40	0.75	0.26	0.00	0.00
16	0.75	2.80	0.80	1.85	1.70	22	4.12	1.35	0.75	0.20	0.00	0.00
17	0.65	2.10	0.80	1.90	1.50	13	3.90	1.35	0.65	0.16	0.00	0.00
18	0.65	1.80	0.70	1.60	9.10	11	3.70	1.30	0.60	0.14	0.00	0.00
19	0.90	1.60	0.65	2.60	10	16	3.80	1.25	0.55	0.12	0.00	0.00
20	0.85	1.50	0.55	2.10	8.32	19	3.30	1.25	0.55	0.12	0.00	0.00
21	3.70	1.35	0.50	1.75	22	20	3.00	1.20	0.55	0.08	0.00	0.00
22	3.70	1.45	0.47	1.35	16	38	2.70	1.20	0.50	0.06	0.00	0.04
23	2.30	2.60	0.44	1.35	8.06	19	2.30	1.25	0.47	0.10	0.02	0.04
24	1.70	3.10	0.41	7.28	8.45	13	2.10	1.25	0.44	0.08	0.00	0.02
25	1.45	2.20	0.35	12	8.19	9.48	2.20	1.25	0.44	0.06	0.00	0.00
26	1.25	7.02	0.29	9.48	7.67	7.54	3.40	1.20	0.44	0.10	0.00	0.29
27	1.10	4.84	0.29	5.08	5.59	6.24	5.20	1.20	0.41	0.10	0.00	8.19
28	0.90	3.30	0.23	2.90	6.11	5.46	6.11	1.20	0.41	0.08	0.04	2.10
29	0.95	2.30	0.20	2.40	7.15	4.72	5.08	1.15	0.38	0.06	–	1.45
30	0.90	1.85	0.23	4.96	10	4.36	5.57	1.20	0.35	0.04	–	1.00
31	–	1.65	–	17	12	–	5.72	–	0.38	0.00	–	0.70
Total	34.05	116.13	22.91	83.19	201.83	674.38	187.42	52.60	23.12	6.42	1.20	14.23
Mean	1.13	3.75	0.76	2.68	6.51	22.5	6.04	1.75	0.74	0.21	0.043	0.46
Max.	3.70	14	1.50	17	22	141	30	5.20	1.25	0.38	0.16	8.19
Min.	0.65	0.90	0.20	0.20	1.50	4.36	2.10	1.15	0.35	0.00	0.00	0.00
Runoff – mcm.	2.942	10.034	1.979	7.188	17.438	58.266	16.193	4.545	1.997	0.555	0.104	1.229

WATER YEAR 1977 : Max. 141 Min. 0.00 Mean 3.88 Annual Runoff 122.470 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sept. 6	6.00	83.09	294				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
NAN RIVER BASIN

Nan River at Kaeng Sarang, Nan (N. 35)

Location: Lat. 18°-24'-00" N., Long. 100°-51'-05" E., on left bank about 25 kilometers downstream from the District Office of Amphoe Sa, between Doi Khon Kaen and Doi Cham Hang, Amphoe Sa, Nan.

Drainage Area: 10,335 Sq.km.

Type of Gage: Staff gage.

Zero Gage at Bottom at: + 0.00 m. (A.D.)

Bench Mark: B.M. - H.S.

Location: In the fence of Meteorological Station.
Elevation: + 12.354 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: 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, no shifting adjustment for flow computation.

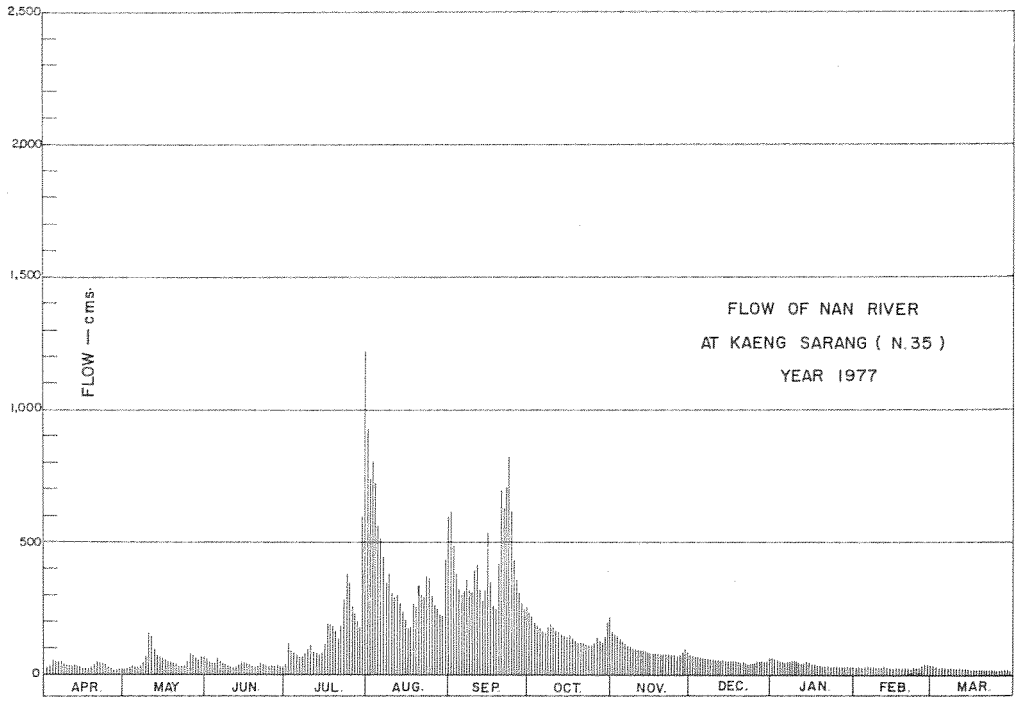
Overbank Flow Conditions: No overbank flow.

General Description: Records good. Stage-discharge relation defined by 79 discharge measurements made in 1977.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.88	0.85	1.19	1.05	5.53	4.15	2.27	1.89	1.30	1.23	0.97	1.00
2	.93	.89	.13	.61	4.66	3.71	.16	.82	.29	.19	.97	.00
3	1.08	1.00	.07	.45	.95	.05	.06	.81	.27	.14	.96	0.97
4	.18	0.99	.11	.36	.49	2.83	.01	.74	.25	.12	.96	.95
5	.09	.96	.25	.33	3.84	.63	1.95	.67	.23	.10	.97	.93
6	1.09	0.93	1.16	1.27	3.65	2.69	1.92	1.61	1.23	1.10	0.99	0.92
7	.10	1.01	.07	.26	.11	.95	.86	.56	.22	.13	.98	.91
8	.04	.09	.02	.39	2.84	.77	2.06	.53	.21	.17	.96	.90
9	.01	.36	0.99	.52	3.09	.65	.07	.50	.20	.13	.95	.90
10	0.98	.87	.98	.59	2.66	3.11	1.96	.48	.18	.10	.94	.89
11	0.96	1.81	0.96	1.46	2.60	3.25	1.89	1.47	1.18	1.08	0.93	0.88
12	1.05	.52	.95	.35	.72	2.76	.88	.46	.17	.07	.93	.87
13	.00	.30	1.02	.37	.50	.47	.83	.42	.16	.08	.92	.87
14	0.95	.28	.13	.33	.29	.66	.82	.40	.15	.11	.91	.87
15	.93	.26	.10	.41	.11	3.77	.81	.38	.15	.07	.91	.86
16	0.91	1.21	1.09	1.57	1.97	3.01	1.85	1.37	1.14	1.05	0.91	0.86
17	.89	.13	.06	2.10	2.00	2.51	.79	.35	.13	.04	.90	.86
18	.88	.09	.01	.08	.48	.29	.69	.35	.13	.02	.90	.86
19	1.02	.06	0.96	.00	.40	3.12	.65	.34	.12	.02	.90	.85
20	.10	.05	.96	1.84	.81	4.47	.65	.33	.12	.01	.90	.85
21	1.12	1.04	1.07	1.70	2.69	4.16	1.64	1.31	1.12	1.01	0.91	0.85
22	.05	.00	.06	2.07	.59	.49	.60	.31	.11	.01	.92	.84
23	.09	0.97	.04	.58	3.03	5.02	.58	.30	.11	.01	.92	.84
24	.00	1.03	0.99	3.04	2.97	4.13	.56	.29	.11	.00	.95	.84
25	0.94	.32	.96	2.85	.61	3.43	.61	.28	.12	.00	.95	.83
26	0.92	1.42	1.02	2.39	2.47	2.99	1.79	1.28	1.14	0.99	0.98	0.82
27	.91	.25	.02	.22	.39	.69	.71	.31	.13	.99	1.05	.82
28	.88	.23	.00	.07	.25	.49	.62	.52	.12	.99	.04	.85
29	.87	.19	0.98	1.90	.19	.34	.69	.45	.11	.99	-	.84
30	.86	.29	0.96	4.55	3.21	.40	2.09	.34	.18	.98	-	.83
31	-	.29	-	6.54	4.00	-	.28	-	.27	.97	-	.82
Mean	0.99	1.18	1.04	2.01	3.00	3.17	1.85	1.46	1.17	1.06	0.94	0.88
Max.	1.18	1.87	1.25	6.54	5.53	5.02	2.28	1.89	1.30	1.23	1.05	1.00
Min.	0.86	0.85	0.95	1.05	1.97	2.29	1.56	1.28	1.11	0.97	0.90	0.82

WATER YEAR 1977 : Max. 6.54 m. Min. 0.82 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	22	19	59	40	947	617	231	162	73	64	31	34
2	27	23	51	118	738	518	211	151	72	59	31	34
3	44	34	43	93	808	380	193	150	69	52	30	31
4	57	33	48	81	698	336	184	138	66	50	30	29
5	46	30	66	77	547	297	173	127	64	47	31	27
6	46	27	55	69	505	308	168	118	64	47	33	26
7	47	35	43	68	392	360	158	110	63	51	32	25
8	39	46	37	85	338	324	193	105	61	56	30	24
9	35	81	33	104	388	300	195	101	60	51	29	24
10	32	159	32	114	302	392	175	98	57	47	28	23
11	30	150	30	95	291	420	162	96	57	44	27	22
12	40	104	29	79	314	322	161	95	56	43	27	21
13	34	73	37	82	272	267	153	89	55	44	26	21
14	29	70	51	76	234	302	151	86	53	48	25	21
15	27	68	47	87	202	531	150	83	53	43	25	20
16	25	61	46	111	177	372	156	82	52	40	25	20
17	23	51	42	200	182	274	146	79	51	39	24	20
18	22	46	35	196	268	234	130	79	51	37	24	20
19	37	42	30	182	254	394	124	78	50	37	24	19
20	47	40	30	154	332	693	124	77	50	35	24	19
21	50	39	43	132	308	620	122	74	50	35	25	19
22	40	34	42	195	289	698	116	74	48	35	26	18
23	46	31	39	287	376	825	113	73	48	35	26	18
24	34	38	33	378	364	613	110	72	48	34	29	18
25	28	76	30	340	293	458	118	70	50	34	29	17
26	26	89	37	252	267	368	146	70	52	33	32	16
27	25	66	37	222	252	308	134	74	54	33	40	16
28	22	64	34	195	227	270	119	104	50	33	39	19
29	21	59	32	164	216	243	130	93	48	33	–	18
30	20	72	30	712	412	254	198	78	57	32	–	17
31	–	72	–	1,213	583	–	232	–	69	31	–	16
Total	1,021	1,832	1,201	6,201	11,776	12,298	4,876	2,886	1,748	1,302	802	672
Mean	34.0	59.1	40.0	200	380	410	157	96.2	56.4	42.0	28.6	21.7
Max.	57	159	66	1,213	947	825	232	162	73	64	40	34
Min.	20	19	29	40	177	234	110	70	48	31	24	16
Runoff – mcm.	88.214	158.285	103.766	535.766	1,017.446	1,062.547	421.286	249.350	151.027	112.493	69.293	58.061

WATER YEAR 1977 : Max. 1,213 Min. 16 Mean 128 Annual Runoff 4,027.534 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Jul. 31	15.00	6.65	1,244				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
NAN RIVER BASIN

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

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

Drainage Area: 1,651 Sq.km.

Type of Gage: Water-stage recorder.

Zero Gage at Bottom at: + 0.00 m. (A.D.)

Bench Mark: B.M. – H.S.

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 hourly readings.

Period of Available Gage Records: 1967 to date.

Rating Operation:

Period of Rating: 1971 to date.
Rated by Float: –
Rated by Current Meter: 1971 to date.

Stability of Channel Regimes: Fairly stable, no shifting adjustment for flow computation.

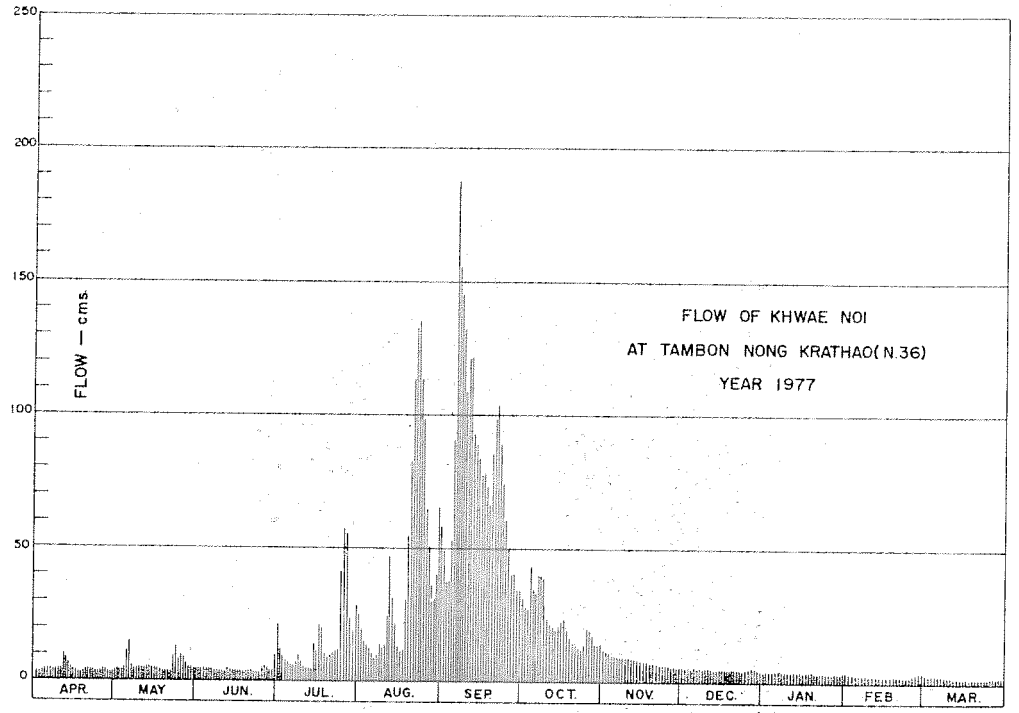
Overbank Flow Conditions: Overbank flow starts at elevation + 6.91 m. (A.D.) and is included.

General Description: Records good. Stage-discharge relation defined by 171 discharge measurements made in 1977.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.83	0.81	1.00	2.43	2.44	4.62	3.17	1.75	1.15	1.00	0.88	0.94
2	.86	.97	1.01	1.80	2.10	3.97	2.90	.65	.14	0.97	.87	.89
3	.86	.83	1.00	.49	1.88	.43	.74	.63	.12	.98	.86	.86
4	1.02	.85	0.97	.35	.79	.46	.76	.60	.12	.97	.87	.84
5	.04	1.26	.96	.28	.62	4.53	3.75	.57	.12	.97	.88	.83
6	1.03	1.93	0.94	1.21	1.54	7.00	3.15	1.55	1.12	0.97	0.89	0.82
7	0.99	.18	.92	.16	.49	.23	.26	.53	.12	.97	.88	.80
8	.94	0.99	.88	.23	.82	.11	.58	.54	.12	.96	.88	.80
9	.99	1.02	.85	.55	.87	6.97	.51	.51	.11	.95	.86	.79
10	.97	.04	.84	.29	.81	.63	2.88	.48	.10	.94	.85	.78
11	1.17	0.99	0.86	1.13	2.23	6.81	2.59	1.45	1.09	0.93	0.85	0.77
12	.51	.95	1.05	.06	3.96	.81	.42	.43	.08	.93	.85	.78
13	.28	1.06	0.92	.00	3.37	.27	.29	.41	.07	.93	.84	.78
14	0.96	.08	.90	.45	2.35	.09	023	.40	.07	.93	.83	.78
15	.89	1.00	.89	.90	1.90	5.81	.29	.38	.06	.93	.83	.78
16	0.86	0.98	0.93	1.69	1.67	5.59	2.43	1.35	1.05	0.91	0.82	0.77
17	.83	.94	.87	2.39	1.55	.61	.58	.34	.05	.91	.81	.77
18	.81	.92	.84	2.30	2.03	.48	.26	.31	.05	.90	.82	.77
19	.80	.90	.83	1.67	4.14	.03	.08	.30	.05	.90	.84	.76
20	.93	.89	.84	1.49	4.77	.78	1.98	.28	.05	.90	.83	.76
21	0.90	0.85	0.91	1.56	6.07	6.42	1.91	1.27	1.04	0.89	0.82	0.75
22	.87	.82	.88	1.65	6.96	.57	.85	.27	.04	.89	.83	.75
23	.82	1.51	.88	1.63	7.00	.42	.80	.26	.04	.88	.86	.75
24	.82	.86	.87	1.68	6.80	5.67	.76	.25	.02	.90	.85	.74
25	.81	.36	.98	3.67	6.37	4.75	.86	.24	.01	.89	.87	.74
26	0.97	1.57	1.07	4.54	5.18	4.07	2.25	1.24	1.08	0.89	0.92	0.74
27	.92	.50	0.98	4.41	4.20	3.60	.21	.23	.15	.88	1.12	.80
28	.85	.19	.91	2.83	3.41	.61	.04	.21	.11	.88	1.04	.83
29	.81	.08	.88	.22	2.94	.26	1.89	.19	.05	.88	–	.79
30	.79	.05	1.37	.72	3.82	.28	.86	.17	.02	.88	–	.76
31	–	.00	–	.92	4.99	–	.86	–	.00	.88	–	.75
Mean	0.90	1.15	0.93	1.96	3.36	5.40	2.46	1.39	1.08	0.92	0.87	0.79
Max.	1.51	1.93	1.37	4.54	7.00	7.23	3.75	1.75	1.15	1.00	1.12	0.94
Min.	0.79	0.81	0.83	1.00	1.49	3.26	1.76	1.17	1.00	0.88	0.81	0.74

WATER YEAR 1977 : Max. 7.23 m. Min. 0.74 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	3.24	3.08	4.60	22	22	59	33	12	5.80	4.60	3.64	4.12
2	3.48	4.36	4.68	13	17	47	29	11	5.72	4.36	3.56	3.72
3	3.48	3.24	4.60	9.08	14	37	27	11	5.56	4.44	3.48	3.48
4	4.76	3.40	4.36	7.50	13	38	27	10	5.56	4.36	3.56	3.32
5	4.92	6.68	4.28	6.84	11	57	43	10	5.56	4.36	3.64	3.24
6	4.84	15	4.12	6.28	9.68	135	33	9.80	5.56	4.36	3.72	3.16
7	4.52	6.04	3.96	5.88	9.08	187	34	9.56	5.56	4.36	3.64	3.00
8	4.12	4.52	3.64	6.44	13	152	40	9.68	5.56	4.28	3.64	3.00
9	4.52	4.76	3.40	9.80	14	133	39	9.32	5.48	4.20	3.48	2.92
10	4.36	4.92	3.32	6.92	13	108	29	8.96	5.40	4.12	3.40	2.84
11	5.96	4.52	3.48	5.64	19	121	24	8.60	5.32	4.04	3.40	2.76
12	9.32	4.20	5.00	5.08	47	121	22	8.36	5.24	4.04	3.40	2.84
13	6.84	5.08	3.96	4.60	36	93	20	8.12	5.16	4.04	3.32	2.84
14	4.28	5.24	3.80	8.60	21	89	19	8.00	5.16	4.04	3.24	2.84
15	3.72	4.60	3.72	14	14	82	20	7.80	5.08	4.04	3.24	2.84
16	3.48	4.44	4.08	11	11	77	22	7.50	5.08	3.88	3.16	2.76
17	3.24	4.12	3.56	21	9.80	78	24	7.40	5.00	3.88	3.08	2.76
18	3.08	3.96	3.32	20	16	75	20	7.10	5.00	3.80	3.16	2.76
19	3.00	3.80	3.24	11	50	66	17	7.00	5.00	3.80	3.32	2.68
20	4.04	3.72	3.32	9.08	61	82	15	6.84	5.00	3.80	3.24	2.68
21	3.80	3.40	3.88	9.92	89	97	14	6.76	4.92	3.72	3.16	2.60
22	3.56	3.16	3.64	11	132	104	13	6.76	4.92	3.72	3.24	2.60
23	3.16	9.32	3.64	11	135	97	13	6.68	4.92	3.64	3.48	2.60
24	3.16	14	3.56	11	121	79	12	6.60	4.76	3.80	3.40	2.52
25	3.08	7.60	4.44	41	96	61	14	6.52	4.68	3.72	3.56	2.52
26	4.36	10	5.16	57	69	49	20	6.52	5.24	3.72	3.96	2.52
27	3.96	9.20	4.44	55	51	40	19	6.44	5.80	3.64	3.56	3.00
28	3.40	6.12	3.88	28	37	40	16	6.24	5.48	3.64	4.92	3.24
29	3.08	5.24	3.64	19	30	34	14	6.12	5.00	3.64	–	2.92
30	2.92	5.00	7.70	26	44	35	14	5.96	4.76	3.64	–	2.68
31	–	4.60	–	29	65	–	14	–	4.60	3.64	–	2.60
Total	123.68	177.32	122.42	501.66	1,289.56	2,473	700	242.68	161.80	123.32	99.60	90.36
Mean	4.12	5.72	4.08	16.2	41.6	82.4	22.6	8.09	5.22	3.98	3.56	2.91
Max.	9.32	15	7.70	57	135	187	43	12	5.80	4.60	5.56	4.12
Min.	2.92	3.08	3.24	4.60	9.08	34	12	5.96	4.60	3.64	3.08	2.52
Runoff – mcm.	10.686	15.320	10.577	43.343	111.418	213.667	60.480	20.967	13.979	10.655	8.605	7.807

WATER YEAR 1977 : Max. 187 Min. 2.52 Mean 16.7 Annual Runoff 527.504 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sept.6	22.00	7.29	214				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
NAN RIVER BASIN

Nan River at Ban Thap Krit, Nakhon Sawan (N. 37)

Location: Lat. 15°-45'-19" N., Long. 100°-15'-35" E., on left bank infront of Wat Thap Krit, Amphoe Chum Saeng, Nakhon Sawan.

Drainage Area: 56,214 Sq.km.

Type of Gage: Staff gage.

Zero Gage at Bottom at: + 0.00 m. (A.D.)

Bench Mark: B.M. - H.S.

Location: Near the top of vertical staff gage.
Elevation: + 7.121 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: 1967-1974.
Rated by Float: -
Rated by Current Meter: 1967-1974.

Stability of Channel Regimes: Fairly stable, no shifting adjustment for flow computation.

Overbank Flow Conditions: No overbank flow.

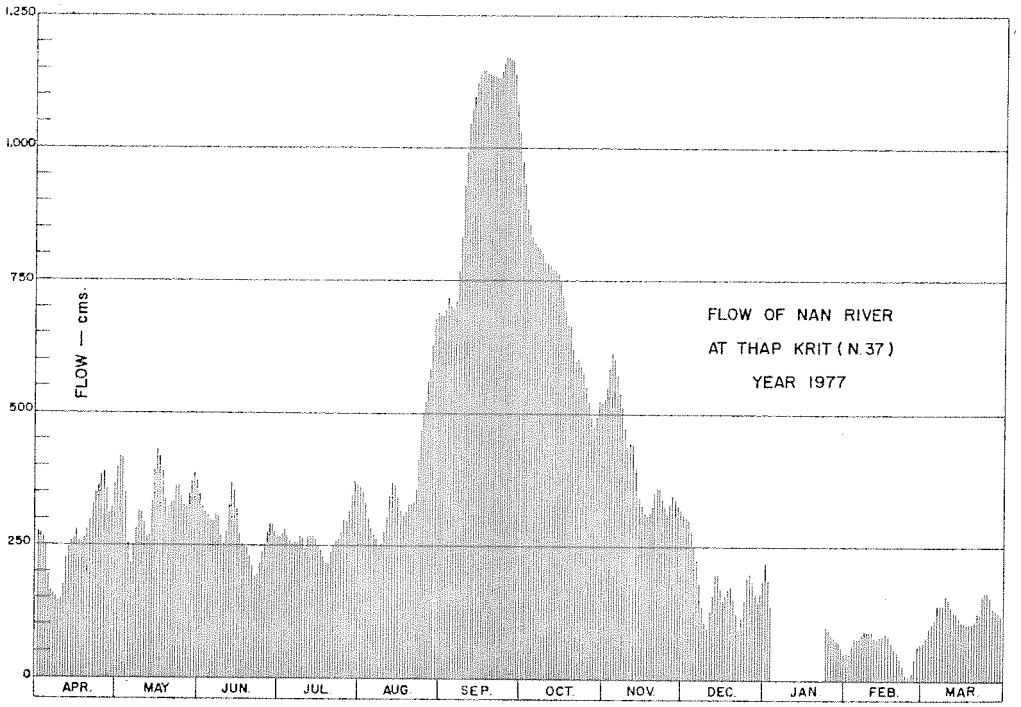
General Description: Records fair except those for periods of backwater effect which are poor. Stage-discharge relation defined by 248 discharge measurements made during 1967-1974.

Remarks: The staff gage was damaged on January 4-23, 1978.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	2.00	2.62	2.37	1.95	2.45	4.02	5.35	3.29	2.18	1.70	0.63	0.77
2	1.99	.73	.25	.99	.40	.07	.16	.39	.16	.49	.63	.84
3	.92	.71	.20	2.04	.27	.19	4.93	.55	.15	.21	.75	.94
4	.82	.38	.17	1.96	.12	.13	.76	.69	.01		.82	.99
5	.46	1.88	.13	.92	.02	.08	.67	.63	1.88		.82	1.06
6	1.29	1.66	2.12	1.88	1.96	4.15	4.62	3.48	1.70		0.85	1.22
7	.33	.82	.19	.89	.91	.40	.62	.33	.46		.91	.23
8	.27	2.04	.16	.88	.82	.70	.58	.20	.20		.91	.22
9	.23	.20	1.96	.96	.87	5.15	.49	.00	.00		.89	.35
10	.35	.19	.88	.92	2.00	.43	.49	2.82	0.93		.90	.32
11	1.51	2.08	2.01	1.83	2.15	5.67	4.47	2.87	1.16		0.88	1.21
12	.74	1.95	.28	.95	.35	.79	.46	.85	.34		.80	.16
13	.89	.96	.48	.96	.48	.89	.42	.64	.58		.80	.14
14	.91	2.30	.42	.98	.44	.99	.42	.37	.57		.85	.07
15	2.02	.60	.23	.92	.35	6.06	.35	.28	.40		.84	.02
16	1.91	2.78	1.99	1.84	2.21	6.09	4.21	2.20	0.27		0.87	1.01
17	.89	.74	.89	.79	.15	.07	.10	.17	.34		.82	0.99
18	.92	.59	.87	.72	.21	.04	3.95	.22	.42		.74	.99
19	2.00	.34	.83	.68	.28	.04	.93	.30	.45		.68	1.00
20	.09	.23	.74	.69	.29	.04	.73	.41	.30		.63	.04
21	2.14	2.29	1.64	1.80	2.30	6.05	3.62	2.45	1.13		0.55	1.14
22	.28	.39	.53	.88	.42	.02	.64	.45	0.92		.43	.11
23	.39	.46	.57	.91	.70	.08	.56	.33	1.08		.32	.35
24	.46	.45	.69	.93	.98	.15	.51	.25	.27	0.96	.26	.37
25	.56	.34	.80	2.00	3.24	.19	.39	.20	.52	.92	.28	.39
26	2.58	2.27	1.91	2.13	3.42	6.17	3.24	2.29	1.58	0.83	0.37	1.32
27	.41	.26	2.00	.12	.54	.15	.11	.39	.53	.81	.54	.20
28	.19	.38	.10	.22	.76	.05	.00	.32	.36	.80	.72	.18
29	.26	.50	.09	.37	.98	5.82	.12	.28	.24	.76	-	.15
30	.46	.59	1.99	.49	4.08	.61	.27	.22	.33	.69	-	.10
31	-	.51	-	.46	.04	-	.25	-	.50	.60	-	.07
Mean	1.04	2.33	2.02	1.97	2.59	5.47	3.08	1.69	0.48		0.70	1.13
Max.	2.58	2.78	2.37	2.49	4.08	6.19	5.35	3.69	2.18	1.70	0.91	1.39
Min.	1.23	1.66	1.53	1.68	1.82	4.02	3.00	2.17	0.92	0.60	0.26	0.77

WATER YEAR 1977 : Max. 6.19 m. Min. 0.26 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	274	394	344	264	360	681	972	528	307	220	49	70
2	271	416	320	271	350	692	930	549	303	182	49	80
3	260	412	311	281	324	717	880	582	301	137	67	96
4	242	346	305	266	296	704	842	612	276		78	103
5	177	252	298	260	278	694	822	599	252		78	114
6	149	213	296	252	266	708	811	568	220		82	138
7	156	242	309	254	258	763	811	536	177		91	140
8	146	281	303	252	242	829	803	510	135		91	138
9	140	311	266	266	251	928	783	470	105		88	159
10	159	309	252	260	274	990	783	434	94		90	154
11	186	288	276	243	301	1,046	778	444	129		87	136
12	227	264	326	264	340	1,075	776	440	157		75	129
13	254	266	366	266	366	1,099	767	398	198		75	126
14	258	330	354	269	358	1,123	767	344	197		82	115
15	278	390	317	260	340	1,139	752	326	167		81	108
16	258	426	271	245	313	1,147	721	311	146		85	106
17	254	418	254	236	301	1,142	698	305	157		78	103
18	260	388	251	224	313	1,135	666	315	170		66	103
19	274	338	243	216	326	1,135	662	330	175		57	105
20	290	317	227	218	328	1,135	620	352	151		49	111
21	300	328	209	238	330	1,132	597	360	124		38	126
22	326	328	189	252	354	1,130	601	360	93		24	121
23	348	362	197	258	410	1,144	585	336	117		10	159
24	362	360	218	261	466	1,161	574	320	146	99	4.80	162
25	382	338	238	274	518	1,171	549	311	188	93	6.40	165
26	386	324	258	298	555	1,166	518	328	198	80	16	154
27	352	322	274	296	580	1,161	492	348	189	76	37	135
28	309	346	292	315	627	1,137	470	334	161	75	63	132
29	322	370	290	344	673	1,082	494	326	141	69	–	127
30	362	388	271	368	694	1,031	524	315	156	58	–	120
31	–	372	–	362	685	–	520	–	184	45	–	115
Total	7,962	10,439	8,325	8,333	12,077	30,197	21,568	12,291	5,514		1,697.20	3,851
Mean	256	337	277	269	389	1,006	696	410	178		60.6	124
Max.	386	426	344	368	694	1,171	972	612	307	220	91	165
Min.	140	213	189	216	242	681	470	305	93		4.80	70
Runoff – mcm.	687.917	901.930	719.280	719.971	1,043.453	2,609.021	1,863.475	1,061.942	476.410		146.638	332.726

WATER YEAR 1977 : Max. 1,171 Min. 4.80 Mean Annual Runoff mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sept. 25	19.00	6.20	1,173				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
NAN RIVER BASIN

Khwae Noi 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 at: + 0.00 m. (A.D.)

Bench Mark: B.M. - M.S.

Location: BM1 about 4 meters south of gage site, BM2 about 90 meters south of gage site.
Elevation: BM1 = 14.450 m. (A.D.), BM2 = 14.400 m. (A.D.)

Gage Reading Frequency: 24-time daily readings at 01.00-24.00 hours by plot hourly.

Basis of Mean Daily Gage Height: Arithmetic mean of 24 hourly readings.

Period of Available Gage Records: 1967 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, no shifting adjustment for flow computation.

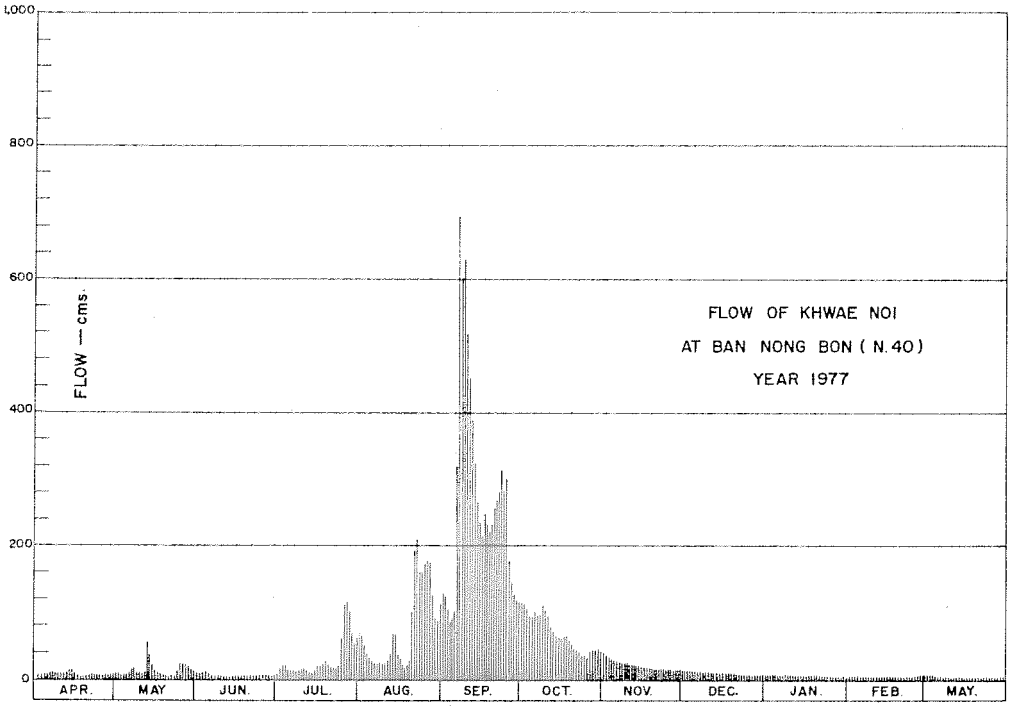
Overbank Flow Conditions: No overbank flow.

General Description: Records good. Stage-discharge relation defined by 190 discharge measurements made in 1977.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.69	0.63	0.85	0.82	2.65	3.81	3.56	1.90	1.04	0.86	0.72	0.80
2	.68	.61	.82	1.31	.31	.73	.50	.79	.03	.85	.72	.78
3	.66	.61	.92	.33	1.93	.32	.31	.68	.02	.84	.76	.74
4	.68	.73	.88	.19	.68	2.93	.12	.61	.01	.83	.74	.71
5	.77	.78	.82	.03	.52	3.24	.06	.56	.00	.82	.74	.68
6	0.88	0.85	0.78	0.99	1.40	8.96	3.26	1.52	0.99	0.82	0.74	0.66
7	.87	1.14	.76	.98	.30	10.43	.12	.49	.98	.81	.73	.65
8	.83	.10	.74	.95	.29	.12	.15	.48	.97	.81	.72	.64
9	.80	0.92	.71	1.00	.41	.21	.49	.47	.96	.81	.72	.63
10	.75	.79	.69	.21	.44	9.81	.29	.44	.96	.81	.71	.62
11	0.78	0.79	0.66	1.13	1.43	9.18	2.98	1.40	0.95	0.80	0.70	0.61
12	.77	.96	.66	0.99	.67	8.04	.71	.35	.95	.80	.69	.61
13	.91	2.29	.66	.89	2.60	7.02	.56	.32	.94	.79	.68	.61
14	1.13	1.58	.74	.92	.53	6.32	.46	.30	.94	.78	.67	.60
15	0.84	.22	.71	.96	1.98	.00	.41	.27	.93	.77	.67	.60
16	0.75	0.97	0.70	1.25	1.56	5.34	2.43	1.25	0.92	0.76	0.67	0.61
17	.71	.90	.68	.25	.35	.99	.57	.22	.91	.76	.66	.60
18	.67	.88	.68	.34	.29	.65	.57	.21	.90	.76	.66	.60
19	.66	.80	.68	.60	.44	.53	.38	.19	.90	.76	.65	.60
20	.76	.75	.70	.33	2.78	6.08	.22	.18	.90	.76	.65	.60
21	0.74	0.73	0.78	1.22	5.07	6.32	2.05	1.16	0.90	0.75	0.66	0.60
22	.83	.71	.70	.19	.34	.45	1.93	.16	.89	.75	.66	.60
23	.77	.69	.68	.24	4.36	.95	.86	.15	.89	.74	.66	.60
24	.72	.85	.71	.57	.33	.50	.79	.14	.88	.74	.66	.60
25	.69	1.38	.69	2.66	.62	.79	.75	.13	.88	.74	.66	.59
26	0.67	1.36	0.66	3.51	4.72	4.98	1.77	1.12	0.87	0.74	0.74	0.59
27	.66	.28	.67	.59	.66	.23	.96	.11	.87	.74	.73	.59
28	.68	.33	.78	.30	3.88	3.75	2.04	.10	.87	.73	.72	.60
29	.71	.13	.75	2.63	.07	.60	1.95	.08	.87	.73	-	.61
30	.67	.00	.72	.23	2.92	.57	2.06	.06	.89	.73	-	.65
31	-	0.92	-	.51	3.43	-	.04	-	.88	.72	-	.64
Mean	0.58	0.99	0.73	1.55	2.64	6.16	2.56	1.33	0.93	0.78	0.70	0.63
Max.	1.13	2.29	0.92	3.59	5.34	10.43	3.56	1.90	1.04	0.86	0.76	0.80
Min.	0.66	0.61	0.66	0.82	1.29	2.93	1.75	1.06	0.87	0.72	0.65	0.59

WATER YEAR 1977 : Max. 10.43 m. Min. 0.59 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	5.12	4.04	8.75	8.00	72	129	116	41	14	9.00	5.74	7.50
2	4.94	3.68	8.00	21	57	125	113	37	13	8.75	5.74	7.06
3	4.58	3.68	10	22	42	104	104	33	13	8.50	6.62	6.18
4	4.94	5.96	9.50	18	33	85	94	31	13	8.25	6.18	5.52
5	6.84	7.06	8.00	13	28	100	92	29	13	8.00	6.18	4.94
6	9.50	8.75	7.06	12	24	448	101	28	12	8.00	6.18	4.58
7	9.25	17	6.62	12	21	693	94	27	12	7.75	5.96	4.40
8	8.25	15	6.18	11	21	602	96	26	12	7.75	5.74	4.22
9	7.50	10	5.52	13	24	627	113	26	12	7.75	5.74	4.04
10	6.40	7.28	5.12	18	25	532	103	25	12	7.75	5.52	3.86
11	7.06	7.28	4.58	16	25	465	88	24	11	7.50	5.30	3.68
12	6.84	12	4.58	12	33	384	75	22	11	7.50	5.12	3.68
13	10	56	4.58	9.75	70	316	68	22	11	7.28	4.94	3.68
14	16	30	6.18	10	67	270	64	21	11	7.00	4.76	3.56
15	8.50	19	5.52	12	44	251	62	20	11	6.84	4.76	3.68
16	6.40	12	5.30	20	29	212	62	20	10	6.62	4.76	3.68
17	5.52	10	4.94	20	22	250	68	19	10	6.62	4.58	3.50
18	4.76	9.50	4.94	22	21	230	68	18	10	6.62	4.58	3.50
19	4.58	7.50	4.94	30	25	223	60	18	10	6.62	4.40	3.50
20	6.62	6.40	5.30	22	78	256	53	18	10	6.62	4.40	3.50
21	6.18	5.96	7.06	19	197	270	47	17	10	6.40	4.58	3.50
22	8.25	5.52	5.30	18	212	278	42	17	9.75	6.40	4.58	3.50
23	6.84	5.12	4.94	19	158	311	40	17	9.75	6.18	4.58	3.50
24	5.74	8.75	5.52	29	157	282	37	17	9.50	6.18	4.58	3.50
25	5.12	23	5.12	73	173	301	36	16	9.50	6.18	4.58	3.32
26	4.76	23	4.58	114	178	192	36	16	9.25	6.18	6.18	3.32
27	4.58	20	4.76	118	175	151	43	16	9.25	6.18	5.96	3.32
28	4.94	22	7.06	103	133	126	46	15	9.25	5.96	5.74	3.50
29	5.52	16	6.40	71	92	118	43	15	9.25	5.96	–	3.68
30	4.76	13	5.74	54	85	117	47	14	9.75	5.96	–	4.40
31	–	10	–	66	110	–	46	–	9.50	5.74	–	4.22
Total	200.29	404.48	182.09	1,005.75	2,431	8,448	2,156	665	335.75	218.10	147.98	127.96
Mean	6.68	13.0	6.07	32.4	78.4	282	69.5	22.2	10.8	7.04	5.28	4.13
Max.	16	56	10	118	212	693	116	41	14	9.00	6.62	7.50
Min.	4.58	3.68	4.58	8.00	21	85	36	14	9.25	5.74	4.40	3.32
Runoff – mcm.	17.305	34.947	15.732	86.897	210.038	729.907	186.278	57.456	29.009	18.844	12.785	11.056

WATER YEAR 1977 : Max. 693 Min. 3.32 Mean 44.7 Annual Runoff 1,410.255 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sept. 6	17.00	10.60	752				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
NAN RIVER BASIN

Nam Wa at Ban Hat Khao San, Nan (N. 42)

Location: Lat. 18°-34'-08" N., Long. 100°-52'-28" E., on right bank at Ban Hat Khao San, Tambon Lai Nan, Amphoe Sa, Nan.

Drainage Area: 2,107 Sq.km.

Type of Gage: Staff gage.

Zero Gage at Bottom at: + 0.00 m. (A.D.)

Bench Mark: B.M. - H.S.

Location: Top of the gage site.
Elevation: + 2.00 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: 1977 to date.
Rated by Float: -
Rated by Current Meter: 1977 to date.

Stability of Channel Regimes: Stable, no shifting adjustment for flow computation.

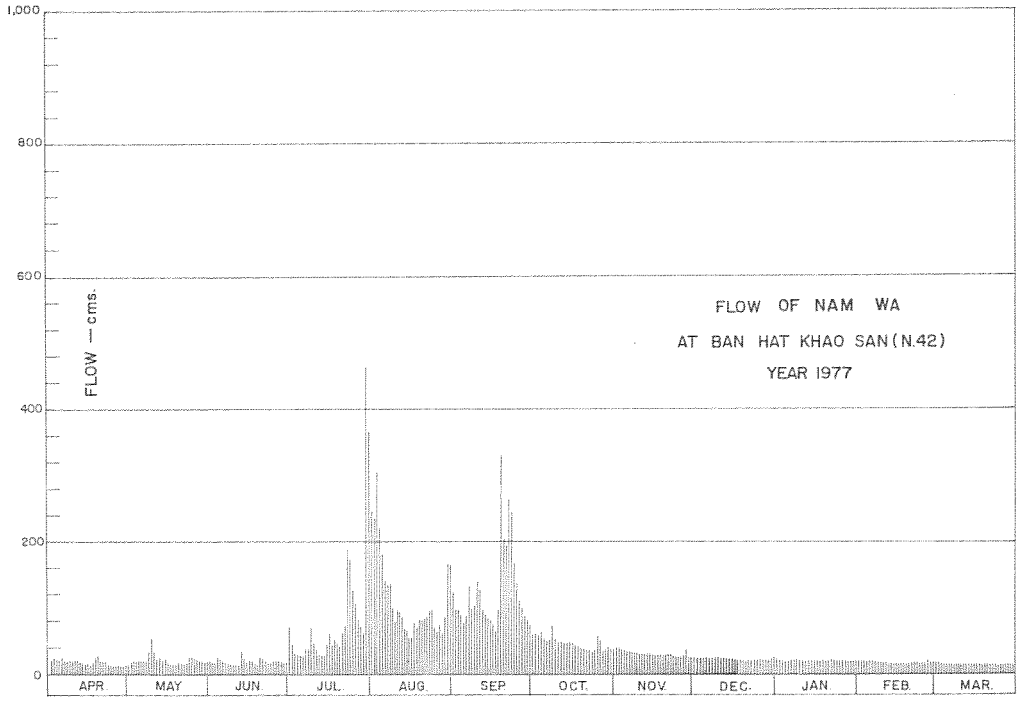
Overbank Flow Conditions: No overbank flow.

General Description: Records good. Stage-discharge relation defined by 114 discharge measurements made in 1977.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	1.07	1.04	1.11	1.86	3.64	2.43	1.70	1.43	1.21	1.18	1.13	1.08
2	.15	.08	.09	.51	.57	.17	.75	.44	.20	.14	.12	.06
3	.22	.14	.08	.33	4.15	.16	.70	.40	.20	.13	.12	.05
4	.12	.12	.21	.30	3.43	2.08	.77	.38	.20	.13	.11	.04
5	.14	.13	.15	.28	3.04	1.91	.64	.37	.20	.13	.11	.04
6	1.20	1.12	1.10	1.23	2.65	2.06	1.61	1.35	1.20	1.13	1.11	1.04
7	.12	.13	.09	.40	.34	.57	.60	.34	.20	.19	.10	.03
8	.10	.13	.06	.42	.36	.15	.87	.33	.20	.19	.08	.03
9	.13	.44	.05	.82	.15	.24	.65	.33	.20	.14	.08	.03
10	.08	.62	.04	.55	1.94	.62	.58	.32	.20	.13	.07	.03
11	1.14	1.27	1.03	1.40	2.17	2.48	1.59	1.32	1.20	1.13	1.07	1.03
12	.10	.16	.03	.31	.04	.16	.55	.32	.20	.13	.06	.03
13	.08	.20	.35	.32	1.84	.08	.56	.31	.19	.13	.05	.03
14	.05	.14	.16	.37	.81	.01	.54	.30	.18	.13	.05	.03
15	.05	.19	.10	.47	.69	1.98	.56	.30	.17	.13	.05	.03
16	1.05	1.09	1.15	1.74	1.62	1.87	1.53	1.30	1.16	1.13	1.05	1.03
17	.04	.05	.08	.48	.95	.76	.48	.30	.16	.13	.05	.03
18	.03	.05	.05	.64	.82	2.13	.47	.29	.15	.13	.05	.04
19	.22	.03	.04	.54	2.00	4.35	.43	.29	.15	.13	.05	.04
20	.26	.09	.23	.45	1.97	3.29	.41	.29	.15	.13	.05	.03
21	1.13	1.05	1.16	1.71	2.02	3.17	1.40	1.28	1.15	1.15	1.05	1.03
22	.10	.04	.10	.84	.27	.82	.39	.26	.15	.15	.05	.03
23	.12	.09	.08	3.10	.16	.61	.37	.25	.15	.14	.06	.02
24	.04	.24	.06	2.94	.16	2.90	.36	.24	.16	.14	.05	.02
25	.02	.24	.17	.46	1.83	.54	.69	.23	.16	.14	.05	.01
26	1.02	1.18	1.14	2.27	1.73	2.29	1.60	1.23	1.16	1.14	1.15	1.01
27	.02	.14	.13	.01	.86	.16	.42	.29	.15	.13	.14	.01
28	.01	.11	.11	1.86	.73	2.02	.40	.38	.14	.13	.10	.01
29	.01	.12	.10	.97	2.01	1.97	.47	.23	.16	.13	-	.01
30	.01	.10	.09	5.27	.91	.86	.42	.21	.23	.13	-	.00
31	-	.11	-	4.61	.89	-	.41	-	.20	.13	-	.00
Mean	1.09	1.14	1.11	1.95	2.31	2.42	1.54	1.31	1.17	1.13	1.07	1.02
Max.	1.26	1.62	1.35	5.27	4.15	4.35	1.87	1.44	1.23	1.19	1.14	1.08
Min.	1.01	1.03	1.03	1.23	1.62	1.76	1.36	1.21	1.14	1.13	1.05	1.00

WATER YEAR 1977 : Max. 5.27 m. Min. 1.00 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	15	13	18	71	245	121	58	38	24	22	19	16
2	20	16	16	44	233	97	62	39	23	19	18	15
3	24	19	16	31	303	96	58	36	23	19	18	14
4	18	18	24	30	217	89	64	35	23	19	18	13
5	19	19	20	28	178	75	53	34	23	19	18	13
6	23	18	17	25	140	87	51	32	23	19	18	13
7	18	19	16	36	113	133	50	32	23	22	17	13
8	17	19	15	37	114	95	72	31	23	21	16	13
9	19	39	14	68	95	104	54	31	23	19	16	13
10	16	52	13	46	77	138	49	30	23	19	15	13
11	19	27	13	36	97	125	49	30	23	19	15	13
12	17	21	13	30	86	96	46	30	23	19	15	13
13	16	23	32	30	69	89	47	30	22	19	14	13
14	14	19	21	34	67	83	46	29	22	19	14	13
15	14	22	17	41	57	80	47	29	21	19	14	13
16	14	16	20	61	52	72	45	29	21	19	14	13
17	13	14	16	42	78	63	42	29	21	19	14	13
18	13	14	14	53	68	94	41	28	20	19	14	13
19	24	13	13	46	82	328	38	28	20	19	14	13
20	27	16	25	39	80	203	37	28	20	19	14	13
21	19	14	21	59	84	191	36	28	20	20	14	13
22	17	13	17	69	106	262	35	27	20	20	14	13
23	18	16	16	184	96	237	34	26	20	19	15	12
24	13	25	15	168	96	164	33	25	21	19	14	12
25	12	25	21	123	68	131	57	25	21	19	14	12
26	12	22	19	106	60	108	50	25	21	19	14	12
27	12	19	19	83	71	96	37	28	20	19	19	12
28	12	18	18	71	60	84	36	35	19	19	17	12
29	12	18	17	80	83	80	41	25	21	19	–	12
30	12	17	16	462	165	71	37	24	25	19	–	11
31	–	18	–	364	163	–	37	–	23	19	–	11
Total	499	622	532	2,597	3,503	3,692	1,442	896	675	599	436	398
Mean	16.6	20.0	17.7	837	113	123	46.5	29.8	21.7	19.3	15.5	12.8
Max.	27	52	32	462	303	328	72	39	25	22	19	16
Min.	12	13	13	25	52	63	33	24	19	19	14	11
Runoff – mcm.	43.114	53.741	45.965	224.381	302.659	318.989	124.589	77.414	58.320	51.754	37.670	34.387

WATER YEAR 1977 : Max. 462 Min. 11 Mean 43.5 Annual Runoff 1,372.982 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Jul. 30	18.00	5.35	475				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
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 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 at: + 17.00 m. (M.S.L.)

Bench Mark: B.M. - H.S./RID

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 hourly 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, no shifting adjustment for flow computation.

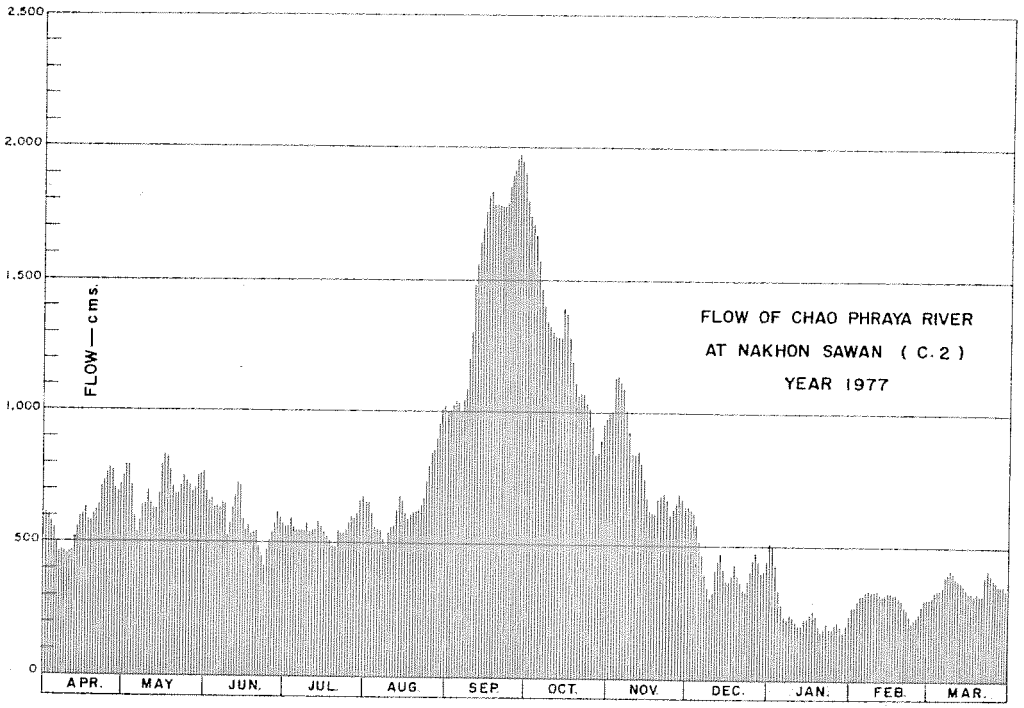
Overbank Flow Conditions: No overbank flow.

General Description: Records good. Stage-discharge relation defined by 189 discharge measurements made in 1977.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	19.78	20.25	20.04	19.62	19.95	20.87	22.63	20.84	19.90	19.46	18.48	18.66
2	.77	.33	19.94	.64	.91	.92	.54	.88	.86	.41	.50	.68
3	.71	.31	.98	.73	.76	.98	.50	21.18	.82	.20	.60	.78
4	.61	.07	.87	.62	.62	.94	.33	.21	.61	18.79	.70	.78
5	.43	19.65	.87	.60	.61	.85	.02	.14	.47	.49	.71	.82
6	19.29	19.55	19.85	19.60	19.56	20.95	21.95	21.09	19.27	18.33	18.74	18.84
7	.31	.76	.91	.59	.46	21.03	.81	20.92	.07	.28	.79	19.04
8	.29	.86	.91	.57	.40	.23	.67	.74	18.83	.33	.79	.04
9	.28	.91	.50	.66	.54	.54	.63	.45	.66	.35	.78	.11
10	.32	20.03	.62	.57	.63	.85	.62	.44	.74	.30	.79	.06
11	19.47	19.86	19.88	19.59	19.65	22.16	21.57	20.46	19.08	18.22	18.78	18.98
12	.62	.83	20.06	.58	.82	.33	.56	.48	.19	.15	.71	.97
13	.75	.84	.14	.61	.97	.44	.67	.30	.33	.13	.71	.96
14	.76	.98	.10	.70	20.01	.58	.81	.16	.15	.29	.74	.87
15	.85	20.30	19.73	.60	19.84	.75	.76	.02	18.98	.28	.77	.82
16	19.70	20.43	19.59	19.54	19.73	22.79	21.62	19.86	18.92	18.38	18.74	18.74
17	.69	.42	.65	.50	.75	.70	.43	.82	.98	.43	.76	.80
18	.75	.26	.55	.44	.80	.67	.28	.80	19.18	.35	.69	.74
19	.77	.11	.56	.38	.82	.68	.13	.96	.09	.19	.67	.76
20	.80	.02	.59	.37	.83	.68	.03	20.02	.00	.03	.60	.72
21	19.87	20.01	19.34	19.59	19.87	22.65	21.04	20.03	18.88	18.08	18.50	18.72
22	20.46	.07	.24	.57	.94	.68	.04	.05	.72	.18	.44	19.00
23	.14	.14	.12	.57	20.03	.76	20.98	19.98	.85	.15	.23	.11
24	.21	.16	.32	.60	.27	.89	.92	.80	19.06	.04	.28	.05
25	.26	.15	.45	.68	.41	.97	.87	.84	.21	.07	.32	.00
26	20.27	20.09	19.54	19.75	20.47	23.04	20.57	19.94	19.32	18.22	18.32	18.95
27	.14	.03	.65	.73	.51	.08	.40	20.04	.29	.19	.52	.85
28	.02	.17	.81	.78	.68	.05	.51	19.99	.15	.12	.63	.88
29	.05	.23	.76	.96	.88	22.97	.65	.98	.01	17.99	-	.87
30	.14	.24	.68	.99	.94	.83	.76	.89	.12	18.21	-	.82
31	-	.25	-	.94	.90	-	.79	-	.29	.36	-	.77
Mean	19.77	20.07	19.71	19.63	19.98	22.19	21.42	20.00	19.16	18.35	18.62	18.88
Max.	20.27	20.43	20.14	19.99	20.94	23.08	22.63	21.21	19.90	19.46	18.79	19.11
Min.	19.28	19.55	19.12	19.37	19.40	20.85	20.40	19.80	18.66	17.99	18.23	18.66

WATER YEAR 1977 : Max. 23.08 m. Min. 17.99 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	612	772	699	564	667	1,004	1,753	993	650	516	271	309
2	609	800	664	570	653	1,024	1,714	1,008	637	502	275	313
3	591	793	678	597	606	1,048	1,696	1,128	624	441	296	335
4	561	709	640	564	564	1,032	1,631	1,140	561	337	317	335
5	508	573	640	558	561	996	1,485	1,112	519	273	319	344
6	467	543	634	558	546	1,036	1,454	1,092	461	240	326	349
7	473	606	653	555	516	1,068	1,392	1,024	407	230	337	399
8	467	637	653	549	499	1,148	1,331	954	346	240	337	399
9	464	653	528	576	540	1,274	1,313	843	309	244	335	418
10	476	695	564	549	567	1,410	1,309	840	326	234	337	405
11	519	637	644	555	573	1,546	1,287	847	410	219	335	384
12	564	628	706	552	624	1,631	1,282	856	439	206	319	381
13	603	631	734	561	674	1,670	1,287	790	479	202	319	379
14	606	678	720	588	688	1,731	1,392	741	428	232	326	356
15	634	790	597	558	631	1,809	1,370	692	384	230	332	344
16	588	836	555	540	597	1,828	1,309	637	368	250	326	326
17	585	832	573	528	603	1,785	1,228	624	384	260	330	339
18	603	776	543	511	618	1,771	1,168	618	436	244	315	326
19	609	723	546	493	624	1,776	1,108	671	412	213	311	330
20	618	692	555	490	628	1,776	1,068	692	389	185	296	321
21	640	688	482	555	640	1,762	1,072	695	358	194	275	321
22	706	709	453	549	664	1,776	1,972	702	321	211	262	389
23	734	754	420	549	695	1,814	1,048	678	351	206	221	418
24	758	741	476	558	779	1,876	1,024	618	405	187	230	402
25	776	737	513	582	829	1,915	1,004	631	444	192	238	389
26	779	716	540	603	851	1,948	889	664	476	219	246	376
27	734	695	573	597	866	1,967	825	699	467	213	279	351
28	692	744	621	612	930	1,953	866	681	428	201	302	358
29	702	765	606	671	1,008	1,915	919	678	392	178	–	356
30	734	769	582	681	1,032	1,847	961	647	420	217	–	344
31	–	772	–	664	1,016	–	973	–	467	246	–	332
Total	18,412	22,074	17,792	17,637	21,289	47,126	38,220	23,995	13,498	7,762	8,412	11,128
Mean	614	712	593	569	687	1,571	1,233	800	435	250	300	359
Max.	779	836	734	681	1,032	1,967	1,753	1,140	650	516	337	418
Min.	464	543	420	490	499	996	825	618	309	178	221	309
Runoff – mcm.	1,590.797	1,907.194	1,537.229	1,523.837	1,839.370	4,071.686	3,302.208	2,073.168	1,166.227	670.637	726.797	961.459

WATER YEAR 1977 : Max. 1,967 Min. 178 Mean 678 Annual Runoff 21,370.608 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sept. 22	12.00	23.10	1,977				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
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 150 meters upstream from C7 at Ban Bang Kaeo, Amphoe Muang, Ang Thong.

Drainage Area: Flood plain.

Type of Gage: Water-stage recorder.

Zero Gage at Bottom at: + 0.00 m. (M.S.L.)

Bench Mark: B.M. - H.S.

Location: North of gage building about 3 meters.
Elevation: + 7.085 m. (M.S.L.)

Gage Reading Frequency: Recording

Basis of Mean Daily Gage Height: Arithmetic Mean of 24 hourly readings.

Period of Available Gage Records: 1971 to date.

Rating Operation:

Period of Rating: 1976 to date.
Rated by Float: -
Rated by Current Meter: 1976 to date.

Stability of Channel Regimes: Fairly stable because of backwater effect, no shifting adjustment for flow computation.

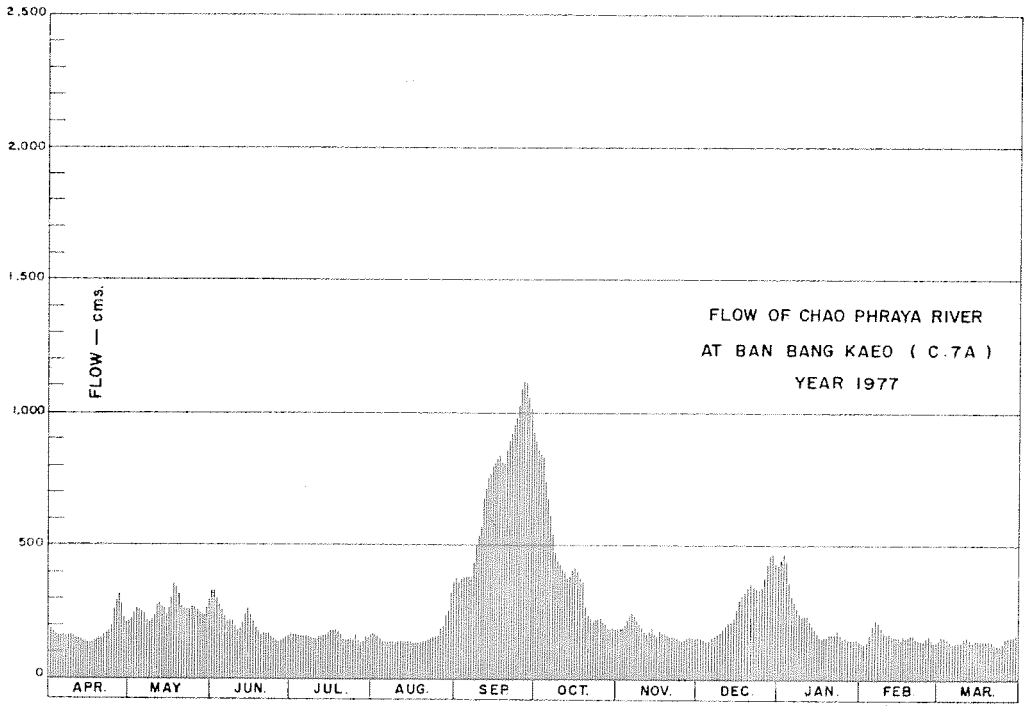
Overbank Flow Conditions: No overbank flow.

General Description: Records fair. Stage-discharge relation defined by 112 discharge measurements made in 1976.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.83	1.03	1.84	0.72	0.78	2.08	4.84	0.89	0.66	2.39	0.50	0.61
2	.74	.10	.83	.74	.68	.04	.64	.91	.64	.51	.48	0.70
3	.69	.40	.54	.70	.63	.11	.46	.88	.61	.59	.60	.66
4	.73	.37	.51	.69	.59	.10	.43	.97	.61	.40	.60	.63
5	.75	.38	.38	.72	.51	.10	.17	1.14	.60	.01	.90	.55
6	0.74	1.29	1.15	0.69	0.48	2.14	3.65	1.31	0.62	1.69	1.14	0.48
7	.74	.16	.07	.64	.52	.07	.20	.30	.65	.50	.11	.48
8	.73	.10	.17	.62	.48	.41	2.84	.16	.70	.38	.09	.51
9	.71	.13	.12	.63	.56	.75	.60	.06	.77	.28	0.90	.50
10	.70	.25	0.87	.58	.51	.98	.44	0.99	.74	.20	.75	.56
11	0.66	1.48	0.82	0.68	0.55	3.38	2.34	0.84	0.92	1.26	0.78	0.64
12	.60	.54	.86	.73	.60	.83	.25	.74	.99	.16	.78	.62
13	.55	.40	.97	.72	.53	4.08	.13	.84	1.02	.01	.69	.54
14	.52	.39	1.25	.75	.61	.16	.15	.93	.11	0.89	.66	.54
15	.51	.21	.40	.79	.61	.26	.24	.81	.26	.82	.66	.55
16	0.52	1.61	1.25	0.83	0.56	4.40	2.36	0.76	1.41	0.68	0.59	0.59
17	.59	.99	0.97	.81	.50	.43	.29	.84	.62	.65	.69	.60
18	.55	2.00	.82	.80	.48	.37	.05	.82	.65	.66	.63	.56
19	.63	1.87	.78	.83	.49	.31	1.74	.77	.71	.69	.69	.55
20	.61	.69	.73	.66	.53	.42	.45	.70	.85	.77	.73	.54
21	0.66	1.48	0.77	0.56	0.49	4.67	1.24	0.63	1.94	0.73	0.73	0.50
22	.70	.36	.77	.57	.55	.82	.14	.63	.91	.76	.61	.41
23	.80	.35	.70	.61	.63	.94	.13	.65	.87	.85	.57	.39
24	1.10	.41	.64	.54	.65	5.08	.14	.63	.86	.70	.56	.40
25	.36	.45	.56	.58	.65	.22	.17	.61	.91	.60	.57	.54
26	1.54	1.44	0.51	0.60	0.89	5.34	1.20	0.59	2.17	0.66	0.69	0.62
27	.76	.38	.57	.50	.93	.42	.08	.63	.35	.59	.65	.65
28	.43	.32	.68	.54	1.21	.39	.00	.65	.52	.59	.52	.65
29	.17	.27	.66	.71	.31	.25	0.83	.67	.55	.57	-	.66
30	.07	.41	.66	.70	.56	.09	.88	.63	.47	.56	-	.69
31	-	.64	-	.75	.99	-	.89	-	.35	.58	-	.62
Mean	0.82	1.41	0.99	0.66	0.71	3.85	2.25	0.83	1.25	1.12	0.71	0.56
Max.	1.76	2.00	1.84	0.83	1.99	5.42	4.84	1.31	2.55	2.59	1.14	0.70
Min.	0.51	1.03	0.51	0.50	0.48	2.04	0.83	0.59	0.60	0.56	0.48	0.39

WATER YEAR 1977 : Max. 5.42 m. Min. 0.39 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	180	208	334	165	173	376	932	189	156	432	136	149
2	168	218	332	168	159	369	882	191	191	454	134	162
3	161	262	284	162	152	382	839	187	149	468	148	156
4	166	257	280	161	147	380	833	200	149	434	148	152
5	169	259	259	165	137	380	777	224	148	364	190	142
6	168	245	225	161	134	387	672	248	151	308	224	134
7	168	226	214	154	138	375	582	246	155	278	219	134
8	166	218	228	151	134	436	514	226	162	259	217	137
9	163	222	221	152	143	497	470	212	172	243	190	136
10	162	239	187	146	137	540	441	203	168	232	169	143
11	156	275	179	159	142	618	423	182	193	240	173	154
12	148	284	184	166	148	708	407	168	203	226	168	151
13	142	262	200	165	140	758	385	182	207	205	161	141
14	138	260	239	169	149	775	389	194	219	189	156	141
15	137	233	262	175	149	796	405	177	240	179	156	142
16	138	296	239	180	143	826	427	170	264	159	147	147
17	147	360	200	177	136	833	414	182	297	155	161	148
18	142	362	179	176	134	819	371	179	302	156	152	143
19	152	339	173	180	135	806	317	172	312	161	161	142
20	149	308	166	156	140	830	270	162	335	172	166	141
21	156	275	172	143	135	889	238	152	351	166	163	136
22	162	256	172	144	142	927	224	152	346	170	149	125
23	176	254	162	149	152	960	222	155	339	183	144	123
24	218	264	154	141	155	1,004	224	152	337	162	143	124
25	256	270	143	146	155	1,053	228	149	346	148	144	141
26	284	268	137	176	189	1,097	232	147	393	156	161	151
27	320	259	144	136	194	1,128	215	152	425	147	155	155
28	267	249	159	141	233	1,116	204	155	456	147	138	155
29	227	242	156	163	248	1,062	180	158	461	144	–	156
30	214	264	156	162	287	1,007	187	152	447	143	–	161
31	–	300	–	169	360	–	189	–	425	146	–	151
Total	5,400	8,234	6,140	4,958	5,120	22,134	13,093	5,418	8,462	7,026	4,573	4,473
Mean	180	266	205	160	165	738	423	181	273	227	163	144
Max.	320	362	334	180	360	1,128	932	248	461	468	224	162
Min.	137	208	137	136	134	369	180	147	148	143	134	123
Runoff – MCM.	466.560	711.418	530.496	428.371	442.368	1,912.378	1,131.235	468.115	731.117	607.046	395.107	386.467

WATER YEAR 1977 : Max. 1,128 Min. 123 Mean 260 Annual Runoff 8,210.678 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sept.27	12.00	5.43	1,133				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
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 about 1.5 kilometers downstream from Chao Phya Diversion Dam, Amphoe Sanphya, Chai Nat.

Drainage Area: 120,693 Sq.km.

Type of Gage: Staff gage.

Zero Gage at Bottom at: + 7.00 m. (M.S.L.)

Bench Mark: B.M. - C13

Location: Along the gage line.
Elevation: + 15.634 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.
Rated by Float: -
Rated by Current Meter: 1953-1962, 1965-1968, 1972, 1975-1976.

Stability of Channel Regimes: Stable, no shifting adjustment for flow computation.

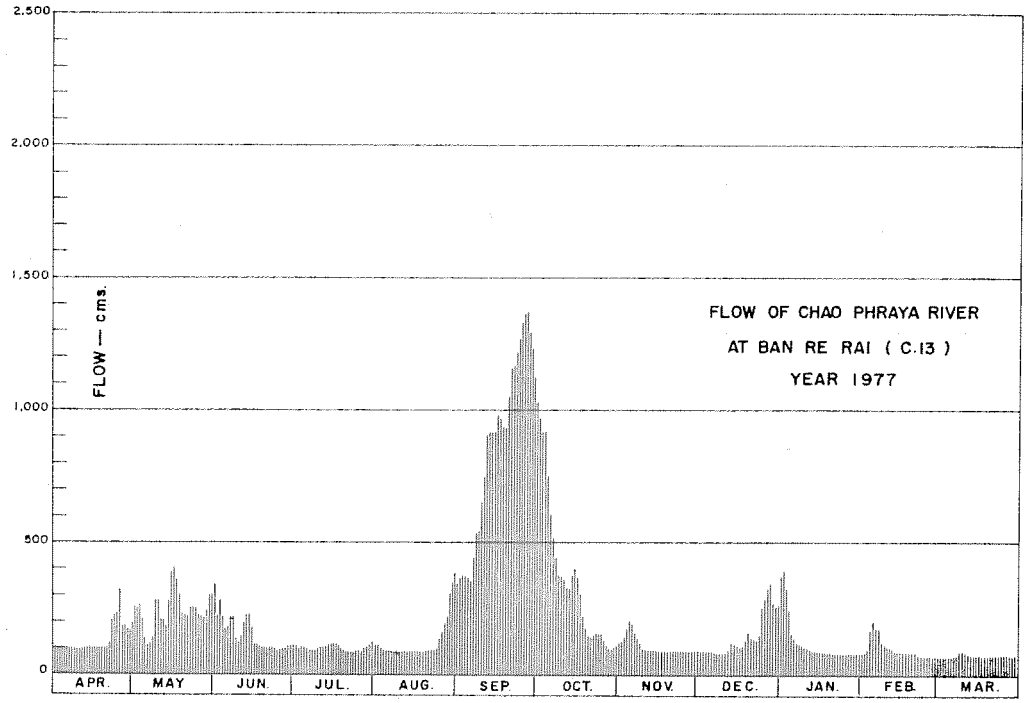
Overbank Flow Conditions: No overbank flow.

General Description: Records fair. Stage-discharge relation defined by 11 discharge measurements made in 1976. Flow regulated by Chao Phya Diversion Dam at above gage site which diverted for irrigation of about 979,000 hectares.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	7.20	7.98	8.60	7.28	7.29	8.63	11.02	7.37	7.10	8.69	7.03	6.91
2	.18	8.18	.00	.21	.29	.72	10.80	.41	.10	.82	.03	.91
3	.18	.13	.30	.19	.25	.73	.69	.51	.11	.62	.14	.91
4	.17	.23	.00	.24	.11	.72	.69	.76	.11	.19	.60	.91
5	.16	7.60	7.70	.20	.09	.72	9.99	.90	.11	7.62	.89	.92
6	7.16	7.32	7.78	7.16	7.08	8.60	9.62	7.84	7.07	7.47	7.77	6.92
7	.15	.28	.96	.10	.08	9.07	.33	.63	.04	.37	.73	.94
8	.13	.43	.96	.10	.07	.39	.09	.49	.03	.31	.42	7.11
9	.12	.50	.50	.12	.07	.44	8.74	.39	.03	.25	.30	.11
10	.12	8.30	.36	.20	.07	.91	.73	.20	.03	.24	.30	.09
11	7.12	8.31	7.48	7.21	7.07	10.31	8.70	7.13	7.03	7.24	7.21	7.00
12	.13	7.95	.75	.22	.08	.66	.54	.13	.11	.18	.15	6.97
13	.14	.91	.99	.27	.09	.68	.53	.13	.31	.10	.09	.96
14	.14	.69	8.00	.32	.10	.68	.70	.12	.36	.08	.07	.96
15	.15	8.38	7.80	.36	.11	.68	.86	.11	.30	.07	.07	.95
16	7.16	8.83	7.36	7.32	7.10	10.88	8.80	7.11	7.17	7.07	7.06	6.95
17	.16	.85	.33	.26	.09	.84	.46	.10	.21	.07	.06	.94
18	.16	.55	.29	.17	.09	.72	.16	.09	.39	.07	.05	.93
19	.16	.39	.20	.15	.09	.72	7.79	.09	.53	.06	.05	.93
20	.17	.00	.20	.09	.09	11.02	.55	.09	.64	.05	.04	.92
21	7.20	7.97	7.20	7.07	7.09	11.39	7.49	7.10	7.46	7.05	7.02	6.91
22	.38	.96	.20	.07	.09	.42	.56	.11	.44	.04	6.91	.91
23	.89	8.16	.18	.07	.10	.58	.61	.15	.42	.04	.90	.91
24	8.08	.16	.15	.07	.19	.75	.62	.11	.55	.03	.90	.93
25	.09	.14	.14	.18	.45	.87	.59	.08	8.22	.02	.90	.94
26	8.50	8.00	7.14	7.10	7.65	11.96	7.46	7.08	8.38	7.02	6.90	6.95
27	7.79	7.94	.15	.18	.85	.97	.29	.08	.51	.02	.90	.95
28	.75	.94	.16	.24	.96	.80	.16	.09	.62	.02	.90	.94
29	.64	6.09	.20	.27	8.43	.61	.13	.09	.39	.02	-	.94
30	.63	.38	.28	.37	.61	.27	.22	.10	.16	.02	-	.93
31	-	.40	-	.33	.78	-	.31	-	.27	.02	-	.93
Mean	7.37	8.06	7.58	7.20	7.34	10.46	8.52	7.25	7.49	7.32	7.16	6.95
Max.	8.50	8.85	8.60	7.37	8.78	11.97	11.02	7.90	8.62	8.82	7.89	7.11
Min.	7.12	7.28	7.14	7.07	7.07	8.60	7.13	7.08	7.03	7.02	6.90	6.91

WATER YEAR 1977 : Max. 11.97 m. Min. 6.90 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	105	221	343	114	115	350	1,033	126	94	363	86	74
2	103	258	225	106	115	370	958	131	94	393	86	74
3	103	249	281	104	110	372	922	146	95	347	98	74
4	102	268	225	109	95	370	922	184	95	260	160	74
5	101	160	175	105	93	370	709	207	95	163	205	75
6	101	119	187	101	92	343	602	197	91	140	185	75
7	99	114	218	94	92	454	521	164	87	126	179	77
8	97	134	218	94	91	537	459	143	86	117	133	95
9	96	145	145	96	91	551	374	129	86	110	116	95
10	96	281	124	105	91	686	372	105	86	109	116	93
11	96	283	142	106	91	805	365	97	86	109	106	83
12	97	216	182	107	92	912	330	97	95	103	99	80
13	98	209	223	113	93	919	328	97	117	94	93	79
14	98	173	225	119	94	919	365	96	124	92	91	79
15	99	297	190	124	95	919	402	95	116	91	91	78
16	101	395	124	119	94	985	388	95	102	91	90	78
17	101	400	120	112	93	972	313	94	106	91	90	77
18	101	332	115	102	93	932	254	93	129	91	88	76
19	101	299	105	99	93	932	188	93	149	90	88	76
20	102	225	105	93	93	1,033	152	93	166	88	87	75
21	105	220	105	91	93	1,159	143	94	139	88	85	74
22	127	218	105	91	93	1,169	154	95	136	87	74	74
23	205	254	103	91	94	1,225	161	99	133	87	73	74
24	239	254	99	91	104	1,287	163	95	152	86	74	76
25	241	251	98	103	137	1,333	158	92	266	85	73	77
26	321	225	98	94	167	1,368	139	92	297	85	73	78
27	188	214	99	103	198	1,372	115	92	323	85	73	78
28	182	214	101	109	218	1,306	101	93	347	85	73	77
29	166	241	105	113	307	1,236	97	93	299	85	–	77
30	164	297	114	126	345	1,118	107	94	254	85	–	76
31	–	301	–	120	383	–	117	–	255	85	–	76
Total	3,935	7,467	4,699	3,254	4,055	26,304	11,412	3,421	4,700	4,011	2,884	2,424
Mean	131	241	157	105	131	877	36.8	114	152	129	103	78.2
Max.	321	400	343	126	383	1,372	1,033	207	347	393	205	95
Min.	96	114	98	91	91	343	97	92	86	85	73	74
Runoff - mcm.	339.984	645.149	405.994	281.146	350.352	2,272.666	985.997	295.574	406.080	346.550	249.178	209.434

WATER YEAR 1977 : Max. 1,372 Min. 73 Mean 215 Annual Runoff 6,788.102 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sept. 26	24.00	12.02	1,392				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
CHAO PHRAYA RIVER BASIN

Chao Phraya River at Ban Kum, Phra Nakhon Si Ayutthaya (C. 15)

Location: Lat. 14°-25'-35" N., Long. 100°-29'-11" E., on left bank infront of Wat Chula Mani 100 meters upstream from confluence with Khlong Bang Ban, Amphoe Bang Ban, Phra Nakhon Si Ayutthaya.

Drainage Area: Flood plain.

Type of Gage: Water-stage recorder.

Zero Gage at Bottom at: - 0.25 m. (M.S.L.)

Bench Mark: B.M. C15 about 15 meters from BM-H.S./RID No.9

Location: On left bank north of Wat Chula Mani.
Elevation: + 4.301 m. (M.S.L.)

Gage Reading Frequency: Recording

Basis of Mean Daily Gage Height: Arithmetic mean of 24 hourly readings.

Period of Available Gage Records: 1950 to date.

Rating Operation:

Period of Rating: 1955
Rated by Float: -
Rated by Current Meter: 1955

Stability of Channel Regimes: Fairly stable, no shifting adjustment for flow computation.

Overbank Flow Conditions: Overbank flow starts at elevation + 3.90 m. (M.S.L.), records are channel flow only.

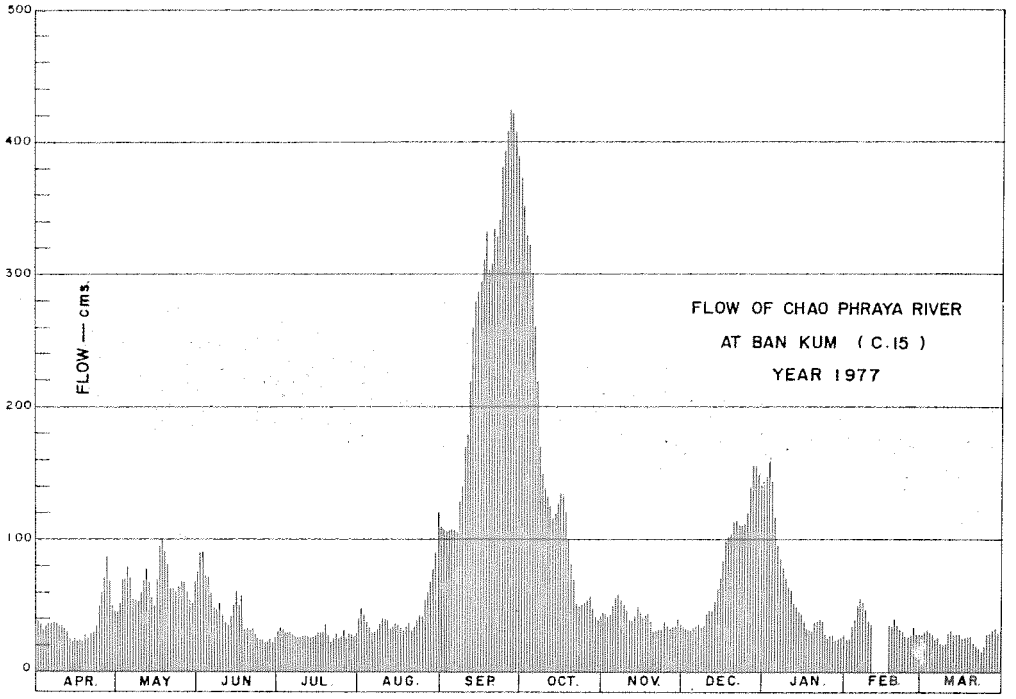
General Description: Records fair. Stage-discharge relation defined by 287 discharge measurements made in 1955. Flow regulated by Chao Phya Diversion Dam at Chai Nat.

Remarks: No records on February 12-16, 1977.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.56	0.69	1.26	0.47	0.71	1.48	3.72	0.67	0.52	1.83	1.36	0.42
2	.51	.79	.28	.50	.64	.45	.57	.65	.49	.90	.35	.47
3	.49	1.01	.05	.45	.60	.48	.44	.63	.47	2.01	.49	.44
4	.53	.10	.04	.43	.56	.47	.40	.67	.45	1.86	.56	.44
5	.54	.14	0.95	.45	.46	.48	.19	.75	.49	.57	.69	.36
6	0.55	0.97	0.73	0.41	0.42	1.47	2.76	0.85	0.51	1.35	0.83	0.39
7	.57	.82	.70	.39	.46	.44	.38	.86	.53	.21	.80	.34
8	.54	.79	.76	.36	.49	.75	.08	.80	.50	.13	.78	.29
9	.54	.79	.78	.37	.60	.94	1.93	.75	.54	.06	.68	.27
10	.51	.88	.63	.39	.58	2.10	.80	.68	.65	0.95	.58	.40
11	0.46	1.04	0.54	0.38	0.58	2.23	1.75	0.59	0.70	0.92	0.54	0.46
12	.43	.10	.51	.39	.51	.81	.69	.59	.69	.78	-	.43
13	.34	0.97	.60	.37	.49	3.02	.58	.64	.78	.77	-	.40
14	.31	.83	.77	.39	.53	.11	.60	.72	.91	.68	-	.42
15	.35	.74	.90	.40	.53	.14	.69	.70	.99	.66	-	.41
16	0.31	0.98	0.75	0.43	0.50	3.19	1.77	0.63	1.18	0.57	-	0.37
17	.37	1.32	.55	.44	.46	.35	.73	.65	.34	.49	0.51	.37
18	.27	.39	.47	.43	.46	.47	.55	.67	.39	.46	.50	.40
19	.40	.28	.48	.55	.55	.25	.27	.56	.44	.46	.60	.38
20	.35	.14	.47	.38	.50	.29	.15	.49	.54	.58	.55	.30
21	0.42	0.91	0.49	0.32	0.44	3.49	0.91	0.44	1.57	0.58	0.49	0.29
22	.45	.92	.41	.37	.52	.42	.77	.48	.53	.61	.46	.22
23	.54	.89	.36	.41	.57	.70	.74	.49	.50	.59	.40	.16
24	.76	.94	.34	.38	.64	.82	.77	.57	.51	.42	.38	.29
25	.95	.97	.34	.39	.63	.92	.79	.51	.55	.35	.40	.42
26	1.07	0.97	0.30	0.46	0.82	4.00	0.85	0.49	1.73	0.41	0.54	0.42
27	.23	.90	.33	.38	.90	.10	.85	.49	.88	.40	.48	.47
28	0.95	.82	.35	.41	1.02	.08	.74	.52	.98	.33	.41	.49
29	.74	.78	.31	.42	.13	3.99	.63	.60	.98	.35	-	.40
30	.68	.90	.38	.39	.46	.86	.60	.55	.92	.37	-	.45
31	-	1.09	-	.48	.62	-	.63	-	.84	.41	-	.41
Mean	0.56	0.96	0.63	0.41	0.66	2.84	1.69	0.62	1.13	0.84		0.38
Max.	1.23	1.39	1.28	0.50	1.62	4.10	3.72	0.86	1.98	2.01		0.49
Min.	0.27	0.69	0.30	0.32	0.42	1.44	0.60	0.44	0.45	0.33		0.16

WATER YEAR 1977 : Max. 4.10 m. Min. 0.16 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	38	46	90	32	48	108	367	45	35	141	26	29
2	35	53	91	34	43	105	346	43	33	148	25	32
3	33	70	73	31	40	108	328	42	32	159	33	30
4	36	70	72	30	38	107	322	45	31	144	38	30
5	36	80	65	31	32	108	295	50	33	116	46	26
6	37	67	49	29	29	107	241	57	35	97	56	27
7	38	55	47	27	32	105	198	58	36	86	54	24
8	36	53	51	26	33	133	166	54	34	79	53	21
9	36	53	53	26	40	152	151	50	36	74	46	21
10	35	60	42	27	39	168	138	46	43	65	39	28
11	32	72	36	27	39	182	133	39	47	63	36	32
12	30	77	35	27	35	247	127	39	46	53	–	30
13	24	67	40	26	33	273	117	43	53	52	–	28
14	23	56	52	27	36	284	119	48	62	46	–	29
15	25	50	61	28	36	288	127	47	68	44	–	29
16	23	67	50	30	34	295	135	42	83	38	–	26
17	26	95	57	30	32	315	131	43	96	33	35	26
18	21	100	32	30	32	332	114	45	100	32	34	28
19	28	91	33	37	37	302	91	38	105	32	40	27
20	25	80	32	27	34	308	81	33	114	39	37	22
21	29	62	33	23	30	335	62	30	116	39	33	21
22	31	63	29	26	35	325	52	33	113	41	32	18
23	36	60	26	29	38	364	50	33	110	39	28	16
24	51	64	24	27	43	381	52	38	111	29	27	21
25	65	67	24	27	42	395	53	35	114	25	28	29
26	75	67	22	32	55	406	57	33	131	29	36	29
27	87	61	24	27	61	422	57	33	146	28	33	32
28	65	55	25	29	71	419	50	35	156	24	29	33
29	50	53	23	29	79	405	42	40	156	25	–	28
30	46	61	27	27	106	386	40	37	150	26	–	31
31	–	76	–	33	121	–	42	–	142	29	–	29
Total	1,152	2,058	1,298	891	1,403	7,865	4,284	1,254	2,567	1,875	–	832
Mean	38.4	66.4	43.3	28.7	45.2	262	138	41.8	82.8	60.5	–	26.8
Max.	87	100	91	34	121	422	367	58	156	159	–	33
Min.	21	46	22	23	29	105	40	30	31	24	–	16
Runoff – mcm.	99.533	177.811	112.147	76.982	121.219	679.536	370.138	108.346	221.789	162.000	–	71.885

WATER YEAR 1977 : Max. 422 Min. 16 Mean Annual Runoff mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sept. 27	15.00	4.13	4.27				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
SAKAE KRANG RIVER BASIN

Nam Wang Ma at Ban San Chao Kai To, Nakhon Sawan (Ct. 4)

Location: Lat. 15°-47'-01" N., Long. 99°-40'-55" E., on left bank near the gage observer's house, San Chao Kai To, Amphoe Lat Yao Khanu, Nakhon Sawan.

Drainage Area: 1,382 Sq.km.

Type of Gage: Staff gage.

Zero Gage at Bottom at: + 0.00 m. (A.D.)

Bench Mark: B.M. - H.S.

Location: Beside the gage observer's house.
Elevation: + 4.005 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: 1967 to date.

Rating Operation:

Period of Rating: 1975 to date.
Rated by Float: -
Rated byCurrent Meter: 1975 to date.

Stability of Channel Regimes: Stable, no shifting adjustment for flow computation.

Overbank Flow Conditions: No overbank flow.

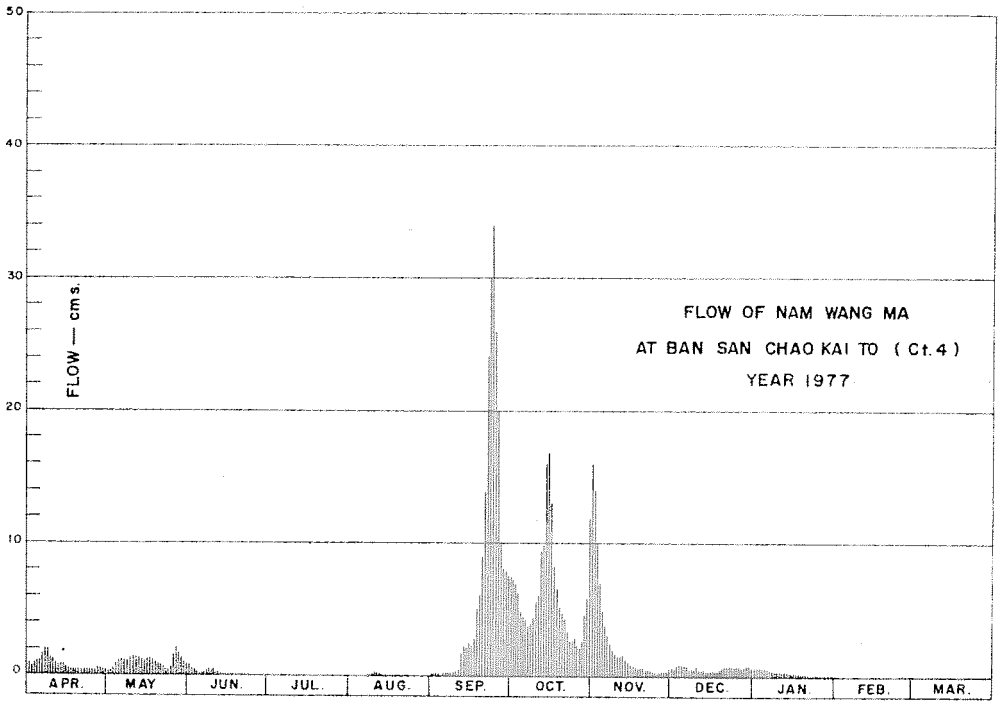
General Description: Records fair. Stage-discharge relation defined by 66 discharge measurements made in 1977.

Remarks: Gage Height and Discharge record for periods of no flow are omitted.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	-0.05	-0.16	-0.01			-0.18	0.74	1.33	-0.06	-0.06	-0.26	-0.34
2	- .06	- .17	- .08			- .21	.70	.07	- .09	- .09	- .30	- .27
3	- .05	- .08	- .12			- .20	.67	0.75	- .01	- .07	- .33	- .29
4	+ .01	- .02	- .18			- .26	.53	.53	- .04	- .06	- .31	- .29
5	.02	0.03	- .21			- .19	.47	.46	- .03	- .07	- .32	- .27
6	0.10	0.04	-0.21			-0.18	0.46	0.35	-0.04	-0.11	-0.31	-0.34
7	.17	.03	- .18		-0.22	- .20	.39	.25	- .12	- .10	- .31	- .36
8	.15	.01	- .12		- .25	- .17	.42	.20	- .11	- .15	- .31	- .39
9	.06	.04	- .14		- .20	- .17	.46	.13	- .08	- .13	- .32	- .37
10	.05	.09	- .13		- .17	- .14	.58	.12	- .04	- .15	- .32	- .38
11	0.00	0.07	-0.22		-0.18	-0.10	0.63	0.09	-0.13	-0.14	-0.32	-0.39
12	-0.03	.06	- .19		- .19	0.06	.89	.11	- .10	- .16	- .33	- .41
13	- .03	.06	- .23		- .24	.19	.97	.06	- .13	- .17	- .35	- .42
14	- .01	.04	- .23		- .25	.18	1.32	.01	- .16	- .17	- .35	- .42
15	- .06	.01	- .22		- .30	.22	.39	.00	- .18	- .20	- .36	- .42
16	-0.07	0.05	-0.22			0.21	1.18	-0.04	-0.15	-0.21	-0.36	
17	- .12	.05	- .21			.29	0.84	- .05	- .14	- .22	- .36	
18	- .12	.05	- .22			.53	.68	- .07	- .16	- .23	- .33	
19	- .13	.01	- .25		-0.32	.63	.57	- .06	- .10	- .22	- .35	-0.38
20	- .11	-0.02	- .28		- .34	.89	.51	- .09	- .10	- .23	- .37	- .38
21	-0.11	-0.03	-0.28			1.31	0.48	-0.11	-0.07	-0.27	-0.38	-0.38
22	- .12	- .06	- .27			.98	.36	- .12	- .07	- .27	- .36	- .38
23	- .11	- .09	- .29		-0.30	2.37	.26	- .13	- .06	- .27	- .40	- .32
24	- .11	- .11	- .29		- .34	.14	.26	- .13	- .06	- .25	- .39	- .33
25	- .13	- .07	- .30			1.75	.29	- .17	- .07	- .28	- .39	- .33
26	-0.10	0.11	-0.32			1.35	0.19	-0.18	-0.07	-0.29	-0.37	-0.37
27	- .07	.18	- .32		-0.30	0.97	.17	- .14	- .07	- .28	- .38	- .38
28	- .08	.14	- .32		- .26	.79	.28	- .14	- .07	- .30	- .34	- .37
29	- .13	.05	- .34		- .26	.76	.47	- .14	- .03	- .31	-	- .38
30	- .15	.00	- .34		- .23	.74	.71	- .09	- .04	- .34	-	- .40
31	-	-0.03	-		- .23	-	1.22	-	- .07	- .34	-	- .41
Mean	-0.05	0.01	-0.22			0.51	0.61	0.13	-0.08	-0.20	-0.34	
Max.	0.17	0.18	-0.01		-0.17	2.37	1.39	1.33	-0.01	-0.06	-0.26	-0.27
Min.	-0.15	-0.17	-0.34			-0.26	0.17	-0.18	-0.18	-0.34	-0.40	-0.42

WATER YEAR 1977 : Max. m. Min. m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.75	0.32	0.95		0.00	0.26	7.48	16	0.70	0.70	0.08	0.00
2	0.70	0.29	0.60		0.00	0.18	7.00	12	0.55	0.55	0.00	0.06
3	0.75	0.60	0.44		0.00	0.20	6.67	7.60	0.95	0.65	0.00	0.02
4	1.06	0.90	0.26		0.00	0.08	5.13	5.13	0.80	0.70	0.00	0.02
5	1.12	1.18	0.18		0.00	0.23	4.50	4.40	0.85	0.65	0.00	0.06
6	1.60	1.24	0.18		0.00	0.26	4.40	3.40	0.80	0.47	0.00	0.00
7	2.09	1.18	0.26		0.16	0.20	3.72	2.65	0.44	0.50	0.00	0.00
8	1.95	1.06	0.44		0.10	0.29	4.00	2.30	0.47	0.35	0.00	0.00
9	1.36	1.24	0.38		0.20	0.29	4.40	1.81	0.60	0.41	0.00	0.00
10	1.30	1.54	0.41		0.29	0.38	5.68	1.74	0.80	0.35	0.00	0.00
11	1.00	1.42	0.16		0.26	0.50	6.23	1.54	0.41	0.38	0.00	0.00
12	0.85	1.36	0.23		0.23	1.36	9.37	1.67	0.50	0.32	0.00	0.00
13	0.85	1.36	0.14		0.12	2.23	10	1.36	0.41	0.29	0.00	0.00
14	0.95	1.24	0.14		0.10	2.16	16	1.06	0.32	0.29	0.00	0.00
15	0.70	1.06	0.16		0.00	2.44	17	1.00	0.26	0.20	0.00	0.00
16	0.65	1.30	0.16		0.00	2.37	13	0.80	0.35	0.18	0.00	0.00
17	0.44	1.30	0.18		0.00	2.93	8.72	0.75	0.38	0.16	0.00	0.00
18	0.44	1.30	0.16		0.00	5.13	6.78	0.65	0.32	0.14	0.00	0.00
19	0.41	1.06	0.10		0.00	6.23	5.57	0.70	0.50	0.16	0.00	0.00
20	0.47	0.90	0.04		0.00	9.37	4.91	0.55	0.50	0.14	0.00	0.00
21	0.47	0.85	0.04		0.00	15	4.60	0.47	0.65	0.06	0.00	0.00
22	0.44	0.70	0.06		0.00	26	3.48	0.44	0.65	0.06	0.00	0.00
23	0.47	0.55	0.02		0.00	34	2.72	0.41	0.70	0.06	0.00	0.00
24	0.47	0.47	0.02		0.00	29	2.72	0.41	0.70	0.10	0.00	0.00
25	0.41	0.65	0.00		0.00	22	2.93	0.29	0.65	0.04	0.00	0.00
26	0.50	1.67	0.00		0.00	16	2.23	0.26	0.65	0.02	0.00	0.00
27	0.65	2.16	0.00		0.00	10	2.09	0.38	0.65	0.04	0.00	0.00
28	0.60	1.88	0.00		0.08	8.08	2.86	0.38	0.65	0.00	0.00	0.00
29	0.41	1.30	0.00		0.08	7.72	4.50	0.38	0.85	0.00	–	0.00
30	0.35	1.00	0.00		0.14	7.48	7.12	0.55	0.80	0.00	–	0.00
31	–	0.85	–		0.14	–	14	–	0.65	0.00	–	0.00
Total	24.21	33.93	5.71		1.90	212.37	199.81	71.08	18.51	7.97	0.08	0.16
Mean	0.81	1.09	0.19		0.061	7.08	6.44	2.37	0.60	0.26	0.00	0.005
Max.	2.09	2.16	0.95		0.29	34	17	16	0.95	0.70	0.08	0.06
Min.	0.35	0.29	0.00		0.00	0.08	2.09	0.26	0.26	0.00	0.00	0.00
Runoff – mcm.	2.092	2.931	0.493		0.164	18.349	17.263	6.141	1.600	0.689	0.007	0.014

WATER YEAR 1977 : Max. 34 Min. 0.00 Mean 1.58 Annual Runoff 49.743 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sept. 23	09.00	2.44	35				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
SAKAE KRANG RIVER BASIN

Mae Wang at Ban Pang Makha, Kamphaeng Phet (Ct. 5A)

Location: Lat. 15°-54'-10" N., Long. 99°-28'-45" E., on left bank behind of Wat Pang Makha, Amphoe Khanuwaralaksa Buri, Kamphaeng Phet.

Drainage Area: 833 Sq.km.

Type of Gage: Water-stage recorder.

Zero Gage at Bottom at: + 0.00 m. (A.D.)

Bench Mark: B.M. - RID

Location: Near automatic gage building.
Elevation: + 4.189 m. (A.D.)

Gage Reading Frequency: Recording

Basis of Mean Daily Gage Height: Arithmetic mean of 24 hourly 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: Stable, no shifting adjustment for flow computation.

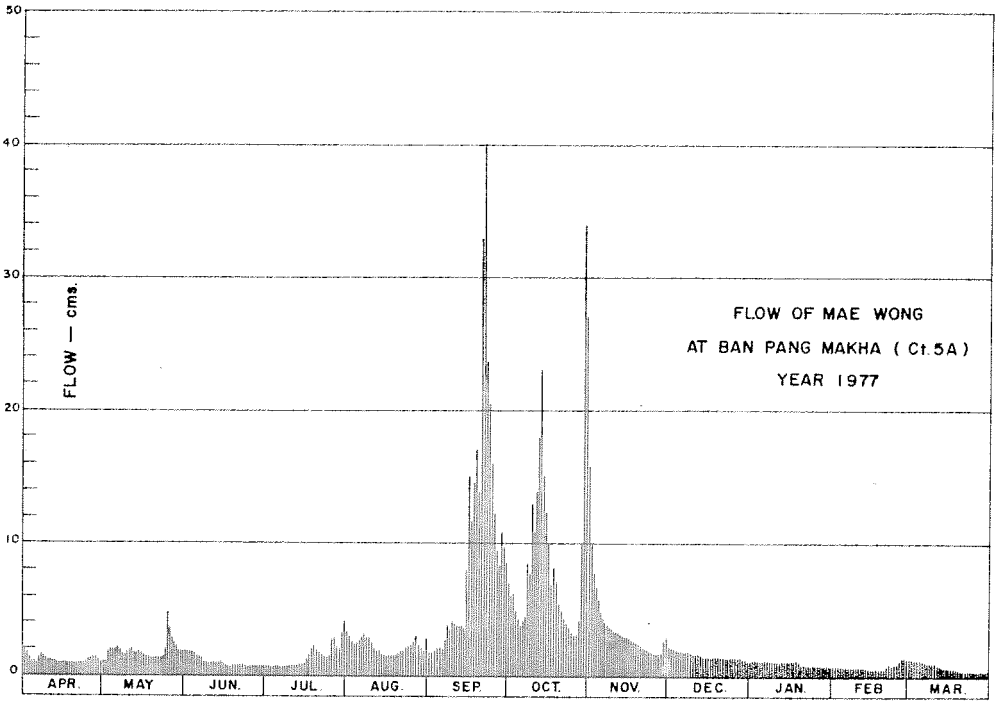
Overbank Flow Conditions: No overbank flow.

General Description: Records good. Stage-discharge relation defined by 172 discharge measurements made in 1977.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.59	0.45	0.56	0.40	0.68	0.56	0.89	1.04	0.59	0.47	0.42	0.50
2	.54	.47	.56	.40	.65	.55	.85	0.95	.58	.47	.42	.49
3	.47	.59	.56	.40	.63	.56	.86	.89	.58	.47	.42	.49
4	.46	.57	.54	.40	.61	.58	.78	.84	.57	.47	.42	.48
5	.45	.56	.52	.41	.62	.60	.75	.79	.56	.47	.42	.48
6	0.45	0.59	0.50	0.41	0.66	0.57	0.83	0.77	0.56	0.47	0.42	0.47
7	.54	.57	.48	.41	.67	.65	.86	.74	.56	.47	.41	.46
8	.51	.52	.44	.41	.65	.74	.93	.73	.56	.46	.41	.46
9	.49	.52	.44	.41	.67	.71	.92	.71	.54	.46	.41	.45
10	.48	.53	.44	.42	.62	.75	1.10	.70	.53	.46	.41	.44
11	0.47	0.59	0.44	0.42	0.59	0.73	1.08	0.70	0.53	0.46	0.41	0.43
12	.46	.57	.44	.42	.57	.73	.22	.69	.53	.46	.41	.42
13	.45	.54	.44	.43	.55	.73	.36	.68	.51	.46	.41	.41
14	.45	.56	.44	.43	.54	.72	.18	.66	.51	.46	.41	.40
15	.44	.55	.44	.44	.52	.90	.09	.66	.50	.45	.41	.40
16	0.44	0.52	0.42	0.46	0.52	1.17	0.98	0.65	0.50	0.45	0.41	0.40
17	.43	.51	.41	.52	.52	.07	.89	.64	.50	.45	.40	.39
18	.43	.49	.41	.57	.52	.22	.94	.63	.50	.45	.40	.39
19	.43	.49	.41	.61	.51	.12	.89	.62	.50	.45	.40	.38
20	.43	.49	.41	.59	.54	.40	.83	.60	.50	.44	.40	.38
21	0.44	0.49	0.41	0.56	0.56	1.68	0.79	0.59	0.51	0.43	0.40	0.38
22	.45	.49	.42	.54	.56	.42	.75	.58	.51	.43	.44	.38
23	.45	.49	.41	.51	.58	.36	.73	.56	.51	.43	.44	.38
24	.46	.54	.41	.50	.60	.29	.70	.55	.50	.43	.46	.38
25	.49	.78	.41	.51	.61	.13	.68	.54	.50	.43	.46	.38
26	0.51	0.70	0.41	0.65	0.62	1.02	0.68	0.54	0.50	0.43	0.49	0.38
27	.51	.63	.41	.66	.68	0.94	.68	.54	.50	.43	.49	.38
28	.50	.60	.41	.59	.62	.98	.88	.54	.49	.42	.50	.37
29	.46	.56	.41	.57	.58	1.03	1.22	.64	.48	.42	-	.37
30	.45	.56	.41	.69	.56	0.99	.18	.67	.48	.42	-	.37
31	-	.56	-	.75	.65	-	-	-	.48	.42	-	.37
Mean	0.47	0.55	0.45	0.50	0.59	0.93	0.94	0.68	0.52	0.45	0.42	0.41
Max.	0.59	0.78	0.56	0.66	0.68	1.68	1.59	1.04	0.59	0.47	0.50	0.50
Min.	0.43	0.45	0.41	0.40	0.51	0.55	0.68	0.54	0.48	0.42	0.40	0.37

WATER YEAR 1977 : Max. 1.68 m. Min. 0.37 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	2.12	1.05	1.88	0.70	3.15	1.88	6.98	11	2.12	1.19	0.84	1.40
2	1.72	1.19	1.88	0.70	2.80	1.80	6.10	8.60	2.04	1.19	0.84	1.33
3	1.19	2.12	1.88	0.70	2.56	1.88	6.32	6.98	2.04	1.19	0.84	1.33
4	1.12	1.96	1.72	0.70	2.32	2.04	4.68	5.88	1.96	1.19	0.84	1.26
5	1.05	1.88	1.56	0.77	2.44	2.20	4.20	4.84	1.88	1.19	0.84	1.26
6	1.05	2.12	1.40	0.77	2.92	1.96	5.66	4.52	1.88	1.19	0.84	1.19
7	1.72	1.96	1.26	0.77	3.04	2.80	6.32	4.04	1.88	1.19	0.77	1.12
8	1.48	1.56	0.98	0.77	2.80	4.04	8.04	3.88	1.88	1.12	0.77	1.12
9	1.33	1.56	0.98	0.77	3.04	3.56	7.76	3.56	1.72	1.12	0.77	1.05
10	1.26	1.64	0.98	0.84	2.44	4.20	13	3.40	1.64	1.12	0.77	0.98
11	1.19	2.12	0.98	0.84	2.12	3.88	12	3.40	1.64	1.12	0.77	0.91
12	1.12	1.96	0.98	0.84	1.96	3.88	17	3.28	1.64	1.12	0.77	0.84
13	1.05	1.72	0.98	0.91	1.80	3.88	23	3.16	1.48	1.12	0.77	0.77
14	1.05	1.88	0.98	0.91	1.72	3.72	16	2.92	1.48	1.12	0.77	0.70
15	0.98	1.80	0.98	0.98	1.56	7.20	13	2.92	1.40	1.05	0.77	0.70
16	0.98	1.56	0.84	1.12	1.56	15	9.44	2.80	1.40	1.05	0.77	0.70
17	0.91	1.48	0.77	1.56	1.56	12	6.98	2.68	1.40	1.05	0.70	0.63
18	0.91	1.33	0.77	1.96	1.56	12	8.32	2.56	1.40	1.05	0.70	0.63
19	0.91	1.33	0.77	2.32	1.48	14	6.98	2.44	1.40	1.05	0.70	0.56
20	0.91	1.33	0.77	2.12	1.72	25	5.66	2.20	1.40	0.98	0.70	0.56
21	0.98	1.33	0.77	1.88	1.88	40	4.84	2.12	1.48	0.91	0.70	0.56
22	1.05	1.33	0.84	1.72	1.88	26	4.20	2.04	1.48	0.91	0.98	0.56
23	1.05	1.33	0.77	1.48	2.04	23	3.88	1.88	1.48	0.91	0.98	0.56
24	1.12	1.72	0.77	1.40	2.20	20	3.40	1.80	1.40	0.91	1.12	0.56
25	1.33	4.68	0.77	1.48	2.32	14	3.16	1.72	1.40	0.91	1.12	0.56
26	1.48	3.40	0.77	2.80	2.44	11	3.16	1.72	1.40	0.91	1.33	0.56
27	1.48	2.56	0.77	2.98	3.16	8.32	3.16	1.72	1.40	0.91	1.33	0.49
28	1.40	2.20	0.77	2.12	2.44	9.44	6.76	1.72	1.33	0.84	1.40	0.49
29	1.12	1.88	0.77	1.96	2.04	11	17	2.68	1.26	0.84	–	0.49
30	1.05	1.88	0.77	3.28	1.88	9.72	34	3.04	1.26	0.84	–	0.49
31	–	1.88	–	4.20	2.80	–	16	–	1.26	0.84	–	0.49
Total	36.11	57.74	31.11	46.29	69.64	304.40	287.00	105.50	48.83	32.13	24.50	24.92
Mean	1.20	1.86	1.04	1.49	2.25	10.1	9.26	3.52	1.57	1.04	0.87	0.80
Max.	2.12	4.68	1.88	2.92	3.16	40	34	11	2.12	1.19	1.40	1.40
Min.	0.91	1.05	0.77	0.70	1.48	1.80	3.16	1.72	1.26	0.84	0.70	0.49
Runoff – MCM.	3.120	4.989	2.688	3.99	6.017	26.300	24.797	9.115	4.219	2.776	2.117	2.153

WATER YEAR 1977 : Max. 40 Min. 0.49 Mean 2.93 Annual Runoff 92.290 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Oct. 30	2.00	1.91	55				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
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: 398 Sq.km.

Type of Gage: Staff gage.

Zero Gage at Bottom at: + 0.00 m. (A.D.)

Bench Mark: B.M. – H.S.

Location: Infront of gage observer's house.
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: 1975 to date.

Rating Operation:

Period of Rating: 1975 to date.
Rated by Float: –
Rated by Current Meter: 1975 to date.

Stability of Channel Regimes: Fairly stable, no shifting adjustment for flow computation.

Overbank Flow Conditions: No overbank flow.

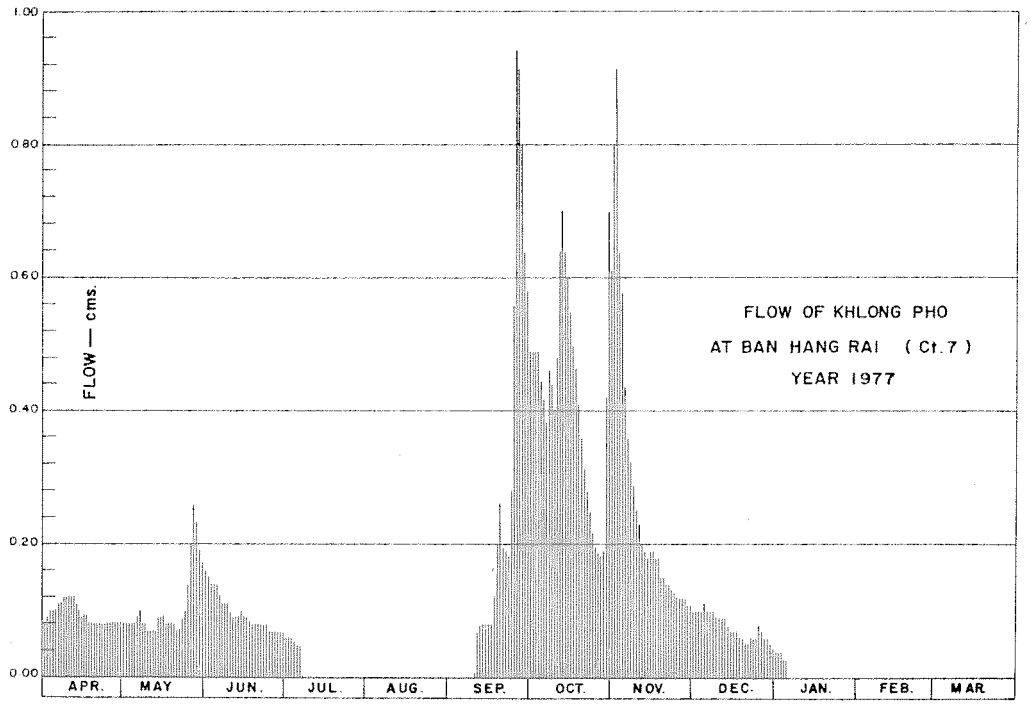
General Description: Records fair. Stage-discharge relation defined by 91 discharge measurements made in 1977. Flow is under construction of Dam Site about 2 kilometers.

Remarks: Gage Height and Discharge record for periods of no flow are omitted.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.08	0.08	0.16	0.06			0.33	0.47	0.10	0.04		
2	.09	.08	.15	.06			.33	.42	.10	.04		
3	.10	.08	.14	.06			.33	.38	.10	.04		
4	.10	.08	.14	.06			.32	.36	.10	.03		
5	.10	.08	.14	.05			.31	.32	.11	.03		
6	0.11	0.09	0.13	0.05			0.30	0.29	0.10			
7	.11	.10	.11	.05			.29	.27	.10			
8	.12	.08	.11				.32	.25	.10			
9	.12	.08	.11				.31	.23	.10			
10	.12	.07	.10				.30	.22	.09			
11	0.12	0.07	0.09			0.07	0.36	0.21	0.09			
12	.12	.07	.09			.08	.40	.20	.09			
13	.11	.07	.09			.08	.38	.19	.09			
14	.10	.09	.10			.08	.37	.18	.08			
15	.09	.09	.09			.08	.36	.19	.07			
16	0.09	0.09	0.09			0.08	0.34	0.19	0.07			
17	.09	.08	.09			.08	.33	.18	.07			
18	.08	.08	.08			.19	.31	.18	.07			
19	.08	.08	.08			.23	.30	.15	.06			
20	.08	.08	.08			.20	.27	.15	.06			
21	0.08	0.07	0.08			0.19	0.26	0.14	0.05			
22	.08	.07	.08			.19	.24	.14	.05			
23	.08	.08	.08			.18	.23	.13	.06			
24	.08	.10	.08			.24	.21	.13	.06			
25	.08	.13	.07			.48	.20	.12	.06			
26	0.08	0.20	0.07			0.47	0.19	0.12	0.08			
27	.08	.23	.07			.43	.18	.12	.07			
28	.08	.22	.07			.39	.19	.12	.06			
29	.08	.20	.07			.36	.21	.11	.06			
30	.08	.18	.07			.34	.40	.11	.05			
31	–	.17	–			–	.37	–	.05			
Mean	0.09	0.10	0.10	0.01		0.15	0.30	0.21	0.08	0.00		
Max.	0.12	0.23	0.16	0.06		0.48	0.40	0.47	0.11	0.04		
Min.	0.08	0.07	0.07	0.00		0.00	0.18	0.11	0.05	0.00		

WATER YEAR 1977 : Max. m. Min. m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.08	0.08	0.16	0.06			0.49	0.91	0.10	0.04		
2	0.09	0.08	0.15	0.06			0.49	0.76	0.10	0.04		
3	0.10	0.08	0.14	0.06			0.49	0.64	0.10	0.04		
4	0.10	0.08	0.14	0.06			0.46	0.58	0.10	0.03		
5	0.10	0.08	0.14	0.05			0.43	0.46	0.11	0.03		
6	0.11	0.09	0.13	0.05			0.40	0.38	0.10			
7	0.11	0.10	0.11	0.05			0.38	0.34	0.10			
8	0.12	0.08	0.11				0.46	0.30	0.10			
9	0.12	0.08	0.11				0.43	0.26	0.10			
10	0.12	0.07	0.10				0.40	0.24	0.09			
11	0.12	0.07	0.09			0.07	0.58	0.22	0.09			
12	0.12	0.07	0.09			0.08	0.70	0.20	0.09			
13	0.11	0.07	0.09			0.08	0.64	0.19	0.09			
14	0.10	0.09	0.10			0.08	0.61	0.18	0.08			
15	0.09	0.09	0.09			0.08	0.58	0.19	0.07			
16	0.09	0.09	0.09			0.08	0.52	0.19	0.07			
17	0.09	0.08	0.09			0.08	0.49	0.18	0.07			
18	0.08	0.08	0.08			0.19	0.43	0.18	0.07			
19	0.08	0.08	0.08			0.26	0.40	0.15	0.06			
20	0.08	0.08	0.08			0.20	0.34	0.15	0.06			
21	0.08	0.07	0.08			0.19	0.32	0.14	0.05			
22	0.08	0.07	0.08			0.19	0.28	0.14	0.05			
23	0.08	0.08	0.08			0.18	0.26	0.13	0.06			
24	0.08	0.10	0.08			0.28	0.22	0.13	0.06			
25	0.08	0.13	0.07			0.94	0.20	0.12	0.06			
26	0.08	0.20	0.07			0.91	0.19	0.12	0.08			
27	0.08	0.26	0.07			0.79	0.18	0.12	0.07			
28	0.08	0.24	0.07			0.67	0.19	0.12	0.06			
29	0.08	0.20	0.07			0.58	0.22	0.11	0.06			
30	0.08	0.18	0.07			0.52	0.70	0.11	0.05			
31	–	0.17	–			–	0.61	–	0.05			
Total	2.81	3.32	2.91	0.39		6.45	13.09	7.94	2.40	0.18		
Mean	0.09	0.11	0.10	0.01		0.21	0.42	0.26	0.08	0.00		
Max.	0.12	0.26	0.16	0.06		0.94	0.70	0.91	0.11	0.04		
Min.	0.08	0.07	0.07	0.00		0.00	0.18	0.11	0.05	0.00		
Runoff – mcm.	0.243	0.287	0.251	0.034		0.557	1.131	0.686	0.207	0.015		

WATER YEAR 1977 : Max. 0.94 Min. 0.00 Mean 0.11 Annual Runoff 3.412 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sept.25	15.00	0.50	1.00				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
SAKAE KRANG RIVER BASIN

Mae Wang at Ban Khok Mo, Uthai Thani (Ct. 8)

Location: Lat. 15°-29'-50" N., Long. 99°-56'-28" E., on left bank of Mae Wong at Ban Khok Mo, Amphoe Thap Than, Uthai Thani.

Drainage Area: 3,256 Sq.km.

Type of Gage: Staff gage.

Zero Gage at Bottom at: + 0.00 m. (A.D.)

Bench Mark: B.M. - H.S.

Location: About 7 meters from gage site.
Elevation: + 5.785 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: 1975 to date.

Rating Operation:

Period of Rating: 1975 to date.
Rated by Float: -
Rated by Current Meter: 1975 to date.

Stability of Channel Regimes: Stable, no shifting adjustment for flow computation.

Overbank Flow Conditions: No overbank flow.

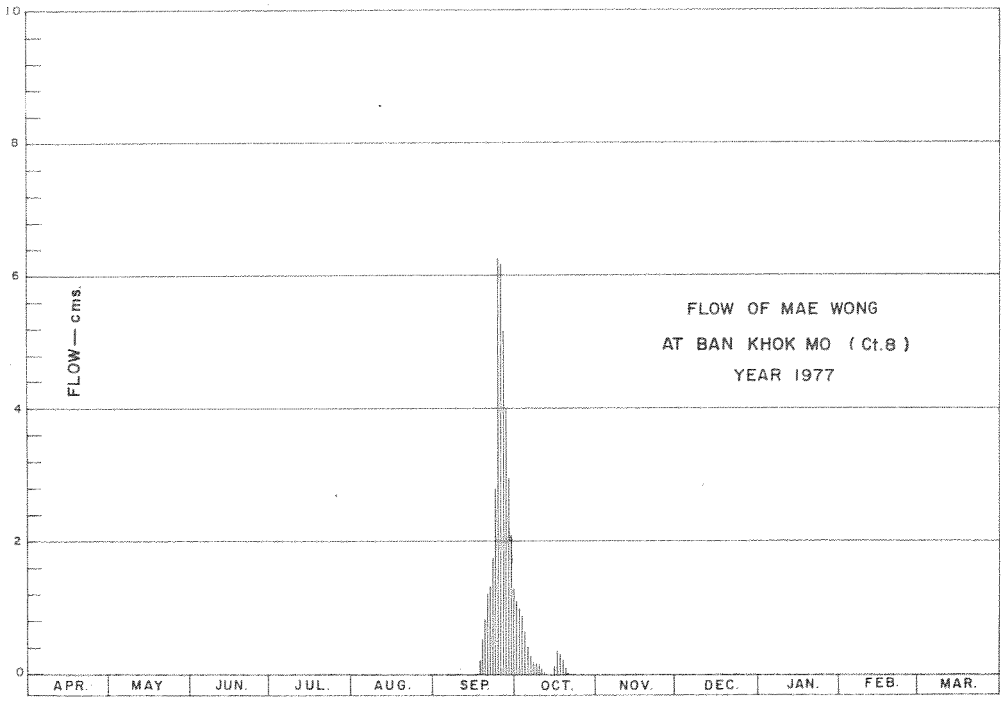
General Description: Records fair. Stage-discharge relation defined by 21 discharge measurements made in 1977.

Remarks: Gage Height and Discharge record for periods of no flow are omitted.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.35	0.35	0.35				0.74					
2	.35	.35	.33				.70					
3	.34	.35	.33				.70					
4	.36	.35					.67					
5	.40	.35					.64					
6	0.39	0.35					0.59					
7	.39	.35					.53					
8	.38	.35					.49					
9	.38	.34					.49					
10	.38	.32					.48					
11	0.37	0.32					0.44					
12	.36	.32					.41					
13	.35	.32					.40					
14	.35	.31					.39					
15	.35	.30					.38					
16	0.35	0.30					0.47					
17	.35	.30					.58					
18	.35	.34				0.51	.56					
19	.35	.37				.63	.53					
20	.35	.43				.68	.46					
21	0.35	0.47				0.74	0.42					
22	.35	.48				.75						
23	.38	.48				.82						
24	.51	.46				.99						
25	.46	.44				1.22						
26	0.41	0.42				1.21						
27	.40	.39				.08						
28	.38	.39				0.97						
29	.35	.31				.91						
30	.35	.35				.83						
31	-	.34				-						
Mean	0.37	0.36	0.03			0.38	0.36					
Max.	0.51	0.48	0.35			1.22	0.74					
Min.	0.34	0.30	0.00			0.00	0.00					

WATER YEAR 1977 : Max. m. Min. m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.00	0.00	0.00				1.28					
2	0.00	0.00	0.00				1.00					
3	0.00	0.00	0.00				1.00					
4	0.00	0.00					0.82					
5	0.00	0.00					0.64					
6	0.00	0.00					0.38					
7	0.00	0.00					0.26					
8	0.00	0.00					0.18					
9	0.00	0.00					0.18					
10	0.00	0.00					0.16					
11	0.00	0.00					0.08					
12	0.00	0.00					0.02					
13	0.00	0.00					0.00					
14	0.00	0.00					0.00					
15	0.00	0.00					0.00					
16	0.00	0.00					0.14					
17	0.00	0.00					0.36					
18	0.00	0.00				0.22	0.32					
19	0.00	0.00				0.58	0.26					
20	0.00	0.06				0.88	0.12					
21	0.00	0.14				1.28	0.04					
22	0.00	0.16				1.35						
23	0.00	0.16				1.88						
24	0.20	0.12				3.50						
25	0.12	0.08				6.28						
26	0.02	0.04				6.14						
27	0.00	0.00				4.56						
28	0.00	0.00				3.30						
29	0.00	0.00				2.70						
30	0.00	0.00				1.97						
31	0.00	0.00				–						
Total	0.34	0.76	0.00			34.64	7.24					
Mean	0.01	0.02	0.00			1.15	0.23					
Max.	0.20	0.16	0.00			6.28	1.28					
Min.	0.00	0.00	0.00			0.00	0.00					
Runoff - mcm.	0.29	0.066	0.00			2.993	0.625					

WATER YEAR 1977 : Max. 6.28 Min. 0.00 Mean 0.12 Annual Runoff 3.713 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sept. 26	6.00	1.24	6.54				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
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 at Ban Bung Ai Chiam, Amphoe King Amphoe Lan Sak, Uthai Thani.

Drainage Area: 387 Sq.km.

Type of Gage: Staff gage.

Zero Gage at Bottom at: + 0.00 m. (A.D.)

Bench Mark: B.M. - M.S.

Location: Near house of gage observer.
Elevation: + 4.611 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 to date.
Rated by Float: -
Rated by Current Meter: 1977 to date.

Stability of Channel Regimes: Stable, no shifting adjustment for flow computation.

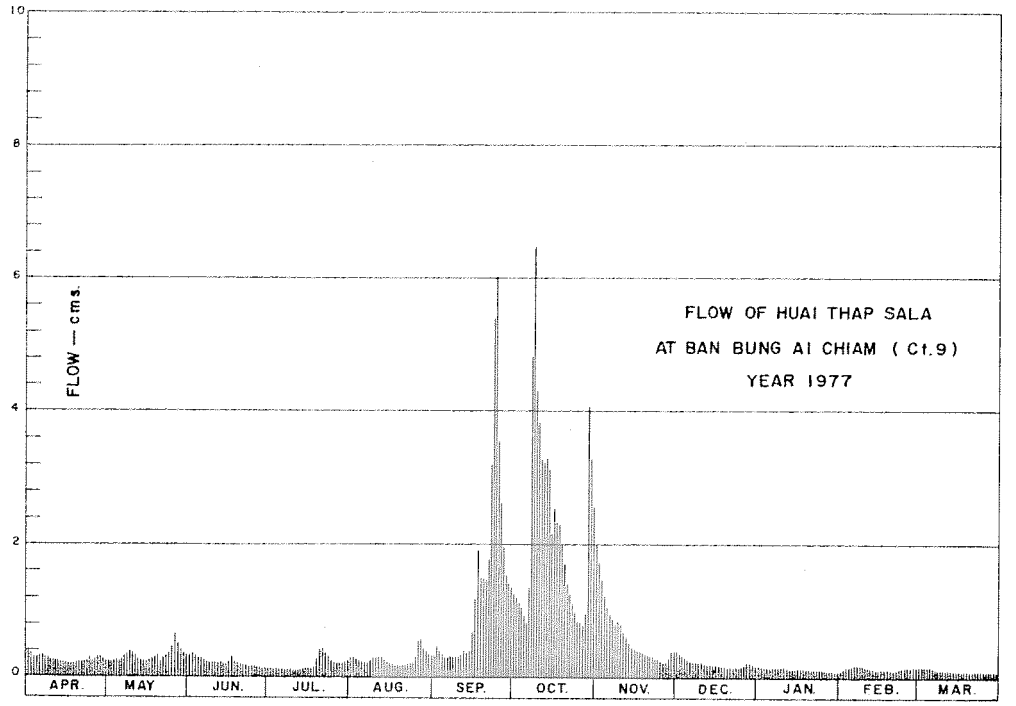
Overbank Flow Conditions: No overbank flow.

General Description: Records good. Stage-discharge relation defined by 229 discharge measurements made in 1977.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.56	0.49	0.53	0.43	0.53	0.53	0.75	0.87	0.56	0.45	0.41	0.45
2	.55	.49	.55	.42	.52	.59	.74	.83	.55	.45	.42	.45
3	.53	.49	.54	.42	.51	.56	.73	.78	.54	.44	.45	.44
4	.52	.51	.52	.42	.50	.54	.71	.75	.52	.44	.44	.44
5	.53	.50	.52	.42	.50	.52	.69	.72	.51	.44	.45	.43
6	0.53	0.51	0.51	0.42	0.49	0.52	0.67	0.69	0.50	0.44	0.47	0.43
7	.52	.53	.50	.42	.49	.53	.83	.68	.50	.44	.47	.42
8	.52	.54	.49	.42	.51	.53	1.38	.66	.49	.44	.46	.42
9	.51	.56	.49	.42	.52	.53	.19	.67	.49	.44	.46	.42
10	.51	.57	.49	.41	.52	.53	.14	.66	.48	.44	.45	.41
11	0.50	0.55	0.48	0.41	0.53	0.54	1.05	0.64	0.48	0.44	0.44	0.41
12	.50	.52	.49	.41	.53	.56	.04	.62	.47	.43	.43	.41
13	.49	.51	.49	.42	.52	.56	.05	.61	.47	.43	.43	.40
14	.49	.50	.47	.42	.50	.55	.03	.59	.47	.43	.42	.40
15	.48	.50	.48	.44	.49	.58	0.95	.58	.46	.43	.42	.40
16	0.48	0.50	0.50	0.43	0.48	0.66	0.95	0.57	0.46	0.43	0.41	0.40
17	.47	.51	.52	.43	.47	.80	.92	.56	.46	.43	.41	.40
18	.46	.52	.49	.45	.47	.86	.91	.56	.45	.43	.41	.40
19	.47	.52	.49	.53	.47	.80	.87	.54	.45	.42	.41	.40
20	.49	.50	.47	.57	.47	.80	.83	.54	.45	.42	.41	.40
21	0.49	0.49	0.46	0.58	0.48	0.79	0.78	0.53	0.44	0.42	0.41	0.40
22	.49	.52	.46	.56	.49	.88	.75	.53	.45	.42	.41	.40
23	.50	.53	.45	.54	.49	1.28	.72	.52	.45	.42	.43	.40
24	.52	.54	.45	.52	.49	.34	.69	.52	.45	.42	.44	.40
25	.50	.58	.45	.50	.51	.12	.67	.51	.45	.42	.44	.40
26	0.51	0.63	0.44	0.50	0.61	0.97	0.66	0.50	0.45	0.41	0.44	0.40
27	.53	.62	.44	.49	.62	.87	.65	.50	.49	.41	.44	.40
28	.53	.59	.43	.50	.58	.81	.70	.50	.49	.41	.44	.40
29	.52	.56	.43	.50	.56	.79	1.14	.56	.48	.41	-	.40
30	.50	.55	.43	.50	.55	.78	.02	.56	.46	.41	-	.40
31	-	.53	-	.52	.53	-	0.94	-	.46	.41	-	.40
Mean	0.50	0.53	0.48	0.45	0.51	0.74	0.87	0.61	0.47	0.42	0.43	0.41
Max.	0.56	0.63	0.55	0.58	0.62	1.34	1.38	0.87	0.56	0.45	0.47	0.45
Min.	0.46	0.49	0.43	0.41	0.47	0.52	0.65	0.50	0.44	0.41	0.41	0.40

WATER YEAR 1977 : Max. 1.38 m. Min. 0.40 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.40	0.23	0.32	0.14	0.32	0.32	1.25	1.99	0.40	0.17	0.11	0.17
2	0.37	0.23	0.37	0.13	0.30	0.47	1.20	1.71	0.37	0.17	0.13	0.17
3	0.32	0.23	0.35	0.13	0.27	0.40	1.15	1.40	0.35	0.16	0.17	0.16
4	0.30	0.27	0.30	0.13	0.25	0.35	1.05	1.25	0.30	0.16	0.16	0.16
5	0.32	0.25	0.30	0.13	0.25	0.30	0.95	1.10	0.27	0.16	0.17	0.14
6	0.32	0.27	0.27	0.13	0.23	0.30	0.85	0.95	0.25	0.16	0.20	0.14
7	0.30	0.32	0.25	0.13	0.23	0.32	1.71	0.90	0.25	0.16	0.20	0.13
8	0.30	0.35	0.23	0.13	0.27	0.32	6.48	0.80	0.23	0.16	0.19	0.13
9	0.27	0.40	0.23	0.13	0.30	0.32	4.51	0.85	0.23	0.16	0.19	0.13
10	0.27	0.42	0.23	0.11	0.30	0.32	4.06	0.80	0.22	0.16	0.17	0.11
11	0.25	0.37	0.22	0.11	0.32	0.35	3.30	0.70	0.22	0.16	0.16	0.11
12	0.25	0.30	0.23	0.11	0.32	0.40	3.22	0.60	0.20	0.14	0.14	0.11
13	0.23	0.27	0.23	0.13	0.30	0.40	3.30	0.55	0.20	0.14	0.14	0.10
14	0.23	0.25	0.20	0.13	0.25	0.37	3.14	0.47	0.20	0.14	0.13	0.10
15	0.22	0.25	0.22	0.16	0.23	0.45	2.15	0.45	0.19	0.14	0.13	0.10
16	0.22	0.25	0.25	0.14	0.22	0.80	2.55	0.42	0.19	0.14	0.11	0.10
17	0.20	0.27	0.30	0.14	0.20	1.50	2.34	0.40	0.19	0.14	0.11	0.10
18	0.19	0.30	0.25	0.17	0.20	1.92	2.27	0.40	0.17	0.14	0.11	0.10
19	0.20	0.30	0.23	0.32	0.20	1.50	1.99	0.35	0.17	0.13	0.11	0.10
20	0.23	0.35	0.20	0.42	0.20	1.50	1.71	0.35	0.17	0.13	0.11	0.10
21	0.23	0.23	0.19	0.45	0.20	1.45	1.40	0.32	0.16	0.13	0.11	0.10
22	0.23	0.30	0.19	0.40	0.23	2.06	1.25	0.32	0.17	0.13	0.11	0.10
23	0.25	0.32	0.17	0.35	0.23	5.40	1.10	0.30	0.17	0.13	0.14	0.10
24	0.30	0.35	0.17	0.30	0.23	6.04	0.95	0.30	0.17	0.13	0.16	0.10
25	0.25	0.45	0.17	0.25	0.27	3.88	0.85	0.27	0.17	0.13	0.16	0.10
26	0.27	0.65	0.16	0.25	0.55	2.69	0.80	0.25	0.17	0.11	0.16	0.10
27	0.32	0.60	0.16	0.23	0.60	1.99	0.75	0.25	0.23	0.11	0.16	0.10
28	0.32	0.47	0.14	0.25	0.45	1.57	1.00	0.25	0.23	0.11	0.16	0.10
29	0.30	0.40	0.14	0.25	0.40	1.45	4.06	0.40	0.22	0.11	–	0.10
30	0.25	0.37	0.14	0.25	0.37	1.40	3.06	0.40	0.19	0.11	–	0.10
31	–	0.32	–	0.30	0.32	–	2.48	–	0.19	0.11	–	0.10
Total	8.11	10.24	6.81	6.40	9.03	40.54	67.28	19.50	6.84	4.33	4.10	3.56
Mean	0.27	0.33	0.22	0.20	0.29	1.35	2.17	0.65	0.22	0.13	0.14	0.11
Max.	0.40	0.65	0.37	0.45	0.60	6.04	6.48	1.99	0.40	0.17	0.20	0.17
Min.	0.19	0.23	0.14	0.11	0.20	0.30	0.75	0.25	0.16	0.11	0.11	0.10
Runoff – mcm.	0.701	0.885	0.588	0.553	0.780	3.503	5.813	0.658	0.591	0.374	0.354	0.307

WATER YEAR 1977 : Max. 6.48 Min. 0.10 Mean 0.51 Annual Runoff 16.134 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Oct. 8	09.00	1.45	7.25				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
PA SAK 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 highway bridge on Bangkok - Nakhon Ratchasima, Tambon Muak Lek, Amphoe Kaeng Khoi, Saraburi.

Drainage Area: 177 Sq.km.

Type of Gage: Water-stage recorder.

Zero Gage at Bottom at: + 0.00 m. (A.D.)

Bench Mark: B.M. - H.S.

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 hourly 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, no shifting adjustment for flow computation.

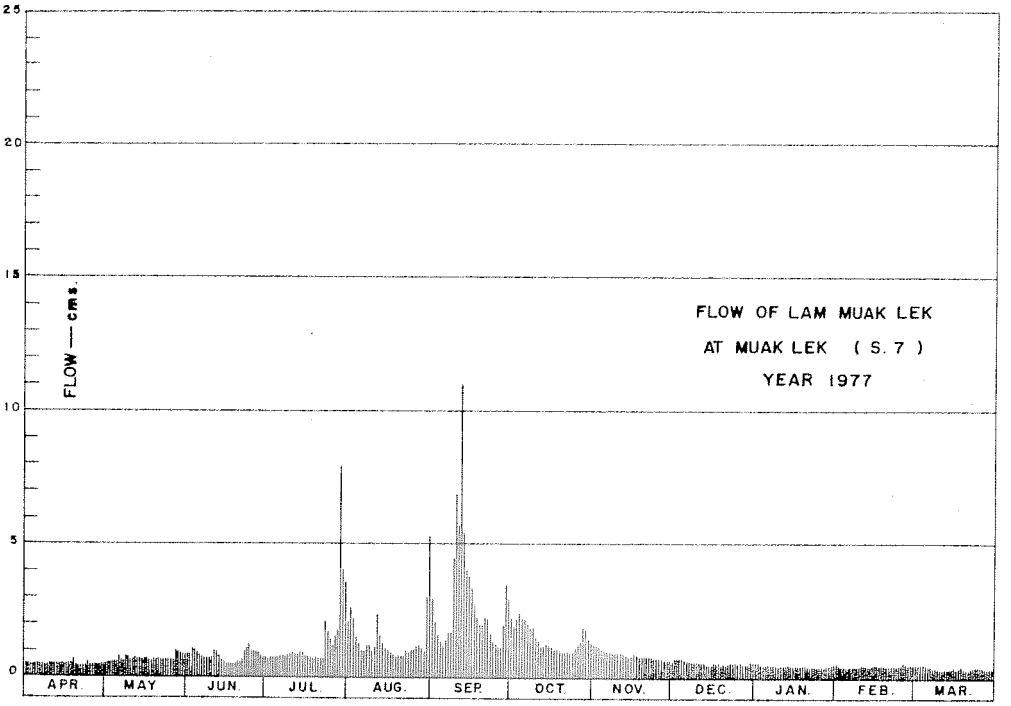
Overbank Flow Conditions: No overbank flow.

General Description: Records good. Stage-discharge relation defined by 30 discharge measurements made in 1977.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.49	0.49	0.54	0.53	0.66	0.76	0.68	0.59	0.51	0.50	0.49	0.48
2	.49	.50	.54	.52	.70	.69	.66	.59	.52	.50	.48	.48
3	.49	.50	.57	.53	.65	.64	.64	.58	.52	.49	.47	.49
4	.49	.50	.56	.53	.61	.61	.68	.57	.52	.49	.47	.49
5	.49	.50	.55	.53	.59	.59	.67	.56	.51	.48	.47	.48
6	0.49	0.53	0.53	0.53	0.56	0.58	0.67	0.55	0.51	0.48	0.47	0.47
7	.48	.52	.52	.53	.56	.62	.66	.55	.51	.48	.47	.46
8	.48	.50	.52	.53	.59	.63	.64	.55	.50	.48	.47	.45
9	.48	.53	.52	.54	.59	.63	.64	.55	.50	.48	.47	.46
10	.49	.53	.52	.55	.56	.94	.62	.55	.50	.48	.48	.45
11	0.49	0.51	0.56	0.55	0.59	0.88	0.61	0.55	0.50	0.48	0.48	0.45
12	.49	.52	.56	.54	.68	1.13	.59	.54	.50	.48	.47	.45
13	.49	.52	.54	.55	.62	0.92	.58	.54	.50	.48	.47	.45
14	.49	.52	.51	.56	.59	.80	.59	.53	.49	.48	.47	.45
15	.49	.52	.50	.54	.57	.78	.59	.53	.49	.48	.48	.45
16	0.49	0.52	0.49	0.53	0.56	0.77	0.58	0.54	0.50	0.48	0.48	0.46
17	.50	.52	.49	.53	.54	.72	.58	.54	.50	.48	.48	.45
18	.49	.51	.49	.52	.53	.68	.57	.53	.50	.48	.48	.46
19	.52	.52	.49	.53	.53	.65	.56	.53	.49	.48	.48	.46
20	.49	.52	.50	.52	.53	.65	.55	.53	.49	.48	.48	.45
21	0.48	0.52	0.50	0.52	0.53	0.67	0.55	0.53	0.49	0.47	0.47	0.45
22	.48	.52	.52	.52	.54	.67	.55	.53	.50	.47	.48	.44
23	.48	.51	.56	.66	.56	.63	.55	.53	.50	.48	.47	.46
24	.50	.51	.58	.63	.54	.61	.55	.52	.50	.47	.48	.46
25	.49	.51	.56	.61	.56	.60	.57	.52	.50	.48	.48	.46
26	0.49	0.51	0.56	0.59	0.57	0.59	0.59	0.52	0.50	0.48	0.50	0.46
27	.49	.51	.56	.62	.58	.57	.60	.52	.50	.48	.49	.46
28	.48	.56	.55	.64	.58	.59	.64	.51	.49	.48	.49	.45
29	.49	.55	.53	.99	.57	.68	.64	.51	.49	.48	-	.45
30	.49	.54	.53	.80	.55	.76	.62	.51	.50	.48	-	.45
31	-	.54	-	.73	.86	-	.60	-	.50	.49	-	.45
Mean	0.49	0.52	0.53	0.58	0.59	0.70	0.61	0.53	0.50	0.48	0.48	0.46
Max.	0.52	0.56	0.58	0.99	0.86	1.13	0.68	0.59	0.52	0.50	0.50	0.49
Min.	0.48	0.49	0.49	0.52	0.53	0.57	0.55	0.51	0.49	0.47	0.47	0.44

WATER YEAR 1977 : Max. 1.13 m. Min. 0.44 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.49	0.49	0.85	0.77	2.08	3.50	2.34	1.22	0.62	0.55	0.49	0.44
2	0.49	0.55	0.85	0.70	2.60	2.47	2.08	1.22	0.70	0.55	0.44	0.44
3	0.49	0.55	1.07	0.77	1.95	1.82	1.82	1.15	0.70	0.49	0.38	0.49
4	0.49	0.55	1.00	0.77	1.43	1.43	2.34	1.07	0.70	0.49	0.38	0.49
5	0.49	0.55	0.92	0.77	1.22	1.22	2.21	1.00	0.62	0.44	0.38	0.44
6	0.49	0.77	0.77	0.77	1.00	1.15	2.21	0.92	0.62	0.44	0.38	0.38
7	0.44	0.70	0.70	0.77	1.00	1.56	2.08	0.92	0.62	0.44	0.38	0.33
8	0.44	0.55	0.70	0.77	1.22	1.69	1.82	0.92	0.55	0.44	0.38	0.27
9	0.44	0.77	0.70	0.85	1.22	1.69	1.82	0.92	0.55	0.44	0.38	0.33
10	0.49	0.77	0.70	0.92	1.00	6.84	1.56	0.92	0.55	0.44	0.44	0.27
11	0.49	0.62	1.00	0.92	1.22	5.62	1.43	0.92	0.55	0.44	0.44	0.27
12	0.49	0.70	1.00	0.85	2.34	11	1.22	0.85	0.55	0.44	0.38	0.27
13	0.49	0.70	0.85	0.92	1.56	6.42	1.15	0.85	0.55	0.44	0.38	0.27
14	0.49	0.70	0.62	1.00	1.22	4.10	1.22	0.77	0.49	0.44	0.38	0.27
15	0.49	0.70	0.55	0.85	1.07	3.80	1.22	0.77	0.49	0.44	0.44	0.27
16	0.49	0.70	0.49	0.77	1.00	3.65	1.15	0.85	0.55	0.44	0.44	0.33
17	0.55	0.70	0.49	0.77	0.85	2.90	1.15	0.85	0.55	0.44	0.44	0.27
18	0.49	0.62	0.49	0.70	0.77	2.34	1.07	0.77	0.55	0.44	0.44	0.33
19	0.70	0.70	0.49	0.77	0.77	1.95	1.00	0.77	0.49	0.44	0.44	0.33
20	0.49	0.70	0.55	0.70	0.77	1.95	0.92	0.77	0.49	0.44	0.44	0.27
21	0.44	0.70	0.55	0.70	0.77	2.21	0.92	0.77	0.49	0.38	0.38	0.27
22	0.44	0.70	0.70	0.70	0.85	2.21	0.92	0.77	0.55	0.38	0.44	0.22
23	0.44	0.62	1.00	2.08	1.00	1.69	0.92	0.77	0.55	0.44	0.38	0.33
24	0.55	0.62	1.15	1.69	0.85	1.43	0.92	0.70	0.55	0.38	0.44	0.33
25	0.49	0.62	1.00	1.43	1.00	1.30	1.07	0.70	0.55	0.44	0.44	0.33
26	0.49	0.62	1.00	1.22	1.07	1.22	1.22	0.70	0.55	0.44	0.55	0.33
27	0.49	0.62	1.00	1.56	1.15	1.07	1.30	0.70	0.55	0.44	0.49	0.33
28	0.44	1.00	0.92	1.82	1.15	1.22	1.82	0.62	0.49	0.44	0.49	0.27
29	0.49	0.92	0.77	7.89	1.07	2.34	1.82	0.62	0.49	0.44	–	0.27
30	0.49	0.85	0.77	4.10	0.92	3.50	1.56	0.62	0.55	0.44	–	0.27
31	–	0.85	–	3.05	5.24	–	1.30	–	0.55	0.49	–	0.27
Total	14.68	21.21	23.65	42.35	41.36	85.29	45.58	25.40	17.36	13.83	11.86	9.98
Mean	0.49	0.68	0.79	1.37	1.33	2.84	1.47	0.85	0.56	0.45	0.42	0.32
Max.	0.70	1.00	1.15	7.89	5.24	11	2.34	1.22	0.70	0.55	0.55	0.49
Min.	0.44	0.49	0.49	0.70	0.77	1.07	0.92	0.62	0.49	0.38	0.38	0.22
Runoff - mcm.	1.268	1.832	2.043	3.659	3.573	7.369	3.938	2.194	1.500	1.195	1.025	0.862

WATER YEAR 1977 : Max. 11 Min. 0.22 Mean 0.96 Annual Runoff 30.460 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Jul. 29	04.00	1.39	19				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
PA SAK RIVER BASIN

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

Location: Lat. 14°-37'-33" N., Long. 101°-01'-00" E., on left bank about 5 kilometers upstream from S2, at Ban Muang Nua, Amphoe Kaeng Khoi, Saraburi.

Drainage Area: 14,374 Sq.km.

Type of Gage: Staff gage.

Zero Gage at Bottom at: + 6.330 m. (M.S.L.)

Bench Mark: B.M. - H.S.

Location: On left bank at tamarind tree along the measuring line.
Elevation: + 21.937 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, no shifting adjustment for flow computation.

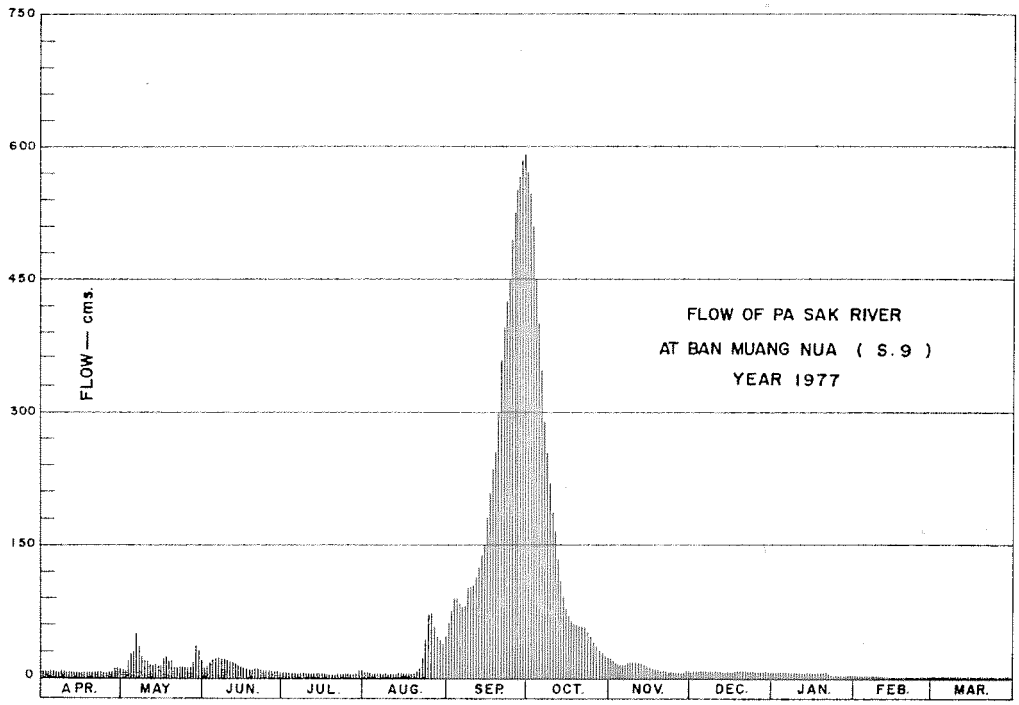
Overbank Flow Conditions: No overbank flow.

General Description: Records good. Stage-discharge relation defined by 37 discharge measurements made in 1977.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	7.31	7.35	7.52	7.31	7.33	8.30	13.01	7.64	7.34	7.35	7.18	7.14
2	.30	.39	.49	.29	.33	.50	12.82	.61	.33	.35	.18	.14
3	.29	.57	.56	.28	.31	.69	.57	.57	.33	.34	.18	.13
4	.35	.77	.64	.26	.29	.70	.20	.53	.33	.34	.18	.14
5	.34	.83	.69	.25	.26	.62	11.73	.50	.32	.32	.18	.14
6	7.29	8.14	7.69	7.23	7.24	8.58	11.27	7.52	7.32	7.31	7.18	7.13
7	.30	7.99	.67	.27	.23	.59	10.87	.55	.32	.31	.18	.13
8	.35	.77	.67	.30	.25	.69	.52	.57	.33	.31	.18	.12
9	.31	.65	.66	.26	.24	.87	.20	.57	.33	.30	.18	.11
10	.30	.64	.64	.23	.24	.88	9.95	.57	.33	.30	.17	.11
11	7.28	7.56	7.61	7.22	7.29	8.93	9.65	7.57	7.33	7.30	7.17	7.11
12	.27	.49	.59	.24	.31	9.07	.32	.55	.32	.30	.16	.11
13	.26	.53	.56	.24	.32	.23	.03	.53	.32	.30	.15	.16
14	.25	.51	.51	.23	.32	.32	8.79	.50	.32	.29	.14	.11
15	.25	.48	.48	.22	.29	.53	.60	.46	.32	.30	.14	.10
16	7.25	7.68	7.45	7.21	7.27	9.80	8.47	7.44	7.31	7.30	7.14	7.09
17	.28	.71	.44	.21	.25	10.10	.39	.42	.33	.30	.14	.09
18	.29	.62	.42	.20	.24	.36	.34	.41	.35	.29	.14	.09
19	.28	.62	.39	.19	.25	.62	.31	.39	.36	.27	.13	.09
20	.28	.54	.44	.19	.26	11.02	.30	.38	.35	.26	.13	.09
21	7.31	7.46	7.45	7.21	7.43	11.39	8.30	7.37	7.35	7.25	7.12	7.09
22	.29	.45	.39	.21	.66	.70	.27	.36	.35	.24	.15	.08
23	.27	.47	.35	.22	.89	.98	.21	.36	.35	.23	.16	.08
24	.26	.47	.33	.22	8.15	12.22	.13	.35	.35	.22	.17	.08
25	.27	.47	.33	.25	.46	.46	.05	.34	.36	.21	.16	.08
26	7.26	7.46	7.33	7.25	8.49	12.66	7.98	7.34	7.38	7.21	7.16	7.07
27	.35	.52	.35	.25	.27	.83	.90	.34	.38	.20	.15	.08
28	.44	.69	.36	.24	.11	.96	.82	.34	.36	.20	.14	.14
29	.45	.94	.34	.26	.07	13.07	.76	.38	.38	.20	-	.13
30	.40	.81	.33	.41	.00	.12	.72	.36	.37	.19	-	.12
31	-	.61	-	.39	.08	-	.69	-	.35	.19	-	.10
Mean	7.30	7.62	7.49	7.25	7.55	10.29	9.36	7.46	7.34	7.27	7.16	7.11
Max.	7.45	8.14	7.69	7.41	8.49	13.12	13.01	7.64	7.38	7.35	7.18	7.14
Min.	7.25	7.35	7.33	7.19	7.23	8.30	7.69	7.34	7.31	7.19	7.12	7.07

WATER YEAR 1977 : Max. 13.12 m. Min. 7.07 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	7.72	9.00	13	7.72	8.36	60	576	21	8.68	9.00	4.40	3.60
2	7.40	10	14	7.14	8.36	75	548	19	8.36	9.00	4.40	3.60
3	7.14	18	17	6.88	7.72	89	513	18	8.36	8.68	4.40	3.40
4	9.00	28	21	6.36	7.14	90	463	16	8.36	8.68	4.40	3.60
5	8.68	31	23	6.10	6.36	84	403	14	8.04	8.04	4.40	3.60
6	7.14	50	23	5.58	5.84	81	347	15	8.04	7.72	4.40	3.40
7	7.40	40	22	6.62	5.58	81	299	17	8.04	7.72	4.40	3.40
8	9.00	28	22	7.40	6.10	89	259	18	8.36	7.72	4.40	3.20
9	7.72	21	22	6.36	5.84	103	224	18	8.36	7.40	4.40	3.00
10	7.40	21	21	5.58	5.84	104	199	18	8.36	7.40	4.20	3.00
11	6.88	17	19	5.32	7.14	108	170	18	8.36	7.40	4.20	3.00
12	6.62	14	18	5.84	7.72	120	141	17	8.04	7.40	4.00	3.00
13	6.36	16	17	5.84	8.04	133	116	16	8.04	7.40	3.80	2.80
14	6.10	15	15	5.58	8.04	141	97	14	8.04	7.14	3.60	3.00
15	6.10	14	14	5.32	7.14	159	82	13	8.04	7.40	3.60	2.80
16	6.10	23	12	5.06	6.62	184	72	12	7.72	7.40	3.60	2.66
17	6.88	24	12	5.06	6.10	214	67	11	8.36	7.40	3.60	2.66
18	7.14	20	11	4.80	5.84	241	63	11	9.00	7.14	3.60	2.66
19	6.88	20	10	4.60	6.10	270	61	10	9.32	6.62	3.40	2.66
20	6.88	16	12	4.60	6.36	317	60	9.96	9.00	6.36	3.40	2.66
21	7.72	13	12	5.06	12	361	60	9.64	9.00	6.10	3.20	2.66
22	7.14	12	10	5.06	22	399	58	9.32	9.00	5.84	3.80	2.52
23	6.62	13	9.00	5.32	34	435	54	9.32	9.00	5.58	4.00	2.52
24	6.36	13	8.36	5.32	50	466	50	9.00	9.00	5.32	4.20	2.52
25	6.62	13	8.36	6.10	72	498	44	8.68	9.32	5.06	4.00	2.52
26	6.36	13	8.36	6.10	74	526	40	8.68	9.96	5.06	4.00	2.38
27	9.00	15	9.00	6.10	58	550	35	8.68	9.96	4.80	3.80	2.52
28	12	23	9.32	5.84	48	569	30	8.68	9.32	4.80	3.60	3.60
29	12	37	8.68	6.36	45	585	27	9.96	9.96	4.80	–	3.40
30	11	30	8.36	11	41	592	25	9.32	9.64	4.60	–	3.20
31	–	19	–	10	46	–	23	–	9.00	4.60	–	2.80
Total	229.36	636	429.44	190.02	638.24	7,724	5,206	397.24	270.04	209.58	111.20	92.34
Mean	7.64	20.5	14.3	6.13	20.6	257	170	13.2	8.71	6.76	3.97	2.98
Max.	12	50	23	11	74	592	576	21	9.96	9.00	4.40	3.60
Min.	6.10	9.00	8.36	4.60	5.58	60	23	8.68	7.72	4.60	3.20	2.38
Runoff - MCM.	19.817	54.950	37.104	16.418	55.144	667.354	449.798	34.321	23.331	18.108	9.608	7.978

WATER YEAR 1977 : Max. 592 Min. 2.38 Mean 44.2 Annual Runoff 1,393.931 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sept. 30	06.00	13.13	593				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
SALAWIN RIVER BASIN

Huai Mae Lamao at Ban Ko Ko, Tak (Sw. 1)

Location: Lat. 16°-54'-56" N., Long. 98°-37'-57" E., on right bank at Ban Ko Ko about 14 kilometers south-east of Amphoe Mae Ramat between Doi Kala and Doi Mae Phasa, Amphoe Mae Sot, Tak.

Drainage Area: 1,426 Sq.km.

Type of Gage: Staff gage.

Zero Gage at Bottom at: + 0.00 m. (A.D.)

Bench Mark: B.M. - H.S.

Location: Along the measuring line.
Elevation: + 5.597 m. (A.D.)

Gage Reading Frequency: 5-7 time daily readings at 03.00, 06.00, 09.00, 12.00, 15.00, 18.00 and 21.00 hours.

Basis of Mean Daily Gage Height: Arithmetic mean of 5-7 readings.

Period of Available Gage Records: 1966 to date.

Rating Operation:

Period of Rating: 1966-1969.
Rated by Float: -
Rated by Current Meter: 1966-1969.

Stability of Channel Regimes: Fairly stable, no shifting adjustment for flow computation.

Overbank Flow Conditions: No overbank flow.

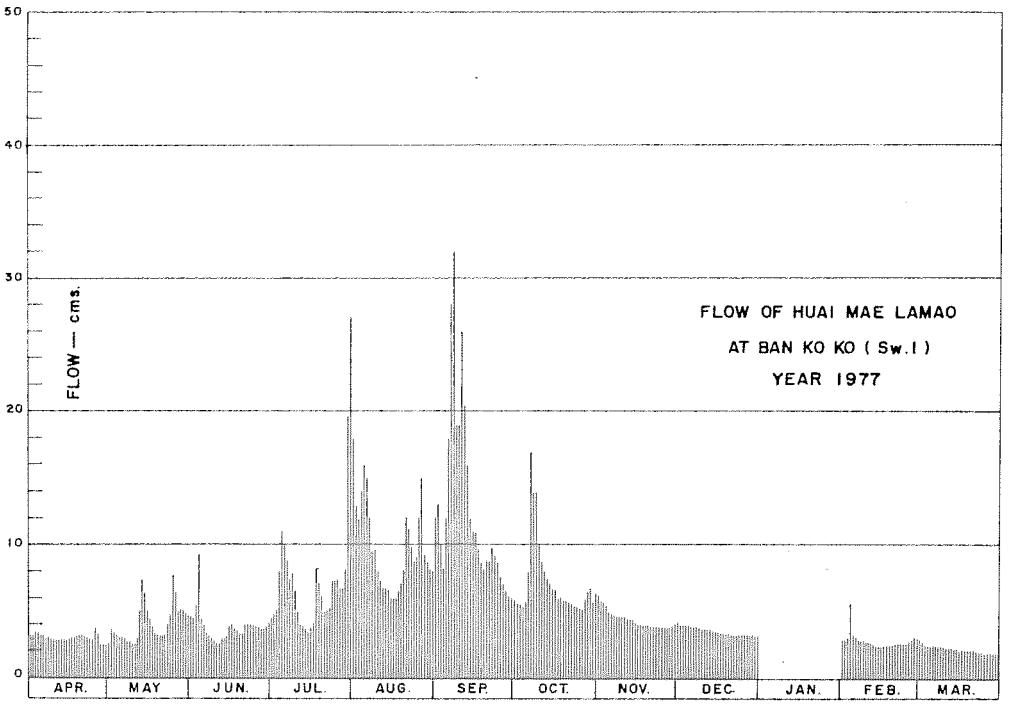
General Description: Records fair. Stage-discharge relation defined by 150 discharge measurements made in 1968.

Remarks: No records on January 1-31, 1977.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.25	0.22	0.32	0.31	0.81	0.65	0.39	0.41	0.31		0.23	0.23
2	.25	.28	.32	.33	.68	.67	.38	.39	.30		.23	.21
3	.27	.25	.40	.35	.63	.56	.38	.38	.30		.24	.20
4	.26	.25	.54	.47	.72	.50	.37	.37	.30		.38	.20
5	.25	.24	.32	.62	.79	.65	.39	.35	.30		.26	.20
6	0.25	0.24	0.29	0.56	0.74	0.92	0.45	0.34	0.29		0.24	0.20
7	.24	.23	.25	.52	.61	1.27	.81	.34	.29		.23	.20
8	.24	.22	.23	.46	.55	0.95	.72	.33	.29		.23	.20
9	.23	.22	.22	.49	.56	.88	.70	.33	.29		.23	.20
10	.23	.21	.21	.43	.50	.89	.59	.33	.28		.22	.19
11	0.23	0.21	0.21	0.36	0.46	1.10	0.52	0.33	0.28		0.22	0.19
12	.23	.25	.23	.30	.44	0.88	.50	.32	.28		.22	.19
13	.23	.46	.23	.29	.43	.78	.48	.32	.28		.21	.19
14	.23	.43	.24	.28	.43	.65	.45	.32	.27		.20	.19
15	.23	.36	.28	.27	.40	.61	.43	.31	.27		.20	.18
16	0.24	0.34	0.30	0.29	0.40	0.60	0.42	0.30	0.27		0.20	0.18
17	.24	.31	.28	.31	.42	.56	.40	.30	.26		.20	.18
18	.24	.26	.28	.50	.43	.52	.40	.30	.26		.20	.18
19	.25	.26	.26	.47	.46	.50	.39	.30	.26		.20	.18
20	.25	.25	.26	.40	.53	.52	.39	.30	.26		.21	.18
21	0.25	0.25	0.30	0.35	0.63	0.52	0.38	0.29	0.25		0.21	0.18
22	.24	.26	.30	.35	.60	.56	.38	.29	.25		.21	.17
23	.24	.30	.30	.36	.54	.54	.37	.29	.25		.21	.17
24	.23	.35	.30	.46	.52	.53	.37	.29	.25		.21	.17
25	.23	.48	.29	.46	.55	.49	.36	.29	.25		.21	.17
26	0.28	0.43	0.29	0.46	0.77	0.46	0.36	0.29	0.25		0.23	0.17
27	.24	.35	.28	.43	.69	.43	.39	.29	.25		.23	.17
28	.21	.35	.28	.43	.54	.42	.42	.29	.25		.25	.16
29	.21	.35	.28	.53	.52	.40	.43	.30	.25			.16
30	.21	.34	.30	.97	.50	.40	.39	.31	.25			.16
31		.33		1.14	.49		.41		.25			.16
Mean	0.24	0.30	0.29	0.45	0.56	0.65	0.44	0.32	0.27		0.22	0.18
Max.	0.28	0.48	0.54	1.14	0.81	1.27	0.81	0.41	0.31		0.38	0.23
Min.	0.21	0.21	0.21	0.27	0.40	0.40	0.36	0.29	0.25		0.21	0.16

WATER YEAR 1977 : Max. 1.27 m. Min. 0.16 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	3.20	2.72	4.40	4.20	17	12	5.80	6.22	4.20		2.88	2.88
2	3.20	3.68	4.40	4.60	13	13	5.60	5.80	4.00		2.88	2.56
3	3.52	3.20	6.00	5.00	12	9.76	5.60	5.60	4.00		3.04	2.40
4	3.36	3.20	9.24	7.32	14	8.20	5.40	5.40	4.00		5.60	2.40
5	3.20	3.04	4.40	11	16	12	5.80	5.00	4.00		3.36	2.40
6	3.20	3.04	3.84	9.76	15	20	7.10	4.80	3.84		3.04	2.40
7	3.04	2.88	3.20	8.72	11	32	17	4.80	3.84		2.88	2.40
8	3.04	2.72	2.88	7.32	9.50	21	14	4.60	3.84		2.88	2.40
9	2.88	2.72	2.72	7.98	9.76	19	14	4.60	3.84		2.88	2.40
10	2.88	2.56	2.56	6.66	8.20	19	10	4.60	3.68		2.72	2.25
11	2.88	2.56	2.56	5.20	7.32	26	8.72	4.60	3.68		2.72	2.25
12	2.88	3.20	2.88	4.00	6.88	19	8.20	4.40	3.68		2.72	2.25
13	2.88	7.32	2.88	3.84	6.66	16	7.76	4.40	3.68		2.56	2.25
14	2.88	6.66	3.04	3.68	6.66	12	7.10	4.40	3.52		2.40	2.25
15	2.88	5.20	3.68	3.52	6.00	11	6.66	4.20	3.52		2.40	2.10
16	3.04	4.80	4.00	3.84	6.00	11	6.44	4.00	3.52		2.40	2.10
17	3.04	4.20	3.68	4.20	6.44	9.76	6.00	4.00	3.36		2.40	2.10
18	3.04	3.36	3.68	8.20	6.66	8.72	6.00	4.00	3.36		2.40	2.10
19	3.20	3.36	3.36	7.32	7.32	8.20	5.80	4.00	3.36		2.40	2.10
20	3.20	3.20	3.36	6.00	8.98	8.72	5.80	4.00	3.36		2.56	2.10
21	3.20	3.20	4.00	5.00	12	8.72	5.60	3.84	3.20		2.56	2.10
22	3.04	3.36	4.00	5.00	11	9.76	5.60	3.84	3.20		2.56	1.95
23	3.04	4.00	4.00	5.20	9.24	9.24	5.40	3.84	3.20		2.56	1.95
24	2.88	5.00	4.00	7.32	8.72	8.98	5.40	3.84	3.20		2.56	1.95
25	2.88	7.76	3.84	7.32	9.50	7.98	5.20	3.84	3.20		2.56	1.95
26	3.68	6.66	3.84	7.32	15	7.32	5.20	3.84	3.20		2.88	1.95
27	3.04	5.00	3.68	6.66	13	6.66	5.80	3.84	3.20		2.88	1.95
28	2.56	5.00	3.68	6.66	9.24	6.44	6.44	3.84	3.20		3.20	1.80
29	2.56	5.00	3.68	8.98	8.72	6.00	6.66	4.00	3.20			1.80
30	2.56	4.80	4.00	21	8.20	6.00	5.80	4.20	3.20			1.80
31		4.60		27	7.98		6.22		3.20			1.80
Total	90.88	128.00	115.48	229.82	306.98	373.46	222.50	132.34	109.48		78.88	67.09
Mean	3.03	4.13	3.85	7.41	9.90	12.4	7.18	4.41	3.53		2.82	2.16
Max.	3.68	7.76	9.24	27	17	32	17	6.22	4.20		5.60	2.88
Min.	2.56	2.56	2.56	3.52	6.00	6.00	5.20	3.84	3.20		2.56	1.80
Runoff - mcm.	7.852	11.059	9.977	19.856	26.523	32.267	19.224	11.434	9.459		6.815	5.796

WATER YEAR 1977 : Max. 32 Min. 1.80 Mean Annual Runoff mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sept. 7	9.00	1.33	35				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
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 side of Huai Mae Lamao Bridge, Amphoe Mae Sot, Tak.

Drainage Area: 1,038 Sq.km.

Type of Gage: Water-stage recorder.

Zero Gage at Bottom at: + 0.00 m. (A.D.)

Bench Mark: B.M. - H.S.

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 hourly 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, no shifting adjustment for flow computation.

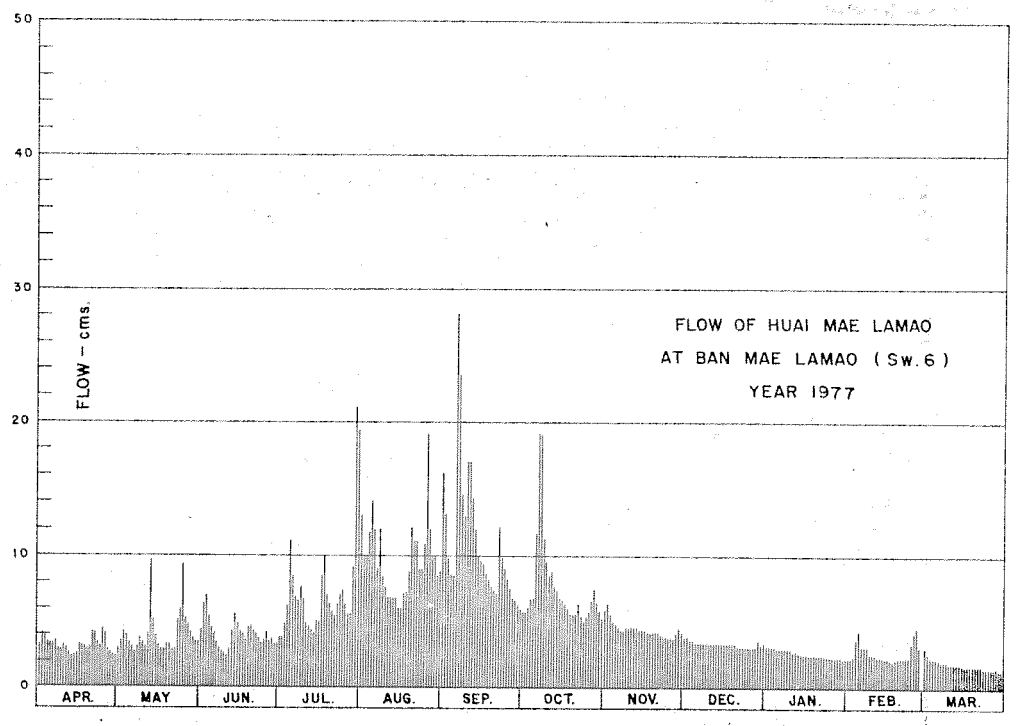
Overbank Flow Conditions: No overbank flow.

General Description: Records good. Stage-discharge relation defined by 234 discharge measurements made in 1977.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.82	0.82	0.88	0.85	1.15	1.27	0.90	0.91	0.82	0.78	0.73	0.77
2	.86	.84	.96	.85	.05	.16	.90	.92	.82	.78	.74	.75
3	.86	.87	.99	.89	.06	.05	.91	.89	.81	.78	.74	.74
4	.83	.86	.93	.95	.11	.00	.94	.87	.81	.78	.79	.73
5	.83	.83	.88	1.10	.19	.00	.94	.86	.80	.77	.84	.73
6	0.83	0.82	0.86	1.00	1.12	1.63	1.05	0.85	0.80	0.77	0.78	0.73
7	.84	.80	.83	0.94	.02	.51	.34	.84	.80	.77	.76	.72
8	.81	.83	.81	.93	.11	.24	.34	.84	.80	.77	.76	.72
9	.81	.85	.80	.97	.01	.16	.13	.85	.80	.77	.75	.72
10	.80	.84	.79	.90	0.97	.28	.04	.85	.80	.77	.75	.71
11	0.82	0.82	0.78	0.87	0.94	1.28	1.00	0.85	0.80	0.76	0.75	0.71
12	.80	.85	.82	.85	.94	.18	.01	.85	.80	.76	.74	.71
13	.79	1.04	.87	.84	.94	.11	0.97	.85	.80	.76	.74	.71
14	.79	0.93	.93	.83	.94	.06	.96	.84	.80	.75	.74	.71
15	.79	.86	.90	.87	.91	.04	.94	.84	.80	.75	.73	.71
16	0.83	0.83	0.87	0.87	0.91	1.03	0.93	0.84	0.80	0.75	0.73	0.70
17	.82	.81	.86	.98	.95	.01	.92	.83	.79	.75	.73	.70
18	.82	.81	.84	1.05	.96	0.99	.91	.83	.79	.75	.72	.70
19	.81	.83	.88	0.95	1.01	.97	.89	.83	.79	.75	.73	.70
20	.82	.83	.89	.92	.13	.96	.89	.83	.79	.75	.74	.70
21	0.87	0.81	0.87	0.90	1.09	0.95	0.89	0.83	0.78	0.75	0.73	0.70
22	.86	.81	.86	.89	.08	1.13	.92	.83	.78	.75	.74	.70
23	.83	.90	.85	.92	.02	.07	.89	.82	.78	.74	.74	.69
24	.82	.94	.83	.95	.02	.02	.87	.82	.78	.74	.74	.69
25	.88	1.03	.84	.96	.10	0.99	.88	.82	.78	.74	.78	.69
26	0.86	0.93	0.86	0.92	1.36	0.96	0.90	0.82	0.78	0.74	0.83	0.69
27	.81	.90	.84	.89	.12	.94	.94	.82	.78	.74	.85	.69
28	.80	.87	.85	.90	.05	.93	.96	.83	.78	.74	.78	.69
29	.79	.85	.83	1.00	.05	.92	.92	.85	.81	.74		.68
30	.79	.84	.83	.41	.00	.91	.90	.83	.80	.73		.68
31		.84		.34	.02		.88		.79	.73		.68
Mean	0.82	0.86	0.86	0.95	1.04	1.09	0.96	0.84	0.79	0.75	0.76	0.71
Max.	0.88	1.04	0.99	1.41	1.36	1.63	1.34	0.92	0.82	0.78	0.85	0.77
Min.	0.79	0.80	0.78	0.83	0.91	0.91	0.88	0.82	0.78	0.73	0.72	0.68

WATER YEAR 1977 : Max. 1.63 m. Min. 0.68 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	3.14	3.14	4.46	3.80	13	16	5.70	5.97	3.78	3.06	2.11	2.89
2	4.02	3.58	6.28	3.80	9.85	13	5.70	6.24	3.78	3.06	2.28	2.45
3	4.02	4.24	6.97	4.68	10	9.85	5.97	5.46	3.54	3.06	2.28	2.28
4	3.36	4.02	5.59	6.05	12	8.40	6.78	4.98	3.54	3.06	3.23	2.11
5	3.36	3.36	4.46	11	14	8.40	6.78	4.74	3.30	2.89	4.26	2.11
6	3.36	3.14	4.02	8.40	12	28	9.85	4.50	3.30	2.89	3.06	2.11
7	3.58	2.70	3.36	6.78	8.98	24	19	4.26	3.30	2.89	3.06	1.94
8	2.92	3.36	2.92	6.51	12	15	19	4.26	3.30	2.89	3.06	1.94
9	2.92	3.80	2.70	7.59	8.69	13	12	4.50	3.30	2.89	2.45	1.94
10	2.70	3.58	2.50	5.70	7.59	17	9.56	4.50	3.30	2.89	2.45	1.77
11	3.14	3.14	2.30	4.98	6.78	17	8.40	4.50	3.30	2.62	2.45	1.77
12	2.70	3.80	3.14	4.50	6.78	14	8.69	4.50	3.30	2.62	2.28	1.77
13	2.50	9.56	4.24	4.26	6.78	12	7.59	4.50	3.30	2.62	2.28	1.77
14	2.50	5.59	5.59	4.02	6.78	10	7.32	4.26	3.30	2.45	2.28	1.77
15	2.50	4.02	4.90	4.98	5.97	9.56	6.78	4.26	3.30	2.45	2.11	1.77
16	3.36	3.36	4.24	4.98	5.97	9.27	6.51	4.26	3.30	2.45	2.11	1.60
17	3.14	2.92	4.02	7.86	7.05	8.69	6.24	4.02	3.23	2.45	2.11	1.60
18	3.14	2.92	3.58	9.85	7.32	8.13	5.97	4.02	3.23	2.45	1.94	1.60
19	2.92	3.36	4.46	7.05	8.69	7.59	5.46	4.02	3.23	2.45	2.11	1.60
20	3.14	3.36	4.68	6.24	12	7.32	5.46	4.02	3.23	2.45	2.28	1.60
21	4.24	2.92	4.24	5.70	11	7.05	5.46	4.02	3.06	2.45	2.11	1.60
22	4.02	2.92	4.02	5.46	11	12	6.24	4.02	3.06	2.45	2.28	1.60
23	3.36	4.90	3.80	6.24	8.98	10	5.46	3.78	3.06	2.28	2.28	1.44
24	3.14	5.84	3.36	7.05	8.98	8.98	4.98	3.78	3.06	2.28	2.28	1.44
25	4.46	9.27	3.58	7.32	11	8.13	5.22	3.78	3.06	2.28	3.06	1.44
26	4.02	5.59	4.02	6.24	19	7.32	5.70	3.78	3.06	2.28	4.02	1.44
27	2.92	4.90	3.58	5.46	12	6.78	6.78	3.78	3.06	2.28	4.50	1.44
28	2.70	4.24	3.80	5.70	9.85	6.51	7.32	4.02	3.06	2.28	3.06	1.44
29	2.50	3.80	3.36	8.40	9.85	6.24	6.24	4.50	3.54	2.28	–	1.28
30	2.50	3.58	3.36	21	8.40	5.97	5.70	4.02	3.30	2.11	–	1.28
31	–	3.58	–	19	8.95	–	5.22	–	3.23	2.11	–	1.28
Total	96.28	128.49	121.53	220.60	301.24	335.19	233.08	131.25	101.71	79.67	73.78	54.07
Mean	3.21	4.14	4.05	7.12	9.72	11.2	7.52	4.37	3.28	2.57	2.63	1.74
Max.	4.46	9.56	6.97	21	19	28	19	6.24	3.78	3.06	4.50	2.89
Min.	2.50	2.70	2.30	3.80	5.97	5.97	5.22	3.78	3.06	2.11	1.94	1.28
Runoff – MCM.	8.318	11.101	10.500	19.060	26.027	28.960	20.138	11.340	8.788	6.883	6.374	4.672

WATER YEAR 1977 : Max. 28 Min. 1.28 Mean 5.14 Annual Runoff 162.161 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sept. 6	12.00	2.00	41				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
MAE KOK RIVER BASIN

Mae Kok River at Chiang Rai, Chiang Rai (G. 2A)

Location: Lat. 19°-55'-14" N., Long. 99°-51'-05" E., on right bank about 80 meters downstream from the bridge at Chiang Rai – Mae Chan highway, Amphoe Muang, Chiang Rai.

Drainage Area: 6,063 Sq.km.

Type of Gage: Water-stage recorder.

Zero Gage at Bottom at: + 389.00 m. (M.S.L.)

Bench Mark: B.M. – H.S.

Location: Near automatic gage building.
Elevation: + 392.602 m. (M.S.L.)

Gage Reading Frequency: Recording

Basis of Mean Daily Gage Height: Arithmetic mean of 24 hourly readings.

Period of Available Gage Records: 1958 to date.

Rating Operation:

Period of Rating: 1958-1960, 1967-1971.
Rated by Float: –
Rated by Current Meter: 1958-1960, 1967-1971.

Stability of Channel Regimes: Fairly stable by some silting, no shifting adjustment for flow computation.

Overbank Flow Conditions: No overbank flow.

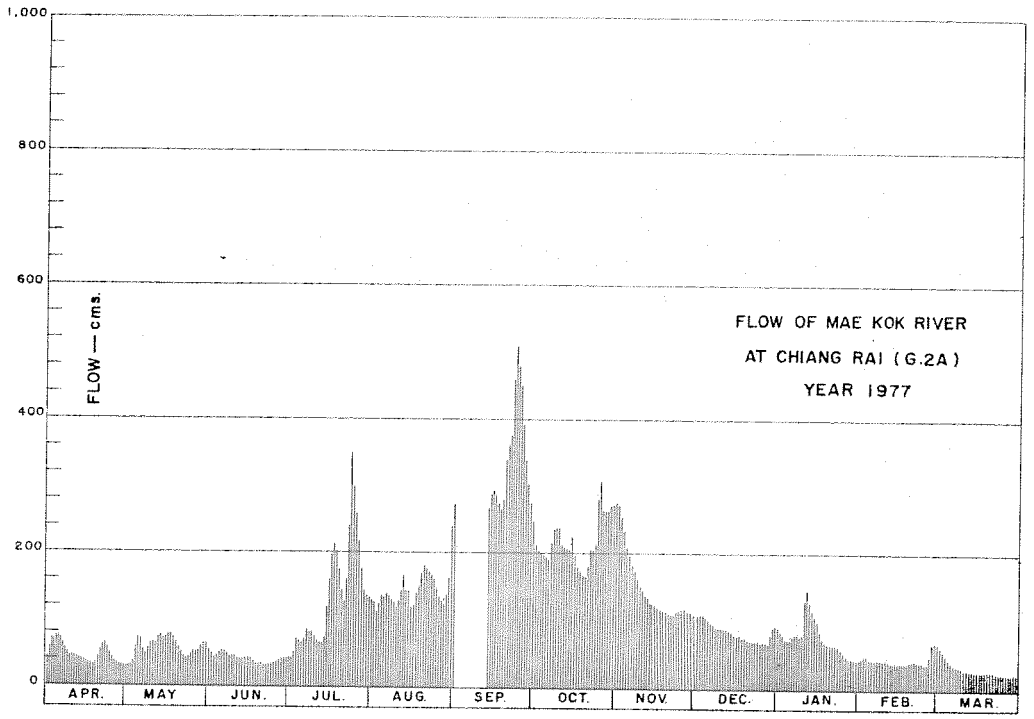
General Description: Records fair. Stage-discharge relation defined by 95 discharge measurements made in 1971.

Remarks: No records on September 2-13, 1977.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	390.75	390.67	390.85	390.81	391.29	391.79	391.66	391.81	391.20	391.11	390.80	390.96
2	.92	.67	.79	.80	.28		.60	.80	.20	.06	.82	.92
3	.99	.69	.77	.90	.22		.58	.75	.20	.03	.84	.86
4	391.00	.89	.83	391.00	.28		.56	.68	.20	.01	.83	.81
5	.02	391.00	.85	390.96	.33		.55	.60	.16	.00	.81	.77
6	390.99	390.98	390.87	390.96	391.30		391.55	391.54	391.15	391.02	390.80	390.74
7	.92	.88	.86	391.03	.33		.53	.51	.13	.05	.80	.72
8	.87	.83	.81	.09	.31		.63	.48	.11	.06	.80	.71
9	.83	.92	.79	.03	.28		.69	.43	.10	.04	.80	.69
10	.80	.95	.81	.06	.25		.69	.39	.10	.03	.80	.68
11	390.79	390.95	390.79	390.99	391.27		391.64	391.37	391.08	391.30	390.78	390.67
12	.78	.95	.77	.96	.35		.60	.33	.08	.37	.77	.65
13	.77	391.02	.77	.95	.44		.59	.32	.07	.29	.76	.65
14	.76	390.99	.78	.98	.36	391.78	.58	.29	.07	.24	.76	.64
15	.74	.99	.78	391.21	.34	.84	.64	.28	.05	.21	.76	.64
16	390.71	391.02	390.79	391.36	391.25	391.86	391.56	391.26	391.04	391.14	390.76	390.64
17	.71	.03	.77	.56	.26	.83	.51	.24	.04	.04	.76	.64
18	.71	.02	.72	.61	.34	.77	.48	.24	.03	.00	.76	.64
19	.72	390.96	.72	.58	.39	.78	.46	.24	.02	390.97	.75	.64
20	.81	.92	.71	.44	.46	.90	.44	.22	.01	.96	.78	.64
21	390.88	390.85	390.71	391.33	391.50	392.04	391.49	391.21	391.00	390.95	390.80	390.63
22	.93	.81	.70	.27	.47	.08	.58	.20	390.99	.94	.79	.62
23	.93	.78	.71	.52	.45	.18	.57	.20	.98	.94	.76	.61
24	.87	.81	.71	392.02	.44	.44	.60	.23	.98	.92	.74	.61
25	.80	.83	.71	391.90	.37	.39	.82	.23	.98	.89	.73	.60
26	390.74	390.87	390.73	391.77	391.31	292.30	391.90	391.23	390.97	390.85	390.75	390.60
27	.72	.86	.74	.60	.30	.06	.77	.24	.98	.82	.89	.60
28	.70	.89	.77	.43	.30	391.91	.76	.23	391.02	.81	.97	.60
29	.69	.92	.79	.35	.32	.82	.78	.22	.07	.80		.61
30	.67	.96	.77	.33	.48	.74	.80	.21	.10	.80		.61
31		.91		.31	.70		.79		.12	.80		.60
Mean	390.82	390.90	390.77	391.26	391.35		391.62	391.37	391.07	391.01	390.79	390.68
Max.	391.02	391.03	390.87	392.02	391.70	392.44	391.90	391.81	391.20	391.37	390.97	390.96
Min.	390.67	390.67	390.70	390.80	391.22	391.74	391.44	391.20	390.97	390.80	390.73	390.60

WATER YEAR 1977 : Max. 392.44 m. Min. 390.60 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	38	29	51	45	129	271	229	277	109	92	44	67
2	61	29	43	44	127		211	274	109	83	47	61
3	71	31	40	57	113		205	257	109	78	49	52
4	73	56	48	73	127		199	235	109	75	48	45
5	76	73	51	67	138		196	211	101	73	45	40
6	70	70	53	67	131		196	194	99	76	44	37
7	61	55	52	78	138		191	185	96	81	44	34
8	53	48	45	88	133		220	177	92	83	44	33
9	48	61	43	78	127		238	164	90	80	44	31
10	44	65	45	83	120		238	153	90	78	44	30
11	43	65	43	71	124		223	148	87	131	42	29
12	42	65	40	67	143		211	138	87	148	40	27
13	40	76	40	65	166		208	136	85	129	39	27
14	39	71	42	70	146	267	205	129	85	118	39	26
15	37	71	42	111	141	287	223	127	81	111	39	26
16	33	76	43	146	120	294	199	122	80	98	39	26
17	33	78	40	199	122	284	185	118	80	80	39	26
18	33	76	34	214	141	264	177	118	78	73	39	26
19	34	67	34	205	153	267	172	118	76	68	38	26
20	45	61	33	166	172	307	166	113	75	67	42	26
21	55	51	33	138	182	356	179	111	73	65	44	25
22	62	45	32	124	174	371	205	109	71	64	43	24
23	62	42	33	188	169	407	202	109	70	64	39	23
24	53	45	33	349	166	508	211	116	70	61	37	23
25	44	48	33	307	148	488	281	116	70	56	36	22
26	37	53	36	264	138	452	307	116	68	51	38	22
27	34	52	37	211	131	364	264	118	70	47	56	22
28	32	56	40	164	131	310	261	116	76	45	68	22
29	31	61	42	143	136	281	267	113	85	44		23
30	29	67	40	138	177	254	274	111	90	44		23
31		59		133	241		271		94	44		22
Total	1,413	1,802	1,221	3,965	4,499		6,814	4,529	2,655	2,407	1,210	945
Mean	47.1	58.1	40.7	128	14.5		220	151	85.6	77.6	48.2	30.5
Max.	76	78	53	349	241	508	307	277	109	148	68	67
Min.	29	79	32	44	113	254	166	109	68	44	36	22
Runoff - mcm.	122.083	155.693	105.494	342.576	388.714		588.730	391.306	229.392	207.965	104.544	81.648

WATER YEAR 1977 : Max. 508 Min. 22 Mean Annual Runoff mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
MAE KHONG RIVER BASIN

Huai Mong at Ban Na Ang, Udon Thani (Kh. 18)

Location: Lat. 17°-34'-39" N., Long. 102°-20'-19" E., on right bank about 300 meters downstream from confluence of Huai Nam Ban and Huai Pak Kong, Amphoe Ban Phu, Udon Thani.

Drainage Area: 1,307 Sq.km.

Type of Gage: Water-stage recorder.

Zero Gage at Bottom at: + 0.00 m. (A.D.)

Bench Mark: B.M. - H.S.

Location: On right bank near the camp of gaging station Kh. 18
Elevation: + 7.590 m. (A.D.)

Gage Reading Frequency: Recording

Basis of Mean Daily Gage Height: Arithmetic mean of 24 hourly readings.

Period of Available Gage Records: 1957 to date.

Rating Operation:

Period of Rating: 1957-1959, 1965-1966, 1974 to date.
Rated by Float: -
Rated by Current Meter: 1957-1959, 1965-1966, 1974 to date.

Stability of Channel Regimes: Stable, no shifting adjustment for flow computation.

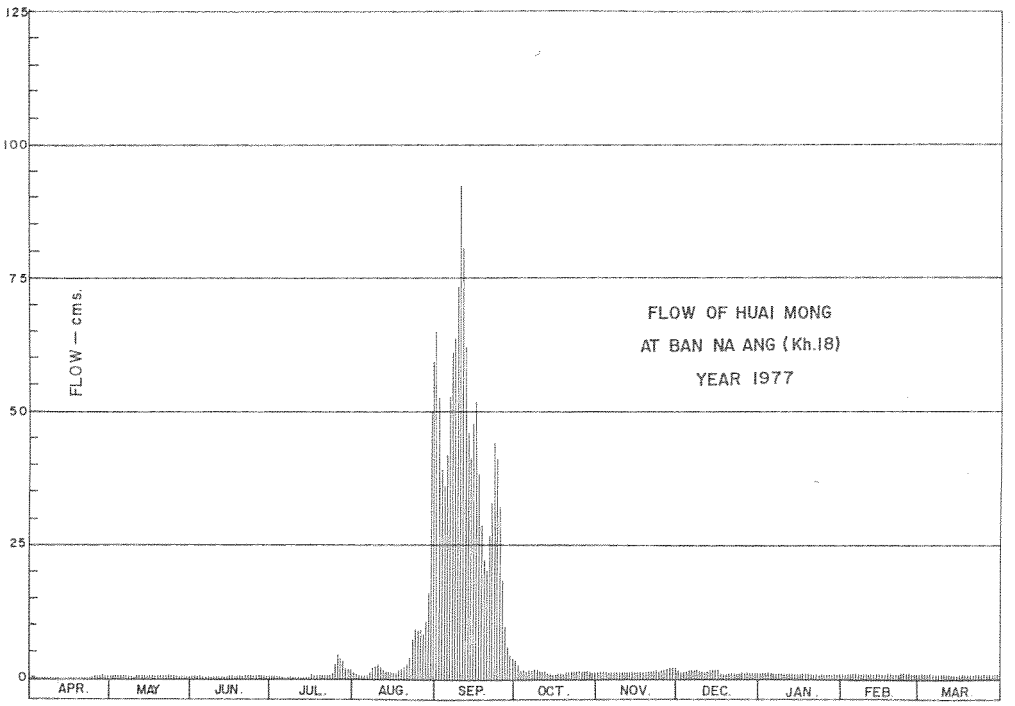
Overbank Flow Conditions: Overbank flow starts at elevation + 6.80 m. (A.D.) and is included.

General Description: Records good. Stage-discharge relation defined by 73 discharge measurements made in 1977.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.62	1.02	0.99	1.01	1.46	6.43	2.05	1.44	1.56	1.26	1.18	1.09
2	.64	.09	1.00	.05	.29	5.96	1.91	.44	.41	.31	.15	.08
3	.66	.11	.00	.03	.19	.36	.69	.46	.37	.31	.14	.07
4	.67	.10	.00	.01	.13	.12	.59	.49	.39	.31	.14	.06
5	.67	.10	0.99	0.99	.11	.29	.48	.39	.48	.29	.17	.08
6	0.66	1.11	0.98	0.96	1.08	3.96	1.50	1.40	1.53	1.29	1.18	1.09
7	.65	.12	.98	.94	.34	6.31	.51	.42	.53	.29	.17	.10
8	.67	.06	.98	.94	.71	.41	.53	.45	.53	.30	.17	.10
9	.71	.02	.96	.94	.80	.62	.60	.45	.51	.30	.17	.10
10	.75	.00	.95	.93	.92	7.03	.45	.44	.46	.29	.20	.10
11	0.78	1.03	0.95	0.92	1.73	6.90	1.42	1.46	1.47	1.28	1.21	1.09
12	.77	.03	.96	.91	.58	.33	.41	.48	.49	.28	.22	.08
13	.72	.05	.96	.90	.46	5.70	.38	.47	.51	.27	.20	.05
14	.69	.05	.98	.89	.38	.40	.29	.46	.52	.25	.16	.04
15	.66	.06	1.03	.91	.32	.83	.23	.43	.52	.25	.17	.03
16	0.66	1.09	1.02	0.97	1.27	5.96	1.22	1.42	1.51	1.24	1.18	1.05
17	.66	.09	.01	1.08	.24	.37	.24	.43	.29	.28	.17	.05
18	.66	.08	.01	.08	.51	4.71	.25	.43	.24	.28	.16	.06
19	.68	.07	.00	.04	.66	.25	.24	.44	.23	.28	.15	.08
20	.69	.06	.00	.01	.77	3.92	.26	.47	.27	.27	.14	.09
21	0.76	1.07	1.02	1.03	1.94	4.52	1.27	1.52	1.27	1.24	1.13	1.08
22	.78	.07	.03	.07	2.24	.96	.26	.55	.25	.20	.12	.09
23	.83	.13	.04	.08	.74	5.56	.34	.56	.25	.19	.12	.10
24	.95	.14	.03	.17	3.05	.49	.42	.55	.25	.20	.16	.08
25	1.10	.09	.02	.72	2.97	4.74	.41	.56	.25	.22	.16	.12
26	1.11	1.04	1.02	2.77	3.05	3.82	1.38	1.56	1.31	1.24	1.16	1.11
27	.10	.03	.01	.68	2.90	.10	.40	.65	.33	.24	.14	.09
28	.10	.03	.00	.19	3.09	2.65	.46	.71	.33	.23	.11	.08
29	.08	.02	0.99	1.68	.43	.34	.39	.74	.33	.24		.07
30	.07	.00	.99	.60	4.75	.22	.33	.75	.32	.21		.12
31		.00		.59	6.22		.37		.29	.19		.13
Mean	0.78	1.06	1.00	1.23	2.11	5.14	1.43	1.50	1.39	1.26	1.16	1.08
Max.	1.11	1.14	1.04	2.77	6.22	7.03	2.05	1.75	1.56	1.31	1.22	1.13
Min.	0.62	1.00	0.95	0.89	1.08	2.22	1.22	1.39	1.23	1.19	1.11	1.03

WATER YEAR 1977 : Max. 7.03 m. Min. 0.62 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.02	0.54	0.48	0.52	1.42	65	3.10	1.38	1.62	1.02	0.86	0.68
2	0.04	0.68	0.50	0.60	1.08	52	2.63	1.38	1.32	1.12	0.80	0.66
3	0.06	0.72	0.50	0.56	0.88	40	1.88	1.42	1.24	1.12	0.78	0.64
4	0.07	0.70	0.50	0.52	0.76	36	1.68	1.48	1.28	1.12	0.78	0.62
5	0.07	0.70	0.48	0.48	0.72	39	1.46	1.28	1.46	1.08	0.84	0.66
6	0.06	0.72	0.46	0.42	0.66	52	1.50	1.30	1.56	1.08	0.86	0.68
7	0.05	0.74	0.46	0.38	1.18	61	1.52	1.34	1.56	1.08	0.84	0.70
8	0.07	0.62	0.46	0.38	2.03	64	1.56	1.40	1.56	1.10	0.84	0.70
9	0.11	0.54	0.42	0.38	2.30	72	1.70	1.40	1.52	1.10	0.84	0.70
10	0.15	0.50	0.40	0.36	2.66	92	1.40	1.38	1.42	1.08	0.90	0.70
11	0.18	0.56	0.40	0.34	2.09	85	1.34	1.42	1.44	1.06	0.92	0.68
12	0.17	0.56	0.42	0.32	1.66	62	1.32	1.46	1.48	1.06	0.94	0.66
13	0.12	0.60	0.42	0.30	1.42	47	1.26	1.44	1.52	1.04	0.90	0.60
14	0.09	0.60	0.46	0.29	1.26	41	1.08	1.42	1.54	1.00	0.82	0.58
15	0.06	0.62	0.56	0.32	1.14	49	0.96	1.36	1.54	1.00	0.84	0.56
16	0.06	0.68	0.54	0.44	1.04	52	0.94	1.34	1.52	0.98	0.86	0.60
17	0.06	0.68	0.52	0.66	0.98	40	0.98	1.36	1.08	1.06	0.84	0.60
18	0.06	0.66	0.52	0.66	1.52	30	1.00	1.36	0.98	1.06	0.82	0.62
19	0.08	0.64	0.50	0.58	1.82	23	0.98	1.38	0.96	1.06	0.80	0.66
20	0.09	0.62	0.50	0.52	2.21	19	1.02	1.44	1.04	1.04	0.78	0.68
21	0.16	0.64	0.54	0.56	2.72	27	1.04	1.54	1.04	0.98	0.76	0.66
22	0.18	0.64	0.56	0.64	3.90	33	1.02	1.60	1.00	0.90	0.74	0.68
23	0.23	0.76	0.58	0.66	6.88	44	1.18	1.62	1.00	0.88	0.74	0.70
24	0.40	0.78	0.56	0.84	9.45	43	1.34	1.60	1.00	0.90	0.82	0.66
25	0.70	0.68	0.54	2.06	8.73	30	1.32	1.62	1.00	0.94	0.82	0.74
26	0.72	0.58	0.54	7.09	9.45	17	1.26	1.62	1.12	0.98	0.82	0.72
27	0.70	0.56	0.52	6.48	8.10	9.90	1.30	1.80	1.16	0.98	0.78	0.68
28	0.70	0.56	0.50	3.66	9.81	6.30	1.42	2.03	1.16	0.96	0.72	0.66
29	0.66	0.54	0.48	1.86	13	4.40	1.28	2.12	1.16	0.98		0.64
30	0.64	0.50	0.48	1.70	30	3.80	1.16	2.15	1.14	0.92		0.74
31		0.50		1.68	59		1.24		1.08	0.88		0.76
Total	6.76	19.42	14.80	36.26	189.87	1,239.44	42.87	45.44	39.50	31.56	23.06	20.62
Mean	0.22	0.63	0.49	1.17	6.12	41.3	1.38	1.51	1.27	1.02	0.82	0.66
Max.	0.72	0.78	0.58	7.09	59	92	3.10	2.15	1.62	1.12	0.94	0.76
Min.	0.02	0.50	0.40	0.29	0.66	3.80	0.94	1.28	0.96	0.88	0.72	0.56
Runoff - mcm.	0.584	1.678	1.279	3.133	16.405	107.087	3.704	3.926	3.413	2.727	1.992	1.781

WATER YEAR 1977 : Max. 92 Min. 0.02 Mean 4.68 Annual Runoff 147.709 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sept. 10	18.00	7.09	96				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
MAE KHONG RIVER BASIN

Nam Loei at Ban Sai Khao, Loei (Kh. 43)

Location: Lat. 17°-14'-15" N., Long. 101°-41'-31" E., on left bank downstream of 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 at: + 0.00 m. (A.D.)

Bench Mark: B.M. – H.S.

Location: At tamarind tree, along the measuring line.
Elevation: + 10.689 m. (A.D.)

Gage Reading Frequency: 3-time daily readings at 09.00, 12.00 and 18.00 hours.

Basis of Mean Daily Gage Height: Arithmetic mean of 3 readings.

Period of Available Gage Records: 1966 to date.

Rating Operation:

Period of Rating: 1966–1973
Rated by Float: –
Rated by Current Meter: 1966–1973.

Stability of Channel Regimes: Stable, no shifting adjustment for flow computation.

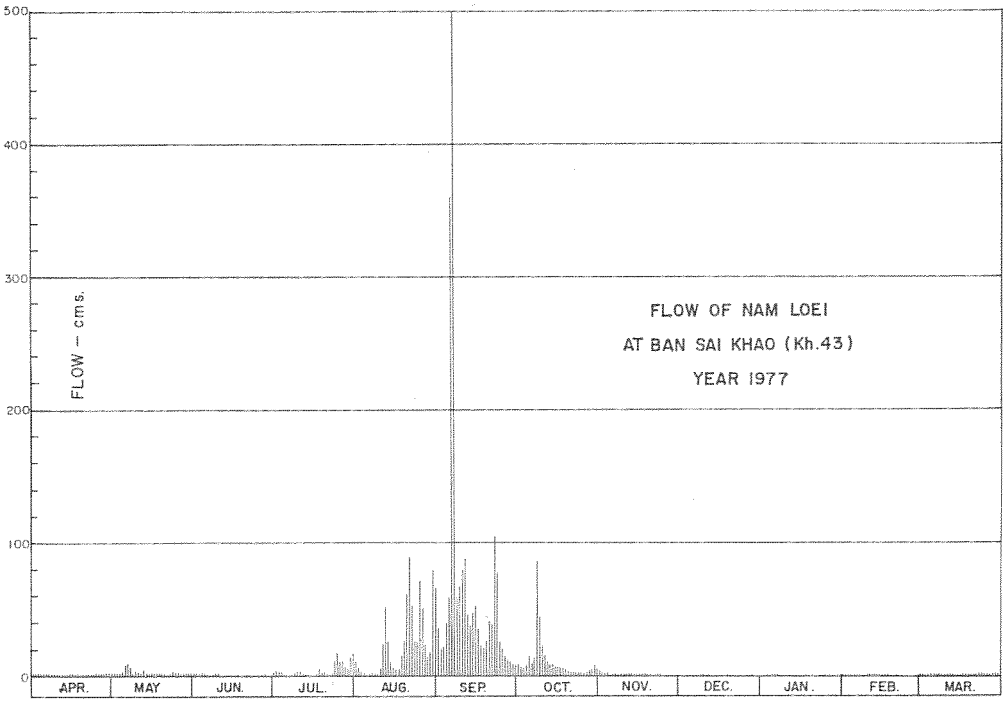
Overbank Flow Conditions: No overbank flow.

General Description: Records fair. Stage-discharge relation defined by 1,274 discharge measurements made during 1966–1973.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.52	0.55	0.61	0.93	1.17	1.82	1.12	0.93	0.66	0.57	0.53	0.56
2	.52	.56	.64	1.03	.05	.52	.08	.89	.65	.56	.52	.54
3	.52	.58	.63	0.93	0.93	.33	.06	.86	.64	.56	.52	.54
4	.54	.57	.60	.85	.86	.77	.14	.84	.63	.57	.52	.54
5	.58	.62	.58	.76	.81	2.23	.36	.82	.63	.57	.52	.53
6	0.56	1.11	0.59	0.76	0.78	6.90	1.15	0.80	0.62	0.56	0.52	0.52
7	.54	.17	.58	.80	.78	4.64	.30	.79	.62	.56	.52	.51
8	.54	.11	.57	.74	.78	2.24	2.67	.78	.62	.56	.52	.50
9	.54	0.81	.56	.88	.80	.39	.10	.77	.62	.56	.51	.50
10	.56	.95	.56	.90	.87	.59	1.56	.76	.62	.55	.51	.49
11	0.55	0.78	0.55	0.77	1.26	2.68	1.35	0.75	0.61	0.55	0.51	0.49
12	.56	.79	.61	.75	2.13	.05	.25	.74	.61	.55	.51	.49
13	.61	.93	.64	.73	1.70	1.86	.18	.73	.61	.55	.51	.49
14	.58	.74	.61	.68	.23	2.08	.13	.72	.60	.55	.51	.48
15	.55	.72	.62	.67	.05	.17	.10	.71	.60	.54	.50	.48
16	0.54	0.66	0.58	0.70	0.95	1.72	1.08	0.70	0.60	0.54	0.50	0.48
17	.53	.63	.56	.72	.89	.57	.08	.69	.60	.54	.50	.48
18	.52	.62	.55	1.03	1.26	.48	.04	.68	.59	.55	.50	.49
19	.52	.61	.55	0.87	.48	.63	.00	.68	.59	.55	.50	.48
20	.53	.81	.56	.72	2.26	.94	0.96	.67	.59	.54	.50	.48
21	0.53	0.72	0.54	0.70	2.71	1.89	0.93	0.66	0.59	0.54	0.50	0.48
22	.58	.66	.53	.70	.28	2.90	.91	.66	.59	.54	.51	.47
23	.57	.67	.52	.92	1.73	.48	.89	.65	.58	.54	.51	.47
24	.55	.92	.56	1.27	.56	1.73	.87	.65	.58	.54	.50	.47
25	.55	.83	.67	.42	2.46	.50	.86	.65	.58	.54	.51	.46
26	0.58	0.84	0.61	1.24	2.23	1.38	0.85	0.64	0.59	0.53	0.52	0.46
27	.61	.77	.64	.22	1.65	.28	.91	.64	.58	.53	.54	.55
28	.55	.72	.75	.07	.40	.22	.98	.65	.57	.53	.56	.64
29	.53	.69	.69	.01	.39	.19	1.07	.66	.58	.53		.61
30	.52	.67	.64	.33	2.58	.15	.09	.68	.58	.53		.61
31		.63		.44	.36		.00		.57	.53		.54
Mean	0.55	0.76	0.60	0.92	1.47	2.11	1.16	0.73	0.60	0.55	0.51	0.51
Max.	0.61	1.17	0.75	1.44	2.71	6.90	2.67	0.93	0.66	0.57	0.56	0.64
Min.	0.52	0.55	0.52	0.67	0.78	1.15	0.85	0.64	0.57	0.53	0.50	0.46

WATER YEAR 1977 : Max. 6.90 m. Min. 0.46 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.04	0.10	0.26	3.60	9.25	35	8.00	3.60	0.56	0.14	0.06	0.12
2	0.04	0.12	0.44	5.76	6.25	21	7.00	2.87	0.50	0.12	0.04	0.08
3	0.04	0.16	0.38	3.60	3.60	14	6.50	2.48	0.44	0.12	0.04	0.08
4	0.08	0.14	0.20	2.33	2.48	32	8.50	2.22	0.38	0.14	0.04	0.08
5	0.16	0.32	0.16	1.34	1.83	58	15	1.96	0.38	0.14	0.04	0.06
6	0.12	7.75	0.18	1.34	1.52	532	8.75	1.70	0.32	0.12	0.04	0.04
7	0.08	9.25	0.16	1.70	1.52	259	13	1.61	0.32	0.12	0.04	0.02
8	0.08	7.75	0.14	1.16	1.52	58	87	1.52	0.32	0.12	0.04	0.00
9	0.08	1.83	0.12	2.74	1.70	68	50	1.43	0.32	0.12	0.02	
10	0.12	4.00	0.12	3.00	2.61	81	23	1.34	0.32	0.10	0.02	
11	0.10	1.52	0.10	1.43	12	88	15	1.25	0.26	0.10	0.02	
12	0.12	1.61	0.26	1.25	52	47	11	1.16	0.26	0.10	0.02	
13	0.26	3.60	0.44	1.07	29	37	9.50	1.07	0.26	0.10	0.02	
14	0.16	1.16	0.26	0.68	11	49	8.25	0.98	0.20	0.10	0.02	
15	0.10	0.98	0.32	0.62	6.25	54	7.50	0.89	0.20	0.08	0.00	
16	0.08	0.56	0.16	0.80	4.00	30	7.00	0.80	0.20	0.08	0.00	
17	0.06	0.38	0.12	0.98	2.87	23	7.00	0.74	0.20	0.08		
18	0.04	0.32	0.10	5.75	12	20	6.00	0.68	0.18	0.10		
19	0.04	0.26	0.10	2.61	20	26	5.00	0.68	0.18	0.10		
20	0.06	1.83	0.12	0.98	60	41	4.20	0.62	0.18	0.08		
21	0.06	0.98	0.08	0.80	90	38	3.60	0.56	0.18	0.08	0.00	
22	0.16	0.56	0.06	0.80	61	105	3.20	0.56	0.18	0.08	0.02	
23	0.14	0.62	0.04	3.40	30	74	2.87	0.50	0.16	0.08	0.02	
24	0.10	3.40	0.12	12	23	30	2.61	0.50	0.16	0.08	0.00	
25	0.10	2.09	0.62	17	72	20	2.48	0.50	0.16	0.08	0.02	
26	0.16	2.22	0.26	11	58	16	2.35	0.44	0.18	0.06	0.02	0.00
27	0.26	1.43	0.44	11	27	12	3.20	0.44	0.16	0.06	0.08	0.10
28	0.10	0.98	1.25	6.75	16	11	4.60	0.50	0.14	0.06	0.12	0.44
29	0.06	0.74	0.74	5.25	16	9.75	6.75	0.56	0.16	0.06		0.26
30	0.04	0.62	0.44	14	81	8.75	7.25	0.68	0.16	0.06		0.26
31		0.38		18	66		5.00		0.14	0.06		0.08
Total	3.04	57.66	8.19	142.75	781.40	1,897.50	351.11	34.84	7.76	2.92	0.74	1.62
Mean	0.10	1.86	0.27	4.60	25.2	63.2	11.3	1.16	0.25	0.09	0.03	0.05
Max.	0.26	9.25	1.25	18	90	532	87	3.60	0.56	0.14	0.12	0.44
Min.	0.04	0.10	0.04	0.62	1.52	8.75	2.35	0.44	0.14	0.06	0.00	0.00
Runoff — mcm.	0.263	4.982	0.708	12.334	67.513	163.944	30.336	3.010	0.670	0.252	0.064	0.140

WATER YEAR 1977 : Max. 532 Min. 0.00 Mean 9.01 Annual Runoff 284.216 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sept. 6	19.00	8.00	709				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
MAE KHONG RIVER BASIN

Nam Loei near Ban Sai Khao, Loei (Kh. 43A)

Location: Lat. 17°-13'-30" N., Long. 101°-41'-26" E., on right bank upstream from Kh. 43 station about 3 kilometers near Ban Sai Khao, Amphoe Wang Saphung, Loei.

Drainage Area: 790 Sq.km.

Type of Gage: Staff gage.

Zero Gage at Bottom at: + 0.00 m. (A.D.)

Bench Mark: B.M. – H.S.

Location: On left bank at tamarind tree along the measuring line.
Elevation: + 8.516 m. (A.D.)

Gage Reading Frequency: 3-5 time 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: 1968 to date.

Rating Operation:

Period of Rating: 1968-1973.
Rated by Float: –
Rated by Current Meter: 1968-1973.

Stability of Channel Regimes: Fairly stable, no shifting-adjustment for flow computation.

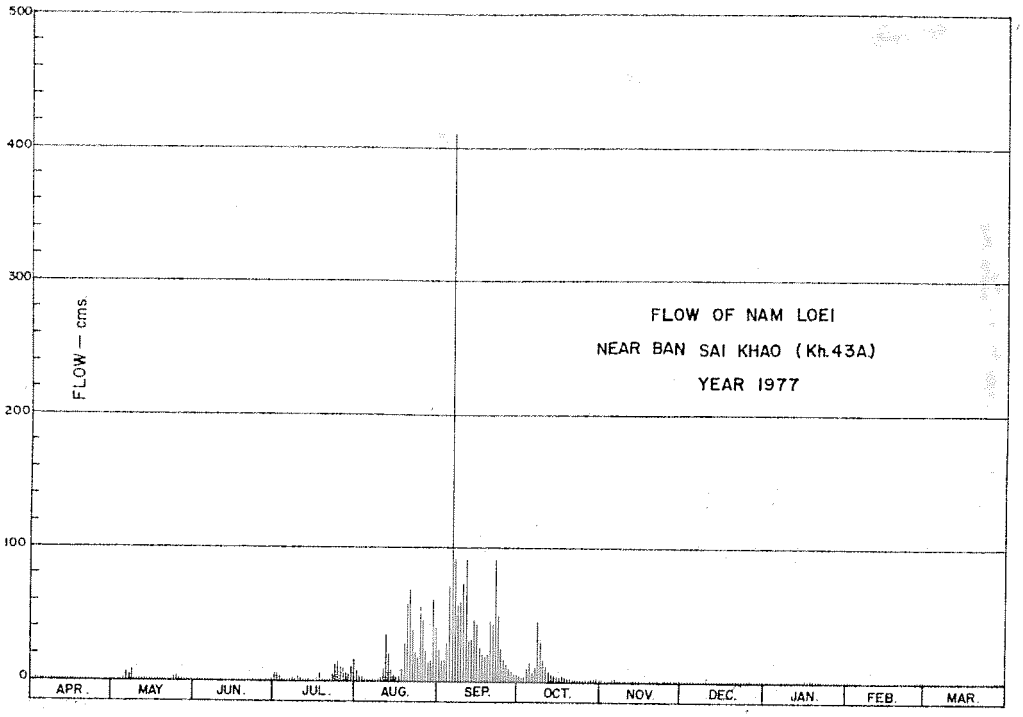
Overbank Flow Conditions: No overbank flow.

General Description: Records fair. Stage-discharge relation defined by 1,090 discharge measurements made during 1968-1973.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.44	0.46	0.53	0.96	1.09	1.63	0.95	0.74	0.55	0.46	0.41	0.45
2	.44	.48	.56	.99	0.94	.42	.91	.70	.54	.46	.41	.43
3	.44	.50	.54	.88	.86	.28	.88	.68	.53	.46	.41	.43
4	.46	.49	.51	.78	.77	.63	1.07	.67	.53	.46	.41	.43
5	.52	.56	.49	.69	.73	.90	.29	.66	.52	.46	.41	.42
6	0.50	1.02	0.50	0.70	0.71	6.39	1.04	0.65	0.52	0.45	0.41	0.41
7	.47	0.86	.48	.73	.71	4.20	.10	.64	.52	.45	.41	.40
8	.45	1.05	.47	.67	.71	2.28	2.08	.64	.52	.45	.40	.39
9	.45	0.68	.46	.71	.72	.32	1.86	.63	.52	.45	.40	.39
10	.49	.72	.45	.87	.78	.57	.38	.62	.51	.44	.40	.38
11	0.48	0.60	0.44	0.76	1.10	2.88	1.22	0.60	0.51	0.44	0.40	0.38
12	.50	.65	.51	.71	.88	.00	.10	.59	.51	.44	.40	.38
13	.56	.67	.60	.66	.59	1.71	0.98	.58	.50	.44	.40	.38
14	.50	.63	.54	.62	.15	2.08	.93	.57	.50	.44	.39	.37
15	.46	.61	.55	.60	0.98	.06	.90	.57	.50	.43	.39	.37
16	0.45	0.55	0.50	0.59	0.87	1.70	0.89	0.56	0.49	0.43	0.39	0.37
17	.44	.52	.48	.64	.81	.52	.92	.56	.49	.43	.39	.37
18	.44	.51	.47	1.04	1.09	.42	.87	.56	.49	.43	.39	.38
19	.43	.51	.47	0.73	.45	.47	.82	.55	.49	.44	.39	.37
20	.44	.74	.46	.65	2.19	2.08	.79	.55	.48	.43	.39	.37
21	0.46	0.64	0.45	0.64	2.52	1.83	0.76	0.55	0.48	0.43	0.39	0.37
22	.52	.59	.43	.65	.17	2.88	.75	.55	.48	.43	.40	.36
23	.50	.59	.41	.81	1.59	.38	.74	.54	.48	.43	.40	.36
24	.47	.85	.50	1.22	.41	1.65	.72	.54	.48	.43	.39	.36
25	.47	.80	.62	.34	2.28	.41	.71	.54	.47	.42	.40	.35
26	0.50	0.78	0.55	1.21	2.11	1.26	0.70	0.54	0.48	0.42	0.41	0.35
27	.53	.70	.59	.17	1.57	.16	.75	.54	.47	.42	.43	.45
28	.47	.65	.73	.01	.29	.08	.76	.55	.47	.42	.45	.52
29	.44	.62	.65	0.91	.34	.02	.77	.56	.48	.42		.51
30	.43	.59	.60	1.19	2.40	0.97	.80	.57	.48	.42		.50
31		.55		.39	.09		.79		.47	.42		.44
Mean	0.47	0.65	0.52	0.85	1.35	2.01	0.98	0.59	0.50	0.44	0.40	0.40
Max.	0.56	1.05	0.73	1.39	2.52	6.39	2.08	0.74	0.55	0.46	0.45	0.52
Min.	0.43	0.46	0.41	0.59	0.71	0.97	0.70	0.54	0.47	0.42	0.39	0.35

WATER YEAR 1977 : Max. 6.39 m. Min. 0.35 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.08	0.12	0.26	5.20	7.80	25	5.00	1.40	0.30	0.12	0.02	0.10
2	0.08	0.16	0.32	5.80	4.80	18	4.20	1.00	0.28	0.12	0.02	0.06
3	0.08	0.20	0.28	3.60	3.20	13	3.60	0.88	0.26	0.12	0.02	0.06
4	0.12	0.18	0.22	1.80	1.20	25	7.40	0.82	0.26	0.12	0.02	0.06
5	0.24	0.32	0.18	0.94	1.30	36	14	0.76	0.24	0.12	0.02	0.04
6	0.20	6.40	0.20	1.00	1.10	410	6.80	0.70	0.24	0.10	0.02	0.02
7	0.14	3.20	0.16	1.30	1.10	187	8.00	0.64	0.24	0.10	0.02	0.00
8	0.10	7.00	0.14	0.82	1.10	55	45	0.64	0.24	0.10	0.00	
9	0.10	0.88	0.12	1.10	1.20	57	34	0.56	0.24	0.10		
10	0.18	1.20	0.10	3.40	1.80	71	16	0.52	0.22	0.08		
11	0.16	0.40	0.08	1.60	8.00	91	12	0.40	0.22	0.08		
12	0.20	0.70	0.22	1.10	35	41	8.00	0.38	0.22	0.08		
13	0.32	0.82	0.40	0.76	24	28	5.60	0.36	0.20	0.08		
14	0.22	0.58	0.28	0.52	9.50	45	4.60	0.34	0.20	0.08		
15	0.12	0.46	0.30	0.40	5.60	44	4.00	0.34	0.20	0.06		
16	0.10	0.30	0.20	0.38	3.40	28	3.80	0.32	0.18	0.06		
17	0.08	0.24	0.16	0.64	2.20	21	4.40	0.32	0.18	0.06		
18	0.08	0.22	0.14	6.80	7.80	18	3.40	0.32	0.18	0.06		
19	0.06	0.22	0.14	1.30	18	19	2.40	0.30	0.18	0.08		
20	0.08	1.40	0.12	0.70	50	45	1.90	0.30	0.16	0.06		
21	0.12	0.64	0.10	0.64	68	33	1.60	0.30	0.16	0.06		
22	0.24	0.38	0.06	0.74	49	91	1.50	0.30	0.16	0.06		
23	0.20	0.38	0.02	2.20	24	60	1.40	0.28	0.16	0.06		
24	0.14	3.00	0.20	12	17	26	1.20	0.28	0.16	0.06		
25	0.14	2.00	0.52	15	55	17	1.10	0.28	0.14	0.04	0.00	
26	0.20	1.80	0.30	11	46	13	1.00	0.28	0.16	0.04	0.02	0.00
27	0.26	1.00	0.38	10	23	9.80	1.50	0.28	0.14	0.04	0.06	0.10
28	0.14	0.70	1.38	6.20	14	7.60	1.60	0.30	0.14	0.04	0.10	0.24
29	0.08	0.52	0.70	4.20	15	6.40	1.70	0.32	0.16	0.04		0.22
30	0.06	0.38	0.40	11	61	5.40	2.00	0.34	0.16	0.04		0.20
31		0.30		13	45		1.90		0.14	0.04		0.08
Total	4.32	36.10	8.00	129.10	605.60	1,946.20	210.60	14.28	6.12	2.30	0.32	1.18
Mean	0.14	1.16	0.27	4.16	19.5	51.5	6.79	0.48	0.20	0.07	0.01	0.04
Max.	0.32	7.00	1.30	17	68	410	45	1.40	0.30	0.12	0.10	0.24
Min.	0.06	0.12	0.02	0.38	1.10	5.40	1.00	0.28	0.14	0.04	0.00	0.00
Runoff - mcm.	0.373	3.119	0.691	11.154	52.324	133.592	18.196	1.234	0.529	0.199	0.028	0.102

WATER YEAR 1977 : Max. 410 Min. 0.00 Mean 7.02 Annual Runoff 221.340 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sept.6	17.00	7.60	559				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
MAE KHONG RIVER BASIN

Huai Luang at Nong Wua So, Udon Thani (Kh. 53)

Location: Lat. 17°-15'-53" N., Long. 102°-35'-48" E., on left bank at bridge on Udon Thani – Nongbualumpho highway, Huai Luang, Amphoe Nong Wua So, Udon Thani.

Drainage Area: 436 Sq.km.

Type of Gage: Water-stage recorder.

Zero Gage at Bottom at: + 0.00 m. (A.D.)

Bench Mark: B.M. – H.S.

Location: On left bank upstream from gage site.
Elevation: + 5.885 m. (A.D.)

Gage Reading Frequency: Recording

Basis of Mean Daily Gage Height: Arithmetic mean of 24 hourly readings.

Period of Available Gage Records: 1970 to date.

Rating Operation:

Period of Rating: 1975 to date.
Rated by Float: –
Rated by Current Meter: 1975 to date.

Stability of Channel Regimes: Fairly stable, no shifting adjustment for flow computation.

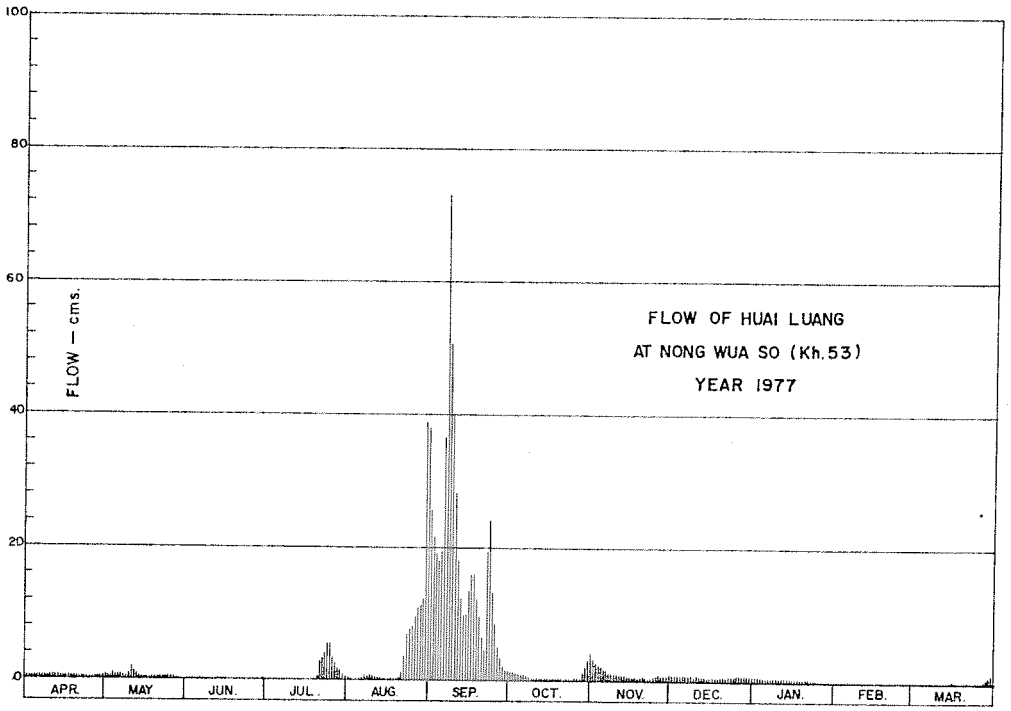
Overbank Flow Conditions: No overbank flow.

General Description: Records fair. Stage-discharge relation defined by 15 discharge measurements made in 1977.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.22	0.30	0.15	0.18	0.30	2.43	0.45	0.72	0.38	0.30	0.14	0.06
2	.21	.29	.16	.19	.25	.33	.44	.64	.39	.29	.13	.06
3	.20	.25	.16	.18	.25	.04	.42	.61	.39	.28	.12	.06
4	.27	.36	.15	.15	.25	1.99	.41	.55	.35	.27	.12	.06
5	.24	.34	.15	.15	.26	2.14	.36	.51	.37	.26	.11	.06
6	0.23	0.37	0.15	0.15	0.21	3.21	0.35	0.47	0.37	0.26	0.10	0.06
7	.22	.36	.15	.18	.30	.86	.33	.40	.37	.26	.09	.06
8	.24	.29	.15	.18	.30	.70	.25	.40	.32	.25	.09	.06
9	.23	.24	.15	.17	.32	.34	.24	.40	.28	.25	.08	.06
10	.24	.27	.14	.18	.30	2.85	.22	.39	.32	.25	.08	.06
11	0.23	0.51	0.15	0.17	0.30	2.17	0.21	0.34	0.33	0.25	0.08	0.06
12	.28	.40	.16	.17	.29	1.68	.20	.34	.32	.25	.07	.06
13	.27	.33	.16	.16	.24	.40	.20	.31	.30	.25	.08	.06
14	.27	.28	.16	.15	.23	.41	.18	.31	.27	.25	.08	.06
15	.25	.24	.15	.17	.21	.61	.17	.30	.25	.24	.09	.06
16	0.25	0.23	0.16	0.17	0.20	1.82	0.17	0.25	0.26	0.23	0.08	0.06
17	.25	.20	.15	.16	.21	.80	.17	.25	.27	.22	.08	.06
18	.25	.18	.15	.16	.21	.59	.17	.24	.29	.22	.07	.06
19	.28	.17	.15	.16	.20	.35	.17	.21	.29	.21	.07	.06
20	.24	.16	.14	.15	.30	.02	.17	.24	.29	.20	.07	.06
21	0.22	0.17	0.16	0.61	0.37	0.80	0.17	0.22	0.29	0.20	0.07	0.08
22	.21	.16	.15	.75	.76	2.06	.16	.22	.29	.20	.07	.08
23	.20	.19	.14	.83	1.12	.36	.16	.22	.30	.18	.07	.07
24	.20	.17	.14	.97	.20	1.70	.16	.24	.30	.18	.07	.07
25	.19	.18	.13	.98	.21	.22	.16	.31	.33	.17	.06	.06
26	0.19	0.19	0.13	0.81	1.39	0.89	0.16	0.35	0.33	0.17	0.06	0.06
27	.20	.16	.12	.62	.43	.73	.19	.34	.32	.17	.06	.10
28	.21	.16	.10	.50	.44	.57	.32	.36	.32	.16	.06	.23
29	.21	.16	.08	.44	.50	.51	.58	.33	.31	.15		.31
30	.21	.16	.21	.37	3.23	.50	.72	.39	.30	.14		.40
31		.16		.33	.19		.83		.30	.14		.37
Mean	0.23	0.25	0.15	0.34	0.71	1.84	0.29	0.36	0.32	0.22	0.08	0.10
Max.	0.28	0.51	0.21	0.98	3.23	3.86	0.72	0.72	0.39	0.30	0.14	0.40
Min.	0.19	0.16	0.08	0.15	0.20	0.50	0.16	0.21	0.25	0.14	0.06	0.06

WATER YEAR 1977 : Max. 3.86 m. Min. 0.06 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.48	0.80	0.25	0.34	0.80	25	1.50	3.36	1.12	0.80	0.22	0.02
2	0.44	0.76	0.28	0.37	0.60	23	1.44	2.78	1.16	0.76	0.19	0.02
3	0.40	0.60	0.28	0.34	0.60	19	1.32	2.57	1.16	0.72	0.16	0.02
4	0.68	1.04	0.25	0.25	0.60	18	1.26	2.15	1.00	0.68	0.16	0.02
5	0.56	0.92	0.25	0.25	0.44	20	1.04	1.87	1.08	0.64	0.13	0.02
6	0.52	1.08	0.25	0.25	0.44	*38	1.00	1.62	1.08	0.64	0.10	0.02
7	0.48	1.04	0.25	0.34	0.80	*73	0.92	1.20	1.08	0.64	0.08	0.02
8	0.56	0.76	0.25	0.34	0.80	*53	0.60	1.20	0.88	0.60	0.08	0.02
9	0.52	0.56	0.25	0.31	0.88	41	0.56	1.20	0.72	0.60	0.06	0.02
10	0.56	0.68	0.22	0.34	0.80	32	0.48	1.16	0.88	0.60	0.06	0.02
11	0.52	1.87	0.25	0.31	0.80	21	0.44	0.96	0.92	0.60	0.06	0.02
12	0.72	1.20	0.28	0.31	0.76	14	0.40	0.96	0.88	0.60	0.04	0.02
13	0.68	0.92	0.28	0.28	0.56	10	0.40	0.84	0.80	0.60	0.06	0.02
14	0.68	0.72	0.28	0.25	0.52	10	0.34	0.84	0.68	0.60	0.06	0.02
15	0.60	0.56	0.25	0.31	0.44	13	0.31	0.80	0.60	0.56	0.08	0.02
16	0.60	0.52	0.28	0.31	0.40	16	0.31	0.60	0.64	0.52	0.06	0.02
17	0.60	0.40	0.25	0.28	0.44	16	0.31	0.60	0.68	0.48	0.06	0.02
18	0.60	0.34	0.25	0.28	0.44	13	0.31	0.56	0.76	0.46	0.04	0.02
19	0.72	0.31	0.25	0.28	0.40	9.70	0.31	0.44	0.76	0.44	0.04	0.02
20	0.56	0.28	0.22	0.25	0.80	6.10	0.31	0.56	0.76	0.40	0.04	0.02
21	0.48	0.31	0.28	2.57	1.08	4.00	0.31	0.48	0.76	0.40	0.04	0.06
22	0.44	0.28	0.25	3.60	3.68	19	0.28	0.48	0.76	0.40	0.04	0.06
23	0.40	0.37	0.22	4.27	7.12	24	0.28	0.46	0.80	0.34	0.04	0.04
24	0.40	0.31	0.22	5.60	8.00	14	0.28	0.56	0.80	0.34	0.04	0.04
25	0.37	0.34	0.19	5.70	8.11	8.22	0.28	0.84	0.92	0.31	0.02	0.02
26	0.37	0.37	0.19	4.09	10	4.81	0.28	1.00	0.88	0.31	0.02	0.02
27	0.40	0.28	0.16	2.64	11	3.44	0.37	0.96	0.88	0.31	0.02	0.10
28	0.44	0.28	0.10	1.80	11	2.29	0.88	1.04	0.88	0.28	0.02	0.52
29	0.44	0.28	0.06	1.44	12	1.87	2.36	0.92	0.84	0.25		0.84
30	0.44	0.26	0.44	1.08	39	1.80	3.36	1.16	0.80	0.22		1.20
31		0.28		0.92	38		4.27		0.80	0.22		1.08
Total	15.66	18.74	7.23	39.70	161.31	554.23	26.51	34.19	26.76	15.34	2.02	4.38
Mean	0.52	0.60	0.24	1.28	5.20	18.5	0.86	1.14	0.86	0.49	0.07	0.14
Max.	0.72	1.87	0.44	5.70	39	73	3.36	3.36	1.16	0.80	0.22	1.20
Min.	0.37	0.28	0.06	0.25	0.40	1.80	0.28	0.44	0.60	0.22	0.02	0.02
Runoff - MCM.	1.353	1.619	0.625	3.430	13.937	47.885	2.290	2.954	2.312	1.325	0.175	0.379

WATER YEAR 1977 : Max. 73 Min. 0.02 Mean 2.48 Annual Runoff 78.284 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sept. 6	19.00	4.10	107				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
MAE KHONG RIVER BASIN

Huai Nam Man at Ban Pong Bia, Loei (Kh. 57)

Location: Lat. 17°-30'-13" N., Long. 101°-37'-35" E., on left bank at Ban Pong Bia, Tambon Nam Man, Amphoe Muang, Loei.

Drainage Area: 79 Sq.km.

Type of Gage: Staff gage.

Zero Gage at Bottom at: + 0.00 m. (A.D.)

Bench Mark: B.M. – H.S.

Location: Near the gage observer's house.
Elevation: + 12.895 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: 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, no shifting adjustment for flow computation.

Overbank Flow Conditions: No overbank flow.

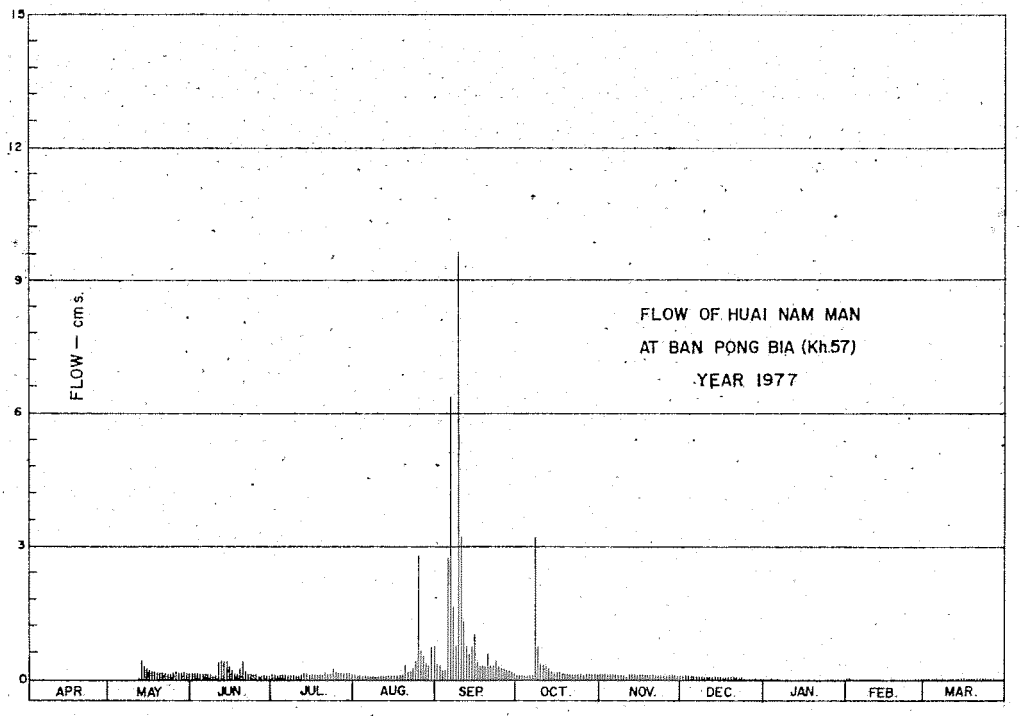
General Description: Records good, stage-discharge relation defined by 87 discharge measurements made in 1977.

Remarks: Stream gaging began on May 13, 1977.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1			0.25	0.23	0.23	0.40	0.25	0.25	0.23	0.15	0.15	0.14
2			.25	.22	.25	.38	.24	.25	.22	.14	.17	.14
3			.25	.23	.22	.33	.24	.25	.21	.15	.14	.14
4			.24	.24	.22	.33	.24	.24	.21	.15	.14	.14
5			.24	.24	.22	.88	.23	.24	.21	.12	.14	.13
6			0.23	0.23	0.22	1.45	0.23	0.24	0.21	0.14	0.14	0.13
7			.22	.23	.21	0.74	.23	.23	.20	.13	.14	.13
8			.23	.23	.21	.53	1.02	.23	.20	.12	.14	.13
9			.21	.24	.21	1.82	0.52	.22	.20	.12	.14	.13
10			.21	.21	.21	.02	.40	.21	.20	.11	.14	.13
11			0.41	0.21	0.21	0.63	0.37	0.20	0.20	0.11	0.14	0.13
12			.41	.22	.21	.56	.36	.22	.20	.11	.14	.13
13		.41	.41	.30	.20	.47	.34	.23	.19	.11	.13	.13
14		.38	.41	.28	.20	.49	.31	.23	.19	.12	.13	.13
15		.34	.38	.27	.20	.61	.27	.23	.19	.13	.13	.13
16		0.31	0.31	0.26	0.20	0.44	0.29	0.23	0.19	0.13	0.13	0.13
17		.31	.28	.25	.20	.38	.29	.23	.17	.13	.13	.13
18		.29	.28	.25	.20	.37	.27	.22	.17	.13	.13	.13
19		.28	.28	.23	.21	.35	.26	.24	.17	.11	.13	.74
20		.27	.41	.23	.35	.47	.26	.23	.17	.13	.13	.13
21		0.26	0.31	0.29	0.31	0.38	0.25	0.23	0.17	0.11	0.13	0.13
22		.26	.27	.25	.31	.36	.25	.23	.17	.12	.13	.13
23		.26	.26	.25	.33	.41	.25	.23	.17	.12	.12	.13
24		.25	.24	.33	.41	.38	.25	.23	.17	.12	.12	.13
25		.27	.25	.31	.95	.36	.24	.23	.15	.12	.13	.13
26		0.29	0.22	0.29	0.50	0.34	0.24	0.23	0.15	0.13	0.13	0.13
27		.28	.22	.26	.45	.32	.25	.23	.14	.13	.14	.13
28		.27	.23	.25	.41	.31	.25	.23	.14	.13	.14	.13
29		.26	.21	.25	.37	.31	.25	.23	.16	.12		.13
30		.25	.21	.26	.52	.28	.26	.23	.15	.12		.14
31		.25		.25	.53		.26		.15	.12		.15
Mean			0.25	0.25	0.30	0.53	0.30	0.23	0.18	0.12	0.13	0.13
Max.			0.41	0.33	0.95	1.82	1.02	0.25	0.23	0.15	0.17	0.15
Min.			0.21	0.21	0.20	0.28	0.23	0.20	0.14	0.11	0.12	0.13

WATER YEAR 1977 : Max. 1.82 m. Min. 0.11 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1			0.15	0.13	0.13	0.40	0.15	0.15	0.13	0.05	0.05	0.04
2			0.15	0.12	0.13	0.36	0.14	0.15	0.12	0.04	0.07	0.04
3			0.15	0.13	0.12	0.26	0.14	0.15	0.11	0.05	0.04	0.04
4			0.14	0.14	0.12	0.26	0.14	0.14	0.11	0.05	0.04	0.04
5			0.14	0.14	0.12	2.40	0.13	0.14	0.11	0.02	0.04	0.03
6			0.13	0.13	0.12	6.40	0.13	0.14	0.11	0.04	0.04	0.03
7			0.12	0.13	0.11	1.70	0.13	0.13	0.10	0.03	0.04	0.03
8			0.13	0.13	0.11	0.79	3.24	0.13	0.10	0.02	0.04	0.03
9			0.11	0.14	0.11	9.60	0.76	0.12	0.10	0.02	0.04	0.03
10			0.11	0.11	0.11	3.24	0.40	0.11	0.10	0.01	0.04	0.03
11			0.43	0.11	0.11	1.15	0.37	0.10	0.10	0.01	0.04	0.03
12			0.43	0.12	0.11	0.88	0.32	0.12	0.10	0.01	0.04	0.03
13		0.43	0.43	0.20	0.10	0.61	0.28	0.13	0.09	0.01	0.03	0.03
14		0.36	0.43	0.18	0.10	0.67	0.22	0.13	0.09	0.02	0.03	0.03
15		0.28	0.36	0.17	0.10	1.05	0.17	0.13	0.09	0.03	0.03	0.03
16		0.22	0.22	0.16	0.10	0.52	0.19	0.13	0.09	0.03	0.03	0.03
17		0.22	0.18	0.15	0.10	0.36	0.19	0.13	0.07	0.03	0.03	0.03
18		0.19	0.18	0.15	0.10	0.34	0.17	0.12	0.07	0.03	0.03	0.03
19		0.18	0.18	0.13	0.11	0.30	0.16	0.14	0.07	0.01	0.03	0.04
20		0.17	0.43	0.13	0.30	0.61	0.16	0.13	0.07	0.03	0.03	0.03
21		0.16	0.22	0.19	0.22	0.36	0.15	0.13	0.07	0.01	0.03	0.03
22		0.16	0.17	0.15	0.22	0.32	0.15	0.13	0.07	0.02	0.03	0.03
23		0.16	0.16	0.15	0.26	0.43	0.15	0.13	0.07	0.02	0.02	0.03
24		0.15	0.14	0.26	0.43	0.36	0.15	0.13	0.07	0.02	0.02	0.03
25		0.17	0.15	0.22	2.80	0.32	0.14	0.13	0.05	0.02	0.03	0.03
26		0.19	0.12	0.19	0.70	0.28	0.14	0.13	0.05	0.03	0.03	0.03
27		0.18	0.12	0.16	0.55	0.24	0.15	0.13	0.04	0.03	0.04	0.03
28		0.17	0.13	0.15	0.43	0.22	0.15	0.13	0.04	0.03	0.04	0.03
29		0.16	0.11	0.15	0.34	0.22	0.15	0.13	0.06	0.02		0.03
30		0.15	0.11	0.16	0.75	0.18	0.16	0.13	0.05	0.02		0.04
31		0.15		0.15	0.79		0.16		0.05	0.02		0.05
Total			6.03	4.73	9.90	34.83	8.37	3.92	2.55	0.78	1.00	1.01
Mean			0.19	0.15	0.32	1.16	0.27	0.13	0.082	0.025	0.035	0.03
Max.			0.43	0.26	2.80	9.60	3.24	0.15	0.13	0.05	0.07	0.05
Min.			0.11	0.11	0.10	0.18	0.13	0.10	0.04	0.01	0.02	0.03
Runoff - mcm.			0.520	0.409	0.855	3.009	0.723	0.338	0.220	0.067	0.086	0.087

WATER YEAR 1977 : Max. 9.60 Min. 0.10 Mean Annual Runoff mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sept. 9	09.00	2.67	19				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
CHI RIVER BASIN

Chi River at Kosum Phisai, Maha Sarakham (E. 1)

Location: Lat. 16°-15'-02" N., Long. 103°-04'-25" E., on right bank about 800 meters north-east of the district office of Amphoe Kosum Phisai, Maha Sarakham.

Drainage Area: 29,788 Sq.km.

Type of Gage: Staff gage.

Zero Gage at Bottom at: + 136.46 m. (M.S.L.)

Bench Mark: B.M. - H.S.

Location: On right bank about 5 meters from gage site.
Elevation: + 149.116 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.
Rated by Float: -
Rated by Current Meter: 1965-1973.

Stability of Channel Regimes: Stable, no shifting adjustment for flow computation.

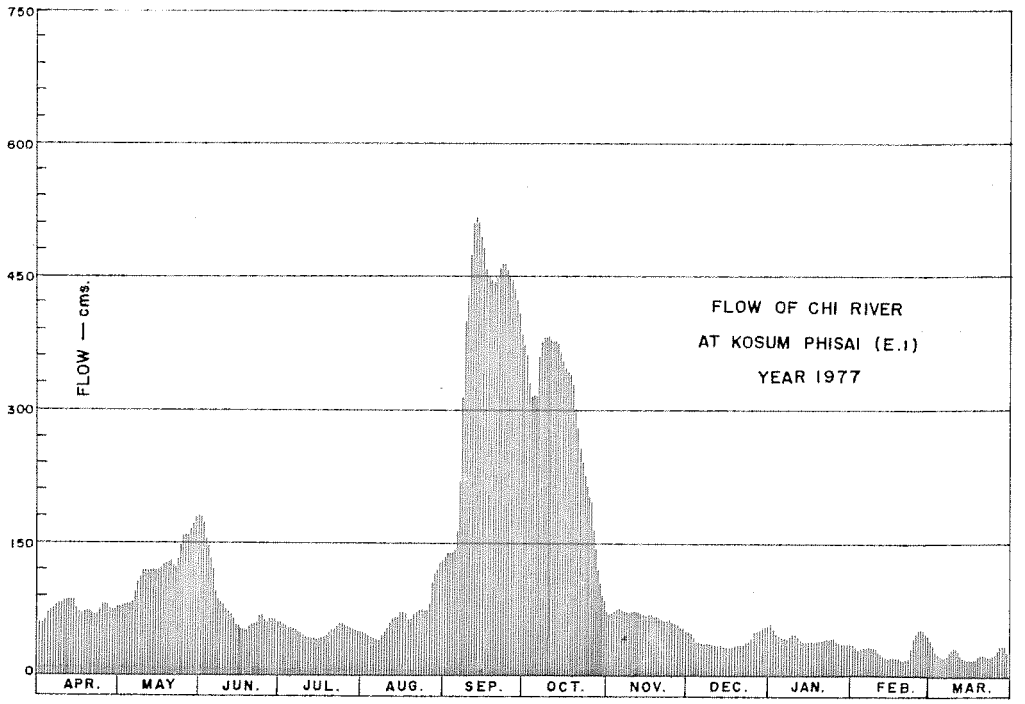
Overbank Flow Conditions: No overbank flow.

General Description: Records fair. Stage-discharge relation defined by 302 discharge measurements made during 1965-73.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	138.19	138.60	140.19	138.19	137.99	139.50	142.57	138.41	137.99	138.16	137.68	137.76
2	.22	.63	.10	.15	.98	.56	.43	.40	.97	.04	.60	.61
3	.29	.63	139.82	.13	.95	.57	.31	.43	.93	137.96	.56	.46
4	.44	.63	.66	.09	.88	.56	.28	.49	.80	.91	.58	.38
5	.51	.63	.42	.08	.86	.63	.28	.57	.75	.87	.62	.34
6	138.57	138.73	139.12	138.06	137.82	140.00	142.42	138.51	137.74	137.84	137.64	137.31
7	.62	.95	138.84	.01	.78	141.20	.58	.46	.74	.84	.65	.33
8	.64	139.07	.68	137.96	.91	142.38	.67	.44	.74	.88	.66	.49
9	.64	.17	.62	.93	.97	143.03	.69	.42	.73	.93	.58	.57
10	.68	.27	.55	.90	138.04	.40	.70	.44	.72	.95	.51	.59
11	138.71	139.25	138.43	137.86	138.18	143.84	142.64	138.45	137.69	137.88	137.42	137.50
12	.74	.27	.40	.85	.26	144.08	.62	.43	.67	.80	.36	.39
13	.74	.29	.31	.84	.30	.13	.62	.40	.66	.79	.30	.28
14	.61	.26	.22	.83	.28	.03	.57	.38	.66	.78	.26	.24
15	.46	.28	.13	.83	.39	143.82	.43	.37	.64	.80	.28	.24
16	138.43	139.31	138.07	137.84	138.44	143.59	142.31	138.37	137.62	137.80	137.32	137.24
17	.42	.34	.02	.85	.39	.45	.26	.36	.62	.81	.29	.23
18	.44	.35	.04	.89	.26	.41	.21	.35	.65	.81	.27	.24
19	.45	.38	.09	.96	.26	.39	.07	.33	.67	.80	.22	.34
20	.43	.40	.13	138.01	.39	.38	141.81	.32	.69	.80	.21	.41
21	138.41	139.40	138.17	138.03	138.40	143.52	141.48	138.27	137.71	137.82	137.22	137.40
22	.40	.30	.21	.10	.47	.59	.21	.26	.72	.84	.32	.34
23	.44	.39	.35	.16	.48	.60	.02	.26	.78	.85	.69	.32
24	.60	.60	.37	.19	.46	.54	140.82	.26	.81	.86	.90	.32
25	.63	.81	.26	.17	.47	.44	.57	.24	.90	.83	.99	.32
26	138.58	139.86	138.19	138.15	138.59	143.40	140.40	138.19	137.99	137.78	138.06	137.49
27	.53	.86	.26	.10	.89	.32	139.96	.14	.99	.74	.04	.65
28	.50	.95	.27	.07	139.20	.15	.49	.11	138.03	.73	137.95	.66
29	.50	140.06	.25	.04	.28	142.97	.20	.09	.09	.72		.62
30	.54	.15	.22	.02	.40	.72	138.93	.05	.10	.70		.39
31		.19		137.99	.43		.64		.12	.70		.29
Mean	138.51	139.32	138.58	138.01	138.37	142.61	141.62	138.34	137.80	137.84	137.54	137.41
Max.	138.74	140.19	140.19	138.19	139.43	144.13	142.70	138.57	138.12	138.16	138.06	137.76
Min.	138.19	138.60	138.02	137.83	137.78	139.50	138.64	138.05	137.62	137.70	137.21	137.23

WATER YEAR 1977 : Max. 144.13 m. Min. 137.21 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	59.5	80.0	181.3	59.5	49.5	134.0	371.3	70.5	49.5	58.0	35.2	38.4
2	61.0	81.6	175.0	57.5	49.0	137.9	358.7	70.0	48.5	52.0	32.0	32.4
3	64.5	81.6	155.4	56.5	47.5	138.5	348.3	71.5	46.5	48.0	30.4	26.6
4	72.0	81.6	144.4	54.5	44.0	137.9	345.8	74.5	40.0	45.5	31.2	23.8
5	75.5	81.6	128.8	54.0	43.0	142.4	345.8	78.5	38.0	43.5	32.8	22.4
6	78.5	87.1	110.2	53.0	41.0	168.0	357.8	75.5	37.6	42.0	33.6	21.3
7	81.1	100.0	93.4	50.5	39.2	257.0	372.2	73.0	37.6	42.0	34.0	22.0
8	82.2	107.2	84.4	48.0	45.5	354.3	380.3	72.0	37.6	44.0	34.4	27.6
9	82.2	113.2	81.1	46.5	48.5	412.7	382.1	71.0	37.2	46.5	31.2	30.8
10	84.4	119.2	77.5	45.0	52.0	446.0	383.0	72.0	36.8	47.5	28.4	31.6
11	86.0	118.0	71.5	43.0	59.0	488.0	377.6	72.5	35.6	44.0	25.2	28.0
12	87.7	119.2	70.0	42.5	63.0	512.0	375.8	71.5	34.8	40.0	23.1	24.1
13	87.7	120.4	65.5	42.0	65.0	517.0	375.8	70.0	34.4	39.6	21.0	20.4
14	80.5	118.6	61.0	41.5	64.0	507.0	371.3	69.0	34.4	39.2	19.8	19.2
15	73.0	119.8	56.5	41.5	69.5	486.0	358.7	68.5	33.6	40.0	20.4	19.2
16	71.5	121.6	53.5	42.0	72.0	463.5	348.3	68.5	32.8	40.0	21.7	19.2
17	71.0	123.6	51.0	42.5	69.5	450.5	344.1	68.0	32.8	40.5	20.7	18.9
18	72.0	124.2	52.0	44.5	63.0	446.9	339.8	67.5	34.0	40.5	20.1	19.2
19	72.5	126.2	54.5	48.0	63.0	445.1	327.9	66.5	34.8	40.0	18.6	22.4
20	71.5	127.5	56.5	50.5	69.5	444.2	305.8	66.0	35.6	40.0	18.3	24.8
21	70.5	127.5	58.5	51.5	70.0	456.9	279.4	63.5	36.4	41.0	18.6	24.5
22	70.5	121.0	60.5	55.0	73.5	463.5	257.8	63.0	36.8	42.0	21.7	22.4
23	72.0	126.8	67.5	58.0	74.0	464.5	242.6	63.0	39.2	42.5	35.6	21.7
24	80.0	140.5	68.5	59.5	73.0	458.8	226.6	63.0	40.5	43.0	45.0	21.7
25	81.6	154.7	63.0	58.5	73.5	449.6	207.9	62.0	45.0	41.5	49.5	21.7
26	79.0	158.2	59.5	57.5	79.5	446.0	196.0	59.5	49.5	39.2	53.0	27.6
27	76.5	158.2	63.0	55.0	96.4	438.8	165.2	57.0	49.5	37.6	52.0	34.0
28	75.0	164.5	63.5	53.5	115.0	423.5	133.3	55.5	51.5	37.2	47.5	34.4
29	75.0	172.2	62.5	52.0	119.8	407.3	115.0	54.5	54.5	36.8		32.8
30	77.0	178.5	61.0	51.0	127.5	384.8	98.8	52.5	55.0	36.0		24.1
31		181.3		49.5	129.4		82.2		56.0	36.0		20.7
Total	2,270.9	3,835.6	2,451.0	1,564.0	2,148.3	11,482.6	9,175.2	2,010.0	1,266.0	1,305.6	855.0	777.9
Mean	75.7	123.7	81.7	50.5	69.3	382.8	296.0	67.0	40.8	42.1	30.5	25.1
Max.	87.7	181.3	181.3	59.5	129.4	517.0	383.0	78.5	56.0	58.0	53.0	38.4
Min.	59.5	80.0	51.0	41.5	39.2	134.0	82.2	52.5	32.8	36.0	18.3	18.9
Runoff - mcm.	196.21	331.40	211.77	135.13	185.61	992.10	792.74	173.66	109.38	112.80	73.87	67.21

WATER YEAR 1977 : Max. 517 Min. 18.3 Mean 107.2 Annual Runoff 3,381.87 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sept. 13	3.00	144.16	520.00				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
CHI RIVER BASIN

Chi River at Yasothon, Yasothon (E. 2)

Location: Lat. 15°-47'-06" N., Long. 104°-08'-36" E., on left bank about 1.5 kilometers south of office of Amphoe Yasothon, Yasothon.

Drainage Area: 47,391 Sq.km.

Type of Gage: Staff gage.

Zero Gage at Bottom at: + 117.00 m. (M.S.L.)

Bench Mark: B.M. of Survey Department No. 97.

Location: 15 meters east of the post office.
Elevation: + 126.972 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: 1951 to date.

Rating Operation:

Period of Rating: 1951
Rated by Float: -
Rated by Current Meter: 1951

Stability of Channel Regimes: Stable, no shifting adjustment for flow computation.

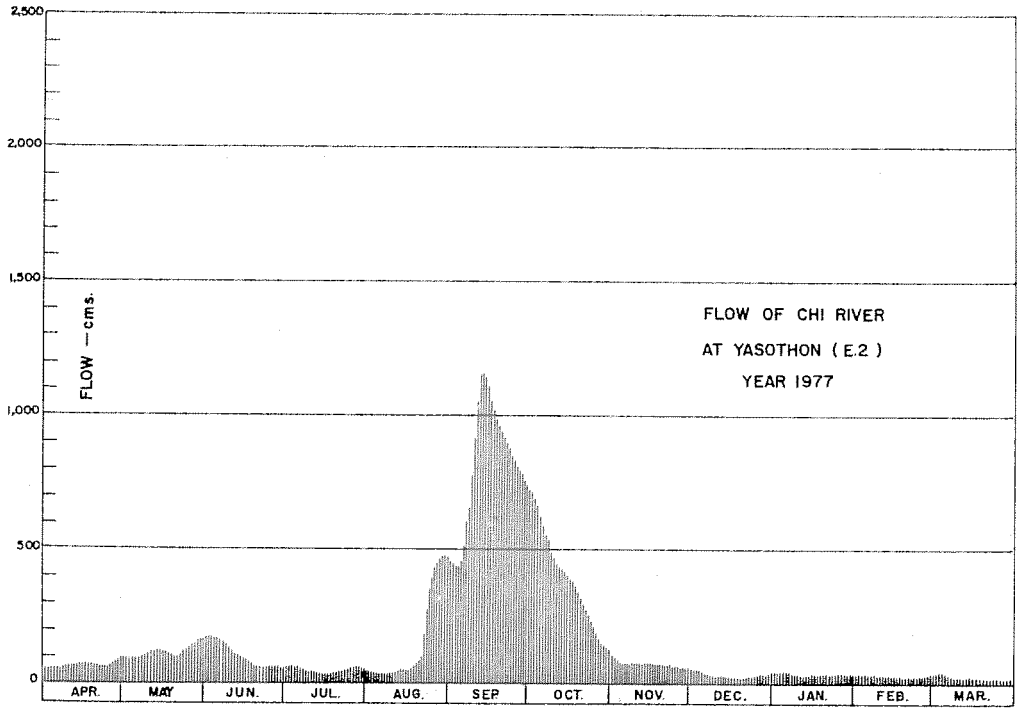
Overbank Flow Conditions: No overbank flow.

General Description: Records poor. Stage-discharge relation defined by 188 discharge measurements made in 1951. Flow regulated by Nam'Phong and Lampao Dam at above gage site.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	119.54	120.10	121.07	119.64	119.43	123.71	125.26	120.44	119.67	119.38	119.26	119.35
2	.51	.14	.12	.69	.35	.62	.18	.23	.64	.40	.25	.44
3	.48	.15	.09	.72	.30	.53	.07	.04	.61	.42	.25	.43
4	.51	.12	.02	.70	.27	.45	124.98	119.93	.57	.43	.24	.39
5	.49	.09	.00	.67	.24	.59	.77	.90	.52	.41	.24	.30
6	119.49	120.10	120.99	119.65	119.24	124.10	124.59	119.89	119.42	119.39	119.23	119.24
7	.53	.11	.96	.65	.22	.62	.36	.91	.27	.35	.22	.16
8	.58	.14	.87	.54	.20	.97	.15	.93	.21	.32	.22	.07
9	.64	.19	.73	.42	.19	125.40	123.95	.93	.15	.25	.21	.04
10	.68	.27	.59	.38	.29	.89	.79	.92	.11	.18	.19	.01
11	119.71	120.35	120.44	119.42	119.36	126.14	123.65	119.90	119.08	118.14	119.17	119.01
12	.73	.40	.33	.41	.41	.28	.52	.90	.07	.13	.16	.04
13	.75	.44	.27	.37	.47	.31	.43	.92	.06	.13	.15	.08
14	.76	.45	.22	.30	.53	.30	.36	.94	.05	.15	.13	.16
15	.79	.45	.16	.26	.54	.25	.27	.94	.04	.20	.09	.12
16	119.80	120.45	120.10	119.25	119.54	126.19	123.18	119.93	119.03	119.23	119.04	119.09
17	.81	.41	.01	.29	.61	.13	.07	.92	.01	.23	.01	.06
18	.80	.33	119.89	.31	.75	.07	122.94	.90	.00	.23	.01	.03
19	.76	.27	.77	.32	.86	.02	.80	.87	.00	.23	.01	.01
20	.71	.23	.69	.36	120.00	125.97	.59	.86	.01	.23	.01	.00
21	119.69	120.22	119.65	119.40	120.27	125.92	122.44	119.85	119.03	119.24	119.00	118.98
22	.68	.22	.63	.44	.96	.86	.24	.83	.03	.26	118.98	.97
23	.69	.35	.63	.48	121.98	.80	.03	.81	.05	.28	.96	.98
24	.68	.45	.63	.53	122.98	.74	121.81	.80	.08	.29	.95	119.01
25	.69	.54	.65	.57	123.25	.68	.52	.79	.14	.31	.98	.02
26	119.75	120.62	119.67	119.65	123.45	125.62	121.27	119.77	119.19	119.33	119.03	119.03
27	.85	.74	.70	.70	.63	.54	.06	.77	.21	.35	.05	.02
28	.95	.87	.69	.71	.75	.50	120.91	.75	.24	.36	.26	.01
29	120.04	.97	.60	.65	.80	.43	.79	.72	.29	.33	-	.01
30	.08	121.01	.57	.56	.78	.34	.69	.70	.32	.30	-	.04
31	-	.03	-	.48	.77	-	.59	-	.36	.28	-	.10
Mean	119.71	120.39	120.22	119.50	120.66	125.36	123.01	119.90	119.21	119.28	119.12	119.10
Max.	120.08	121.03	121.12	119.72	123.80	126.31	125.26	120.44	119.67	119.43	119.26	119.44
Min.	119.48	120.09	119.57	119.25	119.19	123.45	120.59	119.70	119.00	119.13	118.95	118.97

WATER YEAR 1977 : Max. 126.31 m. Min. 118.95 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	51	89	169	57	45	461	721	115	59	42	36	41
2	50	92	174	60	41	450	704	98	57	43	36	45
3	48	93	171	62	38	438	680	85	56	44	36	45
4	50	90	165	61	37	428	662	77	53	45	35	42
5	48	88	163	59	35	446	624	75	50	43	35	38
6	48	89	162	58	35	514	593	74	44	42	35	35
7	51	90	159	58	34	598	556	76	37	41	34	32
8	54	92	151	51	33	660	525	77	34	39	34	28
9	57	95	139	44	33	756	495	77	31	36	34	27
10	60	102	127	42	38	912	473	76	30	33	33	26
11	62	108	115	44	41	1,038	454	75	28	31	32	26
12	63	112	106	43	43	1,131	437	75	28	30	32	27
13	64	115	102	41	47	1,154	425	76	28	30	31	28
14	65	116	98	38	51	1,145	416	78	27	31	30	32
15	67	116	93	36	51	1,109	406	78	27	33	29	30
16	68	116	89	36	51	1,068	393	77	26	35	27	29
17	69	113	83	38	56	1,032	379	76	26	35	26	28
18	68	106	74	39	64	998	364	75	25	35	26	26
19	65	102	66	39	72	971	347	73	25	35	26	26
20	62	98	60	41	82	947	323	72	26	35	26	25
21	60	98	58	43	102	925	306	72	26	35	25	24
22	60	98	57	45	159	900	284	70	26	36	24	24
23	60	108	57	48	257	876	262	69	27	37	24	24
24	60	116	57	51	369	856	240	68	28	38	23	26
25	60	123	58	53	402	836	211	67	31	39	24	26
26	64	130	59	58	428	818	187	66	33	40	26	26
27	72	140	61	61	451	795	168	66	34	41	27	26
28	78	151	60	62	467	784	155	64	35	41	36	26
29	85	160	55	58	474	764	144	62	38	40	--	26
30	88	164	53	53	471	740	135	61	39	38	--	27
31	--	166	--	48	470	--	127	--	41	37	--	29
Total	1,857	3,476	3,041	1,527	4,977	24,550	12,194	2,250	1,075	1,160	842	920
Mean	61.9	112	101	49.2	160	818	393	75.0	34.7	37.0	30.1	29.7
Max.	88	166	174	62	474	1,154	721	115	59	45	36	45
Min.	48	88	53	36	33	428	127	61	25	30	23	24
Runoff - mcm.	160.445	300.326	262.742	131.933	430.013	2,121.120	1,053.562	194.400	92.880	100.224	72.749	79.488

WATER YEAR 1977 : Max. 1,154 Min. 23 Mean 158 Annual Runoff 4,999.882 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sept. 13	01.00	126.32	1,162				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
CHI RIVER BASIN

Chi River Near 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 at: + 186.070 m. (M.S.L.)

Bench Mark: B.M. - E. 5

Location: Infront of the camp of E5 station.
Elevation: + 197.543 m. (M.S.L.)

Gage Reading Frequency: Recording

Basis of Mean Daily Gage Height: Arithmetic mean of 24 hourly readings.

Period of Available Gage Records: 1969 to date.

Rating Operation:

Period of Rating: 1969-1973.
Rated by Float: -
Rated by Current Meter: 1969-1973.

Stability of Channel Regimes: Fairly stable, no shifting adjustment for flow computation.

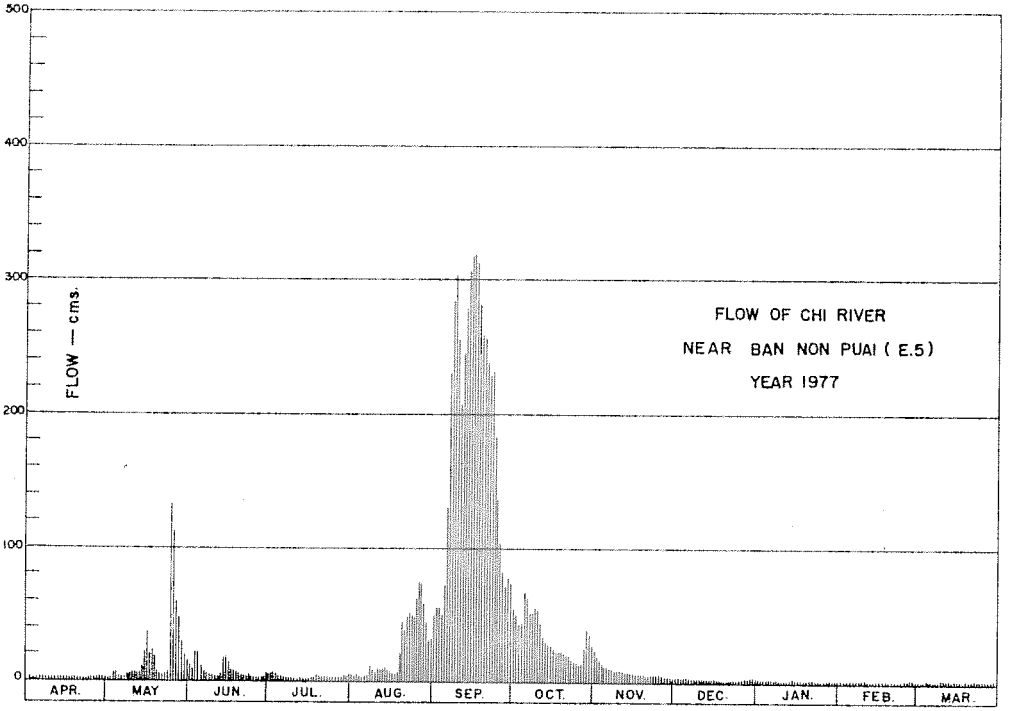
Overbank Flow Conditions: No overbank flow.

General Description: Records fair. Stage-discharge relation defined by 117 discharge measurements made in 1973.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	186.69	186.75	187.36	187.02	187.00	189.02	189.73	187.88	186.99	186.93	186.76	186.69
2	.69	.74	.24	.15	186.99	.33	.57	.70	.99	.90	.75	.71
3	.71	187.09	.92	.04	187.01	.30	.30	.56	.97	.89	.84	.71
4	.72	.15	.87	.01	186.97	.09	.24	.45	.96	.87	.89	.75
5	.71	186.91	.46	186.93	.92	.85	190.28	.39	.94	.86	.82	.72
6	186.73	186.87	187.21	186.94	186.89	192.26	190.15	187.36	186.93	186.83	186.80	186.70
7	.73	.83	.09	.89	.88	194.31	189.73	.33	.92	.82	.81	.69
8	.72	.93	.01	.86	187.38	195.36	.67	.28	.92	.82	.80	.67
9	.71	187.02	186.95	.84	.29	.71	.82	.26	.91	.82	.78	.67
10	.70	.13	.91	.83	.10	194.82	.74	.24	.91	.81	.77	.66
11	186.69	187.22	186.90	186.85	187.30	193.84	189.35	187.21	186.92	186.81	186.77	186.66
12	.68	.05	.93	.85	.31	194.46	188.99	.19	.92	.83	.75	.65
13	.67	.04	187.44	.86	.35	195.36	.67	.16	.91	.82	.74	.65
14	.66	.31	.71	.82	.36	.73	.49	.14	.92	.82	.73	.64
15	.66	.85	.71	.84	.21	.94	.35	.13	.89	.81	.72	.65
16	186.66	188.57	187.40	186.86	187.11	195.97	188.23	187.10	186.89	186.81	186.71	186.64
17	.65	187.74	.20	.87	.04	.83	.16	.09	.87	.80	.70	.65
18	.66	.95	.14	.87	.01	.33	.11	.07	.86	.79	.70	.66
19	.66	.72	.08	187.02	.73	194.93	.00	.06	.86	.78	.69	.64
20	.65	.19	.00	186.99	188.92	.83	187.86	.05	.85	.78	.68	.66
21	186.64	187.02	186.95	186.93	188.57	194.51	187.79	187.04	186.84	186.78	186.69	186.65
22	.63	186.98	.92	.89	189.00	.26	.71	.03	.84	.78	.69	.63
23	.64	187.01	.95	.89	.15	.37	.64	.02	.83	.78	.69	.63
24	.72	.04	.95	.89	.02	193.44	.58	.02	.83	.77	.69	.65
25	.85	191.87	.93	.90	.15	191.81	.54	.01	.84	.77	.68	.64
26	186.83	191.24	186.91	186.90	190.01	190.75	187.50	187.00	186.87	186.77	186.68	186.65
27	.82	189.44	.88	.92	.09	.16	.53	186.99	.94	.78	.69	.72
28	.89	188.80	.86	.93	189.80	189.91	188.37	.99	.94	.77	.69	.68
29	.84	.18	.86	.94	.00	190.12	.69	.98	.95	.77	-	.60
30	.78	187.81	187.10	.98	188.35	189.97	.36	.98	.97	.75	-	.66
31	-	.59	-	187.01	.42	-	.09	-	.98	.74	-	.64
Mean	186.71	187.68	187.16	186.92	187.91	193.02	188.65	187.19	186.91	186.81	186.74	186.66
Max.	186.89	191.87	187.92	187.15	190.09	195.97	190.28	187.88	186.99	186.93	186.89	186.75
Min.	186.63	186.74	186.86	186.82	186.88	189.02	187.50	186.98	186.83	186.74	186.68	186.60

WATER YEAR 1977 : Max. 195.97 m. Min. 186.60 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.95	1.50	11	5.30	5.00	47	65	21	4.85	3.95	1.60	0.95
2	0.95	1.40	8.60	7.85	4.85	55	61	17	4.85	3.50	1.50	1.10
3	1.10	6.35	22	5.60	5.15	54	54	15	4.55	3.35	2.60	1.10
4	1.20	7.25	21	5.15	4.55	49	53	12	4.40	3.05	3.35	1.50
5	1.10	3.65	13	3.95	3.80	68	81	11	4.10	2.90	2.30	1.20
6	1.30	3.05	8.15	4.10	3.35	144	77	11	3.95	2.45	2.00	1.00
7	1.30	2.45	6.35	3.35	3.20	229	65	10	3.80	2.30	2.15	0.95
8	1.20	3.95	5.15	2.90	11	283	64	9.20	3.80	2.30	2.00	0.85
9	1.10	5.30	4.25	2.60	9.35	304	68	8.90	3.65	2.30	1.80	0.85
10	1.00	6.95	3.65	2.45	6.50	255	65	8.60	3.65	2.15	1.70	0.80
11	0.95	8.30	3.50	2.75	9.50	206	56	8.15	3.80	2.15	1.70	0.80
12	0.90	5.75	3.95	2.75	9.70	237	47	7.85	3.80	2.45	1.50	0.75
13	0.85	5.60	12	2.90	10	283	39	7.40	3.65	2.30	1.40	0.75
14	0.80	9.70	18	2.30	11	305	34	7.10	3.80	2.30	1.30	0.70
15	0.80	20	18	2.60	8.15	317	31	6.95	3.35	2.15	1.20	0.75
16	0.80	36	11	2.90	6.65	319	28	6.50	3.35	2.15	1.10	0.70
17	0.75	18	8.00	3.05	5.60	311	27	6.35	3.05	2.00	1.00	0.75
18	0.80	22	7.10	3.05	5.15	281	26	6.05	2.90	1.90	1.00	0.80
19	0.80	18	6.20	5.30	18	260	23	5.90	2.90	1.80	0.95	0.70
20	0.75	7.85	5.00	4.85	44	255	21	5.75	2.75	1.80	0.90	0.80
21	0.70	5.30	4.25	3.95	36	239	19	5.60	2.60	1.80	0.95	0.75
22	0.65	4.70	3.80	3.35	47	227	18	5.45	2.60	1.80	0.95	0.65
23	0.70	5.15	4.25	3.35	51	232	16	5.30	2.45	1.80	0.95	0.65
24	1.20	5.60	4.25	3.35	47	189	15	5.30	2.45	1.70	0.95	0.75
25	2.75	130	3.95	3.50	51	128	14	5.15	2.60	1.70	0.90	0.70
26	2.45	110	3.65	3.50	73	95	13	5.00	3.05	1.70	0.90	0.75
27	2.30	58	3.20	3.80	76	78	14	4.85	4.10	1.80	0.95	1.20
28	3.35	42	2.90	3.95	67	70	31	4.85	4.10	1.70	0.95	0.90
29	2.60	27	2.90	4.10	47	77	39	4.70	4.25	1.70	–	0.50
30	1.80	20	6.50	4.70	31	72	31	4.70	4.55	1.50	–	0.80
31	–	15	–	5.15	32	–	25	–	4.70	1.40	–	0.70
Total	37.90	615.80	235.55	117.80	742.50	56.59	1,040	242.70	112.40	67.85	40.55	26.15
Mean	1.26	19.9	7.85	3.80	23.9	18.9	33.5	8.09	3.62	2.19	1.45	0.84
Max.	3.35	130	22	7.25	76	319	81	21	4.85	3.95	3.35	1.50
Min.	0.65	1.40	2.90	2.30	3.20	47	13	4.70	2.45	1.40	0.90	0.50
Runoff – MCM.	3.274	54.205	20.352	10.178	64.152	488.938	89.856	20.969	9.711	5.862	3.504	2.259

WATER YEAR 1977 : Max. 319 Min. 0.50 Mean 24.5 Annual Runoff 772.260 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sept. 16	10.00	196.06	325				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
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 E6A station at Ban Tat Ton, Amphoe Muang, Chaiyaphum.

Drainage Area: 300 Sq.km.

Type of Gage: Staff gage.

Zero Gage at Bottom at: + 0.00 m. (A.D.)

Bench Mark: B.M. – H.S.

Location: Near the automatic gage building.
Elevation: + 6.303 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, no shifting adjustment for flow computation.

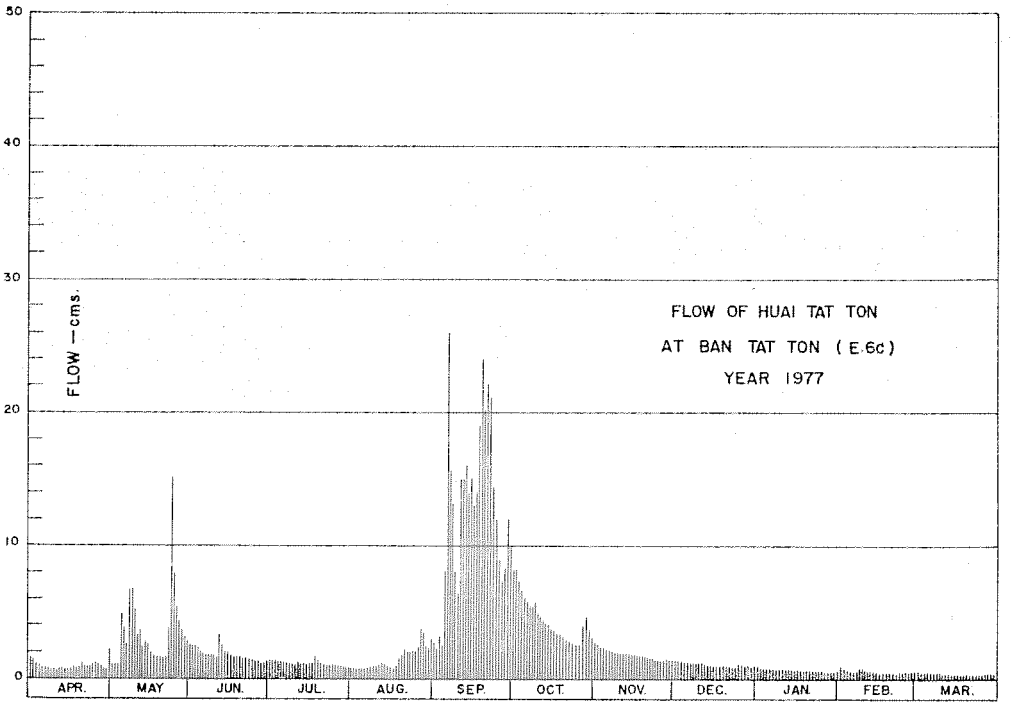
Overbank Flow Conditions: No overbank flow.

General Description: Records fair. Stage-discharge relation defined by 235 discharge measurements made in 1977.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.44	0.60	0.65	0.42	0.32	0.69	1.63	0.68	0.42	0.33	0.24	0.25
2	.42	.34	.65	.40	.31	.57	.65	.65	.41	.31	.34	.24
3	.36	.37	.65	.44	.31	.82	.54	.63	.41	.31	.31	.23
4	.34	.33	.60	.41	.31	.61	.40	.61	.40	.30	.28	.23
5	.33	.92	.54	.41	.30	1.65	.32	.59	.39	.30	.27	.22
6	0.31	1.11	0.52	0.39	0.30	3.80	1.28	0.59	0.39	0.29	0.26	0.22
7	.31	0.83	.50	.38	.33	.11	.22	.58	.39	.29	.26	.22
8	.29	.64	.50	.38	.32	1.94	.20	.56	.39	.29	.27	.20
9	.29	1.41	.49	.37	.33	.50	.26	.55	.38	.28	.30	.20
10	.28	.43	.47	.36	.33	.36	.16	.54	.38	.28	.28	.20
11	0.27	1.14	0.44	0.35	0.34	2.54	1.08	0.52	0.37	0.28	0.26	0.19
12	.29	0.79	.79	.40	.40	.47	.02	.52	.36	.28	.25	.18
13	.28	.87	.65	.35	.37	.67	0.98	.52	.36	.27	.25	.18
14	.28	.64	.56	.38	.34	.39	.96	.52	.35	.27	.24	.20
15	.27	.69	.54	.36	.32	.51	.90	.50	.35	.27	.23	.19
16	0.26	0.64	0.50	0.36	0.31	2.24	0.87	0.50	0.35	0.27	0.23	0.18
17	.26	.55	.48	.39	.28	.39	.84	.49	.35	.26	.21	.18
18	.31	.50	.47	.49	.36	3.08	.81	.49	.34	.26	.22	.19
19	.29	.46	.48	.42	.48	.58	.79	.48	.34	.26	.21	.19
20	.30	.47	.47	.37	.47	.11	.76	.47	.33	.26	.21	.19
21	0.36	0.46	0.46	0.37	0.58	3.40	0.74	0.47	0.33	0.26	0.21	0.18
22	.33	.43	.45	.35	.54	.15	.72	.46	.32	.26	.21	.18
23	.30	.52	.45	.35	.52	2.59	.70	.45	.31	.26	.22	.17
24	.33	1.40	.43	.36	.57	.12	.70	.44	.32	.25	.23	.17
25	.36	2.57	.43	.35	.57	1.85	.66	.45	.36	.25	.22	.17
26	0.38	1.55	0.42	0.36	0.62	1.67	0.65	0.45	0.34	0.24	0.23	0.19
27	.34	.14	.40	.33	.89	.55	.93	.44	.34	.24	.24	.19
28	.30	0.94	.39	.32	.81	.76	1.11	.45	.35	.24	.24	.23
29	.28	.82	.39	.32	.62	2.22	0.95	.44	.34	.24	–	.22
30	.26	.76	.42	.32	.58	1.92	.79	.43	.33	.24	–	.20
31	–	.69	–	.32	.74	–	.72	–	.34	.24	–	.20
Mean	0.31	0.84	0.51	0.37	0.45	2.17	1.01	0.52	0.36	0.27	0.25	0.20
Max.	0.44	2.57	0.79	0.42	0.89	3.80	1.65	0.68	0.42	0.33	0.34	0.25
Min.	0.26	0.33	0.39	0.32	0.30	0.57	0.65	0.43	0.31	0.24	0.21	0.17

WATER YEAR 1977 : Max. 3.80 m. Min. 0.17 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	1.50	2.30	2.55	1.40	0.90	2.75	8.11	2.70	1.40	0.95	0.56	0.60
2	1.40	1.00	2.55	1.30	0.85	2.15	8.25	2.55	1.35	0.85	1.00	0.56
3	1.10	1.15	2.55	1.50	0.85	3.40	7.46	2.45	1.35	0.85	0.85	0.52
4	1.00	0.95	2.30	1.35	0.85	2.35	6.60	2.35	1.30	0.80	0.72	0.52
5	0.95	3.90	2.00	1.35	0.80	8.25	6.12	2.25	1.25	0.80	0.68	0.48
6	0.85	4.86	1.90	1.25	0.80	26	5.88	2.25	1.25	0.76	0.64	0.48
7	0.85	3.45	1.80	1.20	0.95	20	5.52	2.20	1.25	0.76	0.64	0.48
8	0.76	2.50	1.80	1.20	0.90	10	5.40	2.10	1.25	0.76	0.68	0.40
9	0.76	6.66	1.75	1.15	0.95	7.20	5.76	2.05	1.20	0.72	0.80	0.40
10	0.72	6.78	1.65	1.10	0.95	6.36	5.16	2.00	1.20	0.72	0.72	0.40
11	0.68	5.04	1.50	1.05	1.00	15	4.70	1.90	1.15	0.72	0.64	0.36
12	0.76	3.25	3.25	1.30	1.30	15	4.40	1.90	1.10	0.72	0.60	0.32
13	0.72	3.65	2.55	1.05	1.15	16	4.20	1.90	1.10	0.68	0.60	0.32
14	0.72	2.50	2.10	1.20	1.00	14	4.10	1.90	1.05	0.68	0.56	0.40
15	0.68	2.75	2.00	1.10	0.90	15	3.80	1.80	1.05	0.68	0.52	0.36
16	0.64	2.50	1.80	1.10	0.85	13	3.65	1.80	1.05	0.68	0.52	0.32
17	0.64	2.05	1.70	1.25	0.72	14	3.50	1.75	1.05	0.64	0.44	0.32
18	0.85	1.80	1.65	1.75	1.10	19	3.35	1.75	1.00	0.64	0.48	0.36
19	0.76	1.60	1.70	1.40	1.70	24	3.25	1.70	1.00	0.64	0.44	0.36
20	0.80	1.65	1.65	1.15	1.65	20	3.10	1.65	0.95	0.64	0.44	0.36
21	1.10	1.60	1.60	1.15	2.20	22	3.00	1.65	0.95	0.64	0.44	0.32
22	0.95	1.45	1.55	1.05	2.00	20	2.90	1.60	0.90	0.64	0.44	0.32
23	0.85	1.90	1.55	1.05	1.90	15	2.80	1.55	0.85	0.64	0.48	0.28
24	0.95	6.60	1.45	1.10	2.15	12	2.80	1.50	0.90	0.60	0.52	0.28
25	1.10	15	1.45	1.05	2.15	9.65	2.60	1.45	1.10	0.60	0.48	0.28
26	1.20	7.55	1.40	1.10	2.40	8.39	2.55	1.45	1.00	0.56	0.52	0.36
27	1.00	5.04	1.30	0.95	3.75	7.55	3.95	1.50	1.00	0.56	0.56	0.36
28	0.80	4.00	1.25	0.90	3.35	9.02	4.86	1.55	1.05	0.56	0.56	0.52
29	0.72	3.40	1.25	0.90	2.40	12	4.05	1.50	1.00	0.56	–	0.48
30	0.64	3.10	1.40	0.90	2.20	10	3.25	1.45	0.95	0.56	–	0.40
31	–	2.75	–	0.90	3.00	–	2.90	–	1.00	0.56	–	0.40
Total	26.45	112.73	54.95	36.20	47.67	378.07	137.99	56.15	34.00	21.17	16.53	12.32
Mean	0.88	3.64	1.83	1.17	1.54	12.6	4.45	1.87	1.10	0.68	0.59	0.40
Max.	1.50	15	3.25	1.40	3.75	26	8.25	2.70	1.40	0.95	1.00	0.60
Min.	0.64	0.95	1.25	0.90	0.80	2.15	2.55	1.45	0.85	0.56	0.44	0.28
Runoff - mcm.	2.285	9.740	4.748	3.128	4.119	32.665	11.922	4.856	2.938	1.829	1.428	1.064

WATER YEAR 1977 : Max. 26 Min. 0.28 Mean 2.56 Annual Runoff 80.722 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sept. 6	16.00	4.10	29				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
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 Maha Sarakham – Kalasin Highway Bridge, Tambon Tha Khon Yang, Amphoe Muang, Maha Sarakham.

Drainage Area: 30,764 Sq.km.

Type of Gage: Water-stage recorder.

Zero Gage at Bottom at: + 133.21 m. (M.S.L.)

Bench Mark: B.M. – H.S. No. 6

Location: On right abutment of the bridge.
Elevation: + 147.91 m. (M.S.L.)

Gage Reading Frequency: Recording

Basis of Mean Daily Gage Height: Arithmetic mean of 24 hourly readings.

Period of Available Gage Records: 1955 to date.

Rating Operation:

Period of Rating: 1955–1957, 1965 to date.
Rated by Float: –
Rated by Current Meter: 1955–1957, 1965 to date.

Stability of Channel Regimes: Fairly stable, no shifting adjustment for flow computation.

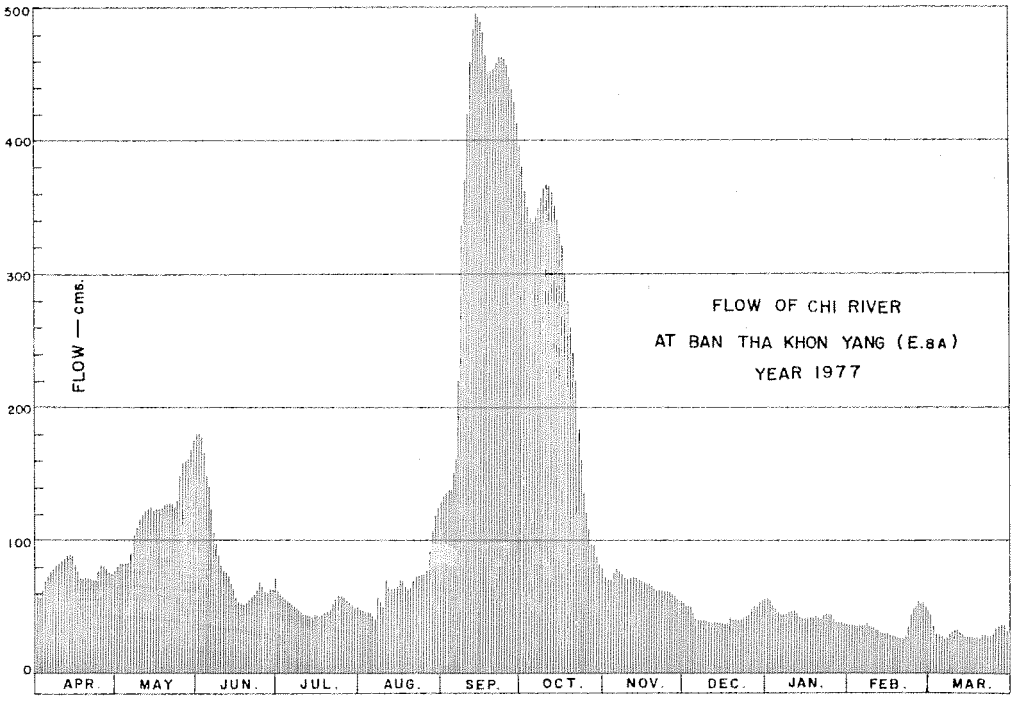
Overbank Flow Conditions: No overbank flow.

General Description: Records fair. Stage-discharge relation defined by 281 discharge measurements made during 1965–1970. Flow regulated by Nam Phong Dam at above gage site.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	135.08	135.50	137.44	135.19	134.86	136.59	140.27	135.41	134.92	135.04	134.56	134.78
2	.06	.59	.41	.10	.86	.67	.07	.35	.92	134.99	.54	.58
3	.14	.59	.23	.06	.82	.72	139.92	.35	.89	.90	.54	.44
4	.28	.61	136.97	.03	.79	.72	.83	.43	.77	.84	.53	.39
5	.39	.60	.73	134.98	.75	.85	.79	.50	.67	.80	.54	.35
6	135.46	135.65	136.42	134.95	134.70	137.06	139.85	135.49	134.64	134.76	134.55	134.33
7	.52	.85	.11	.91	.68	.95	.95	.45	.64	.74	.57	.31
8	.57	136.06	135.85	.87	135.03	139.19	140.04	.41	.63	.76	.58	.40
9	.60	.18	.68	.83	134.91	140.03	.10	.38	.62	.79	.56	.45
10	.63	.28	.56	.79	135.15	.54	.12	.38	.62	.83	.49	.48
11	135.68	136.34	135.46	134.76	135.33	140.97	140.13	135.39	134.61	134.83	134.47	138.48
12	.72	.42	.46	.73	.22	141.28	.09	.39	.60	.78	.47	.44
13	.74	.42	.33	.73	.22	.43	.01	.38	.59	.71	.41	.34
14	.70	.47	.23	.71	.21	.47	139.88	.35	.58	.67	.36	.32
15	.59	.42	.11	.72	.25	.44	.70	.32	.60	.67	.39	.31
16	135.51	136.42	135.01	134.72	135.35	141.40	139.51	135.29	134.58	134.68	134.37	134.30
17	.42	.44	134.96	.73	.36	.19	.26	.29	.61	.70	.34	.30
18	.38	.45	.95	.74	.26	.09	.01	.27	.68	.70	.32	.29
19	.39	.49	.96	.80	.20	.07	138.72	.23	.66	.69	.29	.29
20	.39	.51	135.02	.77	.24	.09	.45	.19	.65	.68	.28	.32
21	135.37	136.52	135.05	134.90	135.34	141.13	138.09	135.19	134.63	134.68	134.28	134.39
22	.34	.47	.10	.97	.40	.17	137.62	.20	.64	.72	.33	.37
23	.34	.45	.18	135.06	.44	.19	.17	.20	.68	.74	.53	.33
24	.46	.61	.32	.09	.43	.18	136.73	.20	.71	.75	.72	.32
25	.57	.94	.26	.08	.42	.13	.38	.18	.74	.74	.84	.41
26	135.58	137.06	135.17	135.05	135.49	141.06	136.10	135.15	134.84	134.67	134.94	134.50
27	.54	.08	.14	.02	.69	140.98	135.87	.13	.89	.61	.99	.55
28	.47	.12	.21	134.97	136.03	.85	.87	.05	.91	.60	.94	.56
29	.45	.24	.19	.92	.28	.69	.67	.02	.98	.60		.54
30	.47	.34	.37	.90	.43	.49	.60	134.99	135.02	.57		.42
31		.41		.89	.51		.53		.03	.58		.33
Mean	135.46	136.40	135.63	134.90	135.31	140.02	138.56	135.29	134.73	134.74	134.53	134.41
Max.	135.74	137.41	137.44	135.19	136.51	141.47	140.27	135.50	135.03	135.04	134.99	134.78
Min.	135.06	135.50	134.95	134.71	134.68	136.59	135.53	134.99	134.58	134.57	134.28	134.29

WATER YEAR 1977 : Max. 141.47 m. Min. 134.28 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	57.2	77.0	180.4	61.6	48.4	131.5	376.6	72.5	50.8	55.6	36.4	45.2
2	56.4	81.5	178.6	58.0	48.4	135.5	360.6	69.5	50.8	53.6	35.6	37.2
3	59.6	81.5	167.8	56.4	46.8	138.0	348.6	69.5	49.6	50.0	35.6	31.6
4	66.0	82.5	152.2	55.2	45.6	138.0	341.4	73.5	44.8	47.6	35.2	29.7
5	71.5	82.0	138.5	53.2	44.0	145.0	338.2	77.0	40.8	46.0	35.6	28.5
6	75.0	84.5	123.0	52.0	42.0	157.6	343.0	76.5	39.6	44.4	36.0	27.9
7	78.0	94.5	107.5	50.4	41.2	211.0	351.0	74.5	39.6	43.6	36.8	27.3
8	80.5	105.0	94.5	48.8	55.2	292.3	358.2	72.5	39.2	44.4	37.2	30.0
9	82.0	111.0	86.0	47.2	50.4	357.4	363.0	71.0	38.8	45.6	36.4	32.0
10	83.5	116.0	80.0	45.6	60.0	400.6	364.6	71.0	38.8	47.2	33.6	33.2
11	86.0	119.0	75.0	44.4	68.5	441.0	365.4	71.5	38.4	47.2	32.8	33.2
12	88.0	123.0	75.0	43.2	63.0	472.8	362.2	71.5	38.0	45.2	32.8	31.6
13	89.0	123.0	68.5	43.2	63.0	489.3	355.8	71.0	37.6	42.4	30.4	28.2
14	87.0	125.5	63.5	42.4	62.5	493.7	345.4	69.5	37.2	40.8	28.8	27.6
15	81.5	123.0	58.4	42.8	64.5	490.4	331.0	68.0	38.0	40.8	29.7	27.3
16	77.5	123.0	54.4	42.8	69.5	486.0	315.8	66.5	37.2	41.2	29.1	27.0
17	73.0	124.0	52.4	43.2	70.0	463.0	297.2	66.5	38.4	42.0	28.2	27.0
18	71.0	124.5	52.0	43.6	65.0	453.0	279.7	65.5	41.2	42.0	27.6	26.7
19	71.5	126.5	52.4	46.0	62.0	451.0	259.4	63.5	40.4	41.6	26.7	26.7
20	71.5	127.5	54.8	44.8	64.0	453.0	241.0	61.6	40.0	41.2	26.4	27.6
21	70.5	128.0	56.0	50.0	69.0	457.0	219.4	61.6	39.2	41.2	26.4	29.7
22	69.0	125.5	58.0	52.8	72.0	461.0	191.2	62.0	39.6	42.8	27.9	29.1
23	69.0	124.5	61.2	56.4	74.0	463.0	164.2	62.0	41.2	43.6	35.2	27.9
24	75.0	132.5	68.0	57.6	73.5	462.0	138.5	62.0	42.4	44.0	42.8	27.6
25	80.5	150.4	65.0	57.2	73.0	457.0	121.0	61.2	43.6	43.6	47.6	30.4
26	81.0	157.6	60.8	56.0	76.5	450.0	107.0	60.0	47.6	40.8	51.6	34.0
27	79.0	158.8	59.6	54.8	86.5	442.0	95.5	59.2	49.6	38.0	53.6	36.0
28	75.5	161.2	62.5	52.8	103.5	429.0	95.5	56.0	50.4	38.0	51.6	36.4
29	74.5	168.4	61.6	50.8	116.0	414.1	85.5	54.8	53.2	38.0		35.6
30	75.5	174.4	70.5	50.0	123.5	396.1	82.0	53.6	54.8	36.8		30.8
31		178.6		49.6	127.5		78.5		55.2	37.2		27.9
Total	2,255.2	3,814.4	2,538.1	1,552.8	2,129.0	11,231.3	8,076.4	1,995.0	1,336.0	1,346.8	987.6	950.9
Mean	75.2	123.0	84.6	50.1	68.7	374.4	260.5	66.5	43.1	43.4	35.3	30.7
Max.	89.0	178.6	180.4	61.6	127.5	493.7	376.6	77.0	55.2	55.6	53.6	45.2
Min.	56.4	77.0	52.0	42.4	41.2	131.5	78.5	53.6	37.2	36.8	26.4	26.7
Runoff - mcm.	194.85	329.56	216.29	134.16	183.95	970.38	697.80	173.37	115.43	116.36	85.33	82.16

WATER YEAR 1977 : Max. 493.7 Min. 26.4 Mean 104.7 Annual Runoff 3,301.64 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sept. 14	6.00	141.48	494.80				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
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 at the bridge on Mancha Khiri – Chonnabot highway about 6 kilometers from Amphoe Mancha Khiri at Ban Tha Nang Luan, Amphoe Chonnabot, Khon Kaen.

Drainage Area: 11,020 Sq.km.

Type of Gage: Staff gage.

Zero Gage at Bottom at: + 0.00 m. (A.D.)

Bench Mark: B.M. – H.S.

Location: About 45 meters from the top of vertical staff gage.
Elevation: + 11.931 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: 1958 to date.

Rating Operation:

Period of Rating: 1967-1973.
Rated by Float: –
Rated by Current Meter: 1967-1973.

Stability of Channel Regimes: Stable, no shifting adjustment for flow computation.

Overbank Flow Conditions: No overbank flow.

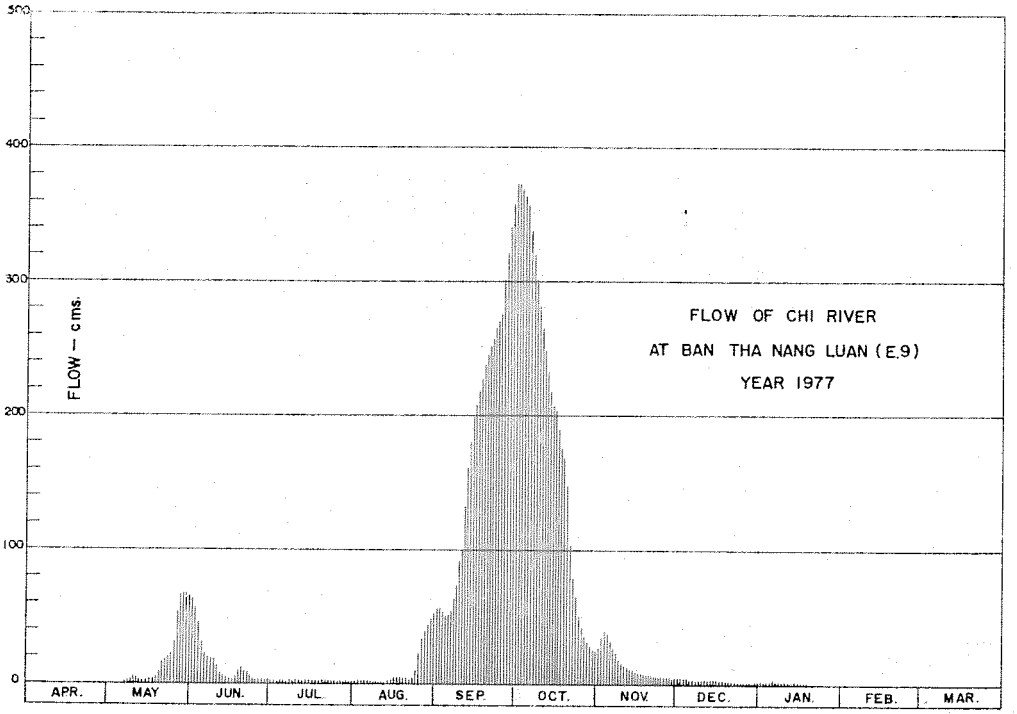
General Description: Records fair. Stage-discharge relation defined by 121 discharge measurements made during 1967-1973.

Remarks: Discharge record for periods of no flow are omitted.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.89	0.84	4.95	1.41	1.25	4.63	9.48	3.27	1.91	1.50	1.06	0.81
2	.88	.89	.69	.39	.29	.67	.48	.62	.92	.54	.04	.79
3	.85	1.03	.31	.34	.26	.56	.47	.79	.91	.60	.03	.78
4	.84	.14	3.81	.32	.26	.42	.46	.74	.88	.62	.02	.77
5	.83	.18	.31	.40	.27	.39	.44	.54	.82	.66	.00	.77
6	0.85	1.26	2.97	1.55	1.27	4.49	9.41	3.35	1.75	1.67	0.98	0.78
7	.90	.39	.81	.63	.29	.84	.36	.13	.71	.63	.97	.75
8	.90	.50	.82	.62	.30	5.38	.32	2.91	.68	.59	.94	.74
9	.90	.67	.81	.56	.35	.85	.25	.74	.72	.56	.95	.71
10	.91	2.00	.63	.48	.32	6.29	.20	.61	.73	.52	.94	.69
11	0.92	1.88	2.31	1.41	1.26	6.76	9.13	2.53	1.74	1.48	0.95	0.68
12	.93	.68	.03	.35	.23	7.85	.07	.44	.75	.42	.98	.67
13	.97	.50	1.93	.32	.46	8.29	8.98	.39	.76	.39	1.03	.65
14	.93	.44	.85	.28	.70	.56	.83	.34	.74	.38	.05	.62
15	.91	.54	.77	.23	.71	.72	.71	.22	.73	.37	.02	.68
16	0.89	1.64	1.74	1.20	1.72	8.78	8.72	2.18	1.70	1.36	0.98	0.69
17	.87	.70	.73	.21	.76	.87	.56	.17	.68	.32	.93	.70
18	.86	.69	2.00	.21	.80	.95	.32	.13	.65	.29	.90	.70
19	.85	.81	.31	.21	.84	9.02	.14	.06	.63	.27	.87	.71
20	.86	2.24	.41	.18	.78	.06	7.86	.02	.60	.26	.84	.71
21	0.92	2.63	2.27	1.15	1.71	9.11	7.15	2.00	1.58	1.25	0.84	0.71
22	.92	.73	.12	.16	.64	.14	5.89	.00	.57	.24	.86	.68
23	.88	.82	1.88	.20	.77	.17	.32	1.99	.56	.22	.87	.66
24	.98	.91	.74	.24	2.32	.19	4.80	.99	.54	.14	.88	.68
25	.96	3.14	.64	.36	.92	.21	.27	.99	.54	.12	.90	.68
26	0.91	3.90	1.54	1.34	3.45	9.26	3.90	1.99	1.54	1.10	0.89	0.68
27	.90	4.74	.45	.27	.76	.32	.60	.98	.53	.09	.85	.70
28	.88	5.15	.40	.23	.93	.37	.36	.94	.51	.05	.84	.73
29	.87	.26	.38	.21	4.07	.42	.18	.92	.50	.02	–	.73
30	.85	.21	.44	.20	.27	.45	.07	.91	.49	.10	–	.68
31	–	.12	–	.24	.49	–	.05	–	.49	.08	–	.67
Mean	0.89	2.37	2.40	1.32	2.05	7.57	7.35	2.50	1.67	1.35	0.94	0.71
Max.	0.98	5.26	4.95	1.63	4.49	9.45	9.48	3.79	1.92	1.67	1.06	0.81
Min.	0.83	0.84	1.38	1.15	1.26	4.39	3.05	1.91	1.49	1.02	0.84	0.62

WATER YEAR 1977 : Max. 9.48 m. Min. 0.62 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1			62	0.55	0.00	56	372	28	5.10	1.00		
2			57	0.45		56	372	35	5.20	1.40		
3			49	0.20		54	368	39	5.10	2.00		
4			39	0.10		51	364	38	4.80	2.20		
5			29	0.50		51	356	34	4.20	2.60		
6		0.00	22	1.50		53	344	30	3.50	2.70		
7		0.45	19	2.30		60	326	26	3.10	2.30		
8		1.00	19	2.20	0.00	71	312	21	2.80	1.90		
9		2.70	19	1.60	0.25	83	289	18	3.20	1.60		
10		6.00	16	0.90	0.10	96	273	15	3.30	1.20		
11		4.80	11	0.55	0.00	110	257	14	3.40	0.90		
12		2.80	6.45	0.25	0.00	150	245	13	3.50	0.60		
13		1.00	5.30	0.10	0.80	172	232	13	3.60	0.45		
14		0.70	4.50	0.00	3.00	191	215	11	3.40	0.40		
15		1.40	3.70		3.10	204	206	9.30	3.30	0.35		
16		2.40	3.40		3.20	210	204	8.70	3.00	0.30		
17		3.00	3.30		3.60	219	191	8.55	2.80	0.10		
18		2.90	6.00		4.00	228	174	7.95	2.50	0.00		
19		4.10	11		4.40	238	165	6.90	2.30			
20		9.60	12		3.80	244	151	6.30	2.00			
21		16	12		3.10	252	122	6.00	1.80			
22		18	7.80		2.40	259	84	6.00	1.70			
23		19	4.80		3.70	266	70	5.90	1.60			
24		21	3.40	0.00	11	271	59	5.90	1.40			
25		26	2.40	0.30	21	276	48	5.90	1.40			
26		39	1.40	0.20	32	292	41	5.90	1.40			
27		58	0.75	0.00	38	212	35	5.80	1.30			
28		66	0.50		42	329	30	5.40	1.10			
29		68	0.40		44	348	27	5.20	1.00			
30		67	0.70		48	360	24	5.10	0.95			
31		65		0.00	53	–	24	–	0.95	0.00		
Total	0.00	505.85	429.80	11.70	324.45	5,562	5,980	436.80	84.70	22.00	0.00	0.00
Mean	0.00	16.3	14.3	0.38	10.5	185	193	14.6	2.73	0.21	0.00	0.00
Max.	0.00	68	62	2.30	53	360	372	39	5.20	2.70	0.00	0.00
Min.	0.00	0.00	0.40	0.00	0.00	51	24	5.10	0.95	0.00	0.00	0.00
Runoff - MCM.	0.00	43.705	37.135	1.011	28.032	480.557	516.672	37.912	7.318	1.901	0.00	0.00

WATER YEAR 1977 : Max. 372 Min. 0.00 Mean 36.6 Annual Runoff 1,154.243 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Oct. 1-2	12.00	9.48	372				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
CHI RIVER BASIN

Chi River at Ban Tha Phra, Khon Kaen (E. 16A)

Location: Lat. 16°-21'-14" N., Long. 102°-48'-09" E., on left bank about 400 meters upstream from the bridge on Khon Kaen – Maha Sarakham Highway, Tambon Don Hon, Amphoe Muang, Khon Kaen.

Drainage Area: 13,171 Sq.km.

Type of Gage: Water-stage recorder.

Zero Gage at Bottom at: + 142.94 m. (M.S.L.)

Bench Mark: B.M. – H.S.

Location: Near abutment of the bridge.
Elevation: + 154.989 m. (M.S.L.)

Gage Reading Frequency: Recording

Basis of Mean Daily Gage Height: Arithmetic mean of 24 hourly readings.

Period of Available Gage Records: 1954 to date.

Rating Operation:

Period of Rating: 1963, 1965 to date.
Rated by Float: –
Rated by Current Meter: 1963, 1965 to date.

Stability of Channel Regimes: Fairly stable, no shifting adjustment but periodic curves are used for flow computation.

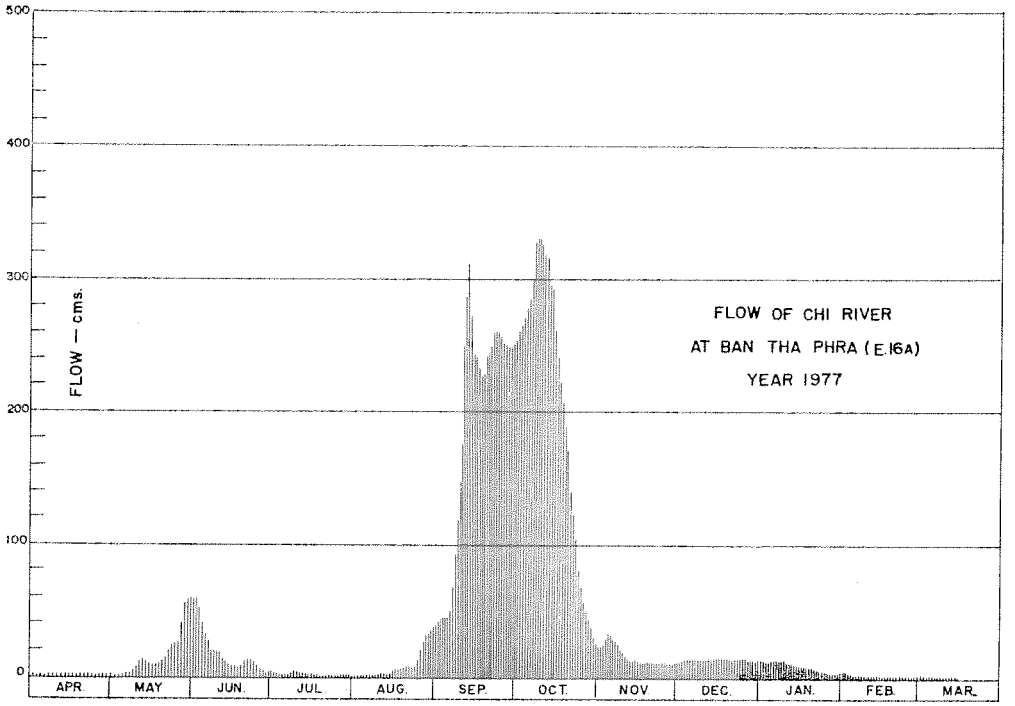
Overbank Flow Conditions: No overbank flow.

General Description: Records fair. Stage-discharge relation defined by 19 discharge measurements made in 1977.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	143.01	142.99	145.63	143.43	143.17	145.08	149.76	144.32	143.91	143.99	143.40	143.05
2	.00	.99	.56	.36	.19	.16	.84	.40	.93	.98	.40	.02
3	.01	.98	.41	.33	.19	.23	.91	.55	.97	.95	.37	.02
4	.02	.97	.21	.30	.22	.19	.96	.65	144.02	.95	.32	.01
5	.05	143.01	144.96	.30	.22	.22	150.04	.66	.03	.97	.29	142.99
6	143.02	143.13	144.71	143.27	143.21	145.38	150.10	144.60	144.04	143.99	143.27	142.96
7	.02	.18	.49	.34	.23	.98	.16	.51	.04	144.00	.28	.93
8	.02	.30	.33	.42	.28	146.91	.19	.39	.02	143.99	.28	.93
9	.01	.43	.29	.47	.28	147.52	.18	.28	.00	.98	.26	.94
10	.01	.61	.29	.47	.29	148.63	.13	.17	143.99	.95	.23	.93
11	142.99	143.82	144.23	143.44	143.35	149.96	150.04	144.08	144.00	143.90	143.21	142.92
12	.99	.97	.14	.40	.34	150.15	149.88	.03	.01	.85	.19	.90
13	143.00	.97	143.95	.39	.29	.03	.66	.00	.03	.81	.15	.88
14	.01	.88	.81	.33	.24	149.73	.38	.00	.04	.77	.14	.88
15	.02	.76	.72	.25	.39	.54	.04	143.97	.06	.72	.14	.87
16	143.04	143.68	143.66	143.23	143.52	149.46	148.71	143.94	144.05	143.69	143.17	142.87
17	.02	.67	.63	.23	.56	.28	.40	.90	.05	.66	.16	.86
18	.00	.74	.60	.20	.59	.25	.09	.87	.03	.64	.12	.85
19	142.99	.82	.64	.19	.64	.39	147.81	.91	.02	.63	.08	.85
20	.97	.87	.84	.17	.68	.57	.42	.90	.02	.60	.08	.85
21	142.97	143.99	144.00	143.17	143.73	149.68	147.00	143.88	144.02	143.55	143.04	142.85
22	.97	144.21	.00	.18	.72	.79	146.60	.87	.02	.51	.01	.85
23	143.00	.43	143.92	.20	.68	.81	.19	.86	.01	.47	.01	.87
24	.01	.50	.80	.19	.70	.79	145.83	.88	.02	.44	.02	.87
25	.00	.52	.68	.18	.91	.72	.53	.86	.04	.40	.03	.86
26	143.00	144.57	143.60	143.19	144.22	149.67	145.28	143.84	144.05	143.37	143.02	142.87
27	.04	.89	.49	.26	.58	.65	.06	.85	143.99	.37	.04	.88
28	.05	145.27	.41	.28	.75	.64	144.92	.84	.98	.37	.05	.87
29	.02	.53	.36	.25	.84	.64	.77	.83	.99	.37	–	.85
30	.00	.64	.42	.22	.89	.60	.56	.86	.99	.39	–	.84
31	–	.65	–	.19	.98	–	.39	–	.98	–	–	.82
Mean	143.01	143.97	144.13	143.28	143.70	148.45	148.03	144.09	144.01	143.70	143.17	142.90
Max.	143.05	145.65	145.63	143.47	144.98	150.15	150.19	144.66	144.06	144.00	143.40	143.05
Min.	142.97	142.97	143.36	143.17	143.17	145.08	144.39	143.83	143.91	143.37	143.01	142.82

WATER YEAR 1977 : Max. 150.19 m. Min. 142.82 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	1.05	0.95	59	5.45	2.20	41	257	23	13	14	5.00	1.25
2	1.00	0.95	57	4.40	2.40	44	263	25	13	14	5.00	1.10
3	1.05	0.90	52	3.95	2.40	46	269	29	14	13	4.55	1.10
4	1.10	0.85	45	3.50	2.70	45	273	33	15	13	3.80	1.05
5	1.25	1.05	38	3.50	2.70	46	282	33	15	14	3.40	0.95
6	1.10	1.80	31	3.20	2.60	51	290	31	15	14	3.20	0.80
7	1.10	2.30	25	4.10	2.80	72	319	28	15	14	3.30	0.65
8	1.10	3.50	21	5.30	3.30	108	330	25	15	14	3.30	0.65
9	1.05	5.45	20	6.05	3.30	135	330	21	14	14	3.10	0.70
10	1.05	8.15	20	6.05	3.40	192	326	19	14	13	2.80	0.65
11	0.95	11	19	5.60	4.25	273	321	16	14	12	2.60	0.60
12	0.95	14	17	5.00	4.10	310	311	15	15	12	2.40	0.50
13	1.00	14	13	4.85	3.40	281	296	14	15	11	2.00	0.40
14	1.05	12	11	3.95	2.90	255	279	14	15	10	1.90	0.40
15	1.10	10	9.80	3.00	4.85	243	258	14	16	9.80	1.90	0.35
16	1.20	9.20	8.90	2.80	6.80	239	239	13	16	9.35	2.20	0.35
17	1.10	9.05	8.45	2.80	7.40	228	220	12	16	8.80	2.10	0.30
18	1.00	10	8.00	2.50	7.85	226	201	12	15	8.60	1.70	0.25
19	0.95	11	8.60	2.40	8.60	234	185	13	15	8.45	1.40	0.25
20	0.85	12	12	2.20	9.20	245	162	12	15	8.00	1.40	0.25
21	0.85	14	14	2.20	9.95	252	140	12	15	7.25	1.20	0.25
22	0.85	19	14	2.30	9.80	259	118	12	15	6.65	1.05	0.25
23	1.00	24	13	2.50	9.20	261	97	12	15	6.05	1.05	0.35
24	1.05	25	11	2.40	9.50	259	80	12	15	5.60	1.10	0.35
25	1.00	26	9.20	2.30	13	254	67	12	15	5.00	1.15	0.30
26	1.00	27	8.00	2.40	19	251	56	12	16	4.55	1.10	0.35
27	1.20	36	6.35	3.10	27	250	47	12	14	4.55	1.20	0.40
28	1.25	47	5.15	3.30	32	249	42	12	14	4.55	1.25	0.35
29	1.10	56	4.40	3.00	34	249	37	11	14	4.55	–	0.25
30	1.00	60	5.30	2.70	36	253	30	12	14	4.55	–	0.20
31	–	60	–	2.40	38	–	25	–	14	4.85	–	0.10
Total	31.30	532.15	574.15	108.20	324.60	5,851	6,150	521	456	293.25	66.15	15.70
Mean	1.04	17.2	19.2	3.49	10.5	195	198	17.4	14.7	9.46	2.36	0.51
Max.	1.25	60	59	6.05	38	310	330	33	16	14	5.00	1.25
Min.	0.85	0.85	4.40	2.20	2.20	41	25	11	13	4.55	1.05	0.10
Runoff - MCM.	2.704	45.978	49.607	9.348	28.045	505.526	531.360	45.014	39.398	25.337	5.715	1.356

WATER YEAR 1977 : Max. 330 Min. 0.10 Mean 40.9 Annual Runoff 1,289.390 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Oct.8	24.00	150.19	330				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
CHI RIVER BASIN

Chi River at Ban Tha Sabaeng, Roi Et (E. 18)

Location: Lat. 16°-01'-59" N., Long. 103°-54'-38" E., on left bank at Ban Tha Sabaeng, Amphoe Thawatchaburi, Roi Et.

Drainage Area: 41,594 Sq.km.

Type of Gage: Water-stage recorder.

Zero Gage at Bottom at: + 122.244 m. (M.S.L.)

Bench Mark: B.M. - H.S.

Location: Beside the old staff gage.
Elevation: + 132.934 m. (M.S.L.)

Gage Reading Frequency: Recording

Basis of Mean Daily Gage Height: Arithmetic mean of 24 hourly readings.

Period of Available Gage Records: 1954-1972, 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: Rather unstable, no shifting adjustment for flow computation.

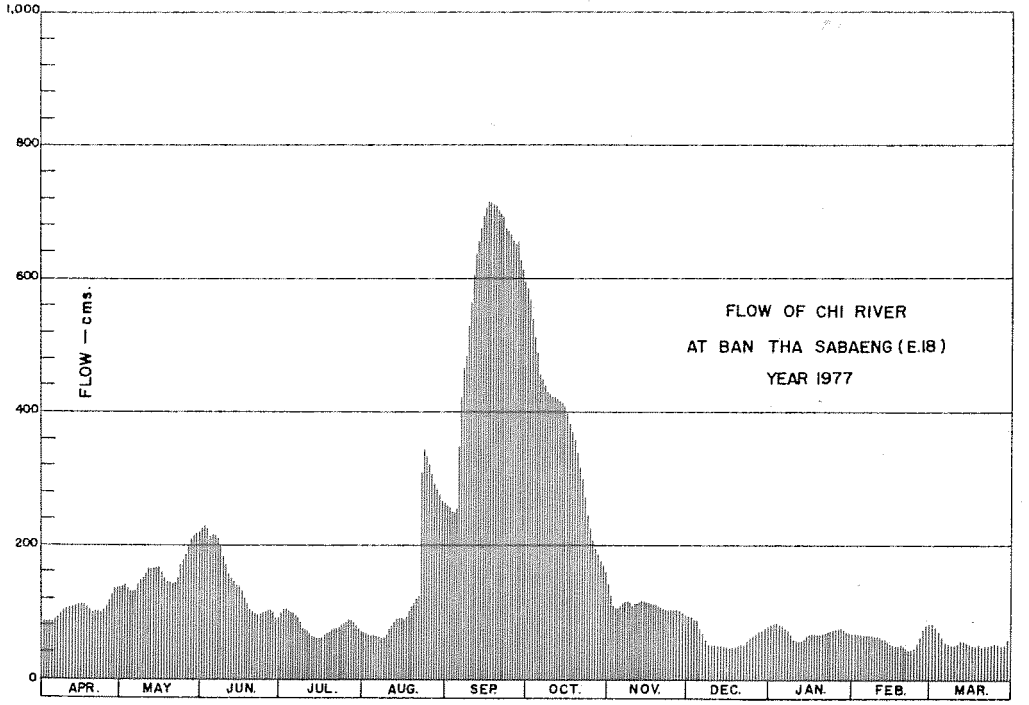
Overbank Flow Conditions: No overbank flow.

General Description: Records fair. Stage-discharge relation defined by 148 discharge measurements made in 1977.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	124.36	125.12	126.27	124.63	124.07	126.62	129.90	124.99	124.50	124.29	124.06	124.30
2	.36	.16	.21	.66	.03	.55	.73	.78	.48	.31	.06	.30
3	.35	.10	.06	.60	.01	.50	.51	.73	.44	.32	.04	.23
4	.36	.04	.06	.56	.00	.53	.20	.72	.37	.28	.03	.12
5	.37	.01	.09	.53	123.99	127.36	128.95	.75	.19	.23	.01	123.99
6	124.43	125.06	126.09	124.99	123.97	128.51	128.72	124.80	124.02	124.18	124.00	123.88
7	.51	.11	125.92	.33	.93	.85	.62	.82	123.91	.12	.00	.81
8	.58	.21	.84	.20	.95	129.15	.52	.83	.83	.11	.01	.77
9	.62	.27	.57	.14	124.02	.47	.47	.78	.79	123.92	.00	.74
10	.65	.39	.41	.11	.17	.88	.44	.77	.77	.88	123.75	.75
11	124.69	125.45	125.30	124.05	124.26	130.28	128.42	124.80	123.77	123.87	123.95	123.81
12	.70	.48	.24	.00	.34	.48	.39	.83	.76	.89	.93	.88
13	.72	.47	.20	123.96	.45	.62	.37	.84	.74	.92	.89	.89
14	.75	.47	.15	.95	.44	.73	.32	.84	.72	124.00	.83	.86
15	.77	.48	.09	.94	.44	.87	.25	.82	.71	.04	.78	.80
16	124.77	125.40	124.97	123.99	124.41	130.94	128.10	124.81	123.70	124.05	123.76	123.77
17	.76	.28	.82	124.07	.58	.94	127.97	.79	.70	.05	.75	.74
18	.71	.21	.68	.09	.70	.92	.82	.77	.70	.05	.74	.72
19	.64	.19	.61	.14	.81	.89	.62	.75	.73	.05	.73	.75
20	.59	.19	.55	.19	.89	.85	.42	.74	.77	.06	.70	.70
21	124.60	125.20	124.52	124.19	124.94	130.79	127.20	124.71	123.78	124.09	123.68	123.71
22	.61	.27	.53	.21	127.17	.73	126.97	.68	.78	.12	.67	.72
23	.59	.49	.55	.28	.57	.67	.70	.66	.88	.12	.66	.76
24	.63	.60	.57	.34	.46	.59	.39	.66	.99	.14	.66	.80
25	.70	.71	.60	.39	.31	.52	.12	.65	124.03	.17	.76	.78
26	124.83	125.85	124.66	124.40	127.11	130.42	125.86	124.64	124.06	124.20	123.96	123.71
27	.97	.99	.63	.35	126.96	.31	.76	.62	.09	.19	.14	.74
28	125.08	126.07	.45	.29	.89	.25	.67	.61	.16	.17	.24	.73
29	.10	.11	.41	.23	.77	.14	.57	.55	.20	.12	-	.79
30	.10	.14	.56	.66	.71	.04	.47	.52	.23	.09	-	.90
31	-	.20	-	.11	.68	-	.30	-	.26	.07	-	.95
Mean	124.66	125.44	125.15	124.27	125.37	129.71	127.66	124.74	123.96	123.74	123.81	123.85
Max.	125.10	126.20	126.27	124.66	127.57	130.94	129.90	124.99	124.50	124.32	123.24	124.30
Min.	124.36	125.01	124.41	123.95	123.93	126.50	125.30	124.52	123.70	123.88	123.66	123.70

WATER YEAR 1977 : Max. 130.94 m. Min. 123.66 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	85	136	228	103	68	258	582	126	94	81	67	82
2	85	140	224	104	65	253	562	110	92	82	67	82
3	85	135	212	101	64	249	536	107	90	83	66	77
4	85	130	212	98	64	251	502	107	86	80	65	71
5	86	128	214	96	63	325	475	109	75	77	64	63
6	89	132	211	93	62	431	452	113	65	74	64	56
7	94	136	200	83	59	465	442	114	58	71	64	52
8	98	144	186	76	61	496	432	114	53	64	64	50
9	101	148	172	72	65	536	427	110	51	59	64	49
10	103	158	160	70	74	580	424	110	50	56	61	49
11	105	163	151	67	79	628	422	113	50	56	61	52
12	106	165	146	64	84	653	419	114	50	57	59	56
13	107	164	143	61	91	671	417	116	49	59	58	57
14	109	164	139	61	90	686	412	116	48	64	55	55
15	110	165	134	61	90	704	405	114	47	66	51	52
16	110	159	125	63	88	713	391	113	47	67	50	50
17	109	149	114	68	98	713	380	112	47	67	49	49
18	106	144	104	69	106	710	366	110	47	67	49	48
19	102	142	100	72	113	707	340	109	46	67	50	49
20	99	142	97	75	119	701	330	108	50	67	47	47
21	100	143	95	75	123	695	310	106	51	69	46	47
22	100	148	95	76	307	688	290	104	51	71	45	48
23	99	166	97	80	344	670	265	103	56	71	45	50
24	101	175	98	84	334	670	240	103	63	72	45	52
25	106	184	100	87	320	660	216	103	65	74	42 50	51
26	114	195	103	88	302	649	196	103	67	76	64	50
27	125	206	101	85	289	653	188	101	69	75	73	49
28	133	212	91	81	282	627	180	100	73	74	79	49
29	135	216	88	77	272	615	172	98	76	71	–	52
30	135	218	97	73	266	601	164	95	77	69	–	59
31	–	223	–	70	264	–	151	–	79	68	–	61
Total	3,122	5,030	4,237	2,433	4,706	17,258	11,096	3,261	1,924	21.54	1,624	1,714
Mean	104	162	141	78.5	152	575	358	109	62.1	69.5	58.0	55.3
Max.	135	223	228	104	344	713	582	126	94	83	79	82
Min.	85	128	88	61	59	249	151	95	47	56	45	47
Runoff – mcm.	269.741	434.592	366.077	210.211	406.598	1,491.091	958.694	281.750	166.234	186.106	140.314	148.090

WATER YEAR 1977 : Max. 713 Min. 45 Mean 160 Annual Runoff 5,059.498 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sept. 17	18.00	130.94	713				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
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 E20 station, Amphoe Maha Chana Chai, Yasothon.

Drainage Area: 47,818 Sq.km.

Type of Gage: Water-stage recorder.

Zero Gage at Bottom at: + 112.00 m. (M.S.L.)

Bench Mark: B.M. - H.S.

Location: Infront of police station.
Elevation: + 131.297 m. (M.S.L.)

Gage Reading Frequency: Recording

Basis of Mean Daily Gage Height: Arithmetic mean of 24 hourly 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, no shifting adjustment for flow computation.

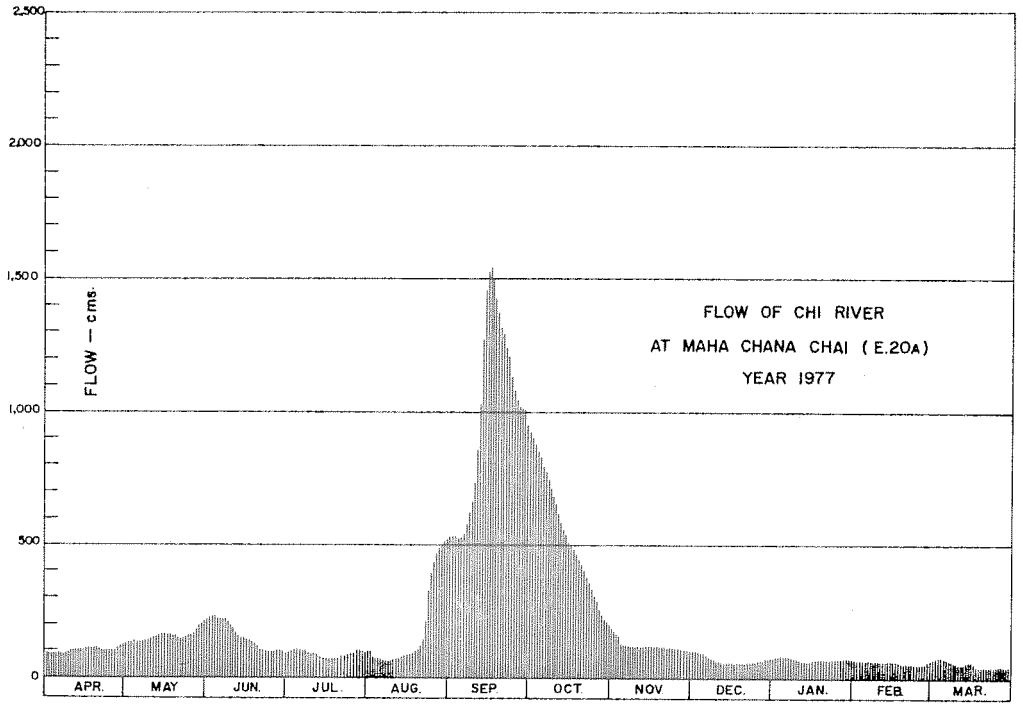
Overbank Flow Conditions: No overbank flow.

General Description: Records good, stage-discharge relation defined by 211 discharge measurements made in 1977.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	115.59	116.12	117.11	115.65	115.55	119.80	*121.62	116.70	115.78	115.43	115.35	115.30
2	.57	.14	.16	.69	.48	.79	* .56	.52	.76	.45	.33	.39
3	.56	.16	.19	.75	.41	.79	* .49	.54	.72	.48	.32	.44
4	.55	.19	.15	.77	.36	.75	* .42	.16	.70	.50	.30	.46
5	.56	.17	.10	.77	.33	.78	* .33	.06	.67	.51	.29	.44
6	115.54	116.15	117.08	115.75	115.31	119.88	121.25	116.02	115.61	115.49	115.28	115.37
7	.54	.16	.07	.74	.31	120.09	.13	.00	.51	.46	.27	.30
8	.58	.17	.03	.70	.29	.39	120.98	.00	.40	.44	.27	.22
9	.62	.20	116.92	.60	.26	.66	.81	.00	.30	.40	.27	.14
10	.66	.20	.81	.50	.28	121.01	.62	.00	.24	.34	.27	.09
11	115.72	116.31	116.66	115.47	115.36	*121.41	120.42	116.00	115.19	115.26	115.26	115.05
12	.76	.38	.54	.48	.41	* .85	.21	115.98	.17	.22	.24	.03
13	.78	.44	.43	.47	.46	*122.20	.03	.99	.14	.20	.23	.06
14	.79	.48	.36	.43	.51	* .40	119.86	116.00	.12	.20	.21	.13
15	.81	.49	.30	.37	.57	* .48	.69	.01	.12	.22	.19	.18
16	115.83	116.49	116.25	115.34	115.59	*122.49	119.55	116.01	115.11	115.26	115.16	115.17
17	.84	.49	.19	.34	.63	* .45	.43	.00	.09	.28	.11	.13
18	.84	.46	.13	.36	.69	* .38	.29	115.98	.08	.30	.08	.10
19	.84	.39	.01	.38	.82	* .33	.17	.96	.08	.30	.07	.07
20	.80	.33	115.90	.39	.93	* .28	.01	.95	.08	.29	.06	.05
21	115.78	116.30	115.83	115.42	116.12	*122.24	118.82	115.94	115.08	115.29	115.05	115.04
22	.75	.28	.75	.48	.44	* .18	.63	.93	.11	.30	.04	.02
23	.74	.33	.72	.51	117.32	* .10	.42	.90	.12	.33	.03	.01
24	.75	.41	.71	.55	118.33	* .03	.20	.88	.13	.34	.01	.02
25	.74	.50	.70	.59	.87	*121.95	117.98	.87	.15	.36	.00	.04
26	115.76	116.48	115.71	115.63	119.17	*121.89	117.71	115.85	115.22	115.37	115.01	115.07
27	.79	.68	.75	.69	.37	* .83	.46	.84	.27	.39	.07	.06
28	.89	.80	.76	.76	.52	* .79	.25	.84	.28	.41	.18	.05
29	.99	.91	.75	.75	.64	* .79	.09	.83	.34	.41	-	.04
30	116.07	117.02	.69	.70	.71	* .68	116.96	.79	.35	.40	-	.03
31	-	.07	-	.63	.78	-	.84	-	.40	.36	-	.06
Mean	115.73	116.39	116.35	115.56	116.57	121.42	118.49	116.01	115.30	115.32	115.17	115.14
Max.	116.07	117.07	117.19	115.77	119.78	122.49	121.62	116.70	115.78	115.51	115.35	115.46
Min.	115.54	116.12	115.69	115.34	115.26	119.75	116.84	115.79	115.08	115.20	115.00	115.01

WATER YEAR 1977 : Max. 122.49 m. Min. 115.00 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	89	132	221	94	86	532	928	180	104	76	71	68
2	88	133	226	97	80	531	904	164	103	78	70	73
3	87	135	229	102	75	531	876	165	100	80	69	77
4	86	137	225	104	72	525	852	135	98	82	68	79
5	87	136	220	104	70	525	822	127	96	83	67	77
6	85	134	218	102	69	543	798	124	91	81	67	72
7	85	135	217	101	69	574	767	122	83	79	66	68
8	88	136	217	98	67	624	736	122	74	77	66	63
9	92	138	202	90	66	672	702	122	68	74	66	58
10	95	138	191	82	67	742	664	122	65	70	66	55
11	100	147	176	80	72	848	629	122	61	66	66	53
12	103	152	165	80	75	1,027	594	120	60	63	64	52
13	104	157	156	80	79	1,250	565	121	58	62	64	54
14	105	160	151	76	83	1,430	540	122	57	62	63	58
15	107	161	146	72	88	1,518	517	123	57	63	61	61
16	108	161	142	70	89	1,540	498	123	57	66	60	60
17	109	161	137	70	92	1,485	483	122	55	67	57	58
18	109	159	132	72	97	1,412	465	120	55	68	55	56
19	109	153	123	73	108	1,367	449	119	55	68	54	54
20	106	148	114	73	116	1,322	428	118	55	67	54	53
21	104	146	108	76	132	1,286	405	117	55	67	53	52
22	102	144	102	80	157	1,235	383	116	57	68	52	51
23	101	148	100	83	242	1,175	357	114	57	70	52	51
24	102	155	99	86	347	1,129	332	112	58	70	51	51
25	101	162	98	89	411	1,080	308	112	59	72	50	52
26	103	160	99	92	449	1,045	281	110	63	72	51	54
27	105	178	102	97	475	1,018	256	109	67	73	54	54
28	113	190	103	103	495	1,010	235	109	67	75	61	53
29	121	201	102	102	510	1,010	219	108	70	75	–	52
30	128	212	97	98	519	952	206	105	71	74	–	52
31	–	217	–	92	529	–	194	–	74	72	–	54
Total	3,022	4,826	4,614	2,718	5,886	29,942	16,393	3,705	2,150	2,220	1,698	1,825
Mean	101	156	154	87.6	190	998	529	123	69.3	71.6	60.6	58
Max.	128	217	229	104	529	1,540	928	180	104	83	71	79
Min.	85	132	97	70	66	525	194	105	55	62	50	51
Runoff – mcm.	261.101	416.966	298.650	234.835	508.550	2,586.989	1,416.355	320.112	185.760	191.808	146.707	157.680

WATER YEAR 1977 : Max. 1,540 Min. 50 Mean 216 Annual Runoff 6,825.514 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sept. 16	24.00	122.49	1,540				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
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 at Ban Kaeng Ko, Amphoe Muang, Chaiyaphum.

Drainage Area: 8,912 Sq.km.

Type of Gage: Water-stage recorder.

Zero Gage at Bottom at: + 0.00 m. (A.D.)

Bench Mark: B.M. – H.S.

Location: Infront of the ladder of automatic gage building.
Elevation: + 9.433 m. (A.D.)

Gage Reading Frequency: Recording

Basis of Mean Daily Gage Height: Arithmetic mean of 24 hourly readings.

Period of Available Gage Records: 1955-1957, 1967 to date.

Rating Operation:

Period of Rating: 1968-1971, 1973-1974.
Rated by Float: –
Rated by Current Meter: 1968-1971, 1973-1974.

Stability of Channel Regimes: Stable, no shifting adjustment for flow computation.

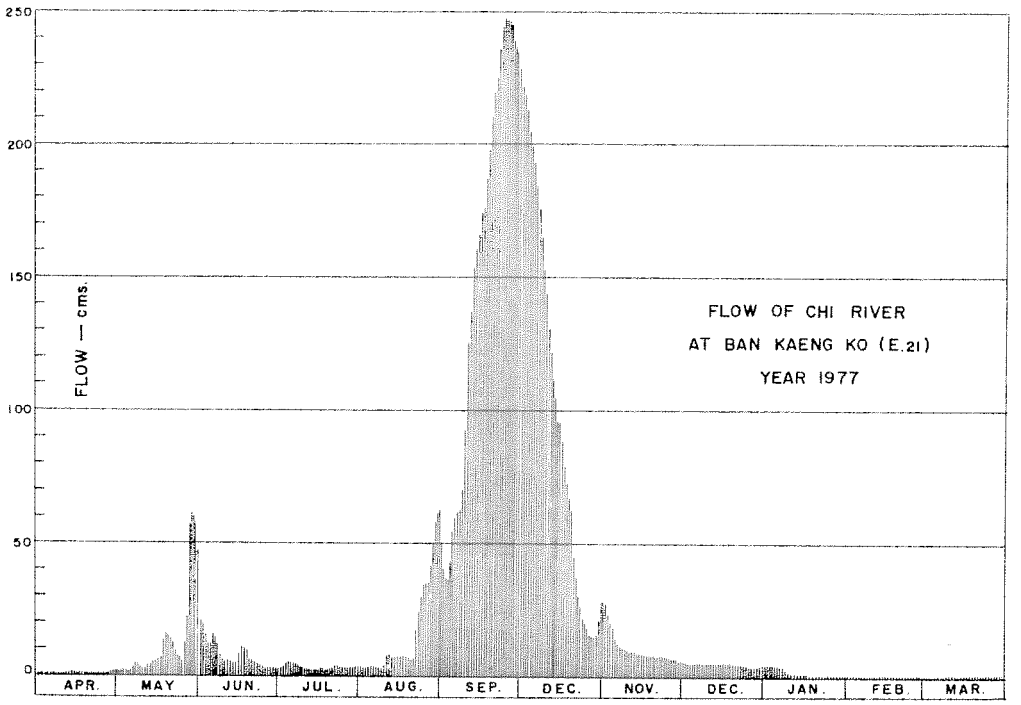
Overbank Flow Conditions: No overbank flow.

General Description: Records fair. Stage-discharge relation defined by 19 discharge measurements made in 1977.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	1.25	1.34	2.12	1.38	1.42	2.50	8.09	2.17	1.53	1.47	1.31	1.22
2	.24	.35	1.96	.40	.43	.33	7.93	.11	.51	.48	.29	.22
3	.24	.35	.85	.47	.43	.32	.76	.01	.49	.48	.28	.22
4	.25	.33	.76	.50	.43	.45	.58	1.93	.49	.47	.28	.22
5	.25	.33	.78	.51	.43	.63	.38	.86	.50	.46	.28	.21
6	1.26	1.38	1.87	1.49	1.44	2.83	7.18	1.80	1.50	1.44	1.28	1.21
7	.28	.48	.84	.47	.44	.98	6.97	.76	.50	.43	.28	.21
8	.27	.48	.73	.45	.43	3.34	.71	.73	.50	.39	.30	.20
9	.27	.42	.62	.43	.40	.81	.39	.71	.50	.32	.30	.21
10	.26	.40	.54	.42	.43	4.51	.06	.69	.50	.31	.30	.21
11	1.26	1.38	1.51	1.40	1.61	5.57	5.75	1.68	1.50	1.30	1.29	1.22
12	.26	.42	.53	.38	.62	6.14	.43	.67	.50	.30	.29	.21
13	.26	.46	.52	.36	.58	.40	.15	.65	.50	.30	.28	.20
14	.25	.51	.50	.37	.60	.54	4.62	.64	.50	.30	.26	.19
15	.24	.51	.53	.38	.61	.66	.62	.64	.50	.30	.25	.18
16	1.24	1.51	1.66	1.38	1.61	6.84	4.31	1.64	1.50	1.30	1.25	1.18
17	.23	.60	.74	.38	.61	7.03	3.90	.64	.50	.29	.25	.18
18	.23	.80	.73	.37	.59	.25	.43	.63	.49	.29	.24	.17
19	.24	.87	.65	.38	.57	.54	.00	.62	.50	.28	.23	.17
20	.25	.83	.58	.38	.55	.76	2.62	.62	.49	.27	.22	.17
21	1.23	1.82	1.54	1.38	1.58	8.00	2.36	1.62	1.46	1.26	1.22	1.16
22	.23	.74	.50	.44	.90	.24	.20	.62	.45	.25	.23	.16
23	.25	.63	.47	.45	2.06	.48	.11	.62	.46	.24	.23	.16
24	.26	.54	.44	.44	.20	.56	.02	.61	.45	.24	.22	.18
25	.25	.50	.41	.41	.28	.55	1.95	.60	.44	.24	.22	.20
26	1.24	1.74	1.41	1.40	2.30	8.52	1.88	1.59	1.43	1.25	1.23	1.20
27	.23	2.32	.41	.40	.34	.46	.84	.59	.42	.29	.24	.20
28	.23	.67	.41	.40	.49	.41	.84	.58	.42	.31	.23	.19
29	.31	.78	.40	.41	.68	.32	.86	.54	.43	.32		.17
30	.34	.68	.39	.42	.73	.21	2.01	.53	.45	.32		.14
31		.48		.43			.16		.46	.31		.15
Mean	1.25	1.70	1.61	1.42	1.80	6.04	4.42	1.70	1.48	1.33	1.26	1.19
Max.	1.34	2.78	2.12	1.51	2.86	8.56	8.09	2.17	1.53	1.48	1.31	1.22
Min.	1.23	1.33	1.39	1.36	1.40	2.32	1.84	1.53	1.42	1.24	1.22	1.14

WATER YEAR 1977 : Max. 8.56 m. Min. 1.14 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.50	1.80	26.40	2.60	3.40	47.00	223.60	28.65	5.60	4.40	1.20	0.20
2	0.40	2.00	19.40	3.00	3.60	36.80	217.28	25.95	5.20	4.60	0.90	0.20
3	0.40	2.00	15.00	4.40	3.60	36.20	210.56	21.45	4.80	4.60	0.80	0.20
4	0.50	1.60	11.80	5.00	3.60	44.00	203.45	18.20	4.80	4.40	0.80	0.20
5	0.50	1.60	12.40	5.20	3.60	55.10	195.54	15.40	5.00	4.20	0.80	0.10
6	0.60	2.60	15.80	4.80	3.80	61.30	187.64	13.00	5.00	3.80	0.80	0.10
7	0.80	4.60	14.60	4.40	3.80	62.80	179.34	11.80	5.00	3.60	0.80	0.10
8	0.70	4.60	10.90	4.00	3.60	67.60	169.06	10.90	5.00	2.80	1.00	0.00
9	0.70	3.40	7.60	3.60	3.00	76.20	156.41	10.30	5.00	1.400	1.00	0.10
10	0.60	3.00	5.80	3.40	3.60	92.30	143.37	9.70	5.00	1.20	1.00	0.10
11	0.60	2.60	5.20	3.00	7.30	125.95	132.25	9.40	5.00	1.00	0.90	0.20
12	0.60	3.40	5.60	2.60	7.60	146.53	121.05	9.10	5.00	1.00	0.90	0.10
13	0.60	4.20	5.40	2.20	6.60	156.81	111.50	8.50	5.00	1.00	0.80	0.00
14	0.50	5.20	5.00	2.40	7.00	162.34	95.60	8.20	5.00	1.00	0.60	0.00
15	0.40	5.20	5.60	2.60	7.30	167.09	95.60	8.20	5.00	1.00	0.50	0.00
16	0.40	5.20	8.80	2.60	7.30	174.20	87.25	8.20	5.00	1.00	0.50	0.00
17	0.30	7.00	11.20	2.60	7.30	181.71	78.00	8.20	5.00	0.90	0.50	0.00
18	0.30	13.00	10.90	2.40	6.80	190.40	68.95	7.90	4.80	0.90	0.40	0.00
19	0.40	15.80	8.50	2.60	6.40	201.87	63.00	7.60	5.00	0.80	0.30	0.00
20	0.50	14.20	6.60	2.60	6.00	210.56	54.40	7.60	4.80	0.70	0.20	0.00
21	0.30	13.80	5.80	2.60	6.60	220.05	38.60	7.60	4.20	0.60	0.20	0.00
22	0.30	11.20	5.00	3.80	17.00	231.00	30.00	7.60	4.00	0.50	0.30	0.00
23	0.50	7.90	4.40	4.00	23.70	243.00	25.95	7.60	4.20	0.40	0.30	0.00
24	0.60	5.80	3.80	3.80	30.00	247.00	21.90	7.30	4.00	0.40	0.20	0.00
25	0.50	5.00	3.20	3.20	34.00	246.50	19.00	7.00	3.80	0.40	0.20	0.00
26	0.40	11.20	3.20	3.00	35.00	245.00	16.20	6.80	3.60	0.50	0.30	0.00
27	0.30	36.20	3.20	3.00	37.40	242.00	14.60	6.80	3.40	0.90	0.40	0.00
28	0.30	57.20	3.20	3.00	46.40	239.50	14.60	6.60	3.40	1.20	0.30	0.00
29	0.20	60.80	3.00	3.20	58.60	235.00	15.40	5.80	3.60	1.40		0.00
30	1.80	58.60	2.80	3.40	61.60	229.50	21.45	5.60	4.00	1.40		0.00
31		45.80		3.60	60.30		28.20		4.20	1.20		0.00
Total	16.50	417.20	250.10	102.60	515.80	4,675.31	3,039.75	316.95	142.40	53.20	16.90	1.60
Mean	0.55	13.46	8.34	3.31	16.64	155.84	98.06	10.56	4.59	1.72	0.60	0.05
Max.	1.80	60.80	26.40	5.20	61.60	247.00	223.60	28.65	5.60	4.60	1.20	0.20
Min.	0.30	1.60	2.80	2.20	3.00	36.20	14.60	5.60	3.40	0.40	0.20	0.00
Runoff - mcm.	1.426	36.046	21.609	8.865	44.565	403.947	262.634	27.384	12.303	4.596	1.460	0.138

WATER YEAR 1977 : Max. 247 Min. 0.00 Mean 26.16 Annual Runoff 824.973 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sept.25	1.00	8.56	247				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
CHI RIVER BASIN

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 Khon Kaen – Udon highway bridge, Amphoe Nam Phong, Khon Kaen.

Drainage Area: 13,183 Sq.km.

Type of Gage: Water-stage recorder.

Zero Gage at Bottom at: + 150.92 m. (M.S.L.)

Bench Mark: B.M. – M.S.

Location: Near the ladder of automatic gage building.
Elevation: + 161.766 m. (M.S.L.)

Gage Reading Frequency: Recording

Basis of Mean Daily Gage Height: Arithmetic mean of 24 hourly readings.

Period of Available Gage Records: 1965 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, no shifting adjustment for flow computation.

Overbank Flow Conditions: No overbank flow.

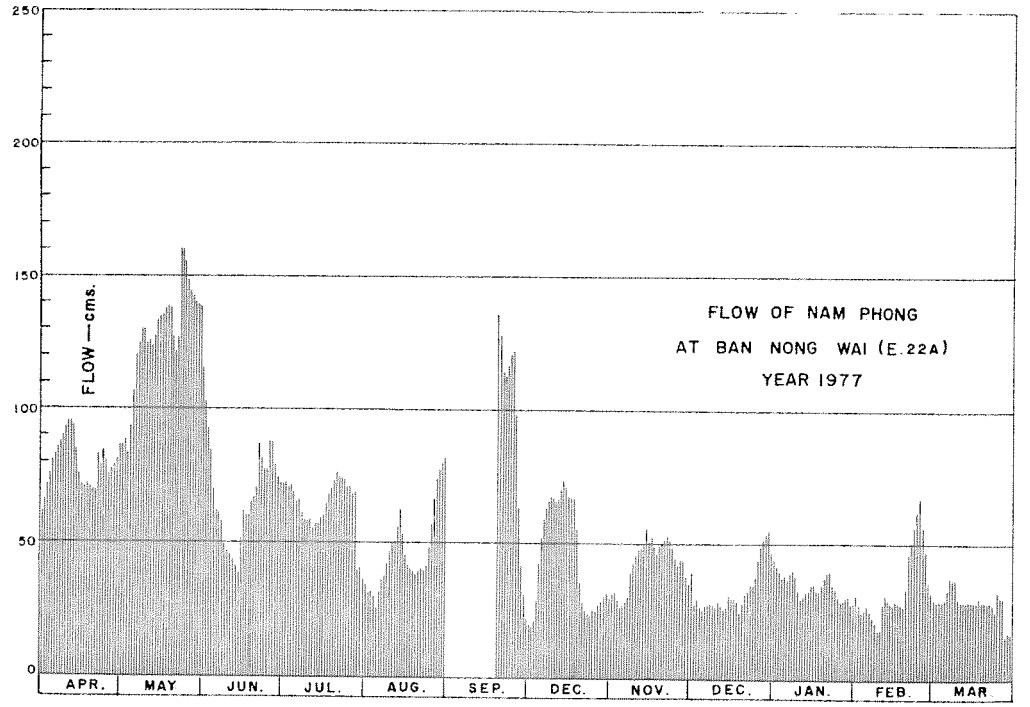
General Description: Records fair. Stage-discharge relation defined by 93 discharge measurements made during 1972-1976. Flow regulated by Ubonrat Dam at above gage site.

Remarks: No records on September 1 – 18, 1977.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	155.30	155.97	156.58	155.58	154.41		153.94	154.35	154.60	154.74	154.32	154.27
2	.53	156.02	.19	.60	.33		.91	.36	.23	.65	.18	.26
3	.62	155.90	.06	.55	.33		.96	.29	.27	.60	.12	.27
4	.76	156.09	.69	.57	.25		154.43	.21	.19	.55	.16	.26
5	.86	.51	.36	.45	.13		.91	.24	.15	.57	.20	.27
6	155.93	156.80	155.26	155.39	154.31		155.02	154.26	154.20	154.52	154.12	154.41
7	.95	156.93	.26	.41	.53		.31	.30	.22	.59	.04	.54
8	156.05	157.05	.03	.25	.55		.40	.60	.24	.63	.00	.53
9	.12	.02	154.90	.18	.77		.46	.71	.19	,54	153.85	.52
10	.16	156.89	.81	.19	.85		.44	.82	.19	.37	.85	.26
11	156.20	156.95	154.76	155.21	154.94		155.41	154.90	154.27	154.29	154.22	154.26
12	.05	.89	.73	.10	.96		.44	.89	.20	.33	.32	.26
13	155.82	157.03	.63	.17	.14		.56	.94	.17	.37	.24	.26
14	.69	.13	.57	.16	.32		.60	155.10	.20	.38	.23	.26
15	.58	.15	155.15	.22	.08		.50	154.96	.32	.46	.23	.25
16	155.55	157.17	155.29	155.25	154.81		155.44	155.01	154.29	154.44	154.24	154.25
17	.53	.22	.23	.42	.66		.44	154.92	.28	.38	.24	.24
18	.56	.24	.29	.51	.61		.44	.82	.23	.38	.20	.28
19	.50	.24	.44	.53	.59	157.18	154.97	.93	.15	.46	.21	.24
20	.50	.01	.46	.66	.58	.10	.44	.94	.24	.55	.44	.24
21	155.50	156.83	155.69	155.70	154.60	156.81	154.22	154.99	154.37	154.59	154.84	154.25
22	.86	157.05	156.00	.65	.65	.62	.12	155.00	.38	.62	155.02	.24
23	.75	.72	155.79	.64	.65	.65	.09	154.97	.46	.45	.16	.24
24	.90	.73	.71	.61	.71	.77	.07	.85	.47	.38	.32	.12
25	.78	.57	.75	.55	.95	.84	.14	.76	.59	.30	.46	.39
26	155.68	157.43	156.02	155.54	155.25	156.64	154.15	154.71	154.77	154.24	155.24	154.33
27	.76	.35	155.95	.49	.52	155.55	.21	.73	.93	.25	154.92	.31
28	79	.29	.74	.50	.70	154.81	.26	.72	.99	.31	.48	153.84
29	.88	.26	.64	154.61	.75	.37	.33	.51	155.05	.30		.85
30	.97	.24	.58	.65	.84	.06	.35	.46	.08	.22		.84
31		.24		.47	.85		.30		154.85	.23		.84
Mean	155.77	157.00	155.45	155.35	154.86		154.75	154.71	154.41	154.44	154.42	154.24
Max.	156.20	157.73	156.58	155.70	155.85	157.18	155.60	155.10	155.08	154.74	155.46	154.54
Min.	155.30	155.90	154.57	154.47	154.13		153.91	154.21	154.15	154.22	153.85	153.84

WATER YEAR 1977 : Max. 157.73 m. Min. m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	62.40	86.66	110.80	72.28	33.32		19.72	31.50	39.40	43.88	30.60	29.10
2	70.48	88.56	95.20	73.00	30.90		18.88	31.80	27.90	41.00	26.44	28.80
3	73.72	84.00	90.08	71.20	30.90		20.28	29.70	29.10	39.40	24.76	29.10
4	78.76	91.22	76.24	71.92	28.50		33.96	27.30	26.72	37.80	25.88	28.80
5	82.48	108.00	64.44	67.60	25.04		49.32	28.20	25.60	38.44	27.00	29.10
6	85.14	120.00	61.04	65.46	30.30		52.88	28.80	27.00	36.84	24.76	33.32
7	85.90	125.46	61.04	66.16	37.16		62.74	30.00	27.60	39.08	22.52	37.48
8	89.70	130.50	53.22	60.70	37.80		65.80	39.40	28.20	40.36	21.40	37.16
9	92.40	129.24	49.00	58.32	44.84		67.96	42.92	26.72	37.48	17.30	36.84
10	94.00	123.78	46.12	58.66	47.40		67.24	46.44	26.72	32.10	17.30	28.80
11	95.60	126.30	44.52	59.34	50.28		66.16	49.00	29.10	29.70	27.60	28.80
12	89.70	123.78	43.56	55.60	50.92		67.24	48.68	27.00	30.90	30.60	28.80
13	80.96	129.66	40.36	57.98	56.96		71.56	50.28	26.16	32.10	28.20	28.80
14	76.24	133.86	38.44	57.64	63.08		73.00	55.60	27.00	32.40	27.90	28.80
15	72.28	134.70	57.30	59.68	54.92		69.40	50.92	30.60	34.92	27.90	28.50
16	71.20	135.54	62.06	60.70	46.12		67.24	52.54	29.70	34.28	28.20	28.50
17	70.48	137.68	60.02	66.52	41.32		67.24	49.64	29.40	32.40	28.20	28.20
18	71.56	138.56	62.06	69.76	39.72		67.24	46.44	27.90	42.40	27.00	29.40
19	69.40	138.56	67.24	70.48	39.08	135.96	51.24	49.96	25.60	34.92	27.30	28.20
20	69.40	128.82	67.96	75.16	38.76	132.60	34.28	50.28	28.20	37.80	34.28	28.20
21	69.40	121.26	76.24	76.60	39.40	120.48	27.60	51.88	32.10	39.08	47.08	28.50
22	82.48	130.50	87.80	74.80	41.00	112.44	24.76	52.20	32.40	40.04	52.88	28.20
23	78.40	159.68	79.84	74.44	41.00	113.70	23.92	51.24	34.92	34.60	57.64	28.20
24	84.00	160.12	76.96	73.36	42.92	118.74	23.36	47.40	35.24	32.40	63.08	24.76
25	79.48	153.08	78.40	71.20	50.60	121.68	25.32	44.52	39.08	30.00	67.95	32.70
26	75.88	146.92	88.56	70.84	60.70	113.28	25.60	42.92	44.84	28.20	60.36	30.90
27	78.76	143.40	85.90	69.04	70.12	71.20	27.30	43.56	49.96	28.50	49.64	30.30
28	79.84	140.79	78.04	69.46	76.60	46.12	28.80	43.24	51.88	30.30	35.56	17.04
29	83.24	139.44	74.44	39.72	78.40	32.10	30.90	36.52	53.90	30.00		17.30
30	86.66	138.56	72.28	41.00	81.72	23.08	31.50	34.92	54.92	27.60		17.04
31		138.56		35.24	82.10		30.00		47.40	27.90		17.04
Total	2,379.94	3,987.16	2,049.16	1,993.80	1,491.88		1,392.44	1,287.80	1,042.26	1,066.82	959.34	876.68
Mean	79.33	128.62	68.31	64.32	48.13		44.92	42.93	33.62	34.41	34.26	28.28
Max.	95.60	160.12	110.80	76.60	82.10	135.96	73.00	55.60	54.92	43.88	67.96	37.48
Min.	62.40	84.00	38.44	35.24	25.04		18.88	27.30	25.60	27.60	17.30	17.04
Runoff - MCM.	205.627	344.490	177.047	172.264	128.898		120.307	111.266	90.051	92.173	82.887	75.745

WATER YEAR 1977 : Max. 160.12 Min. Mean Annual Runoff mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
May 23	18.00	157.84	164.96				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
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 highway bridge, Ban Khai, Amphoe Muang, Chaiyaphum.

Drainage Area: 6,835 Sq.km.

Type of Gage: Water-stage recorder.

Zero Gage at Bottom at: + 174.00 m. (M.S.L.)

Bench Mark: B.M. - H.S.

Location: Near automatic gage building.
Elevation: + 181.981 m. (M.S.L.)

Gage Reading Frequency: Recording

Basis of Mean Daily Gage Height: Arithmetic mean of 24 hourly readings.

Period of Available Gage Records: 1954-1956, 1967 to date.

Rating Operation:

Period of Rating: 1968-1974.
Rated by Float: -
Rated by Current Meter: 1968-1974.

Stability of Channel Regimes: Stable, no shifting adjustment for flow computation.

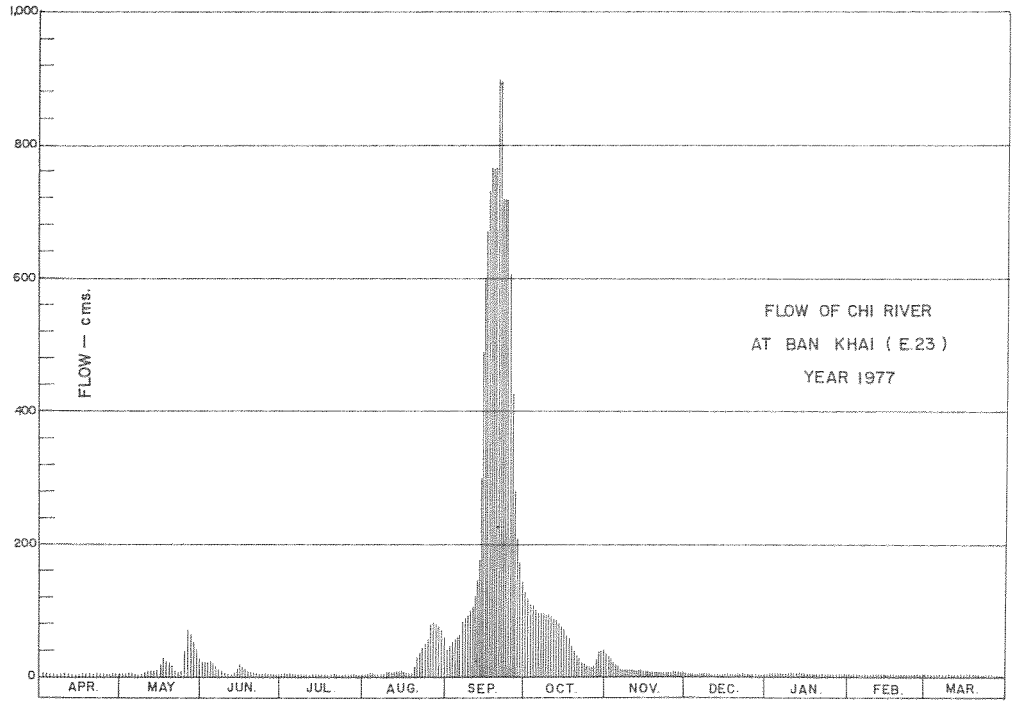
Overbank Flow Conditions: Overbank flow starts at elevation + 180.60 m. (M.S.L.) and is included.

General Description: Records fair. Stage-discharge relation defined by 502 discharge measurements made during 1968-1974.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	174.90	175.40	176.92	175.71	175.68	178.18	181.73	177.93	175.86	175.76	175.20	174.88
2	.89	.27	.54	.86	.68	.56	.62	.60	.86	.74	.18	.90
3	.97	.22	.34	.88	.69	.96	.49	.26	.81	.66	.18	.92
4	175.02	.34	.82	.87	.67	179.04	.42	176.95	.80	.59	.22	.92
5	.00	.95	177.07	.73	.62	.33	.29	.69	.77	.55	.25	.92
6	175.01	175.83	176.74	175.62	175.50	179.62	181.19	176.60	175.69	175.50	175.30	174.94
7	174.97	.54	.35	.54	.38	180.48	.14	.52	.67	.48	.28	.95
8	.96	.46	.07	.49	.40	.80	.08	.46	.64	.45	.23	.93
9	.97	.40	175.92	.45	.88	.98	.05	.49	.62	.43	.24	.91
10	.96	.66	.78	.40	176.15	181.18	.01	.49	.61	.40	.24	.87
11	174.94	175.89	175.68	175.40	175.86	181.46	180.91	176.42	175.63	175.40	175.19	174.79
12	.90	176.03	.69	.44	.95	.72	.78	.35	.59	.38	.18	.79
13	.90	.03	.72	.44	176.05	.89	.64	.31	.56	.37	.13	.84
14	.88	175.89	176.28	.44	.07	182.10	.41	.27	.56	.36	.12	.86
15	.90	176.08	.80	.40	.14	.27	.14	.25	.56	.33	.10	.82
16	174.90	176.73	176.74	175.38	176.03	182.34	179.78	176.22	175.56	175.33	175.10	174.77
17	.90	177.50	.36	.42	175.86	.38	.47	.18	.55	.31	.10	.72
18	.86	.24	.10	.43	.74	.40	178.82	.12	.54	.29	.14	.66
19	.85	.06	.00	.42	.72	.40	.48	.09	.52	.28	.16	.68
20	.93	.00	175.93	.56	176.51	.40	.26	.08	.50	.26	.11	.63
21	174.94	176.44	175.78	175.69	177.84	182.41	177.94	176.06	175.50	175.24	175.02	174.63
22	.90	175.96	.68	.63	178.20	.41	.66	.02	.49	.22	.02	.62
23	.83	.73	.58	.54	.57	.38	.31	175.99	.48	.19	.03	.65
24	.81	.77	.54	.51	.83	.38	.01	.99	.47	.17	174.98	.59
25	.82	177.51	.56	.49	.86	.34	176.84	.99	.45	.16	.98	.70
26	174.99	179.80	175.56	175.46	179.12	182.24	176.73	176.01	175.44	175.17	174.94	174.74
27	175.22	.94	.52	.48	.47	.12	.69	175.98	.49	.16	.92	.75
28	.25	.44	.46	.52	.61	.01	.84	176.00	.61	.14	.92	.76
29	.25	178.84	.42	.58	.49	181.93	177.78	175.98	.63	.17	-	.72
30	.42	.16	.44	.54	.05	.83	178.37	.93	.66	.14	-	.84
31	-	177.45	-	.60	178.52	-	.26	-	.72	.19	-	.86
Mean	174.97	176.63	176.05	175.54	176.90	181.35	179.42	176.37	175.61	175.35	175.12	174.79
Max.	175.42	179.94	177.07	175.88	179.61	182.41	181.73	177.93	175.86	175.76	175.30	174.95
Min.	174.81	175.22	175.42	175.38	175.38	178.18	176.69	175.93	175.44	175.14	174.92	174.59

WATER YEAR 1977 : Max. 182.41 m. Min. 174.59 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	1.00	3.80	20	6.39	6.12	39	125	35	7.80	6.84	2.50	0.90
2	0.95	2.92	15	7.80	6.12	46	118	30	7.80	6.66	2.40	1.00
3	1.35	2.62	13	8.00	6.21	52	111	25	7.30	5.94	2.40	1.10
4	1.60	3.38	19	7.90	6.03	54	108	21	7.20	5.32	2.62	1.10
5	1.50	8.70	22	6.59	5.58	59	103	17	6.93	5.00	2.80	1.10
6	1.55	7.50	18	5.58	4.60	64	99	16	6.21	4.60	3.10	1.20
7	1.35	4.92	13	4.92	3.66	80	98	15	6.03	4.44	2.98	1.25
8	1.30	4.28	9.90	4.52	3.80	87	96	14	5.76	4.20	2.68	1.15
9	1.35	3.80	8.40	4.20	8.00	93	95	15	5.58	4.04	2.74	1.05
10	1.30	5.94	7.02	3.80	11	99	94	15	5.49	3.80	2.74	0.85
11	1.20	8.10	6.12	3.80	7.80	110	91	14	5.67	3.80	2.45	0.45
12	1.00	9.50	6.21	4.12	8.70	124	87	13	5.32	3.66	2.40	0.45
13	1.00	9.50	6.48	4.12	9.70	152	83	12	5.08	3.59	2.15	0.70
14	0.90	8.10	12	4.12	9.90	276	78	12	5.08	3.52	2.10	0.80
15	1.00	10	19	3.80	11	490	73	12	5.08	3.31	2.00	0.60
16	1.00	18	18	3.66	9.50	627	67	11	5.08	3.31	2.00	0.35
17	1.00	29	13	3.96	7.80	718	61	11	5.00	3.17	2.00	0.10
18	0.80	25	10	4.04	6.66	764	50	10	4.92	3.04	2.20	0.00
19	0.75	22	9.20	3.96	6.48	764	44	10	4.76	2.98	2.30	0.00
20	1.15	21	8.50	5.08	15	764	41	10	4.60	2.86	2.05	0.00
21	1.20	14	7.02	6.21	34	894	36	9.80	4.60	2.74	1.60	0.00
22	1.00	8.80	6.12	5.76	40	894	31	9.40	4.52	2.62	1.60	0.00
23	0.65	6.57	5.24	4.92	46	718	26	9.10	4.44	2.45	1.65	0.00
24	0.55	6.93	4.92	4.68	50	718	21	9.10	4.36	2.35	1.40	0.00
25	0.60	29	5.08	4.52	51	627	19	9.10	4.20	2.30	1.40	0.00
26	1.45	67	5.08	4.28	55	444	18	9.30	4.12	2.35	1.20	0.20
27	2.62	70	4.76	4.44	61	297	17	9.00	4.52	2.30	1.10	0.25
28	2.80	61	4.28	4.76	63	204	19	9.20	5.49	2.20	1.10	0.30
29	2.80	50	3.96	5.24	61	167	33	9.00	5.67	2.35	–	0.10
30	3.90	39	4.12	4.92	54	139	42	8.50	5.94	2.20	–	0.70
31	–	28	–	5.40	45	–	41	–	6.48	2.45	–	0.80
Total	40.62	588.36	304.41	155.47	713.66	10,564	2,025	409.50	171.03	110.39	59.66	16.50
Mean	1.35	19.0	10.1	5.02	23.0	352	65.3	13.6	5.52	3.56	2.13	0.53
Max.	3.90	70	22	8.00	63	894	125	35	7.80	6.84	3.10	1.25
Min.	0.55	2.62	3.96	3.66	3.66	39	17	8.50	4.12	2.20	1.10	0.00
Runoff – mcm.	3.509	50.834	26.301	13.432	61.660	912.730	174.960	35.381	14.777	9.538	5.155	1.426

WATER YEAR 1977 : Max. 894 Min. 0.00 Mean 41.5 Annual Runoff 1,309.703 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sept. 21	24.00	182.42	923				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
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 across Lam Phan, Amphoe Yang Talat, Kalasin.

Drainage Area: 6,565 Sq.km.

Type of Gage: Staff gage.

Zero Gage at Bottom at: + 134.380 m. (M.S.L.)

Bench Mark: -

Location: -
Elevation: -

Gage Reading Frequency: 4-time daily readings at 06.00, 10.00, 14.00 and 18.00 hours.

Basis of Mean Daily Gage Height: Arithmetic mean of 4 readings.

Period of Available Gage Records: 1954 to date.

Rating Operation:

Period of Rating: 1971-1976, 1978 to date.
Rated by Float: -
Rated by Current Meter: 1971-1976, 1978 to date.

Stability of Channel Regimes: Stable, no shifting adjustment for flow computation.

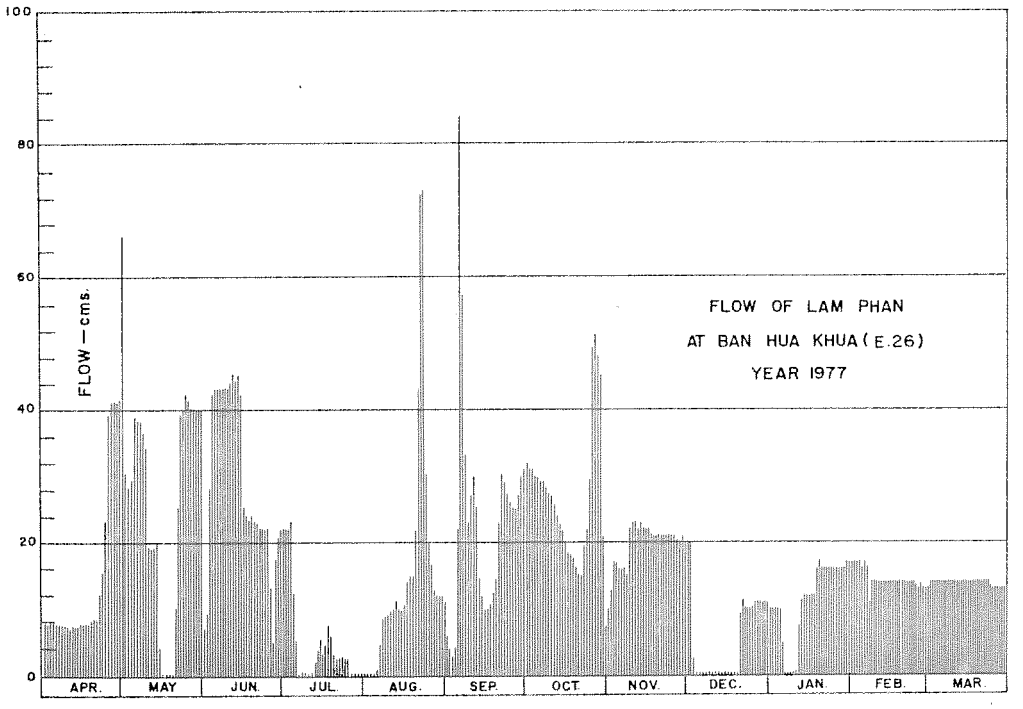
Overbank Flow Conditions: No overbank flow.

General Description: Records fair. Stage-discharge relation defined by 78 discharge measurements made during 1971-1976.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	135.12	136.97	135.06	135.73	134.59	134.97	136.06	135.23	135.68	135.24	135.56	135.40
2	.11	.00	.18	.73	.59	.87	.05	.38	.68	.23	.55	.41
3	.11	135.95	.94	.73	.70	.84	.02	.56	134.85	.23	.56	.41
4	.14	.98	136.35	.76	.67	.92	.00	.56	.54	.23	.55	.42
5	.11	136.25	.39	.32	.68	135.30	135.99	.53	.48	.23	.54	.42
6	135.11	136.26	136.38	134.70	134.94	137.42	135.98	135.53	134.48	134.94	135.55	135.41
7	.10	.25	.38	.67	135.10	136.76	.97	.52	.48	.56	.54	.42
8	.10	.24	.38	.73	.16	.11	.97	.49	.47	.51	.29	.42
9	.09	.19	.38	.73	.17	135.78	.93	.73	.46	.48	.43	.43
10	.08	.13	.39	.68	.19	.90	.89	.78	.46	.46	.43	.43
11	135.08	135.65	136.41	134.65	135.20	136.01	135.86	135.76	134.45	134.44	135.43	135.43
12	.09	.64	.45	.62	.25	135.82	.83	.75	.44	135.09	.42	.43
13	.08	.62	.43	.82	.26	.48	.78	.76	.44	.30	.42	.44
14	.09	.66	.44	.93	.22	.34	.73	.75	.43	.34	.43	.44
15	.10	134.93	.35	.99	.20	.21	.69	.74	.43	.34	.43	.45
16	135.11	134.66	135.84	134.89	135.26	135.23	135.64	135.72	134.42	135.33	135.43	135.43
17	.11	.59	.80	.96	.41	.23	.61	.71	.45	.33	.43	.43
18	.11	.55	.78	135.10	.48	.35	.59	.71	.55	.35	.44	.43
19	.14	.54	.79	134.97	.50	.42	.55	.70	.59	.52	.44	.44
20	.14	.58	.78	.89	.58	.56	.52	.70	.58	.55	.44	.44
21	135.13	135.23	135.78	134.86	135.85	135.92	135.49	135.71	135.18	135.53	135.43	135.41
22	.33	.84	.74	.84	137.12	136.00	.47	.71	.26	.53	.43	.41
23	.50	136.27	.72	.87	.16	135.95	.67	.70	.24	.53	.43	.42
24	.77	.29	.74	.86	136.01	.90	.75	.69	.23	.54	.42	.41
25	.91	.35	.75	.80	135.70	.87	.98	.69	.25	.54	.41	.39
26	136.28	136.32	135.39	134.74	135.61	135.85	136.55	135.69	135.27	135.54	135.40	135.38
27	.34	.31	134.95	.68	.38	.85	.59	.68	.26	.52	.42	.38
28	.34	.30	135.58	.66	.33	.89	.53	.68	.26	.52	.40	.38
29	.34	.31	.71	.64	.34	136.00	.44	.69	.26	.53	-	.38
30	.34	.31	.72	.64	.34	.05	135.69	.68	.26	.55	-	.38
31	-	.28	-	.62	.29	-	.09	-	.26	.58	-	-
Mean	135.38	135.82	135.90	134.92	135.36	135.69	135.86	135.65	134.84	135.61	135.44	135.41
Max.	136.34	136.97	136.45	135.76	137.16	137.42	136.59	135.78	135.68	135.58	135.56	135.45
Min.	135.08	134.54	134.95	134.62	134.59	134.84	135.09	135.23	134.42	134.44	135.40	135.38

WATER YEAR 1977 : Max. 137.42 m. Min. 134.42 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	7.90	66	6.70	22	0.00	4.90	32	10	20	10	17	13
2	7.70	30	9.10	22	0.00	2.90	31	13	20	10	17	14
3	7.70	28	28	22	0.00	2.30	31	17	2.50	10	17	14
4	8.30	29	42	23	0.00	3.90	30	17	0.00	10	17	14
5	7.70	38	43	12	0.00	11	30	16	0.00	10	16	14
6	7.70	39	43	0.00	4.30	84	29	16	0.00	4.30	17	14
7	7.50	38	43	0.00	7.50	57	29	16	0.00	0.00	16	14
8	7.50	38	43	0.45	8.70	33	29	15	0.00	0.00	11	14
9	7.30	36	43	0.45	8.90	23	28	22	0.00	0.00	14	14
10	7.10	34	43	0.00	9.30	27	27	23	0.00	0.00	14	14
11	7.10	19	44	0.00	9.50	30	26	23	0.00	0.00	14	14
12	7.30	19	45	0.00	10	25	25	22	0.00	7.30	14	14
13	7.10	19	44	1.90	11	15	23	23	0.00	11	14	14
14	7.30	20	45	4.10	9.90	12	22	22	0.00	12	14	14
15	7.50	4.10	42	5.30	9.50	9.70	21	22	0.00	12	14	14
16	7.70	0.00	25	3.30	11	10	19	22	0.00	12	14	14
17	7.70	0.00	24	4.70	14	10	18	21	0.00	12	14	14
18	7.70	0.00	23	7.50	15	12	18	21	0.00	12	14	14
19	8.30	0.00	24	4.90	15	14	17	21	0.00	16	14	14
20	8.30	0.00	23	3.30	17	17	16	21	0.00	17	14	14
21	8.10	10	23	2.70	25	28	15	21	9.10	16	14	14
22	12	25	22	2.30	72	30	15	21	11	16	14	14
23	15	39	22	2.90	73	28	20	21	10	16	14	14
24	23	40	22	2.70	30	27	22	21	10	16	14	14
25	27	42	22	1.50	21	26	29	21	10	16	14	13
26	39	41	13	0.60	18	25	49	21	11	16	13	13
27	41	40	4.50	0.00	13	25	51	20	11	16	14	13
28	41	40	17	0.00	12	27	48	20	11	16	13	13
29	41	40	21	0.00	12	30	45	21	11	16	–	13
30	41	40	22	0.00	12	31	21	20	11	17	–	13
31	–	40	–	0.00	11	–	7.30	–	11	17	–	13
Total	440.50	854.10	871.30	149.60	459.60	680.70	823.30	590.00	158.60	343.60	406.00	426.00
Mean	14.6	27.5	29.0	4.82	14.8	22.6	26.5	19.6	5.11	11.0	14.5	13.7
Max.	41	66	45	23	73	84	51	23	20	17	17	14
Min.	7.10	0.00	4.50	0.00	0.00	2.30	7.30	10	0.00	0.00	13	13
Runoff - mcm.	38.059	73.794	75.280	12.925	39.709	58.812	71.133	50.976	13.703	29.687	35.079	36.807

WATER YEAR 1977 : Max. 84 Min. 0.00 Mean 17.0 Annual Runoff 535.965 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sept.6	24.00	137.68	94				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
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 600 meters upstream from gaging station E32, Amphoe Kaset Sombon, Chaiyaphum.

Drainage Area: 2,905 Sq.km.

Type of Gage: Water-stage recorder.

Zero Gage at Bottom at: + 198.00 m. (M.S.L.)

Bench Mark: B.M. - H.S. E32

Location: On left bank along the vertical staff gage line.
Elevation: + 210.611 m. (M.S.L.)

Gage Reading Frequency: Recording

Basis of Mean Daily Gage Height: Arithmetic mean of 24 hourly 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, no shifting adjustment for flow computation.

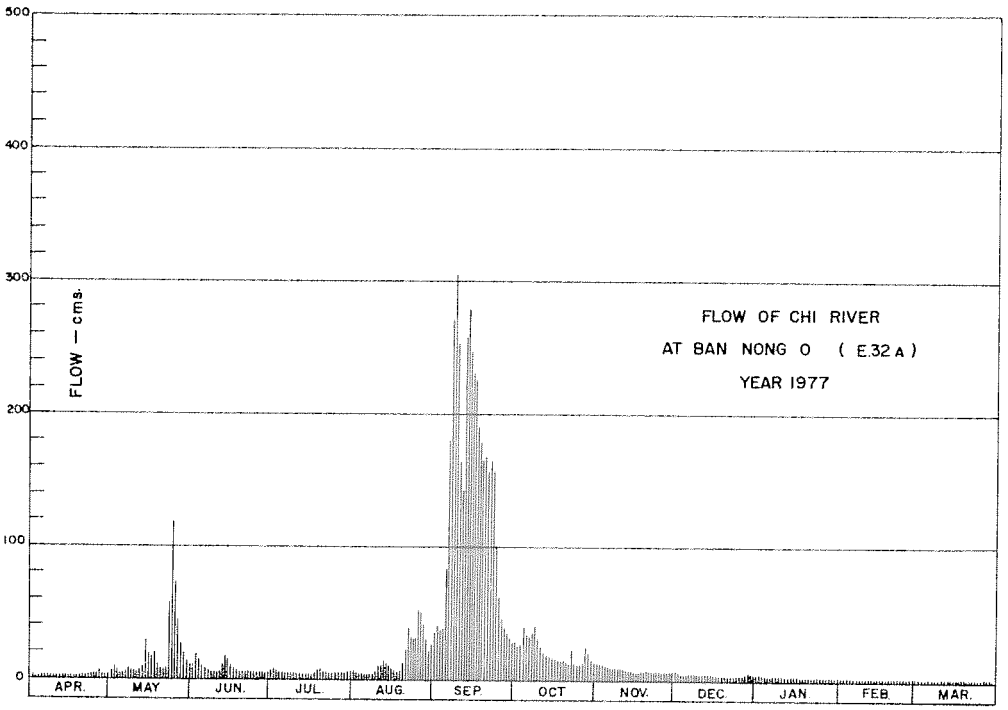
Overbank Flow Conditions: No overbank flow.

General Description: Records fair. Stage-discharge relation defined by 239 discharge measurements made in 1977.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	198.54	198.57	199.05	198.90	198.84	200.59	200.14	199.30	198.84	198.74	198.56	198.49
2	.57	.86	.41	.91	.80	.57	.01	.22	.81	.73	.60	.55
3	.54	199.05	.64	.80	.76	.45	199.88	.16	.80	.71	.61	.53
4	.56	198.78	.26	.76	.72	.55	200.33	.11	.78	.69	.59	.51
5	.57	.69	.02	.74	.70	202.20	.57	.09	.78	.68	.57	.50
6	198.56	198.69	198.93	198.72	198.69	205.32	200.25	199.07	198.77	198.66	198.55	198.49
7	.56	.74	.87	.72	.69	207.64	.29	.04	.76	.66	.55	.48
8	.56	.92	.81	.70	.69	208.28	.53	.03	.76	.67	.54	.45
9	.55	.77	.76	.72	.77	207.13	.55	.01	.74	.65	.54	.45
10	.54	.81	.73	.71	199.06	204.08	.16	198.99	.72	.65	.54	.45
11	198.54	198.80	198.71	198.70	199.13	204.21	199.89	198.98	198.72	198.64	198.52	198.46
12	.52	.81	.92	.70	.15	207.15	.72	.95	.72	.63	.52	.46
13	.52	.92	199.21	.68	.27	.74	.62	.92	.71	.62	.50	.46
14	.51	199.07	.48	.68	.11	206.94	.56	.93	.71	.63	.52	.45
15	.50	200.12	.27	.71	.00	.58	.51	.92	.70	.63	.54	.44
16	198.50	199.66	199.04	198.66	198.93	206.52	199.50	198.90	198.68	198.63	198.52	198.44
17	.52	.53	198.93	.65	.87	205.53	.46	.90	.68	.61	.53	.45
18	.51	.67	.88	.88	.83	.21	.40	.89	.68	.61	.53	.47
19	.51	.11	.82	.84	.90	204.93	.36	.88	.68	.59	.53	.47
20	.50	198.93	.79	.80	199.38	.98	.34	.87	.67	.58	.53	.46
21	198.50	198.84	198.76	198.75	199.89	204.73	199.29	198.87	198.66	198.57	198.53	198.46
22	.52	.80	.79	.74	200.55	.91	.24	.87	.66	.57	.52	.46
23	.61	199.41	.81	.72	.24	.66	.21	.87	.63	.57	.49	.46
24	.65	203.48	.81	.72	.25	202.80	.17	.86	.63	.57	.49	.46
25	.62	.45	.78	.73	201.13	201.49	.15	.85	.66	.56	.49	.46
26	198.62	201.02	198.77	198.75	201.00	201.87	199.14	198.85	198.68	198.57	198.50	198.45
27	.62	201.49	.73	.76	200.99	.55	.35	.84	.75	.56	.48	.51
28	.78	199.88	.71	.76	.35	.37	.90	.83	.81	.55	.53	.46
29	.69	.64	.70	.76	199.82	.27	.64	.83	.78	.54	-	.43
30	.64	.37	.70	.81	.75	.16	.42	.82	.74	.55	-	.42
31	.61	.18	-	.85	200.10	-	.39	-	.74	.55	-	.42
Mean	198.56	199.35	198.93	198.75	199.44	203.88	199.77	199.02	198.72	198.61	198.55	198.48
Max.	198.78	203.48	199.64	198.91	201.13	208.28	200.57	199.30	198.84	198.74	198.61	198.55
Min.	198.50	198.57	198.70	198.65	198.69	200.16	199.14	198.82	198.63	198.54	198.48	198.42

WATER YEAR 1977 : Max. 208.28 m. Min. 198.42 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	1.62	2.01	9.25	7.00	6.10	40	29	13	6.10	4.60	1.78	1.08
2	2.01	6.40	15	7.15	5.50	39	26	12	5.65	4.45	2.50	1.75
3	1.62	9.25	19	5.50	4.90	36	24	11	5.50	4.15	2.65	1.49
4	1.88	5.20	12	4.90	4.30	39	34	10	5.20	3.85	2.27	1.23
5	2.01	3.85	8.80	4.60	4.00	81	39	9.85	5.20	3.70	2.01	1.20
6	1.88	3.85	7.45	4.30	3.85	180	31	9.55	5.05	3.40	1.75	1.08
7	1.88	4.60	6.55	4.30	3.85	273	32	9.10	4.90	3.40	1.75	0.96
8	1.88	7.30	5.65	4.00	3.85	304	38	8.95	4.90	3.55	1.62	0.60
9	1.75	5.05	4.90	4.30	5.05	252	39	8.65	4.60	3.25	1.62	0.60
10	1.62	5.65	4.45	4.15	9.40	137	29	8.35	4.30	3.25	1.62	0.60
11	1.62	5.50	4.15	4.00	10	141	24	8.20	4.30	3.10	1.36	0.72
12	1.36	5.65	7.30	4.00	11	253	20	7.75	4.30	2.95	1.36	0.72
13	1.36	7.30	12	3.70	13	277	18	7.30	4.15	2.80	1.20	0.72
14	1.23	9.55	16	3.70	10	245	17	7.45	4.15	2.95	1.36	0.60
15	1.20	28	12	4.15	8.50	230	16	7.30	4.00	2.95	1.62	0.48
16	1.20	19	9.10	3.40	7.45	228	16	7.00	3.70	2.95	1.36	0.48
17	1.36	17	7.45	3.25	6.55	188	15	7.00	3.70	2.65	1.49	.60
18	1.23	19	6.70	6.70	5.95	175	14	6.85	3.70	2.65	1.49	.84
19	1.23	10	5.80	6.10	7.00	164	14	6.70	3.70	2.27	1.49	.84
20	1.20	7.45	5.35	5.50	14	166	14	6.55	3.55	2.14	1.49	.72
21	1.20	6.10	4.90	4.75	24	157	13	6.55	3.40	2.01	1.49	0.72
22	1.36	5.50	5.35	4.60	39	163	12	6.55	3.40	2.01	1.36	.72
23	2.65	15	5.65	4.30	31	155	22	6.55	2.95	2.01	1.08	.72
24	3.25	119	5.65	4.30	31	99	11	6.40	2.95	2.01	1.08	.72
25	2.80	118	5.20	4.45	53	62	11	6.25	3.40	1.88	1.08	.72
26	2.80	50	5.05	4.75	50	47	11	6.25	3.70	2.01	1.20	0.60
27	5.20	37	4.45	4.90	50	39	14	6.10	4.75	1.88	0.96	1.13
28	3.85	24	4.15	4.90	30	34	24	5.95	5.65	1.75	1.49	0.72
29	3.10	19	4.00	4.90	22	32	19	5.95	5.20	1.62	–	0.36
30	2.65	14	4.00	5.65	21	29	15	5.80	4.60	1.75	–	0.24
31	–	11	–	6.25	28	–	14	–	4.60	1.75	–	0.24
Total	60.00	600.21	227.30	148.45	527.25	4,265	655	234.90	135.25	85.69	43.53	24.21
Mean	2.00	19.4	7.58	4.79	17.0	142	21.1	7.83	4.36	2.76	1.55	0.78
Max.	5.20	119	19	7.15	53	304	39	13	6.10	4.60	2.65	1.75
Min.	1.20	2.01	4.00	3.25	3.85	29	11	5.80	2.95	1.62	0.96	0.24
Runoff – MCM.	5.184	51.858	19.639	12.826	45.554	368.496	56.592	20.295	11.686	7.404	3.761	2.092

WATER YEAR 1977 : Max. 304 Min. 0.24 Mean 19.2 Annual Runoff 605.387 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sept. 8	09.00	208.36	308				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
CHI RIVER BASIN

Nam Yang at Ban Nong Saeng Thung, Roi Et (E. 33A)

Location: Lat. 16°-20'-01" N., Long. 104°-01'-18" E., on left bank about 1 kilometer south-east of Ban Nong Saeng Thung, and 150 meters downstream from confluence with Nong Saeng, Amphoe Phon Thong, Roi Et.

Drainage Area: 2,599 Sq.km.

Type of Gage: Water-stage recorder.

Zero Gage at Bottom at: + 133.97 m. (M.S.L.)

Bench Mark: B.M. - H.S.

Location: Infront of E33A station office.
Elevation: + 143.700 m. (M.S.L.)

Gage Reading Frequency: Recording

Basis of Mean Daily Gage Height: Arithmetic mean of 24 hourly readings.

Period of Available Gage Records: 1961 to date.

Rating Operation:

Period of Rating: 1961 to date.
Rated by Float: -
Rated by Current Meter: 1961-1968.

Stability of Channel Regimes: Fairly stable by some silting, no shifting adjustment for flow computation.

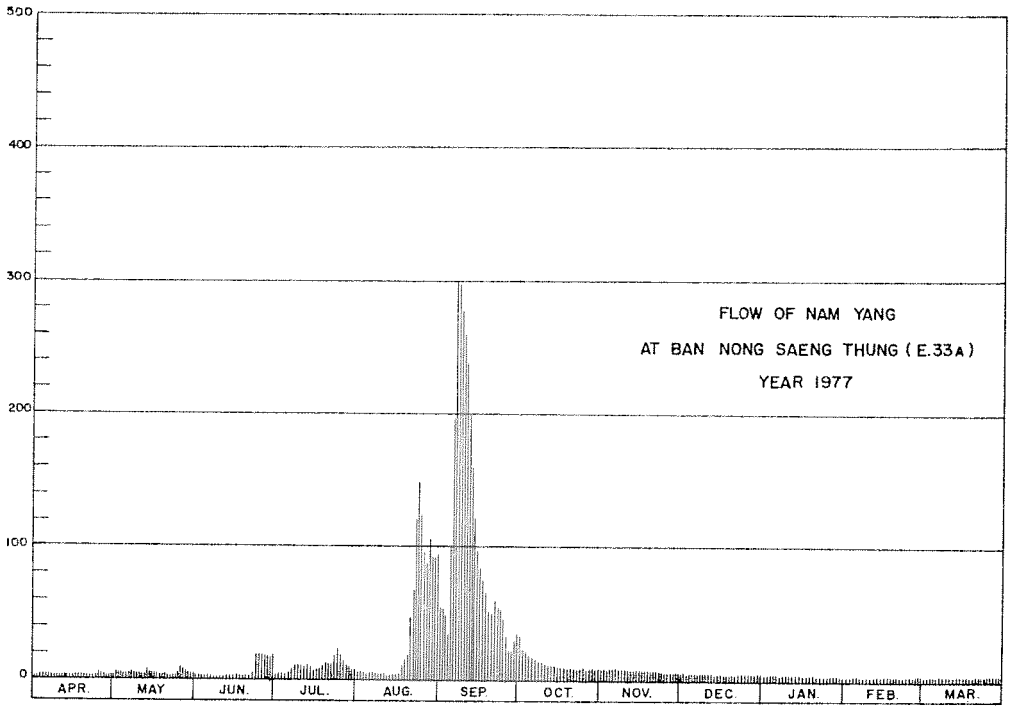
Overbank Flow Conditions: No overbank flow.

General Description: Records fair. Stage-discharge relation defined by 1,593 discharge measurements made during 1961-1968.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	134.80	134.91	134.96	134.99	135.16	137.23	136.48	135.39	135.18	135.06	135.01	134.99
2	.82	135.19	.91	135.09	.16	.21	.21	.39	.22	.05	.00	135.04
3	.83	135.11	.90	.07	.13	136.97	.02	.38	.16	.09	134.99	.01
4	.86	.03	.89	.06	.08	.55	135.93	.38	.15	.13	135.00	.01
5	.85	.03	.86	.11	.05	139.12	.88	.36	.14	.08	134.99	.00
6	134.85	135.07	134.86	135.17	135.03	142.22	135.80	135.34	135.16	135.05	134.99	135.00
7	.86	.11	.84	.39	.05	.51	.74	.34	.13	.04	.98	.00
8	.86	.11	.82	.60	.06	.45	.69	.32	.14	.07	.96	.00
9	.82	.01	.79	.49	.02	.17	.65	.30	.13	.08	135.02	134.99
10	.82	.00	.80	.52	.02	141.91	.63	.31	.12	.06	.04	.99
11	134.86	135.06	134.83	135.42	135.01	141.57	135.54	135.32	135.12	135.04	135.03	134.99
12	.88	134.97	.86	.31	134.98	140.98	.50	.29	.12	.05	.03	.97
13	.85	135.21	.91	.52	.93	.10	.49	.28	.11	.05	.00	.96
14	.83	.28	.99	.45	.87	139.12	.49	.27	.10	.05	134.99	.96
15	.87	.15	.95	.29	.90	138.48	.49	.28	.10	.05	135.03	.96
16	134.88	135.09	134.92	135.30	134.91	138.14	135.42	135.26	135.11	135.06	135.01	134.98
17	.86	.06	.92	.37	135.12	137.87	.42	.27	.10	.05	.00	135.01
18	.84	.04	.88	.40	.69	.62	.33	.28	.09	.07	134.99	.01
19	.82	134.98	.84	.40	.78	.13	.36	.28	.09	.05	.99	.01
20	.81	134.02	.92	.61	.96	.02	.41	.26	.08	.03	.99	.00
21	134.80	134.90	135.23	135.61	137.02	137.31	135.38	135.27	135.08	135.02	134.99	134.98
22	.80	.86	.03	.54	.63	.39	.36	.24	.08	.03	.99	.96
23	.81	.91	.95	.83	139.46	.19	.34	.24	.07	.03	.99	.95
24	.87	.93	.92	136.08	.88	.17	.34	.23	.07	.01	.99	.95
25	135.15	135.20	.91	.00	.17	136.84	.31	.23	.07	.01	.99	.99
26	135.05	135.38	135.88	135.83	138.53	136.40	135.32	135.22	135.06	135.02	135.00	134.99
27	134.07	.26	.86	.65	.19	.08	.36	.21	.07	.02	.01	.99
28	.98	.21	.86	.48	.73	.08	.37	.19	.09	.02	.02	.96
29	.94	.13	.85	.35	.39	.40	.38	.19	.10	.01	-	.98
30	.91	.06	.89	.28	.32	.56	.41	.18	.10	.03	-	.96
31	-	.11	-	.24	.40	-	.41	-	.11	.02	-	.97
Mean	134.87	135.07	135.16	135.40	136.05	138.72	135.56	135.28	135.11	135.04	135.00	134.98
Max.	135.15	135.38	135.95	136.08	139.88	142.51	136.48	135.33	135.22	135.13	135.04	135.04
Min.	134.80	134.86	134.79	134.99	134.87	136.08	135.31	135.18	135.06	135.01	134.96	134.95

WATER YEAR 1977 : Max. 142.51 m. Min. 134.79 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	1.80	2.52	3.12	3.48	5.52	54	32	9.04	5.76	4.32	3.72	3.48
2	1.92	5.88	2.52	4.68	5.52	53	25	9.04	6.32	4.20	3.60	4.08
3	1.98	4.92	2.40	4.44	5.16	46	21	8.88	5.52	4.68	3.48	3.72
4	2.16	3.96	2.34	4.32	4.56	34	19	8.88	5.40	5.16	3.60	3.72
5	2.10	3.96	2.16	4.92	4.20	119	18	8.56	5.28	4.56	3.48	3.60
6	2.10	4.44	2.16	5.64	3.96	278	16	8.24	5.52	4.20	3.48	3.60
7	2.16	4.92	2.04	9.04	4.20	301	15	8.24	5.16	4.08	3.36	3.60
8	2.16	4.92	1.92	12	4.32	296	14	7.92	5.28	4.44	3.12	3.60
9	1.92	3.72	1.74	11	3.84	274	13	7.60	5.16	4.56	3.84	3.48
10	1.92	3.60	1.80	11	3.84	256	13	7.76	5.04	4.32	4.08	3.48
11	2.16	4.32	1.98	9.52	3.72	233	11	7.92	5.04	4.08	3.96	3.48
12	2.28	3.24	2.16	7.76	3.36	199	11	7.44	5.04	4.20	3.96	3.24
13	2.10	6.16	2.52	11	2.76	158	11	7.28	4.92	4.20	3.60	3.12
14	1.98	7.28	3.48	10	2.22	119	11	7.12	4.80	4.20	3.48	3.12
15	2.82	5.40	3.00	7.44	2.40	96	11	7.28	4.80	4.20	3.96	3.12
16	2.28	4.68	2.64	7.60	2.52	84	9.52	6.96	4.92	4.32	3.72	3.36
17	2.16	4.32	2.64	8.72	5.04	74	9.52	7.12	4.80	4.20	3.60	3.72
18	2.04	4.08	2.28	9.20	14	66	8.08	7.28	4.68	4.44	3.48	3.72
19	1.92	3.36	2.04	11	16	51	8.56	7.28	4.68	4.20	3.48	3.72
20	1.86	3.84	2.64	12	20	48	9.36	6.96	4.56	3.96	3.48	3.60
21	1.80	2.40	6.48	12	48	56	8.88	7.12	4.56	3.84	3.48	3.36
22	1.80	2.16	3.96	11	66	59	8.56	6.64	4.56	3.96	3.48	3.12
23	1.86	2.52	19	17	132	53	8.24	6.64	4.44	3.96	3.48	3.12
24	2.22	2.76	19	22	149	52	8.24	6.48	4.44	3.72	3.48	3.00
25	5.40	6.00	19	21	121	42	7.76	6.48	4.44	3.72	3.48	3.48
26	4.20	8.88	18	17	98	30	7.92	6.32	4.32	3.84	3.60	3.48
27	3.24	6.96	17	13	86	22	8.56	6.16	4.44	3.84	3.72	3.48
28	3.36	6.16	17	10	105	22	8.72	5.88	4.68	3.84	3.84	3.12
29	2.88	5.16	17	8.40	93	30	8.88	5.88	4.80	3.72	–	3.36
30	2.52	4.32	18	7.28	91	34	9.36	5.76	4.80	3.96	–	3.12
31	–	4.92	–	6.64	94	–	9.36	–	4.92	3.84	–	3.24
Total	70.50	141.76	202.02	310.08	1,200.14	3,239	380.52	220.16	153.08	128.76	94.04	113.68
Mean	2.35	4.57	6.73	10.0	38.7	108	12.3	7.33	4.93	4.15	3.35	3.66
Max.	5.40	8.88	19	22	149	301	32	9.04	6.32	5.16	4.08	4.08
Min.	1.80	2.16	1.74	3.48	2.22	22	7.76	5.76	4.32	3.72	3.12	3.00
Runoff - MCM.	6.091	12.248	17.454	26.791	103.692	279.850	32.877	19.022	13.226	11.125	8.125	9.822

WATER YEAR 1977 : Max. 301 Min. 1.74 Mean 17.1 Annual Runoff 540.323 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sept. 7		142.52	302				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
CHI RIVER BASIN

Lam Pao at Ban Nong Song Hong, Kalasin (E. 34)

Location: Lat. 16°-35'-52" N., Long. 103°-27'-15" E., on right bank 1 kilometer downstream from Lam Pao Damsite, 2.5 kilometers upstream from the confluence with Huai Yang, Amphoe Muang, Kalasin.

Drainage Area: 5,542 Sq.km.

Type of Gage: Staff gage.

Zero Gage at Bottom at: + 138.00 m. (M.S.L.)

Bench Mark: B.M. – RID No. 9

Location: On right bank infront of the camp of station E34.
Elevation: + 150.216 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: 1962 to date.

Rating Operation:

Period of Rating: 1963-1973.
Rated by Float: –
Rated by Current Meter: 1963-1973.

Stability of Channel Regimes: Stable, no shifting adjustment for flow computation.

Overbank Flow Conditions: No overbank flow.

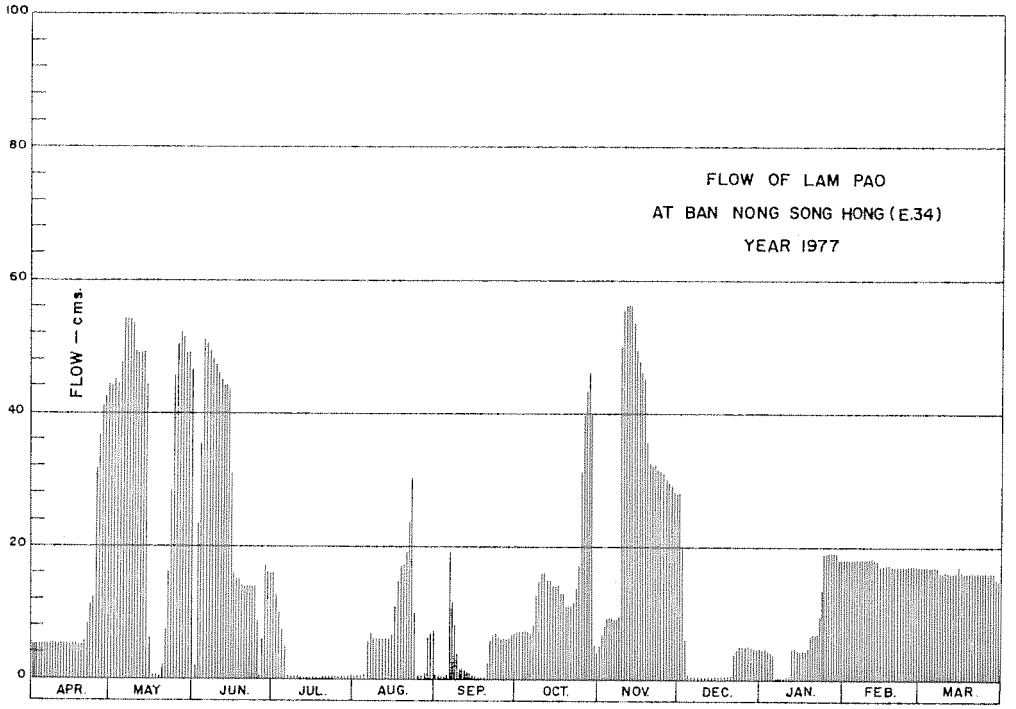
General Description: Records fair. Stage-discharge relation defined by 13 discharge measurements made in 1973.

Remarks: Gage height and discharge record for periods of no flow are omitted.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	139.43	140.50	139.22	139.83			139.52	139.45	140.14	139.40	139.90	139.85
2	.43	.52	.69	.70			.52	.50	139.81	.40	.90	.85
3	.43	.51	140.32	.54		139.00	.52	.58	.20	.38	.90	.85
4	.43	.57	.64	.40		.22	.52	.60	.15	.37	.89	.85
5	.43	.70	.65		139.25	.42	.51	.60	.10	.36	.89	.85
6	139.43	140.71	140.63		139.46	139.93	139.51	139.59	139.10	139.04	139.89	139.85
7	.43	.71	.60		.50	.65	.57	.59	.05		.89	.85
8	.43	.70	.58		.48	.40	.76	.60	.00		.89	.84
9	.43	.68	.56		.48	.21	.80	140.71			.89	.84
10	.43	.60	.54		.47	.24	.82	.75			.88	.84
11	139.43	140.60	140.52		139.46	139.20	139.82	140.75		139.11	139.88	139.84
12	.43	.60	.50		.48	.20	.80	.74		.40	.88	.84
13	.43	.60	.50		.47	.18	.80	.73		.40	.88	.84
14	.43	.50	.50		.47	.15	.78	.68		.39	.87	.84
15	.43	139.06	.21		.52	.14	.77	.59		.38	.87	.85
16	139.43		139.84		139.72	139.13	139.76	140.54		139.38	139.87	139.84
17	.43		.80		.81	.09	.75	.48		.38	.87	.83
18	.42		.79		.85	.05	.73	.38		.38	.87	.83
19	.42		.78		.86	.12	.68	.29		.49	.87	.83
20	.43	139.27	.78		.91	.39	.67	.25	139.05	.50	.86	.83
21	139.49	139.55	139.78		139.97	139.46	139.65	140.24	139.36	139.50	139.86	139.83
22	.65	.82	.75		140.20	.50	.68	.24	.40	.50	.86	.83
23	.69	140.15	.75		139.11	.51	.76	.23	.42	.69	.86	.83
24	.95	.52	.75		.07	.48	.82	.22	.42	.91	.86	.83
25	140.25	.61	.50		.13	.48	140.37	.21	.42	.91	.85	.83
26	140.36	140.65	139.10		139.04	139.48	140.46	140.20	139.42	139.91	139.85	139.83
27	.45	.66	.54		.03	.48	.51	.18	.41	.91	.85	.83
28	.47	.65	.85		.47	.49	.55	.17	.41	.91	.85	.83
29	.50	.60	.84		.50	.50	.41	.16	.40	.91	–	.82
30	.50	.60	.83		.53	.51	139.41	.15	.40	.90	–	.82
31	–	.54	–		.15	–	.35	–	.40	.90	–	.82
Mean	139.66		140.04				139.79	140.18			139.87	139.84
Max.	140.50	140.71	140.65	139.83	140.20	139.93	140.55	140.75	140.14	139.91	139.90	139.85
Min.	139.42		139.10				139.35	139.45			139.85	139.82

WATER YEAR 1977 : Max. m. Min. m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	5.33	44	1.52	16			7.30	5.75	28	4.70	18	17
2	5.33	45	12	12			7.30	6.80	15	4.70	18	17
3	5.33	44	35	7.80		0.00	7.30	8.80	1.20	4.32	18	17
4	5.33	47	51	4.70		1.52	7.30	9.30	0.60	4.13	18	17
5	5.33	54	51		2.00	5.12	7.05	9.30	0.00	3.94	18	17
6	5.33	54	50		5.96	19	7.05	9.05		0.00	18	17
7	5.33	54	49		6.80	11	8.55	9.05		–	18	17
8	5.33	54	48		6.38	4.70	14	9.30		–	18	16
9	5.33	53	47		6.38	1.36	15	54		–	18	16
10	5.33	49	46		6.17	1.84	16	56		–	18	16
11	5.33	49	45		5.96	1.20	16	56		0.12	18	16
12	5.33	49	44		6.38	1.20	15	56		4.70	18	16
13	5.33	49	44		6.17	0.96	15	55		4.70	18	16
14	5.33	44	44		6.17	0.60	14	53		4.51	17	16
15	5.33	0.00	30		7.30	0.48	14	48		4.32	17	17
16	5.33		16		13	0.36	14	46		4.32	17	16
17	5.33		15		15	0.00	13	43		4.32	17	16
18	5.12		15		17	0.00	13	38		4.32	17	16
19	5.12		14		17	0.24	11	34		6.59	17	16
20	5.33	2.32	14		19	4.51	11	32	0.00	6.80	17	16
21	6.59	8.05	14		31	6.17	11	32	3.94	6.80	17	16
22	11	16	14		30	6.80	11	32	4.70	6.80	17	16
23	12	28	14		0.12	7.05	14	31	5.12	12	17	16
24	20	45	14		0.00	6.38	16	31	5.12	19	17	16
25	32	49	6.80		0.36	6.38	33	30	5.12	19	17	16
26	37	51	0.00		0.00	6.38	42	30	5.12	19	17	16
27	41	52	7.80		0.00	6.38	44	29	4.91	19	17	16
28	42	51	17		6.17	6.59	46	29	4.91	19	17	16
29	44	49	16		6.80	6.80	39	28	4.70	19	–	15
30	44	49	16		7.55	7.05	4.91	28	4.70	18	–	15
31	–	46	–		0.60	–	3.75	–	4.70	18	–	15
Total	395.77	1,135.37	791.12	40.50	248.27	120.27	497.51	938.35	97.84	242.09	489.00	501.00
Mean	13.2	36.6	26.4	1.31	8.01	4.00	16.0	31.3	3.16	9.31	17.5	16.2
Max.	44	54	51	16	30	19	46	56	28	19	18	17
Min.	5.12	0.00	0.00	0.00	0.00	0.00	3.75	5.75	0.00	0.00	17	15
Runoff – mcm.	34.194	98.096	68.353	3.499	21.450	10.391	42.985	81.073	8.453	20.916	42.250	43.286

WATER YEAR 1977 : Max. 56 Min. 0.00 Mean 15.1 Annual Runoff 474.948 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Nov. 10	18.00	140.75	56				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
CHI RIVER BASIN

Huai Prong Khun Phet at Ban Thap Nai, Chaiyaphum (E. 35A)

Location: Lat. 15°-44'-27" N., Long. 101°-38'-07" E., on left bank about 6 kilometers upstream from E35 station at Ban Nong Bua Noi, Amphoe Chatturat, Chaiyaphum.

Drainage Area: 422 Sq.km.

Type of Gage: Water-stage recorder.

Zero Gage at Bottom at: + 211.00 m. (M.S.L.)

Bench Mark: B.M. - H.S.

Location:
Elevation:

Gage Reading Frequency: Recording

Basis of Mean Daily Gage Height: Arithmetic mean of 24 hourly 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, no shifting adjustment for flow computation.

Overbank Flow Conditions: No overbank flow.

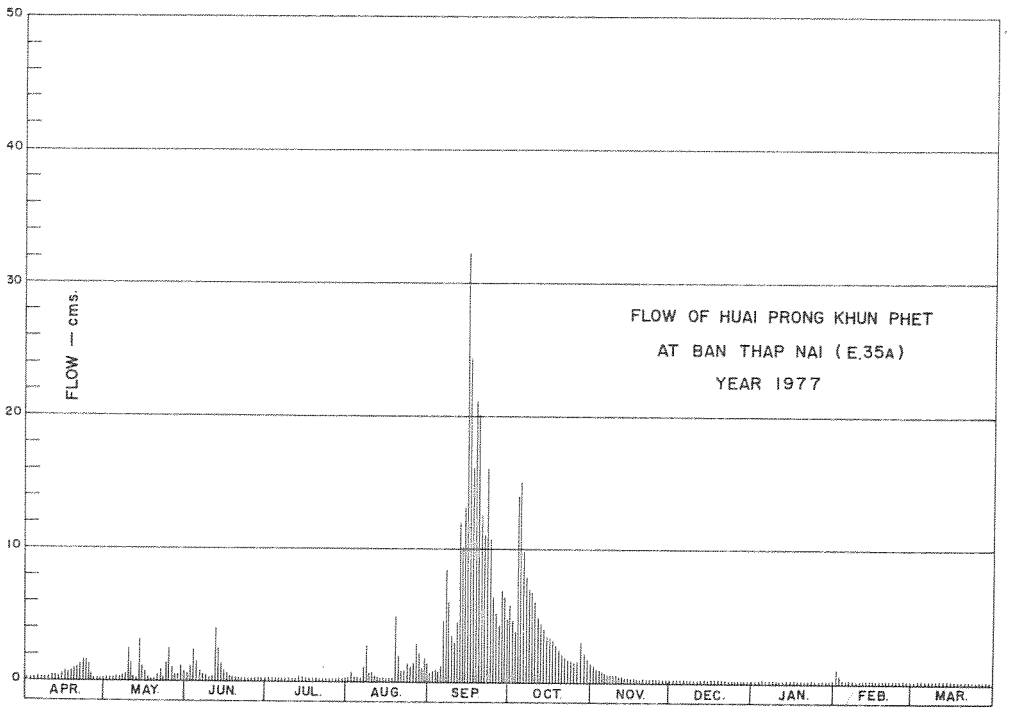
General Description: Records fair. Stage-discharge relation defined by 168 discharge measurements made in 1977.

Remarks: No gage height records on April 11-22, 1977.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	211.72	212.02	212.31	212.16	212.15	212.41	213.26	212.54	212.16	212.12	212.09	211.92
2	.71	.00	.49	.18	.40	.41	.06	.50	.14	.11	.46	.91
3	.70	211.97	.77	.20	.31	.45	212.97	.47	.14	.09	.24	.91
4	.68	212.12	.61	.16	.23	.44	214.13	.43	.14	.09	.15	.89
5	.67	.18	.46	.14	.16	.55	.20	.42	.12	.09	.11	.89
6	211.64	212.14	212.37	212.13	212.13	213.37	213.71	212.40	212.11	212.08	212.09	211.88
7	.59	.20	.32	.13	.48	.58	.53	.39	.12	.08	.08	.87
8	.52	.26	.28	.13	.83	.11	.44	.38	.12	.07	.08	.86
9	.41	.30	.24	.13	.34	212.91	.40	.37	.12	.07	.07	.85
10	.29	.76	.21	.13	.40	.84	.36	.36	.11	.07	.06	.83
11		212.39	212.26	212.11	212.31	213.11	213.19	212.34	212.11	212.07	212.06	211.81
12		.19	213.00	.10	.23	.98	.09	.32	.11	.07	.05	.81
13		.27	212.69	.09	.18	.86	.06	.31	.10	.06	.05	.79
14		.87	.59	.09	.15	214.27	.00	.29	.10	.06	.05	.78
15		.48	.40	.09	.12	215.40	212.92	.28	.10	.06	.05	.77
16		212.26	212.34	212.10	212.11	214.61	212.92	212.27	212.09	212.06	212.05	211.77
17		.18	.29	.11	.10	.26	.89	.25	.08	.06	.05	.75
18		.12	.25	.09	.09	.70	.82	.24	.08	.06	.04	.74
19		.10	.24	.09	213.16	.57	.77	.23	.08	.06	.03	.72
20		.09	.22	.08	212.64	.05	.71	.22	.08	.06	.03	.71
21		212.39	212.19	212.08	212.41	213.86	212.68	212.22	212.08	212.06	212.03	211.68
22		.44	.17	.09	.42	214.29	.65	.21	.07	.06	.01	.68
23	212.43	.18	.16	.09	.54	213.88	.62	.20	.07	.06	.01	.68
24	.58	.54	.14	.08	.51	.42	.59	.19	.06	.06	.01	.68
25	.18	.76	.13	.09	.48	.23	.59	.19	.07	.06	211.98	.68
26	212.11	212.49	212.12	212.07	212.65	213.12	212.54	212.17	212.07	212.05	211.96	211.66
27	.07	.35	.11	.07	.83	.05	.65	.16	.10	.05	.95	.65
28	.07	.29	.10	.23	.64	.40	.86	.17	.13	.05	.94	.64
29	.06	.28	.11	.15	.48	.32	.73	.17	.16	.04	-	.64
30	.04	.48	.26	.12	.40	.12	.65	.16	.13	.04	-	.64
31	-	.39	-	.12	.41	-	.59	-	.12	.04	-	.63
Mean		212.31	212.33	212.12	212.40	213.52	213.02	212.29	212.10	212.07	212.06	211.76
Max.		212.87	213.00	212.23	213.16	215.40	214.20	212.54	212.16	212.12	212.46	211.92
Min.		211.97	212.10	212.07	212.09	212.41	212.54	212.16	212.06	212.04	211.94	211.63

WATER YEAR 1977 : Max. 215.40 m. Min. 211.63 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.00	0.02	0.41	0.16	0.15	0.74	5.68	1.30	0.16	0.12	0.09	0.00
2	0.00	0.00	1.06	0.18	0.78	0.74	4.22	1.10	0.14	0.11	0.94	0.00
3	0.00	0.00	2.45	0.20	0.43	0.90	3.62	0.98	0.14	0.09	0.28	0.00
4	0.00	0.12	1.65	0.16	0.26	0.86	14	0.82	0.14	0.09	0.15	0.00
5	0.00	0.18	0.94	0.14	0.16	1.35	15	0.78	0.12	0.09	0.11	0.00
6	0.00	0.14	0.61	0.13	0.13	6.56	9.60	0.70	0.11	0.08	0.09	0.00
7	0.00	0.20	0.46	0.13	1.02	8.32	7.87	0.67	0.12	0.08	0.08	0.00
8	0.00	0.32	0.36	0.13	2.78	4.57	7.12	0.64	0.12	0.07	0.08	0.00
9	0.00	0.40	0.28	0.13	0.52	3.26	6.80	0.61	0.12	0.07	0.07	0.00
10	0.00	2.40	0.22	0.13	0.70	2.84	6.48	0.58	0.11	0.07	0.06	0.00
11		0.67	0.32	0.11	0.43	4.57	5.13	0.52	0.11	0.07	0.06	0.00
12		0.19	3.80	0.10	0.26	12	4.43	0.46	0.11	0.07	0.05	0.00
13		0.34	2.05	0.09	0.18	11	4.22	0.43	0.10	0.06	0.05	0.00
14		3.02	1.20	0.09	0.15	16	3.80	0.38	0.10	0.06	0.05	0.00
15		1.02	0.70	0.09	0.12	32	3.32	0.36	0.10	0.06	0.05	0.00
16		0.32	0.50	0.10	0.11	20	3.32	0.34	0.09	0.06	0.05	0.00
17		0.18	0.38	0.11	0.10	16	3.14	0.30	0.08	0.06	0.05	0.00
18		0.12	0.30	0.09	0.09	21	2.72	0.28	0.08	0.06	0.04	0.00
19		0.10	0.28	0.09	4.92	20	2.45	0.26	0.08	0.06	0.03	0.00
20		0.09	0.24	0.08	1.80	13	2.15	0.24	0.08	0.06	0.03	0.00
21		0.67	0.19	0.08	0.74	11	2.02	0.24	0.08	0.06	0.03	0.00
22		0.86	0.17	0.09	0.78	16	1.85	0.22	0.07	0.06	0.01	0.00
23	0.82	0.18	0.16	0.09	1.30	11	1.70	0.20	0.07	0.06	0.01	0.00
24	1.50	1.30	0.14	0.08	1.15	6.96	1.55	0.19	0.06	0.06	0.01	0.00
25	1.18	2.40	0.13	0.09	1.02	5.44	1.55	0.19	0.07	0.06	0.00	0.00
26	0.11	1.06	0.12	0.07	1.85	4.64	1.30	0.17	0.07	0.05	0.00	0.00
27	0.07	0.55	0.11	0.07	2.78	4.15	1.85	0.16	0.10	0.05	0.00	0.00
28	0.07	0.38	0.10	0.26	1.80	6.80	2.96	0.17	0.13	0.05	0.00	0.00
29	0.06	0.36	0.11	0.15	1.02	6.16	2.25	0.17	0.16	0.04	–	0.00
30	0.04	1.02	0.26	0.12	1.70	4.64	1.85	0.16	0.13	0.04	–	0.00
31		0.67	–	0.12	0.74	–	1.55	–	0.12	0.04	–	0.00
Total		19.28	19.70	3.66	28.97	272.50	135.50	13.62	3.27	2.06	2.47	0.00
Mean		0.62	0.66	0.12	0.93	9.08	4.37	0.45	0.10	0.07	0.09	0.00
Max.		3.02	3.80	0.26	4.92	32	15	1.30	0.16	0.12	0.94	0.00
Min.		0.00	0.10	0.07	0.09	0.74	1.30	0.16	0.06	0.04	0.00	0.00
Runoff – MCM.		1.666	1.702	0.316	2.703	23.544	11.707	1.177	0.282	0.178	0.213	0.00

WATER YEAR 1977 : Max. 32 Min. 0.00 Mean Annual Runoff mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sept. 18	21.00	215.95	41				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
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 E36 station at Ban Tha Bon, Amphoe Chathurat, Chaiyaphum.

Drainage Area: 290 Sq.km.

Type of Gage: Water-stage recorder.

Zero Gage at Bottom at: + 211.25 m. (M.S.L.)

Bench Mark: B.M. - H.S.

Location: On right bank along the measuring line.
Elevation: + 217.647 m. (M.S.L.)

Gage Reading Frequency: Recording

Basis of Mean Daily Gage Height: Arithmetic mean of 24 hourly readings.

Period of Available Gage Records: 1970 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, no shifting adjustment for flow computation.

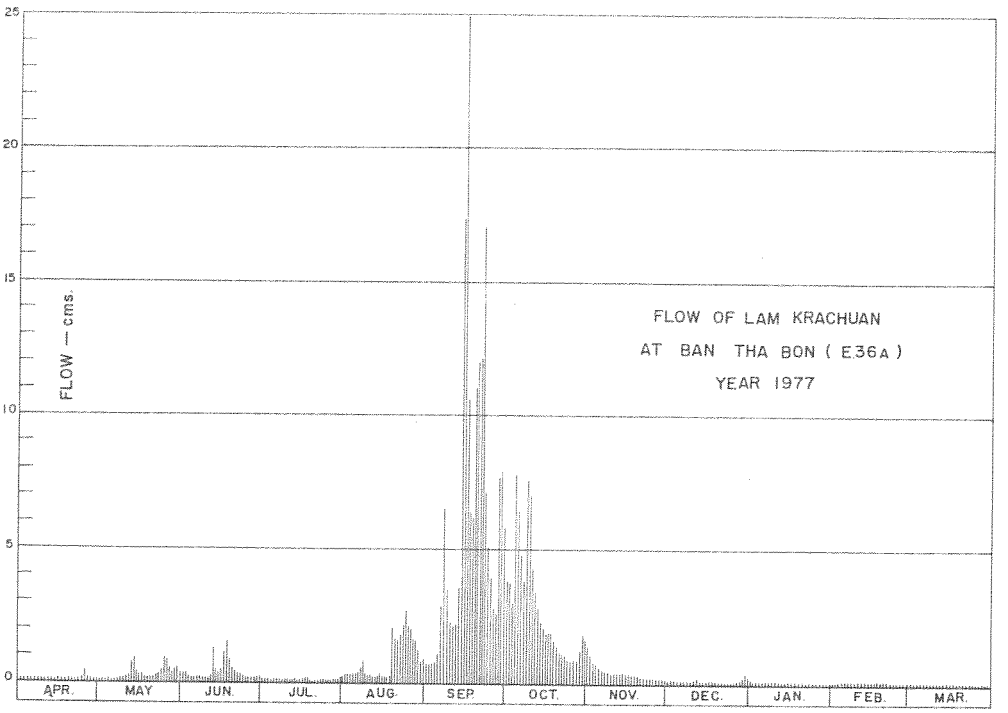
Overbank Flow Conditions: No overbank flow.

General Description: Records good. Stage-discharge relation defined by 200 discharge measurements made in 1977.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	212.75	213.10	213.25	213.15	213.24	213.35	213.76	213.44	213.21	213.20	213.09	213.010
2	.74	.09	.26	.15	.23	.36	.75	.40	.21	.20	.07	212.99
3	.73	.22	.23	.15	.26	.37	.67	.37	.21	.19	.06	.98
4	.73	.18	.21	.16	.24	.35	214.08	.34	.21	.17	.16	.97
5	.73	.16	.21	.16	.25	.42	.01	.33	.20	.17	.21	.97
6	212.72	213.14	213.20	213.15	213.25	213.65	213.89	213.32	213.20	213.17	213.20	212.96
7	.71	.13	.19	.15	.31	.99	.79	.32	.20	.16	.19	.95
8	.70	.13	.18	.15	.39	.75	.75	.30	.19	.16	.19	.95
9	.69	.14	.18	.14	.24	.63	214.06	.29	.19	.16	.17	.95
10	.68	.15	.17	.13	.22	.56	.02	.29	.19	.15	.16	.95
11	212.68	213.21	213.16	213.12	213.24	213.57	213.79	213.28	213.20	213.15	213.16	212.95
12	.67	.17	.47	.12	.21	.58	.68	.28	.21	.15	.15	.95
13	.66	.35	.37	.12	.22	.76	.63	.28	.18	.14	.14	.94
14	.66	.40	.27	.15	.24	214.37	.59	.27	.17	.14	.14	.91
15	.65	.25	.26	.12	.23	215.06	.57	.26	.17	.14	.14	.90
16	212.64	213.22	213.35	213.13	213.21	214.34	213.54	213.26	213.16	213.14	213.13	212.89
17	.63	.23	.50	.20	.21	213.99	.55	.25	.16	.13	.11	.87
18	.64	.20	.49	.16	.22	.95	.52	.25	.16	.13	.09	.86
19	.63	.19	.35	.10	.58	214.27	.49	.25	.16	.12	.09	.85
20	.63	.18	.29	.08	.55	.32	.46	.24	.15	.12	.07	.85
21	212.63	213.16	213.26	213.07	213.49	214.34	213.44	213.23	213.15	213.11	213.06	212.84
22	.63	.25	.23	.08	.52	.60	.43	.22	.15	.11	.06	.84
23	.63	.29	.21	.13	.57	.00	.42	.22	.15	.11	.05	.83
24	.69	.24	.20	.14	.63	213.84	.40	.22	.15	.11	.04	.82
25	213.31	.38	.19	.14	.58	.76	.38	.22	.15	.10	.04	.81
26	213.19	213.40	213.17	213.13	213.56	213.66	213.39	213.22	213.16	213.10	213.03	212.80
27	.15	.32	.18	.12	.49	.63	.38	.22	.17	.10	.03	.79
28	.13	.28	.17	.28	.50	214.05	.40	.21	.17	.10	.02	.79
29	.11	.28	.17	.40	.42	.09	.47	.21	.25	.10		.79
30	.09	.36	.21	.42	.38	213.94	.54	.21	.28	.10		.79
31		.28		.29	.39		.49		.22	.09		.78
Mean	212.77	213.23	213.25	213.16	213.36	213.89	213.62	213.27	213.18	213.14	213.11	212.89
Max.	213.31	213.40	213.50	213.42	213.63	215.06	214.08	213.44	213.28	213.20	213.21	213.91
Min.	212.63	213.09	213.16	213.07	213.21	213.35	213.38	213.21	213.15	213.09	213.02	212.78

WATER YEAR 1977 : Max. 215 m. Min. 212.63 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.00	0.020	0.28	0.085	0.26	0.65	3.78	1.12	0.18	0.15	0.016	0.00
2		0.016	0.31	0.085	0.23	0.70	3.67	0.86	0.18	0.15	0.008	
3		0.20	0.23	0.095	0.39	0.74	2.88	0.74	0.18	0.14	0.004	
4		0.12	0.18	0.098	0.26	0.65	7.76	0.60	0.18	0.11	0.098	
5		0.098	0.18	0.098	0.28	1.00	6.75	0.56	0.15	0.11	0.18	
6		0.072	0.15	0.085	0.28	2.70	5.23	0.51	0.15	0.11	0.15	
7		0.059	0.18	0.085	0.47	6.49	4.09	0.51	0.15	0.098	0.14	
8		0.059	0.12	0.085	0.83	3.78	3.67	0.42	0.14	0.098	0.14	
9		0.072	0.12	0.072	0.26	2.52	7.50	0.39	0.14	0.098	0.11	
10		0.085	0.11	0.059	0.20	2.01	6.88	0.39	0.14	0.085	0.098	
11		0.18	0.098	0.046	0.26	2.09	4.09	0.37	0.15	0.085	0.098	
12		0.11	1.31	0.046	0.18	2.09	2.98	0.37	0.18	0.085	0.085	
13		0.65	0.74	0.046	0.20	3.78	2.52	0.37	0.12	0.072	0.072	
14		0.88	0.34	0.085	0.26	13	2.16	0.34	0.11	0.072	0.072	
15		0.28	0.31	0.046	0.23	29	2.01	0.31	0.11	0.072	0.072	
16		0.20	0.65	0.059	0.18	12	1.79	0.31	0.098	0.072	0.059	
17		0.23	1.49	0.15	0.18	6.49	1.86	0.28	0.098	0.059	0.033	
18		0.15	1.43	0.098	0.20	6.11	1.64	0.28	0.098	0.059	0.016	
19		0.14	0.65	0.020	2.09	11	1.43	0.28	0.098	0.046	0.016	
20		0.12	0.39	0.012	1.86	12	1.25	0.28	0.085	0.046	0.008	
21		0.098	0.31	0.008	1.43	12	1.12	0.23	0.085	0.033	0.004	
22		0.28	0.23	0.012	1.64	17	1.06	0.20	0.085	0.033	0.004	
23		0.39	0.18	0.059	2.01	6.75	1.00	0.20	0.085	0.033	0.00	
24	0.00	0.28	0.15	0.072	2.52	4.65	0.88	0.20	0.085	0.033		
25	0.47	0.79	0.14	0.072	2.09	3.78	0.79	0.20	0.085	0.020		
26	0.14	0.88	0.11	0.059	1.94	2.79	0.83	0.20	0.098	0.020		
27	0.085	0.51	0.12	0.046	1.43	2.52	0.79	0.20	0.11	0.020		
28	0.059	0.37	0.11	0.37	1.49	7.50	0.88	0.18	0.11	0.020	0.00	
29	0.033	0.37	0.11	0.88	1.00	7.89	1.31	0.18	0.28	0.020		
30	0.016	0.70	0.18	1.00	0.79	5.86	1.79	0.18	0.37	0.020		
31		0.37		0.39	0.83		1.43		0.20	0.016		0.00
Total	0.803	8.779	10.908	4.413	26.19	189.54	85.83	11.28	4.330	2.085	1.483	0.00
Mean	0.12	0.28	0.36	0.14	0.84	6.32	2.77	0.38	0.14	0.067	0.053	0.00
Max.	0.47	0.88	1.49	1.00	2.52	29	7.76	1.12	0.37	0.15	0.18	0.00
Min.	0.00	0.016	0.098	0.008	0.18	0.65	0.79	0.18	0.085	0.016	0.00	0.00
Runoff - MCM.	0.069	0.758	0.942	0.381	2.263	16.376	7.415	0.974	0.374	0.180	0.128	0.00

WATER YEAR 1977 : Max. 29 Min. 0.00 Mean 0.95 Annual Runoff 29.863 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sept. 15	06.00	215.57	45				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
CHI RIVER BASIN

Lam Choen at Ban Don Han, Khon Kaen (E. 38)

Location: Lat. 16°-31'-22" N., Long. 102°-02'-03" E., on right bank at Ban Don Han, Amphoe Chum Phae, Khon Kaen.

Drainage Area: 1,446 Sq.km.

Type of Gage: Staff gage.

Zero Gage at Bottom at: + 212.967 m. (M.S.L.)

Bench Mark: B.M. E38

Location: At staff gage site.
Elevation: + 220.442 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: 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, no shifting adjustment for flow computation.

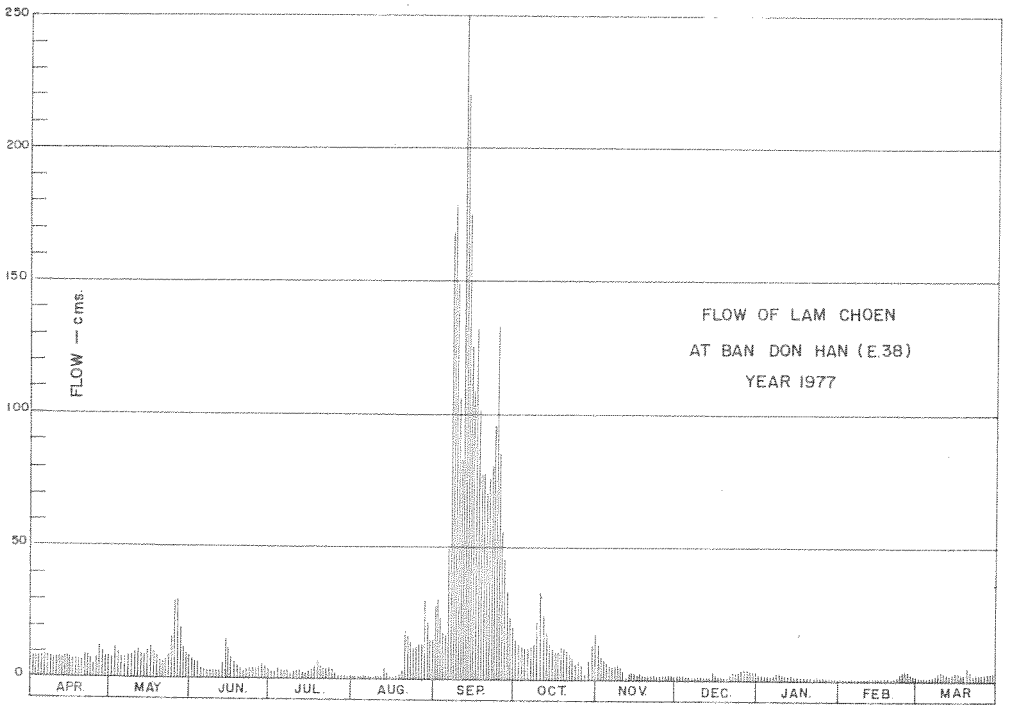
Overbank Flow Conditions: No overbank flow.

General Description: Records fair. Stage-discharge relation defined by 226 discharge measurements made in 1977.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	214.31	214.34	214.27	213.90	213.36	215.54	214.81	214.69	213.72	213.85	213.43	213.70
2	.31	.30	.21	.93	.35	.71	.69	.47	.73	.80	.43	.70
3	.31	.53	.15	.95	.41	.16	.60	.34	.73	.78	.43	.71
4	.31	.44	.03	.94	.41	214.75	.62	.22	.67	.77	.43	.72
5	.32	.35	213.92	.91	.41	215.12	.65	.17	.68	.74	.44	.72
6	214.41	214.31	213.89	213.85	213.35	218.04	214.67	214.12	213.68	213.73	213.46	213.76
7	.39	.35	.90	.84	.39	220.00	.61	.10	.68	.78	.48	.75
8	.33	.46	.91	.82	.37	.06	.78	.22	.67	.93	.51	.87
9	.28	.47	.89	.83	.36	219.23	215.42	.20	.67	.92	.50	.83
10	.33	.52	.88	.84	.35	218.15	.84	213.94	.67	.88	.50	214.03
11	214.32	214.67	213.86	213.83	213.38	219.14	215.55	213.36	213.66	213.80	213.51	213.93
12	.30	.45	.89	.83	.46	220.36	.05	.35	.65	.73	.53	.82
13	.31	.42	214.32	.82	214.00	.16	214.80	.85	.65	.67	.55	.76
14	.31	.46	.85	.85	213.76	219.52	.71	.88	.67	.66	.58	.83
15	.28	.58	.45	.91	.65	.04	.64	.86	.83	.65	.62	.91
16	214.28	214.66	214.36	213.96	213.57	219.59	214.52	213.82	213.77	213.63	213.62	213.91
17	.27	.54	.22	214.08	.67	.17	.51	.86	.74	.62	.56	.91
18	.27	.47	.05	.26	.76	217.93	.67	.82	.65	.63	.54	.79
19	.26	.35	213.95	.11	.79	.98	.63	.82	.64	.63	.54	.81
20	.28	.21	.93	.02	214.88	.61	.61	.82	.63	.59	.54	214.06
21	214.40	214.20	213.92	214.01	215.01	217.84	214.49	213.82	213.66	213.65	213.53	213.91
22	.47	.36	.97	.00	214.84	218.04	.35	.78	.91	.73	.56	.81
23	.32	.45	214.00	213.98	.64	.84	.24	.80	.88	.65	.93	.83
24	.03	.79	213.96	.94	.60	219.60	.22	.78	.91	.66	.93	.81
25	.27	215.62	.93	.87	.71	217.88	.25	.79	.94	.61	.94	.79
26	214.36	215.67	213.98	213.75	214.63	216.73	214.10	213.79	214.00	213.56	213.95	213.83
27	.62	.20	214.15	.53	215.03	.15	213.62	.79	.00	.51	.85	.93
28	.45	214.83	.11	.37	.62	215.68	214.18	.80	213.96	.48	.78	.87
29	.39	.61	.01	.40	.22	.30	.36	.78	.88	.47	-	.89
30	.35	.47	213.92	.39	214.85	.02	.60	.82	.86	.44	-	.94
31	-	.33	-	.36	.86	-	215.00	-	.85	.44	-	.89
Mean	214.33	214.56	214.06	213.84	214.05	217.78	214.64	213.93	213.76	213.68	213.59	213.84
Max.	214.62	215.67	214.85	214.26	215.62	220.36	215.84	214.69	214.00	213.93	213.95	214.06
Min.	214.03	214.20	213.86	213.36	213.35	214.75	213.62	213.35	213.63	213.44	213.43	213.70

WATER YEAR 1977 : Max. 220.36 m. Min. 213.35 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	8.02	8.38	7.54	3.60	0.32	27	15	13	2.16	3.20	0.52	2.00
2	8.02	7.90	6.82	3.90	0.30	39	13	9.94	2.24	2.80	0.52	2.00
3	8.02	11	6.15	4.10	0.44	20	12	8.34	2.24	2.64	0.52	2.08
4	8.02	9.58	4.90	4.00	0.44	14	12	6.94	1.82	2.56	0.52	2.16
5	8.14	8.50	3.80	3.70	0.44	20	12	6.37	1.88	2.32	0.56	2.16
6	9.22	8.02	3.52	3.20	0.30	80	12	5.82	1.88	2.24	0.64	2.48
7	8.98	8.50	3.60	3.12	0.38	168	12	5.60	1.88	2.64	0.72	2.40
8	8.28	9.82	3.70	2.96	0.34	178	14	6.94	1.82	3.90	0.86	3.36
9	7.66	9.94	3.52	3.04	0.32	113	24	6.70	1.82	3.80	0.80	3.04
10	8.26	10	3.44	3.12	0.30	82	33	4.00	1.82	3.44	0.80	4.90
11	8.14	12	3.28	3.04	0.36	110	27	0.32	1.76	2.80	0.86	3.90
12	7.90	9.70	3.52	3.04	0.64	263	18	0.30	1.70	2.24	0.98	2.96
13	8.02	9.34	8.14	2.96	5.10	197	14	3.20	1.70	1.82	1.10	2.48
14	8.02	9.82	15	3.20	2.48	128	13	3.44	1.82	1.76	1.28	3.04
15	7.66	11	9.70	3.70	1.70	107	12	3.28	3.04	1.70	1.52	3.70
16	7.66	12	8.62	4.20	1.22	132	10	2.96	2.56	1.58	1.52	3.70
17	7.54	11	6.94	5.40	1.82	111	10	3.28	2.32	1.52	1.16	3.70
18	7.54	9.94	5.10	7.42	2.48	77	12	2.96	1.70	1.58	1.04	2.72
19	7.42	8.50	4.10	5.71	2.72	78	12	2.96	1.64	1.58	1.04	2.88
20	7.62	6.82	3.90	4.80	16	69	12	2.96	1.58	1.34	1.04	5.20
21	9.10	6.70	3.80	4.70	18	75	10	2.96	1.76	1.70	0.98	3.71
22	9.94	8.62	4.30	4.60	15	80	8.50	2.64	3.70	2.24	1.16	2.88
23	8.14	9.70	4.60	4.40	12	101	7.18	2.80	3.44	1.70	3.90	3.04
24	4.90	14	4.20	4.00	12	133	6.94	2.64	3.70	1.76	3.90	2.88
25	7.94	29	3.90	3.36	13	76	7.30	2.72	4.00	1.46	4.00	2.72
26	8.62	30	4.40	2.40	12	51	5.60	2.72	4.60	1.16	4.10	3.04
27	12	21	6.15	9.98	18	39	1.52	2.72	4.60	0.86	3.20	3.90
28	9.70	15	5.71	0.34	29	30	6.48	2.80	4.20	0.72	2.64	3.36
29	8.98	12	4.70	0.40	21	23	8.62	2.64	3.44	0.68	–	3.52
30	8.50	9.94	3.80	0.38	15	18	12	2.16	3.28	0.56	–	4.00
31	–	8.26	–	0.32	15	–	18	–	3.20	0.56	–	3.52
Total	247.58	355.98	160.85	104.09	218.10	2,630	391.14	126.15	79.30	60.86	41.88	97.43
Mean	8.25	11.5	5.36	3.36	7.03	87.7	12.6	4.20	2.56	1.96	1.49	3.14
Max.	12	30	15	7.42	29	263	33	13	4.60	3.90	4.10	5.20
Min.	4.90	6.70	3.28	0.32	0.30	14	1.52	0.30	1.58	0.56	0.52	2.00
Runoff – mcm.	4.391	30.757	13.897	8.993	18.844	227.232	33.794	10.899	6.851	5.258	3.618	8.418

WATER YEAR 1977 : Max. 263 Min. 0.30 Mean 12.4 Annual Runoff 389.954 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sept.12	18.00	220.41	290				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
CHI RIVER BASIN

Huai Khlo at Ban Don Han, Khon Kaen (E. 38A)

Location: Lat. 16°-31'-29" N., Long. 102°-02'-16" E., on right bank about 1 kilometer upstream from E38 station at Ban Don Han, Amphoe Chum Phae, Khon Kaen.

Drainage Area: 53 Sq.km.

Type of Gage: Staff gage.

Zero Gage at Bottom at: + 217.905 m. (M.S.L.)

Bench Mark: B.M. - H.S.

Location: Under Khlo tree.
Elevation: + 220.220 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: 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: Rather unstable, no shifting adjustment but periodic curves are used for flow computation.

Overbank Flow Conditions: No overbank flow.

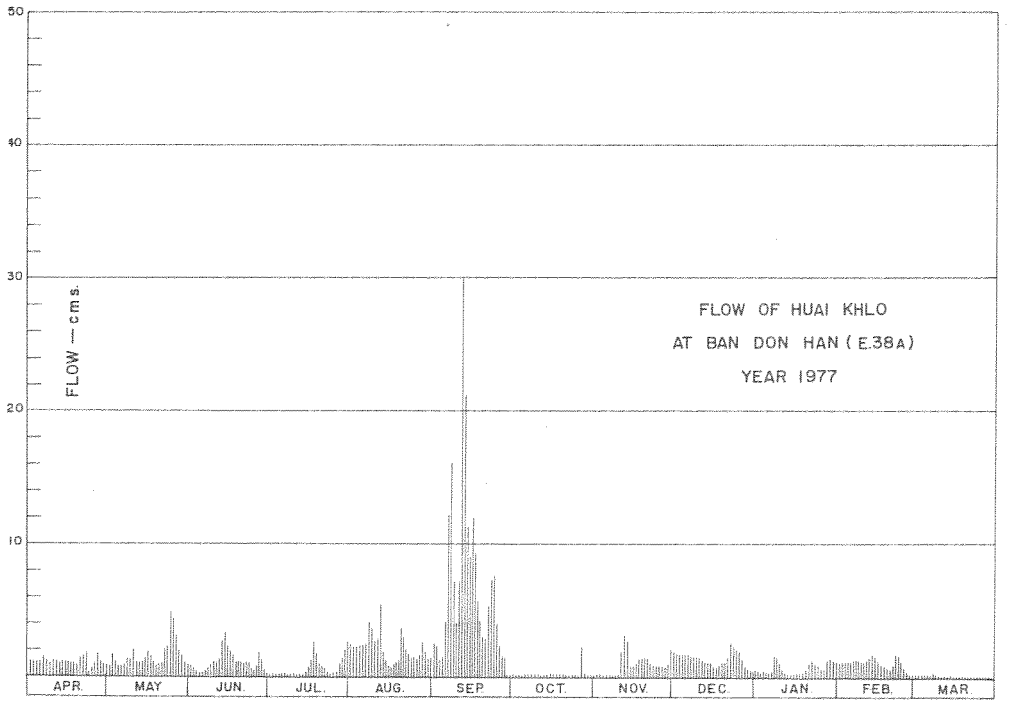
General Description: Records fair. Stage-discharge relation defined by 154 discharge measurements made in 1977. Flow regulated by weir which built by the co-operation.

Remarks: Gage height and discharge record for periods of no flow are omitted.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	219.23	219.12	219.15	218.70	219.66	219.68			219.36	219.06	219.31	218.90
2	.23	.11	.11	.82	.66	.69			.34	.00	.34	.98
3	.22	.33	.07	.83	.64	.50			.34	218.99	.35	.90
4	.22	.22	218.91	.78	.64	.37			.33	219.02	.35	219.00
5	.22	.13	.84	.85	.69	.50			.34	218.97	.36	218.96
6	219.28	219.12	219.01	218.96	219.67	220.24			219.33	218.95	219.37	218.98
7	.25	.15	.08	.86	.80	.79			.31	219.04	.41	.88
8	.20	.24	.13	.87	.92	.77			.31	.31	.43	.77
9	.18	.25	.18	.86	.83	.23			.29	.25	.38	
10	.24	.27	.22	.80	.69	219.91			.29	.14	.36	
11	219.22	219.37	219.21	218.81	219.73	220.36		219.17	219.25	219.03	219.34	
12	.21	.20	.29	.82	220.09	221.06		.45	.23	218.94	.42	
13	.21	.18	.48	.81	219.60	220.85		.38	.20	.91	.45	
14	.23	.21	.57	.92	.41	.29		.29	.23	.92	.52	
15	.22	.28	.42	219.04	.30	.10		.25	.17	.93	.49	
16	219.21	219.35	219.38	219.12	219.20	220.40		219.31	219.09	218.95	219.38	
17	.19	.28	.32	.36	.31	.10		.43	.11	.94	.31	
18	.19	.21	.20	.46	.39	219.73		.44	.17	.99	.30	
19	.16	.12	.21	.30	.41	.50		.44	.21	219.11	.25	
20	.18	.15	.25	.18	.85	.36		.46	.20	.19	.23	
21	219.30	219.38	219.17	219.14	219.74	219.41		219.43	219.29	219.34	219.20	
22	.29	.39	.22	.05	.59	.73		.31	.47	.38	.34	
23	.12	.39	.22	218.98	.47	.95		.29	.43	.30	.52	
24	218.71	.52	.09	.87	.45	.98		.27	.39	.30	.43	
25	219.09	.70	218.98	.68	.46	.58		.29	.37	.21	.30	
26	219.17	219.66	219.09	218.59	219.41	219.31		219.27	219.33	219.14	219.22	
27	.36	.48	.35	219.06	.54	.13	219.31	.26	.17	.23	.09	
28	.23	.36	.30	.42	.71	218.91		.29	.11	.42	218.98	
29	.18	.31	.03	.58	.55	.67		.35	.06	.43	-	
30	.14	.25	218.79	.68	.42	No Flow		.38	.01	.39	-	
31	-	.16	-	.70	.44	-		-	.05	.39	-	
Mean	219.20	219.29	219.17	219.03	219.59	219.87			219.25	219.13	219.33	
Max.	219.36	219.70	219.57	219.70	220.09	221.06	219.31	219.46	219.47	219.43	219.52	219.00
Min.	218.71	219.11	219.79	218.59	219.20	0	0	0	219.01	218.91	218.98	

WATER YEAR 1977 : Max. m. Min. m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	1.18	0.73	0.85	0.00	2.30	2.40	0.00	0.00	1.86	0.53	0.93	0.10
2	1.18	0.69	0.69	0.07	2.30	2.45			1.74	0.35	1.02	0.18
3	1.14	1.68	0.56	0.08	2.20	1.60			1.74	0.33	1.05	0.10
4	1.14	1.14	0.17	0.04	2.20	1.11			1.68	0.41	1.05	0.20
5	1.14	0.77	0.09	0.10	2.45	1.60			1.74	0.29	1.08	0.16
6	1.41	0.73	0.38	0.27	2.35	7.61			1.68	0.25	1.11	0.18
7	1.27	0.85	0.59	0.11	3.20	16			1.56	0.47	1.24	0.09
8	1.05	1.23	0.77	0.12	4.04	16			1.56	1.56	1.32	0.035
9	0.97	1.27	0.97	0.11	3.41	7.02			1.45	1.27	1.14	0.00
10	1.23	1.36	1.14	0.05	2.45	3.97		0.00	1.45	0.81	1.08	
11	1.14	1.92	1.09	0.06	2.71	8.90		1.65	1.27	0.44	1.02	
12	1.09	1.05	1.45	0.07	5.50	30		3.15	1.18	0.23	1.28	
13	1.09	0.97	2.66	0.06	2.00	20		2.70	1.05	0.17	1.40	
14	1.18	1.09	3.29	0.17	1.24	11		0.87	1.18	0.19	1.68	
15	1.14	1.41	2.24	0.47	0.90	8.80		0.75	0.93	0.21	1.56	
16	1.09	1.80	1.98	0.73	0.60	12		0.93	0.62	0.25	1.14	
17	1.01	1.41	1.62	1.86	0.93	9.04		1.32	0.69	0.23	0.93	
18	1.01	1.09	1.05	2.52	1.17	5.24		1.36	0.93	0.33	0.90	
19	0.89	0.73	1.09	1.50	1.24	3.50		1.32	1.09	0.42	0.75	
20	0.97	0.85	1.27	0.97	3.55	2.60		1.44	1.05	0.58	0.69	
21	1.50	1.98	0.93	0.81	2.78	2.87		1.32	1.45	1.02	0.60	
22	1.45	2.04	1.14	0.50	1.96	5.24		0.93	2.59	1.14	1.02	
23	1.73	2.04	1.14	0.31	1.48	7.30		0.87	2.31	0.90	1.68	
24	0.00	2.94	0.62	0.12	1.40	7.60		0.81	2.04	0.90	1.32	
25	0.62	4.80	0.31	0.00	1.44	4.06		0.87	1.92	0.63	0.90	
26	0.93	3.98	0.62	0.00	1.24	2.31	0.00	0.81	1.68	0.48	0.60	
27	1.86	2.66	1.80	0.32	1.76	1.45	2.35	0.78	0.93	0.69	0.38	
28	1.18	1.86	1.50	1.28	2.57	0.53	0.00	0.87	0.69	1.28	0.18	
29	0.97	1.56	0.44	1.92	1.80	0.08		1.05	0.53	1.32	–	
30	0.81	1.27	0.04	2.40	1.28	0.00		1.98	0.38	1.17	–	
31	–	0.89	–	2.50	1.36	–	0.00	–	0.50	1.17	–	0.00
Total	32.37	48.33	32.49	19.52	65.81	202.28	2.35	25.78	41.47	20.02	29.11	1.045
Mean	1.08	1.56	1.08	0.63	2.12	6.74	0.076	0.86	1.34	0.64	104	0.034
Max.	1.86	4.30	3.29	2.50	5.50	30	2.35	3.15	2.59	1.32	1.68	0.20
Min.	0.00	0.69	0.04	0.00	0.60	0.00	0.00	0.00	0.38	0.17	0.18	0.00
Runoff – mcm.	2.797	4.176	2.807	1.686	5.586	17.477	0.203	2.227	3.583	1.730	2.515	0.090

WATER YEAR 1977 : Max. 30 Min. 0.00 Mean 1.43 Annual Runoff 44.978 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sept. 12	21.00	221.09	34				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
CHI RIVER BASIN

Lam Chi Long at Ban Kut Yang, Chaiyaphum (E. 49)

Location: Lat. 15°-49'-31" N., Long. 101°-51'-01" E., on left bank at Ban Kut Yang, Amphoe Ban Khwao, Chaiyaphum.

Drainage Area: 265 Sq.km.

Type of Gage: Water-stage recorder.

Zero Gage at Bottom at: + 196.39 m. (M.S.L.)

Bench Mark: B.M. E49

Location: In the vicinity of E49 station office.
Elevation: + 205.115 m. (M.S.L.)

Gage Reading Frequency: Recording

Basis of Mean Daily Gage Height: Arithmetic mean of 24 hourly readings.

Period of Available Gage Records: 1967 to date.

Rating Operation:

Period of Rating: 1967-1970.
Rated by Float: -
Rated by Current Meter: 1967-1970.

Stability of Channel Regimes: Fairly stable, no shifting adjustment for flow computation.

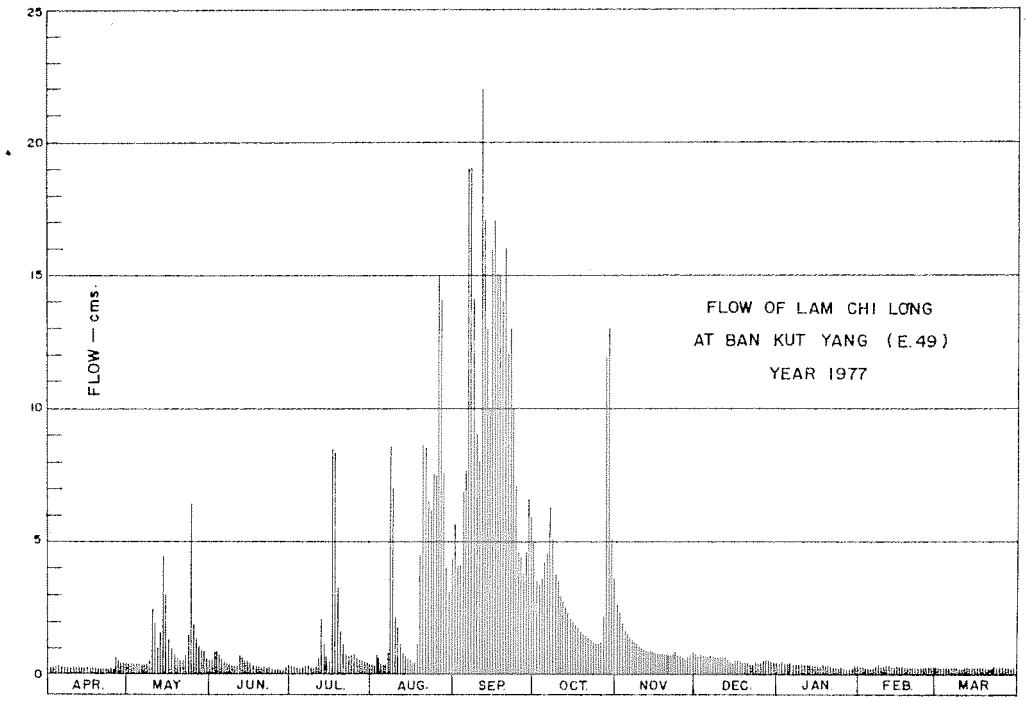
Overbank Flow Conditions: No overbank flow.

General Description: Records fair. Stage-discharge relation defined by 143 discharge measurements made in 1970.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	199.16	199.29	199.37	199.21	199.29	201.26	200.91	200.40	199.52	199.33	199.20	199.15
2	.15	.30	.55	.18	.27	200.82	.90	.25	.49	.30	.16	.12
3	.19	.29	.62	.18	.53	.84	.56	.08	.52	.33	.14	.14
4	.21	.27	.52	.17	.36	201.44	.70	199.97	.47	.32	.13	.13
5	.20	.26	.41	.15	.30	.69	.87	.89	.47	.30	.12	.10
6	199.19	199.27	199.36	199.16	199.24	203.02	200.97	199.86	199.48	199.29	199.14	199.15
7	.18	.27	.31	.21	.62	.02	201.41	.79	.50	.28	.21	.16
8	.17	.34	.28	.21	201.92	202.57	200.93	.76	.47	.28	.22	.15
9	.15	.54	.26	.16	.01	.01	.71	.69	.46	.28	.17	.13
10	.15	200.28	.23	.15	200.14	201.78	.64	.66	.47	.27	.15	.11
11	199.16	199.92	199.23	199.16	199.87	203.14	200.42	199.63	199.46	199.27	199.24	199.14
12	.16	.63	.52	.43	.71	202.98	.35	.62	.45	.25	.21	.17
13	.15	200.36	.47	200.15	.53	.54	.26	.58	.44	.25	.16	.14
14	.15	.92	.38	199.66	.48	.23	.19	.59	.36	.22	.13	.14
15	.14	.21	.42	.45	.42	.77	.13	.56	.32	.22	.15	.14
16	199.14	199.82	199.33	199.38	199.35	202.85	200.07	199.55	199.42	199.23	199.20	199.11
17	.13	.65	.28	201.90	.32	.71	.02	.54	.38	.18	.16	.13
18	.12	.56	.25	.84	.77	.74	199.98	.54	.36	.23	.13	.13
19	.11	.47	.22	200.57	201.39	.60	.93	.54	.30	.24	.14	.13
20	.11	.43	.21	199.94	.93	.75	.89	.54	.34	.20	.13	.13
21	199.12	199.40	199.18	199.68	201.90	202.45	199.85	199.52	199.30	199.18	199.12	199.13
22	.10	.38	.17	.56	.46	.48	.82	.55	.30	.16	.14	.11
23	.09	.88	.15	.53	.36	.17	.78	.58	.36	.14	.17	.14
24	.10	201.45	.12	.52	.71	201.61	.75	.53	.32	.14	.15	.13
25	.10	200.19	.11	.55	.68	200.97	.74	.49	.31	.17	.16	.14
26	199.48	199.85	199.08	199.49	202.71	200.90	199.73	199.48	199.37	199.14	199.16	199.15
27	.35	.78	.09	.42	.57	.71	200.18	.41	.38	.09	.16	.14
28	.35	.61	.07	.39	201.62	.98	202.46	.49	.38	.08	.19	.16
29	.34	.61	.14	.36	200.80	201.48	.47	.51	.35	.14	-	.14
30	.32	.49	.25	.33	.47	.27	201.41	.56	.35	.23	-	.10
31	-	.41	-	.31	.95	-	200.71	-	.36	.19	-	.10
Mean	199.18	199.71	199.29	199.59	200.50	202.03	200.50	199.67	199.40	199.22	199.16	199.13
Max.	199.48	201.45	199.62	201.90	202.71	203.14	202.47	200.40	199.52	199.33	199.24	199.17
Min.	199.09	199.26	199.07	199.15	199.24	200.71	199.73	199.41	199.30	199.08	199.12	199.10

WATER YEAR 1977 : Max. 203.14 m. Min. 199.07 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.26	0.39	0.50	0.31	0.39	5.69	4.38	2.80	0.74	0.44	0.30	0.25
2	0.25	0.40	0.80	0.28	0.37	4.07	3.40	2.37	0.68	0.40	0.26	0.22
3	0.29	0.39	0.94	0.28	0.76	4.14	3.28	1.95	0.74	0.44	0.24	0.24
4	0.31	0.37	0.74	0.27	0.49	6.41	3.70	1.67	0.65	0.43	0.23	0.23
5	0.30	0.36	0.56	0.25	0.40	7.50	4.24	1.48	0.65	0.40	0.22	0.20
6	0.29	0.37	0.49	0.26	0.34	19	4.59	1.42	0.67	0.39	0.24	0.25
7	0.28	0.37	0.41	0.31	0.94	19	6.29	1.28	0.70	0.38	0.31	0.26
8	0.27	0.46	0.38	0.33	8.60	14	4.45	1.22	0.65	0.38	0.32	0.25
9	0.25	0.78	0.36	0.26	4.73	9.06	3.73	1.08	0.64	0.38	0.27	0.23
10	0.25	2.45	0.33	0.25	2.10	7.91	3.52	1.02	0.65	0.37	0.25	0.21
11	0.26	1.55	0.33	0.26	1.44	22	2.86	0.96	0.64	0.37	0.34	0.24
12	0.26	0.96	0.74	0.59	1.12	19	2.65	0.94	0.62	0.35	0.31	0.27
13	0.25	2.68	0.65	2.12	0.76	13	2.40	0.86	0.61	0.35	0.26	0.24
14	0.25	4.42	0.52	1.02	0.67	10	2.22	0.88	0.49	0.32	0.23	0.24
15	0.24	2.27	0.58	0.62	0.58	16	2.07	0.82	0.43	0.32	0.25	0.24
16	0.24	1.34	0.44	0.52	0.47	17	1.92	0.80	0.58	0.33	0.30	0.21
17	0.23	1.00	0.38	8.50	0.43	15	1.80	0.78	0.52	0.28	0.26	0.23
18	0.22	0.82	0.35	8.20	1.24	15	1.70	0.78	0.49	0.33	0.23	0.23
19	0.21	0.65	0.32	3.31	6.21	14	1.57	0.78	0.40	0.34	0.24	0.23
20	0.21	0.59	0.31	1.60	8.65	16	1.48	0.78	0.46	0.30	0.23	0.23
21	0.22	0.55	0.28	1.06	8.50	12	1.40	0.74	0.40	0.28	0.22	0.23
22	0.20	0.52	0.27	0.83	6.49	13	1.34	0.80	0.40	0.26	0.24	0.21
23	0.19	1.46	0.25	0.76	6.09	10	1.26	0.86	0.49	0.24	0.27	0.24
24	0.20	6.45	0.22	0.74	7.59	7.14	1.20	0.76	0.43	0.24	0.25	0.23
25	0.20	2.22	0.21	0.80	7.46	4.56	1.18	0.68	0.41	0.27	0.26	0.24
26	0.67	1.40	0.18	0.68	15	4.35	1.16	0.67	0.50	0.24	0.26	0.25
27	0.47	1.26	0.19	0.58	14	3.73	2.20	0.56	0.52	0.19	0.26	0.24
28	0.47	0.92	0.17	0.53	7.19	4.63	12	0.68	0.52	0.18	0.29	0.26
29	0.46	0.92	0.24	0.49	4.00	6.57	13	0.72	0.47	0.24	–	0.24
30	0.43	0.68	0.35	0.44	3.01	5.73	6.29	0.82	0.47	0.33	–	0.20
31	–	0.56	–	0.41	4.52	–	3.73	–	0.49	0.29	–	0.20
Total	8.63	39.56	12.49	36.85	124.54	325.52	107.01	31.96	17.11	10.06	7.34	7.24
Mean	0.29	1.28	0.42	1.19	4.02	10.8	3.45	1.06	0.55	0.32	0.26	0.23
Max.	0.67	6.45	0.94	8.50	15	22	13	2.80	0.74	0.44	0.34	0.27
Min.	0.19	0.36	0.17	0.23	0.34	3.73	1.16	0.56	0.40	0.18	0.22	0.20
Runoff – MCM.	0.746	3.418	1.079	3.184	10.760	28.125	9.246	2.761	1.478	0.869	0.634	0.65

WATER YEAR 1977 : Max. 22 Min. 0.17 Mean 1.99 Annual Runoff 62.927 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sept.11	10.00	203.21	23				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
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: 847 Sq.km.

Type of Gage: Staff gage.

Zero Gage at Bottom at: + 0.00 m. (A.D.)

Bench Mark: B.M. - H.S.

Location: About 40 meters from the left bank along the vertical staff gage line.
Elevation: + 9.425 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.
Rated by Float: -
Rated by Current Meter: 1969-1977.

Stability of Channel Regimes: Fairly stable, no shifting adjustment for flow computation.

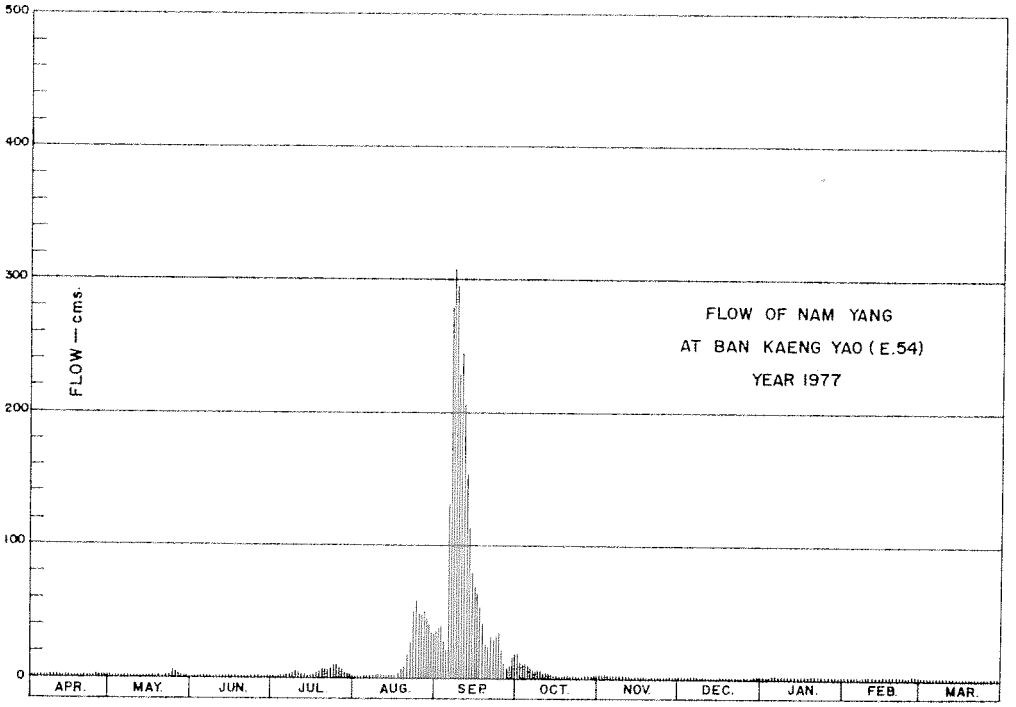
Overbank Flow Conditions: Overbank flow starts at elevation + 8.16 m. (A.D.), records are channel flow only.

General Description: Records fair. Stage-discharge relation defined by 170 discharge measurements made in 1977.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.92	1.18	1.05	1.10	1.26	3.05	2.32	1.38	1.11	0.97	0.91	0.92
2	.91	.12	.06	.06	.30	.13	.04	.37	.08	.96	.91	.92
3	.90	.06	.04	.06	.20	2.87	1.91	.36	.06	1.02	.91	.95
4	.92	.06	.02	.24	.16	.43	.78	.36	.04	.00	.91	.96
5	.94	.11	.00	.20	.15	5.63	.75	.34	.04	0.97	.91	.95
6	0.95	1.19	0.98	1.21	1.14	8.08	1.68	1.28	1.04	0.95	0.91	0.96
7	.94	.09	.96	.29	.16	.47	.66	.27	.03	.94	.91	.93
8	.94	.07	1.03	.38	.11	.33	.59	.25	.03	1.01	.96	.92
9	.96	.18	.08	.58	.13	7.48	.66	.26	.02	0.99	.96	.93
10	.95	.06	0.96	.59	.06	.72	.56	.29	.03	.97	.96	.93
11	0.96	1.01	0.97	1.49	1.07	6.97	1.49	1.28	1.01	0.98	0.96	0.93
12	.95	.25	1.03	.38	.03	.20	.44	.25	.01	.98	.95	.92
13	.98	.17	.02	.34	.00	5.02	.44	.21	.02	.98	.95	.92
14	1.05	.15	.05	.33	0.98	4.48	.42	.18	.02	.96	.94	.92
15	.02	.13	.02	.31	1.08	.12	.36	.19	.01	.96	.94	.95
16	0.98	1.15	1.08	1.36	1.00	4.02	1.39	1.21	1.01	0.97	0.93	0.98
17	.96	.14	.00	.37	.15	3.59	.39	.20	.01	1.00	.93	.96
18	.95	.08	0.98	.44	.51	.09	.30	.18	.01	0.98	.93	.94
19	.94	.03	1.04	.66	.78	2.68	.27	.19	.00	.96	.93	.93
20	.93	0.97	.01	.69	.84	.53	.33	.19	.00	.95	.92	.92
21	0.92	0.96	0.97	1.66	2.39	2.88	1.29	1.18	1.00	0.94	0.92	0.92
22	.93	.99	.97	.62	.71	.78	.26	.14	0.99	.94	.92	.93
23	.95	1.03	1.01	.79	3.52	.90	.26	.13	1.08	.94	.93	.92
24	1.38	.20	0.98	.85	.83	.98	.23	.13	0.99	.92	.93	.91
25	.19	.59	.97	.86	.46	.55	.24	.14	.99	.92	.94	.94
26	1.08	1.45	0.98	1.75	3.44	1.99	1.29	1.12	1.00	0.92	0.94	0.93
27	.08	.38	.99	.66	.52	.76	.27	.11	.00	.92	.94	.92
28	.08	.31	1.01	.51	.37	.82	.27	.11	.01	.92	.94	.91
29	.01	.23	.03	.46	.18	2.18	.33	.11	.00	.92	-	.93
30	.03	.16	.02	.40	2.95	.36	.37	.10	0.98	.92	-	.91
31	-	.11	-	.35	.99	-	.37	-	.97	.92	-	.90
Mean	0.99	1.14	1.01	1.44	1.91	4.13	1.48	1.21	1.01	0.95	0.93	0.93
Max.	1.38	1.59	1.08	1.86	3.83	8.47	2.32	1.38	1.11	1.02	0.96	0.98
Min.	0.90	0.96	0.96	1.06	0.98	1.76	1.23	1.10	0.97	0.92	0.91	0.90

WATER YEAR 1977 : Max. 8.47 m. Min. 0.90 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.28	1.84	0.90	1.20	2.48	36	19	3.60	1.28	0.48	0.24	0.28
2	0.24	1.36	0.96	0.96	2.80	38	13	3.50	1.08	0.44	0.24	0.28
3	0.20	0.96	0.84	0.96	2.00	31	11	3.40	0.96	0.72	0.24	0.40
4	0.28	0.96	0.72	2.32	1.68	21	12	3.40	0.84	0.60	0.24	0.44
5	0.36	1.28	0.60	2.00	1.60	127	11	3.20	0.84	0.48	0.24	0.40
6	0.40	1.92	0.52	2.08	1.52	273	7.32	2.64	0.84	0.40	0.24	0.44
7	0.36	1.14	0.44	2.72	1.68	308	7.04	2.56	0.78	0.36	0.24	0.32
8	0.36	1.02	0.78	3.60	1.28	295	6.08	2.40	0.78	0.66	0.44	0.28
9	0.44	1.84	1.08	5.96	1.44	228	7.04	2.48	0.72	0.56	0.44	0.32
10	0.40	0.96	0.44	6.08	0.96	245	5.72	2.72	0.78	0.48	0.44	0.32
11	0.44	0.66	0.48	4.88	1.02	194	4.88	2.64	0.66	0.52	0.44	0.32
12	0.40	2.40	0.78	3.60	0.78	153	4.28	2.40	0.66	0.52	0.40	0.28
13	0.52	1.76	0.72	3.20	0.60	102	4.28	2.08	0.72	0.52	0.40	0.28
14	0.90	1.60	0.90	3.10	0.52	81	4.04	1.84	0.72	0.44	0.36	0.28
15	0.72	1.44	0.72	2.90	1.08	69	3.40	1.92	0.66	0.44	0.36	0.40
16	0.52	1.60	1.08	3.40	0.60	66	3.70	2.08	0.66	0.48	0.32	0.52
17	0.44	1.52	0.60	3.50	1.60	52	3.70	2.00	0.66	0.60	0.32	0.42
18	0.40	1.08	0.52	4.20	5.12	37	2.80	1.84	0.66	0.52	0.32	0.36
19	0.36	0.78	0.84	6.20	8.72	26	2.56	1.92	0.60	0.44	0.32	0.32
20	0.32	0.48	0.66	7.46	10	23	3.10	1.92	0.60	0.40	0.28	0.28
21	0.28	0.44	0.48	7.04	20	31	2.72	1.84	0.60	0.36	0.28	0.28
22	0.32	0.56	0.48	6.48	27	29	2.48	1.52	0.56	0.36	0.28	0.32
23	0.40	0.78	0.66	8.86	50	32	2.48	1.44	1.08	0.36	0.32	0.28
24	3.60	2.00	0.52	10	59	34	2.24	1.44	0.56	0.28	0.32	0.24
25	1.92	6.08	0.48	10	48	24	2.32	1.52	0.56	0.28	0.36	0.36
26	1.08	4.40	0.52	8.30	47	12	2.72	1.36	0.60	0.28	0.36	0.32
27	1.08	3.60	0.56	7.04	50	8.44	2.56	1.28	0.60	0.28	0.36	0.28
28	1.08	2.90	0.66	5.12	45	9.32	2.56	1.28	0.66	0.28	0.36	0.24
29	0.66	2.24	0.78	4.52	39	16	3.10	1.28	0.60	0.28	–	0.32
30	0.78	1.68	0.72	3.80	33	19	3.50	1.20	0.52	0.28	–	0.24
31	–	1.28	–	3.30	34	–	3.50	–	0.48	0.28	–	0.20
Total	19.54	52.56	20.44	144.86	499.48	2,619.76	166.12	64.70	22.32	13.38	9.16	10.04
Mean	0.65	1.69	0.68	4.67	16.1	87.3	5.35	2.15	0.72	0.43	0.33	0.32
Max.	3.60	6.08	1.08	10	59	308	19	3.60	1.28	0.72	0.44	0.52
Min.	0.20	0.44	0.44	0.96	0.52	8.44	2.24	1.20	0.48	0.28	0.24	0.20
Runoff – mcm.	1.688	4.541	1.766	12.516	43.155	226.347	14.353	5.590	1.928	1.156	0.791	0.867

WATER YEAR 1977 : Max. 308 Min. 0.20 Mean 9.98 Annual Runoff 314.699 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sept. 7	21.00	8.53	313				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
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 about 100 meters west side at Ban Tha Chang School and 30 meters south of railway pumping station, Amphoe Chakkarat, Nakhon Ratchasima.

Drainage Area: 4,800 Sq.km.

Type of Gage: Water-stage recorder.

Zero Gage at Bottom at: + 157.85 m. (M.S.L.)

Bench Mark: B.M. - H.S. - RID

Location: At the foot of the ladder of automatic gage building.
Elevation: + 165.802 m. (M.S.L.)

Gage Reading Frequency: Recording

Basis of Mean Daily Gage Height: Arithmetic mean of 24 hourly readings.

Period of Available Gage Records: 1950 to date.

Rating Operation:

Period of Rating: 1960, 1969-1971.
Rated by Float: -
Rated by Current Meter: 1960, 1969-1971.

Stability of Channel Regimes: Fairly stable, no shifting adjustment for flow computation.

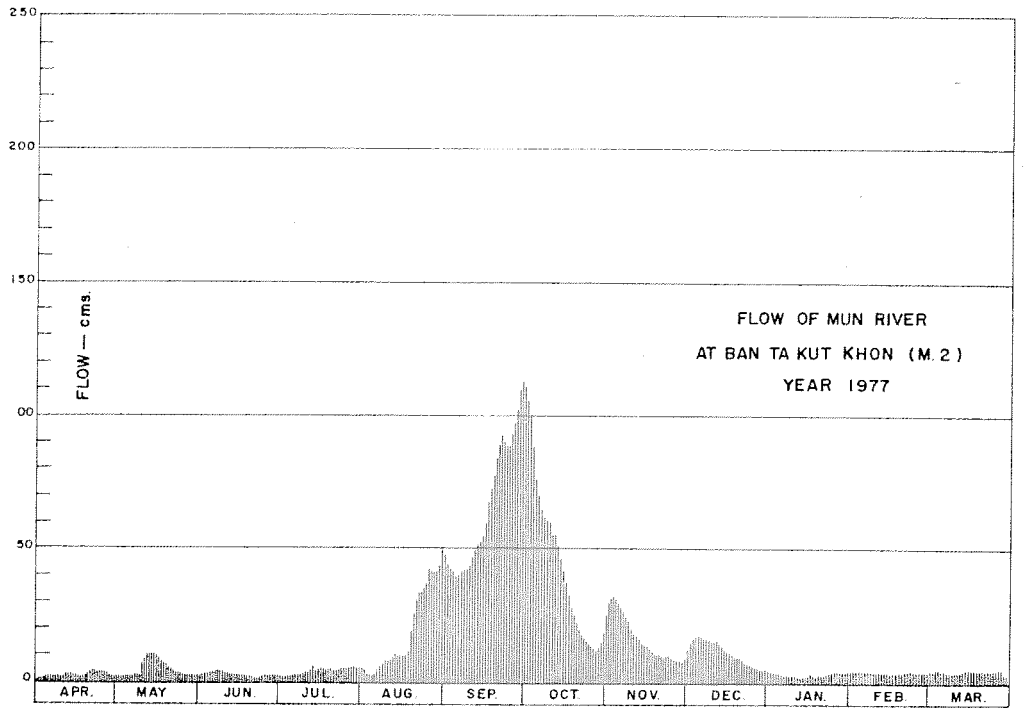
Overbank Flow Conditions: No overbank flow.

General Description: Records fair. Stage-discharge relation defined by 221 discharge measurements made in 1969.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	159.63	159.81	159.88	159.83	160.21	162.79	165.01	161.63	160.67	160.12	160.11	160.08
2	.63	.77	.93	.84	.13	.59	164.93	.90	.89	.11	.17	.11
3	.70	.83	160.04	.85	159.93	.52	.77	.96	.97	.09	.14	.13
4	.79	.85	.07	.85	.96	.44	.49	.89	161.01	.02	.12	.13
5	.87	.85	.09	.88	.90	.37	.03	.78	.05	.05	.11	.11
6	159.85	159.87	160.08	159.90	159.99	162.41	163.82	161.69	161.10	159.99	160.14	160.10
7	.83	.91	.05	.95	160.23	.44	.57	.59	.01	160.01	.11	.08
8	.88	.93	.03	.91	.28	.52	.46	.47	.03	159.93	.09	.09
9	.90	.91	.01	.99	.40	.53	.41	.36	160.99	.94	.11	.09
10	.89	.94	.02	160.03	.47	.62	.41	.23	.93	.94	.11	.10
11	159.98	160.42	159.98	160.03	160.43	162.76	163.20	161.15	160.96	159.95	160.11	160.08
12	.93	.64	.95	.13	.51	.90	.18	.08	.93	.88	.12	.08
13	.93	.64	.95	.23	.61	.97	162.97	.00	.87	.87	.12	.09
14	.87	.59	.92	.13	.62	.99	.84	160.91	.80	.89	.11	.13
15	.85	.60	.91	.19	.58	163.11	.63	.85	.76	.93	.11	.15
16	159.87	160.57	159.90	160.19	160.49	163.25	162.38	160.80	160.71	160.02	160.11	160.13
17	.81	.51	.90	.17	.53	.62	.10	.75	.71	.02	.09	.15
18	.79	.35	.88	.13	.63	.85	161.86	.68	.62	159.95	.09	.17
19	.93	.27	.86	.14	.95	164.03	.65	.64	.57	.94	.09	.15
20	.99	.21	.85	.15	161.37	.25	.49	.61	.53	.99	.11	.15
21	160.10	160.13	159.83	160.09	161.82	164.48	161.31	160.59	160.51	160.01	160.15	160.13
22	.09	.06	.69	.11	162.00	.59	.16	.57	.44	.01	.16	.12
23	.03	.01	.73	.11	.01	.56	.01	.60	.35	.04	.15	.12
24	.02	159.98	.79	.20	.06	.50	160.96	.60	.35	.09	.12	.12
25	.07	.94	.83	.18	.27	.51	.88	.52	.29	.12	.09	.13
26	160.00	159.90	159.79	160.17	162.51	164.59	160.82	160.48	160.27	160.11	160.06	160.13
27	159.97	.88	.81	.21	.48	.70	.78	.44	.22	.10	.06	.15
28	.92	.89	.86	.29	.44	.80	.72	.45	.17	.12	.07	.09
29	.84	.88	.82	.25	.48	.98	.79	.45	.17	.09	-	159.93
30	.81	.89	.83	.19	.63	165.05	161.01	.43	.15	.09	-	.89
31	-	.89	-	.22	.95	-	.29	-	.20	.09	-	.92
Mean	159.89	160.09	159.91	160.08	161.09	163.52	162.45	161.00	160.65	160.02	160.11	160.10
Max.	160.10	160.64	160.09	160.29	162.95	165.05	165.01	161.96	161.10	160.12	160.17	160.17
Min.	159.63	159.77	159.69	159.83	159.90	162.37	160.72	160.43	160.15	159.87	160.06	159.89

WATER YEAR 1977 : Max. 165.05 m. Min. 159.63 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	1.45	2.46	2.88	2.58	5.92	48	111	27	12	5.00	4.90	4.62
2	1.45	2.22	3.27	2.64	5.10	45	106	32	15	4.90	5.50	4.90
3	1.80	2.58	4.26	2.70	3.27	43	100	33	16	4.71	5.20	5.10
4	2.34	2.70	4.53	2.70	3.54	42	89	32	17	4.08	5.00	5.10
5	2.82	2.70	4.71	2.88	3.00	40	75	30	18	4.35	4.90	4.90
6	2.70	2.82	4.62	3.00	3.81	41	70	28	18	3.81	5.20	4.80
7	2.58	3.09	4.35	3.45	6.16	42	65	27	17	3.99	4.90	4.62
8	2.88	3.27	4.17	3.09	6.76	43	62	24	17	3.27	4.71	4.71
9	3.00	3.09	3.99	3.81	8.20	43	61	23	17	3.36	4.90	4.71
10	2.94	3.36	4.08	4.17	9.04	45	61	20	16	3.36	4.90	4.80
11	3.72	8.44	3.72	4.08	8.56	48	56	19	16	3.45	4.90	4.62
12	3.27	11	3.45	5.10	9.54	50	56	18	16	2.88	5.00	4.62
13	3.27	11	3.45	6.16	11	52	53	17	15	2.82	5.00	4.71
14	2.82	11	3.18	5.10	11	52	49	15	14	2.94	4.90	5.10
15	2.70	11	3.08	5.70	10	55	45	14	13	3.27	4.90	5.30
16	2.82	10	3.00	5.70	9.28	57	41	14	12	4.08	4.90	5.10
17	2.46	9.54	3.00	5.50	9.82	66	35	13	12	4.08	4.71	5.30
18	2.34	7.60	2.88	5.10	11	71	31	12	11	3.45	4.71	5.50
19	3.27	6.64	2.76	5.20	16	75	28	11	10	3.36	4.71	5.30
20	3.81	5.92	2.70	5.30	23	81	25	11	9.82	3.81	4.90	5.30
21	4.80	5.10	2.58	4.71	30	88	22	11	9.54	3.99	5.30	5.10
22	4.71	4.44	1.75	4.90	34	93	19	10	8.68	3.99	5.40	5.00
23	4.17	3.99	1.98	4.90	34	91	17	11	7.60	4.26	5.30	5.00
24	4.08	3.72	2.34	5.80	35	89	16	11	7.60	4.71	5.00	5.00
25	4.53	3.36	2.58	5.60	38	89	15	9.68	6.88	5.00	4.71	5.10
26	3.90	3.00	2.34	5.50	43	93	14	9.16	6.64	4.90	4.44	5.10
27	3.63	2.88	2.46	5.92	42	97	13	8.68	6.04	4.80	4.44	5.30
28	3.18	2.94	2.76	6.88	42	101	12	8.80	5.50	5.00	4.53	4.71
29	2.64	2.88	2.52	6.44	42	109	13	8.80	5.50	4.71	–	3.27
30	2.46	2.94	2.58	5.70	45	113	17	8.56	5.30	4.71	–	2.94
31	–	2.94	–	6.04	51	–	21	–	5.80	4.71	—	3.18
Total	92.54	158.62	95.98	146.31	610	2,002	1,398	516.68	366.90	125.75	137.86	148.81
Mean	3.08	5.12	3.20	4.72	19.7	66.7	45.1	17.2	11.8	4.06	4.75	4.80
Max.	4.80	11	4.71	6.88	51	113	111	33	18	5.00	5.50	5.50
Min.	1.45	2.22	1.75	2.58	3.00	40	12	8.56	5.30	2.82	4.44	2.94
Runoff – mcm.	7.995	13.705	8.293	12.641	52.704	172.973	120.787	44.641	31.700	10.865	11.911	12.857

WATER YEAR 1977 : Max. 113 Min. 1.45 Mean 15.9 Annual Runoff 501.072 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sept. 30	12.00	165.05	113				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
MUN RIVER BASIN

Mun River at Rasi Salai, Si Sa Ket (M. 5)

Location: Lat. 15°-20'-16" N., Long. 103°-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 at: + 110.00 m. (M.S.L.)

Bench Mark: B.M. of Army Survey Department No. 801

Location: On east side of staff gage behind the office of police station.
Elevation: + 123.156 m. (M.S.L.)

Gage Reading Frequency: 3-8 time daily readings at 01.00, 06.00, 09.00, 12.00, 15.00, 21.00 and 24.00 hours.

Basis of Mean Daily Gage Height: Arithmetic mean of 3-8 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: Fairly stable, no shifting adjustment for flow computation.

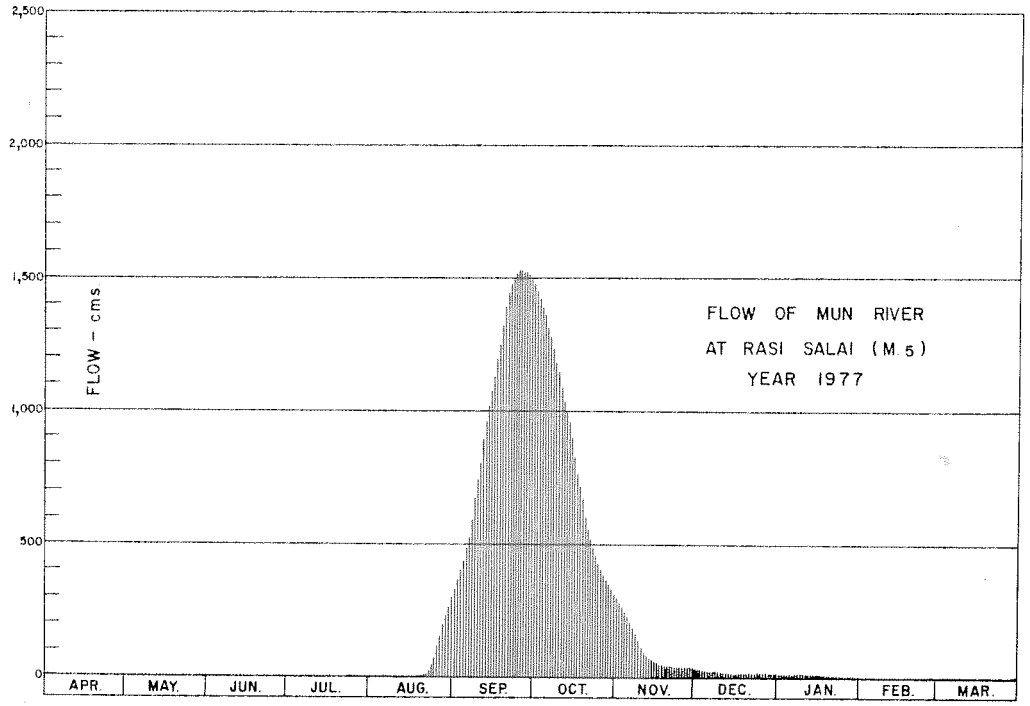
Overbank Flow Conditions: Overbank flow starts at elevation + 118.20 m. (M.S.L.) and is included.

General Description: Records fair. Stage-discharge relation defined by 50 discharge measurements made in 1977.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	110.36	110.31	110.44	110.36	110.47	113.57	119.39	113.32	110.97	110.72	110.46	110.30
2	.36	.30	.43	.35	.47	.78	.33	.21	.95	.71	.45	.39
3	.35	.29	.43	.34	.47	.98	.26	.07	.92	.69	.44	.31
4	.35	.32	.43	.34	.46	114.20	.18	112.95	.90	.68	.42	.30
5	.35	.33	.42	.35	.45	.45	.09	.80	.87	.66	.42	.29
6	110.37	110.29	110.41	110.36	110.45	114.76	118.97	112.64	110.86	110.66	110.42	110.29
7	.38	.29	.40	.40	.44	115.10	.84	.45	.84	.64	.42	.29
8	.38	.32	.39	.43	.47	.53	.70	.25	.81	.62	.41	.29
9	.39	.34	.38	.45	.45	.95	.56	.05	.80	.60	.40	.28
10	.39	.31	.38	.46	.44	116.37	.37	111.86	.79	.59	.40	.28
11	110.39	110.31	110.36	110.47	110.57	116.80	118.18	111.70	110.77	110.58	110.39	110.27
12	.40	.32	.35	.48	.54	117.19	117.94	.57	.75	.58	.38	.27
13	.44	.31	.35	.47	.51	.55	.72	.47	.74	.57	.37	.28
14	.42	.31	.34	.46	.48	.84	.44	.39	.73	.57	.36	.28
15	.39	.31	.33	.45	.48	118.11	.15	.34	.72	.55	.36	.30
16	110.37	110.31	110.34	110.44	110.47	118.37	116.85	111.29	110.71	110.54	110.35	110.33
17	.35	.30	.36	.45	.50	.60	.52	.24	.71	.52	.34	.31
18	.34	.30	.40	.43	.52	.79	.24	.19	.71	.52	.33	.29
19	.34	.30	.38	.42	.53	.96	115.93	.18	.71	.52	.33	.28
20	.33	.30	.40	.41	.52	119.12	.60	.15	.72	.51	.33	.26
21	110.32	110.31	110.40	110.40	110.57	119.28	115.27	111.13	110.73	110.50	110.33	110.26
22	.32	.31	.40	.44	.67	.37	114.97	.11	.73	.50	.31	.26
23	.31	.33	.37	.49	.91	.46	.71	.10	.75	.50	.31	.26
24	.33	.35	.36	.60	111.36	.51	.47	.09	.74	.48	.31	.25
25	.37	.41	.34	.58	.74	.53	.26	.09	.74	.48	.31	.24
26	110.37	110.40	110.34	110.55	112.00	119.53	114.07	111.07	110.74	110.47	110.31	110.24
27	.34	.39	.34	.51	.26	.51	113.91	.06	.74	.47	.30	.24
28	.34	.39	.33	.50	.61	.51	.83	.04	.74	.46	.30	.24
29	.33	.41	.33	.49	.86	.49	.70	.03	.74	.46	-	.23
30	.32	.42	.35	.48	113.14	.46	.57	.00	.73	.46	-	.22
31	-	.48	-	.47	.38	-	.44	-	.73	.46	-	.21
Mean	110.36	110.33	110.38	110.45	111.01	117.46	116.63	111.69	110.78	110.56	110.37	110.27
Max.	110.44	110.48	110.44	110.60	113.38	119.53	119.39	113.32	110.97	110.72	110.46	110.39
Min.	110.31	110.29	110.33	110.34	110.44	113.57	113.44	111.00	110.71	110.46	110.30	110.21

WATER YEAR 1977 : Max. 119.53 m. Min. 110.29 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	3.20	2.20	5.60	3.20	6.80	326	1,467	292	34	17	6.40	2.00
2	3.20	2.00	5.20	3.00	6.80	355	1,442	277	32	17	6.00	3.80
3	3.00	1.80	5.20	2.80	6.80	383	1,414	259	30	16	5.60	2.20
4	3.00	2.40	5.20	2.80	6.40	414	1,383	243	28	15	4.80	2.00
5	3.00	2.60	4.80	3.00	6.00	449	1,352	224	26	14	4.80	1.80
6	3.40	1.80	4.40	3.20	6.00	492	1,313	204	26	14	4.80	1.80
7	3.60	1.80	4.00	4.00	5.60	541	1,272	182	24	14	4.80	1.80
8	3.60	2.40	3.80	5.20	6.80	605	1,231	160	23	13	4.40	1.80
9	3.80	2.80	3.60	6.00	6.00	673	1,193	138	22	12	4.00	1.60
10	3.80	2.20	3.60	6.40	5.60	746	1,143	118	21	12	4.00	1.60
11	3.80	2.20	3.20	6.80	11	823	1,097	100	20	11	3.80	1.40
12	4.00	2.40	3.00	7.20	9.60	893	1,042	86	19	11	3.60	1.40
13	5.60	2.20	3.00	6.80	8.40	960	995	76	18	11	3.40	1.60
14	4.80	2.20	2.80	6.40	7.20	1,021	938	68	18	11	3.20	1.60
15	3.80	2.20	2.60	6.00	7.20	1,081	886	64	17	10	3.20	2.00
16	3.40	2.20	2.80	5.60	6.80	1,143	831	59	17	9.60	3.00	2.60
17	3.00	2.00	3.20	6.00	8.00	1,204	772	55	17	8.80	2.80	2.20
18	2.80	2.00	4.00	5.20	8.80	1,257	723	51	17	8.80	2.60	1.80
19	2.80	2.00	3.60	4.80	9.20	1,310	670	50	17	8.80	2.60	1.60
20	2.60	2.00	4.00	4.40	8.80	1,362	616	48	17	8.40	2.60	1.20
21	2.40	2.20	4.00	4.00	11	1,422	566	46	18	8.00	2.60	1.20
22	2.40	2.20	4.00	5.60	15	1,458	522	45	18	8.00	2.20	1.20
23	2.20	2.60	3.40	7.60	29	1,497	485	44	19	8.00	2.20	1.20
24	2.60	3.00	3.20	12	65	1,519	452	43	18	7.20	2.20	1.00
25	3.40	4.40	2.80	11	104	1,529	422	43	18	7.20	2.20	0.80
26	3.40	4.00	2.80	10	133	1,529	396	42	18	6.80	2.20	0.80
27	2.80	3.80	2.80	8.40	162	1,519	373	41	18	6.80	2.00	0.80
28	2.80	3.80	2.60	8.00	200	1,519	362	39	18	6.40	2.00	0.80
29	2.60	4.40	2.60	7.60	232	1,511	344	38	18	6.40	–	0.60
30	2.40	4.80	3.00	7.20	268	1,497	326	36	18	6.40	–	0.40
31	–	7.20	–	6.80	299	–	308	–	18	6.40	–	0.20
Total	97.20	85.80	108.80	187.00	1,665.80	31,038	26,336	3,171	642	320	98.00	46.80
Mean	3.24	2.77	3.39	6.03	53.7	1,035	849	106	20.7	10.3	3.50	1.51
Max.	5.60	7.20	5.60	12	299	1,529	1,467	292	34	17	6.40	3.80
Min.	2.20	1.80	2.60	2.80	5.60	326	308	36	17	6.40	2.00	0.20
Runoff - MCM.	8.398	7.413	9.400	16.157	143.925	2,681.683	2,275.430	273.974	55.469	27.648	8.467	4.043

WATER YEAR 1977 : Max. 1,529 Min. 0.20 Mean 175 Annual Runoff 5,512.009 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sept.25	06.00	119.53	1,529				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
MUN RIVER BASIN

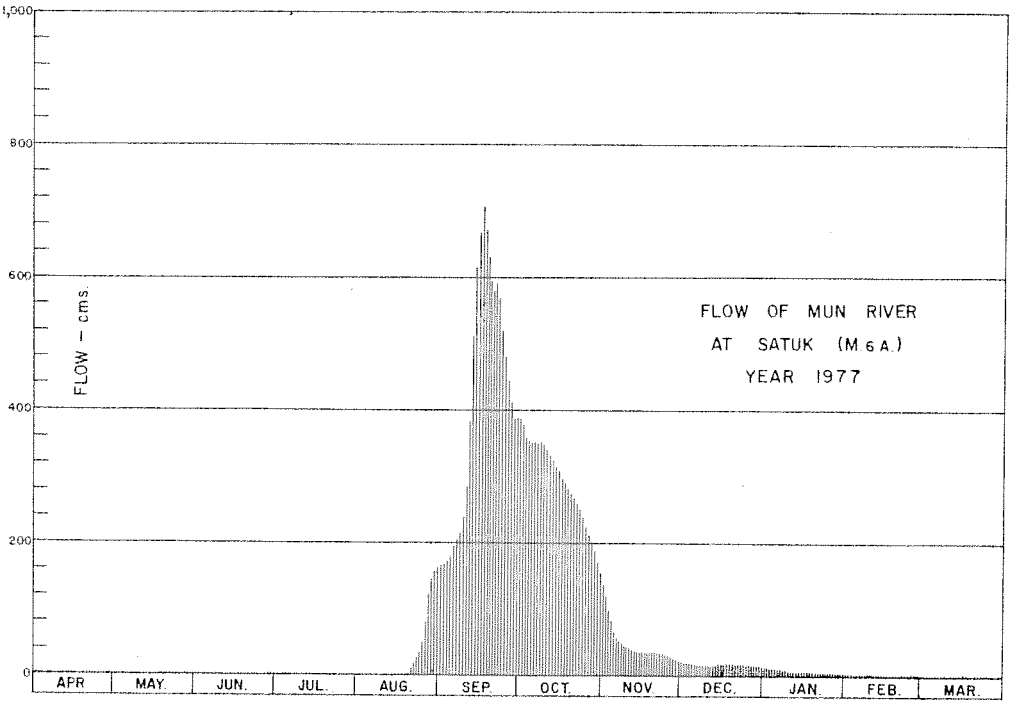
Mun River at Satuk, Buri Ram (M. 6A)

Location:	Lat. 15°-17'-44" N., Long. 103°-17'-51" E., on right bank infront of Amphoe Satuk office, Buri Ram.
Drainage Area:	28,275 Sq.km.
Type of Gage:	Water-stage recorder.
Zero Gage at Bottom at:	+ 124.00 m. (M.S.L.)
Bench Mark:	B.M. - H.S.
Location:	Infront of automatic gage building.
Elevation:	+ 132.339 m. (M.S.L.)
Gage Reading Frequency:	Recording
Basis of Mean Daily Gage Hei	Arithmetic mean of 24 hourly 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:	Fairly stable because of backwater effect and variable water surface slope, no shifting adjustment for flow computation.
Overbank Flow Conditions:	Overbank flow starts at elevation + 129.25 m. (M.S.L.), and is included.
General Description:	Records fair. Stage-discharge relation defined by 126 discharge measurements made in 1977.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	124.48	124.31	124.51	124.27	124.28	127.75	129.28	127.43	125.36	125.13	124.61	124.42
2	.47	.34	.48	.29	.30	.76	.25	.24	.32	.09	.60	.42
3	.45	.34	.47	.34	.31	.79	.18	126.98	.29	.04	.59	.42
4	.44	.34	.46	.36	.30	.84	.15	.74	.26	.01	.58	.41
5	.43	.33	.44	.41	.30	.93	.14	.50	.26	124.98	.57	.41
6	124.42	124.33	124.42	124.40	124.28	128.04	129.14	126.27	125.25	124.96	124.56	124.40
7	.42	.33	.39	.42	.27	.12	.14	.15	.23	.93	.55	.40
8	.41	.33	.38	.42	.26	.21	.13	.10	.20	.90	.53	.39
9	.40	.32	.36	.41	.26	.28	.14	.02	.18	.88	.53	.39
10	.39	.32	.35	.39	.29	.44	.11	125.96	.16	.87	.52	.39
11	124.38	124.32	124.34	124.37	124.50	128.80	129.08	125.90	125.15	124.84	124.50	124.39
12	.37	.34	.34	.35	.54	129.19	.05	.84	.15	.82	.50	.38
13	.36	.36	.33	.34	.46	.59	.02	.81	.17	.81	.49	.38
14	.36	.37	.34	.32	.39	.77	128.98	.77	.20	.80	.48	.37
15	.36	.38	.34	.32	.35	.87	.93	.76	.24	.77	.49	.37
16	124.35	124.38	124.33	124.32	124.33	129.89	128.89	125.74	125.26	124.77	124.49	124.37
17	.35	.39	.32	.32	.32	.94	.84	.73	.28	.76	.49	.36
18	.34	.41	.33	.33	.36	.89	.79	.71	.29	.75	.48	.36
19	.33	.42	.34	.35	.42	.83	.74	.73	.29	.74	.48	.36
20	.33	.43	.35	.34	.54	.76	.69	.73	.28	.72	.47	.36
21	124.33	124.44	124.36	124.33	124.91	129.74	128.65	125.73	125.28	124.70	124.46	124.35
22	.33	.44	.37	.34	125.27	.76	.58	.72	.27	.69	.46	.34
23	.34	.46	.36	.33	.48	.72	.53	.70	.27	.67	.45	.33
24	.34	.50	.33	.33	.66	.66	.45	.67	.26	.66	.45	.33
25	.34	.51	.31	.32	.89	.56	.37	.64	.25	.66	.44	.32
26	124.33	124.52	124.29	124.31	126.20	129.48	128.28	125.60	125.24	124.65	124.43	124.32
27	.32	.53	.26	.30	.76	.42	.18	.55	.23	.64	.44	.31
28	.31	.55	.26	.28	127.23	.33	.08	.50	.21	.63	.43	.31
29	.30	.53	.26	.28	.52	.28	127.94	.45	.20	.62	-	.30
30	.29	.53	.27	.27	.66	.28	.78	.40	.18	.61	-	.30
31	-	.51	-	.27	.72	-	.62	-	.16	.60	-	.29
Mean	124.36	124.39	124.35	124.33	125.07	129.06	128.74	125.96	125.23	124.79	124.50	124.36
Max.	124.48	124.55	124.51	124.42	127.72	129.94	129.28	127.43	125.36	125.13	124.61	124.42
Min.	124.29	124.31	124.26	124.27	124.26	127.75	127.62	125.40	125.15	124.60	124.43	124.29

WATER YEAR 1977 : Max. 129.94 m. Min. 124.26 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	2.80	1.55	3.10	1.35	1.40	165	388	137	21	14	4.15	2.20
2	2.70	1.70	2.80	1.45	1.50	166	380	122	20	13	4.00	2.20
3	2.50	1.70	2.70	1.70	1.55	169	361	104	19	12	3.90	2.20
4	2.40	1.70	2.60	1.80	1.50	174	353	87	18	11	3.80	2.10
5	2.30	1.65	2.40	2.10	1.50	183	351	72	18	11	3.70	2.10
6	2.20	1.65	2.20	2.00	1.40	194	351	59	17	10	3.60	2.00
7	2.20	1.65	1.95	2.20	1.35	202	351	53	17	10	3.50	2.00
8	2.10	1.65	1.90	2.20	1.30	211	348	51	16	9.00	3.30	1.95
9	2.00	1.60	1.80	2.10	1.30	219	351	47	15	8.60	3.30	1.95
10	1.95	1.60	1.75	1.95	1.45	238	343	44	15	8.40	3.20	1.95
11	1.90	1.60	1.70	1.85	3.00	288	337	42	15	7.80	3.00	1.95
12	1.85	1.70	1.70	1.75	3.40	363	331	40	15	7.40	3.00	1.90
13	1.90	1.80	1.65	1.70	2.60	501	325	38	15	7.20	2.90	1.90
14	1.80	1.85	1.70	1.60	1.95	597	317	37	16	7.00	2.80	1.85
15	1.80	1.90	1.70	1.60	1.75	657	308	36	17	6.55	2.90	1.85
16	1.75	1.90	1.65	1.60	1.65	669	301	36	18	6.55	2.90	1.85
17	1.75	1.95	1.60	1.60	1.60	704	294	35	18	6.40	2.90	1.80
18	1.70	2.10	1.65	1.65	1.80	669	287	34	19	6.25	2.80	1.80
19	1.65	2.20	1.70	1.75	2.20	633	280	35	19	6.10	2.80	1.80
20	1.65	2.30	1.75	1.70	3.40	591	273	35	18	5.80	2.70	1.80
21	1.65	2.40	1.80	1.65	9.20	579	267	35	18	5.50	2.60	1.75
22	1.65	2.40	1.85	1.70	18	591	257	35	18	5.35	2.60	1.70
23	1.70	2.60	1.80	1.65	25	567	250	34	18	5.05	2.50	1.65
24	1.70	3.00	1.65	1.65	32	535	239	33	18	4.90	2.50	1.65
25	1.70	3.10	1.55	1.60	42	489	229	32	17	4.90	2.40	1.60
26	1.65	3.20	1.45	1.55	56	457	219	30	17	4.75	2.30	1.60
27	1.60	3.30	1.30	1.50	88	433	208	28	17	4.60	2.40	1.55
28	1.55	3.50	1.30	1.40	121	403	198	26	16	4.45	2.30	1.55
29	1.50	3.30	1.30	1.40	145	388	184	24	16	4.30	–	1.50
30	1.45	3.30	1.35	1.35	157	388	168	22	15	4.15	–	1.50
31	–	3.10	–	1.35	163	–	154	–	15	4.00	–	1.45
Total	56.95	68.95	55.35	52.45	893.80	12,423	9,003	1,443	531	226.00	84.75	56.65
Mean	1.90	2.22	1.84	1.69	28.8	414	290	48.1	17.1	7.29	3.03	1.83
Max.	2.80	3.50	3.10	2.20	163	704	388	137	21	14	4.15	2.20
Min.	1.45	1.55	1.30	1.35	1.30	165	154	22	15	4.00	2.30	1.45
Runoff - mcm.	4.920	5.957	4.782	4.532	77.224	1,073.347	777.859	124.675	45.878	19.526	7.322	4.894

WATER YEAR 1977 : Max. 704 Min. 1.30 Mean 68.2 Annual Runoff 2,150.919 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sept. 17	24.00	129.96	718				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
MUN RIVER BASIN

Mun River at Ubon Ratchathani, Ubon Ratchathani (M. 7)

Location: Lat. 15°-13'-17" N., Long. 104°-51'-39" E., on left bank at abutment of Seri Prachathipatai bridge, Amphoe Muang, Ubon Ratchathani.

Drainage Area: 106,673 Sq.km.

Type of Gage: Staff gage.

Zero Gage at Bottom at: + 105.00 m. (M.S.L.)

Bench Mark: B.M. – H.S.

Location: Near abutment of the bridge.
Elevation: + 113.317 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 3-5 readings.

Period of Available Gage Records: 1948 to date.

Rating Operation:

Period of Rating: 1956-1958, 1964 to date.
Rated by Float: –
Rated by Current Meter: 1956-1958, 1964 to date.

Stability of Channel Regimes: Fairly stable, no shifting adjustment but periodic curves are used for flow computation.

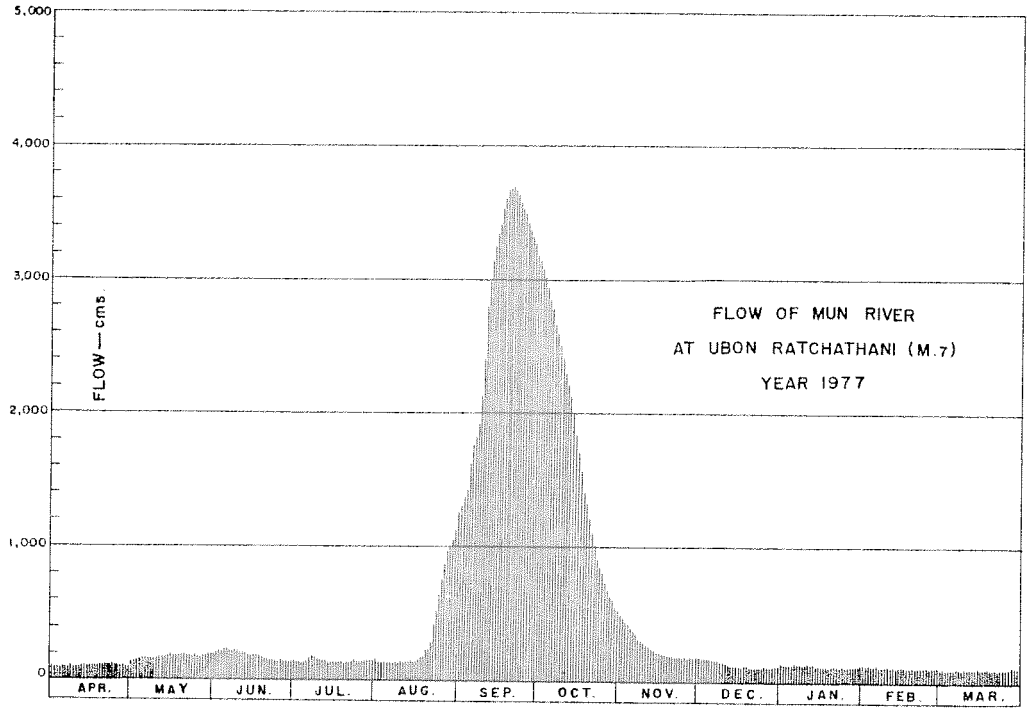
Overbank Flow Conditions: No overbank flow.

General Description: Records fair. Stage-discharge relation defined by 44 discharge measurements made in 1977.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	106.75	106.87	107.15	106.87	106.86	110.01	113.21	108.19	107.03	106.76	106.75	106.71
2	.75	.88	.17	.85	.84	.14	.13	.11	.03	.78	.76	.70
3	.75	.90	.19	.83	.83	.22	.03	.06	.01	.80	.75	.73
4	.77	.91	.19	.82	.82	.28	112.95	107.96	.00	.80	.75	.76
5	.76	.93	.22	.83	.80	.58	.83	.86	106.97	.81	.73	.75
6	106.76	106.94	107.22	106.89	106.83	110.91	112.71	107.77	106.95	106.80	106.73	106.75
7	.76	.95	.22	107.01	.82	111.05	.57	.69	.93	.80	.73	.73
8	.76	.95	.21	.04	.81	.16	.44	.60	.92	.80	.72	.71
9	.76	.94	.21	106.97	.80	.40	.29	.54	.90	.80	.71	.71
10	.77	.95	.20	.92	.81	.81	.15	.46	.88	.80	.71	.71
11	106.78	106.95	107.18	106.87	106.84	112.30	112.00	107.41	106.84	106.79	106.71	106.70
12	.80	.96	.16	.86	.85	.71	111.85	.35	.83	.78	.71	.70
13	.82	.97	.14	.83	.87	113.06	.68	.30	.80	.78	.70	.70
14	.84	107.00	.11	.81	.86	.26	.48	.26	.78	.74	.70	.70
15	.84	.00	.07	.81	.86	.38	.26	.22	.76	.73	.70	.70
16	106.84	107.03	107.04	106.86	106.87	113.51	111.02	107.19	106.75	106.71	106.71	106.69
17	.84	.03	.02	.82	.93	.69	110.77	.16	.75	.71	.71	.69
18	.84	.03	.01	.81	.99	.82	.52	.15	.73	.71	.71	.69
19	.85	.03	.00	.80	107.08	.89	.28	.13	.73	.71	.69	.70
20	.85	.04	106.97	.80	.18	.94	.06	.11	.73	.71	.68	.70
21	106.85	107.03	106.94	106.80	107.39	113.95	109.82	107.10	106.73	106.73	106.67	106.71
22	.84	.03	.92	.86	.74	.94	.59	.09	.72	.72	.66	.71
23	.84	.03	.90	.90	108.10	.90	.40	.08	.72	.72	.65	.72
24	.84	.02	.88	.88	.43	.83	.21	.06	.72	.71	.65	.71
25	.83	.02	.85	.86	.78	.76	.05	.05	.72	.71	.64	.73
26	106.83	107.01	106.84	106.85	109.04	113.68	108.90	107.05	106.75	106.72	106.64	106.73
27	.83	.03	.82	.85	.25	.58	.75	.04	.75	.73	.63	.73
28	.81	.06	.82	.85	.44	.50	.61	.04	.74	.73	.63	.74
29	.81	.08	.82	.85	.56	.40	.51	.04	.75	.73	–	.74
30	.85	.10	.86	.85	.64	.32	.40	.03	.75	.75	–	.74
31	–	.13	–	.86	.79	–	.31	–	.76	.75	–	.75
Mean	106.81	106.99	107.04	106.86	107.57	112.60	110.86	107.37	106.82	106.75	106.70	106.72
Max.	106.85	107.13	107.22	107.04	109.79	113.95	113.21	108.19	107.03	106.81	106.76	106.76
Min.	106.75	106.87	106.82	106.80	106.80	110.01	108.31	107.03	106.72	106.71	106.63	106.69

WATER YEAR 1977 : Max. 113.95 m. Min. 106.63 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	85	146	205	146	144	1,245	3,147	497	179	125	123	116
2	85	148	209	142	140	1,310	3,091	471	179	128	125	114
3	85	152	214	138	138	1,350	3,021	455	174	132	123	119
4	89	154	214	136	136	1,380	2,965	423	172	132	123	125
5	87	158	221	138	132	1,534	2,881	391	166	134	119	123
6	87	160	221	150	138	1,711	2,797	364	162	132	119	123
7	87	162	221	174	136	1,787	2,700	341	158	132	119	119
8	87	162	218	181	134	1,848	2,616	316	156	132	118	116
9	87	160	218	166	132	1,980	2,518	300	152	132	116	116
10	89	162	216	156	134	2,216	2,428	280	148	132	116	116
11	92	162	212	146	140	2,525	2,334	267	140	130	116	114
12	96	164	207	144	142	2,797	2,241	251	138	128	116	114
13	101	166	203	138	146	3,042	2,136	239	132	123	114	114
14	106	172	196	134	144	3,182	2,024	230	128	121	114	114
15	106	172	187	134	144	3,266	1,903	221	125	119	114	114
16	106	179	181	144	146	3,357	1,771	214	123	116	116	112
17	106	179	176	136	158	3,488	1,636	207	123	116	116	112
18	106	179	174	134	170	3,588	1,502	205	119	116	116	112
19	108	179	172	132	190	3,643	1,380	201	119	116	112	114
20	108	181	166	132	212	3,683	1,270	196	119	116	110	114
21	108	179	160	132	262	3,690	1,150	194	119	119	109	116
22	106	179	156	144	355	3,683	1,043	192	118	118	107	116
23	106	179	152	152	468	3,651	956	190	118	118	105	118
24	106	176	148	148	579	3,596	876	185	118	116	105	116
25	103	176	142	144	708	3,542	811	183	118	116	103	119
26	103	174	140	142	808	3,481	754	183	123	118	103	119
27	103	179	136	142	892	3,406	697	181	123	119	101	119
28	98	185	136	142	974	3,350	644	181	121	119	101	121
29	98	190	136	142	1,030	3,280	608	181	123	119	–	121
30	108	194	144	142	1,066	3,280	568	179	123	123	–	121
31	–	201	–	144	1,135	3,224	537	–	125	123	–	123
Total	2,942	5,309	5,481	4,475	11,233	83,835	55,005	7,918	4,241	3,820	3,179	3,630
Mean	98.1	171	182	144	362	2,794	1,774	263	136	123	113	117
Max.	108	201	221	181	1,135	3,690	3,147	497	179	134	125	125
Min.	85	146	136	132	132	1,245	537	179	118	116	101	112
Runoff – mcm.	254.189	458.698	473.558	386.640	970.531	7,243.344	4,752.432	684.115	366.422	330.048	274.666	313.632

WATER YEAR 1977 : Max. 3,690 Min. 85 Mean 523 Annual Runoff16,508.275 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sept.21	06.00	113.95	3,690				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
MUN RIVER BASIN

Lam Plai Mat at Lam Plai Mat, Buri Ram (M. 8)

Location: Lat. 15°-01'-05" N., Long. 102°-48'-55" E., on left bank about 60 meters upstream from railway bridge, Amphoe Lam Plai Mat, Buri Ram.

Drainage Area: 5,625 Sq.km.

Type of Gage: Water-stage recorder.

Zero Gage at Bottom at: + 149.50 m. (M.S.L.)

Bench Mark: B.M. M8

Location: At the foot of the ladder of automatic gage building.
Elevation: + 155.859 m. (M.S.L.)

Gage Reading Frequency: Recording

Basis of Mean Daily Gage Height: Arithmetic mean of 24 hourly readings.

Period of Available Gage Records: 1951 to date.

Rating Operation:

Period of Rating: 1967
Rated by Float: -
Rated by Current Meter: 1967

Stability of Channel Regimes: Fairly stable, no shifting adjustment for flow computation.

Overbank Flow Conditions: No overbank flow.

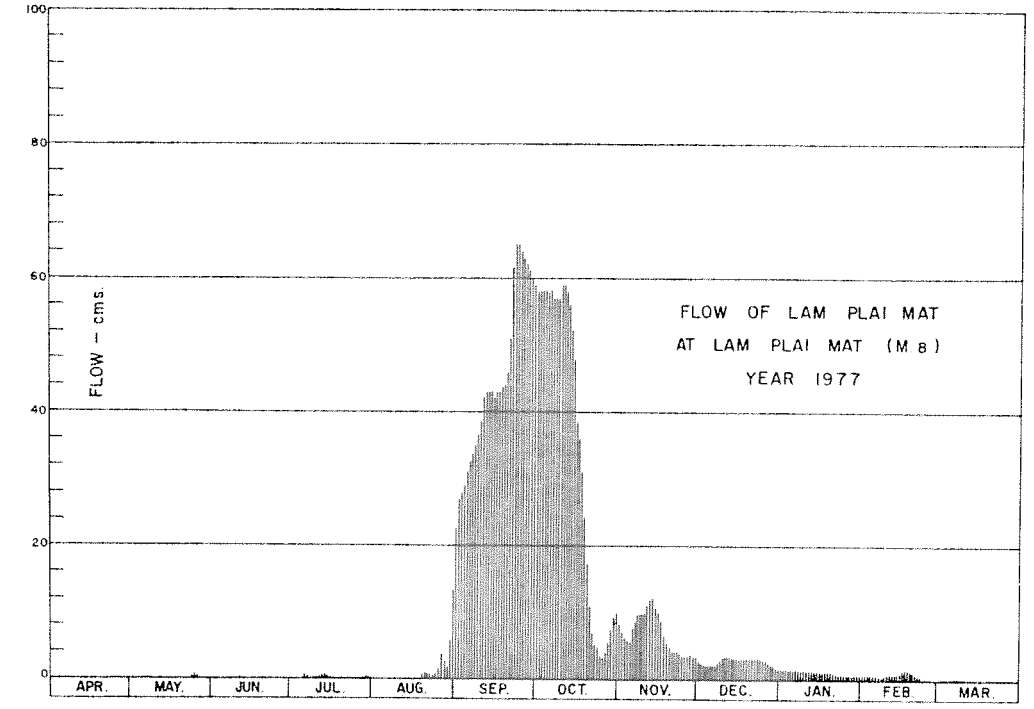
General Description: Records fair. Stage-discharge relation defined by 96 discharge measurements made in 1967.

Remarks: No records on April 1-30, 1977. Discharge record for periods of no flow are omitted.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1		149.97	150.00	149.95	150.15	132.82	155.32	151.48	150.69	150.46	150.26	149.99
2		.99	.00	.95	.13	153.29	.52	.32	.64	.46	.26	.99
3		150.00	.01	.95	.13	.46	.52	.18	.60	.44	.25	.99
4		.01	.00	150.02	.09	.55	.52	.10	.56	.42	.24	.99
5		.02	.00	.11	.08	.68	.52	.07	.56	.42	.23	.99
6		150.02	149.98	150.25	150.08	153.82	155.51	151.20	150.56	150.41	150.22	150.01
7		.02	.98	.20	.08	.93	.47	.42	.56	.41	.22	149.99
8		.02	.98	.12	.06	154.05	.44	.54	.57	.40	.20	.99
9		.02	.98	.17	.04	.18	.48	.56	.66	.40	.16	.98
10		.03	150.12	.18	.02	.30	.55	.54	.73	.40	.11	.98
11		150.03	150.20	150.19	150.00	154.58	155.58	151.64	150.76	150.40	150.12	149.98
12		.04	.01	.22	.00	.63	.52	.76	.76	.40	.12	.98
13		.02	149.99	.26	.00	.64	.40	.83	.77	.40	.12	.98
14		149.98	.98	.20	.00	.61	.22	.81	.74	.40	.12	.98
15		.98	.97	.14	149.99	.57	154.94	.74	.72	.38	.02	.98
16		149.98	149.97	150.16	149.99	154.62	154.40	151.60	150.72	150.38	150.03	149.98
17		.98	.97	.12	.99	.66	.14	.42	.73	.38	.16	.98
18		.98	.97	.11	150.03	.70	153.66	.24	.74	.38	.14	.98
19		.98	.97	.05	.29	.68	.07	.08	.74	.38	.14	.98
20		.98	.98	.02	.35	.84	152.49	150.97	.72	.38	.13	.98
21		149.98	149.98	150.04	150.32	155.27	151.90	150.88	150.72	150.37	150.12	149.99
22		150.00	.96	.10	.27	.72	.36	.86	.72	.28	.11	.99
23		.08	.95	.10	.24	.81	.04	.86	.72	.27	.11	.99
24		.17	.95	.10	.30	.82	150.87	.84	.72	.25	.10	150.02
25		.26	.95	.14	.38	.78	.76	.79	.70	.25	.08	.04
26		150.21	149.94	150.13	150.82	155.74	150.71	150.78	150.66	150.25	150.06	150.01
27		.14	.94	.13	.81	.69	.86	.77	.63	.26	.04	.00
28		.07	.94	.19	.64	.63	151.05	.82	.59	.28	.03	.00
29		.03	.94	.20	.50	.62	.28	.80	.52	.28	-	.00
30		.00	.96	.18	151.14	.58	.50	.75	.48	.28	-	149.99
31		.00	-	.16	152.08	-	.60	-	.46	.26	-	.99
Mean		150.03	149.98	150.12	150.29	154.67	153.62	151.22	150.66	150.36	150.14	149.99
Max.		150.26	150.20	150.26	152.08	155.82	155.52	151.83	150.77	150.46	150.26	150.04
Min.		149.97	149.94	149.95	149.99	152.82	150.71	150.75	150.46	150.25	150.03	149.98

WATER YEAR 1977 : Max. 155.82 m. Min. 149.94 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1		0.00	0.00	0.00	0.20	22	58	8.92	2.84	1.60	0.64	0.00
2					0.12	27	58	7.56	2.54	1.60	0.64	
3					0.12	28	58	6.44	2.30	1.50	0.60	
4				0.00	0.00	29	58	5.80	2.10	1.40	0.56	
5				0.04		31	58	5.56	2.10	1.40	0.52	
6				0.60		33	58	6.60	2.10	1.35	0.48	
7				0.40		34	57	8.38	2.10	1.35	0.48	
8				0.08		35	57	9.46	2.15	1.30	0.40	
9			0.00	0.28		37	57	9.64	2.66	1.30	0.24	
10			0.08	0.32		38	59	9.46	3.11	1.30	0.04	
11			0.40	0.36		42	59	10	3.32	1.30	0.08	
12			0.00	0.48		43	58	11	3.32	1.30	0.08	
13				0.64		43	56	12	3.39	1.30	0.08	
14				0.40		43	52	12	3.18	1.30	0.08	
15				0.16		42	48	11	3.08	1.20	0.08	
16				0.24		43	40	10	3.04	1.20	0.12	
17				0.08		43	36	8.38	3.11	1.20	0.24	
18				0.04	0.00	44	31	6.92	3.18	1.20	0.16	
19				0.00	0.76	44	24	5.64	3.18	1.20	0.16	
20					1.05	46	18	4.78	3.08	1.20	0.12	
21					0.90	53	13	4.16	3.04	1.15	0.08	
22					0.68	63	7.88	4.02	3.04	0.72	0.04	
23		0.00			0.56	65	5.32	4.02	3.04	0.68	0.04	
24		0.23		0.00	0.80	65	4.09	3.88	3.04	0.60	0.00	
25		0.64		0.16	0.12	64	3.32	3.53	2.90	0.60		
26		0.44		0.12	3.74	63	2.97	3.46	2.66	0.60		
27		0.16		0.12	3.67	62	4.02	3.39	2.48	0.64		
28		0.00		0.36	2.54	61	5.40	3.74	2.25	0.72	0.00	
29				0.40	1.80	60	7.24	3.60	1.90	0.72	–	
30			0.00	0.32	6.12	59	9.10	3.25	1.70	0.72	–	
31		0.00	–	0.24	14	–	10	–	1.60	0.64	–	0.00
Total		1.47	0.48	5.84	38.28	1,362	1,072.34	206.60	83.45	34.29	5.96	0.00
Mean		0.05	0.02	0.19	1.23	45.4	34.6	6.89	2.69	1.11	0.21	0.00
Max.		0.64	0.40	0.64	14	65	59	12	3.39	1.60	0.64	0.00
Min.		0.00	0.00	0.00	0.00	22	2.97	3.25	1.60	0.60	0.00	0.00
Runoff - mcm.		0.127	0.041	0.504	3.306	117.677	92.650	17.850	7.210	2.963	0.515	0.000

WATER YEAR 1977 : Max. 65 Min. 0.00 Mean Annual Runoff mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sept. 25	24.00	155.84	66				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
MUN RIVER BASIN

Huai Samran at Si Sa Ket, Si Sa Ket (M. 9)

Location: Lat. 15°-07'-00" N., Long. 104°-19'-20" E., on left bank downstream side of the bridge, and about 200 meters north of city jail, Amphoe Muang, Si Sa Ket.

Drainage Area: 3,026 Sq.km.

Type of Gage: Water-stage recorder.

Zero Gage at Bottom at: + 109.00 m. (M.S.L.)

Bench Mark: B.M. No. 0339

Location: On right bank at abutment of highway bridge.
Elevation: + 123.034 m. (M.S.L.)

Gage Reading Frequency: Recording

Basis of Mean Daily Gage Height: Arithmetic mean of 24 hourly readings.

Period of Available Gage Records: 1954 to date.

Rating Operation:

Period of Rating: 1951, 1972 to date.
Rated by Float: -
Rated by Current Meter: 1951, 1972 to date.

Stability of Channel Regimes: Fairly stable, no shifting adjustment but periodic curves are used for flow computation.

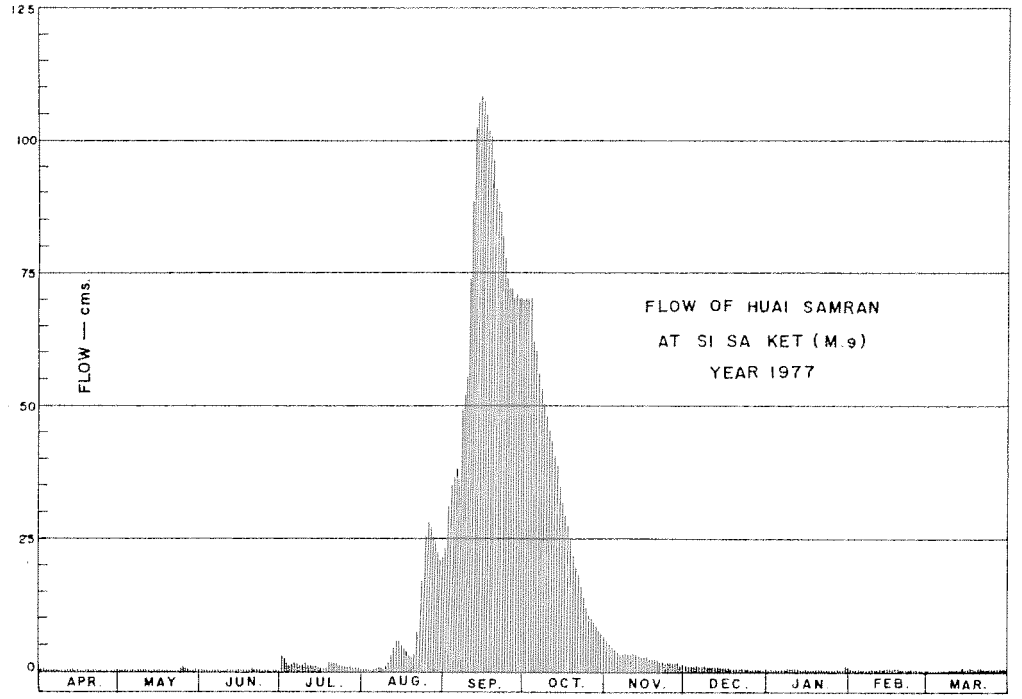
Overbank Flow Conditions: No overbank flow.

General Description: Records fair. Stage-discharge relation defined by 46 discharge measurements made in 1977.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	109.10	109.06	109.06	109.80	109.18	111.99	117.81	110.95	109.37	109.17	109.20	109.10
2	.11	.06	.08	.73	.22	112.48	.77	.84	.37	.16	.16	.10
3	.12	.07	.09	.50	.16	.83	.77	.71	.36	.16	.15	.13
4	.12	.09	.07	.39	.14	.97	.60	.54	.33	.17	.14	.13
5	.10	.06	.06	.41	.15	113.13	.45	.41	.31	.16	.13	.12
6	109.08	109.07	109.07	109.43	109.17	113.51	117.26	110.21	109.32	109.16	109.12	109.10
7	.06	.06	.06	.35	.33	.79	.10	.19	.31	.16	.11	.19
8	.06	.06	.06	.35	.23	.97	116.88	.01	.31	.16	.11	.14
9	.06	.08	.04	.43	.20	114.30	.67	109.90	.30	.15	.10	.11
10	.05	.07	.04	.44	.38	.97	.45	.80	.29	.14	.11	.10
11	109.07	107.07	109.02	109.43	109.60	116.05	116.20	109.78	109.25	109.14	109.10	109.09
12	.07	.07	.04	.39	.96	.85	115.91	.75	.24	.14	.10	.09
13	.09	.12	.08	.37	110.10	117.43	.62	.74	.23	.13	.10	.10
14	.12	.10	.15	.34	.18	.38	.35	.72	.22	.13	.11	.24
15	.10	.10	.08	.31	.14	.38	.03	.68	.21	.14	.11	.14
16	109.12	109.07	109.06	109.24	110.01	117.40	114.74	109.64	109.22	109.13	109.10	109.11
17	.10	.05	.05	.27	109.93	.48	.43	.60	.21	.12	.10	.17
18	.08	.07	.12	.31	.76	.51	.11	.58	.21	.11	.15	.15
19	.08	.07	.12	.46	.73	.55	113.76	.59	.21	.11	.13	.21
20	.07	.06	.35	.48	.77	.61	.43	.57	.21	.14	.12	.13
21	109.06	109.04	109.30	109.51	109.99	117.66	113.09	109.49	109.20	109.13	109.11	109.17
22	.05	.04	.18	.41	110.70	.69	112.76	.48	.21	.14	.12	.17
23	.07	.12	.14	.36	111.42	.74	.45	.48	.20	.13	.18	.16
24	.07	.34	.11	.37	112.05	.78	.20	.47	.22	.12	.24	.15
25	.10	.30	.10	.34	.26	.80	.00	.45	.22	.13	.17	.15
26	109.09	109.22	109.10	109.33	112.30	117.80	111.80	109.45	109.21	109.11	109.11	109.12
27	.08	.16	.08	.31	.16	.77	.60	.44	.20	.11	.11	.13
28	.06	.11	.06	.28	.02	.79	.56	.42	.21	.11	.10	.13
29	.08	.10	.04	.25	111.88	.81	.42	.39	.20	.11	-	.12
30	.06	.09	.26	.24	.79	.81	.24	.39	.18	.35	-	.13
31	-	.06	-	.19	.79	-	.09	-	.18	.29	-	.12
Mean	109.10	109.10	109.10	109.39	110.31	116.14	114.60	109.82	109.25	109.15	109.13	109.14
Max.	109.12	109.34	109.35	109.80	112.30	117.43	117.81	110.95	109.37	109.35	109.24	109.24
Min.	109.05	109.04	109.02	109.19	109.14	111.99	111.09	109.39	109.18	109.11	109.10	109.09

WATER YEAR 1977 : Max. 117.81 m. Min. 109.02 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.10	0.06	0.06	3.40	0.34	23	70	5.70	1.15	0.31	0.240	0.10
2	0.13	0.06	0.08	2.98	0.48	30	70	5.26	1.15	0.28	0.28	0.10
3	0.16	0.07	0.09	1.80	0.28	34	70	4.74	1.10	0.28	0.25	0.19
4	0.16	0.09	0.07	1.25	0.22	36	63	4.12	0.95	0.31	0.22	0.19
5	0.10	0.06	0.06	1.35	0.25	38	60	3.73	0.85	0.28	0.19	0.16
6	0.08	0.07	0.07	1.45	0.31	34	56	3.32	0.90	0.28	0.16	0.10
7	0.06	0.06	0.06	1.05	0.95	48	54	3.28	0.85	0.28	0.13	0.37
8	0.06	0.06	0.06	1.05	0.52	51	51	3.01	0.85	0.28	0.13	0.22
9	0.06	0.08	0.04	1.45	0.40	56	48	4.00	0.80	0.25	0.10	0.13
10	0.05	0.07	0.04	1.50	1.20	66	46	3.40	0.76	0.22	0.13	0.10
11	0.07	0.07	0.02	1.45	2.30	86	44	3.28	0.60	0.22	0.10	0.09
12	0.09	0.07	0.04	1.25	4.36	101	41	3.10	0.56	0.22	0.10	0.09
13	0.09	0.16	0.08	1.15	5.30	106	38	3.04	0.52	0.19	0.10	0.10
14	0.16	0.10	0.25	1.00	5.86	*108	36	2.92	0.48	0.19	0.13	0.56
15	0.10	0.10	0.08	0.85	5.58	*108	33	2.70	0.44	0.22	0.13	0.22
16	0.16	0.07	0.06	0.56	4.67	106	30	2.50	0.48	0.19	0.10	0.13
17	0.10	0.05	0.05	0.68	4.18	102	28	2.30	0.44	0.16	0.10	0.31
18	0.08	0.07	0.16	0.85	3.16	100	25	2.20	0.44	0.13	0.25	0.25
19	0.08	0.07	0.16	1.60	2.98	97	23	2.35	0.44	0.13	0.19	0.44
20	0.07	0.06	1.05	1.70	3.22	93	20	2.15	0.44	0.22	0.16	0.19
21	0.06	0.04	0.08	1.85	4.54	88	18	1.75	0.40	0.19	0.13	0.31
22	0.05	0.04	0.34	1.35	10	86	16	1.70	0.44	0.22	0.16	0.31
23	0.07	0.16	0.22	1.10	17	80	14	1.70	0.40	0.19	0.34	0.28
24	0.07	1.00	0.13	1.15	24	*74	12	1.65	0.48	0.16	0.56	0.25
25	0.10	0.80	0.10	1.00	27	*72	11	1.55	0.48	0.19	0.31	0.25
26	0.09	0.48	0.10	0.95	28	72	10	1.55	0.44	0.13	0.13	0.16
27	0.08	0.28	0.08	0.85	26	70	8.90	1.50	0.40	0.13	0.13	0.19
28	0.06	0.13	0.06	0.72	24	71	8.70	1.40	0.44	0.13	0.10	0.19
29	0.08	0.10	0.04	0.60	22	70	8.00	1.25	0.40	0.13	–	0.16
30	0.06	0.09	0.64	0.56	21	70	7.10	1.25	0.38	1.05	–	0.19
31	–	0.06	–	0.37	21	–	6.35	–	0.34	0.76	–	0.16
Total	2.68	4.68	4.37	38.87	271.10	2,176	1,026.05	82.30	18.76	7.92	5.21	6.49
Mean	0.09	0.15	0.14	1.25	8.74	72.5	33.1	2.74	0.60	0.26	0.19	0.21
Max.	0.16	1.00	1.05	3.40	28	108	70	5.70	1.15	1.05	0.56	0.56
Min.	0.05	0.04	0.02	0.37	0.22	23	6.35	1.25	0.34	0.13	0.10	0.09
Runoff – mcm.	0.232	0.404	0.378	3.358	23.423	188.006	88.650	7.111	1.621	0.684	0.450	0.561

WATER YEAR 1977 : Max. 108 Min. 0.02 Mean 9.98 Annual Runoff 314.879 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Oct. 1	01.00	117.82	108				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
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 Kho Kho, Amphoe Muang, Surin.

Drainage Area: 2,927 Sq.km.

Type of Gage: Water-stage recorder.

Zero Gage at Bottom at: + 127.00 m. (M.S.L.)

Bench Mark: B.M. - H.S. No. 1035 and No. 1036.

Location: No. 1035 about 28 meters from left bank along the staff gage line.
Elevation: No. 1035 = + 134.981 m. (M.S.L.), No. 1036 = + 135.203 m. (M.S.L.)

Gage Reading Frequency: Recording

Basis of Mean Daily Gage Height: Arithmetic mean of 24 hourly 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: Unstable, no shifting adjustment for flow computation.

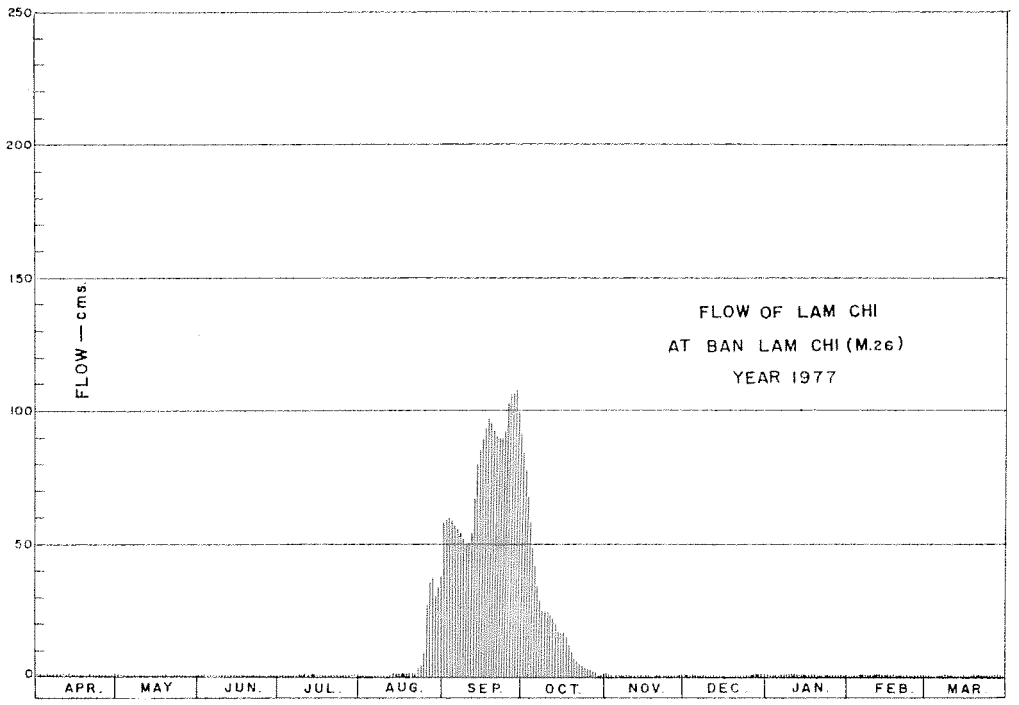
Overbank Flow Conditions: Overbank flow starts at elevation + 134.80 m. (M.S.L.)

General Description: Records fair. Stage-discharge relation defined by 279 discharge measurements made during 1967-1968.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	127.60	127.53	127.60	127.57	127.72	133.18	134.60	128.11	127.59	127.60	127.61	127.49
2	.56	.55	.61	.55	.71	.28	.15	.08	.59	.57	.63	.51
3	.57	.53	.64	.56	.68	.30	133.55	.03	.59	.55	.54	.50
4	.60	.53	.56	.59	.66	.26	132.92	127.94	.58	.55	.52	.53
5	.60	.56	.61	.63	.63	.16	.28	.80	.56	.63	.52	.47
6	127.66	127.61	127.58	127.60	127.65	133.07	131.69	127.73	127.60	127.55	157.51	127.44
7	.64	.61	.58	.60	.63	132.99	.16	.72	.63	.54	.50	.43
8	.61	.63	.56	.60	.64	.88	130.87	.71	.70	.50	.50	.42
9	.55	.61	.54	.58	.63	.75	.84	.71	.59	.51	.50	.47
10	.56	.51	.59	.53	.65	.65	.86	.75	.75	.58	.50	.48
11	127.59	127.48	127.52	127.53	127.58	132.89	130.83	127.82	127.66	127.60	127.54	127.46
12	.57	.46	.56	.55	.61	133.59	.63	.79	.61	.55	.55	.46
13	.52	.47	.57	.56	.68	134.10	.43	.78	.65	.49	.51	.46
14	.54	.49	.55	.62	.69	.43	.30	.75	.64	.44	.50	.44
15	.51	.52	.55	.63	.64	.62	.28	.70	.63	.52	.48	.46
16	127.48	127.56	127.53	127.58	127.56	134.77	130.24	127.66	127.60	127.47	127.48	127.44
17	.50	.64	.49	.56	.52	.91	.06	.67	.64	.49	.47	.45
18	.52	.62	.50	.56	.59	.99	129.79	.66	.64	.52	.46	.47
19	.56	.66	.48	.56	.64	.96	.45	.63	.63	.51	.44	.56
20	.64	.66	.46	.54	.70	.87	.10	.60	.66	.49	.43	.57
21	127.59	127.66	127.56	127.55	127.91	134.77	128.86	127.62	127.52	127.48	127.43	127.56
22	.57	.63	.53	.57	128.15	.72	.68	.66	.67	.48	.46	.55
23	.55	.63	.54	.59	.63	.74	.63	.65	.59	.47	.44	.53
24	.54	.66	.54	.63	.84	.85	.59	.63	.57	.44	.44	.56
25	.53	.64	.55	.64	130.63	135.04	.52	.62	.57	.40	.44	.51
26	127.52	127.61	127.55	127.64	131.27	135.17	128.37	127.63	127.53	127.51	127.46	127.49
27	.53	.61	.54	.64	.73	.23	.16	.62	.58	.48	.48	.47
28	.53	.70	.51	.64	.87	.24	.04	.62	.54	.50	.50	.50
29	.53	.64	.50	.63	.36	.19	127.98	.60	.56	.51	-	.49
30	.50	.63	.58	.65	.68	134.95	128.03	.58	.59	.52	-	.47
31	-	.61	-	.71	132.00	-	.09	-	.65	.56	-	.45
Mean	127.55	127.58	127.54	127.59	128.57	134.15	129.06	127.70	127.61	127.51	127.49	127.48
Max.	127.66	127.70	127.64	127.71	132.00	135.24	134.60	128.11	127.75	127.60	127.63	127.57
Min.	127.48	127.46	127.46	127.53	127.52	132.65	127.98	128.58	127.52	127.40	127.44	127.42

WATER YEAR 1977 : Max. 135.24 m. Min. 127.40 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.20	0.09	0.20	0.15	0.44	58	86	1.43	0.18	0.20	0.22	0.05
2	1.14	0.12	0.22	0.12	0.42	60	76	1.34	0.18	0.15	0.26	0.06
3	0.15	0.09	0.28	0.14	0.36	60	65	1.19	0.18	0.12	0.11	0.05
4	0.20	0.09	0.14	0.18	0.32	59	54	0.92	0.17	0.12	0.08	0.09
5	0.20	0.14	0.22	0.26	0.26	58	44	0.60	0.14	0.26	0.08	0.04
6	0.32	0.22	0.17	0.20	0.30	56	35	0.46	0.20	0.12	0.06	0.03
7	0.28	0.22	0.17	0.20	0.26	55	28	0.44	0.26	0.11	0.05	0.03
8	0.22	0.26	0.14	0.20	0.28	53	24	0.42	0.40	0.05	0.05	0.03
9	0.12	0.22	0.11	0.17	0.26	51	24	0.42	0.18	0.06	0.05	0.04
10	0.14	0.06	0.18	0.09	0.30	49	24	0.50	0.50	0.17	0.05	0.04
11	0.18	0.04	0.08	0.09	0.17	53	24	0.64	0.32	0.20	0.11	0.04
12	0.15	0.04	0.14	0.12	0.22	65	21	0.58	0.22	0.12	0.12	0.04
13	0.08	0.04	0.15	0.14	0.36	75	19	0.56	0.30	0.05	0.06	0.04
14	0.11	0.05	0.12	0.24	0.38	82	17	0.50	0.28	0.03	0.05	0.03
15	0.06	0.08	0.12	0.26	0.28	87	17	0.40	0.26	0.08	0.04	0.04
16	0.04	0.14	0.09	0.17	0.14	90	17	0.32	0.20	0.04	0.04	0.03
17	0.05	0.28	0.05	0.14	0.08	94	15	0.34	0.28	0.05	0.04	0.04
18	0.08	0.24	0.05	0.14	0.18	97	12	0.32	0.28	0.08	0.04	0.04
19	0.14	0.32	0.04	0.14	0.28	96	9.30	0.26	0.26	0.06	0.03	0.14
20	0.28	0.32	0.04	0.11	0.40	93	6.70	0.20	0.32	0.05	0.03	0.15
21	0.18	0.32	0.14	0.12	0.83	90	5.06	0.24	0.08	0.04	0.03	0.14
22	0.15	0.26	0.09	0.15	1.55	89	4.10	0.32	0.31	0.04	0.04	0.12
23	0.12	0.26	0.11	0.18	3.85	90	3.85	0.30	0.18	0.04	0.03	0.09
24	0.11	0.32	0.11	0.26	4.94	92	3.65	0.26	0.15	0.03	0.03	0.14
25	0.09	0.28	0.12	0.28	14	99	3.30	0.24	0.15	0.02	0.03	0.06
26	0.08	0.22	0.12	0.28	29	104	2.55	0.26	0.09	0.06	0.04	0.05
27	0.09	0.22	0.11	0.28	36	106	1.58	0.24	0.17	0.04	0.04	0.04
28	0.09	0.40	0.06	0.28	38	107	1.22	0.24	0.11	0.05	0.05	0.05
29	0.09	0.28	0.05	0.26	31	105	1.04	0.20	0.14	0.06	–	0.05
30	0.05	0.26	0.17	0.30	35	96	1.19	0.17	0.18	0.08	–	0.04
31	–	0.22	–	0.42	40	–	1.37	–	0.30	0.14	–	0.03
Total	4.19	6.10	3.79	6.07	239.86	2,369.00	646.91	14.31	6.97	2.72	1.86	1.86
Mean	0.14	0.20	0.13	0.19	7.74	79.0	20.9	0.48	0.22	0.09	0.07	0.06
Max.	0.32	0.40	0.28	0.42	40	107	86	1.43	0.50	0.20	0.26	0.15
Min.	0.04	0.04	0.04	0.09	0.08	49	1.04	0.17	0.08	0.02	0.03	0.03
Runoff - mcm.	0.362	0.527	0.327	0.524	20.724	204.682	55.893	1.236	0.602	0.235	0.161	0.161

WATER YEAR 1977 : Max. 107 Min. 0.02 Mean 9.05 Annual Runoff 285.434 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sept. 28	15.00	135.25	108				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
MUN RIVER BASIN

Lam Se Bai at Ban Nong Bua, Yasothon (M. 32)

Location: Lat. 15°-50'-20" N., Long. 104°-27'-35" E., on right bank about 25 meters upstream from Phawaphutanon Bridge at Tambon Pho Trai, Amphoe Kham Khuan Kaeo, Yasothon.

Drainage Area: 1,654 Sq.km.

Type of Gage: Water-stage recorder.

Zero Gage at Bottom at: + 119.90 m. (M.S.L.)

Bench Mark: B.M. - H.S. RID Lam Sae.

Location: On right bank near gage site.
Elevation: + 128.102 m. (M.S.L.)

Gage Reading Frequency: Recording

Basis of Mean Daily Gage Height: Arithmetic mean of 24 hourly readings.

Period of Available Gage Records: 1954-1962, 1965 to date.

Rating Operation:

Period of Rating: 1965-1973.
Rated by Float: -
Rated by Current Meter: 1965-1973.

Stability of Channel Regimes: Fairly stable, no shifting adjustment for flow computation.

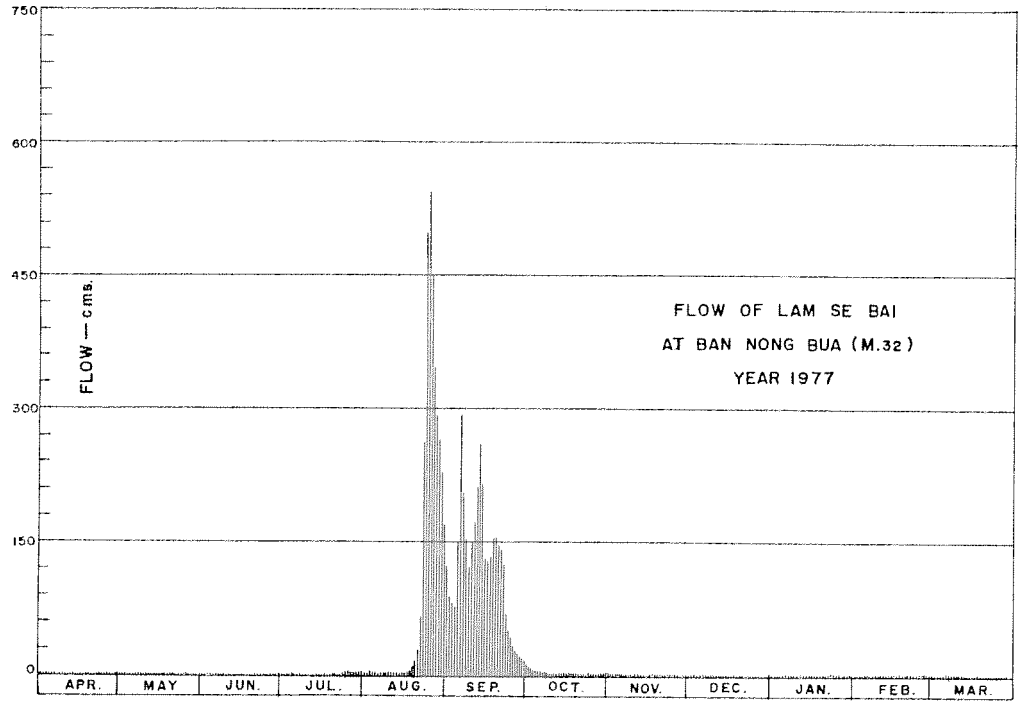
Overbank Flow Conditions: No overbank flow.

General Description: Records fair. Stage-discharge relation defined by 62 discharge measurements made in 1969-1973.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	120.05	120.08	120.10	120.10	120.49	124.63	122.38	120.66	120.18	120.16	120.18	120.06
2	.05	.08	120.10	.10	.64	.38	.03	.67	.18	.16	.18	.06
3	.06	.09	120.10	.10	.76	.30	121.73	.63	.18	.17	.16	.06
4	.06	.09	120.10	.10	.63	.22	.49	.59	.18	.17	.16	.06
5	.06	.09	120.10	.10	.56	125.22	.35	.56	.18	.17	.16	.06
6	120.06	120.09	120.10	120.09	120.53	125.95	121.23	120.53	120.18	120.18	120.17	120.03
7	.06	.08	.10	.09	.50	.31	.15	.51	.18	.18	.16	.03
8	.07	.08	.11	.10	.70	.04	.07	.49	.18	.18	.16	.03
9	.06	.08	.12	.10	.86	124.68	.02	.47	.18	.18	.15	.04
10	.06	.08	.13	.12	.87	125.02	120.96	.46	.18	.18	.15	.04
11	120.06	120.08	120.13	120.12	120.89	125.14	120.90	120.43	120.18	120.19	120.16	120.04
12	.06	.08	.12	.15	.81	.47	.85	.40	.18	.18	.15	.06
13	.05	.08	.12	.15	.73	.77	.81	.37	.18	.18	.15	.16
14	.05	.08	.12	.13	.66	.31	.77	.35	.18	.18	.14	.19
15	.05	.07	.12	.11	.57	.81	.74	.34	.18	.18	.15	.20
16	120.06	120.07	120.12	120.10	120.51	124.78	120.73	120.33	120.18	120.18	120.16	120.20
17	.05	.07	.12	.10	.76	.83	.72	.30	.18	.18	.14	.21
18	.05	.07	.12	.10	121.63	125.05	.71	.27	.18	.18	.14	.22
19	.05	.07	.11	.10	122.11	.05	.70	.25	.18	.18	.14	.21
20	.05	.07	.11	.10	122.85	124.95	.68	.24	.18	.18	.14	.24
21	120.05	120.08	120.11	120.10	123.48	124.91	120.65	120.22	120.18	120.18	120.14	120.23
22	.05	.10	.11	.10	124.19	.71	.63	.22	.18	.18	.12	.24
23	.05	.10	.11	.20	125.93	.17	.62	.21	.18	.17	.10	.24
24	.06	.10	.11	.95	126.76	123.81	.62	.20	.18	.17	.10	.25
25	.06	.09	.10	121.12	.85	.68	.60	.19	.17	.17	.10	.23
26	120.06	120.09	120.09	121.00	126.55	123.48	120.59	120.19	120.17	120.17	120.09	120.23
27	.07	.10	.09	120.83	.16	.21	.58	.20	.17	.17	.07	.24
28	.09	.10	.10	.71	125.94	.03	.59	.20	.16	.18	.07	.24
29	.08	.10	.10	.64	.81	122.91	.67	.20	.16	.17		.24
30	.08	.10	.10	.58	.60	.72	.72	.19	.17	.17		.23
31	-	-	-	.53	.10	-	.70	-	.17	.16		.23
Mean	120.06	120.08	120.11	120.29	122.59	124.55	120.94	120.36	120.18	120.18	120.14	120.15
Max.	120.09	120.10	120.13	121.12	126.85	125.95	122.38	120.67	120.18	120.19	120.18	120.25
Min.	120.05	120.07	120.09	120.09	120.49	122.72	120.58	120.19	120.16	120.16	120.07	120.03

WATER YEAR 1977 : Max. 126.85 m. Min. 120.03 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.20	0.32	0.40	0.40	1.96	113.00	14.40	2.64	0.72	0.64	0.72	0.24
2	0.20	0.32	0.40	0.40	2.56	89.20	11.17	2.68	0.72	0.64	0.72	0.24
3	0.24	0.36	0.40	0.40	3.04	82.00	8.54	2.52	0.72	0.68	0.64	0.24
4	0.24	0.36	0.40	0.40	2.52	75.60	6.84	2.36	0.72	0.68	0.64	0.24
5	0.24	0.36	0.40	0.40	2.24	177.40	6.00	2.24	0.72	0.68	0.64	0.24
6	0.24	0.36	0.40	0.36	2.12	291.00	5.28	2.12	0.72	0.72	0.68	0.12
7	0.24	0.32	0.40	0.36	2.00	188.30	4.80	2.04	0.72	0.72	0.64	0.12
8	0.28	0.32	0.44	0.40	2.80	155.80	4.35	1.96	0.72	0.72	0.64	0.12
9	0.24	0.32	0.48	0.40	3.44	118.00	4.10	1.88	0.72	0.72	0.60	0.16
10	0.24	0.32	0.52	0.48	3.48	153.40	3.84	1.84	0.72	0.72	0.60	0.16
11	0.24	0.32	0.52	0.48	3.56	167.80	3.60	1.72	0.72	0.76	0.64	0.16
12	0.24	0.32	0.48	0.60	3.24	207.80	3.40	1.60	0.72	0.72	0.60	0.24
13	0.20	0.32	0.48	0.60	2.92	257.60	3.24	1.48	0.72	0.72	0.60	0.64
14	0.20	0.32	0.48	0.52	2.64	188.30	3.08	1.40	0.72	0.72	0.56	0.76
15	0.20	0.28	0.48	0.44	2.28	131.00	2.96	1.36	0.72	0.72	0.60	0.80
16	0.24	0.28	0.48	0.40	2.04	128.00	2.92	1.32	0.72	0.72	0.64	0.80
17	0.20	0.28	0.48	0.40	3.04	133.00	2.88	1.20	0.72	0.72	0.56	0.84
18	0.20	0.28	0.48	0.40	7.81	157.00	2.84	1.08	0.72	0.72	0.56	0.88
19	0.20	0.28	0.44	0.40	11.89	157.00	2.80	1.00	0.72	0.72	0.56	0.84
20	0.20	0.28	0.44	0.40	19.65	145.50	2.72	0.96	0.72	0.72	0.56	0.96
21	0.20	0.32	0.44	0.40	34.30	141.10	2.60	0.88	0.72	0.72	0.56	0.92
22	0.20	0.40	0.44	0.40	73.30	121.00	2.52	0.88	0.72	0.72	0.48	0.96
23	0.20	0.40	0.44	0.80	287.00	71.90	2.48	0.84	0.72	0.68	0.40	0.96
24	0.24	0.40	0.44	3.80	512.80	49.50	2.48	0.80	0.72	0.68	0.40	1.00
25	0.24	0.40	0.40	4.62	543.00	43.00	2.40	0.76	0.68	0.68	0.40	0.92
26	0.24	0.36	0.36	4.00	448.50	34.30	2.36	0.76	0.68	0.68	0.36	0.92
27	0.28	0.36	0.36	3.32	336.40	25.95	2.32	0.80	0.68	0.68	0.28	0.96
28	0.36	0.40	0.40	2.84	289.00	22.30	2.36	0.80	0.64	0.72	0.28	0.96
29	0.32	0.40	0.40	2.56	264.80	20.44	2.68	0.80	0.64	0.68	–	0.96
30	0.32	0.40	0.40	2.32	229.00	18.04	2.88	0.76	0.68	0.68	–	0.92
31	–	0.40	–	2.12	163.00	–	2.88	–	0.68	0.64	–	0.92
Total	7.08	10.56	13.08	35.82	3,266.33	3,666.23	127.64	43.48	21.96	21.72	15.56	19.20
Mean	0.24	0.34	0.44	1.16	105.37	122.21	4.12	1.45	0.71	0.70	0.56	0.62
Max.	0.36	0.40	0.52	4.62	543.00	291.00	14.40	2.68	0.72	0.76	0.72	1.00
Min.	0.20	0.28	0.36	0.36	1.96	18.04	2.32	0.76	0.64	0.64	0.28	0.12
Runoff – MCM.	0.612	0.912	1.130	3.095	282.211	316.762	11.028	3.757	1.897	1.977	1.344	1.659

WATER YEAR 1977 : Max. 543.00 Min. 0.12 Mean 19.86 Annual Runoff 626.284 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Aug. 24	24.00	126.92	567.00				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
MUN RIVER BASIN

Lam Sieo Noi at Ban Yang Laeng, Roi Et (M. 35)

Location: Lat. 15°-38'-49" N., Long. 103°-45'-00" E., on right bank at highway bridge, Tambon Sung Yang, Amphoe Suwannaphum, Roi Et.

Drainage Area: 672 Sq.km.

Type of Gage: Staff gage.

Zero Gage at Bottom at: + 0.00 m. (A.D.)

Bench Mark: B.M. - H.S.

Location: On right bank at abutment of the bridge.
Elevation: + 4.786 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: 1971 to date.

Rating Operation:

Period of Rating: 1971-1974.
Rated by Float: -
Rated by Current Meter: 1971-1974.

Stability of Channel Regimes: Fairly stable, no shifting adjustment for flow computation.

Overbank Flow Conditions: No overbank flow.

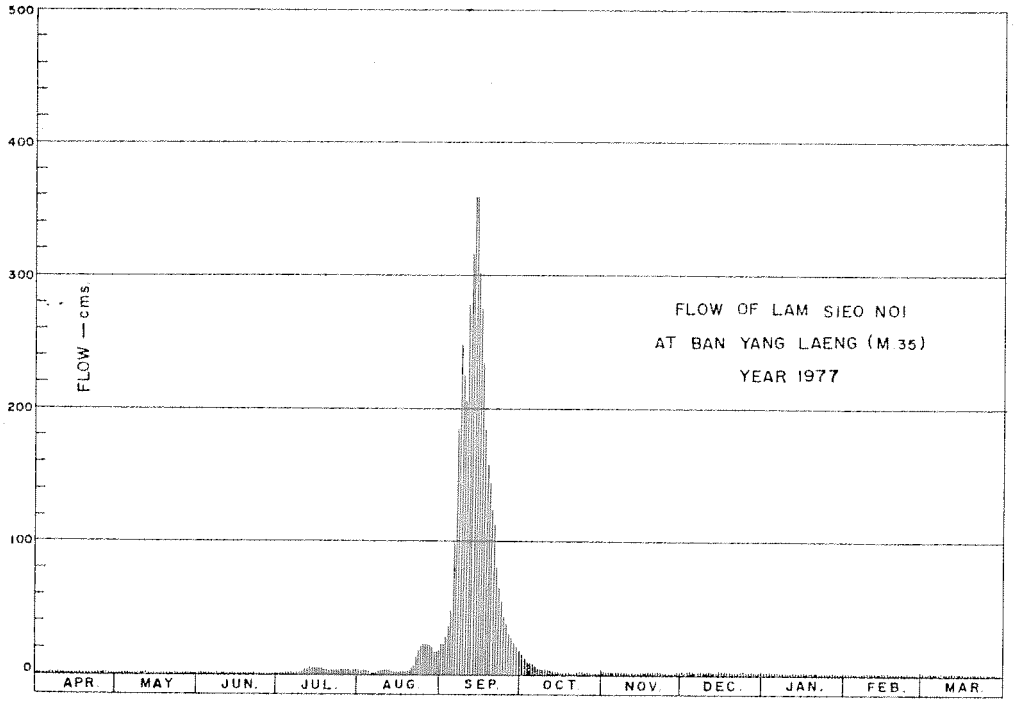
General Description: Records fair. Stage-discharge relation defined by 103 discharge measurements made during 1971-1974.

Remarks: Discharge record for periods of no flow are omitted.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.82	0.70	0.60	0.48	1.71	2.22	2.12	1.56	1.33	1.16	0.97	0.85
2	.82	.69	.59	.47	.70	.27	.05	.55	.32	.15	.96	.85
3	.81	.68	.59	.47	.69	.33	.00	.54	.31	.14	.95	.84
4	.83	.68	.58	.46	.67	.36	1.94	.53	.31	.13	.95	.84
5	.83	.68	.57	.50	.65	.48	.90	.52	.30	.12	.94	.83
6	0.83	0.69	0.58	0.50	1.64	2.61	1.86	1.52	1.30	1.12	0.94	0.83
7	.82	.68	.57	.61	.63	.70	.82	.51	.29	.11	.93	.82
8	.82	.68	.56	.62	.69	.77	.78	.49	.29	.11	.93	.82
9	.81	.67	.55	.80	.68	.75	.76	.48	.28	.10	.92	.81
10	.81	.66	.54	1.45	.68	.72	.73	.47	.28	.09	.92	.81
11	0.80	0.65	0.53	1.75	1.67	2.80	1.71	1.46	1.27	1.08	0.91	0.80
12	.80	.65	.55	.80	.66	.82	.67	.45	.27	.08	.91	.80
13	.79	.65	.55	.82	.65	.86	.65	.44	.26	.07	.90	.80
14	.79	.65	.54	.82	.65	.86	.62	.43	.25	.07	.90	.80
15	.78	.64	.53	.81	.65	.81	.61	.42	.25	.06	.89	.80
16	0.78	0.63	0.53	1.80	1.65	2.79	1.60	1.41	1.24	1.06	0.88	0.80
17	.77	.63	.51	.79	.66	.72	.59	.40	.24	.05	.87	.80
18	.76	.62	.52	.78	.70	.67	.58	.40	.23	.05	.86	.80
19	.75	.61	.52	.76	.70	.65	.58	.39	.23	.04	.85	.80
20	.75	.60	.51	.75	.71	.62	.57	.38	.22	.03	.85	.79
21	0.75	0.59	0.51	1.74	1.85	2.58	1.56	1.38	1.21	1.03	0.84	0.79
22	.74	.59	.50	.74	2.01	.50	.56	.37	.20	.02	.84	.79
23	.74	.64	.49	.74	.18	.45	.55	.37	.20	.01	.83	.78
24	.75	.65	.49	.75	.23	.40	.55	.37	.19	.01	.83	.78
25	.74	.64	.48	.76	.24	.36	.54	.36	.19	.00	.83	.77
26	0.74	0.64	0.48	1.76	2.22	2.32	1.54	1.36	1.19	1.00	0.84	0.76
27	.73	.63	.47	.76	.22	.27	.56	.35	.18	0.99	.85	.76
28	.72	.62	.46	.75	.19	.23	.58	.35	.18	.98	.85	.75
29	.71	.61	.45	.74	.16	.21	.57	.34	.17	.98	-	.75
30	.71	.61	.49	.74	.15	.18	.57	.34	.17	.98	-	.74
31	-	.60	-	.73	.19	-	.57	-	.16	.98	-	.73
Mean	0.78	0.64	0.53	1.40	1.84	2.54	1.69	1.43	1.24	1.06	0.89	0.80
Max.	0.83	0.70	0.60	1.82	2.24	2.86	2.12	1.56	1.33	1.16	0.97	0.85
Min.	0.71	0.59	0.45	0.46	1.63	2.18	1.54	1.34	1.16	0.98	0.83	0.73

WATER YEAR 1977 : Max. 2.86 m. Min. 0.45 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.01	0.00	0.00	0.00	2.56	21	14	1.38	0.61	0.34	0.12	0.02
2	0.01				2.50	25	11	1.32	0.59	0.32	0.11	0.02
3	0.00				2.41	33	9.00	1.27	0.57	0.31	0.10	0.02
4	0.01				2.23	38	7.20	1.21	0.57	0.29	0.10	0.02
5	0.01				2.05	68	6.00	1.16	0.55	0.28	0.09	0.01
6	0.01				1.96	122	5.20	1.16	0.55	0.28	0.09	0.01
7	0.01				1.87	180	4.40	1.10	0.53	0.26	0.08	0.01
8	0.01				2.41	249	3.70	1.02	0.53	0.26	0.08	0.01
9	0.00			0.00	2.32	229	3.40	0.99	0.52	0.25	0.07	0.00
10	0.00			0.90	2.32	200	2.95	0.96	0.52	0.24	0.07	
11	0.00			3.25	2.23	279	2.56	0.93	0.50	0.23	0.06	
12				4.00	2.14	305	2.23	0.90	0.50	0.23	0.06	
13				4.40	2.05	358	2.05	0.87	0.49	0.22	0.05	
14				4.40	2.05	358	1.78	0.84	0.47	0.22	0.05	
15				4.20	2.05	292	1.69	0.81	0.47	0.21	0.04	
16				4.00	2.05	269	1.60	0.78	0.46	0.21	0.04	
17				3.85	2.14	200	1.54	0.75	0.46	0.20	0.03	
18				3.70	2.50	161	1.49	0.75	0.44	0.20	0.03	
19				3.40	2.50	148	1.49	0.73	0.44	0.19	0.02	
20				3.25	2.56	129	1.43	0.71	0.43	0.18	0.02	
21				3.10	5.00	108	1.38	0.71	0.41	0.18	0.02	
22				3.10	9.40	74	1.38	0.69	0.40	0.17	0.02	
23				3.10	18	59	1.32	0.69	0.40	0.16	0.01	
24				3.25	22	44	1.32	0.69	0.38	0.16	0.01	
25				3.40	23	38	1.27	0.67	0.38	0.15	0.01	
26				3.40	21	31	1.27	0.67	0.38	0.15	0.02	
27				3.40	21	25	1.38	0.65	0.37	0.14	0.02	
28				3.25	18	22	1.49	0.65	0.37	0.13	0.02	
29				3.10	17	20	1.43	0.63	0.35	0.13	–	
30	0.00		0.00	3.10	16	18	1.43	0.63	0.35	0.13	–	
31	–	0.00	–	2.95	18	–	1.43	–	0.34	0.13	–	0.00
Total	0.07	0.00	0.00	74.50	233.30	4,103	99.81	26.32	14.33	6.55	1.44	0.12
Mean	0.002	0.00	0.00	2.40	7.52	137	3.22	0.88	0.46	0.21	0.05	0.004
Max.	0.01	0.00	0.00	4.40	23	358	14	1.38	0.61	0.34	0.12	0.02
Min.	0.00	0.00	0.00	0.00	1.87	18	1.27	0.63	0.34	0.01	0.01	0.00
Runoff – mcm.	0.006	0.000	0.000	6.437	20.157	358.499	8.623	2.274	1.238	0.566	0.124	0.010

WATER YEAR 1977 : Max. 358 Min. 0.00 Mean 12.5 Annual Runoff 393.934 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sept. 13	18.00	2.87	371				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
MUN RIVER BASIN

Lam Sieo Yai at Kaset Wisai, Roi Et (M. 41)

Location: Lat. 15°-38'-46" N., Long. 103°-33'-55" E., on left bank at Tambon Kaset Wisai, Amphoe Kaset Wisai, Roi Et.

Drainage Area: 1,310 Sq.km.

Type of Gage: Water-stage recorder.

Zero Gage at Bottom at: + 0.00 m. (A.D.)

Bench Mark: B.M. - H.S.

Location: At the foot of the ladder of automatic gage building.
Elevation: + 3.119 m. (A.D.)

Gage Reading Frequency: Recording

Basis of Mean Daily Gage Height: Arithmetic mean of 24 hourly readings.

Period of Available Gage Records: 1971 to date.

Rating Operation:

Period of Rating: 1971-1974.
Rated by Float: -
Rated by Current Meter: 1971-1974.

Stability of Channel Regimes: Fairly stable, no shifting adjustment for flow computation.

Overbank Flow Conditions: No overbank flow.

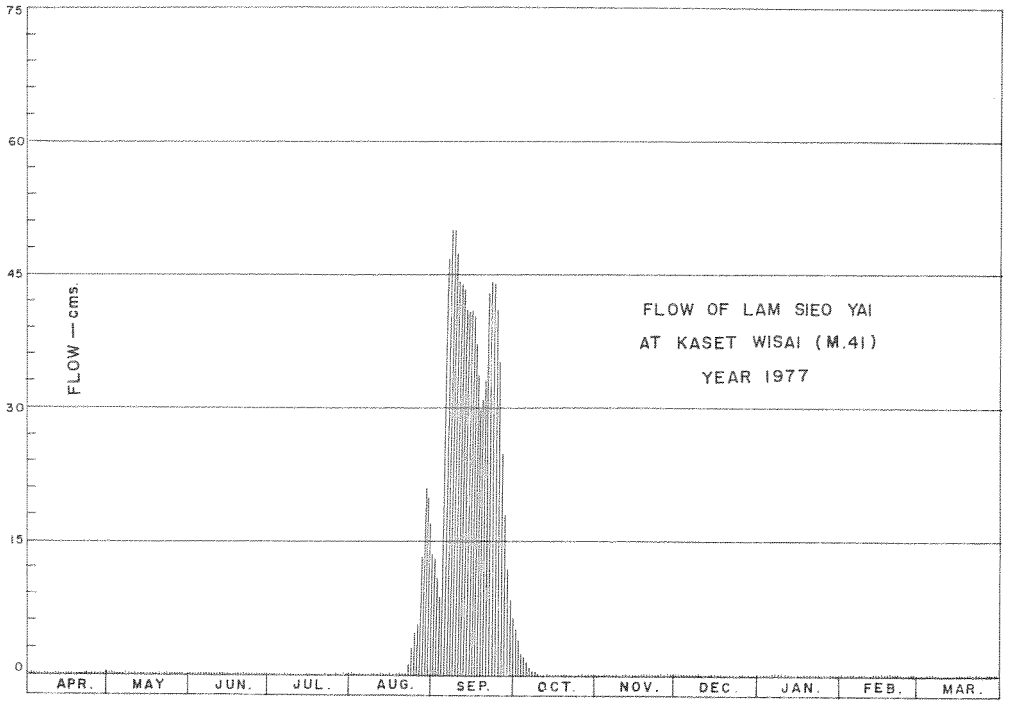
General Description: Records fair. Stage-discharge relation defined by 81 discharge measurements made during 1971-1974.

Remarks: Discharge record for periods of no flow are omitted.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.77	0.68	0.66	0.76	1.17	2.38	2.19	1.36	1.04	0.96	0.87	0.77
2	.76	.68	.65	.84	.15	.37	.13	.34	.04	.96	.86	.76
3	.76	.68	.65	.87	.13	.32	.07	.29	.03	.96	.86	.76
4	.81	.67	.64	.89	.11	.26	.00	.27	.03	.94	.86	.76
5	.80	.68	.64	.95	.09	.46	1.95	.25	.02	.94	.86	.75
6	0.80	0.67	0.63	1.01	1.08	2.71	1.89	1.24	1.02	0.94	0.86	0.75
7	.80	.68	.63	.27	.07	.72	.84	.23	.02	.94	.85	.74
8	.78	.68	.62	.36	.06	.72	.79	.22	.02	.93	.85	.74
9	.78	.67	.61	.33	.06	.72	.72	.21	.01	.93	.85	.73
10	.78	.67	.60	.39	.07	.70	.65	.20	.01	.93	.84	.73
11	0.77	0.66	0.59	1.40	1.13	2.70	1.59	1.18	1.01	0.92	0.84	0.72
12	.76	.68	.67	.40	.16	.69	.54	.17	.01	.92	.84	.72
13	.75	.69	.68	.37	.18	.68	.51	.17	.01	.92	.84	.73
14	.75	.70	.69	.33	.18	.68	.47	.16	.00	.92	.84	.79
15	.74	.69	.70	.29	.18	.68	.42	.16	.00	.92	.83	.79
16	0.73	0.68	0.70	1.27	1.16	2.67	1.38	1.14	1.00	0.92	0.82	0.79
17	.72	.69	.70	.27	.14	.64	.32	.13	.00	.92	.81	.79
18	.71	.68	.69	.26	.22	.61	.28	.12	.00	.92	.80	.79
19	.71	.68	.69	.24	.36	.62	.25	.12	.00	.91	.80	.79
20	.71	.67	.70	.22	.51	.65	.22	.11	.00	.90	.80	.79
21	0.70	0.67	0.70	1.21	1.71	2.69	1.20	1.10	1.00	0.90	0.79	0.78
22	.70	.67	.69	.21	.92	.70	.19	.10	0.99	.90	.78	.78
23	.70	.67	.69	.21	2.03	.70	.18	.10	.98	.89	.79	.76
24	.69	.67	.70	.23	.12	.64	.18	.10	.98	.89	.79	.76
25	.69	.67	.71	.25	.17	.65	.18	.09	.98	.88	.78	.76
26	0.70	0.67	0.71	1.27	2.23	2.59	1.17	1.08	0.98	0.88	0.78	0.76
27	.70	.66	.70	.27	.38	.49	.17	.07	.98	.88	.78	.75
28	.70	.67	.70	.25	.50	.39	.33	.07	.97	.88	.78	.74
29	.70	.66	.70	.24	.52	.31	.38	.06	.97	.88	-	.74
30	.68	.66	.72	.22	.49	.24	.40	.05	.96	.87	-	.75
31	-	.66	-	.19	.41	-	.39	-	.96	.87	-	.75
Mean	0.74	0.67	0.67	1.20	1.54	2.58	1.51	1.16	1.00	0.91	0.82	0.76
Max.	0.81	0.70	0.72	1.40	2.52	2.72	2.19	1.36	1.04	0.96	0.87	0.79
Min.	0.68	0.66	0.59	0.76	1.06	2.24	1.17	1.05	0.96	0.87	0.78	0.72

WATER YEAR 1977 : Max. 2.72 m. Min. 0.59 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.00	0.00	0.00	0.00	0.00	13	6.07	0.00	0.00	0.00	0.00	0.00
2						12	4.69					
3						10	3.49					
4						8.16	2.30					
5						17	1.75					
6						47	1.13					
7						50	0.78					
8						50	0.47					
9						50	0.26					
10						44	0.10					
11						44	0.00					
12						43						
13						41						
14						41						
15						41						
16						40						
17						35						
18						30						
19						32						
20					0.00	36						
21					0.23	43						
22					1.42	44						
23					2.81	44						
24					4.46	43						
25					5.61	36						
26					7.23	27						
27					13	19						
28					19	13					0.00	
29					21	9.82						
30	0.00		0.00		19	7.54		0.00				
31		0.00		0.00	14		0.00		0.00	0.00		0.00
Total	0.00	0.00	0.00	0.00	107.76	970.52	2,104	0.00	0.00	0.00	0.00	0.00
Mean	0.00	0.00	0.00	0.00	3.48	32.3	0.68	0.00	0.00	0.00	0.00	0.00
Max.	0.00	0.00	0.00	0.00	21	50	6.07	0.00	0.00	0.00	0.00	0.00
Min.	0.00	0.00	0.00	0.00	0.00	7.54	0.00	0.00	0.00	0.00	0.00	0.00
Runoff - mcm.	0.00	0.00	0.00	0.00	9.310	83.853	1.818	0.000	0.000	0.000	0.000	0.000

WATER YEAR 1977 : Max. 50 Min. 0.00 Mean 3.01 Annual Runoff 94.981 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sept. 7	1-24	2.72	50				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
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 pier of Huai Thap Than Bridge, Amphoe Utumphon Phisai, Si Sa Ket.

Drainage Area: 1,794 Sq.km.

Type of Gage: Staff gage.

Zero Gage at Bottom at: + 0.00 m. (A.D.)

Bench Mark: B.M. - H.S.

Location: On right bank under tamarind tree infront of the joss house, 120 meters from staff gage.
Elevation: + 9.820 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 to date.
Rated by Float: -
Rated by Current Meter: 1972 to date.

Stability of Channel Regimes: Fairly stable, no shifting adjustment for flow computation.

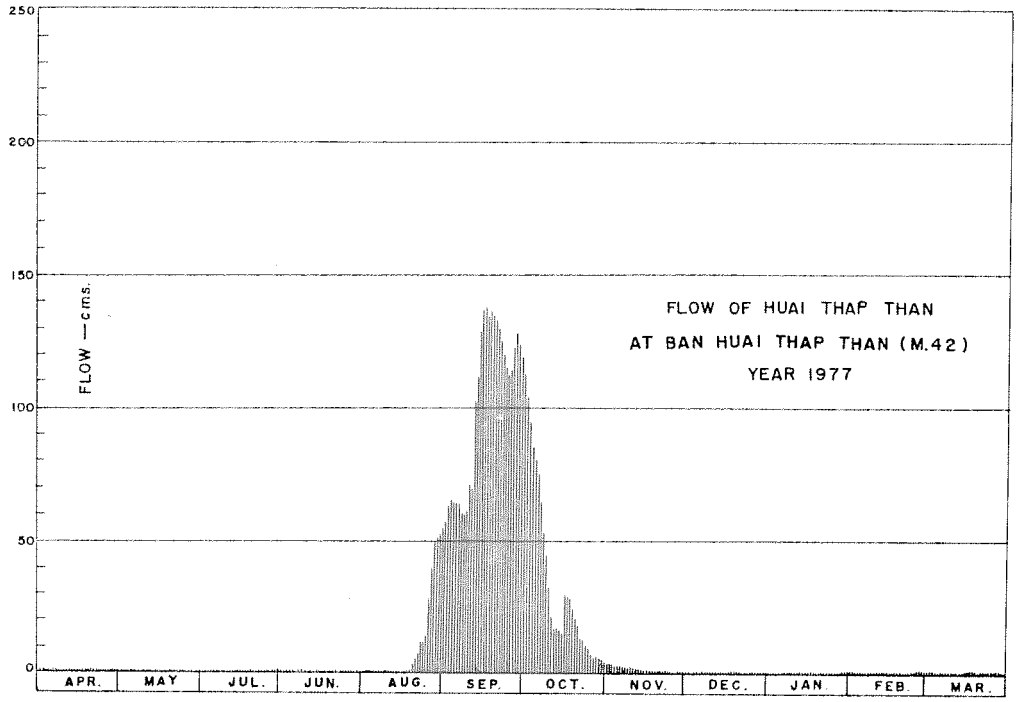
Overbank Flow Conditions: No overbank flow.

General Description: Records fair. Stage-discharge relation defined by 44 discharge measurements made in 1977.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.53	0.55	0.65	0.65	0.64	5.99	8.41	1.42	0.72	0.63	0.67	0.67
2	.53	.67	.63	.66	.59	6.24	.19	.32	.73	.61	.66	.64
3	.53	.61	.63	.69	.64	.38	7.91	.24	.72	.61	.64	.65
4	.55	.72	.61	.66	.69	.41	.63	.20	.70	.61	.63	.66
5	.54	.70	.58	.71	.69	.36	.36	.15	.72	.61	.64	.65
6	0.53	0.61	0.57	0.69	0.69	6.31	7.03	1.12	0.72	0.66	0.64	0.64
7	.53	.61	.59	.69	.71	.12	6.53	.11	.71	.68	.62	.61
8	.53	.63	.53	.68	.68	.09	5.94	.08	.73	.65	.59	.61
9	.55	.70	.60	.67	.64	.15	.23	.06	.70	.64	.62	.60
10	.53	.69	.58	.65	.68	.73	4.41	.02	.75	.64	.65	.61
11	0.63	0.69	0.53	0.68	0.91	7.60	3.37	1.02	0.73	0.63	0.64	0.60
12	.56	.68	.57	.67	.91	8.12	.86	.02	.69	.63	.63	.60
13	.57	.62	.60	.64	.89	.42	.99	.01	.70	.64	.62	.61
14	.56	.60	.60	.66	.72	.63	.39	0.99	.70	.65	.61	.62
15	.56	.58	.59	.63	.67	.75	.76	.99	.70	.65	.63	.60
16	0.57	0.62	0.61	0.62	0.68	8.77	3.95	0.99	0.70	0.65	0.64	0.60
17	.56	.60	.59	.78	.73	.74	4.00	.98	.69	.65	.63	.61
18	.55	.57	.74	.71	.67	.75	3.90	.96	.66	.64	.65	.61
19	.56	.57	.75	.64	.66	.75	.65	.94	.66	.64	.64	.61
20	.57	.58	.66	.65	.72	.73	.28	.91	.66	.64	.62	.61
21	0.57	0.57	0.64	0.66	1.34	8.71	2.92	0.89	0.68	0.63	0.58	0.59
22	.57	.54	.62	.64	.81	.66	.64	.87	.69	.62	.63	.57
23	.56	.49	.58	.67	2.20	.58	.46	.87	.68	.61	.63	.60
24	.55	.65	.58	.68	.64	.45	.28	.85	.66	.62	.61	.62
25	.55	.69	.59	.68	3.19	.37	.99	.85	.66	.65	.50	.61
26	0.55	0.70	0.59	0.65	4.10	8.46	1.92	0.82	0.65	0.67	0.56	0.61
27	.55	.66	.60	.64	.91	.60	.77	.81	.65	.68	.63	.59
28	.55	.64	.60	.64	5.41	.67	.72	.79	.68	.64	.63	.57
29	.55	.66	.59	.64	.61	.64	.72	.77	.67	.64	-	.63
30	.55	.67	.67	.63	.65	.56	.61	.75	.66	.66	-	.61
31	-	.64	-	.65	.72	-	.49	-	.63	.68	-	.56
Mean	0.55	0.63	0.61	0.66	1.83	7.79	4.01	0.99	0.69	0.64	0.62	0.61
Max.	0.63	0.72	0.75	0.78	5.72	8.77	8.41	1.42	0.75	0.68	0.67	0.67
Min.	0.53	0.49	0.53	0.62	0.59	5.99	1.49	0.75	0.63	0.61	0.50	0.56

WATER YEAR 1977 : Max. 8.77 m. Min. 0.49 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.26	0.30	0.50	0.50	0.48	58	113	3.60	0.75	0.46	0.54	0.54
2	0.26	0.54	0.46	0.52	0.38	62	103	3.10	0.69	0.42	0.52	0.48
3	0.26	0.42	0.46	0.58	0.48	65	94	2.70	0.66	0.42	0.48	0.50
4	0.30	0.66	0.42	0.52	0.56	65	87	2.50	0.60	0.42	0.46	0.52
5	0.28	0.60	0.36	0.63	0.58	64	82	2.25	0.66	0.42	0.48	0.50
6	0.26	0.42	0.34	0.58	0.58	63	76	2.10	0.66	0.52	0.48	0.48
7	0.26	0.42	0.38	0.58	0.63	60	67	2.05	0.63	0.56	0.44	0.42
8	0.26	0.46	0.26	0.56	0.56	60	57	1.92	0.69	0.50	0.38	0.42
9	0.30	0.60	0.40	0.54	0.48	61	46	1.84	0.60	0.48	0.44	0.40
10	0.26	0.58	0.36	0.50	0.56	71	35	1.68	0.75	0.48	0.50	0.42
11	0.46	0.58	0.26	0.56	1.24	68	22	1.68	0.69	0.46	0.48	0.46
12	0.32	0.56	0.34	0.54	1.24	101	16	1.68	0.58	0.46	0.46	0.40
13	0.34	0.44	0.40	0.48	1.17	113	17	1.64	0.60	0.48	0.44	0.42
14	0.32	0.40	0.40	0.52	0.66	125	11	1.56	0.60	0.50	0.42	0.44
15	0.32	0.36	0.38	0.46	0.54	135	15	1.56	0.60	0.50	0.46	0.40
16	0.34	0.44	0.42	0.44	0.56	138	29	1.56	0.60	0.50	0.48	0.40
17	0.32	0.40	0.38	0.84	0.69	134	29	1.52	0.58	0.50	0.46	0.42
18	0.30	0.34	0.72	0.63	0.54	135	28	1.44	0.52	0.48	0.50	0.42
19	0.32	0.34	0.75	0.48	0.48	135	25	1.36	0.52	0.48	0.48	0.42
20	0.34	0.36	0.52	0.50	0.66	133	21	1.24	0.52	0.48	0.44	0.42
21	0.34	0.34	0.48	0.52	3.20	131	16	1.17	0.56	0.46	0.36	0.38
22	0.34	0.28	0.44	0.48	6.17	127	13	1.11	0.58	0.44	0.46	0.34
23	0.32	0.18	0.36	0.54	9.10	122	12	1.11	0.56	0.42	0.46	0.40
24	0.30	0.50	0.36	0.56	13	115	9.82	1.05	0.52	0.44	0.42	0.44
25	0.30	0.58	0.38	0.56	20	111	8.22	1.05	0.52	0.50	0.20	0.42
26	0.30	0.60	0.38	0.50	31	115	6.94	0.96	0.50	0.54	0.32	0.42
27	0.30	0.52	0.40	0.48	42	123	5.89	0.93	0.50	0.56	0.46	0.38
28	0.30	0.48	0.40	0.48	49	128	5.54	0.87	0.56	0.48	0.46	0.34
29	0.30	0.52	0.38	0.48	52	126	5.54	0.81	0.54	0.48	–	0.46
30	0.30	0.54	0.54	0.46	52	121	4.77	0.75	0.56	0.52	–	0.42
31	–	0.48	–	0.50	54	–	3.95	–	0.46	0.56	–	0.32
Total	9.18	14.24	12.63	16.52	344.56	3,065	1,056.67	48.79	18.36	14.92	12.48	13.14
Mean	0.31	0.46	0.42	0.53	11.1	103	34.1	1.63	0.59	0.48	0.44	0.42
Max.	0.46	0.66	0.75	0.84	54	138	113	3.60	0.75	0.56	0.54	0.54
Min.	0.26	0.18	0.26	0.44	0.38	58	3.95	0.75	0.46	0.42	0.20	0.32
Runoff - MCM.	0.793	1.230	1.091	1.427	29.770	264.816	91.296	4.215	1.586	1.289	1.078	1.135

WATER YEAR 1977 : Max. 138 Min. 0.18 Mean 12.7 Annual Runoff 399.729 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sept. 16	09.00	8.78	139				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
MUNE RIVER BASIN

Lam Takhong at Ban Mu Si, Nakhon Ratchasima (M. 43)

Location: Lat. 14°-31'-40" N., Long. 101°-24'-09" E., on left bank infront of highway maintenance office, Ban Mu Si, Amphoe Pak Chong, Nakhon Ratchasima.

Drainage Area: 235 Sq.km.

Type of Gage: Water-stage recorder.

Zero Gage at Bottom at: + 0.00 m. (A.D.)

Bench Mark: B.M. - H.S.

Location: Near the ladder of automatic gage building.
Elevation: + 5.592 m. (A.D.)

Gage Reading Frequency: Recording

Basis of Mean Daily Gage Height: Arithmetic mean of 24 hourly readings.

Period of Available Gage Records: 1965 to date.

Rating Operation:

Period of Rating: 1965, 1967-1973.
Rated by Float: -
Rated by Current Meter: 1965, 1967-1973.

Stability of Channel Regimes: Stable, no shifting adjustment for flow computation.

Overbank Flow Conditions: No overbank flow.

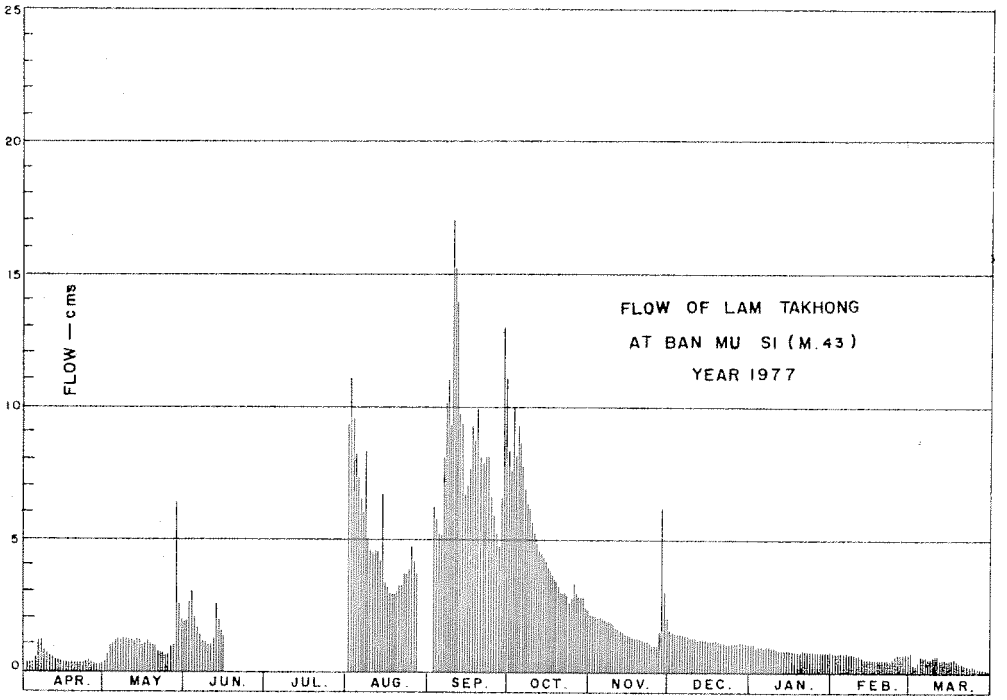
General Description: Records fair. Stage-discharge relation defined by 188 discharge measurements made during 1969-1973.

Remarks: No records on June 16 - July 31, 1977.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.45	0.44	0.76		1.24	No	1.19	0.78	0.71	0.60	0.55	0.55
2	.44	.53	.83		.31	Record	.15	.78	.70	.59	.55	.43
3	.44	.61	.86		.25	1.07	.27	.77	.69	.58	.55	.43
4	.45	.61	.76		.18	.03	.18	.77	.69	.59	.55	.48
5	.52	.63	.72		.13	.01	.24	.77	.69	.59	.55	.53
6	0.63	0.65	0.68		1.09	1.18	1.16	0.76	0.68	0.59	0.55	0.52
7	.63	.64	.63		.06	.27	.13	.75	.68	.60	.54	.51
8	.56	.65	.62		.19	.34	.08	.75	.66	.59	.54	.51
9	.54	.65	.60		0.98	.24	.07	.74	.66	.59	.53	.52
10	.52	.64	.60		.96	1.59	.03	.72	.66	.57	.53	.53
11	0.51	0.64	0.65		0.97	1.47	1.00	0.72	0.65	0.57	0.53	0.53
12	.50	.62	.82		.97	.26	0.98	.71	.65	.57	.51	.50
13	.49	.65	.76		.94	.24	.96	.70	.65	.57	.50	.50
14	.48	.65	.71		1.10	.10	.95	.69	.65	.57	.51	.50
15	.46	.61	.67		0.88	.12	.94	.68	.64	.57	.50	.50
16	0.45	0.61			0.87	1.15	0.92	0.67	0.64	0.56	0.50	0.50
17	.45	.64			.85	.24	.91	.66	.64	.56	.50	.51
18	.45	.62			.85	.21	.89	.66	.64	.55	.50	.49
19	.44	.61			.85	.30	.88	.65	.63	.55	.49	.48
20	.44	.59			.88	.18	.86	.65	.63	.56	.49	.45
21	0.45	0.56			0.87	1.17	0.85	0.64	0.62	0.56	0.49	0.44
22	.45	.55			.91	.18	.85	.64	.61	.56	.49	.43
23	.44	.54			.91	.18	.84	.63	.61	.55	.50	.42
24	.46	.53			.92	.11	.82	.61	.61	.55	.53	.42
25	.48	.53			.98	.07	.84	.60	.61	.55	.54	.41
26	0.45	0.69			0.94	1.02	0.88	0.60	0.62	0.55	0.54	0.38
27	.43	.76			.91	0.98	.84	.71	.62	.55	.54	.36
28	.42	1.14				1.06	.84	1.10	.62	.55	.54	.34
29	.41	0.84				.40	.84	0.85	.62	.55	-	.32
30	.43	.77				.34	.81	.75	.61	.55	-	.33
31	-	.75				-	.80	-	.61	.55	-	.31
Mean	0.47	0.64					0.96	0.71	0.64	0.56	0.52	0.45
Max.	0.63	1.14			1.31	1.59	1.27	1.10	0.71	0.60	0.55	0.55
Min.	0.41	0.44			0.85	0.98	0.80	0.60	0.61	0.55	0.49	0.31

WATER YEAR 1977 : Max. m. Min. m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.35	0.32	1.98		9.30	No Record	8.32	2.14	1.58	1.00	0.75	0.75
2	0.32	0.65	2.69		11		7.60	2.14	1.50	0.95	0.75	0.29
3	0.32	1.05	3.08		9.50	6.19	9.90	2.06	1.45	0.90	0.75	0.29
4	0.35	1.05	1.98		8.14	5.51	8.14	2.06	1.45	0.95	0.75	0.44
5	0.60	1.15	1.66		7.24	5.17	9.30	2.06	1.45	0.95	0.75	0.65
6	1.15	1.25	1.40		6.53	8.14	7.78	1.98	1.40	0.95	0.75	0.60
7	1.15	1.20	1.15		6.02	9.90	7.24	1.90	1.40	1.00	0.70	0.55
8	0.80	1.25	1.10		8.32	11	6.36	1.90	1.30	0.95	0.70	0.55
9	0.70	1.25	1.00		4.72	9.30	6.17	1.82	1.30	0.95	0.65	0.60
10	0.60	1.20	1.00		4.44	17	5.51	1.66	1.30	0.85	0.65	0.65
11	0.55	1.20	1.25		4.58	14	5.00	1.66	1.25	0.85	0.65	0.65
12	0.50	1.10	2.56		4.58	9.70	4.72	1.58	1.25	0.85	0.55	0.50
13	0.47	1.25	1.98		4.16	9.30	4.44	1.50	1.25	0.85	0.50	0.50
14	0.44	1.25	1.58		6.70	6.70	4.30	1.45	1.25	0.85	0.55	0.50
15	0.38	1.05	1.35		3.34	7.06	4.16	1.40	1.20	0.85	0.50	0.50
16	0.35	1.05			3.21	7.60	3.88	1.35	1.20	0.80	0.50	0.50
17	0.35	1.20			2.95	9.30	3.74	1.30	1.20	0.80	0.50	0.55
18	0.32	1.10			2.95	8.70	3.47	1.30	1.20	0.75	0.50	0.47
19	0.32	1.05			2.95	10	3.34	1.25	1.15	0.75	0.47	0.44
20	0.32	0.95			3.34	8.14	3.08	1.25	1.15	0.80	0.47	0.35
21	0.35	0.80			3.21	7.96	2.95	1.20	1.10	0.80	0.47	0.32
22	0.35	0.75			3.74	8.14	2.95	1.20	1.05	0.80	0.47	0.29
23	0.32	0.70			3.74	8.14	2.82	1.15	1.05	0.75	0.50	0.26
24	0.38	0.65			3.88	6.88	2.56	1.05	1.05	0.75	0.65	0.26
25	0.44	0.65			4.72	6.19	2.82	1.00	1.05	0.75	0.70	0.23
26	0.35	1.45			4.16	5.34	3.34	1.00	1.10	0.75	0.70	0.18
27	0.29	1.98			3.74	4.72	2.82	1.58	1.10	0.75	0.70	0.16
28	0.26	7.42				6.02	2.82	6.70	1.10	0.75	0.70	0.14
29	0.23	2.82				13	2.82	2.95	1.10	0.75	–	0.12
30	0.29	2.06				11	2.43	1.90	1.05	0.75	–	0.13
31	–	1.90				–	2.30	–	1.05	0.75	–	0.11
Total	13.63	42.75					147.31	53.49	38.03	25.95	17.28	12.53
Mean	0.45	1.37					4.75	1.78	1.22	0.83	0.61	0.40
Max.	1.15	7.42				17	9.30	6.70	1.58	1.00	0.75	0.75
Min.	0.23	0.32			11	4.72	2.30	1.00	1.05	0.75	0.47	0.11
Runoff – mcm.	1.177	3.694			2.95		12.727	4.621	3.286	2.242	1.493	1.082

WATER YEAR 1977 : Max. 0.11 Min. Mean Annual Runoff mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
MUN RIVER BASIN

Mun River at Ban Chorakhe Hin, Nakhon Ratchasima (M. 49)

Location: Lat. 14°-32'-12" N., Long. 102°-10'-07" E., on right bank about 3 kilometers downstream proposed damsite, Amphoe Khon Buri, Nakhon Ratchasima.

Drainage Area: 474 Sq.km.

Type of Gage: Water-stage recorder.

Zero Gage at Bottom at: + 197.21 m. (M.S.L.)

Bench Mark: B.M. - H.S.

Location: Near automatic gage building.
Elevation: + 205.267 m. (M.S.L.)

Gage Reading Frequency: Recording

Basis of Mean Daily Gage Height: Arithmetic mean of 24 hourly readings.

Period of Available Gage Records: 1965 to date.

Rating Operation:

Period of Rating: 1965-1973.
Rated by Float: -
Rated by Current Meter: 1965-1973.

Stability of Channel Regimes: Stable, no shifting adjustment for flow computation.

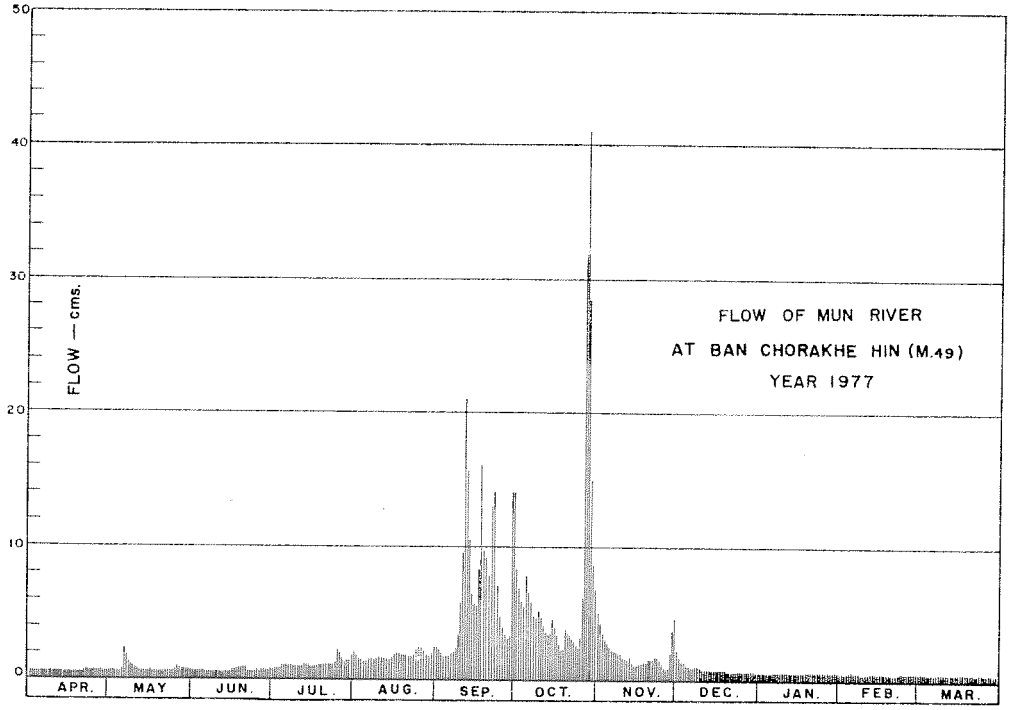
Overbank Flow Conditions: No overbank flow.

General Description: Records fair. Stage-discharge relation defined by 798 discharge measurements made during 1970-1973.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	199.10	199.09	199.18	199.34	200.17	200.29	201.11	200.59	200.20	199.19	199.10	199.05
2	.08	.13	.16	.40	.11	.16	200.76	.49	199.99	.18	.11	.06
3	.08	.10	.15	.46	.02	.08	.64	.41	.87	.18	.15	.05
4	.10	.09	.19	.49	199.96	.12	.60	.35	.75	.17	.27	.06
5	.09	.15	.18	.51	.94	.12	.79	.28	.66	.17	.35	.07
6	199.08	199.54	199.16	199.52	199.96	200.10	200.68	200.24	199.60	199.18	199.16	199.07
7	.07	200.25	.14	.52	200.01	.15	.61	.21	.56	.18	.16	.07
8	.09	199.99	.13	.53	.02	.21	.54	.19	.53	.16	.11	.07
9	.09	.67	.14	.53	.01	.39	.53	.15	.51	.15	.16	.06
10	.10	.49	.12	.53	.01	.60	.58	.11	.48	.17	.18	.05
11	199.09	199.31	199.12	199.56	200.03	200.89	200.52	200.06	199.46	199.18	199.11	199.05
12	.09	.26	.12	.66	.02	201.37	.44	.04	.44	.19	.10	.05
13	.08	.22	.08	.72	.00	.07	.40	.07	.41	.15	.09	.05
14	.08	.21	.17	.64	199.98	200.72	.41	199.91	.39	.15	.08	.05
15	.06	.21	.25	.59	200.10	.64	.52	.69	.37	.16	.12	.05
16	199.08	199.20	199.26	199.46	200.13	200.60	200.45	199.70	199.36	199.16	199.07	199.04
17	.06	.20	.30	.57	.16	.83	.37	.84	.33	.25	.09	.04
18	.05	.17	.36	.54	.13	201.20	.24	.93	.31	.16	.11	.05
19	.06	.14	.40	.56	.13	200.90	.23	.93	.30	.14	.08	.04
20	.06	.12	.41	.60	.13	.86	.44	200.01	.28	.14	.06	.03
21	199.06	199.10	199.40	199.62	200.11	200.77	200.42	200.04	199.27	199.13	199.05	199.04
22	.07	.12	.15	.64	.09	201.08	.39	.10	.26	.13	.05	.05
23	.07	.10	.14	.61	.08	.10	.34	.10	.26	.11	.09	.04
24	.07	.11	.17	.60	.17	200.78	.31	199.99	.28	.17	.11	.04
25	.07	.20	.21	200.03	.27	.58	.28	.67	.26	.25	.07	.04
26	199.09	199.43	199.19	200.20	200.24	200.47	200.51	199.46	199.23	199.31	199.08	199.03
27	.14	.45	.20	.00	.23	.40	201.64	.44	.22	.19	.05	.03
28	.15	.36	.21	199.90	.15	.34	.81	.54	.21	.14	.05	.02
29	.11	.27	.23	.93	.11	.39	.30	200.42	.21	.11	-	.02
30	.11	.21	.28	.91	.15	201.11	200.89	.53	.20	.13	-	.02
31	-	.18	-	200.11	.24	-	.71	-	.19	.13	-	.02
Mean	199.08	199.29	199.20	199.65	200.09	200.61	200.62	200.04	199.43	199.16	199.11	199.04
Max.	199.15	200.25	199.41	200.20	200.27	201.37	201.81	200.59	200.20	199.31	199.35	199.07
Min.	199.05	199.09	199.08	199.34	199.94	200.08	200.23	199.44	199.19	199.11	199.05	199.02

WATER YEAR 1977 : Max. 201.81 m. Min. 199.02 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.62	0.61	0.68	0.84	2.08	2.65	14	5.39	2.20	0.69	0.62	0.58
2	0.60	0.64	0.66	0.90	1.84	2.04	7.48	4.31	1.58	0.68	0.62	0.59
3	0.60	0.62	0.66	0.96	1.64	1.76	5.98	3.59	1.37	0.68	0.66	0.58
4	0.62	0.61	0.69	0.99	1.52	1.88	5.50	3.10	1.25	0.67	0.77	0.59
5	0.61	0.66	0.68	1.01	1.48	1.88	7.87	2.60	1.16	0.67	0.85	0.59
6	0.60	1.04	0.66	1.02	1.52	1.80	6.46	2.40	1.10	0.68	0.66	0.59
7	0.59	2.45	0.65	1.02	1.62	2.00	5.62	2.25	1.06	0.68	0.66	0.59
8	0.61	1.58	0.64	1.03	1.64	2.25	4.84	2.16	1.03	0.66	0.62	0.59
9	0.61	1.17	0.65	1.03	1.62	3.42	4.73	2.00	1.01	0.66	0.66	0.59
10	0.62	0.99	0.63	1.03	1.62	5.50	5.28	1.84	0.98	0.67	0.68	0.58
11	0.61	0.81	0.63	1.06	1.66	9.53	4.62	1.72	0.96	0.68	0.62	0.58
12	0.61	0.76	0.63	1.16	1.64	21	3.86	1.68	0.94	0.69	0.62	0.58
13	0.60	0.72	0.60	1.22	1.60	13	3.50	1.74	0.91	0.66	0.61	0.58
14	0.60	0.71	0.67	1.14	1.56	6.96	3.59	1.42	0.89	0.66	0.60	0.58
15	0.59	0.71	0.75	1.09	1.80	5.98	4.62	1.19	0.87	0.66	0.63	0.58
16	0.60	0.70	0.76	0.96	1.92	5.50	3.95	1.20	0.86	0.66	0.59	0.57
17	0.59	0.70	0.80	1.07	2.04	8.51	3.26	1.34	0.83	0.75	0.61	0.57
18	0.58	0.67	0.86	1.04	1.92	16	2.40	1.46	0.81	0.66	0.62	0.58
19	0.59	0.65	0.90	1.06	1.92	10	2.35	1.46	0.80	0.65	0.60	0.57
20	0.59	0.63	0.91	1.10	1.92	9.02	3.86	1.62	0.78	0.65	0.59	0.57
21	0.59	0.62	0.90	1.12	1.84	7.61	3.68	1.68	0.77	0.64	0.58	0.57
22	0.59	0.63	0.66	1.14	1.78	13	3.42	1.80	0.76	0.64	0.58	0.58
23	0.59	0.62	0.65	1.11	1.76	14	3.02	1.80	0.76	0.62	0.61	0.57
24	0.59	0.62	0.67	1.10	2.08	7.74	2.78	1.58	0.78	0.67	0.62	0.57
25	0.59	0.76	0.71	1.66	2.55	5.28	2.60	1.17	0.76	0.75	0.59	0.57
26	0.61	0.93	0.69	2.20	2.40	4.13	4.51	0.96	0.73	0.81	0.60	0.57
27	0.65	0.95	0.70	1.60	2.35	3.50	32	0.94	0.72	0.69	0.58	0.57
28	0.66	0.86	0.71	1.40	2.09	3.02	41	1.04	0.71	0.65	0.58	0.56
29	0.62	0.77	0.73	1.46	1.84	3.42	19	3.68	0.71	0.62	–	0.56
30	0.62	0.71	0.78	1.42	2.00	14	9.53	4.73	0.70	0.64	–	0.56
31	–	0.68	–	1.84	2.40	–	6.83	–	0.69	0.64	–	0.56
Total	18.15	25.58	21.31	36.78	57.56	206.38	232.14	63.85	29.48	20.83	17.63	17.87
Mean	0.60	0.82	0.71	1.18	1.85	6.86	7.48	2.12	0.95	0.67	0.63	0.58
Max.	0.66	2.45	0.91	2.20	2.55	21	41	5.39	2.20	0.81	0.85	0.59
Min.	0.58	0.61	0.60	0.84	1.48	1.76	2.35	0.94	0.69	0.62	0.58	0.56
Runoff – MCM.	1.568	2.210	1.841	3.178	4.973	17.831	20.057	5.517	2.547	1.800	1.523	1.544

WATER YEAR 1977 : Max. 41 Min. 0.56 Mean 2.04 Annual Runoff 64.589 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Oct.28	07.00	201.89	46				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
MUN RIVER BASIN

Mun River at Ban Na, Nakhon Ratchasima (M. 49B)

Location: Lat. 14°-29'-41" N., Long. 102°-09'-37" E., on right bank about 1.5 kilometres downstream from proposed damsite, Amphoe Khon Buri, Nakhon Ratchasima.

Drainage Area: 434 Sq.km.

Type of Gage: Staff gage.

Zero Gage at Bottom at: + 203.500 m. (M.S.L.)

Bench Mark: B.M. – H.S.

Location: –
Elevation: + 207.131 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: 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, no shifting adjustment for flow computation.

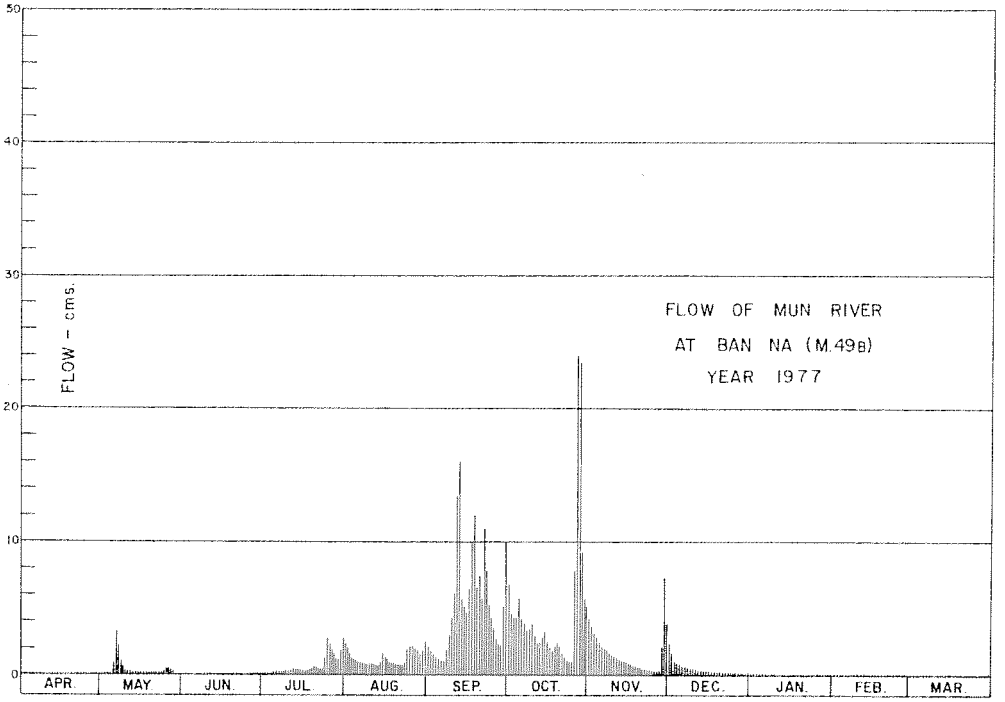
Overbank Flow Conditions: Overbank flow starts at elevation 207.10 m. (M.S.L.) and is included.

General Description: Records fair. Stage-discharge relation defined by 228 discharge measurements made in 1977.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	203.72	203.74	203.89	203.77	205.64	205.55	206.64	206.02	205.47	203.94	203.79	203.73
2	.73	.74	.85	.76	.43	.35	.16	205.88	.20	.94	.78	.75
3	.75	.74	.97	.74	.26	.25	.05	.73	.02	.93	.75	.73
4	.78	.79	.95	.72	.10	.15	.02	.63	204.91	.91	.76	.70
5	.75	.84	.90	.74	.03	.07	.31	.55	.79	.91	.76	.72
6	203.74	205.33	203.85	203.82	204.99	205.05	206.08	205.48	204.72	203.91	203.77	203.74
7	.72	.84	.82	.84	.95	.00	205.96	.41	.66	.89	.79	.74
8	.71	.16	.81	.83	.87	.47	.87	.34	.59	.88	.80	.72
9	.77	204.62	.79	.84	.82	.77	.89	.26	.54	.88	.80	.68
10	.76	.24	.79	.87	.93	206.10	.98	.20	.49	.87	.78	.69
11	203.74	204.13	203.79	204.02	204.93	206.72	205.77	205.12	204.42	203.87	203.78	203.69
12	.72	.05	.77	.61	.85	207.27	.60	.07	.37	.85	.76	.69
13	.71	203.97	.78	.57	.76	206.61	.53	.02	.34	.84	.73	.64
14	.69	.99	.78	.44	.80	.24	.71	204.98	.29	.83	.73	.65
15	.69	.99	.78	.33	205.34	.20	.81	.98	.25	.83	.71	.63
16	203.69	204.01	203.77	204.30	205.22	206.06	205.57	204.92	204.21	203.82	203.70	203.67
17	.69	203.93	.76	.34	.04	.55	.44	.79	.19	.83	.70	.65
18	.69	.87	.74	.42	204.93	.96	.36	.72	.15	.82	.69	.65
19	.68	.83	.75	.68	.94	.43	.54	.66	.13	.79	.68	.63
20	.67	.76	.76	.69	.92	.54	.55	.56	.16	.80	.67	.63
21	203.66	203.82	203.70	204.58	204.84	206.26	205.34	204.51	204.13	203.80	203.68	203.63
22	.64	.78	.69	.57	.78	.85	.21	.48	.11	.79	.68	.62
23	.63	.74	.69	.51	.88	.64	.06	.45	.11	.77	.69	.62
24	.64	.86	.69	.85	205.43	.23	204.99	.44	.08	.76	.69	.61
25	.72	204.48	.69	205.78	.48	205.97	.93	.34	.04	.75	.69	.61
26	203.72	204.61	203.68	205.57	205.51	205.80	205.70	204.29	204.03	203.75	203.68	203.61
27	.86	.38	.67	.36	.44	.62	207.66	.28	.02	.77	.65	.61
28	.82	.14	.65	.18	.38	.49	.63	.42	203.98	.77	.67	.60
29	.78	203.99	.67	.08	.27	.58	206.82	206.51	.97	.76	–	.60
30	.74	.93	.77	.17	.18	206.83	.35	205.90	.96	.73	–	.60
31	–	.93	–	.73	.62	–	.17	–	.96	.76	–	.60
Mean	203.72	204.14	203.77	204.47	205.11	206.05	205.89	205.06	204.36	203.83	203.73	203.66
Max.	203.86	205.84	203.97	205.78	205.64	207.27	205.66	206.51	205.47	203.94	203.80	203.75
Min.	203.63	203.74	203.65	203.72	204.76	205.00	204.93	204.28	203.96	203.73	203.67	203.60

WATER YEAR 1977 : Max. 207.27 m. Min. 203.60 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.058	0.066	0.13	0.078	2.57	2.30	8.38	4.11	2.09	0.15	0.086	0.062
2	0.062	0.066	0.11	0.074	1.99	1.79	4.76	3.37	1.45	0.15	0.082	0.070
3	0.070	0.066	0.16	0.066	1.58	1.56	4.26	2.87	1.10	0.14	0.070	0.062
4	0.082	0.086	0.15	0.058	1.25	1.35	4.11	2.54	0.92	0.13	0.074	0.050
5	0.070	0.11	0.13	0.066	1.12	1.19	9.77	2.30	0.76	0.13	0.074	0.058
6	0.066	1.74	0.11	0.098	1.04	1.15	4.42	2.12	0.68	0.13	0.078	0.066
7	0.058	3.30	0.098	0.11	0.98	1.06	3.83	1.94	0.61	0.13	0.086	0.066
8	0.054	1.37	0.094	0.10	0.87	2.09	3.32	1.77	0.53	0.12	0.090	0.058
9	0.078	0.56	0.086	0.11	0.80	3.02	3.41	1.58	0.49	0.12	0.090	0.046
10	0.074	0.27	0.086	0.12	0.95	4.52	3.92	1.45	0.44	0.12	0.082	0.048
11	0.066	0.22	0.086	0.18	0.95	9.19	3.02	1.29	0.38	0.12	0.082	0.048
12	0.058	0.19	0.078	0.55	0.84	16	2.45	1.19	0.34	0.11	0.074	0.048
13	0.054	0.16	0.082	0.55	0.73	8.08	2.25	1.10	0.32	0.11	0.062	0.038
14	0.048	0.17	0.082	0.40	0.77	5.33	2.80	1.03	0.29	0.10	0.062	0.040
15	0.048	0.17	0.082	0.32	1.77	5.08	3.17	1.03	0.27	0.10	0.058	0.036
16	0.048	0.17	0.078	0.30	1.49	4.32	2.36	0.94	0.25	0.098	0.050	0.044
17	0.048	0.14	0.074	0.32	1.14	7.55	2.01	0.77	0.25	0.10	0.050	0.040
18	0.048	0.12	0.066	0.38	0.95	12	1.81	0.68	0.23	0.098	0.048	0.040
19	0.046	0.10	0.070	0.63	0.97	6.60	2.28	0.61	0.22	0.086	0.046	0.036
20	0.044	0.074	0.074	0.64	0.94	7.47	2.30	0.50	0.23	0.090	0.044	0.036
21	0.042	0.098	0.050	0.52	0.83	5.45	1.77	0.46	0.22	0.090	0.046	0.036
22	0.038	0.082	0.048	0.51	0.76	11	1.47	0.43	0.21	0.086	0.046	0.034
23	0.036	0.066	0.048	0.46	0.88	8.38	1.17	0.40	0.21	0.078	0.048	0.034
24	0.038	0.11	0.048	0.84	1.99	5.27	1.04	0.40	0.20	0.074	0.048	0.032
25	0.052	0.43	0.048	3.06	2.12	3.87	0.95	0.32	0.19	0.070	0.048	0.032
26	0.058	0.55	0.046	2.36	2.20	3.13	2.76	0.29	0.18	0.070	0.046	0.032
27	0.11	0.35	0.044	1.81	2.01	2.51	24	0.29	0.18	0.078	0.040	0.032
28	0.098	0.23	0.040	1.41	1.86	2.14	23	0.38	0.16	0.078	0.044	0.030
29	0.082	0.17	0.044	1.21	1.60	2.39	10	7.21	0.16	0.074	–	0.030
30	0.066	0.14	0.078	1.39	1.41	10	6.03	3.55	0.15	0.062	–	0.030
31	–	0.14	–	2.87	2.51	–	4.81	–	0.15	0.074	–	0.030
Total	1.806	11.514	2.420	21.55	41.87	155.79	147.63	46.92	13.86	3.166	1.754	1.344
Mean	0.060	0.37	0.080	0.69	1.35	5.19	4.76	1.56	0.45	0.10	0.063	0.043
Max.	0.11	3.30	0.16	3.06	2.57	16	24	7.21	2.09	0.15	0.090	0.070
Min.	0.036	0.066	0.040	0.058	0.73	1.06	0.95	0.29	0.15	0.062	0.044	0.030
Runoff – mcm.	0.156	0.995	0.209	1.862	3.618	13.460	12.755	4.054	1.197	0.274	0.151	0.116

WATER YEAR 1977 : Max. 24 Min. 0.030 Mean 1.23 Annual Runoff 38.847 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Oct.27	18.00	207.75	26				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
MUN RIVER BASIN

Lam Sae at Khon Buri, Nakhon Ratchasima (M. 50)

Location: Lat. 14°-31'-08" N., Long. 102°-14'-39" E., on right bank about 500 meters south of Amphoe Khon Buri Office, and 30 meters south-east of Sanitarium, Amphoe Khon Buri, Nakhon Ratchasima.

Drainage Area: 875 Sq.km.

Type of Gage: Water-stage recorder.

Zero Gage at Bottom at: + 0.00 m. (A.D.)

Bench Mark: B.M. - H.S.

Location: At the foot of the big tree near automatic gage building.
Elevation: + 10.00 m. (A.D.)

Gage Reading Frequency: Recording

Basis of Mean Daily Gage Height: Arithmetic mean of 24 hourly readings.

Period of Available Gage Records: 1965 to date.

Rating Operation:

Period of Rating: 1965-1967.
Rated by Float: -
Rated by Current Meter: 1965-1967.

Stability of Channel Regimes: Rather unstable, no shifting adjustment for flow computation.

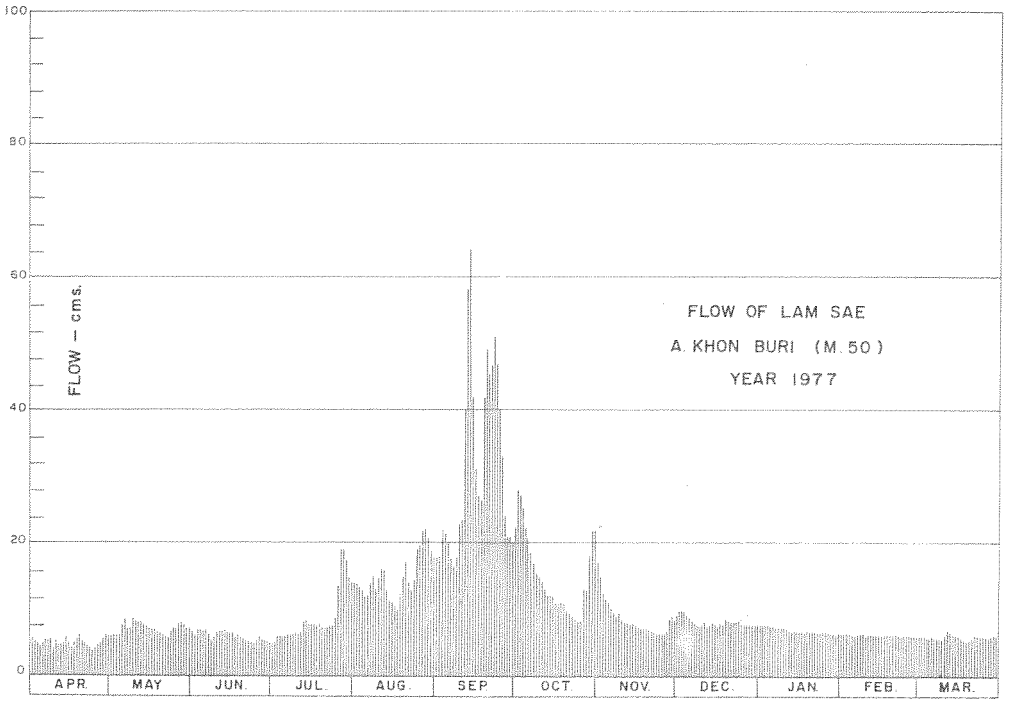
Overbank Flow Conditions: No overbank flow.

General Description: Records fair. Stage-discharge relation defined by 21 discharge measurements made in 1967.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	1.60	1.63	1.70	1.55	1.93	2.02	2.11	2.01	1.82	1.75	1.66	1.65
2	.58	.66	.66	.59	.94	.03	.19	1.95	.82	.74	.66	.64
3	.54	.66	.71	.65	.91	.06	.18	.90	.83	.74	.68	.64
4	.51	.66	.70	.66	.91	.09	.14	.87	.81	.74	.68	.62
5	.56	.73	.69	.65	.89	.08	.10	.86	.80	.74	.66	.61
6	1.63	1.78	1.71	1.65	1.90	2.03	2.06	1.83	1.77	1.73	1.66	0.64
7	.58	.73	.65	.68	.94	.00	.03	.82	.76	.73	.65	.61
8	.60	.73	.58	.66	.95	1.99	.00	.80	.75	.71	.68	.62
9	.63	.78	.64	.67	.92	2.04	1.97	.81	.77	.72	.68	.60
10	.58	.77	.69	.69	.94	.11	.95	.78	.74	.72	.64	.61
11	1.52	1.75	1.70	1.68	1.99	2.13	1.94	1.76	1.76	1.72	1.64	1.67
12	.52	.76	.70	.71	.99	.48	.92	.75	.73	.70	.66	.70
13	.57	.75	.71	.76	.94	.58	.90	.75	.74	.70	.68	.68
14	.63	.74	.69	.71	.90	.41	.89	.76	.76	.70	.66	.64
15	.54	.72	.67	.74	.87	.30	.88	.74	.76	.70	.66	.65
16	1.50	0.71	1.69	1.75	1.85	2.22	1.86	1.73	1.73	1.70	1.64	1.63
17	.55	.71	.63	.74	.84	.18	.85	.72	.76	.70	.64	.62
18	.60	.71	.65	.74	.84	.16	.85	.72	.74	.69	.67	.59
19	.64	.68	.65	.75	.93	.37	.85	.73	.78	.71	.66	.58
20	.59	.68	.61	.73	2.00	.44	.83	.71	.76	.70	.66	.59
21	1.56	1.64	1.59	1.73	1.97	2.40	1.81	1.71	1.76	1.70	1.67	1.65
22	.53	.61	.59	.73	.94	.42	.82	.70	.76	.70	.67	.65
23	.47	.64	.57	.74	.92	.46	.79	.69	.76	.69	.66	.66
24	.45	.68	.56	.74	.97	.38	.78	.68	.76	.69	.64	.64
25	.49	.70	.60	.80	2.04	.32	.73	.69	.74	.69	.66	.64
26	1.53	1.74	1.64	1.94	2.07	2.22	1.79	1.68	1.74	1.69	1.66	1.63
27	.55	.76	.60	2.05	.09	.12	.92	.70	.75	.69	.65	.63
28	.61	.74	.58	.04	.09	.08	.91	.77	.75	.68	.63	.65
29	.65	.73	.59	.00	.08	.08	2.02	.79	.74	.66	-	.65
30	.64	.71	.57	1.97	.05	.06	.09	.76	.74	.66	-	.64
31	-	.72	-	.93	.03	-	.09	-	.75	.68	-	.67
Mean	1.56	1.71	1.64	1.76	1.95	2.21	1.94	1.77	1.76	1.70	1.66	1.63
Max.	1.65	1.78	1.71	2.05	2.09	2.58	2.19	2.01	1.83	1.75	1.68	1.70
Min.	1.45	1.61	1.56	1.55	1.84	1.99	1.75	1.68	1.77	1.66	1.64	1.58

WATER YEAR 1977 : Max. 2.58 m. Min. 149 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	5.50	5.89	6.80	4.95	14	18	23	17	9.78	7.95	6.28	6.15
2	5.28	6.28	6.28	5.39	14	18	28	15	9.78	7.72	6.28	6.02
3	4.84	6.28	7.03	6.15	13	20	27	12	10	7.72	6.54	6.02
4	4.51	6.28	6.80	6.28	13	22	25	11	9.44	7.72	6.54	5.76
5	5.06	7.49	6.67	6.15	12	21	22	11	9.10	7.72	6.28	5.63
6	5.89	8.64	7.03	6.15	12	18	20	10	8.41	7.49	6.28	6.02
7	5.28	7.49	6.15	6.54	14	17	18	9.78	8.18	7.49	6.15	5.63
8	5.50	7.49	5.28	6.28	15	16	17	9.10	7.95	7.26	6.54	5.76
9	3.89	8.64	6.02	6.41	13	19	15	9.44	7.41	7.26	6.54	5.50
10	5.28	8.41	6.67	6.67	14	23	15	8.64	7.72	7.26	6.02	5.63
11	4.62	7.95	6.80	6.54	16	24	14	8.18	8.18	7.26	6.15	6.41
12	4.62	8.18	6.80	7.03	16	53	13	7.95	7.49	6.80	6.28	6.80
13	5.17	7.95	7.03	8.18	14	64	12	7.95	7.72	6.80	6.54	6.54
14	5.89	7.72	6.67	8.41	12	46	12	8.18	8.18	6.80	6.28	6.02
15	4.84	7.26	6.41	7.72	11	36	12	7.72	8.18	6.80	6.28	6.15
16	4.40	7.03	6.67	7.95	11	30	11	7.49	7.49	6.80	6.02	5.89
17	4.95	7.03	5.89	7.72	10	27	11	7.26	8.18	6.80	6.02	5.76
18	5.50	7.03	6.15	7.72	10	26	11	7.26	7.72	6.67	6.41	5.39
19	6.02	6.54	6.15	7.95	14	42	11	7.49	8.64	7.03	6.28	5.28
20	5.39	6.54	5.63	7.49	17	49	10	7.23	8.18	6.80	6.28	5.39
21	5.06	6.02	5.39	7.49	15	45	9.44	7.03	8.18	6.80	6.41	5.89
22	4.73	5.63	5.39	7.49	14	47	9.18	6.80	8.18	6.80	6.41	6.15
23	4.10	6.02	5.17	7.72	13	51	8.87	6.67	8.18	6.67	6.28	6.28
24	3.90	6.54	5.06	7.72	15	43	8.64	6.54	8.18	6.67	6.02	6.02
25	4.34	6.80	5.50	9.10	19	38	7.95	6.67	7.72	6.67	6.28	6.02
26	4.73	7.72	6.02	14	20	30	8.87	5.54	7.72	6.67	6.28	5.89
27	4.95	8.18	5.50	19	22	23	13	6.80	7.95	6.67	6.15	5.89
28	5.63	7.72	5.28	19	22	21	13	8.41	7.92	6.54	6.15	6.15
29	6.15	7.49	5.39	17	21	21	18	8.87	7.72	6.28	–	6.15
30	6.02	7.03	5.17	15	19	20	22	8.18	7.72	6.28	–	6.02
31	–	7.26	–	14	18	–	22	–	7.95	6.54	–	6.41
Total	154.00	221.53	182.80	275.20	463.00	928.00	468.55	260.98	255.18	215.74	175.97	184.62
Mean	5.13	7.15	6.09	8.88	14.9	30.9	15.1	8.70	8.23	6.96	6.28	5.96
Max.	6.15	8.64	7.03	19	22	64	28	17	10	7.95	6.54	6.80
Min.	3.90	5.63	5.06	4.95	10	16	7.95	5.54	7.41	6.28	6.02	5.28
Runoff - mcm.	13.306	19.140	15.794	23.777	40.003	80.179	40.483	22.549	22.047	18.726	15.204	15.951

WATER YEAR 1977 : Max. 64 Min. 3.90 Mean 10.4 Annual Runoff 327.159 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sept. 12	18.00	2.70	80				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
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 on 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 at: + 0.00 m. (A.D.)

Bench Mark: B.M. - H.S. No. 1

Location: At the foot of the ladder of automatic gage building.
Elevation: + 6.581 m. (A.D.)

Gage Reading Frequency: Recording

Basis of Mean Daily Gage Height: Arithmetic mean of 24 hourly readings.

Period of Available Gage Records: 1965 to date.

Rating Operation:

Period of Rating: 1965-1968, 1972 to date.
Rated by Float: -
Rated by Current Meter: 1965-1968, 1972 to date.

Stability of Channel Regimes: Fairly stable, no shifting adjustment for flow computation.

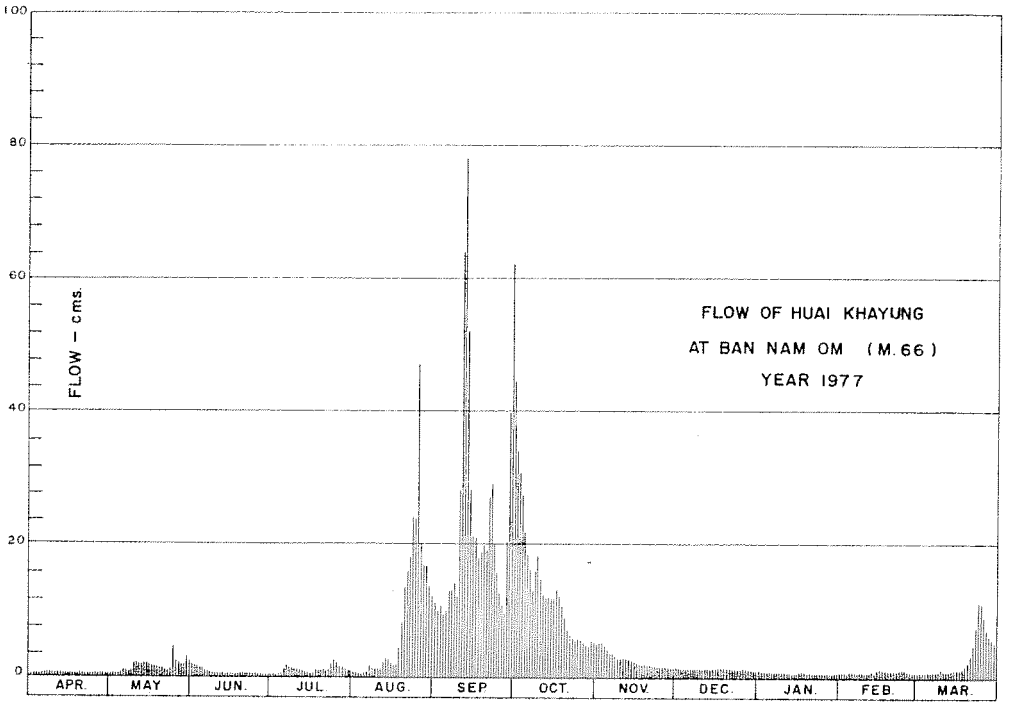
Overbank Flow Conditions: No overbank flow.

General Description: Records fair. Stage-discharge relation defined by 35 discharge measurements made in 1977.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.05	0.03	0.33	0.03	0.10	1.10	2.49	0.66	0.24	0.13	0.07	0.08
2	.05	.04	.29	.03	.08	.06	.34	.69	.24	.14	.08	.09
3	.05	.03	.25	.03	.07	.08	.15	.68	.23	.14	.08	.11
4	.05	.06	.20	.02	.07	.01	1.92	.62	.23	.13	.11	.11
5	.04	.08	.15	.12	.05	.05	.67	.58	.23	.13	.09	.10
6	0.04	0.16	0.10	0.23	0.07	1.24	1.50	0.53	0.22	0.12	0.09	0.08
7	.04	.16	.07	.31	.29	.26	.36	.51	.23	.12	.09	.12
8	.05	.12	.06	.26	.25	.30	.27	.49	.24	.11	.07	.11
9	.06	.12	.05	.19	.21	.18	.57	.45	.23	.11	.07	.19
10	.06	.34	.04	.16	.18	2.05	.45	.45	.24	.11	.07	.15
11	0.06	0.39	0.04	0.15	0.16	3.64	1.26	0.46	0.22	0.11	0.06	0.09
12	.07	.35	.03	.14	.30	4.25	.18	.44	.22	.12	.06	.10
13	.08	.35	.04	.13	.45	2.95	.19	.44	.21	.10	.14	.11
14	.08	.38	.03	.11	.46	.07	.21	.44	.19	.10	.06	.14
15	.06	.39	.04	.09	.42	1.72	.20	.42	.21	.09	.18	.18
16	0.05	0.32	0.02	0.07	0.32	1.73	1.21	0.39	0.20	0.09	0.18	0.18
17	.04	.27	.01	.06	.32	.54	.24	.36	.20	.13	.18	.14
18	.06	.24	.02	.16	.64	.63	.17	.34	.21	.10	.15	.23
19	.04	.22	.04	.16	.87	.69	.04	.33	.20	.09	.15	.28
20	.04	.22	.04	.13	1.28	.63	0.92	.31	.20	.09	.15	.29
21	0.04	0.17	0.05	0.13	1.40	2.04	0.82	0.30	1.19	0.09	0.13	0.53
22	.04	.15	.03	.15	.53	.10	.78	.29	.19	.09	.15	.69
23	.04	.16	.04	.18	.90	1.75	.73	.28	.19	.08	.14	.81
24	.03	.23	.05	.34	.88	.43	.71	.27	.18	.08	.15	1.09
25	.04	.64	.02	.44	2.97	.23	.73	.28	.17	.10	.16	.13
26	0.05	0.40	0.00	0.37	1.87	1.08	0.73	0.28	0.18	0.09	0.11	0.86
27	.04	.35	.02	.29	.52	.02	.70	.27	.19	.08	.08	.79
28	.04	.33	.02	.24	.52	.78	.71	.26	.18	.07	.07	.75
29	.03	.33	.02	.20	.41	2.64	.71	.25	.16	.07	-	.70
30	.05	.47	.04	.17	.24	3.59	.73	.24	.15	.08	-	.68
31	-	.41	-	.14	.20	-	.71	-	.14	.07	-	.65
Mean	0.05	0.25	0.07	0.17	0.81	1.79	1.21	0.41	0.20	0.10	0.11	0.38
Max.	0.08	0.64	0.33	0.44	2.97	4.25	2.49	0.69	0.24	0.14	0.18	1.13
Min.	0.03	0.03	0.00	0.02	0.05	1.01	0.70	0.24	0.14	0.07	0.06	0.08

WATER YEAR 1977 : Max. 4.25 m. Min. 0.00 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.57	0.48	1.95	0.48	0.80	11	37	4.90	1.50	0.95	0.66	0.71
2	0.57	0.53	1.75	0.48	0.71	10	34	5.20	1.50	1.00	0.71	0.75
3	0.57	0.48	1.55	0.48	0.66	11	30	5.10	1.45	1.00	0.71	0.85
4	0.57	0.62	1.30	0.44	0.66	9.54	25	4.50	1.45	0.95	0.85	0.85
5	0.53	0.71	1.05	0.90	0.57	10	20	4.10	1.45	0.95	0.75	0.80
6	0.53	1.10	0.80	1.45	0.66	13	17	3.60	1.40	0.90	0.75	0.71
7	0.53	1.10	0.66	1.85	1.75	13	15	3.40	1.45	0.90	0.75	0.90
8	0.57	0.90	0.62	1.60	1.55	14	13	3.20	1.50	0.85	0.66	0.85
9	0.62	0.90	0.57	1.25	1.35	12	18	2.80	1.45	0.85	0.66	1.25
10	0.62	2.00	0.53	1.10	1.20	28	16	2.80	1.50	0.85	0.66	1.05
11	0.62	2.25	0.53	1.05	1.10	63	13	2.90	1.40	0.85	0.62	0.75
12	0.66	2.05	0.48	1.00	1.80	78	12	2.70	1.40	0.90	0.62	0.80
13	0.71	2.05	0.53	0.95	2.80	47	12	2.70	1.35	0.80	1.00	0.85
14	0.71	2.20	0.48	0.85	2.90	28	12	2.70	1.25	0.80	0.62	1.00
15	0.62	2.25	0.53	0.75	2.50	21	12	2.50	1.35	0.75	1.20	1.20
16	0.57	1.90	0.44	0.66	1.90	21	12	2.25	1.30	0.75	1.20	1.20
17	0.53	1.65	0.39	0.62	1.90	18	13	2.10	1.30	0.95	1.20	1.00
18	0.62	1.50	0.44	1.10	4.70	19	12	2.00	1.35	0.80	1.05	1.45
19	0.53	1.40	0.53	1.10	7.58	20	9.96	1.95	1.30	0.75	1.05	1.70
20	0.53	1.40	0.53	0.95	13	19	8.28	1.85	1.30	0.75	1.05	2.25
21	0.53	1.15	0.57	0.95	15	27	6.88	1.80	1.25	0.75	0.95	3.60
22	0.53	1.05	0.48	1.05	17	29	6.34	1.75	1.25	0.75	1.05	5.20
23	0.53	1.10	0.53	1.20	24	21	5.69	1.70	1.25	0.71	1.00	6.74
24	0.48	1.45	0.57	2.00	24	16	5.43	1.65	1.20	0.71	1.05	11
25	0.53	4.70	0.44	2.70	47	13	5.69	1.70	1.18	0.80	1.10	11
26	0.57	2.30	0.35	2.15	24	11	5.69	1.70	1.20	0.75	0.85	7.44
27	0.53	2.05	0.44	1.75	17	9.68	5.30	1.65	1.25	0.71	0.71	6.47
28	0.53	1.95	0.44	1.50	17	22	5.43	1.60	1.20	0.66	0.66	5.95
29	0.48	1.95	0.44	1.30	15	40	5.43	1.55	1.10	0.66	–	5.30
30	0.57	3.00	0.53	1.15	13	62	5.69	1.50	1.05	0.71	–	5.10
31	–	2.40	–	1.00	12	–	5.43	–	1.00	0.66	–	4.80
Total	17.06	50.57	20.45	35.81	275.09	716.22	404.24	79.85	40.85	25.17	24.14	93.52
Mean	0.57	1.63	0.68	1.15	8.87	23.9	13.0	2.66	1.32	0.81	0.86	3.02
Max.	0.71	4.70	1.95	2.70	47	78	37	5.20	1.50	1.00	1.20	11
Min.	0.48	0.48	0.35	0.44	0.57	9.54	5.30	1.50	1.00	0.66	0.62	0.71
Runoff - mcm.	1.474	4.369	1.767	3.094	23.768	61.881	34.926	6.899	3.529	2.175	2.086	8.080

WATER YEAR 1977 : Max. 78 Min. 0.35 Mean 4.88 Annual Runoff 154.048 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sept. 12	6.00	4.51	86				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
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 north side of Ubon Trakan Phutphon Bridge, Amphoe Trakan Phutphon, Ubon Ratchathani.

Drainage Area: 2,132 Sq.km.

Type of Gage: Water-stage recorder.

Zero Gage at Bottom at: + 0.00 m. (A.D.)

Bench Mark: B.M. - H.S.

Location: Beside the ladder of automatic gage building.
Elevation: + 9.985 m. (A.D.)

Gage Reading Frequency: Recording

Basis of Mean Daily Gage Height: Arithmetic mean of 24 hourly 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, no shifting adjustment but periodic curves are used for flow computation.

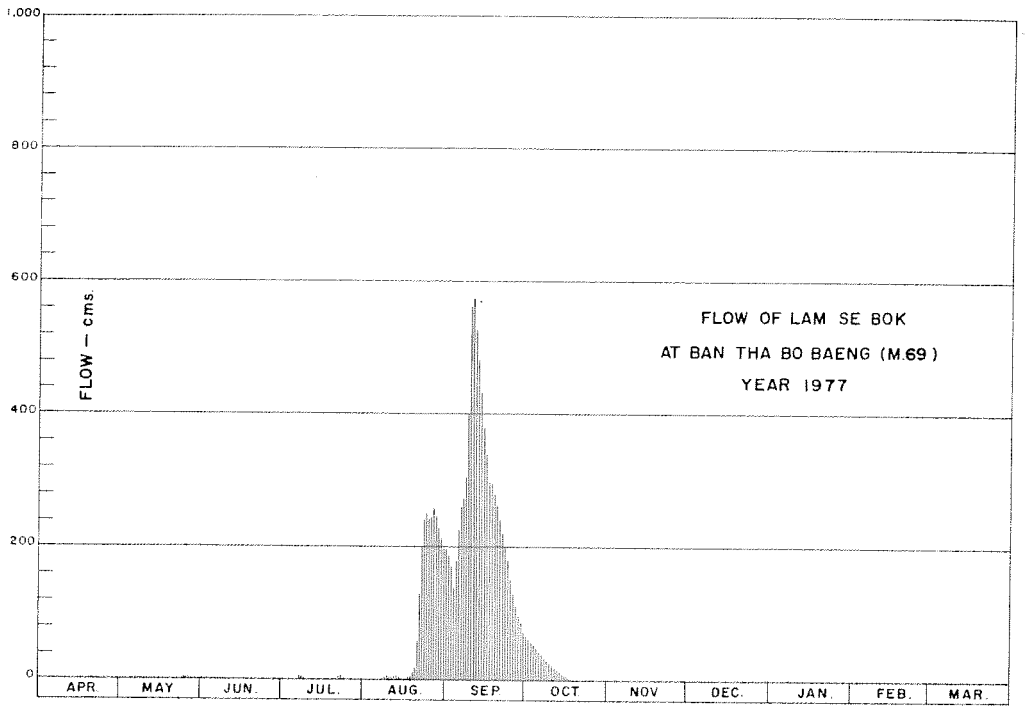
Overbank Flow Conditions: No overbank flow.

General Description: Records poor. State-discharge relation defined by 25 discharge measurements made in 1977.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.75	0.87	1.01	0.97	0.85	5.37	5.70	1.65	0.92	0.77	0.74	0.63
2	.75	.87	.01	.89	.85	.16	.57	.60	.92	.76	.73	.63
3	.75	.86	.03	.84	.84	4.76	.47	.54	.91	.76	.73	.66
4	.75	.87	.04	.82	.82	.37	.35	.51	.91	.75	.73	.69
5	.75	.87	.05	.86	.82	5.36	.24	.46	.91	.73	.74	.71
6	0.76	0.89	1.06	0.97	0.87	6.35	5.12	1.41	0.91	0.75	0.73	0.73
7	.76	.87	.05	1.19	1.02	.57	.00	.36	.90	.77	.73	.73
8	.75	.88	.05	.39	.20	.97	4.88	.31	.89	.77	.72	.74
9	.76	.90	.06	.18	.23	8.91	.75	.25	.88	.77	.72	.74
10	.76	.90	.06	.06	.22	10.88	.63	.21	.86	.76	.72	.73
11	0.77	0.90	1.05	0.97	1.22	11.17	4.50	1.18	0.85	0.76	0.71	0.71
12	.79	.90	.04	.90	.21	.06	.38	.14	.86	.76	.70	.70
13	.80	.90	.02	.88	.37	10.64	.24	.11	.86	.75	.70	.70
14	.80	.91	.02	.85	.26	.19	.09	.07	.84	.75	.70	.68
15	.81	.92	0.98	.89	.13	9.74	3.92	.05	.83	.73	.70	.68
16	0.84	0.94	0.95	0.87	1.05	9.31	3.74	1.04	0.81	0.72	0.68	0.68
17	.87	.95	.94	.84	.10	9.00	.55	.03	.79	.71	.67	.67
18	.86	.96	.93	.82	.18	8.98	.35	.02	.78	.70	.66	.68
19	.85	.95	.92	.83	.27	.79	.16	.01	.77	.69	.66	.71
20	.84	.94	.91	.85	.61	.57	2.97	.01	.77	.69	.67	.70
21	0.83	0.93	0.90	0.96	2.86	8.29	2.80	1.00	0.77	0.69	0.67	0.69
22	.82	.94	.89	1.27	4.74	8.00	.63	0.98	.76	.68	.66	.68
23	.83	.93	.87	.36	6.01	7.71	.48	.98	.76	.70	.66	.66
24	.81	.97	.85	.23	.26	.42	.35	.97	.76	.71	.65	.65
25	.80	1.17	.83	.14	.10	.13	.23	.97	.76	.71	.64	.64
26	0.80	1.07	0.81	1.05	6.16	6.82	2.12	0.97	0.76	0.72	0.64	0.64
27	.80	0.99	.80	0.98	.35	.49	.03	.96	.76	.72	.64	.64
28	.79	.98	.80	.94	.18	.30	1.95	.95	.75	.72	.63	.64
29	.80	.99	.83	.91	5.95		.88	.95	.75	.72	-	.64
30	.83	.99	1.07	.89	.64	5.88	.80	.94	.76	.73	-	.64
31	-	1.00	-	.87	.37	-	.72	-	.76	.75	-	.64
Mean	0.80	0.91	0.96	0.98	2.70	7.74	3.66	1.15	0.82	0.73	0.69	0.68
Max.	0.87	1.17	1.07	1.39	6.35	11.17	5.70	1.65	0.92	0.77	0.74	0.74
Min.	0.75	0.86	0.80	0.82	0.82	4.37	1.72	0.94	0.75	0.68	0.63	0.63

WATER YEAR 1977 : Max. 11.17 m. Min. 0.63 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.35	0.85	2.10	1.70	0.75	199	67	0.27	0.022	0.007	0.004	0.00
2	0.35	0.85	2.10	0.95	0.75	187	61	0.25	0.022	0.006	0.003	0.00
3	0.35	0.80	2.30	0.70	0.70	163	57	0.22	0.021	0.006	0.003	0.00
4	0.35	0.85	2.40	0.60	0.60	139	52	0.20	0.021	0.005	0.003	0.00
5	0.35	0.85	2.50	0.80	0.60	199	48	0.18	0.021	0.003	0.004	0.01
6	0.38	0.95	2.60	1.70	0.85	258	43	0.15	0.021	0.005	0.003	0.03
7	0.38	0.85	2.50	4.35	2.20	271	38	0.14	0.020	0.007	0.003	0.03
8	0.35	0.90	2.50	8.30	4.50	299	34	0.12	0.019	0.007	0.002	0.04
9	0.38	1.00	2.60	4.20	5.10	436	30	0.10	0.018	0.007	0.002	0.04
10	0.38	1.00	2.60	2.60	4.90	560	27	0.093	0.016	0.006	0.002	0.003
11	0.41	1.00	2.50	1.70	4.90	574	23	0.084	0.015	0.006	0.001	0.001
12	0.41	1.00	2.40	1.00	4.70	498	20	0.072	0.016	0.006	0.000	0.000
13	0.50	1.00	2.20	0.90	7.90	449	17	0.063	0.016	0.005	0.000	0.000
14	0.50	1.10	2.20	0.75	5.70	404	14	0.051	0.014	0.005	0.000	0.000
15	0.55	1.20	1.80	0.95	3.45	362	11	0.045	0.013	0.003	0.000	0.000
16	0.70	1.40	1.50	0.85	2.50	323	8.40	0.042	0.011	0.002	0.000	0.000
17	0.85	1.50	1.40	0.70	3.00	298	6.50	0.039	0.009	0.001	0.000	0.000
18	0.80	1.60	1.30	0.60	4.20	296	4.50	0.036	0.008	0.000	0.000	0.000
19	0.75	1.50	1.20	0.65	5.90	281	3.30	0.033	0.007	0.000	0.000	0.001
20	0.70	1.40	1.10	0.75	14	264	2.48	0.033	0.007	0.000	0.000	0.00
21	0.65	1.30	1.00	1.60	62	241	1.80	0.030	0.007	0.000	0.000	0.00
22	0.60	1.40	0.95	5.90	161	218	1.26	0.028	0.006	0.000	0.000	0.00
23	0.65	1.30	0.85	7.70	238	195	1.08	0.028	0.006	0.00	0.000	0.00
24	0.55	1.70	0.75	5.10	253	173	0.95	0.027	0.006	0.01	0.000	0.00
25	0.50	4.05	0.65	3.60	243	153	0.83	0.027	0.006	0.01	0.000	0.00
26	0.50	2.70	0.55	2.50	247	131	0.72	0.027	0.006	0.002	0.000	0.00
27	0.50	1.90	0.50	1.80	258	111	0.63	0.026	0.006	0.002	0.000	0.00
28	0.47	1.80	0.50	1.40	248	100	0.55	0.025	0.005	0.002	0.00	0.00
29	0.50	1.90	0.65	1.10	234	89	0.48	0.025	0.005	0.002	–	0.00
30	0.65	1.90	2.70	0.95	215	76	0.40	0.024	0.006	0.003	–	0.00
31	–	2.00	–	0.85	199	–	0.32	–	0.006	0.005	–	0.00
Total	15.42	43.55	50.90	67.25	2,435.20	7,947	576.20	2.488	0.382	0.105	0.030	0.020
Mean	0.51	1.40	1.70	2.17	78.5	265	18.6	0.083	0.012	0.003	0.001	0.00
Max.	0.85	4.05	2.70	8.30	258	574	67	0.27	0.022	0.007	0.004	0.004
Min.	0.35	0.80	0.50	0.60	0.60	139	0.32	0.024	0.005	0.000	0.00	0.00
Runoff – mcm.	1.332	3.763	4.398	5.810	210.402	686.621	49.784	0.215	0.033	0.009	0.002	0.002

WATER YEAR 1977 : Max. 574 Min. 0.00 Mean 30.5 Annual Runoff 962.379 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sept. 11	24.00	11.32	578				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
MUN RIVER BASIN

Huai Kwang at Ban Kaeng Yang, Ubon Ratchathani (M. 75)

Location: Lat. 15°-09'-53" N., Long. 105°-17'-01" E., on left bank at the bridge on Phibun Mangsahan – Chong Mek highway near Wat Pa Thepburam, Amphoe Phibun Mangsahan, Ubon Ratchathani.

Drainage Area: 388 Sq.km.

Type of Gage: Water-stage recorder.

Zero Gage at Bottom at: + 0.00 m. (A.D.)

Bench Mark: B.M. – H.S.

Location: About 7 meters from left bank infront of Wat Pa Thepburam.
Elevation: + 6.775 m. (A.D.)

Gage Reading Frequency: Recording

Basis of Mean Daily Gage Height: Arithmetic mean of 24 hourly 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, no shifting adjustment for flow computation.

Overbank Flow Conditions: No overbank flow.

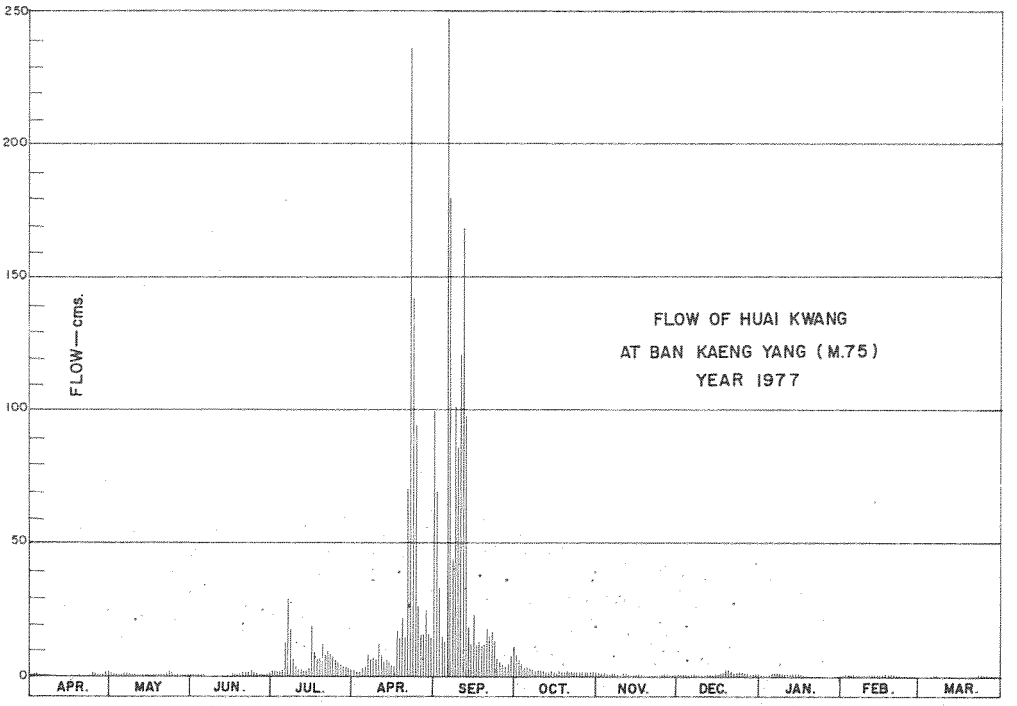
General Description: Records fair. Stage-discharge relation defined by 16 discharge measurements made in 1977.

Remarks: Discharge record for periods of no flow are omitted.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	1.46	1.51	1.48	1.57	1.56	3.36	1.77	1.51	1.43	1.49	1.47	1.41
2	.47	.50	.49	.56	.54	2.39	.22	.49	.42	.48	.48	.40
3	.43	.49	.49	.53	.60	.03	.69	.51	.42	.45	.47	.40
4	.42	.46	.49	.52	.61	1.93	.64	.50	.43	.47	.47	.40
5	.43	.50	.47	.61	.66	6.43	.65	.48	.45	.47	.48	.39
6	1.44	1.50	1.43	2.00	1.80	5.21	1.61	1.51	1.45	1.53	1.48	1.47
7	.46	.51	.43	.41	.76	2.66	.59	.50	.46	.51	.47	.46
8	.44	.49	.42	1.92	.79	3.95	.58	.50	.45	.49	.46	.45
9	.43	.47	.42	.70	.73	.56	.57	.50	.45	.48	.47	.44
10	.44	.46	.41	.62	.94	4.18	.57	.50	.45	.47	.48	.44
11	1.35	1.45	1.41	1.58	1.76	5.14	1.56	1.51	1.45	1.48	1.48	1.43
12	0.95	.43	.48	.57	.68	3.37	.55	.50	.45	.48	.48	.42
13	.72	.41	.49	.56	.76	2.16	.53	.46	.46	.47	.48	.40
14	.68	.32	.48	.54	.70	1.91	.54	.43	.47	.46	.48	.38
15	.72	.32	.47	.62	.63	2.26	.55	.46	.47	.47	.48	.38
16	0.75	1.36	1.52	2.14	1.60	1.90	1.53	1.49	1.50	1.47	1.45	1.40
17	.70	.39	.51	1.85	2.11	.96	.57	.51	.50	.46	.45	.40
18	.68	.41	.50	.72	1.97	.89	.55	.50	.52	.45	.44	.39
19	.69	.43	.52	.76	2.23	.89	.53	.50	.57	.43	.42	.38
20	.74	.45	.56	.93	1.96	2.13	.56	.46	.54	.42	.40	.38
21	0.78	1.49	1.52	1.79	3.31	1.99	1.54	1.40	1.52	1.42	1.40	1.43
22	.86	.52	.55	.86	6.27	2.11	.52	.47	.51	.45	.40	.48
23	1.33	.53	.58	.82	3.70	1.86	.54	.49	.51	.52	.40	.48
24	.53	.50	.54	.76	3.81	.73	.54	.50	.52	.48	.39	.49
25	.50	.48	.51	.73	2.32	.68	.54	.48	.52	.45	.42	.46
26	1.48	1.47	1.50	1.67	2.04	1.65	1.53	1.46	1.51	1.44	1.43	1.46
27	.48	.45	.49	.67	.03	.61	.52	.46	.50	.41	.43	.47
28	.47	.45	.49	.65	.31	.73	.53	.47	.50	.34	.43	.47
29	.55	.49	.49	.62	.04	.80	.53	.47	.48	.38	–	.43
30	.56	.50	.52	.60	1.95	.90	.53	.44	.47	.46	–	.40
31	–	.49	–	.58	3.90	–	.52	–	.47	.48	–	.41
Mean	1.20	1.46	1.49	1.72	2.23	2.61	1.57	1.48	1.48	1.46	1.45	1.43
Max.	1.56	1.53	1.58	2.41	6.27	6.43	1.77	1.51	1.57	1.53	1.48	1.49
Min.	0.68	1.32	1.41	1.52	1.54	1.61	1.52	1.40	1.42	1.34	1.39	1.38

WATER YEAR 1977 : Max. 6.43 m. Min. 0.68 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.16	1.00	0.48	2.20	2.00	72	7.10	1.00	0.00	0.64	0.32	0.00
2	0.32	0.80	0.64	2.00	1.60	29	5.60	0.64		0.48	0.48	
3	0.00	0.64	0.64	1.40	2.80	15	4.78	1.00		0.00	0.32	
4	0.00	0.16	0.64	1.20	3.02	12	3.68	0.80		0.00	0.32	
5	0.00	0.80	0.32	3.02	4.12	246	3.90	0.48		0.32	0.48	0.00
6	0.00	0.80	0.00	14	8.00	173	3.02	1.00	0.00	1.40	0.48	0.32
7	0.16	1.00	0.00	29	6.80	39	2.60	0.80	0.16	1.00	0.32	0.16
8		0.64	0.00	12	7.70	101	2.40	0.80	0.00	0.64	0.16	0.00
9		0.32	0.00	5.00	5.90	82	2.20	0.80		0.48	0.32	
10		0.16	0.00	3.24	12	113	2.20	0.80		0.32	0.48	
11		0.00	0.00	2.40	6.80	168	2.00	1.00		0.46	0.48	
12			0.48	2.20	4.56	72	1.80	0.80	0.00	0.46	0.48	
13			0.64	2.00	6.80	19	1.40	0.16	0.16	0.32	0.48	
14			0.48	1.60	5.00	11	1.60	0.00	0.32	0.16	0.48	
15			0.32	3.24	3.46	23	1.80	0.16	0.32	0.32	0.48	
16			1.20	19	2.80	11	1.40	0.64	0.80	0.32	0.00	
17			1.00	9.50	17	13	2.20	1.00	0.80	0.16		
18			0.80	5.60	13	11	1.80	0.80	1.20	0.00		
19			1.20	6.80	22	11	1.40	0.80	2.20	0.00		
20		0.00	2.00	12	13	18	2.00	0.16	1.60	0.00		
21		0.64	1.20	7.70	69	14	1.60	0.00	1.20	0.00		0.00
22		1.20	1.80	9.80	236	17	1.20	0.32	1.00	0.00		0.48
23	0.00	1.40	2.40	8.60	89	9.80	1.60	0.64	1.00	1.20		0.48
24	1.43	0.80	1.60	6.80	94	5.90	1.60	0.80	1.20	0.48		0.64
25	0.80	0.48	1.00	5.90	26	4.56	1.60	0.48	1.20	0.00		0.16
26	0.48	0.32	0.80	4.34	15	3.90	1.40	0.16	1.00			0.16
27	0.48	0.00	0.64	4.34	15	3.02	1.20	0.16	0.80			0.32
28	0.32	0.00	0.64	3.90	25	5.90	1.40	0.32	0.80		0.00	0.32
29	1.80	0.64	0.64	3.24	15	8.00	1.40	0.32	0.48		–	0.00
30	2.00	0.84	1.20	2.80	12	11	1.40	0.00	0.32		–	0.00
31	–	0.64	–	2.40	99	–	1.20	–	0.32	0.00	–	0.00
Total	7.95	13.28	22.76	197.22	843.36	1,322.08	70.48	16.84	16.88	9.20	6.08	3.04
Mean	0.26	0.43	0.76	6.32	27.2	44.1	2.27	0.56	0.54	0.30	0.22	0.10
Max.	2.00	1.40	2.40	29	236	246	7.10	1.00	2.20	1.40	0.48	0.64
Min.	0.00	0.00	0.00	1.20	1.60	3.02	1.20	0.00	0.00	0.00	0.00	0.00
Runoff - mcm.	0.687	1.147	1.966	17.040	72.866	114.228	6.089	1.455	1.458	0.795	0.525	0.263

WATER YEAR 1977 : Max. 246 Min. 0.00 Mean 6.93 Annual Runoff 218.519 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sept. 5	16.00	7.22	296				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
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 side of the bridge on Ban Tharik road, Amphoe Det Udom, Ubon Ratchathani.

Drainage Area: 3,363 Sq.km.

Type of Gage: Water-stage recorder.

Zero Gage at Bottom at: + 0.00 m. (A.D.)

Bench Mark: B.M. - H.S.

Location: Near the ladder of automatic gage building.
Elevation: + 11.826 m. (A.D.)

Gage Reading Frequency: Recording

Basis of Mean Daily Gage Height: Arithmetic mean of 24 hourly 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, no shifting adjustment for flow computation.

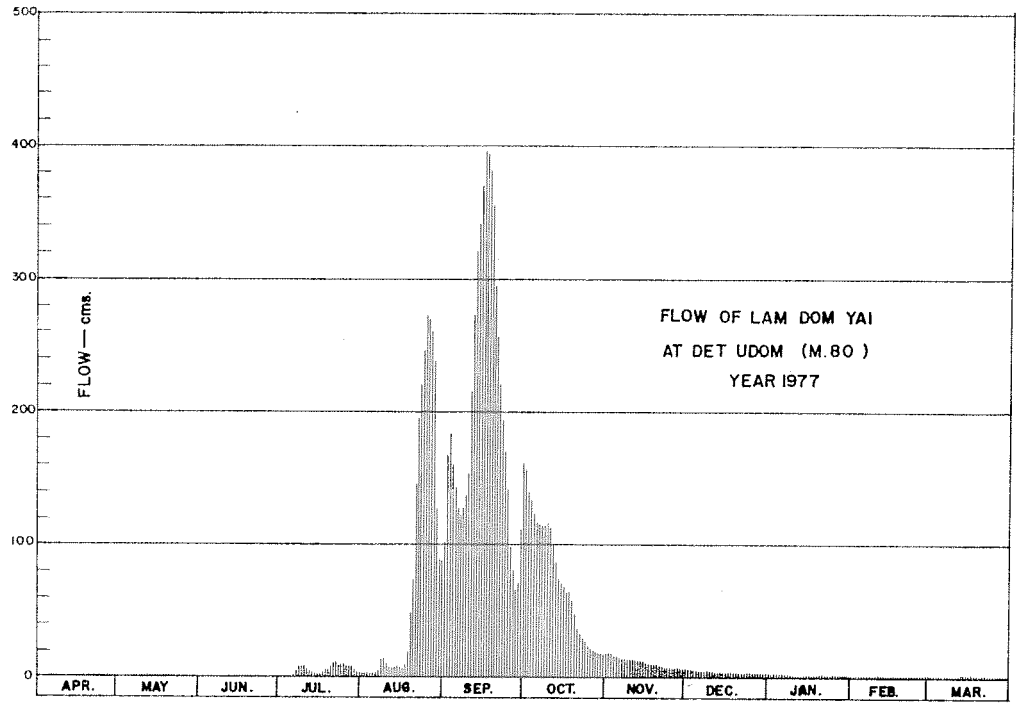
Overbank Flow Conditions: No overbank flow.

General Description: Records fair. Stage-discharge relation defined by 34 discharge measurements made in 1977.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.61	0.62	0.59	0.54	0.92	3.99	5.22	1.64	1.09	0.81	0.69	0.61
2	.61	.58	.57	.53	.87	5.40	.10	.70	.09	.81	.68	.60
3	.61	.57	.56	.52	.84	.68	4.66	.61	.07	.81	.67	.61
4	.60	.57	.55	.52	.81	.10	.59	.57	.07	.81	.67	.61
5	.59	.57	.55	.60	.83	4.66	.35	.53	.05	.81	.66	.61
6	0.61	0.59	0.58	0.74	0.93	4.50	4.23	1.49	1.04	0.79	0.65	0.60
7	.61	.61	.56	.82	.90	.33	.23	.47	.02	.79	.65	.61
8	.60	.62	.55	1.18	1.48	.56	.16	.46	.01	.78	.65	.62
9	.60	.66	.55	.19	.51	.70	.22	.45	.00	.78	.64	.60
10	.61	.66	.55	.28	.34	.98	.32	.43	0.09	.78	.64	.60
11	0.60	0.66	0.55	1.14	1.20	6.27	4.09	1.40	0.98	0.77	0.64	0.60
12	.61	.63	.61	.04	.13	7.45	3.83	.37	.97	.77	.64	.61
13	.60	.61	.57	0.95	.21	.95	.47	.35	.97	.75	.64	.58
14	.60	.61	.57	.91	.22	8.29	.20	.35	.96	.77	.64	.58
15	.59	.62	.57	.85	.21	.83	.20	.33	.95	.75	.64	.60
16	0.59	0.62	0.57	0.82	1.11	9.13	3.15	1.31	0.94	0.75	0.63	0.65
17	.59	.61	.58	.94	.15	.10	2.98	.29	.93	.74	.63	.68
18	.59	.59	.57	1.06	.61	8.84	3.00	.27	.92	.74	.62	.60
19	.63	.58	.63	.01	2.79	.31	2.81	.26	.92	.74	.62	.65
20	.59	.60	.61	.20	3.36	7.53	.51	.24	.92	.73	.62	.64
21	0.58	0.60	0.58	1.31	4.91	6.70	2.31	1.22	0.90	0.72	0.61	0.61
22	.57	.59	.56	.38	5.88	.16	.16	.21	.89	.71	.62	.64
23	.57	.58	.54	.25	6.41	5.80	.04	.20	.88	.70	.63	.63
24	.57	.59	.55	.29	.86	.10	1.93	.18	.87	.69	.62	.60
25	.57	.59	.55	.31	7.23	4.25	.83	.16	.87	.69	.62	.58
26	0.57	0.59	0.55	1.21	7.19	3.72	1.75	1.14	0.86	0.69	0.61	0.56
27	.59	.58	.54	.18	6.95	.31	.73	.13	.87	.70	.60	.57
28	.61	.56	.54	.23	.07	.00	.69	.12	.85	.68	.61	.57
29	.61	.59	.54	.13	4.54	.22	.68	.09	.85	.69	-	.56
30	.64	.61	.55	.05	3.63	4.23	.66	.09	.84	.69	-	.57
31	-	.61	-	0.97	.58	-	.63	-	.83	.69	-	.57
Mean	0.60	0.60	0.56	1.00	2.89	5.84	3.15	1.33	0.95	0.75	0.64	0.60
Max.	0.64	0.66	0.63	1.38	7.23	9.13	5.22	1.70	1.09	0.81	0.69	0.65
Min.	0.57	0.56	0.54	0.52	0.81	3.00	1.63	1.09	0.83	0.68	0.60	0.56

WATER YEAR 1977 : Max. 9.13 m. Min. 0.52 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.55	0.60	0.45	0.20	3.20	104	159	17	5.80	2.10	0.95	0.55
2	0.55	0.40	0.35	0.15	2.70	168	154	19	5.80	2.10	0.90	0.50
3	0.55	0.35	0.30	0.10	2.40	183	134	17	5.40	2.10	0.85	0.55
4	0.50	0.35	0.25	0.10	2.10	154	131	16	5.40	2.10	0.85	0.55
5	0.45	0.35	0.25	0.50	2.30	134	120	15	5.00	2.10	0.85	0.55
6	0.55	0.45	0.40	1.40	3.30	127	115	14	4.80	1.90	0.75	0.50
7	0.55	0.55	0.30	2.20	3.00	119	115	13	4.40	1.90	0.75	0.55
8	0.50	0.60	0.25	7.60	14	130	112	13	4.20	1.80	0.75	0.60
9	0.50	0.80	0.25	7.80	14	136	114	13	4.00	1.80	0.70	0.50
10	0.55	0.80	0.25	9.60	11	149	119	13	3.90	1.80	0.70	0.50
11	0.50	0.80	0.25	6.80	8.00	216	108	12	3.80	1.70	0.70	0.50
12	0.55	0.65	0.55	4.80	6.60	285	97	11	3.70	1.70	0.70	0.55
13	0.50	0.55	0.35	3.50	8.20	316	81	11	3.70	1.50	0.70	0.40
14	0.50	0.55	0.35	3.10	8.40	338	70	11	3.60	1.70	0.70	0.40
15	0.45	0.60	0.35	2.50	8.20	374	70	11	3.50	1.50	0.70	0.50
16	0.45	0.60	0.35	2.20	6.20	395	68	10	3.40	1.50	0.65	0.75
17	0.45	0.55	0.40	3.40	7.00	393	61	9.80	3.30	1.40	0.65	0.70
18	0.45	0.45	0.35	5.20	17	375	62	9.40	3.20	1.40	0.60	0.50
19	0.65	0.40	0.65	4.20	54	340	55	9.20	3.20	1.40	0.60	0.75
20	0.45	0.50	0.55	8.00	76	290	44	8.80	3.10	1.30	0.60	0.70
21	0.40	0.50	0.40	10	145	240	37	8.40	3.00	1.20	0.55	0.55
22	0.35	0.45	0.30	12	194	210	33	8.20	2.90	1.00	0.60	0.70
23	0.35	0.40	0.20	9.00	223	190	29	8.00	2.80	1.10	0.65	0.65
24	0.35	0.45	0.25	9.80	250	154	26	7.60	2.70	0.95	0.60	0.50
25	0.35	0.45	0.25	10	272	116	23	7.20	2.70	0.95	0.60	0.40
26	0.35	0.45	0.25	8.20	269	92	20	6.80	2.60	0.95	0.55	0.30
27	0.45	0.40	0.20	7.60	255	74	20	6.60	2.70	1.00	0.50	0.35
28	0.55	0.30	0.20	8.60	205	62	19	6.40	2.50	0.90	0.55	0.35
29	0.55	0.45	0.20	6.60	129	71	18	5.80	2.50	0.95	–	0.30
30	0.70	0.55	0.25	5.00	88	115	18	5.80	2.40	0.95	–	0.35
31	–	0.50	–	3.70	86	–	17	–	2.30	0.95	–	0.35
Total	14.60	15.85	9.70	163.85	2,373.60	6,050	2,249	324	112.30	45.70	19.20	15.90
Mean	0.49	0.51	0.32	5.28	76.6	202	72.5	10.8	3.62	1.47	0.68	0.51
Max.	0.70	0.80	0.65	12	272	395	159	19	5.80	2.10	0.95	0.75
Min.	0.35	0.30	0.20	0.10	2.10	62	17	5.80	2.30	0.90	0.50	0.30
Runoff – MCM.	1.261	1.369	0.838	14.157	205.079	522.720	194.314	27.994	9.703	3.948	1.659	1.374

WATER YEAR 1977 : Max. 395 Min. 0.10 Mean 31.2 Annual Runoff 984.416 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sept. 17	24.00	9.15	396				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
MUN RIVER BASIN

Lam Sae at Ban Map Krat, Nakhon Ratchasima (M. 81A)

Location: Lat. 14°-22'-22" N., Long. 102°-15'-40" E., on right bank about 4 kilometers upstream from M81, Tambon Khok Kra Chai, Amphoe Khon Buri, Nakhon Ratchasima.

Drainage Area: 433 Sq.km.

Type of Gage: Water-stage recorder.

Zero Gage at Bottom at: + 209.767 m. (M.S.L.)

Bench Mark: B.M. - H.S.

Location: Beside the ladder of automatic gage building.
Elevation: + 216.857 m. (M.S.L.)

Gage Reading Frequency: Recording

Basis of Mean Daily Gage Height: Arithmetic mean of 24 hourly readings.

Period of Available Gage Records: 1970 to date.

Rating Operation:

Period of Rating: 1970 to date.
Rated by Float: -
Rated by Current Meter: 1970 to date.

Stability of Channel Regimes: Stable, no shifting adjustment for flow computation.

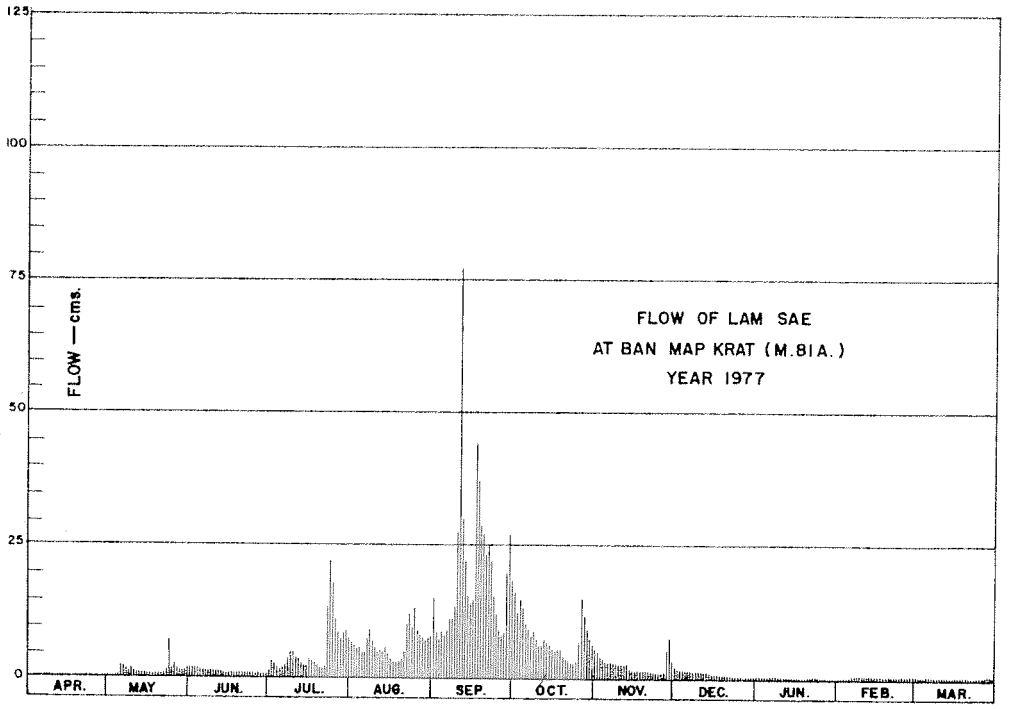
Overbank Flow Conditions: No overbank flow.

General Description: Records fair. Stage-discharge relation defined by 160 discharge measurements made in 1977.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	210.23	210.26	211.38	210.91	212.06	212.67	212.76	211.93	211.48	210.63	210.34	210.62
2	.25	.29	.37	211.61	.03	.31	.72	.85	.38	.62	.34	.63
3	.26	.46	.33	.53	211.94	.13	.49	.77	.30	.60	.38	.62
4	.26	.53	.23	.37	.97	.24	.66	.71	.24	.57	.37	.60
5	.26	.54	.13	.26	.86	.21	.47	.66	.21	.57	.44	.59
6	210.24	211.41	211.06	211.38	211.79	212.27	212.33	211.61	211.16	210.57	210.65	210.59
7	.24	.42	.02	.48	212.01	.40	.26	.57	.13	.55	.70	.58
8	.35	.15	211.00	.73	.29	.43	.15	.53	.09	.55	.69	.57
9	.33	210.99	210.98	.83	.12	.57	.24	.49	.07	.55	.68	.56
10	.30	211.19	211.01	.85	212.00	213.44	.13	.46	.05	.54	.69	.54
11	210.29	210.99	210.98	211.74	211.86	214.90	212.04	211.42	211.03	210.53	210.69	210.53
12	.27	.81	211.00	.73	.88	213.45	211.99	.58	.00	.53	.69	.51
13	.25	.76	210.93	.63	.84	212.94	212.11	.56	210.98	.52	.68	.52
14	.24	.75	.90	.49	.94	.66	.06	.32	.95	.51	.67	.48
15	.23	.72	.87	.43	.81	.58	.01	.30	.91	.51	.66	.38
16	210.23	210.68	210.85	211.69	211.70	212.69	211.95	211.28	210.83	210.47	210.65	210.41
17	.22	.67	.84	.68	.61	213.95	.85	.24	.80	.45	.64	.44
18	.22	.64	.83	.59	.58	.64	.94	.21	.78	.45	.64	.45
19	.24	.63	.82	.48	.63	.23	.92	.18	.79	.43	.64	.46
20	.34	.65	.80	.36	.62	.30	.78	.15	.75	.43	.64	.46
21	210.34	210.73	210.74	211.26	211.85	212.95	211.72	211.11	210.73	210.41	210.64	210.43
22	.35	.72	.72	.20	212.32	213.22	.66	.08	.72	.39	.65	.47
23	.38	211.03	.77	212.44	.48	.05	.61	.06	.71	.38	.65	.46
24	.41	212.07	.82	213.05	.36	212.62	.55	.04	.69	.37	.66	.45
25	.33	211.88	.86	212.89	.54	.41	.56	.02	.68	.37	.66	.46
26	210.31	211.49	210.86	212.40	212.37	212.27	211.95	210.98	210.67	210.36	210.63	210.44
27	.29	.26	.65	.21	.23	.17	212.65	.98	.66	.36	.63	.44
28	.28	.13	.83	.13	.15	.14	.47	211.89	.65	.35	.63	.44
29	.26	.06	.79	.17	.10	.97	.23	212.16	.64	.34	-	.41
30	.24	.04	.80	.26	.13	213.29	.11	211.69	.64	.34	-	.41
31	-	.39	-	.13	.19	-	.02	-	.63	.33	-	.41
Mean	210.28	210.94	210.94	211.77	212.00	212.83	212.64	211.43	210.91	210.47	210.63	210.49
Max.	210.41	212.07	211.38	213.05	212.54	214.90	212.76	212.16	211.48	210.63	210.70	210.63
Min.	210.22	210.26	210.72	210.91	211.58	212.13	211.55	210.98	210.63	210.33	210.34	210.38

WATER YEAR 1977 : Max. 214.90 m. Min. 210.22 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.13	0.16	1.96	1.02	6.64	15	17	5.47	2.32	0.53	0.24	0.52
2	0.15	0.19	1.94	3.06	6.37	9.54	16	4.80	1.96	0.52	0.24	0.53
3	0.16	0.36	1.86	2.58	5.56	7.33	12	4.16	1.80	0.50	0.28	0.52
4	0.16	0.43	1.66	1.94	5.83	8.52	15	3.68	1.68	0.47	0.27	0.50
5	0.16	0.44	1.46	1.72	4.88	8.13	12	3.36	1.62	0.47	0.34	0.49
6	0.14	2.04	1.32	1.96	4.30	8.91	9.82	3.06	1.52	0.47	0.55	0.49
7	0.14	2.08	1.24	2.32	6.19	11	8.78	2.82	1.46	0.45	0.60	0.48
8	0.25	1.50	1.20	3.84	9.17	11	7.55	2.58	1.38	0.45	0.59	0.47
9	0.23	1.18	1.16	4.64	7.22	13	8.52	2.36	1.34	0.45	0.58	0.46
10	0.20	1.58	1.22	4.80	6.10	30	7.33	2.24	1.30	0.44	0.59	0.44
11	0.19	1.18	1.16	3.92	4.88	77	6.46	2.08	1.26	0.43	0.59	0.43
12	0.17	0.82	1.20	3.84	5.04	30	6.01	2.88	1.20	0.43	0.59	0.41
13	0.15	0.72	1.06	3.18	4.72	20	7.11	2.76	1.16	0.42	0.58	0.42
14	0.14	0.70	1.00	2.36	5.56	15	6.64	1.84	1.10	0.41	0.57	0.38
15	0.13	0.64	0.94	2.12	4.48	14	6.19	1.80	1.02	0.41	0.56	0.28
16	0.13	0.58	0.90	3.54	3.60	15	5.65	1.76	0.86	0.37	0.55	0.31
17	0.12	0.57	0.88	3.48	3.06	44	4.80	1.68	0.80	0.35	0.54	0.34
18	0.12	0.54	0.86	2.94	2.88	35	5.56	1.62	0.76	0.35	0.54	0.35
19	0.14	0.53	0.84	2.32	3.18	25	5.38	1.56	0.78	0.33	0.54	0.36
20	0.24	0.55	0.80	1.92	3.12	27	4.24	1.50	0.70	0.33	0.54	0.36
21	0.24	0.66	0.68	1.72	4.80	20	3.76	1.42	0.66	0.31	0.54	0.33
22	0.25	0.64	0.64	1.60	9.68	25	3.36	1.36	0.64	0.29	0.55	0.37
23	0.28	1.26	0.74	11	12	22	3.06	1.32	0.62	0.28	0.55	0.36
24	0.31	6.73	0.84	22	9.24	14	2.70	1.28	0.69	0.27	0.56	0.35
25	0.23	1.42	0.92	19	13	11	2.76	1.24	0.58	0.27	0.56	0.36
26	0.21	2.36	0.92	11	9.38	8.91	5.65	1.16	0.57	0.26	0.53	0.34
27	0.19	1.72	0.90	8.13	8.39	7.77	15	1.16	0.56	0.26	0.53	0.34
28	0.18	1.46	0.86	7.33	7.55	7.44	12	5.12	0.55	0.25	0.53	0.34
29	0.16	1.32	0.78	7.77	7.00	20	8.39	7.66	0.54	0.24	–	0.31
30	0.14	1.28	0.80	8.78	7.33	27	7.11	3.54	0.54	0.24	–	0.31
31	–	1.98	–	7.33	7.99	–	6.28	–	0.53	0.23	–	0.31
Total	5.44	37.62	32.74	163.16	199.14	587.55	242.11	79.27	32.50	11.48	14.23	12.26
Mean	0.18	1.21	1.09	5.26	6.42	19.5	7.81	2.64	1.04	0.37	0.50	0.39
Max.	0.31	6.73	1.96	22	13	77	17	7.66	2.32	0.53	0.60	0.53
Min.	0.12	0.16	0.64	1.02	2.88	7.33	2.70	1.16	0.53	0.23	0.24	0.28
Runoff – mcm.	0.470	3.250	2.829	14.097	17.206	50.764	20.918	6.849	2.808	0.992	1.229	1.059

WATER YEAR 1977 : Max. 77 Min. 0.12 Mean 3.88 Annual Runoff 122.472 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sept. 11	05.00	215.51	103				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
MUN RIVER BASIN

Lam Takhong at Pak Chong, 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: 699 Sq.km.

Type of Gage: Water-stage recorder.

Zero Gage at Bottom at: + 0.00 m. (A.D.)

Bench Mark: B.M. - H.S.

Location: On left bank at abutment of the bridge.
Elevation: + 8.909 m. (A.D.)

Gage Reading Frequency: Recording

Basis of Mean Daily Gage Height: Arithmetic mean of 24 hourly 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, no shifting adjustment for flow computation.

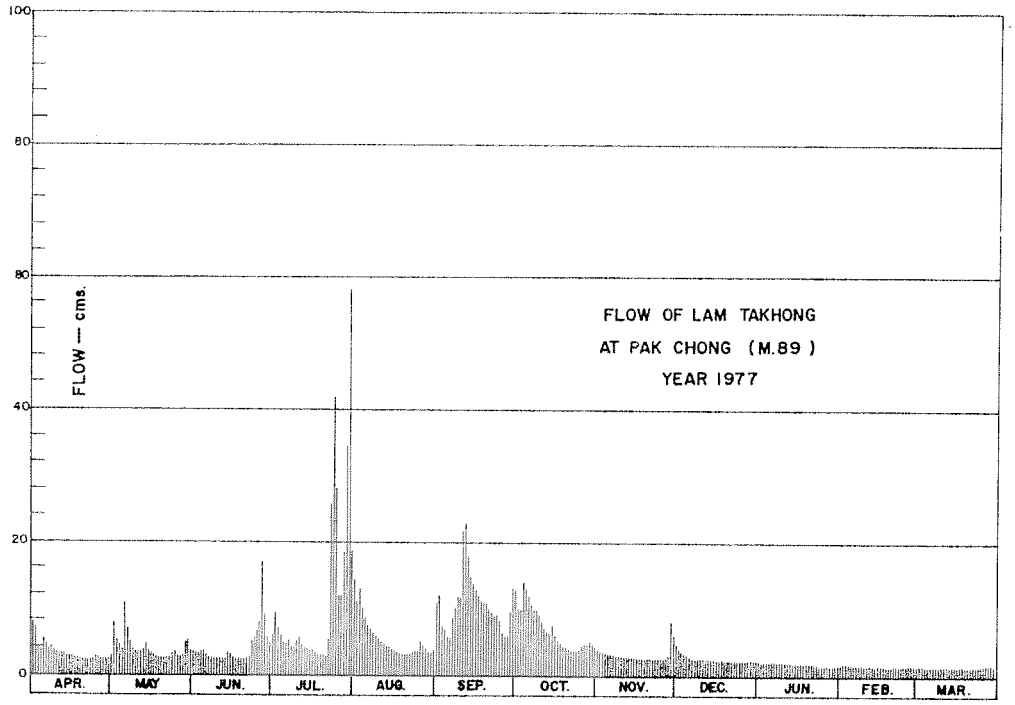
Overbank Flow Conditions: No overbank flow.

General Description: Records good. Stage-discharge relation defined by 36 discharge measurements made in 1977.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	1.62	1.27	1.38	1.52	2.06	1.80	2.03	1.41	1.48	1.23	1.18	1.17
2	.52	.70	.36	.79	1.91	.94	1.87	.38	.42	1.23	.19	.17
3	.40	.64	.32	.66	2.02	.78	.83	.36	.37	1.23	.19	.17
4	.35	.41	.37	.59	1.85	.65	2.08	.35	.35	1.23	.19	.16
5	.52	.33	.38	.50	.75	.60	1.97	.34	.31	1.23	.19	.16
6	1.44	1.89	1.32	1.46	1.69	1.55	1.98	1.33	1.29	1.23	1.19	1.16
7	.40	.66	.30	.52	.64	.70	.93	.33	.28	.23	.19	.15
8	.43	.56	.27	.45	.60	.87	.84	.32	.28	.22	.18	.15
9	.41	.42	.26	.41	.58	.95	.83	.32	.27	.22	.18	.15
10	.34	.38	.27	.50	.55	.90	.78	.32	.27	.22	.18	.15
11	1.32	1.37	1.27	1.55	1.52	2.47	1.70	1.31	1.27	1.21	1.18	1.16
12	.33	.34	.26	.46	.49	.57	.64	.30	.27	.21	.18	.15
13	.32	.36	.25	.42	.48	.23	.60	.30	.26	.20	.17	.14
14	.30	.47	.34	.39	.45	.14	.58	.29	.26	.20	.17	.14
15	.29	.39	.32	.37	.43	.10	.67	.29	.26	.20	.18	.14
16	1.28	1.34	1.29	1.39	1.40	2.05	1.58	1.29	1.25	1.20	1.18	1.14
17	.27	.30	.28	.35	.38	1.98	.52	.28	.25	.19	.18	.14
18	.26	.29	.27	.33	.36	.91	.49	.28	.25	.19	.17	.15
19	.25	.28	.26	.31	.35	.91	.46	.28	.25	.19	.16	.15
20	.24	.28	.25	.30	.34	.92	.43	.28	.25	.19	.16	.15
21	1.24	1.27	1.26	1.30	1.34	1.82	1.40	1.28	1.24	1.19	1.16	1.15
22	.25	.27	.26	.51	.35	.81	.39	.27	.23	.18	.17	.15
23	.25	.27	.44	2.61	.36	.77	.37	.27	.23	.18	.17	.14
24	.25	.34	.53	3.40	.37	.78	.37	.27	.23	.17	.17	.15
25	.27	.37	.58	2.34	.37	.67	.38	.27	.24	.17	.18	.15
26	1.27	1.30	1.69	1.95	1.52	1.61	1.44	1.27	1.24	1.17	1.18	1.16
27	.25	.29	2.26	.95	.44	.57	.47	.27	.23	.17	.19	.17
28	.24	.30	1.70	2.24	.41	.54	.46	.29	.24	.17	.18	.18
29	.23	.48	.54	.96	.37	.76	.51	.71	.24	.17	-	.18
30	.23	.52	.46	4.03	.35	2.01	.51	.61	.24	.17	-	.17
31	-	.39	-	2.34	.37	-	.45	-	.24	.17	-	.16
Mean	1.32	1.40	1.06	1.80	1.52	1.88	1.63	1.33	1.27	1.20	1.18	1.15
Max.	1.62	1.89	2.26	4.03	2.06	2.57	2.08	1.71	1.48	1.23	1.19	1.18
Min.	1.23	1.27	1.25	1.30	1.34	1.54	1.37	1.27	1.23	1.17	1.16	1.14

WATER YEAR 1977 : Max. 4.03 m. Min. 1.14 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	6.80	2.70	3.80	5.30	13	9.50	13	4.10	4.80	2.30	1.80	1.70
2	5.30	8.00	3.60	9.35	11	12	10	3.80	4.20	2.30	1.90	1.70
3	4.00	7.10	3.20	7.40	13	9.20	9.95	3.60	3.70	2.30	1.90	1.70
4	3.50	4.10	3.70	6.35	10	7.25	14	3.50	3.50	2.30	1.90	1.60
5	5.30	3.30	3.80	5.00	8.75	6.50	12	3.40	3.10	2.30	1.90	1.60
6	4.40	11	3.20	4.60	7.85	5.75	12	3.30	2.90	2.30	1.90	1.60
7	4.00	7.40	3.00	5.30	7.10	8.00	10	3.30	2.80	2.30	1.90	1.50
8	4.30	5.90	2.70	4.50	6.50	10	10	3.20	2.80	2.20	1.80	1.50
9	4.10	4.20	2.60	4.10	6.20	12	9.95	3.20	2.70	2.20	1.80	1.50
10	3.40	3.80	2.70	5.00	5.75	11	9.20	3.20	2.70	2.20	1.80	1.50
11	3.20	3.70	2.70	5.75	5.30	21	8.00	3.10	2.70	2.10	1.80	1.60
12	3.30	3.40	2.60	4.60	4.90	23	7.10	3.00	2.70	2.10	1.80	1.50
13	3.20	3.60	2.50	4.20	4.80	17	6.50	3.00	2.60	2.00	1.70	1.40
14	3.00	4.70	3.40	3.90	4.50	15	6.20	2.90	2.60	2.00	1.70	1.40
15	2.90	3.90	3.20	3.70	4.30	14	7.55	2.90	2.60	2.00	1.80	1.40
16	2.80	3.40	2.90	3.90	4.00	13	6.20	2.90	2.50	2.00	1.80	1.40
17	2.70	3.00	2.80	3.50	3.80	12	5.30	2.80	2.50	1.90	1.80	1.40
18	2.60	2.90	2.70	3.30	3.60	11	4.90	2.80	2.50	1.90	1.70	1.50
19	2.50	2.80	2.60	3.10	3.50	11	4.60	2.80	2.50	1.90	1.60	1.50
20	2.40	2.80	2.50	3.00	3.40	11	4.30	2.80	2.50	1.90	1.60	1.50
21	2.40	2.70	2.60	3.00	3.40	9.80	4.00	2.80	2.40	1.90	1.60	1.50
22	2.50	2.70	2.60	5.15	3.50	9.65	3.90	2.70	2.30	1.90	1.70	1.50
23	2.50	2.70	4.40	24	3.60	9.05	3.70	2.70	2.30	1.90	1.70	1.40
24	2.50	3.40	5.45	42	3.70	9.20	3.70	2.70	2.30	1.70	1.70	1.50
25	2.70	3.70	6.20	19	3.70	7.55	3.80	2.70	2.40	1.70	1.80	1.50
26	2.70	3.00	7.85	12	5.30	6.65	4.40	2.70	2.40	1.70	1.80	1.60
27	2.50	2.90	17	12	4.40	6.05	4.70	2.70	2.30	1.70	1.90	1.70
28	2.40	3.00	8.00	17	4.10	5.60	4.60	2.90	2.40	1.70	1.80	1.80
29	2.30	4.80	5.60	31	3.70	8.90	5.15	8.15	2.40	1.70	–	1.80
30	2.30	5.30	4.60	58	3.50	13	5.15	6.65	2.40	1.70	–	1.70
31	–	3.90	–	19	3.70	–	4.50	–	2.40	1.70	–	1.60
Total	98.50	129.80	124.50	338.00	173.85	324.65	219.35	100.30	84.90	61.80	49.90	48.10
Mean	3.28	4.19	4.15	10.9	5.61	10.8	7.07	3.34	2.74	1.99	1.78	1.55
Max.	6.80	11	17	58	13	23	14	8.15	4.80	2.30	1.90	1.80
Min.	2.30	2.70	2.50	3.00	3.40	5.60	3.70	2.70	2.30	1.70	1.60	1.40
Runoff – MCM.	8.510	11.215	10.757	29.203	15.021	28.050	18.952	8.666	7.335	5.339	4.311	4.156

WATER YEAR 1977 : Max. 58 Min. 1.40 Mean 4.80 Annual Runoff 151.515 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
July 30	04.00	5.07	89				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
LAM PHRA PHLOENG RIVER BASIN

Lam Samlai near Ban Khao Hoep, Nakhon Ratchasima (M. 90)

Location: Lat. 14°-40'-49" N., Long. 101°-52'-55" E., near Ban Khao Hoep about 1 kilometer downstream from Lam Samlai Reservoir, Amphoe Pak Thong Chai, Nakhon Ratchasima.

Drainage Area: 204 Sq.km.

Type of Gage: Staff gage.

Zero Gage at Bottom at: + 0.00 m. (A.D.)

Bench Mark:

Location: –
Elevation: –

Gage Reading Frequency: 5-time daily readings at 06.00, 09.00, 12.00,

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

Period of Available Gage Records: 1976-1977.

Rating Operation:

Period of Rating: 1976-1977.
Rated by Float: –
Rated by Current Meter: 1976-1977.

Stability of Channel Regimes: Fairly stable, no shifting adjustment for flow computation.

Overbank Flow Conditions: No overbank flow.

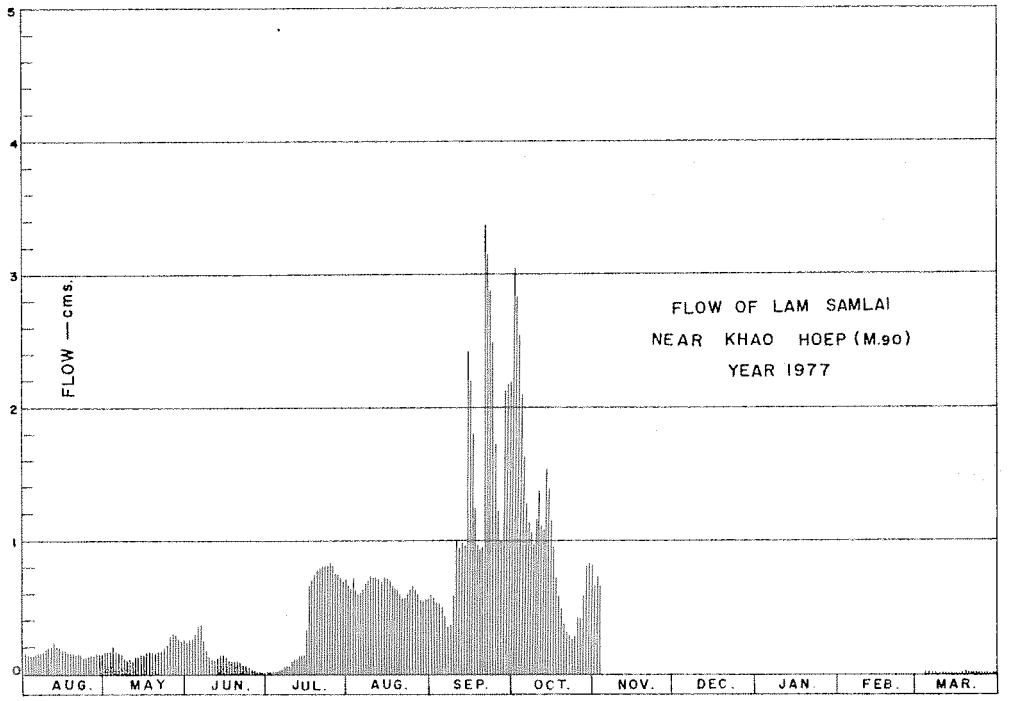
General Description: Records fair. Stage-discharge relation defined by 34 discharge measurements made in 1977.

Remarks: Ending records on November 4, 1977.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.44	0.46	0.51	0.30	0.76	0.72	1.44	0.76				
2	.44	.46	.53	.30	.75	.70	.72	.80				
3	.43	.47	.54	.32	.74	.69	.75	.75				
4	.44	.48	.56	.32	.73	.69	.62					
5	.45	.46	.59	.34	.74	.67	.44					
6	0.46	0.45	0.50	0.35	0.75	0.64	1.22					
7	.46	.43	.53	.35	.77	.54	.02					
8	.48	.41	.47	.37	.79	.61	0.97					
9	.48	.40	.43	.37	.80	.72	.91					
10	.49	.41	.42	.40	.80	.97	1.05					
11	0.50	0.41	0.41	0.42	0.80	0.91	1.11					
12	.51	.42	.42	.42	.79	.94	0.99					
13	.48	.43	.43	.43	.78	.91	.96					
14	.47	.43	.44	.44	.80	1.08	1.18					
15	.46	.44	.43	.45	.79	.53	.09					
16	0.45	0.44	0.42	0.63	0.79	1.43	0.98					
17	.45	.44	.40	.78	.77	.11	.81					
18	.44	.45	.40	.80	.75	0.93	.70					
19	.44	.45	.39	.82	.74	.92	.66					
20	.44	.45	.39	.83	.73	.89	.61					
21	0.43	0.45	0.38	0.85	0.71	1.72	0.56					
22	.43	.46	.36	.85	.71	.86	.54					
23	.42	.47	.35	.85	.73	.74	.53					
24	.43	.48	.35	.85	.75	.55	.53					
25	.43	.52	.34	.86	.76	.30	.63					
26	0.44	0.55	0.33	0.84	0.74	1.05	0.62					
27	.44	.54	.31	.81	.72	0.93	.68					
28	.45	.54	.30	.81	.70	1.11	.84					
29	.45	.52	.30	.79	.70	.41	.84					
30	.45	.52	.31	.79	.71	.43	.85					
31	–	.54	–	.79	.71	–	.85					
Mean	0.45	0.48	0.42	0.60	0.75	1.06	0.96					
Max.	0.51	0.55	0.60	0.86	0.80	1.86	1.75					
Min.	0.42	0.40	0.30	0.30	0.70	0.54	0.03					

WATER YEAR 1977 : Max. 1.86 m. Min. 0.30 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.15	0.17	0.24	0.00	0.67	0.60	2.20	0.67				
2	0.15	0.17	0.27	0.00	0.65	0.56	2.97	0.74				
3	0.14	0.18	0.28	0.02	0.73	0.54	3.05	0.65				
4	0.15	0.20	0.32	0.02	0.61	0.54	2.69					
5	0.16	0.17	0.36	0.04	0.63	0.51	2.20					
6	0.17	0.16	0.38	0.05	0.65	0.45	1.65					
7	0.17	0.14	0.27	0.05	0.69	0.28	1.18					
8	0.20	0.11	0.18	0.07	0.72	0.40	1.07					
9	0.20	0.10	0.14	0.07	0.74	0.60	0.95					
10	0.21	0.11	0.12	0.10	0.74	1.08	1.25					
11	0.22	0.11	0.11	0.12	0.74	0.95	1.38					
12	0.24	0.12	0.12	0.12	0.72	1.01	1.12					
13	0.20	0.14	0.14	0.14	0.70	0.95	1.06					
14	0.18	0.14	0.15	0.15	0.74	1.32	1.55					
15	0.17	0.15	0.14	0.16	0.72	2.44	1.34					
16	0.16	0.15	0.12	0.43	0.72	2.18	1.10					
17	0.16	0.15	0.10	0.70	0.69	1.38	0.76					
18	0.15	0.16	0.10	0.74	0.65	0.99	0.56					
19	0.15	0.16	0.09	0.78	0.63	0.97	0.49					
20	0.15	0.16	0.09	0.80	0.61	0.91	0.40					
21	0.14	0.16	0.08	0.83	0.58	2.97	0.32					
22	0.14	0.17	0.06	0.83	0.58	3.38	0.28					
23	0.12	0.18	0.05	0.83	0.61	3.03	0.27					
24	0.14	0.20	0.05	0.83	0.65	2.49	0.27					
25	0.14	0.25	0.04	0.85	0.67	1.84	0.43					
26	0.15	0.30	0.03	0.82	0.63	1.25	0.42					
27	0.15	0.28	0.01	0.76	0.60	0.99	0.52					
28	0.16	0.28	0.00	0.76	0.56	1.38	0.82					
29	0.16	0.25	0.00	0.72	0.56	2.13	0.82					
30	0.16	0.25	0.01	0.72	0.58	2.18	0.83					
31	–	0.28	–	0.72	0.58	–	0.83					
Total	4.94	5.55	4.06	13.23	20.35	40.30	34.78					
Mean	0.16	0.18	0.13	0.43	0.66	1.34	1.12					
Max.	0.24	0.30	0.38	0.85	0.74	3.38	3.05					
Min.	0.12	0.10	0.00	0.00	0.56	0.28	0.27					
Runoff – mcm.	0.423	0.479	0.350	1.143	1.758	3.482	3.005					

WATER YEAR 1977 : Max. 3.38 Min. 0.00 Mean Annual Runoff mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sept.22	12.00	1.88	3.44				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
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 at BanTamuan, Tambon Lalom, Amphoe Khu Khan, Si Sa Ket.

Drainage Area: 128 Sq.km.

Type of Gage: Staff gage.

Zero Gage at Bottom at: + 0.00 m. (A.D.)

Bench Mark: B.M. – H.S.

Location: On right bank along measuring line.
Elevation: + 8.051 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: 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, no shifting adjustment for flow computation.

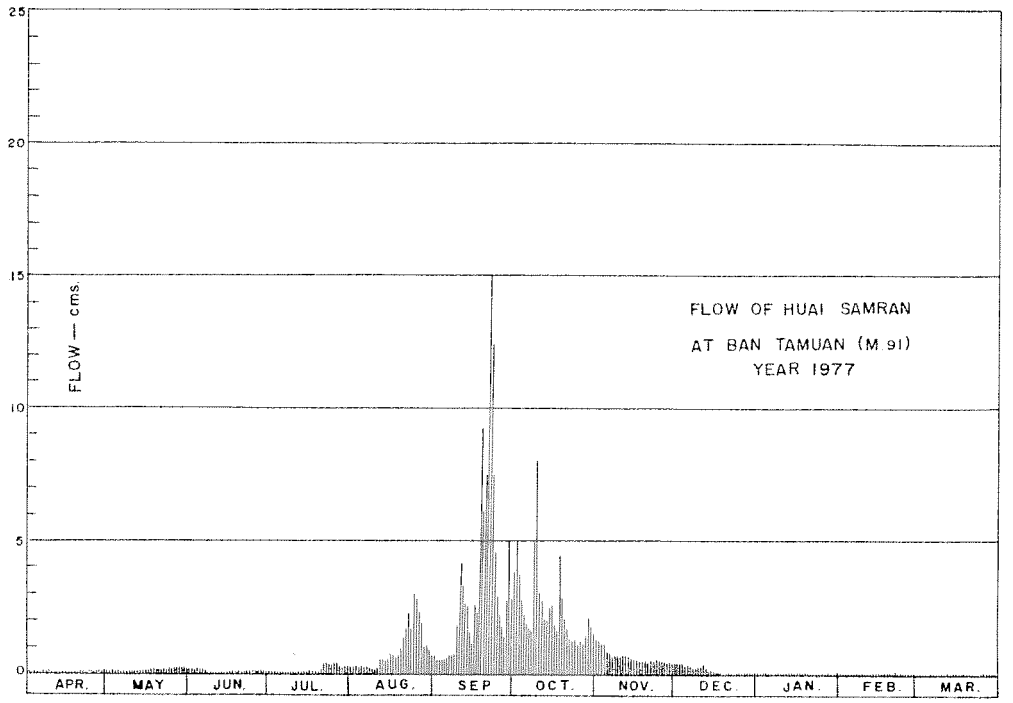
Overbank Flow Conditions: No overbank flow.

General Description: Records fair. Stage-discharge relation defined by 120 discharge measurements made in 1977.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.56	0.52	0.67	0.54	0.74	0.93	1.75	1.18	0.86	0.61	0.56	0.48
2	.56	.52	.67	.55	.74	.90	.85	.16	.86	.61	.55	.48
3	.56	.53	.67	.56	.73	.89	.59	.13	.83	.60	.54	.47
4	.56	.52	.66	.56	.72	.91	.48	.11	.79	.58	.53	.46
5	.57	.54	.65	.60	.75	.95	.35	.06	.77	.56	.51	.51
6	0.57	0.54	0.64	0.62	0.75	1.01	1.32	1.02	0.77	0.55	0.50	0.51
7	.57	.56	.64	.62	.74	.02	.25	0.97	.75	.55	.49	.51
8	.59	.56	.63	.62	.73	.02	.78	.99	.75	.55	.47	.50
9	.60	.63	.62	.62	.72	.10	2.21	1.00	.76	.54	.46	.50
10	.60	.65	.61	.61	.72	.70	1.63	0.99	.77	.54	.47	.49
11	0.60	0.65	0.61	0.61	0.72	1.74	1.57	1.01	0.76	0.53	0.48	0.49
12	.59	.65	.61	.60	.98	.47	.41	.00	.71	.53	.48	.48
13	.59	.65	.60	.59	.94	.36	.34	0.99	.68	.53	.49	.47
14	.57	.65	.60	.59	.94	.18	.45	.98	.66	.52	.49	.47
15	.58	.65	.59	.59	.95	.16	.49	.96	.65	.52	.50	.47
16	0.58	0.66	0.58	0.58	0.96	1.49	1.33	0.95	0.64	0.52	0.50	0.46
17	.56	.68	.57	.61	.95	.41	.27	.93	.63	.53	.50	.47
18	.57	.66	.60	.62	.93	2.35	.77	.92	.62	.53	.50	.47
19	.56	.67	.60	.65	1.08	1.98	.44	.91	.61	.54	.51	.49
20	.57	.66	.60	.69	.21	2.16	.32	.90	.60	.55	.51	.48
21	0.56	0.66	0.59	0.70	1.26	2.95	1.24	0.89	0.59	0.56	0.51	0.48
22	.57	.65	.58	.73	.42	.71	.17	.92	.59	.56	.51	.47
23	.57	.66	.58	.74	.28	.07	.19	.93	.58	.57	.51	.47
24	.58	.71	.57	.76	.53	1.60	.17	.92	.57	.58	.50	.47
25	.57	.71	.57	.77	.52	.42	.16	.91	.57	.58	.50	.47
26	0.54	0.71	0.55	0.76	1.45	1.30	1.18	0.91	0.57	0.58	0.50	0.46
27	.54	.70	.56	.75	.33	.22	.17	.90	.57	.58	.49	.46
28	.54	.70	.55	.75	.12	.59	.26	.90	.57	.58	.49	.46
29	.55	.70	.54	.75	.10	.84	.37	.89	.57	.58	–	.45
30	.54	.69	.55	.75	.08	.51	.28	.88	.58	.57	–	.45
31	–	.68	–	.75	.00	–	.23	–	.60	.57	–	.44
Mean	0.57	0.64	0.60	0.65	1.00	1.50	1.42	0.97	0.67	0.56	0.50	0.47
Max.	0.60	0.71	0.67	0.77	1.53	2.95	2.21	1.18	0.86	0.61	0.50	0.51
Min.	0.54	0.52	0.54	0.54	0.72	0.89	1.16	0.88	0.57	0.52	0.46	0.44

WATER YEAR 1977 : Max. 2.95 m. Min. 0.44 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.030	0.010	0.15	0.020	0.26	0.56	4.25	1.24	0.44	0.065	0.030	0.00
2	0.030	0.010	0.15	0.025	0.26	0.50	5.00	1.18	0.44	0.065	0.025	0.00
3	0.030	0.015	0.15	0.030	0.24	0.48	3.24	1.09	0.39	0.050	0.020	0.00
4	0.030	0.010	0.14	0.030	0.23	0.52	2.60	1.03	0.33	0.040	0.015	0.00
5	0.035	0.020	0.12	0.050	0.27	0.60	1.95	0.88	0.30	0.030	0.005	0.005
6	0.035	0.020	0.11	0.080	0.27	0.73	1.80	0.76	0.30	0.025	0.00	0.005
7	0.035	0.030	0.11	0.080	0.26	0.76	1.50	0.64	0.27	0.025	0.00	0.005
8	0.045	0.030	0.095	0.080	0.24	0.76	4.46	0.68	0.27	0.025	0.00	0.00
9	0.050	0.095	0.080	0.080	0.23	1.00	7.89	0.70	0.29	0.024	0.00	0.00
10	0.050	0.12	0.065	0.065	0.23	3.90	3.48	0.68	0.30	0.024	0.00	0.00
11	0.050	0.12	0.065	0.065	0.23	4.18	2.88	0.73	0.29	0.015	0.00	0.00
12	0.045	0.12	0.065	0.050	0.66	2.55	2.25	0.70	0.21	0.015	0.00	0.00
13	0.045	0.12	0.050	0.045	0.58	2.00	1.90	0.68	0.17	0.015	0.00	0.00
14	0.035	0.12	0.050	0.045	0.58	1.24	2.45	0.66	0.14	0.010	0.00	0.00
15	0.040	0.12	0.045	0.045	0.60	1.18	2.65	0.62	0.12	0.010	0.00	0.00
16	0.040	0.14	0.040	0.040	0.62	2.65	1.85	0.60	0.11	0.010	0.00	0.00
17	0.030	0.17	0.035	0.065	0.60	2.25	1.58	0.56	0.09	0.015	0.00	0.00
18	0.035	0.14	0.050	0.080	0.56	9.15	4.39	0.54	0.080	0.015	0.00	0.00
19	0.030	0.15	0.050	0.12	0.94	6.04	2.40	0.52	0.065	0.020	0.005	0.00
20	0.035	0.14	0.050	0.18	1.34	7.48	1.80	0.50	0.050	0.025	0.005	0.00
21	0.030	0.14	0.045	0.20	1.54	15	1.46	0.48	0.045	0.030	0.005	0.00
22	0.035	0.12	0.040	0.24	2.30	13	1.21	0.54	0.045	0.030	0.005	0.00
23	0.035	0.14	0.040	0.26	1.62	6.76	1.27	0.56	0.040	0.035	0.005	0.00
24	0.040	0.21	0.035	0.29	2.88	3.30	1.21	0.54	0.035	0.040	0.00	0.00
25	0.035	0.21	0.035	0.30	2.82	2.30	1.18	0.52	0.035	0.040	0.00	0.00
26	0.020	0.21	0.025	0.29	2.45	1.70	1.24	0.52	0.035	0.040	0.00	0.00
27	0.020	0.20	0.030	0.27	1.85	1.38	1.21	0.50	0.035	0.040	0.00	0.00
28	0.020	0.20	0.025	0.27	1.06	3.24	1.54	0.50	0.035	0.040	0.00	0.00
29	0.025	0.20	0.020	0.27	1.00	4.92	2.05	0.48	0.035	0.040	–	0.00
30	0.020	0.18	0.025	0.27	0.94	2.76	1.62	0.47	0.040	0.035	–	0.00
31	–	0.17	–	0.27	0.70	–	1.42	–	0.050	0.035	–	0.00
Total	1.035	3.74	2.010	4.250	28.38	102.89	75.73	20.11	5.135	0.928	0.120	0.015
Mean	0.034	0.12	0.067	0.14	0.91	3.43	2.44	0.67	0.17	0.030	0.004	0.00
Max.	0.050	0.215	0.155	0.305	2.88	15	7.89	1.24	0.440	0.065	0.030	0.005
Min.	0.020	0.010	0.020	0.020	0.230	0.485	1.18	0.470	0.035	0.010	0.00	0.00
Runoff – mcm.	0.089	0.323	0.174	0.367	2.452	8.890	6.543	1.737	0.444	0.080	0.010	0.001

WATER YEAR 1977 : Max. 15 Min. 0.00 Mean 0.67 Annual Runoff 21.110 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sept.21	05.00	3.25	19				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
TONLE SAP RIVER BASIN

Huai Phrom Hot at Ban Dan, Prachin Buri (TL. 1)

Location: Lat. 13°-43'-12" N., Long. 102°-28'-06" E., on left bank near Prachin - Aranyaprathet highway bridge, about 7 kilometers west of Aranyaprathet, Amphoe Aranyaprathet, Prachin Buri.

Drainage Area: 571 Sq.km.

Type of Gage: Staff gage.

Zero Gage at Bottom at: + 0.00 m. (A.D.)

Bench Mark: B.M. - H.S.

Location: Near the gage site.
Elevation: + 6.020 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: 1964 to date.

Rating Operation:

Period of Rating: 1964-1965.
Rated by Float: -
Rated by Current Meter: 1964-1965.

Stability of Channel Regimes: Fairly stable, no shifting adjustment for flow computation.

Overbank Flow Conditions: No overbank flow.

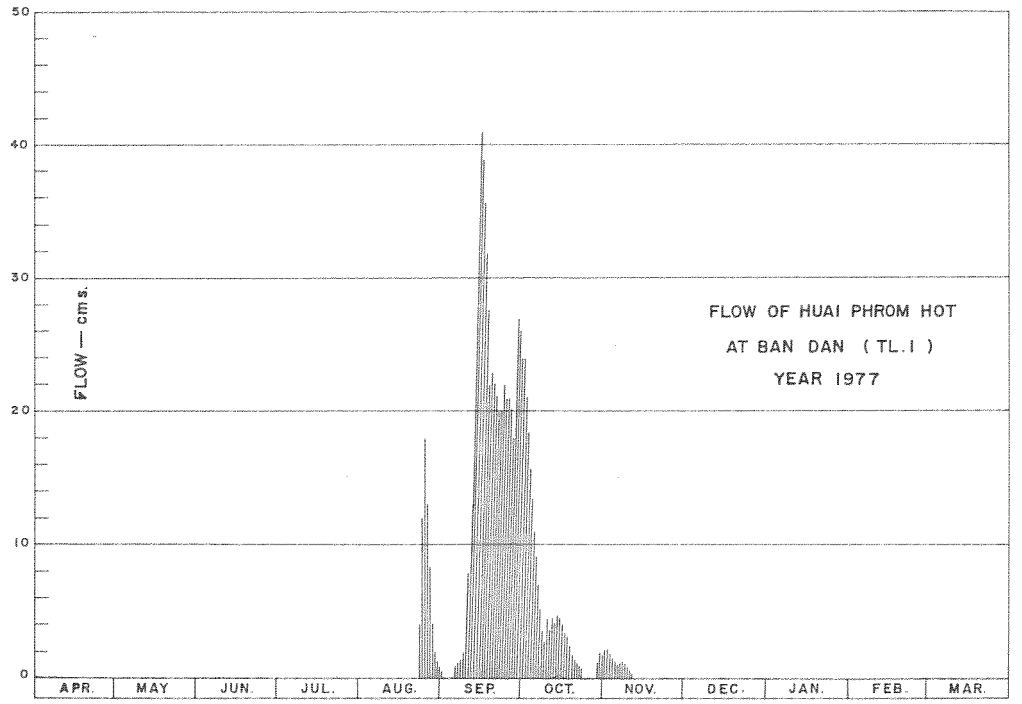
General Description: Records fair. Stage-discharge relation defined by 27 discharge measurements made during 1964-65.

Remarks: Discharge record for periods of no flow are omitted.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	1.01	0.97	1.00	0.99	1.01	1.85	4.68	2.39	1.03	1.02	1.01	0.99
2	.01	1.00	.00	.99	.00	.68	.69	.39	.03	.02	.01	.99
3	.01	.02	.00	.99	0.98	.62	.31	.29	.05	.02	.01	.99
4	0.99	.03	0.99	.98	.98	.69	3.93	.20	.07	.02	.01	.99
5	.99	.03	.99	.98	.98	1.77	.65	.06	.05	.02	.01	.99
6	0.98	1.03	0.99	1.03	0.98	2.05	3.42	2.03	1.03	1.02	1.01	0.99
7	.98	.00	.99	.07	.98	.15	.09	.16	.02	.02	.01	.99
8	1.01	0.97	.99	.02	.98	.23	2.71	.11	.03	.02	.01	.99
9	.00	.97	.99	.00	.98	.39	.47	.03	.03	.02	.01	.99
10	.00	.97	.99	0.98	.98	3.13	.75	1.90	.03	.02	.01	.99
11	1.00	0.97	0.99	0.99	0.88	3.55	2.62	1.80	1.03	1.02	1.01	0.99
12	.00	.97	1.00	1.01	.88	.71	.76	.72	.03	.02	.01	.98
13	0.99	.97	.02	.02	.88	4.34	.71	.56	.03	.02	.01	.98
14	.99	.98	0.99	.01	.88	5.07	.80	.52	.03	.02	.01	.98
15	.98	.98	.98	.01	.88	.60	.76	.48	.03	.02	.00	.98
16	0.98	0.98	0.98	1.01	0.88	5.78	2.66	1.44	1.03	1.02	1.00	0.98
17	.99	.99	.98	.00	.88	.46	.59	.33	.03	.01	.00	.98
18	.99	.99	.98	.00	.89	.04	.54	.36	.03	.01	.00	.98
19	.99	1.00	.99	.00	.89	4.54	.37	.34	.03	.01	.00	.98
20	1.00	0.98	.99	.00	1.01	.62	.26	.33	.02	.01	.00	.98
21	1.00	0.98	0.99	0.99	1.01	4.53	2.14	1.32	1.02	1.01	1.00	0.98
22	.01	.98	.99	.99	.06	.34	.05	.30	.02	.01	.00	.98
23	.01	.98	.99	.99	.25	.38	1.83	.24	.02	.01	.00	.98
24	.01	.98	.99	.99	3.57	.51	.67	.20	.02	.01	.00	.98
25	.00	.98	.99	.99	4.14	.43	.55	.19	.02	.01	.00	.98
26	1.00	0.99	0.99	1.05	3.70	4.48	1.36	1.19	1.02	1.01	1.00	0.98
27	0.99	1.00	.98	.20	.17	.32	.46	.12	.02	.01	0.99	.98
28	.98	.00	.98	.05	2.67	.14	.56	.04	.02	.01	.99	.98
29	.97	0.99	.98	.01	.41	.65	2.15	.04	.02	.01	-	.98
30	.97	.99	.99	.01	.15	.93	.33	.03	.02	.01	-	.99
31	-	1.00	-	.02	.03	-	.32	-	.02	.01	-	.99
Mean	0.99	0.99	0.99	1.01	1.48	3.77	2.65	1.60	1.03	1.02	1.01	0.98
Max.					4.14	5.78	4.69	2.39				
Min.					0.88	1.62	1.36	1.03				

WATER YEAR 1977 : Max. 5.78 m. Min. 1.03 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1						0.45	24	2.25				
2						0.00	24	2.25				
3						0.00	20	1.77				
4						0.00	15	1.50				
5						0.21	12	1.08				
6						1.05	10	0.99				
7						1.35	6.92	1.38				
8						1.59	4.17	1.23				
9						2.25	2.72	0.99				
10						7.24	4.45	0.60				
11						11	3.62	0.30				
12						13	4.52	0.06				
13						20	4.17					
14						29	4.80					
15						37	4.52					
16						41	3.86					
17						34	3.44					
18						28	3.14					
19						22	2.15					
20						23	1.68					
21						22	1.32					
22						20	1.05					
23						20	0.39					
24					11	22	0.00					
25					18	21						
26					13	21						
27					7.56	20						
28					3.92	18	0.00					
29					2.36	23	1.35					
30					1.35	27	1.95					
31	–		–		0.99	–	1.90					
Total					58.18	486.14	167.12	14.40				
Mean					1.88	16.2	5.39	0.48				
Max.					18	41	24	2.25				
Min.					0.00	0.00	0.00	0.00				
Runoff - mcm.					5.027	42.002	14.439	1.244				

WATER YEAR 1977 : Max. 41 Min. 0.00 Mean 1.99 Annual Runoff 62,712 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sept. 16	09.00	5.82	42				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
NAKHON NAYOK RIVER BASIN

Nakhon Nayok River at Ban Khao Kariang, Nakhon Nayok (Ny. 1B)

Location: Lat. 14°-14'-45" N., Long. 101°-12'-38" E., on left bank about 700 meters upstream from Ny.1 station at Khao Nang Buat, Amphoe Muang, Nakhon Nayok.

Drainage Area: 519 Sq.km.

Type of Gage: Staff gage.

Zero Gage at Bottom at: + 0.00 m. (M.S.L.)

Bench Mark: B.M. - H.S.

Location: Near the fence of gage observer's house.
Elevation: + 8.758 m. (M.S.L.)

Gage Reading Frequency: 8-time daily readings at 03.00, 06.00, 09.00, 12.00, 15.00, 18.00, 21.00 and 24.00 hours.

Basis of Mean Daily Gage Height: Arithmetic mean of 8 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: Fairly stable, no shifting adjustment for flow computation.

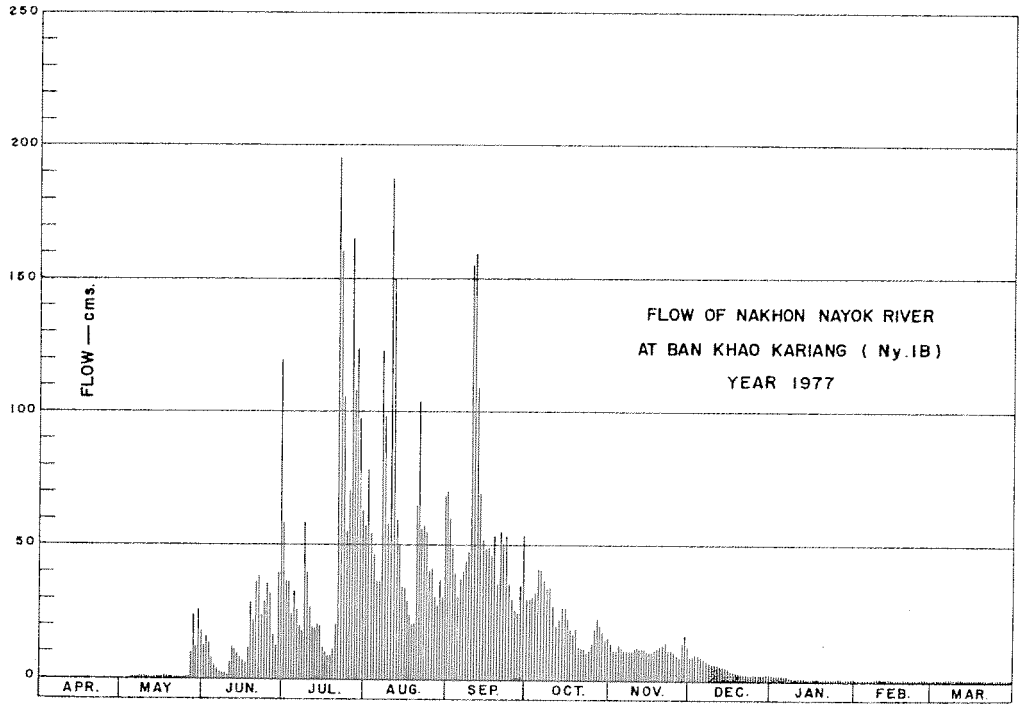
Overbank Flow Conditions: No overbank flow.

General Description: Records fair. Stage-discharge relation defined by 24 discharge measurements made in 1977.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	3.50	3.48	4.40	5.58	5.60	5.87	4.93	4.44	4.17	3.75	3.57	3.54
2	.50	.50	.49	.11	6.03	.48	.94	.31	.20	.74	.56	.54
3	.50	.49	.47	.11	5.67	.21	.94	.29	.20	.73	.56	.54
4	.50	.54	.17	4.76	.36	.04	5.00	.36	.19	.73	.57	.53
5	.50	.54	.04	.99	.10	4.94	.21	.37	.17	.72	.58	.53
6	3.50	3.55	3.95	4.88	5.09	5.13	5.19	4.30	4.13	3.71	3.57	3.53
7	.51	.56	.88	.66	6.83	.20	.08	.28	.06	.70	.56	.53
8	.51	.58	.83	.55	.17	.29	.03	.29	.05	.69	.56	.53
9	.52	.57	.80	5.62	5.53	.40	.04	.32	.04	.67	.56	.53
10	.52	.54	.79	.09	.58	7.36	4.86	.35	.03	.65	.55	.52
11	3.52	3.53	4.06	4.82	7.87	7.47	4.71	4.36	4.02	3.63	3.55	3.52
12	.52	.55	.36	.61	6.47	6.26	.63	.35	.00	.61	.55	.51
13	.51	.58	.32	.57	5.62	5.70	.71	.33	3.98	.60	.54	.51
14	.52	.66	.20	.65	.32	.67	.83	.32	.97	.60	.54	.50
15	.53	.59	.10	.62	.04	.39	.84	.28	.95	.60	.54	.50
16	3.52	3.63	4.06	4.34	5.02	5.39	4.67	4.27	3.91	3.59	3.54	3.50
17	.52	.72	.07	.25	4.84	.33	.55	.29	.90	.59	.56	.50
18	.52	.70	.29	.17	.65	.51	.52	.29	.87	.60	.55	.50
19	.51	.64	.86	.24	.65	.21	.58	.34	.86	.61	.55	.50
20	.51	.59	.65	.36	.87	.04	.36	.38	.85	.60	.54	.51
21	3.51	3.61	5.08	4.64	6.67	5.54	4.33	4.40	3.83	3.60	3.53	3.53
22	.50	.57	.14	7.98	5.57	.43	.31	.42	.81	.59	.55	.53
23	.50	.56	4.75	6.92	.60	.51	.27	.31	.80	.59	.54	.52
24	.49	.61	.93	.12	.55	.07	.32	.28	.79	.59	.53	.52
25	.49	.64	5.07	5.52	.20	4.91	.37	.24	.78	.58	.53	.51
26	3.48	3.61	4.96	5.80	5.22	4.81	4.54	4.19	3.78	3.58	3.53	0.51
27	.48	.99	.55	7.54	4.98	.77	.71	.17	.79	.58	.54	.50
28	.48	4.75	.40	6.56	.87	.98	.66	.37	.78	.58	.54	.51
29	.48	.35	.75	.85	5.09	5.50	.51	.51	.78	.57	-	.50
30	.48	.80	6.78	.41	4.94	.26	.46	.34	.78	.57	-	.50
31	-	.65	-	5.71	5.83	-	.48	-	.77	.57	-	.50
Mean	3.50	3.73	4.47	5.32	5.51	5.45	4.70	4.32	3.94	3.63	3.55	3.52
Max.	3.53	4.80	6.78	7.98	7.87	7.47	5.21	4.51	4.20	3.75	3.58	3.54
Min.	3.48	3.48	3.79	4.17	4.65	4.77	4.27	4.17	3.77	3.57	3.53	3.50

WATER YEAR 1977 : Max. 7.98 m. Min. 3.50 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.00	0.00	13	58	58	71	30	15	8.40	1.50	0.35	0.20
2	0.00	0.00	16	37	79	53	31	11	9.00	1.40	0.30	0.20
3	0.00	0.00	16	37	53	41	31	11	9.00	1.30	0.30	0.20
4	0.00	0.20	8.40	25	48	35	33	12	8.80	1.30	0.35	0.15
5	0.00	0.20	5.80	33	37	31	41	13	8.40	1.20	0.40	0.15
6	0.00	0.25	4.00	29	37	38	41	11	7.60	1.10	0.35	0.15
7	0.050	0.30	2.80	21	123	41	36	11	6.20	1.00	0.30	0.15
8	0.050	0.40	2.30	18	86	45	34	11	6.00	0.95	0.30	0.15
9	0.10	0.35	2.00	59	55	49	35	11	5.80	0.85	0.30	0.15
10	0.10	0.40	1.90	37	58	154	28	12	5.60	0.75	0.25	0.10
11	0.10	0.15	6.20	27	187	160	23	12	5.40	0.65	0.25	0.10
12	0.10	0.25	12	20	103	91	20	12	5.00	0.55	0.25	0.05
13	0.050	0.40	11	19	59	63	23	12	4.60	0.50	0.20	0.05
14	0.10	0.80	9.00	21	46	53	27	11	4.40	0.50	0.20	0.00
15	0.15	0.45	7.00	20	35	49	27	11	4.00	0.50	0.20	0.00
16	0.10	0.65	6.20	12	34	49	22	10	3.20	0.45	0.20	0.00
17	0.10	1.20	6.40	10	27	46	18	11	3.00	0.45	0.30	0.00
18	0.10	1.00	11	8.40	21	54	17	11	2.70	0.50	0.25	0.00
19	0.050	0.70	28	9.80	21	41	19	12	2.60	0.55	0.25	0.00
20	0.050	0.45	21	12	28	35	12	13	2.50	0.50	0.20	0.05
21	0.050	0.55	36	21	104	56	12	13	2.30	0.50	0.15	0.15
22	0.00	0.35	39	195	57	51	11	14	2.10	0.45	0.25	0.15
23	0.00	0.30	24	128	58	54	10	11	2.00	0.45	0.20	0.10
24	0.00	0.55	30	84	56	36	11	11	1.90	0.45	0.15	0.10
25	0.00	0.70	36	55	41	30	13	9.80	1.80	0.40	0.15	0.05
26	0.00	0.55	32	68	42	26	18	8.80	1.80	0.40	0.15	0.05
27	0.00	4.80	18	165	32	25	23	8.40	1.90	0.40	0.20	0.00
28	0.00	24	13	108	28	32	21	13	1.80	0.40	0.20	0.05
29	0.00	12	24	124	37	54	17	17	1.80	0.35	–	0.00
30	0.00	26	120	99	31	43	15	12	1.80	0.35	–	0.00
31	–	21	–	63	69	–	16	–	1.70	0.35	–	0.00
Total	1.25	98.95	562	1,623.20	1,750	1,606	715	351	133.10	21.00	6.95	2.50
Mean	0.040	3.19	18.7	52.4	56.4	53.5	23.1	11.7	4.29	0.68	0.25	0.080
Max.	0.15	26	120	195	187	160	41	17	9.00	1.50	0.40	0.20
Min.	0.00	0.00	1.90	8.40	21	25	10	8.40	1.70	0.35	0.15	0.00
Runoff – mcm.	0.108	8.549	48.557	140.244	151.200	138.758	61.776	30.326	11.500	1.814	0.600	0.216

WATER YEAR 1977 : Max. 195 Min. 0.00 Mean 18.8 Annual Runoff 593.648 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
July 22	5.00	9.43	303				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
NAKHON NAYOK RIVER BASIN

Khlong Ban Na at Ban Pa Kha, Nakhon Nayok (Ny. 3)

Location: Lat. 14°-17'-07" N., Long. 100°-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 at: + 0.00 m. (A.D.)

Bench Mark: B.M. - H.S.

Location: On left bank 10 meters from the gage site.
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 to date.
Rated by Float: -
Rated by Current Meter: 1977 to date.

Stability of Channel Regimes: Fairly stable, no shifting adjustment for flow computation.

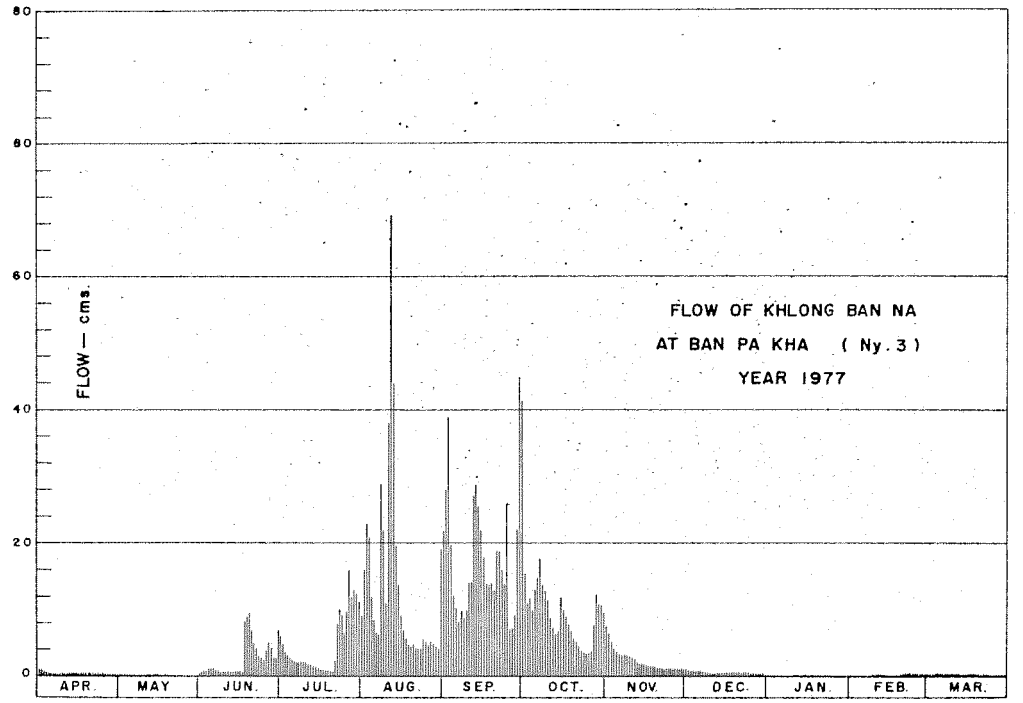
Overbank Flow Conditions: No overbank flow.

General Description: Records fair. Stage-discharge relation defined by 25 discharge measurements made in 1977.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.90	0.65	0.80	1.50	1.74	2.71	2.25	1.63	0.86	0.72	0.62	0.67
2	.84	.65	.84	.32	2.68	5.47	1.92	.50	.84	.71	.67	.65
3	.82	.65	.84	.24	.53	2.61	.99	.40	.84	.71	.67	.65
4	.77	.65	.92	.17	.07	.06	.83	.31	.82	.71	.67	.65
5	.73	.65	.92	.12	1.77	1.87	2.06	.25	.82	.71	.67	.65
6	0.73	0.65	0.89	1.07	1.58	1.76	2.14	1.21	0.82	0.71	0.66	0.65
7	.70	.65	.86	.04	.52	.67	.38	.19	.82	.71	.66	.64
8	.70	.65	.70	.05	3.01	.84	.12	.21	.82	.71	.66	.64
9	.69	.65	.81	.05	2.31	.73	.05	.19	.82	.71	.66	.64
10	.68	.64	.79	.08	1.89	2.08	1.86	.15	.82	.70	.66	.64
11	0.67	0.64	0.83	1.05	3.41	2.07	1.71	1.10	0.80	0.70	0.65	0.64
12	.68	.64	.82	.02	4.69	.91	.57	.10	.78	.69	.65	.64
13	.68	.64	.82	.00	2.98	3.00	.51	.04	.79	.69	.65	.64
14	.68	.64	.82	0.96	.17	2.72	.59	.03	.77	.70	.65	.64
15	.68	.65	.81	.92	1.84	.43	.94	.01	.77	.70	.65	.65
16	0.68	0.66	0.79	0.92	1.65	2.18	1.83	1.00	0.77	0.69	0.65	0.65
17	.68	.74	.79	.91	.49	.07	.72	.00	.76	.68	.65	.65
18	.68	.69	1.71	.88	.39	.07	.60	0.97	.76	.68	.65	.65
19	.68	.68	.79	.88	.35	.09	.54	.96	.75	.68	.64	.63
20	.68	.66	.64	.87	.38	.04	.44	.95	.75	.68	.64	.63
21	0.66	0.66	1.35	0.85	1.32	2.40	1.38	0.94	0.75	0.67	0.64	0.62
22	.65	.66	.29	1.17	.30	.41	.30	.92	.74	.67	.64	.62
23	.65	.67	.16	.84	.30	.12	.26	.92	.74	.67	.70	.62
24	.66	.65	.17	.78	.47	.84	.23	.91	.73	.67	.69	.60
25	.67	.65	.06	.52	.43	.69	.23	.89	.72	.67	.68	.60
26	0.68	0.65	1.32	1.73	1.37	1.59	1.25	0.88	0.75	0.67	0.74	0.60
27	.66	.67	.44	2.23	.42	.62	.50	.88	.74	.67	.71	.60
28	.65	.66	.21	1.98	.37	.81	.95	.88	.73	.66	.67	.60
29	.65	.68	.12	2.03	.34	3.76	.92	.88	.73	.67		.61
30	.65	.69	.58	1.95	.30	.63	.91	.86	.73	.67		.61
31		.69		.80	2.44		.80		.72	.63		.61
Mean	0.69	0.66	1.06	1.29	1.91	2.34	1.73	1.07	0.78	0.68	0.66	0.63
Max.	0.90	0.74	1.79	2.23	4.69	3.76	2.38	1.63	0.86	0.72	0.74	0.67
Min.	0.65	0.64	0.70	0.85	1.30	1.59	1.23	0.86	0.72	0.63	0.62	0.60

WATER YEAR 1977 : Max. 4.69 m. Min. 0.60 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	1.20	0.25	0.80	6.30	9.02	24	16	7.73	1.04	0.48	0.16	0.31
2	0.96	0.25	0.96	4.40	23	39	11	6.30	0.96	0.44	0.31	0.25
3	0.88	0.25	0.96	3.72	21	22	12	5.20	0.96	0.44	0.31	0.25
4	0.68	0.25	1.32	3.16	14	13	10	4.30	0.88	0.44	0.31	0.25
5	0.52	0.25	1.32	2.76	9.41	11	13	3.80	0.88	0.44	0.31	0.25
6	0.52	0.25	1.16	2.36	7.18	9.28	15	3.48	0.88	0.44	0.28	0.25
7	0.40	0.25	1.04	2.12	6.52	8.17	18	3.32	0.88	0.44	0.28	0.22
8	0.40	0.25	0.40	2.20	29	10	14	3.48	0.88	0.44	0.28	0.22
9	0.37	0.25	0.84	2.20	17	8.89	13	3.32	0.88	0.44	0.28	0.22
10	0.34	0.22	0.76	2.44	11	14	11	3.00	0.88	0.40	0.28	0.22
11	0.31	0.22	0.92	2.20	37	14	8.63	2.60	0.80	0.40	0.25	0.22
12	0.34	0.22	0.88	1.96	69	27	7.07	2.60	0.72	0.37	0.25	0.22
13	0.34	0.22	0.88	1.80	29	29	6.41	2.12	0.76	0.37	0.25	0.22
14	0.34	0.22	0.88	1.56	15	24	7.29	2.04	0.68	0.40	0.25	0.22
15	0.34	0.25	0.84	1.32	10	19	12	1.88	0.68	0.40	0.25	0.25
16	0.34	0.28	0.76	1.32	7.95	15	10	1.80	0.68	0.37	0.25	0.25
17	0.34	0.56	0.76	1.26	6.19	14	8.76	1.80	0.64	0.34	0.25	0.25
18	0.34	0.37	8.63	1.12	5.10	14	7.40	1.62	0.64	0.34	0.25	0.25
19	0.34	0.34	9.67	1.12	4.70	14	6.74	1.56	0.60	0.34	0.22	0.19
20	0.34	0.28	7.84	1.08	5.00	13	5.64	1.50	0.60	0.34	0.22	0.19
21	0.28	0.28	4.70	1.00	4.40	19	5.00	1.44	0.60	0.31	0.22	0.16
22	0.25	0.28	4.12	3.16	4.20	19	4.20	1.32	0.56	0.31	0.22	0.16
23	0.25	0.31	3.08	10	4.20	14	3.88	1.32	0.56	0.31	0.40	0.16
24	0.28	0.25	3.16	9.54	5.97	26	3.64	1.26	0.52	0.31	0.37	0.10
25	0.31	0.25	2.28	6.52	5.53	23	3.64	1.16	0.48	0.31	0.34	0.10
26	0.34	0.25	4.40	8.89	4.90	7.29	3.80	1.12	0.60	0.31	0.56	0.10
27	0.28	0.31	5.64	16	5.42	7.62	6.30	1.12	0.56	0.31	0.44	0.10
28	0.25	0.28	3.48	12	4.90	9.94	12	1.12	0.52	0.28	0.31	0.10
29	0.25	0.34	2.76	13	4.60	45	11	1.12	0.52	0.31		0.13
30	0.25	0.37	7.18	12	4.20	42	11	1.04	0.52	0.31		0.13
31		0.37		9.80	19		9.80		0.48	0.19		0.13
Total	12.38	8.72	82.42	148.31	403.39	555.19	287.20	75.47	21.84	11.33	8.10	6.07
Mean	0.41	0.28	2.74	4.78	13.0	18.5	9.26	2.51	0.70	0.36	0.29	0.19
Max.	1.20	0.56	9.67	16	69	45	18	7.73	1.04	0.48	0.56	0.31
Min.	0.25	0.22	0.40	1.00	4.20	7.29	3.64	1.04	0.48	0.19	0.16	0.10
Runoff - MCM.	1.069	0.753	7.121	12.814	34.853	47.968	24.814	6.521	1.887	0.979	0.700	0.524

WATER YEAR 1977 : Max. 69 Min. 0.10 Mean 4.44 Annual Runoff 140.003 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Aug. 12	1.00	5.32	88				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
PRACHIN RIVER BASIN

Prachin 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 Phra Prong and Lam Hanuman, Amphoe Kabin Buri, Prachin Buri.

Drainage Area: 7,502 Sq.km.

Type of Gage: Staff gage.

Zero Gage at Bottom at: - 0.49 m. (M.S.L.)

Bench Mark: B.M. - H.S./RID

Location: At the fence of Amphoe Kabin Buri Office.
Elevation: + 10.179 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: Fairly stable, no shifting adjustment for flow computation.

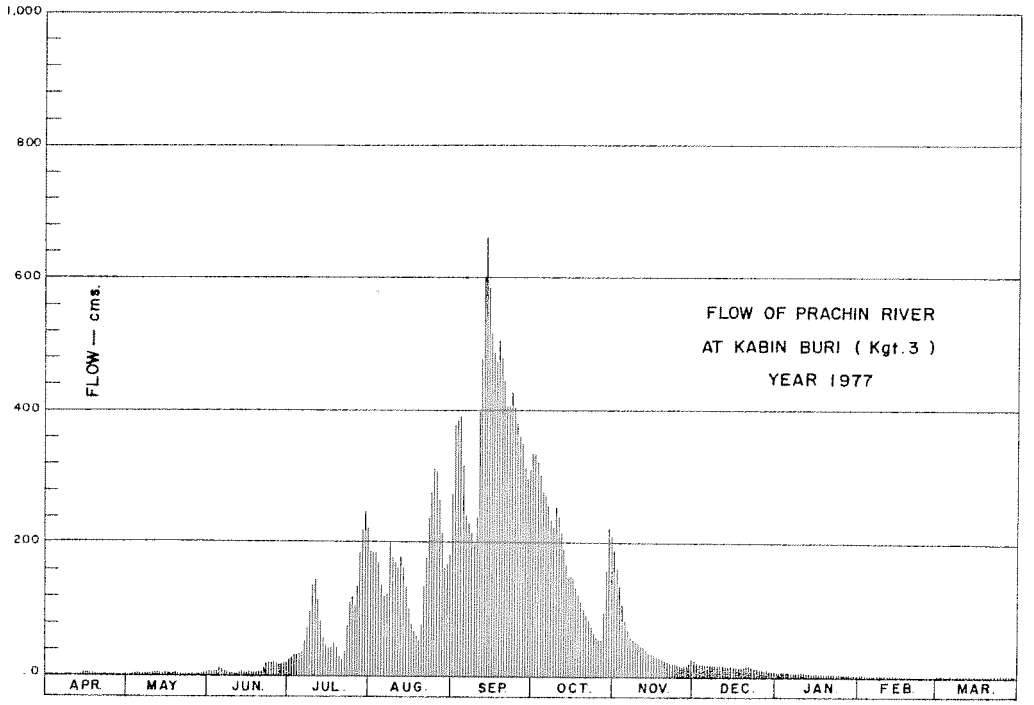
Overbank Flow Conditions: No overbank flow.

General Description: Records fair. Stage-discharge relation defined by 25 discharge measurements made in 1977.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.57	0.67	0.96	1.52	4.76	6.19	6.84	4.51	1.52	0.92	0.66	0.56
2	.57	.64	.93	.72	.72	7.36	.81	.06	.42	.91	.65	.56
3	.56	.67	.95	.80	.76	.49	.68	3.52	.38	.90	.64	.55
4	.59	.76	1.12	.77	.34	.18	.28	.07	.37	.87	.64	.55
5	.57	.71	.13	.80	3.90	6.29	.01	2.74	.36	.85	.66	.55
6	0.56	0.68	1.01	1.91	3.63	5.51	5.93	2.53	1.34	0.83	0.66	0.54
7	.57	.70	0.90	2.17	.70	.35	.63	.37	.32	.83	.66	.54
8	.56	.71	.83	.45	4.91	.12	.27	.37	.32	.82	.66	.53
9	.56	.76	.83	3.08	.61	4.86	.68	.26	.28	.80	.66	.53
10	.56	.77	.77	.91	.48	5.61	.54	.12	.28	.81	.66	.52
11	0.55	0.82	0.71	4.08	4.35	7.72	5.37	2.07	1.26	0.79	0.66	0.52
12	.55	.83	.69	3.68	.65	8.89	4.91	.05	.24	.76	.65	.51
13	.56	.80	.91	.07	.52	9.05	.48	1.87	.21	.75	.62	.51
14	.76	.78	.86	2.50	.16	8.98	.17	.80	.25	.73	.61	.54
15	.81	.80	.78	.18	3.51	.80	.16	.75	.24	.73	.60	.55
16	0.72	0.77	0.92	2.06	3.02	8.59	4.09	1.68	1.23	0.72	0.60	0.53
17	.66	.84	.86	.09	2.69	.47	3.81	.62	.23	.72	.58	.54
18	.63	.81	.81	.23	.47	.67	.64	.61	.24	.71	.57	.56
19	.64	.76	.84	.17	.31	.50	.54	.55	.22	.70	.57	.55
20	.66	.70	.86	1.91	.68	.22	.32	.46	.19	.69	.57	.54
21	0.70	0.67	1.01	1.63	3.79	7.74	3.15	1.42	1.30	0.69	0.56	0.54
22	.67	.65	.35	.65	4.81	.68	2.92	.40	.25	.68	.56	.62
23	.63	.65	.43	2.68	5.49	.96	.72	.38	.20	.67	.56	.64
24	.60	.78	.41	3.50	6.13	.69	.53	.36	.15	.66	.56	.64
25	.60	.76	.39	.64	.54	.43	.37	.32	.11	.66	56	.64
26	0.58	0.76	1.40	3.41	6.47	7.20	2.33	1.30	1.08	0.65	0.58	0.61
27	.57	.76	.33	.89	5.67	.01	.67	.27	.03	.65	.57	.59
28	.55	.78	.32	4.75	4.84	6.57	3.81	.29	.00	.65	.57	.60
29	.69	.77	.35	5.36	.36	.26	5.00	.39	0.97	.64	-	.61
30	.72	.81	.40	.61	.49	.62	.26	.67	.96	.64	-	.59
31	-	.90	-	.17	.74	-	4.95	-	.94	.64	-	.56
Mean	0.62	0.77	1.03	2.88	4.37	7.30	4.51	2.03	1.22	0.74	0.62	0.56
Max.	0.81	0.90	1.43	5.61	6.54	9.05	6.84	4.51	1.52	0.92	0.66	0.64
Min.	0.55	0.64	0.69	1.52	2.31	4.86	2.33	1.27	0.94	0.64	0.56	0.51

WATER YEAR 1977 : Max. 9.05 m. Min. 0.51 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	1.70	3.40	9.20	25	191	291	338	174	25	8.40	3.20	1.60
2	1.70	2.80	8.60	31	188	380	336	147	22	8.20	3.00	1.60
3	1.60	3.40	9.00	34	191	390	326	114	20	8.00	2.80	1.50
4	1.90	5.20	13	33	163	365	298	89	20	7.40	2.80	1.50
5	1.70	4.20	13	34	137	298	279	73	20	7.00	3.20	1.50
6	1.60	3.60	10	38	121	244	273	63	19	6.60	3.20	1.40
7	1.70	4.00	8.00	49	125	232	252	57	19	6.60	3.20	1.40
8	1.60	4.20	6.60	60	202	216	227	57	19	6.40	3.20	1.30
9	1.60	5.20	6.60	90	181	198	256	52	17	6.00	3.20	1.30
10	1.60	5.40	5.40	138	172	251	246	47	17	6.20	3.20	1.20
11	1.50	6.40	4.20	148	164	409	234	45	17	5.80	3.20	1.20
12	1.50	6.60	3.80	124	183	573	202	44	16	5.20	3.00	1.10
13	1.60	6.00	8.20	89	174	662	172	37	15	5.00	2.40	1.10
14	5.20	5.60	7.20	62	153	615	153	34	16	4.60	2.20	1.40
15	6.20	6.00	5.60	49	114	542	153	32	16	4.60	2.00	1.50
16	4.40	5.40	8.40	44	87	492	148	30	16	4.40	2.00	1.30
17	3.20	6.80	7.20	46	70	476	132	28	16	4.40	1.80	1.40
18	2.60	6.20	6.20	51	61	508	121	27	16	4.20	1.70	1.60
19	2.80	5.20	6.80	49	54	480	115	25	16	4.00	1.70	1.50
20	3.20	4.00	7.20	38	70	451	102	23	15	3.80	1.70	1.40
21	4.00	3.40	10	28	130	410	93	22	18	3.80	1.60	1.40
22	3.40	3.00	19	29	195	405	82	21	16	3.60	1.60	2.40
23	2.60	3.00	22	70	242	428	72	20	15	3.40	1.60	2.80
24	2.00	5.60	21	113	287	406	63	20	13	3.20	1.60	2.80
25	2.00	5.20	21	121	316	385	57	19	12	3.20	1.60	2.80
26	1.80	5.20	21	108	311	367	55	18	12	3.00	1.80	2.20
27	1.70	5.20	19	136	255	352	69	17	11	3.00	1.70	1.90
28	1.50	5.60	19	190	197	318	132	18	10	3.00	1.70	2.00
29	3.80	5.40	19	233	165	296	208	21	9.40	2.80	–	2.20
30	4.40	6.20	21	251	172	321	226	29	9.20	2.80	–	1.90
31	–	8.00	–	220	190	–	204	–	8.80	2.80	–	1.60
Total	76.10	155.40	346.20	2,731	5,261	11,761	5,624	1,403	491.40	151.40	65.90	51.80
Mean	2.54	5.01	11.5	88.1	170	392	181	46.8	15.8	4.88	2.35	1.67
Max.	6.20	8.00	22	251	316	662	338	174	25	8.40	3.20	2.80
Min.	1.50	2.80	3.80	25	54	1.98	55	17	8.80	2.88	1.60	1.10
Runoff – mcm.	6.575	13.426	29.912	235.958	454.550	1,016.150	485.914	121.219	42.457	13.081	5.694	4.475

WATER YEAR 1977 : Max. 662 Min. 1.10 Mean 77.0 Annual Runoff 2,429.412 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sept. 13	09.00	9.06	670				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
PRACHIN RIVER BASIN

Prachin River at Si Maha Phot, Prachin Buri (Kgt. 6)

Location: Lat. 13°-58'-21" N., Long. 101°-30'-57" E., on left bank 25 meters south of the Wat Prathum, Amphoe Si Maha Phot, Prachin Buri.

Drainage Area: 7,978 Sq.km.

Type of Gage: Staff gage.

Zero Gage at Bottom at: + 0.00 m. (A.D.)

Bench Mark: B.M. – H.S.

Location: On left bank 10 meters south of the Wat Prathum.
Elevation: + 8.310 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
Rated by Float: –
Rated by Current Meter: 1967

Stability of Channel Regimes: Stable, no shifting adjustment for flow computation.

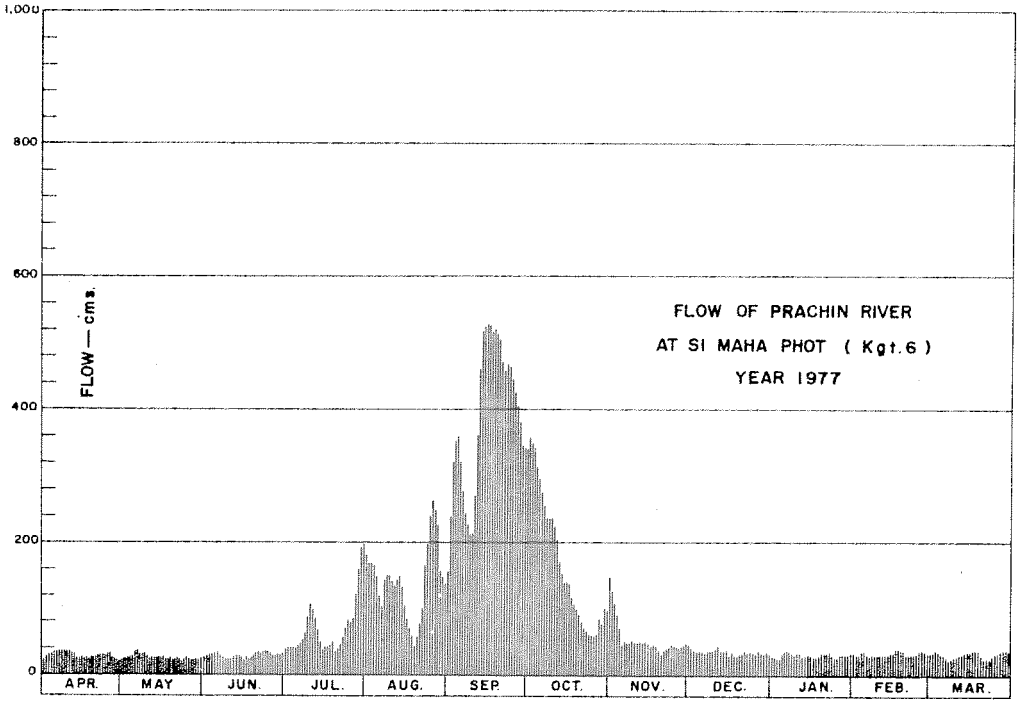
Overbank Flow Conditions: No overbank flow.

General Description: Records fair. Stage-discharge relation defined by 17 discharge measurements made in 1967.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	2.17	2.17	2.33	2.66	4.99	5.23	6.68	4.58	2.79	2.29	2.41	2.50
2	.36	.27	.39	.68	.84	6.28	.65	.23	.63	.24	.35	.63
3	.38	.31	.42	.71	.83	.64	.62	3.82	.59	.23	.55	.59
4	.48	.39	.50	.73	.68	.67	.40	.47	.53	.28	.61	.60
5	.51	.49	.50	.71	.37	.41	.25	.15	.53	.45	.58	.44
6	2.57	2.55	2.47	2.74	4.11	5.98	6.07	2.77	2.49	2.56	2.40	2.34
7	.60	.54	.37	.87	3.96	.74	5.90	.89	.50	.58	.34	.31
8	.58	.43	.27	.99	4.53	.60	.65	.90	.55	.48	.37	.18
9	.57	.45	.21	3.29	.64	.36	.61	.97	.58	.38	.36	.23
10	.55	.34	.18	.76	.53	.41	.62	.91	.61	.44	.36	.31
11	2.51	2.24	2.27	3.99	4.42	6.32	5.50	2.89	2.65	2.54	2.35	2.39
12	.45	.30	.34	.81	.51	7.26	.29	.93	.70	.43	.35	.42
13	.40	.22	.32	.46	.60	.63	4.93	.91	.54	.31	.40	.43
14	.22	.27	.30	.14	.41	.77	.63	.95	.61	.37	.38	.50
15	.25	.26	.30	2.64	.03	.81	.43	.89	.55	.43	.46	.51
16	2.22	2.28	2.14	2.75	3.58	7.80	4.44	2.75	2.39	2.36	2.47	2.56
17	.29	.25	.29	.76	.27	.74	.21	.82	.49	.27	.69	.56
18	.20	.20	.16	.81	.06	.76	.06	.84	.36	.29	.59	.63
19	.31	.20	.35	.87	2.78	.75	3.91	.63	.36	.39	.53	.58
20	.29	.16	.47	.58	3.07	.68	.72	.50	.38	.49	.55	.39
21	2.39	2.21	2.52	2.69	3.42	7.48	3.60	2.48	2.46	2.47	2.46	2.27
22	.41	.25	.49	.80	4.22	.39	.39	.65	.53	.48	.39	.23
23	.42	.12	.55	3.07	.83	.45	.24	.70	.49	.56	.35	.15
24	.44	.25	.58	.34	5.31	.42	.16	.80	.55	.31	.41	.26
25	.45	.26	.55	.59	.68	.29	.11	.76	.47	.23	.43	.46
26	2.38	2.22	2.39	3.54	5.88	7.14	3.13	2.74	2.43	2.30	2.57	2.44
27	.35	.16	.39	.64	.67	.00	.25	.72	.53	.39	.58	.53
28	.20	.24	.43	4.22	.18	6.82	.58	.71	.49	.37	.52	.57
29	.11	.17	.37	.85	4.69	.58	.45	.82	.33	.32	–	.58
30	.08	.27	.44	5.17	.49	.57	.85	.88	.42	.35	–	.58
31	–	.30	–	.20	.60	–	.84	–	.43	.43	–	.58
Mean	2.37	2.28	2.38	3.29	4.42	6.87	4.65	2.97	2.51	2.39	2.46	2.44
Max.	2.60	2.55	2.58	5.20	5.88	7.81	6.68	4.58	2.79	2.58	2.69	2.63
Min.	2.08	2.12	2.14	2.58	2.78	5.23	3.11	2.48	2.33	2.23	2.34	2.15

WATER YEAR 1977 : Max. 7.81 m. Min. 2.08 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	24	24	29	40	179	199	356	148	46	28	32	34
2	30	27	31	41	168	307	352	123	39	26	30	39
3	31	28	32	42	167	351	349	97	38	26	36	38
4	34	31	34	43	155	355	321	77	36	27	38	38
5	35	34	34	42	133	322	303	61	36	33	37	32
6	37	36	34	44	115	272	282	45	34	36	31	29
7	38	36	30	49	106	247	264	50	34	37	29	28
8	37	32	27	54	144	233	238	50	36	34	30	24
9	37	33	25	68	152	211	234	53	37	31	30	26
10	36	29	24	94	144	215	235	51	38	32	30	28
11	35	26	27	108	136	311	224	50	40	36	30	31
12	33	28	29	96	143	439	204	52	42	32	30	32
13	31	26	29	77	149	498	174	51	36	28	31	32
14	26	27	28	61	136	522	151	52	38	30	31	34
15	27	27	28	40	110	528	137	50	36	32	33	35
16	26	27	23	44	83	526	138	44	31	30	34	36
17	28	27	28	44	67	517	122	47	34	27	42	36
18	25	25	24	47	57	520	112	48	30	28	38	39
19	28	25	30	49	45	518	103	39	30	31	36	37
20	28	24	34	37	58	507	91	34	31	34	36	31
21	31	25	35	42	75	474	84	34	33	34	33	27
22	32	27	34	46	123	460	72	40	36	34	31	26
23	32	23	36	58	167	469	65	42	34	36	30	24
24	32	27	37	70	206	465	62	46	36	28	32	27
25	33	27	36	84	241	444	59	44	34	26	32	33
26	31	26	31	81	262	421	60	44	32	28	37	32
27	30	24	31	86	240	400	66	43	36	31	37	36
28	25	26	32	123	195	375	83	42	34	30	35	37
29	23	24	30	168	156	343	76	47	29	29	–	37
30	22	27	32	194	141	342	99	49	32	30	–	37
31	–	28	–	196	149	–	98	–	32	32	–	37
Total	917	856	914	2,268	4,402	11,791	5,214	1,653	1,090	956	931	1,012
Mean	30.6	27.6	30.5	73.2	142	393	168	55.1	35.2	30.8	33.2	32.6
Max.	38	36	37	196	262	528	356	148	46	37	42	39
Min.	22	23	23	37	45	199	59	34	29	26	29	24
Runoff - mcm.	79.229	73.958	78.970	195.955	380.333	1,018.742	450.490	142.819	94.176	82.598	80.438	87.437

WATER YEAR 1977 : Max. 528 Min. 22 Mean 87.7 Annual Runoff 2,765.146 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sept. 15	6.00	7.82	530				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
PRACHIN 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 infront of Wat Khao Chakan, Ban Khao Chakan, Amphoe Sakaco, Prachin Buri.

Drainage Area: 2,279 Sq.km.

Type of Gage: Water-stage recorder.

Zero Gage at Bottom at: + 0.00 m. (A.D.)

Bench Mark: B.M. - H.S.

Location: At the side of Wat Khao Chakan School.
Elevation: + 10.239 m. (A.D.)

Gage Reading Frequency: Recording

Basis of Mean Daily Gage Height: Arithmetic mean of 24 hourly readings.

Period of Available Gage Records: 1967-1970, 1972 to date.

Rating Operation:

Period of Rating: 1969-1970.
Rated by Float: -
Rated by Current Meter: 1969-1970.

Stability of Channel Regimes: Fairly stable, no shifting adjustment for flow computation.

Overbank Flow Conditions: No overbank flow.

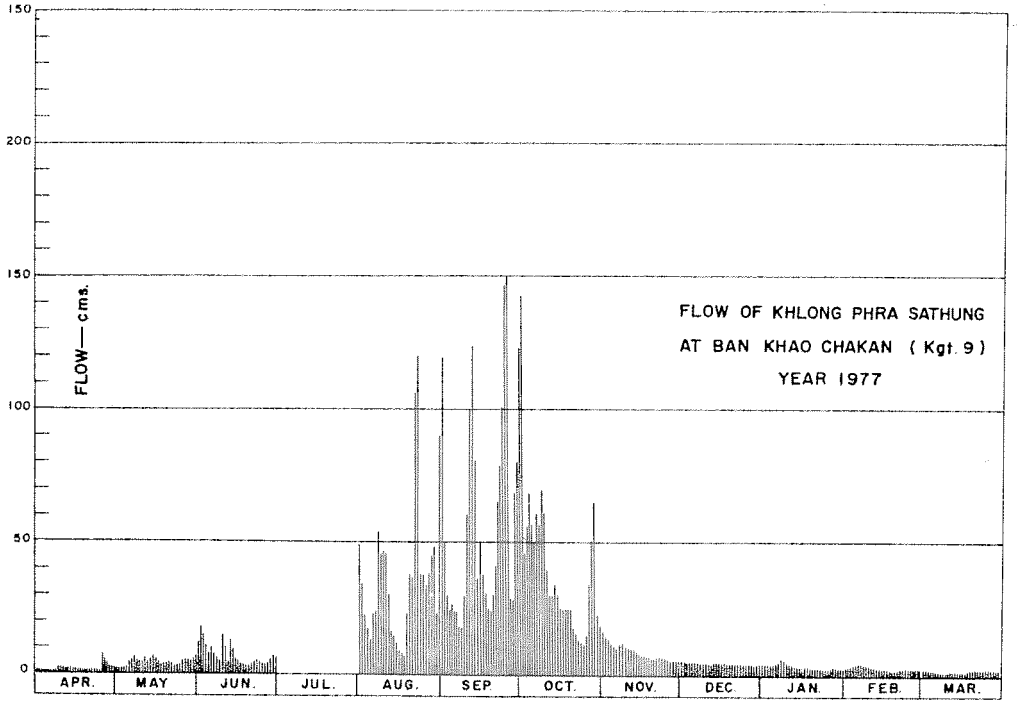
General Description: Records fair. Stage-discharge relation defined by 270 discharge measurements made during 1967-1970.

Remarks: No records on July 1-31, 1977.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.24	0.34	1.20		2.86	5.23	3.86	1.33	0.61	0.50	0.46	0.37
2	.24	.35	.43		.12	3.18	2.77	.20	.61	.49	.49	.35
3	.23	.34	.11		1.64	2.11	3.08	.20	.60	.48	.51	.33
4	.23	.38	0.91		.43	1.76	.55	.08	.59	.53	.50	.31
5	.23	.47	.78		.18	.90	.18	.00	.58	.55	.54	.29
6	0.22	0.58	0.99		1.68	2.20	2.88	0.97	0.58	0.60	0.54	0.28
7	.21	.65	.76		.74	1.74	3.30	1.03	.57	.68	.51	.27
8	.26	.76	.65		3.06	.46	.16	.10	.56	.61	.51	.26
9	.34	.59	.55		2.73	.45	.66	.03	.56	.56	.46	.26
10	.33	.57	1.29		.77	2.44	2.85	0.97	.55	.52	.41	.27
11	0.31	0.58	0.97		2.72	4.55	2.33	0.94	0.55	0.49	0.39	0.27
12	.30	.67	.55		1.91	5.38	.05	.92	.58	.48	.38	.26
13	.31	.54	1.13		.40	4.56	.06	.88	.60	.47	.37	.27
14	.31	.71	0.89		.34	2.89	.26	.84	.59	.46	.35	.28
15	.29	.72	.63		.09	.32	.04	.81	.58	.44	.34	.28
16	0.28	0.57	0.57		0.88	2.92	1.87	0.78	0.58	0.44	0.32	0.29
17	.27	.48	.48		.76	.30	.79	.77	.58	.43	.30	.31
18	.26	.46	.43		.71	.10	.80	.75	.58	.43	.30	.35
19	.25	.49	.40		1.87	1.74	.82	.75	.57	.42	.29	.36
20	.24	.51	.40		2.40	.77	.55	.74	.56	.42	.30	.34
21	0.23	0.53	0.43		2.34	2.42	1.40	0.74	0.55	0.41	0.33	0.33
22	.22	.48	.57		4.82	3.41	.27	.74	.54	.40	.35	.32
23	.22	.46	.64		5.25	4.05	.16	.71	.53	.38	.34	.31
24	.23	.48	.55		3.21	5.95	.09	.67	.52	.36	.34	.30
25	.29	.53	.48		2.37	6.08	.07	.63	.51	.38	.32	.30
26	0.81	0.61	0.48		2.34	3.31	1.39	0.62	0.51	0.42	0.32	0.29
27	.52	.62	.51		.26	1.99	2.42	.62	.50	.41	.30	.29
28	.42	.61	.60		.51	.93	3.47	.61	.49	.39	.34	.29
29	.37	.55	.75		.81	4.48	2.27	.61	.49	.38	-	.28
30	.35	.65	.67		1.69	5.87	1.69	.62	.50	.38	-	.28
31	-	.79	-		4.60	-	.44	-	.50	.39	-	.28
Mean	0.30	0.55	0.73		2.27	3.12	2.28	0.86	0.56	0.46	0.39	0.30
Max.	0.81	0.79	1.43		5.25	6.08	3.86	1.33	0.61	0.61	0.54	0.37
Min.	0.21	0.34	0.40		0.71	1.45	1.07	0.61	0.49	0.36	0.29	0.26

WATER YEAR 1977 : Max. 6.08 m. Min. 0.21 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31,1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	1.52	2.40	14		49	119	76	16	5.32	4.00	3.60	2.70
2	1.52	2.50	18		32	58	47	14	5.32	3.90	3.90	2.50
3	1.44	2.40	12		22	32	55	14	5.20	3.80	4.12	2.30
4	1.44	2.80	9.34		18	24	67	12	5.08	4.36	4.00	2.10
5	1.44	3.70	7.52		13	27	58	11	4.96	4.60	4.48	1.92
6	1.36	4.96	10		23	34	50	10	4.96	5.20	4.48	1.84
7	1.28	5.80	7.24		24	24	61	11	4.84	6.16	4.12	1.76
8	1.68	7.24	5.80		54	18	57	12	4.72	5.32	4.12	1.68
9	2.40	5.08	4.60		46	18	70	11	4.72	4.72	3.60	1.68
10	2.30	4.84	15		47	39	49	10	4.60	4.24	3.10	1.76
11	2.10	4.96	10		46	97	37	9.76	4.60	3.90	2.90	1.76
12	2.00	6.04	4.60		27	124	30	9.48	4.96	3.80	2.80	1.68
13	2.10	4.48	13		17	97	30	8.92	5.20	3.70	2.70	1.76
14	2.10	6.54	9.06		16	50	34	8.36	5.08	3.60	2.50	1.84
15	1.92	6.68	5.56		12	26	30	7.94	4.96	3.40	2.40	1.84
16	1.84	4.84	4.84		8.92	51	26	7.52	4.96	3.40	2.20	1.92
17	1.76	3.80	3.80		7.24	36	25	7.38	4.96	3.30	2.00	2.10
18	1.68	3.60	3.30		6.54	31	25	7.10	4.96	3.30	2.00	2.50
19	1.60	3.90	3.00		26	24	25	7.10	4.84	3.20	1.92	2.60
20	1.52	4.12	3.00		38	24	20	6.96	4.72	3.20	2.00	2.40
21	1.44	4.36	3.30		37	39	17	6.96	4.60	3.10	2.30	2.30
22	1.36	3.80	4.84		106	63	15	6.96	4.48	3.00	2.50	2.20
23	1.36	3.60	5.68		120	81	13	6.54	4.36	2.80	2.40	2.10
24	1.44	3.80	4.60		58	145	12	6.04	4.24	2.60	2.40	2.00
25	1.92	4.36	3.80		38	150	12	5.56	4.12	2.80	2.20	2.00
26	7.94	5.32	3.80		37	61	16	5.44	4.12	3.20	2.20	1.92
27	4.24	5.44	4.12		34	29	39	5.44	4.00	3.10	2.00	1.92
28	3.20	5.32	5.20		41	28	65	5.32	3.90	2.90	2.40	1.92
29	2.70	4.60	7.10		48	95	34	5.32	3.90	2.80	–	1.84
30	2.50	5.80	6.04		23	142	23	5.44	4.00	2.80	–	1.84
31	–	7.66	–		99	–	18	–	4.00	2.90	–	1.84
Total	63.10	144.74	212.14		1,173.70	1,796	1,136	260.54	144.68	113.10	81.34	62.52
Mean	2.10	4.67	7.07		37.9	59.9	36.6	8.68	4.67	3.65	2.90	2.02
Max.	7.94	7.66	18		120	150	76	16	5.32	5.32	4.48	2.70
Min.	1.28	2.40	3.00		6.54	18	12	5.32	3.90	2.60	1.92	1.68
Runoff - mcm.	5.452	12.506	18.329		101.408	155.174	98.150	22.511	12.500	9.772	7.028	5.402

WATER YEAR 1977 : Max. 150 Min. 1.28 Mean Annual Runoff mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sept. 25	02.00	6.54	168				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
PRACHIN 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 Saw Mill, Ban Wang Khian, Amphoe Sa Kaeo, Prachin Buri.

Drainage Area: 2,523 Sq.km.

Type of Gage: Water-stage recorder.

Zero Gage at Bottom at: + 23.741 m. (M.S.L.)

Bench Mark: B.M. - H.S.

Location: At the cocoa nut tree near the station office.
Elevation: + 34.652 m. (M.S.L.)

Gage Reading Frequency: Recording

Basis of Mean Daily Gage Height: Arithmetic mean of 24 hourly 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, no shifting adjustment for flow computation.

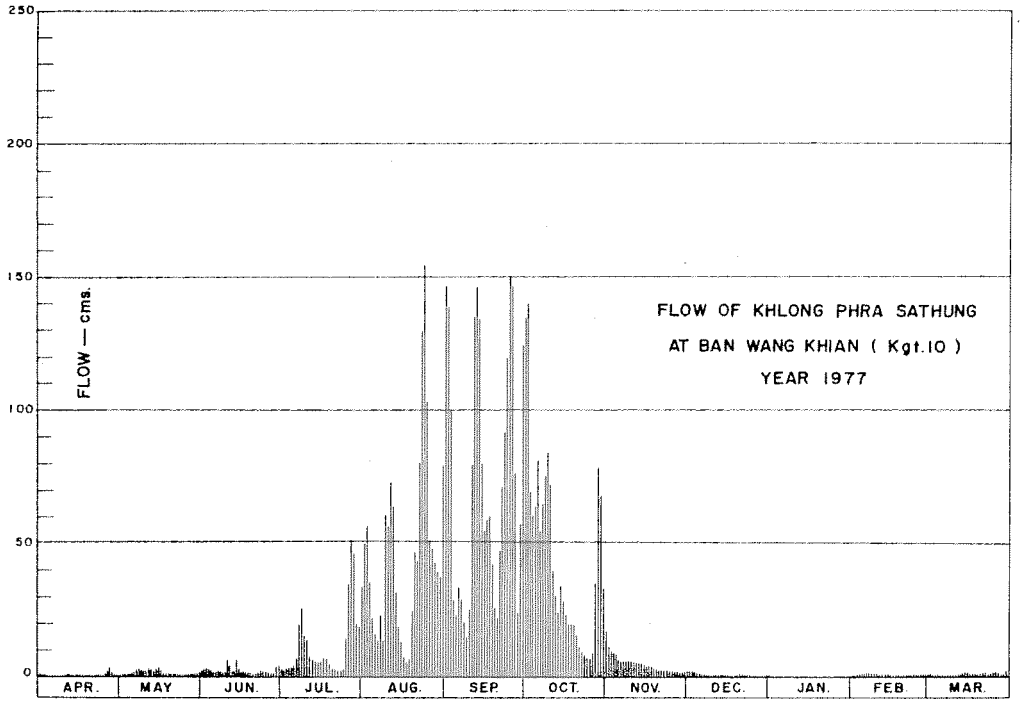
Overbank Flow Conditions: No overbank flow.

General Description: Records fair. Stage-discharge relation defined by 23 discharge measurements made in 1977.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	24.82	24.95	25.28	25.39	28.61	32.75	32.53	26.50	25.24	25.03	24.91	24.91
2	.81	.94	.84	.36	.94	.25	29.71	.15	.23	.02	25.01	.92
3	.81	.97	.83	.45	27.74	29.24	.17	.00	.23	.01	.03	.90
4	.81	.98	.36	.42	.13	27.43	.20	25.90	.21	.01	.03	.89
5	.80	25.04	.24	.41	26.67	.11	30.10	.74	.19	.04	.02	.89
6	24.81	25.18	25.21	25.53	26.50	27.75	28.80	25.66	25.17	25.04	25.05	24.86
7	.81	.20	.29	.84	27.11	.43	29.22	.65	.16	.11	.05	.84
8	.82	.43	.12	26.87	28.30	26.74	.60	.78	.16	.15	.03	.83
9	.83	.32	.06	27.30	29.18	.52	30.23	.74	.16	.09	.01	.82
10	.95	.25	.16	26.64	28.97	27.39	29.83	.64	.16	.05	24.98	.85
11	24.94	25.20	25.76	26.41	29.73	30.60	28.41	25.60	25.16	25.04	24.95	24.84
12	.90	.32	.30	25.84	.24	32.40	27.81	.64	.16	.01	.94	.83
13	.86	.27	.19	.67	27.62	.79	.29	.58	.17	.00	.93	.82
14	.89	.26	.78	.62	26.83	31.39	.75	.53	.16	24.99	.91	.83
15	.88	.32	.30	.64	.35	28.87	.51	.49	.16	.99	.91	.82
16	24.86	25.36	25.19	25.63	25.85	29.02	27.20	25.47	25.16	24.99	24.90	24.81
17	.84	.16	.12	.75	.67	.13	26.90	.44	.14	.99	.88	.82
18	.84	.10	.06	.83	.72	28.24	.88	.41	.14	.99	.88	.91
19	.84	.06	.03	25.58	26.84	27.33	.92	.40	.12	.97	.88	25.03
20	.83	.04	.00	.39	28.47	.13	.64	.38	.10	.96	.88	.11
21	24.82	25.01	25.00	25.32	28.31	27.82	26.31	25.37	25.09	24.95	24.88	25.02
22	.80	.00	.03	.25	31.14	29.24	.10	.36	.09	.95	.91	.01
23	.79	24.97	.24	.21	33.06	30.49	25.92	.35	.06	.96	.93	24.95
24	.79	.95	.23	.31	32.83	31.73	.82	.34	.07	.97	.93	.94
25	.81	.96	.11	.62	30.26	32.92	.74	.34	.09	.96	.92	25.02
26	25.02	24.98	25.06	26.90	28.64	32.76	26.10	25.30	25.07	24.96	24.92	25.13
27	.39	25.03	.08	28.71	.39	29.04	27.82	.28	.06	.95	.91	.06
28	.05	.03	.14	.45	.10	27.18	30.04	.26	.06	.95	.88	24.99
29	24.99	.02	.34	27.68	.99	29.01	29.63	.23	.04	.94	-	.95
30	.98	.00	.48	26.89	27.90	31.92	27.69	.23	.04	.90	-	25.07
31	-	.06	-	.83	30.33	-	26.84	-	.03	.91	-	.29
Mean	24.87	25.12	25.26	26.08	29.14	29.45	28.05	25.55	25.13	24.99	24.65	24.93
Max.	25.39	25.43	25.84	28.71	33.06	32.92	32.53	26.50	25.24	25.15	25.05	25.29
Min.	24.79	24.94	25.00	25.21	25.67	26.52	25.74	25.23	25.03	24.90	24.88	24.81

WATER YEAR 1977 : Max. 33.06 m. Min. 24.79 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.36	0.80	2.74	3.62	50	146	140	14	2.42	1.15	0.64	0.64
2	0.33	0.76	7.40	3.38	57	133	72	10	2.34	1.10	1.05	0.68
3	0.33	0.88	7.30	4.10	34	63	61	9.00	2.34	1.05	1.15	0.60
4	0.33	0.92	3.38	3.86	23	28	62	8.00	2.18	1.05	1.15	0.57
5	0.30	1.20	2.42	3.78	17	23	81	6.46	2.04	1.20	1.10	0.57
6	0.33	1.98	2.18	4.74	14	34	54	5.78	1.92	1.20	1.25	0.48
7	0.33	2.10	2.82	7.40	23	28	62	5.70	1.86	1.56	1.25	0.42
8	0.36	3.94	1.62	19	14	18	70	6.82	1.86	1.80	1.15	0.39
9	0.39	3.06	1.30	26	61	15	84	6.46	1.86	1.45	1.05	0.36
10	0.80	2.50	1.86	16	57	27	75	5.62	1.86	1.25	0.92	0.45
11	0.76	2.10	6.64	13	73	92	46	5.30	1.86	1.20	0.80	0.42
12	0.60	3.06	2.90	7.40	63	137	35	5.62	1.86	1.05	0.76	0.39
13	0.48	2.66	2.04	5.86	32	147	26	6.12	1.92	1.00	0.72	0.36
14	0.57	2.58	6.82	5.46	19	111	34	4.74	1.86	0.96	0.64	0.39
15	0.54	3.06	2.90	5.62	13	55	30	4.42	1.86	0.96	0.64	0.36
16	0.48	3.38	2.04	5.54	7.50	58	24	4.26	1.86	0.96	0.60	0.33
17	0.42	1.86	1.62	6.55	5.86	60	20	4.02	1.74	0.96	0.54	0.36
18	0.42	1.50	1.30	7.30	6.28	43	20	3.78	1.74	0.96	0.54	0.64
19	0.42	1.30	1.15	6.12	19	26	20	3.70	1.62	0.88	0.54	1.15
20	0.39	1.20	1.00	3.62	47	23	16	3.54	1.50	0.84	0.54	1.56
21	0.36	1.05	1.00	3.06	44	35	12	3.46	1.45	0.80	0.54	1.10
22	0.30	1.00	1.15	2.50	106	63	10	3.38	1.45	0.80	0.64	1.05
23	0.27	0.88	2.42	2.18	154	90	8.20	3.30	1.30	0.84	0.72	0.80
24	0.27	0.80	2.34	2.98	148	119	7.20	3.22	1.35	0.88	0.72	0.76
25	0.33	0.84	1.56	5.46	84	150	6.46	3.22	1.45	0.84	0.68	1.10
26	1.10	0.92	1.30	20	51	146	10	2.90	1.35	0.84	0.72	1.68
27	3.62	1.15	1.40	52	46	59	35	2.74	1.30	0.80	0.64	1.30
28	1.25	1.15	1.74	47	40	24	79	2.58	1.30	0.80	0.54	0.96
29	0.96	1.10	3.22	33	58	58	70	2.34	1.20	0.76	–	0.80
30	0.92	1.00	4.34	20	37	124	33	2.34	1.20	0.60	–	1.35
31	–	1.30	–	19	86	–	19	–	1.15	0.64	–	2.82
Total	18.32	52.03	81.90	365.53	1,489.64	2,135	1,321.86	152.82	53.00	31.18	22.23	24.84
Mean	0.61	1.67	2.73	11.7	46.1	71.1	42.6	5.09	1.70	1.00	0.79	0.80
Max.	3.62	3.94	7.40	52	154	150	140	14	2.42	1.80	1.25	2.82
Min.	0.27	0.76	1.00	2.18	5.86	15	6.46	2.34	1.15	0.60	0.54	0.33
Runoff - mcm.	1.583	4.495	7.076	31.582	128.705	184.464	114.209	13.204	4.579	2.694	1.920	2.146

WATER YEAR 1977 : Max. 154 Min. 0.27 Mean 15.7 Annual Runoff 496.657 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Aug. 23	03.00	33.32	161				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
PRACHIN 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 Ban Kaeng railway station about 200 meters upstream from Thot Saphon Sawmill, Amphoe Sa Kaen, Prachin Buri.

Drainage Area: 1,540 Sq.km.

Type of Gage: Water-stage recorder.

Zero Gage at Bottom at: + 0.00 m. (A.D.)

Bench Mark: B.M. - H.S.

Location: Near the gage site.
Elevation: + 9.687 m. (A.D.)

Gage Reading Frequency: Recording

Basis of Mean Daily Gage Height: Arithmetic mean of 24 hourly 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, no shifting adjustment for flow computation.

Overbank Flow Conditions: No overbank flow.

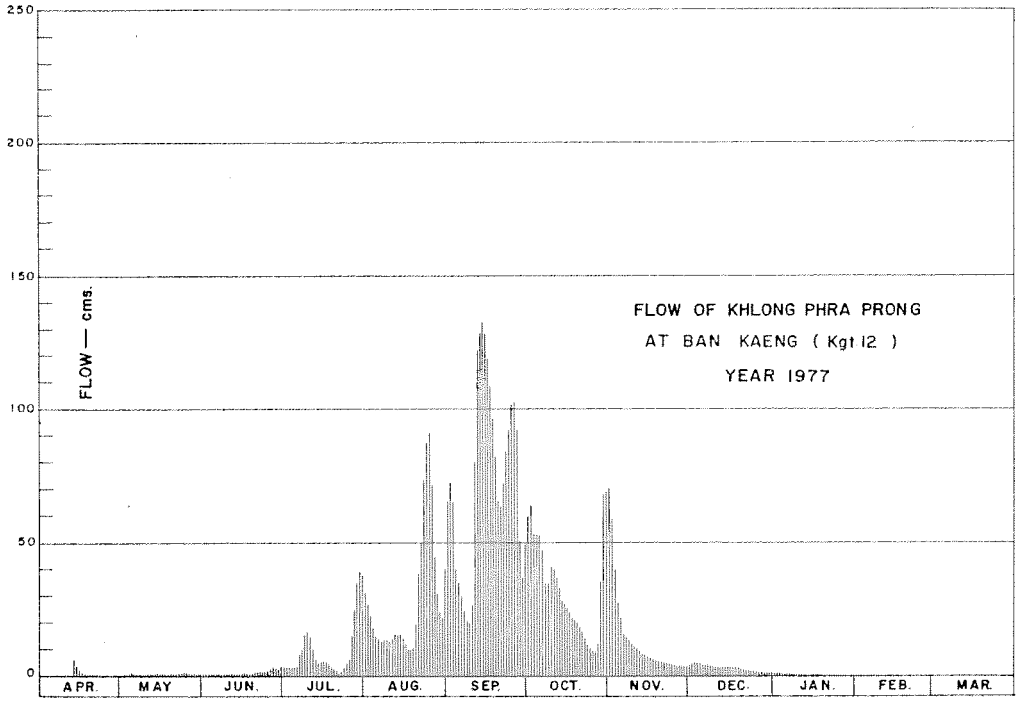
General Description: Records good. Stage-discharge relation defined by 20 discharge measurements made in 1977.

Remarks: Discharge record for periods of no flow are omitted.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.45	0.51	0.61	1.12	3.06	4.57	4.38	4.55	1.23	0.78	0.50	0.34
2	.44	.47	.65	.13	2.85	.86	.52	3.80	.31	.77	.50	.33
3	.44	.45	.61	.07	.56	.52	.10	.13	.30	.75	.49	.33
4	.45	.49	.68	.10	.24	3.55	.09	2.76	.27	.74	.49	.33
5	.44	.74	.64	.12	.14	.35	.08	.44	.25	.72	.49	.33
6	0.45	0.70	0.61	1.16	2.08	3.06	3.90	2.23	1.23	0.72	0.49	0.36
7	.53	.67	.61	.56	.00	2.77	.42	.10	.21	.70	.49	.36
8	.49	.62	.59	.77	1.98	.54	.24	1.96	.16	.69	.50	.33
9	.45	.58	.56	2.13	2.05	.46	.27	.89	.14	.68	.52	.31
10	.44	.55	.54	.24	1.96	.82	.55	.83	.13	.67	.48	.30
11	0.45	0.64	0.52	2.03	2.04	5.38	3.52	1.74	1.13	0.67	0.46	0.30
12	.73	.66	.55	1.71	.21	6.51	.39	.67	.11	.66	.43	.31
13	1.39	.60	.55	.42	.17	.71	.18	.62	.09	.65	.42	.30
14	.11	.63	.55	.26	.19	.83	2.91	.58	.10	.65	.43	.29
15	0.86	.72	.56	.21	.05	.70	.85	.53	.15	.63	.42	.32
16	0.71	0.65	0.70	1.31	1.89	6.35	2.79	1.48	1.15	0.62	0.43	0.31
17	.62	.59	.73	.34	.75	5.99	.72	.43	.12	.61	.42	.30
18	.57	.56	.69	.24	.73	.50	.59	.40	.08	.59	.40	.29
19	.53	.56	.68	.10	.83	4.96	.55	.36	.03	.58	.39	.29
20	.50	.56	.70	0.96	2.31	.59	.47	.32	0.99	.56	.38	.28
21	0.48	0.54	0.88	0.84	3.14	4.49	2.33	1.29	0.97	0.56	0.38	0.28
22	.48	.53	.89	.77	.88	.86	.16	.29	.96	.55	.37	.28
23	.47	.61	.86	.84	4.79	5.38	1.99	.26	.92	.55	.37	.27
24	.45	.74	.82	1.05	5.40	.63	.87	.24	.89	.54	.37	.25
25	.45	.80	.85	.25	.54	.85	.76	.21	.86	.53	.37	.24
26	0.48	0.73	0.97	1.45	4.72	5.90	1.71	1.19	0.85	0.52	0.36	0.25
27	.51	.65	1.13	2.05	3.66	.49	.89	.17	.84	.51	.36	.27
28	.61	.64	.08	.87	.15	4.09	2.97	.17	.83	.51	.35	.25
29	.59	.69	0.99	3.36	2.79	3.41	4.26	.18	.82	.50		.24
30	.53	.64	1.02	.46	.56	.84	.70	.21	.80	.49		.24
31		.60		.39	3.44		.78		.78	.49		.29
Mean	0.57	0.62	0.73	1.59	2.78	4.76	3.16	1.80	1.05	0.62	0.43	0.29
Max.	1.39	0.80	1.13	3.46	5.54	6.83	4.78	4.55	1.31	0.78	0.52	0.36
Min.	0.44	0.45	0.52	0.77	1.73	2.46	1.71	1.17	0.78	0.49	0.35	0.24

WATER YEAR 1977 : Max. 6.83 m. Min. 0.24 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.15	0.34	0.73	3.66	30	65	60	65	4.57	1.32	0.30	0.00
2	0.12	0.21	0.85	3.74	27	73	64	46	5.29	1.28	0.30	
3	0.12	0.15	0.73	3.26	22	64	54	32	5.20	1.20	0.27	
4	0.15	0.27	0.94	3.50	17	41	53	25	4.93	1.16	0.27	
5	0.12	1.16	0.82	3.66	15	36	53	20	4.75	1.08	0.27	
6	0.15	1.00	0.73	3.98	14	30	49	16	4.57	1.08	0.27	
7	0.42	0.91	0.73	7.82	13	25	38	15	4.37	1.00	0.27	
8	0.27	0.76	0.66	10	13	21	34	13	3.98	0.97	0.30	
9	0.15	0.62	0.54	15	14	20	35	12	3.82	0.94	0.38	
10	0.12	0.50	0.46	17	13	26	41	11	3.74	0.91	0.24	
11	0.15	0.82	0.38	14	14	88	40	9.98	3.74	0.91	0.18	
12	1.12	0.88	0.50	9.62	16	122	37	9.14	3.58	0.88	0.09	
13	6.01	0.70	0.50	6.30	15	129	33	8.54	3.42	0.85	0.06	
14	3.58	0.79	0.50	4.84	16	133	28	8.06	3.51	0.85	0.09	
15	1.70	1.08	0.54	4.39	14	129	27	7.46	3.90	0.79	0.06	
16	1.04	0.85	1.00	5.29	12	117	25	6.90	3.90	0.76	0.09	
17	0.76	0.66	1.12	5.56	10	106	24	6.40	3.66	0.73	0.06	
18	0.58	0.54	0.97	4.66	9.86	91	22	6.10	3.30	0.66	0.00	
19	0.42	0.54	0.94	3.50	11	76	21	5.74	2.95	0.62		
20	0.30	0.54	1.00	2.38	18	66	20	5.38	2.62	0.54		
21	0.24	0.46	1.80	1.60	32	63	18	5.11	2.46	0.54		
22	0.24	0.42	1.85	1.28	48	73	15	5.11	2.38	0.50		
23	0.21	0.73	1.70	1.60	71	88	13	4.84	2.06	0.50		
24	0.15	1.16	1.70	3.10	88	95	11	4.66	1.85	0.46		
25	0.15	1.40	1.65	4.75	92	102	10	4.39	1.70	0.42		
26	0.24	1.12	2.46	6.60	69	103	9.62	4.22	1.65	0.38		
27	0.34	0.85	3.74	14	43	91	12	4.06	1.60	0.34		
28	0.73	0.82	3.34	27	32	53	29	4.06	1.55	0.34	0.00	
29	0.66	0.97	2.62	36	25	37	57	4.14	1.50	0.30		
30	0.42	0.82	2.86	39	22	47	69	4.39	1.40	0.27		
31		0.70		37	38		71		1.32	0.27		0.00
Total	20.81	22.77	38.16	304.09	873.86	2,210	1,072.62	373.68	99.31	22.85	3.50	0.00
Mean	0.61	0.73	1.27	9.81	28.2	73.7	34.6	12.4	3.20	0.74	0.12	0.00
Max.	6.01	1.40	3.74	39	92	133	71	65	5.29	1.32	0.38	0.00
Min.	0.12	0.15	0.38	1.28	9.86	20	9.62	4.06	1.32	0.27	0.00	0.00
Runoff - MCM.	1.798	1.967	3.297	26.273	75.501	190.944	92.674	32.286	8.580	1.974	0.302	0.000

WATER YEAR 1977 : Max. 133 Min. 0.00 Mean 13.8 Annual Runoff 435.598 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sept. 14	24.00	6.85	133				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
PRACHIN 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 highway bridge at Ban Nang Leng, Amphoe Kabin Buri, Prachin Buri.

Drainage Area: 5,347 Sq.km.

Type of Gage: Staff gage.

Zero Gage at Bottom at: + 0.165 m. (M.S.L.)

Bench Mark: B.M. - H.S.

Location: On left bank near the gage site.
Elevation: + 10.712 m. (M.S.L.)

Gage Reading Frequency: 3-8 time daily readings at 03.00, 06.00, 09.00, 12.00, 15.00, 18.00, 21.00 and 24.00 hours.

Basis of Mean Daily Gage Height: Arithmetic mean of 3-8 readings.

Period of Available Gage Records: 1967 to date.

Rating Operation:

Period of Rating: 1967-1968, 1971-1976.
Rated by Float: -
Rated by Current Meter: 1967-1968, 1971-1976.

Stability of Channel Regimes: Rather unstable, no shifting adjustment for flow computation.

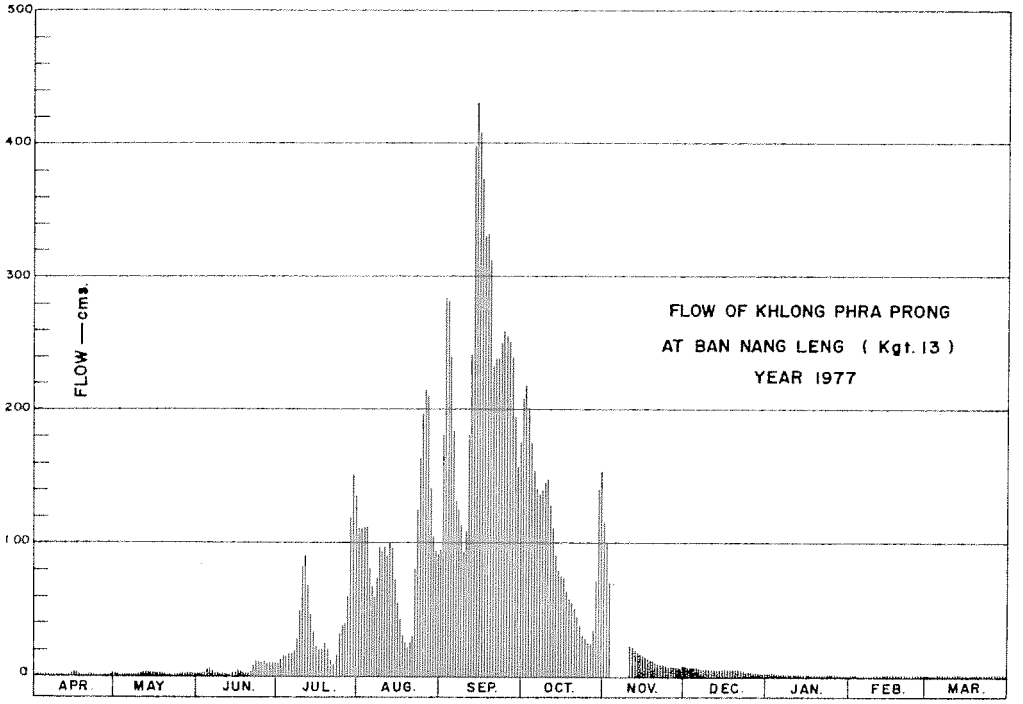
Overbank Flow Conditions: Overbank flow starts at elevation + 10.10 m. (M.S.L.), records are channel flow only.

General Description: Records fair. Stage-discharge relation defined by 130 discharge measurements made during 1971-1976.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	1.37	1.54	1.62	2.40	5.74	7.56	7.81	5.79	2.12	1.65	1.33	1.22
2	.37	.56	.64	.66	.78	8.99	.98	.17	.12	.64	.28	.22
3	.36	.49	.76	.69	.79	.96	.71	4.58	.13	.62	.30	.20
4	.37	.43	2.05	.68	.16	.28	.21		.12	.61	.30	.21
5	.36	.42	.07	.78	4.76	7.11	6.88		.13	.59	.36	.24
6	1.36	1.41	1.95	2.81	4.45	6.26	6.50		2.11	1.57	1.36	1.21
7	.36	.52	.70	3.00	.37	.01	.36		.06	.57	.36	.21
8	.36	.53	.70	.44	5.43	5.71	.40		.04	.55	.36	.21
9	.36	.59	.69	4.26	.35	.34	.55		.01	.54	.38	.20
10	.36	.68	.64	5.08	.42	.81	.56	3.07	.03	.54	.37	.18
11	1.35	1.71	1.55	5.26	5.27	7.89	6.39	2.99	2.01	1.53	1.36	1.18
12	.34	.63	.53	4.73	.51	8.67	5.83	.89	.00	.51	.34	.17
13	.32	.63	.51	.03	.43	9.99	.35	.77	1.97	.49	.32	.18
14	.70	.65	.75	3.38	4.87	10.16	4.97	.68	.94	.47	.30	.20
15	.76	.68	.70	.03	.21	10.04	.86	.64	2.04	.46	.27	.19
16	1.66	1.60	1.93	2.92	3.76	9.68	4.85	2.56	1.99	1.44	1.26	1.20
17	.54	.72	.87	.95	.37	.51	.61	.48	.99	.42	.25	.21
18	.49	.73	.71	3.17	.10	.53	.38	.43	2.00	.40	.25	.18
19	.49	.68	.73	.10	2.97	.25	.30	.38	1.96	.40	.24	.17
20	.43	.55	.69	2.77	3.29	8.24	.18	.33	.89	.37	.24	.26
21	1.41	1.51	1.98	2.44	4.40	8.32	4.02	2.26	1.92	1.36	1.22	1.41
22	.40	.49	2.41	.29	5.56	.32	3.75	.26	.90	.36	.21	.45
23	.38	.55	.47	.72	6.55	.64	.55	.23	.86	.34	.20	.45
24	.37	.58	.43	3.46	7.60	.62	.36	.19	.83	.34	.22	.46
25	.36	.59	.40	.70	.94	.56	.20	.18	.81	.33	.25	.46
26	1.34	1.63	1.43	3.72	7.86	8.50	3.12	2.15	1.79	1.33	1.25	1.40
27	.33	.62	.34	4.44	6.71	.32	.41	.12	.76	.32	.24	.40
28	.32	.62	.34	5.82	5.76	7.57	4.62	.12	.73	.32	.23	.39
29	.65	.66	.36	6.67	.36	6.82	6.24	.12	.72	.32	-	.38
30	.64	.67	.45	.59	.31	7.14	.73	.10	.68	.32	-	.32
31	-	-	-	.08	.38	-	.22	-	.67	-	-	.29
Mean	1.43	1.59	1.95	3.71	5.24	8.13	5.42		1.95	1.45	1.29	1.27
Max.	1.76	1.73	2.47	6.67	7.94	10.16	7.98	5.79	2.13	1.65	1.38	1.46
Min.	1.32	1.41	1.51	2.29	2.97	5.34	3.12	2.10	1.67	1.32	1.20	1.17

WATER YEAR 1977 : Max. 10.16 m. Min. 1.17 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.88	1.74	2.12	11	110	194	208	112	6.80	2.30	0.72	0.36
2	0.88	1.84	2.24	15	111	284	218	87	6.80	2.24	0.54	0.36
3	0.84	1.45	2.96	16	112	282	202	65	6.95	2.12	0.60	0.30
4	0.88	1.15	5.85	16	86	236	176		6.80	2.06	0.60	0.33
5	0.84	1.10	6.11	18	71	171	160		6.95	1.95	0.84	0.42
6	0.84	1.05	4.70	18	60	132	143		6.65	1.85	0.84	0.33
7	0.84	1.60	2.60	22	58	121	137		5.98	1.85	0.84	0.33
8	0.84	1.65	2.60	31	97	108	138		5.72	1.75	0.84	0.33
9	0.84	1.95	2.54	55	94	94	145		5.33	1.70	0.92	0.30
10	0.84	2.48	2.24	83	97	112	146	23	5.59	1.70	0.88	0.24
11	0.80	2.66	1.75	90	91	212	139	22	5.33	1.65	0.84	0.24
12	0.76	2.18	1.65	70	100	262	113	20	5.20	1.55	0.76	0.21
13	0.68	2.18	1.55	48	97	398	94	17	4.90	1.45	0.68	0.24
14	2.60	2.30	2.90	50	75	431	79	16	4.60	1.35	0.60	0.30
15	2.96	2.48	2.60	23	53	408	75	15	5.72	1.30	0.51	0.27
16	2.36	2.00	4.50	20	40	352	74	13	5.10	1.20	0.48	0.30
17	1.70	2.72	3.90	21	30	331	66	12	5.10	1.10	0.45	0.33
18	1.45	2.78	2.66	25	24	334	58	11	5.20	1.00	0.45	0.24
19	1.45	2.48	2.78	24	21	305	56	11	4.80	1.00	0.42	0.21
20	1.15	1.75	2.54	17	28	233	52	9.95	4.10	0.88	0.42	0.48
21	1.05	1.55	5.00	12	59	238	48	8.90	4.40	0.84	0.36	1.05
22	1.00	1.45	11	9.35	104	238	39	8.90	4.20	0.84	0.33	1.25
23	0.92	1.75	12	16	145	260	34	8.45	3.80	0.76	0.30	1.25
24	0.88	1.90	11	32	196	258	29	7.85	3.50	0.76	0.36	1.30
25	0.84	1.95	11	38	215	254	26	7.70	3.30	0.72	0.45	1.30
26	0.76	2.18	11	39	211	250	24	7.25	3.14	0.72	0.45	1.00
27	0.72	2.12	10	60	152	238	31	6.80	2.96	0.68	0.42	1.00
28	0.68	2.12	10	113	110	195	66	6.80	2.78	0.68	0.39	0.96
29	2.30	2.12	10	151	94	157	131	6.80	2.72	0.68	–	0.92
30	2.24	2.36	10	147	92	173	153	6.50	2.48	0.68	–	0.68
31	–	2.42	–	124	95	–	130	–	2.42	0.68	–	0.57
Total	35.82	61.46	161.79	1,394.35	2,928	7,161	3,190		149.32	40.04	16.29	17.40
Mean	1.19	1.98	5.39	45.0	94.4	239	103		4.82	1.29	0.58	0.56
Max.	2.96	2.78	12	151	215	431	218	1.12	6.95	2.30	0.92	1.30
Min.	0.68	1.05	1.55	9.35	21	94	24	6.50	2.42	0.68	0.30	0.21
Runoff – mcm.	3.095	5.310	13.979	120.472	252.979	618.710	275.616		12.901	3.459	1.407	1.503

WATER YEAR 1977 : Max. 431 Min. 0.21 Mean Annual Runoff mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sept. 14	18.00	10.18	435				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
PRACHIN 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 at Ban Thung Faek 2 kilometers on left side of Kabin Buri – Nakhon Ratchasima highway, Amphoe Kabin Buri, Prachin Buri.

Drainage Area: 366 Sq.km.

Type of Gage: Water-stage recorder.

Zero Gage at Bottom at: + 34.61 m. (M.S.L.)

Bench Mark: B.M. – H.S.

Location: Near the gage site.
Elevation: + 42.429 m. (M.S.L.)

Gage Reading Frequency: Recording

Basis of Mean Daily Gage Height: Arithmetic mean of 24 hourly 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, no shifting adjustment for flow computation.

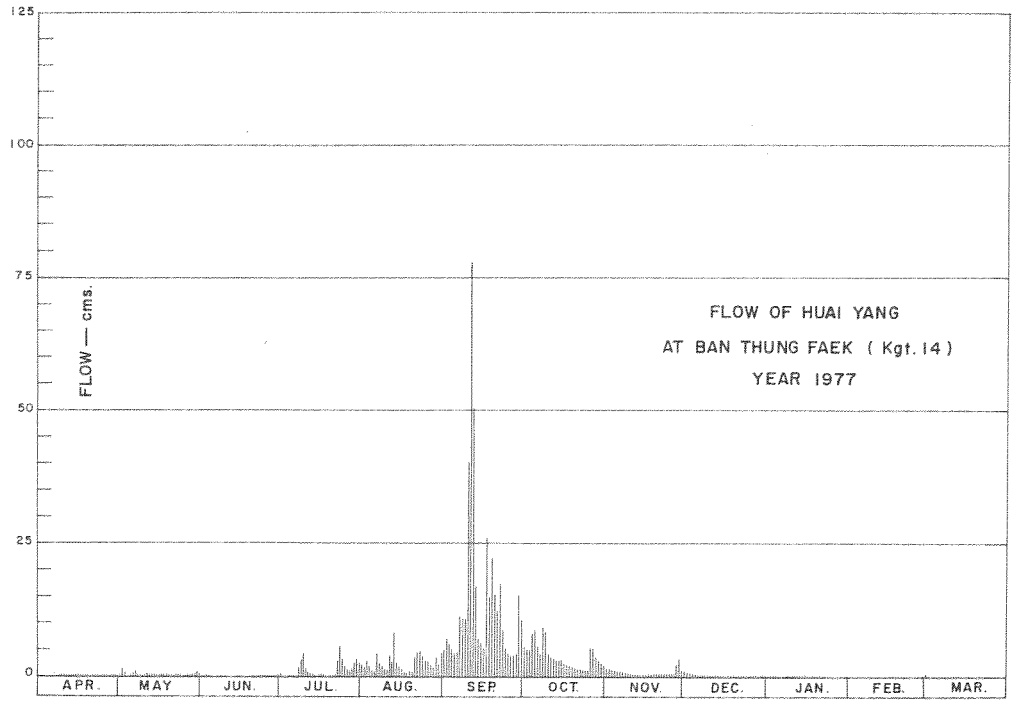
Overbank Flow Conditions: No overbank flow.

General Description: Records good. Stage-discharge relation defined by 43 discharge measurements made in 1977.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	34.79	34.95	34.89	34.95	35.20	35.50	35.58	35.17	35.08	34.84	34.84	34.94
2	.79	35.14	.87	.87	.14	.63	.51	.14	.04	.84	.84	.93
3	.80	34.89	.85	.83	.29	.61	.49	.11	.01	.84	.86	.91
4	.84	.83	.83	.84	.15	.53	.68	.10	.00	.84	.87	.83
5	.84	.91	.82	.91	.11	.43	.72	.09	34.99	.84	.85	.80
6	34.83	34.97	34.81	34.93	35.09	35.50	35.56	35.08	34.98	34.84	34.84	34.79
7	.82	35.10	.81	.90	.42	.83	.43	.07	.97	.85	.84	.79
8	.80	34.98	.80	35.22	.23	.85	.74	.06	.95	.85	.84	.78
9	.80	.92	.79	.41	.16	.85	.71	.05	.94	.85	.83	.77
10	.79	.89	.78	.20	.10	36.97	.45	.04	.93	.85	.82	.77
11	34.79	34.92	34.79	35.04	35.42	37.70	35.37	35.02	34.91	34.85	34.82	34.76
12	.79	.91	.80	34.97	.26	36.29	.33	.01	.91	.88	.82	.76
13	.78	.93	.78	.95	.70	35.82	.31	.01	.90	.89	.81	.75
14	.79	.90	.78	.93	.27	.61	.38	.00	.90	.89	.81	.74
15	.80	.88	.78	.89	.18	.57	.32	34.99	.89	.86	.82	.74
16	34.79	34.89	34.77	34.97	35.12	35.58	35.26	34.99	34.89	34.86	34.82	34.74
17	.78	.87	.77	.93	.08	36.45	.23	.97	.89	.86	.84	.74
18	.78	.84	.77	.89	.05	.01	.21	.97	.89	.86	.85	.74
19	.92	.90	.76	.89	.07	.32	.20	.97	.89	.87	.87	.74
20	.89	.85	.83	.88	.09	.04	.18	.97	.89	.88	.88	.73
21	34.83	34.92	34.89	34.90	35.38	35.89	35.16	34.96	34.89	34.89	34.87	34.72
22	.82	.93	.84	.95	.47	36.11	.14	.96	.89	.87	.87	.72
23	.81	.89	.85	35.54	.46	35.72	.13	.96	.88	.85	.87	.72
24	.80	.87	.84	.47	.33	.55	.11	.94	.88	.83	.87	.72
25	.79	.85	.82	.24	.36	.45	.11	.94	.88	.83	.87	.72
26	34.78	34.85	34.82	35.15	35.27	35.39	35.54	34.94	34.87	34.82	34.90	34.72
27	.78	.87	.81	.12	.22	.39	.54	.93	.86	.83	.89	.71
28	.78	.85	.80	.18	.18	.45	.43	35.20	.86	.84	.91	.71
29	.77	.92	.80	.33	.35	36.05	.33	.31	.86	.84	–	.71
30	.77	35.06	.90	.29	.23	35.84	.27	.15	.86	.84	–	.71
31	–	34.94	–	.28	.45	–	.21	–	.85	.83	–	.71
Mean	34.80	34.91	34.81	35.05	35.25	35.86	35.37	35.03	34.91	34.85	34.85	34.76
Max.	34.92	35.14	34.90	35.54	35.70	37.70	35.74	35.31	35.08	34.89	34.91	34.94
Min.	34.77	34.83	34.76	34.83	35.05	35.39	35.11	34.93	34.85	34.83	34.81	34.71

WATER YEAR 1977 : Max. 37.70 m. Min. 34.71 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.18	0.55	0.38	0.55	2.00	5.00	6.20	1.76	1.10	0.28	0.28	0.52
2	0.18	1.52	0.34	0.34	1.52	7.10	5.15	1.52	0.90	0.28	0.28	0.49
3	0.20	0.38	0.30	0.26	2.90	6.70	4.90	1.28	0.95	0.28	0.32	0.43
4	0.28	0.26	0.26	0.28	1.60	5.45	8.10	1.20	0.70	0.28	0.34	0.26
5	0.28	0.43	0.24	0.43	1.28	4.30	8.90	1.15	0.67	0.28	0.30	0.20
6	0.26	0.61	0.22	0.49	1.15	5.00	5.90	1.10	0.64	0.28	0.28	0.18
7	0.24	1.20	0.22	0.40	4.20	11	4.30	1.05	0.61	0.30	0.28	0.18
8	0.20	0.64	0.20	2.20	2.30	11	9.30	1.00	0.55	0.30	0.28	0.16
9	0.20	0.46	0.18	4.10	1.68	11	8.70	0.95	0.52	0.30	0.26	0.14
10	0.18	0.38	0.16	2.00	1.20	45	4.50	0.90	0.49	0.30	0.24	0.14
11	0.18	0.46	0.18	0.90	4.20	78	3.70	0.80	0.43	0.30	0.24	0.12
12	0.18	0.43	0.20	0.61	2.60	21	3.30	0.75	0.43	0.36	0.24	0.12
13	0.16	0.49	0.16	0.55	8.50	11	3.10	0.75	0.40	0.38	0.22	0.10
14	0.18	0.40	0.16	0.49	2.70	6.70	3.80	0.70	0.40	0.38	0.22	0.08
15	0.20	0.36	0.16	0.38	1.84	6.05	3.20	0.67	0.38	0.32	0.24	0.08
16	0.18	0.38	0.14	0.61	1.36	6.20	2.60	0.67	0.38	0.32	0.24	0.08
17	0.16	0.34	0.14	0.49	1.10	26	2.30	0.61	0.38	0.32	0.28	0.08
18	0.16	0.28	0.14	0.38	0.95	15	2.10	0.61	0.38	0.32	0.30	0.08
19	0.46	0.40	0.12	0.38	1.05	22	2.00	0.61	0.38	0.34	0.34	0.08
20	0.38	0.30	0.26	0.36	1.15	15	1.84	0.61	0.38	0.36	0.36	0.06
21	0.26	0.46	0.38	0.40	3.80	12	1.68	0.58	0.38	0.38	0.34	0.04
22	0.24	0.49	0.28	0.55	4.70	17	1.52	0.58	0.38	0.34	0.34	0.04
23	0.22	0.38	0.30	5.60	4.60	8.90	1.44	0.58	0.36	0.30	0.34	0.04
24	0.20	0.34	0.28	4.70	3.30	5.75	1.28	0.52	0.36	0.26	0.34	0.04
25	0.18	0.30	0.24	2.40	3.60	4.50	1.28	0.52	0.36	0.26	0.34	0.04
26	0.16	0.30	0.24	1.60	2.70	3.90	5.60	0.52	0.34	0.24	0.40	0.04
27	0.16	0.34	0.22	1.36	2.20	3.90	5.60	0.49	0.32	0.26	0.38	0.02
28	0.16	0.30	0.20	1.84	1.84	4.50	4.30	2.00	0.32	0.28	0.43	0.02
29	0.14	0.46	0.20	3.30	3.50	15	3.30	3.10	0.32	0.28	–	0.02
30	0.14	1.00	0.40	2.90	2.30	11	2.70	1.60	0.32	0.28	–	0.02
31	–	0.52	–	2.80	4.50	–	2.10	–	0.30	0.26	–	0.02
Total	6.30	15.16	6.90	43.65	82.32	404.95	124.69	29.18	14.83	9.42	8.45	3.92
Mean	0.21	0.48	0.23	1.40	2.65	13.4	4.02	0.97	0.47	0.30	0.30	0.12
Max.	0.46	1.52	0.40	5.60	8.50	78	9.30	3.10	1.10	0.38	0.43	0.52
Min.	0.14	0.26	0.12	0.26	0.95	3.90	1.28	0.49	0.30	0.26	0.22	0.02
Runoff – mcm.	0.544	1.310	0.596	3.771	7.113	34.988	10.773	2.521	1.281	0.814	0.730	0.339

WATER YEAR 1977 : Max. 78 Min. 0.02 Mean 2.05 Annual Runoff 74.780 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sept. 11	16.00	37.88	87				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
PRACHIN 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 upstream from the Kgt. 15 station about 15 kilometers, Amphoe Kabin Buri, Prachin Buri.

Drainage Area: 530 Sq.km.

Type of Gage: Water-stage recorder.

Zero Gage at Bottom at: + 0.00 m. (A.D.)

Bench Mark: B.M. - H.S.

Location: Infront of Kgt. 15A station office near the rain gage.
Elevation: + 9.615 m. (A.D.)

Gage Reading Frequency: Recording

Basis of Mean Daily Gage Height: Arithmetic mean of 24 hourly 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, no shifting adjustment for flow computation.

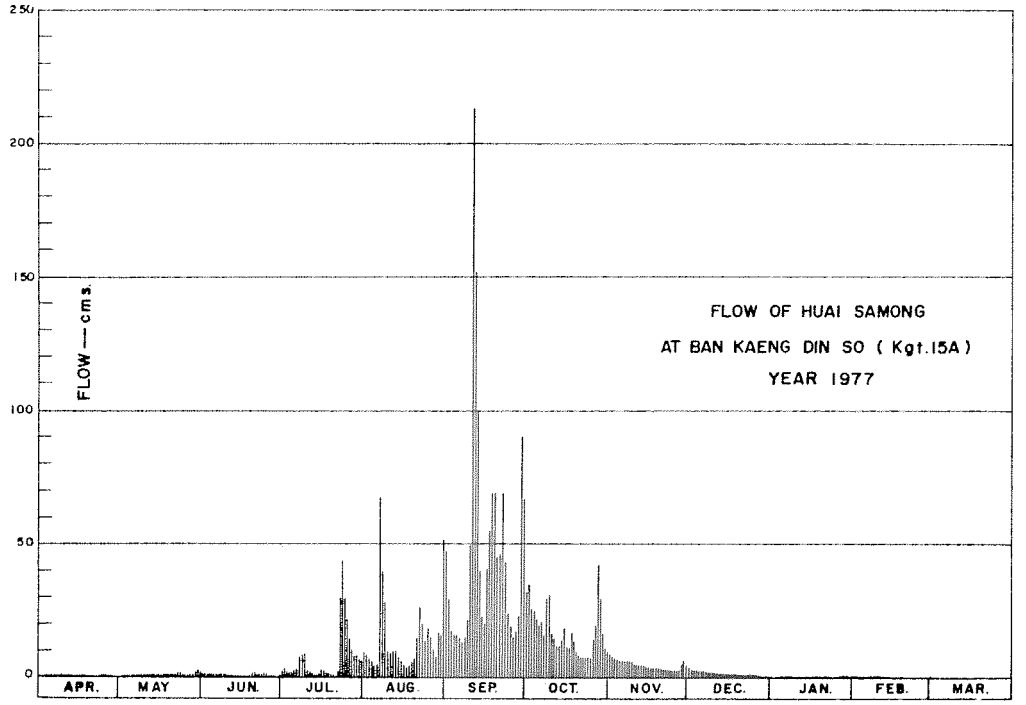
Overbank Flow Conditions: No overbank flow.

General Description: Records good. Stage-discharge relation defined by 184 discharge measurements made in 1977.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.59	0.52	0.89	1.11	1.62	3.02	2.55	1.57	1.13	0.78	0.67	0.65
2	.59	.67	.90	.12	.52	2.44	.65	.50	.09	.77	.70	.65
3	.59	.69	.88	.01	.45	1.98	.34	.46	.06	.76	.70	.64
4	.59	.64	.88	0.91	.32	1.91	.26	.45	.04	.77	.70	.64
5	.59	.63	.84	.95	.27	1.94	.12	.40	.02	.78	.70	.63
6	0.58	0.63	0.77	1.10	1.30	1.84	2.14	1.39	1.00	0.77	0.70	0.63
7	.57	.61	.72	.16	3.59	.75	1.93	.38	.00	.77	.70	.63
8	.57	.62	.69	.50	2.66	.93	2.41	.39	.01	.76	.69	.62
9	.57	.62	.67	.51	1.89	2.23	.52	.34	.00	.75	.67	.62
10	.56	.63	.66	.23	.56	4.38	1.97	.30	0.98	.75	.66	.62
11	0.57	0.64	0.65	1.06	1.57	6.08	1.80	1.25	0.97	0.74	0.64	0.61
12	.59	.62	.71	0.98	.62	4.67	.71	.22	.97	.73	.63	.61
13	.62	.61	.73	.94	.62	2.83	.71	.21	.95	.75	.63	.61
14	.62	.61	.69	.89	.43	2.21	.85	.19	.94	.76	.65	.61
15	.62	.61	.67	.94	.30	2.19	2.05	.18	.93	.75	.65	.61
16	0.62	0.60	0.66	1.11	1.23	2.84	1.68	1.15	0.93	0.73	0.66	0.62
17	.62	.61	.66	.04	.20	3.25	.65	.15	.92	.73	.65	.61
18	.61	.61	.65	0.94	.25	.61	.98	.17	.89	.72	.65	.61
19	.62	.61	.70	.90	.33	.61	.65	.17	.89	.71	.64	.61
20	.61	.60	.91	.85	.48	2.98	.56	.15	.89	.71	.64	.60
21	0.57	0.59	0.91	0.84	1.84	3.04	1.50	1.14	0.87	0.72	0.63	0.60
22	.56	.74	.86	1.03	2.38	.60	.46	.12	.87	.71	.63	.59
23	.53	1.04	.88	2.58	.12	2.92	.46	.09	.86	.70	.63	.59
24	.53	0.81	.89	.95	1.83	.27	.45	.08	.84	.70	.63	.59
25	.54	.77	.87	.25	2.05	.00	.43	.07	.83	.70	.63	.59
26	0.53	0.78	0.82	2.04	1.75	1.86	1.87	1.09	0.82	0.70	0.64	0.60
27	.55	.74	.78	1.72	.60	.90	2.18	.10	.81	.69	.65	.65
28	.54	.70	.74	.51	.46	2.11	.89	.23	.79	.69	.65	.65
29	.54	.76	.71	.46	.98	4.07	1.98	.39	.79	.69	-	.62
30	.53	1.11	.80	.50	.90	3.86	.73	.22	.78	.69	-	.63
31	-	1.00	-	.37	3.17	-	.63	-	.78	.69	-	.67
Mean	0.58	0.69	0.77	1.30	1.75	2.84	1.91	1.25	0.92	0.73	0.66	0.62
Max.	0.62	1.11	0.91	2.95	3.59	6.08	2.89	1.57	1.13	0.78	0.70	0.67
Min.	0.53	0.52	0.65	0.84	1.20	1.75	1.43	1.07	0.78	0.69	0.63	0.59

WATER YEAR 1977 : Max. 6.08 m. Min. 0.52 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.39	0.32	1.33	3.09	10	47	32	9.46	3.27	0.66	0.47	0.45
2	0.39	0.47	1.40	3.18	8.56	29	35	8.20	2.92	0.64	0.50	0.45
3	0.39	0.49	1.26	2.28	7.45	17	26	7.60	2.62	0.62	0.50	0.44
4	0.39	0.44	1.26	1.48	5.58	16	24	7.45	2.52	0.64	0.50	0.44
5	0.39	0.43	0.98	1.80	4.88	16	20	6.70	2.36	0.66	0.50	0.43
6	0.38	0.43	0.64	3.00	5.30	14	21	6.56	2.20	0.64	0.50	0.43
7	0.37	0.41	0.54	3.54	68	13	16	6.42	2.20	0.64	0.50	0.43
8	0.37	0.42	0.49	8.20	35	16	28	6.56	2.28	0.62	0.49	0.42
9	0.37	0.42	0.47	8.38	15	23	31	5.86	2.20	0.60	0.47	0.42
10	0.36	0.43	0.46	4.32	9.28	105	17	5.30	2.04	0.60	0.46	0.42
11	0.37	0.44	0.45	2.68	9.46	213	14	4.60	1.96	0.58	0.44	0.41
12	0.39	0.42	0.52	2.04	10	120	12	4.18	1.96	0.56	0.43	0.41
13	0.42	0.41	0.56	1.72	10	40	12	4.04	1.80	0.60	0.43	0.41
14	0.42	0.41	0.49	1.33	7.15	23	18	3.81	1.72	0.62	0.45	0.41
15	0.42	0.41	0.47	1.72	5.30	20	19	3.72	1.64	0.60	0.45	0.41
16	0.42	0.40	0.46	3.09	4.32	41	11	3.45	1.64	0.56	0.46	0.42
17	0.42	0.41	0.46	2.52	3.90	55	11	3.45	1.56	0.56	0.45	0.41
18	0.41	0.41	0.45	1.72	4.60	69	17	3.63	1.33	0.54	0.45	0.41
19	0.42	0.41	0.50	1.40	5.72	69	11	3.63	1.33	0.52	0.44	0.41
20	0.41	0.40	1.48	1.05	7.90	45	9.28	3.45	1.33	0.52	0.44	0.40
21	0.37	0.39	1.48	0.98	14	47	8.20	3.36	1.19	0.54	0.43	0.40
22	0.36	0.58	1.12	2.44	27	69	7.60	3.18	1.19	0.52	0.43	0.39
23	0.33	2.52	1.26	33	20	43	7.60	2.92	1.12	0.50	0.43	0.39
24	0.33	0.77	1.33	44	14	24	7.45	2.84	0.98	0.50	0.43	0.39
25	0.34	0.64	1.19	24	19	18	7.15	2.76	0.91	0.50	0.43	0.39
26	0.33	0.66	0.84	19	13	15	15	2.92	0.84	0.50	0.44	0.40
27	0.35	0.58	0.66	12	10	16	22	3.00	0.77	0.49	0.45	0.45
28	0.34	0.50	0.58	8.38	7.60	20	42	4.32	0.68	0.49	0.45	0.45
29	0.34	0.62	0.52	7.60	17	20	17	6.56	0.68	0.49	–	0.42
30	0.33	3.09	0.70	8.20	16	80	12	4.18	0.66	0.49	–	0.43
31	–	2.20	–	6.28	52	–	10	–	0.66	0.49	–	0.47
Total	11.32	18.93	24.35	224.42	447.00	1,413	537.28	144.11	55.49	17.49	12.82	13.01
Mean	0.38	0.61	0.81	7.24	14.4	47.1	17.3	4.80	1.79	0.56	0.46	0.42
Max.	0.42	3.09	1.48	44	68	213	42	9.46	3.27	0.66	0.50	0.47
Min.	0.33	0.32	0.45	0.98	3.90	13	7.15	2.76	0.66	0.49	0.43	0.39
Runoff - MCM.	0.978	1.635	2.104	19.390	38.621	122.083	46.421	12.451	4.794	1.511	1.108	1.124

WATER YEAR 1977 : Max. 213 Min. 0.32 Mean 8.00 Annual Runoff 252.221 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sept. 11	07.00	6.33	232				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
PRACHIN RIVER BASIN

Khlong Si Yat at Ban Tha Kloi, Chachoengsao (Kgt. 18)

Location: Lat. 13°-28'-29" N., Long. 101°-37'-44" E., on right bank at Ban Tha Kloi, King Amphoe Sanam Chai, Chachoengsao.

Drainage Area: 951 Sq.km.

Type of Gage: Water-stage recorder.

Zero Gage at Bottom at: + 0.00 m. (A.D.)

Bench Mark: B.M. - H.S.

Location: At the cocoa nut tree infront of Kgt. 18 station office.
Elevation: + 6.887 m. (A.D.)

Gage Reading Frequency: Recording

Basis of Mean Daily Gage Height: Arithmetic mean of 24 hourly readings.

Period of Available Gage Records: 1967-1971, 1972 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, no shifting adjustment for flow computation.

Overbank Flow Conditions: No overbank flow.

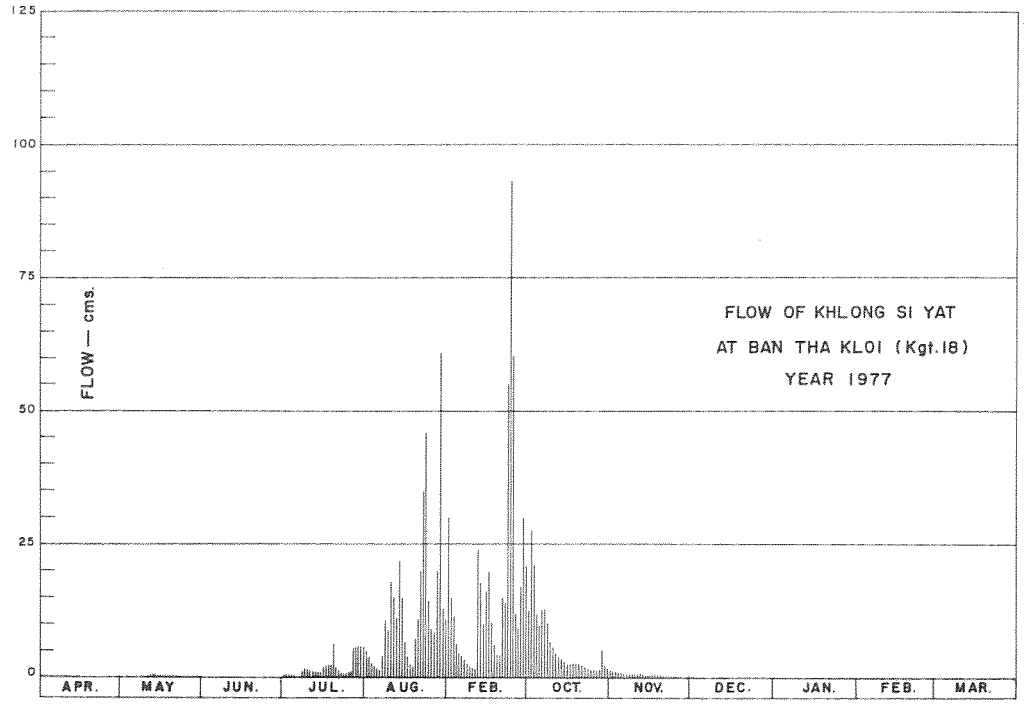
General Description: Records fair. Stage-discharge relation defined by 86 discharge measurements made in 1977.

Remarks: No records on April 1-30, June 1-30, 1977.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1		0.59		0.88	1.61	3.26	2.27	1.07	0.76	0.68	0.71	0.64
2		.59		.85	.46	2.40	3.20	.02	.76	.68	.70	.64
3		.59		.86	.32	.12	2.69	0.99	.76	.69	.68	.64
4		.59		.86	.19	1.76	.23	.96	.76	.71	.68	.63
5		.59		.84	.11	.59	.06	.95	.76	.70	.68	.63
6		0.59		0.83	1.06	1.52	2.31	0.94	0.75	0.69	0.68	0.62
7		.70		.84	.55	.39	.28	.94	.74	.69	.66	.62
8		.71		1.11	2.12	.28	.00	.94	.74	.68	.66	.61
9		.69		.18	.00	.20	1.84	.93	.73	.68	.66	.60
10		.67		.08	.60	.16	.70	.92	.73	.67	.66	.59
11		0.68		1.02	2.51	2.37	1.58	0.92	0.73	0.67	0.65	0.59
12		.99		.00	.16	.96	.50	.91	.73	.67	.64	.58
13		.88		.01	.89	.57	.46	.90	.73	.67	.64	.57
14		.86		.01	.72	.10	.43	.89	.72	.67	.64	.57
15		.82		0.99	1.83	.43	.35	.89	.72	.67	.64	.56
16		0.78		1.23	1.56	2.76	1.30	0.88	0.72	0.67	0.64	0.56
17		.77		.27	.35	.12	.32	.87	.72	.67	.64	.56
18		.76		.28	.21	1.79	.32	.86	.71	.67	.64	.56
19		.75		.75	.30	.58	.35	.84	.70	.68	.65	.55
20		.72		.36	2.15	.49	.30	.84	.70	.68	.64	.55
21		0.76		1.14	2.11	2.44	1.22	0.83	0.69	0.67	0.64	0.55
22		.75		.02	3.10	.40	.16	.83	.69	.66	.64	.55
23		.73		0.96	.94	4.21	.12	.81	.69	.66	.65	.55
24		.73		.94	2.51	5.44	.07	.80	.69	.66	.65	.55
25		.74		.93	.12	3.31	.04	.79	.70	.66	.65	.55
26		0.75		1.02	1.96	2.23	1.02	0.79	0.70	0.66	0.65	0.55
27		.74		.67	.95	.00	.03	.78	.70	.66	.65	.54
28		.72		.67	3.10	.56	.65	.77	.69	.66	.65	.54
29		.74		.70	4.43	3.28	.36	.77	.69	.66		.54
30		.80		.71	2.28	2.70	.19	.77	.69	.66		.56
31		.79		.70	.18		.12		.69	.68		.63
Mean		0.71		1.15	2.11	2.35	1.59	0.88	0.72	0.67	0.65	0.58
Max.		0.94		1.75	4.43	5.44	3.20	1.07	0.76	0.71	0.71	0.64
Min.		0.59		0.83	1.06	1.16	1.02	0.77	0.69	0.66	0.64	0.54

WATER YEAR 1977 : Max. 5.44 m. Min. 0.54 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1		0.008		0.54	4.90	30	13	1.35	0.22	0.08	0.12	0.04
2		0.008		0.45	3.68	14	28	1.10	0.22	0.08	0.10	0.04
3		0.008		0.48	2.64	11	19	0.96	0.22	0.09	0.08	0.04
4		0.008		0.48	1.95	6.40	12	0.84	0.22	0.12	0.08	0.03
5		0.008		0.42	1.55	4.72	9.92	0.80	0.22	0.10	0.08	0.03
6		0.008		0.39	1.30	4.16	13	0.76	0.20	0.09	0.08	0.02
7		0.10		0.42	4.40	3.13	13	0.76	0.18	0.09	0.06	0.02
8		0.12		1.55	11	2.40	9.20	0.76	0.18	0.08	0.06	0.01
9		0.09		1.90	9.20	2.00	7.28	0.72	0.16	0.08	0.06	0.009
10		0.07		1.40	18	1.80	5.80	0.68	0.16	0.07	0.06	0.008
11		0.08		1.10	16	14	4.64	0.68	0.16	0.07	0.05	0.008
12		0.76		1.00	11	24	4.00	0.64	0.16	0.07	0.04	0.007
13		0.54		1.05	22	17	3.68	0.60	0.16	0.07	0.04	0.006
14		0.48		1.05	20	10	3.44	0.57	0.14	0.07	0.04	0.006
15		0.36		0.96	7.16	15	2.85	0.57	0.14	0.07	0.04	0.005
16		0.26		2.15	4.48	20	2.50	0.54	0.14	0.07	0.04	0.005
17		0.24		2.35	2.85	11	2.64	0.51	0.14	0.07	0.04	0.005
18		0.22		2.40	2.05	6.70	2.64	0.48	0.12	0.07	0.04	0.005
19		0.20		6.30	2.50	4.64	2.85	0.42	0.10	0.08	0.05	0.004
20		0.14		2.92	11	3.92	2.50	0.42	0.10	0.08	0.04	0.004
21		0.22		1.70	11	15	2.10	0.39	0.09	0.07	0.04	0.004
22		0.20		1.10	26	14	1.80	0.39	0.09	0.06	0.04	0.004
23		0.16		0.84	46	54	1.60	0.33	0.09	0.06	0.05	0.004
24		0.16		0.76	16	93	1.35	0.30	0.09	0.06	0.05	0.004
25		0.18		0.72	11	31	1.20	0.28	0.10	0.06	0.05	0.004
26		0.20		1.10	8.72	12	1.10	0.28	0.10	0.06	0.05	0.004
27		0.18		5.50	8.60	9.20	1.15	0.26	0.10	0.06	0.05	0.004
28		0.14		5.50	26	17	5.30	0.24	0.09	0.06	0.05	0.004
29		0.18		5.80	61	30	2.92	0.24	0.09	0.06		0.004
30		0.30		5.90	13	19	1.95	0.24	0.09	0.06		0.005
31		0.28		5.80	11		1.60		0.09	0.08		0.03
Total		5.908		64.03	395.98	500.07	184.01	17.11	4.36	2.29	1.58	0.373
Mean		0.19		2.06	12.8	16.7	5.93	0.57	0.14	0.074	0.056	0.012
Max.		0.76		6.30	61	93	28	1.35	0.22	0.12	0.12	0.04
Min.		0.008		0.39	1.30	1.80	1.10	0.24	0.09	0.06	0.04	0.004
Runoff - MCM.		0.510		5.532	34.213	43.206	15.898	1.478	0.377	0.798	0.136	0.032

WATER YEAR 1977 : Max. 93 Min. 0.004 Mean Annual Runoff mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sept.24	18.00	5.66	101				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
PRACHIN 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 6 kilometers from Amphoe Phanat Nikhom, Chon Buri.

Drainage Area: 535 Sq.km.

Type of Gage: Water-stage recorder.

Zero Gage at Bottom at: + 12.124 m. (M.S.L.)

Bench Mark: B.M. - H.S.

Location: Infront of Kgt. 19 station office.
Elevation: + 25.780 m. (M.S.L.)

Gage Reading Frequency: Recording

Basis of Mean Daily Gage Height: Arithmetic mean of 24 hourly readings.

Period of Available Gage Records: 1965 to date.

Rating Operation:

Period of Rating: 1965-1974.
Rated by Float: -
Rated by Current Meter: 1965-1974.

Stability of Channel Regimes: Stable, no shifting adjustment for flow computation.

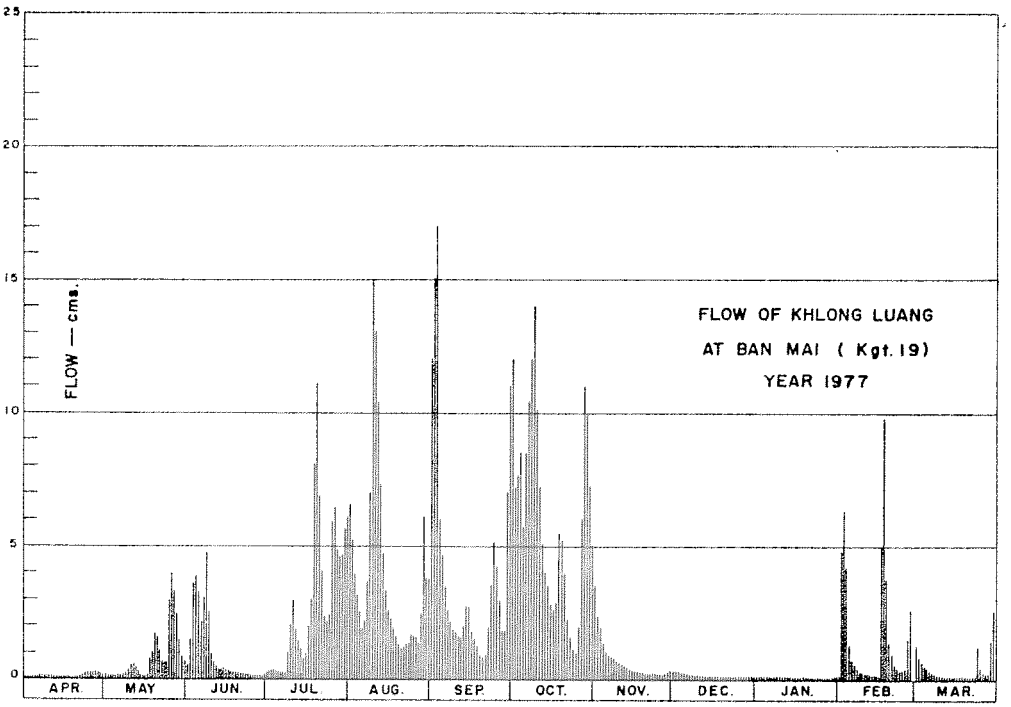
Overbank Flow Conditions: No overbank flow.

General Description: Records good. Stage-discharge relation defined by 230 discharge measurements made during 1972-1974.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	20.60	20.68	21.03	20.86	22.86	23.81	23.81	22.05	20.88	20.64	20.62	21.36
2	.59	.66	.49	.88	.53	24.45	22.98	21.80	.88	.64	22.42	.17
3	.59	.64	22.10	.93	.20	23.81	23.06	.60	.82	.65	.81	.10
4	.61	.64	.17	.87	21.92	22.65	.25	.44	.79	.65	21.97	.01
5	.61	.65	.03	.81	.70	.33	22.64	.31	.77	.64	.35	20.94
6	20.62	20.68	21.65	20.80	21.58	22.05	23.19	21.23	20.75	20.64	21.08	20.86
7	.62	.71	.94	.80	.66	21.84	.44	.19	.73	.65	.04	.80
8	.64	.77	22.40	.85	22.23	.68	.88	.15	.72	.65	20.93	.77
9	.64	.84	21.61	21.33	23.71	.57	24.17	.13	.70	.64	.88	.75
10	.64	21.00	.19	.91	24.31	.52	23.81	.10	.69	.64	.83	.73
11	20.63	21.05	21.04	21.73	23.90	21.47	23.16	21.07	20.68	20.63	20.81	20.71
12	.62	.00	20.95	.51	.23	.45	22.62	.03	.69	.62	.79	.71
13	.62	20.86	.92	.38	22.66	.59	.28	.00	.68	.63	.75	.70
14	.62	.66	.96	.23	.24	.86	.08	20.96	.69	.63	.75	.69
15	.60	.72	.93	.13	21.93	.84	21.93	.92	.66	.63	.74	.67
16	20.59	20.70	20.87	21.26	21.77	21.54	21.81	20.90	20.66	20.62	20.72	20.68
17	.58	.74	.85	.85	.61	.46	.86	.89	.67	.62	22.55	.72
18	.59	21.15	.82	23.02	.50	.34	.91	.86	.67	.64	23.49	.67
19	.60	.28	.80	.66	.40	.23	22.60	.84	.65	.62	22.13	.66
20	.61	.52	.78	.13	.33	.17	.52	.84	.65	.60	21.38	.66
21	20.62	21.34	20.75	22.30	21.30	21.22	21.95	20.82	20.64	20.60	21.17	20.66
22	.70	.10	.73	21.85	.36	.43	.64	.82	.63	.60	.04	.66
23	.82	.05	.72	.65	.37	.83	.43	.80	.64	.60	20.95	.65
24	.77	.10	.70	.71	.50	22.50	.31	.79	.64	.60	.90	21.35
25	.82	.93	.68	22.57	.48	.47	.24	.76	.63	.58	.88	20.99
26	20.77	22.21	20.68	22.81	21.47	21.88	21.49	20.74	20.63	20.56	20.95	20.84
27	.84	21.98	.67	.42	.39	.55	22.78	.75	.63	.59	21.46	.78
28	.79	.52	.66	.36	.82	.54	23.69	.80	.64	.57	.82	.75
29	.74	.34	.67	.37	22.75	22.65	.56	.90	.64	.58		21.27
30	.71	.19	.70	.62	.16	23.71	.04	.93	.64	.60		.78
31		.07		.73	.15		22.52		.64	.62		.36
Mean	20.66	21.06	21.12	21.78	22.10	22.05	22.63	21.05	20.69	20.62	21.33	20.88
Max.	20.84	22.21	22.40	23.66	24.31	24.45	24.17	22.05	20.88	20.65	23.49	21.78
Min.	20.58	20.64	20.66	20.80	21.30	21.17	21.24	20.74	20.63	20.56	20.62	20.65

WATER YEAR 1977 : Max. 24.45 m. Min. 20.56 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.10	0.14	0.56	0.31	6.62	12	12	3.42	0.33	0.12	0.11	1.30
2	0.095	0.13	1.67	0.33	5.27	17	7.20	2.60	0.33	0.12	4.83	0.84
3	0.095	0.12	3.60	0.39	3.95	12	7.60	2.00	0.27	0.12	6.39	0.70
4	0.10	0.12	3.84	0.32	2.97	5.75	8.55	1.52	0.24	0.12	3.14	0.52
5	0.10	0.12	3.35	0.26	2.30	4.47	5.71	1.17	0.22	0.12	1.27	0.41
6	0.11	0.14	2.15	0.25	1.94	3.42	8.25	0.97	0.20	0.12	0.66	0.31
7	0.11	0.16	3.04	0.25	2.18	2.72	9.57	0.88	0.18	0.12	0.58	0.25
8	0.12	0.22	4.75	0.30	4.07	2.24	12	0.80	0.17	0.12	0.39	0.22
9	0.12	0.29	2.03	1.22	11	1.91	14	0.76	0.15	0.12	0.33	0.20
10	0.12	0.50	0.88	2.93	15	1.76	12	0.70	0.14	0.12	0.28	0.18
11	0.11	0.60	0.58	2.39	12	1.61	8.10	0.64	0.14	0.11	0.26	0.16
12	0.11	0.50	0.42	1.73	8.45	1.55	5.63	0.56	0.14	0.11	0.24	0.16
13	0.11	0.31	0.38	1.35	5.79	1.97	4.27	0.50	0.14	0.11	0.20	0.15
14	0.11	0.13	0.44	0.97	4.11	2.78	3.53	0.44	0.14	0.11	0.20	0.14
15	0.10	0.17	0.39	0.76	3.00	2.72	3.00	0.38	0.13	0.11	0.19	0.13
16	0.095	0.15	0.32	1.05	2.51	1.82	2.63	0.35	0.13	0.11	0.17	0.14
17	0.090	0.19	0.30	2.75	2.03	1.58	2.78	0.34	0.13	0.11	5.35	0.17
18	0.095	0.80	0.27	7.40	1.70	1.25	2.93	0.31	0.13	0.12	9.84	0.13
19	0.10	1.10	0.25	11	1.40	0.97	5.55	0.29	0.12	0.11	3.70	0.13
20	0.10	1.76	0.23	7.95	1.22	0.84	5.23	0.29	0.12	0.10	1.35	0.13
21	0.11	1.25	0.20	4.35	1.15	0.95	3.07	0.27	0.12	0.10	0.84	0.13
22	0.15	0.70	0.18	2.75	1.30	1.49	2.12	0.27	0.11	0.10	0.58	0.13
23	0.27	0.60	0.17	2.15	1.32	2.69	1.49	0.25	0.12	0.10	0.42	0.12
24	0.22	0.70	0.15	2.33	1.70	5.15	1.17	0.24	0.12	0.10	0.35	1.27
25	0.27	3.00	0.14	5.43	1.64	5.03	1.00	0.21	0.11	0.090	0.33	0.48
26	0.22	3.99	0.14	6.39	1.61	2.84	1.67	0.19	0.11	0.080	0.42	0.29
27	0.29	3.18	0.13	4.83	1.37	1.85	6.27	0.20	0.11	0.095	1.58	0.23
28	0.24	1.76	0.13	4.59	2.66	1.82	11	0.25	0.12	0.085	2.66	0.20
29	0.19	1.25	0.13	4.63	6.15	5.75	10	0.35	0.12	0.090		1.07
30	0.16	0.88	0.15	5.63	3.81	11	7.50	0.39	0.12	0.10		2.54
31		0.64		6.07	3.77		5.23		0.12	0.11		1.30
Total	4.21	25.60	30.97	93.06	123.99	118.93	191.05	21.54	4.83	3.35	46.66	14.13
Mean	0.14	0.82	1.03	3.00	4.00	3.96	6.16	0.72	0.15	0.11	1.67	0.45
Max.	0.29	3.99	4.75	11	15	17	14	3.42	0.33	0.12	9.84	2.54
Min.	0.090	0.12	0.13	0.25	1.15	0.84	1.00	0.19	0.11	0.080	0.11	0.12
Runoff - mcm.	0.364	2.212	2.676	8.040	10.713	10.275	6.507	1.861	0.417	0.289	4.031	1.221

WATER YEAR 1977 : Max. 17 Min. 0.080 Mean 1.86 Annual Runoff 58.607 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sept. 2	15.00	24.51	17				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
PRACHIN RIVER BASIN

Prachin River at Ban Sang, Prachin Buri (Kgt. 22)

Location: Lat. 13°-59'-45" N., Long. 101°-13'-30" E., on left bank infront of Amphoe Ban Sang Office, Prachin Buri.

Drainage Area: Flood plain.

Type of Gage: Staff gage.

Zero Gage at Bottom at: - 0.818 m. (M.S.L.)

Bench Mark: B.M. - H.S.

Location: Near staff gage site.
Elevation: + 3.032 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.
Rated by Float: -
Rated by Current Meter: 1967.

Stability of Channel Regimes: Stable, no shifting adjustment for flow computation.

Overbank Flow Conditions: No overbank flow.

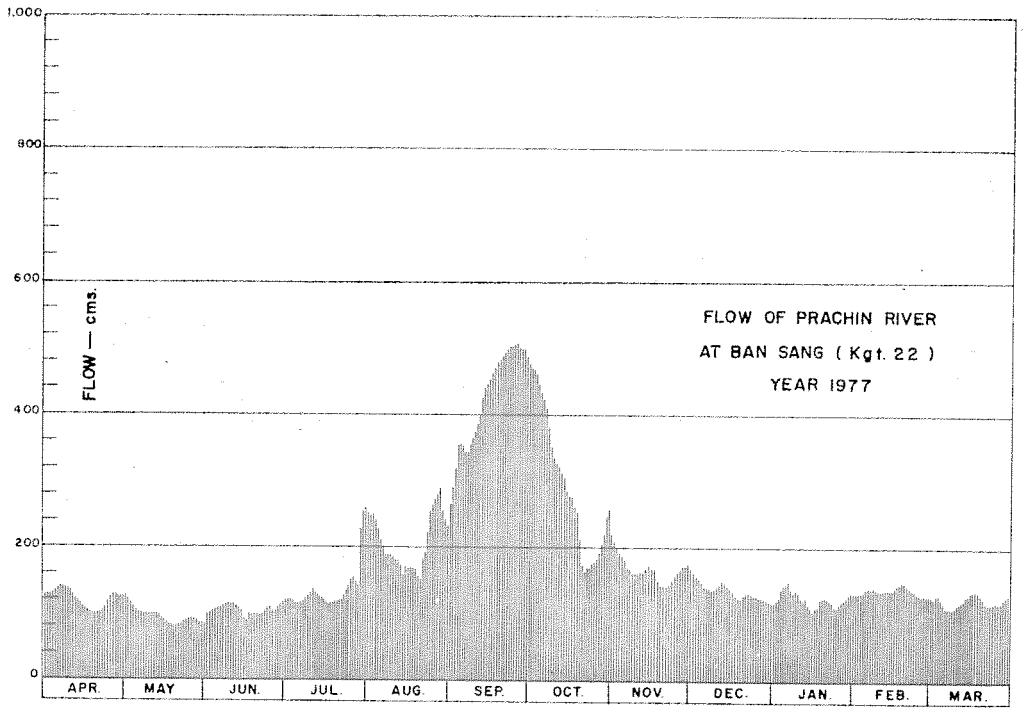
General Description: Records good. Stage-discharge relation defined by 14 discharge measurements made in 1967.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.17	0.17	-0.04	0.14	1.04	1.11	2.26	0.87	0.47	0.10	0.21	0.20
2	.17	.13	-0.02	.16	.02	.27	.23	.77	.45	.11	.21	.16
3	.18	.08	0.00	.14	.03	.38	.21	.70	.42	.14	.23	.21
4	.21	.04	.01	.13	0.99	.64	.15	.65	.38	.24	.22	.18
5	.24	.00	.01	.09	.89	.65	.08	.62	.34	.29	.25	.14
6	0.26	-0.02	0.04	0.10	0.77	1.63	2.02	0.56	0.31	0.32	0.25	0.09
7	.28	- .05	.05	.11	.70	.58	1.98	.49	.28	.34	.27	.04
8	.25	- .06	.07	.13	.62	.58	.83	.46	.27	.26	.27	.04
9	.26	- .04	.09	.16	.63	.69	.68	.43	.24	.21	.25	.03
10	.25	- .04	.08	.19	.62	.72	.54	.41	.28	.26	.24	.05
11	0.18	-0.05	0.08	0.24	0.59	1.79	1.50	0.41	0.30	0.20	0.25	0.07
12	.13	- .05	- .06	.23	.58	.87	.45	.42	.33	.14	.25	.10
13	.12	- .05	- .04	.21	.55	2.04	.38	.44	.34	.15	.25	.14
14	.09	- .06	- .02	.18	.43	.09	.31	.48	.32	.09	.25	.18
15	.04	- .09	- .09	.14	.51	.11	.25	.51	.28	.05	.24	.20
16	0.01	-0.13	-0.14	0.13	0.48	2.17	1.21	0.49	0.25	0.02	0.26	0.23
17	-0.02	- .16	- .04	.08	.49	.21	.19	.49	.23	.04	.30	.24
18	- .03	- .21	- .07	.10	.48	.25	.11	.39	.20	.06	.31	.28
19	- .05	- .20	- .06	.10	.46	.29	.06	.32	.16	.15	.33	.21
20	- .05	- .21	- .05	.13	.37	.32	0.81	.30	.16	.16	.34	.18
21	-0.05	-0.19	-0.06	0.13	0.40	2.33	0.53	0.29	0.19	0.16	0.31	0.12
22	- .02	- .18	- .04	.13	.59	.37	.45	.29	.23	.16	.28	.10
23	0.04	- .15	- .02	.20	.70	.40	.50	.32	.22	.13	.26	.09
24	.10	- .13	0.04	.25	1.03	.41	.49	.37	.19	.10	.22	.10
25	.16	- .11	.04	.31	.11	.41	.55	.41	.18	.04	.21	.11
26	0.17	-0.11	0.02	0.37	1.16	2.41	0.56	0.44	0.16	0.09	0.20	0.10
27	.18	- .10	.02	.39	.21	.39	.62	.47	.16	.11	.19	.11
28	.17	- .13	.04	.33	.27	.38	.70	.51	.14	.13	.20	.13
29	.16	- .16	.08	.90	.10	.36	.81	.50	.14	.16	-	.17
30	.16	- .17	.11	1.05	0.99	.32	.99	.52	.13	.19	-	.17
31	-	- .20	-	1.10	.92	-	1.07	-	.11	.21	-	.23
Mean	0.12	-0.08	0.01	0.26	0.76	2.00	1.27	0.48	0.25	0.16	0.25	0.14
Max.	0.28	0.17	0.11	1.10	1.27	2.41	2.26	0.87	0.47	0.34	0.34	0.28
Min.	-0.05	-0.21	-0.14	0.08	0.37	1.11	0.45	0.29	0.11	0.02	0.19	0.03

WATER YEAR 1977 : Max. 2.41 m. Min. -0.21 m.

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	127	127	100	123	253	264	475	226	168	118	132	131
2	127	121	102	125	245	290	469	211	165	119	132	125
3	128	115	105	123	251	308	265	201	161	123	134	132
4	132	110	106	121	245	356	453	193	155	136	133	128
5	136	105	106	116	229	357	439	189	150	142	137	123
6	138	62	110	118	211	354	427	180	145	147	137	116
7	141	99	111	119	201	344	419	170	141	150	140	110
8	137	98	114	121	189	344	391	166	140	138	140	110
9	138	100	116	125	190	365	353	162	136	132	137	109
10	137	100	115	129	189	370	337	159	141	138	136	111
11	128	99	115	136	184	383	330	159	144	131	137	114
12	121	99	112	134	183	398	321	161	148	123	137	118
13	120	99	110	132	179	431	308	163	150	124	137	123
14	116	98	102	128	162	441	310	169	147	116	137	128
15	110	94	94	123	173	445	286	173	141	111	136	131
16	106	90	89	121	169	457	280	170	137	107	138	134
17	102	87	100	115	170	465	277	170	134	110	144	136
18	101	81	97	118	169	473	264	156	131	112	145	141
19	99	82	98	118	166	481	256	147	125	124	148	132
20	99	81	99	121	154	487	217	144	125	125	150	128
21	99	83	98	121	158	489	176	142	129	125	145	120
22	102	84	100	121	184	497	165	142	134	125	141	118
23	110	88	102	131	201	503	172	147	133	121	138	116
24	118	90	110	137	251	505	170	154	129	118	133	118
25	125	92	110	145	264	505	179	159	128	110	132	119
26	127	92	107	154	272	505	180	163	125	116	131	118
27	128	93	107	156	280	501	189	168	125	119	129	119
28	127	90	110	148	290	499	201	173	123	121	131	121
29	125	87	115	231	262	495	217	172	123	125	–	127
30	125	85	119	254	245	487	245	175	121	129	–	127
31	–	82	–	262	234	–	257	–	119	132	–	134
Total	3,629	2,953	3,179	4,326	6,557	12,799	9,238	5,064	4,273	3,867	3,847	3,817
Mean	121	95.3	106	140	212	427	298	169	138	125	137	123
Max.	141	127	119	262	290	505	475	226	168	150	150	141
Min.	99	81	89	115	154	264	165	142	119	107	129	109
Runoff – mcm.	313.545	255.139	274.665	373.766	566.524	1,105.833	798.163	437.529	369.187	334.109	332.381	329.789

WATER YEAR 1977 : Max. 505 Min. 81 Mean 174 Annual Runoff 5,490.630 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sept. 23	9.00	2.41	505				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
PRACHIN RIVER BASIN

Prachan Takham at Ban Takhro, Prachin Buri (Kgt. 24)

Location: Lat. 14°-10'-34" N., Long. 101°-35'-30" E., on right bank at Ban Takhro, Amphoe Prachantakham, Prachin Buri.

Drainage Area: 121 Sq.km.

Type of Gage: Water-stage recorder.

Zero Gage at Bottom at: + 0.00 m. (A.D.)

Bench Mark: B.M. - H.S.

Location: Near station office Kgt. 24
Elevation: + 8.365 m. (A.D.)

Gage Reading Frequency: Recording

Basis of Mean Daily Gage Height: Arithmetic mean of 24 hourly 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: Unstable with variable water surface slope, no shifting adjustment for flow computation.

Overbank Flow Conditions: No overbank flow.

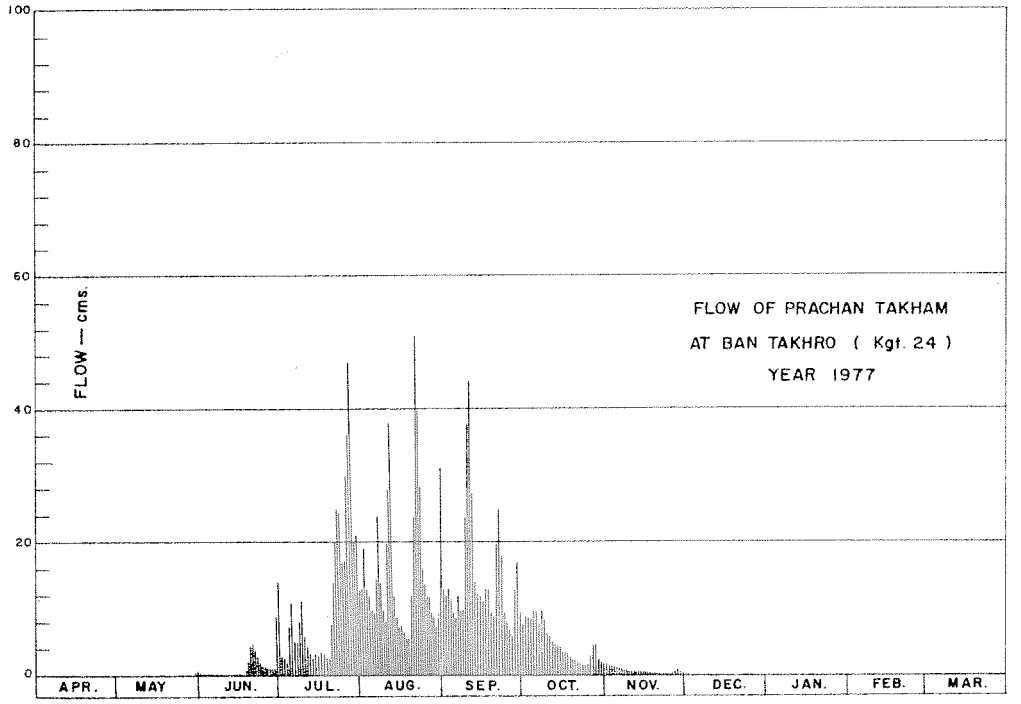
General Description: Records fair. Stage-discharge relation defined by 145 discharge measurements made in 1977.

Remarks: Instantaneous peak discharge being adjusted by Lewis Method.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.31	0.35	0.61	1.29	2.01	2.06	1.61	0.93	0.52	0.33	0.27	0.25
2	.31	.35	.60	.10	.46	1.98	.71	.88	.49	.33	.27	.25
3	.32	.35	.57	.08	.03	2.01	.69	.85	.48	.33	.26	.24
4	.32	.34	.54	0.98	1.94	1.85	.67	.82	.47	.33	.26	.24
5	.32	.33	.50	1.91	.81	.68	.77	.79	.46	.32	.26	.24
6	0.32	0.34	0.47	1.46	1.75	2.00	1.77	0.77	0.45	0.31	0.26	0.24
7	.32	.34	.46	.33	2.82	1.78	.61	.76	.45	.31	.26	.24
8	.32	.34	.45	.33	.10	.84	.84	.74	.44	.31	.26	.24
9	.32	.35	.44	.93	1.81	2.87	.69	.71	.43	.31	.26	.23
10	.32	.35	.44	.48	.64	3.97	.49	.69	.43	.30	.25	.23
11	0.32	0.35	0.44	1.31	3.66	3.40	1.40	0.67	0.42	0.30	0.25	0.23
12	.33	.36	.43	.19	.16	2.60	.33	.65	.41	.29	.25	.23
13	.34	.37	.50	.11	1.98	.14	.28	.63	.41	.29	.25	.23
14	.34	.38	.58	.06	.72	.00	.26	.62	.40	.29	.25	.23
15	.34	.38	.56	.13	.57	1.96	.25	.60	.40	.28	.24	.23
16	0.34	0.36	0.53	1.09	1.58	1.93	1.17	0.59	0.39	0.28	0.24	0.23
17	.33	.37	.52	.21	.45	2.06	.16	.58	.39	.28	.24	.23
18	.32	.37	.52	.09	.38	.02	.12	.57	.38	.28	.24	.23
19	.33	.37	.85	.06	.39	1.76	.06	.55	.38	.28	.24	.23
20	.34	.36	.28	.04	2.58	.70	.02	.54	.37	.27	.23	.23
21	0.34	0.36	1.31	1.77	4.29	2.85	0.98	0.53	0.37	0.27	0.22	0.24
22	.35	.35	.17	2.88	3.02	.73	.94	.52	.37	.27	.23	.23
23	.34	.35	.02	.76	2.55	.10	.91	.51	.36	.27	.23	.23
24	.33	.38	0.86	.34	.28	1.76	.88	.50	.35	.27	.23	.23
25	.33	.37	.86	.31	1.96	.58	.90	.49	.35	.27	.24	.23
26	0.35	0.36	0.87	3.47	2.00	1.49	1.08	0.49	0.35	0.26	0.24	0.24
27	.36	.37	.81	4.11	1.81	.41	.28	.47	.35	.26	.26	.24
28	.35	.37	.78	3.31	.74	2.01	.29	.72	.35	.26	.26	.24
29	.35	.38	.75	2.54	.58	.34	.02	.65	.35	.26	-	.24
30	.35	.56	2.12	.64	.69	1.83	0.99	.56	.34	.26	-	.26
31	-	.69	-	.02	3.24	-	.95	-	.34	.27	-	.26
Mean	0.33	0.38	0.73	1.78	2.16	2.12	1.29	0.65	0.40	0.29	0.25	0.24
Max.	0.36	0.69	2.12	4.11	4.29	3.97	1.84	0.93	0.52	0.33	0.27	0.26
Min.	0.31	0.33	0.43	0.98	1.38	1.41	0.88	0.49	0.34	0.26	0.22	0.23

WATER YEAR 1977 : Max. 4.29 m. Min. 0.22 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.055	0.075	0.43	4.61	13	13	7.81	1.75	0.24	0.065	0.035	0.025
2	0.055	0.075	0.40	2.90	19	12	8.92	1.50	0.19	0.065	0.035	0.025
3	0.060	0.075	0.34	2.74	13	13	8.69	1.35	0.18	0.065	0.030	0.020
4	0.060	0.070	0.28	2.00	12	11	8.47	1.20	0.17	0.065	0.030	0.020
5	0.060	0.065	0.20	11	10	8.58	9.64	1.06	0.16	0.060	0.030	0.020
6	0.060	0.070	0.17	6.30	9.40	12	9.64	0.98	0.15	0.055	0.030	0.020
7	0.060	0.070	0.16	5.00	24	9.76	7.81	0.94	0.15	0.055	0.030	0.020
8	0.060	0.070	0.15	5.00	14	10	10	0.86	0.14	0.055	0.030	0.020
9	0.060	0.075	0.14	11	10	25	8.69	0.74	0.13	0.055	0.030	0.015
10	0.060	0.075	0.14	6.50	8.14	44	6.60	0.67	0.13	0.050	0.025	0.015
11	0.060	0.075	0.14	4.80	38	34	5.70	0.61	0.12	0.050	0.025	0.015
12	0.065	0.080	0.13	3.71	30	21	5.00	0.55	0.11	0.045	0.025	0.015
13	0.070	0.085	0.20	2.99	12	14	4.52	0.49	0.11	0.045	0.025	0.015
14	0.070	0.090	0.36	2.58	9.04	12	4.34	0.46	0.10	0.045	0.025	0.015
15	0.070	0.090	0.32	3.17	7.40	12	4.25	0.40	0.10	0.040	0.020	0.015
16	0.070	0.080	0.26	2.82	7.50	11	3.53	0.38	0.095	0.040	0.020	0.015
17	0.065	0.085	0.24	3.89	6.20	13	3.44	0.36	0.095	0.040	0.020	0.015
18	0.060	0.085	0.24	2.82	5.50	13	3.08	0.34	0.090	0.040	0.020	0.015
19	0.065	0.085	1.35	2.58	5.60	9.52	2.58	0.30	0.090	0.040	0.020	0.015
20	0.070	0.080	4.52	2.42	21	8.80	2.26	0.28	0.085	0.035	0.015	0.015
21	0.070	0.080	4.80	9.64	51	25	2.00	0.26	0.085	0.035	0.010	0.020
22	0.075	0.075	3.53	25	28	23	1.80	0.24	0.085	0.035	0.015	0.015
23	0.070	0.075	2.26	23	20	14	1.65	0.22	0.080	0.035	0.015	0.015
24	0.065	0.090	1.40	17	16	9.52	1.50	0.20	0.075	0.035	0.015	0.015
25	0.065	0.085	1.40	17	12	7.50	1.60	0.19	0.075	0.035	0.020	0.015
26	0.075	0.080	1.45	35	12	6.60	2.74	0.19	0.075	0.030	0.020	0.020
27	0.080	0.085	1.15	47	10	5.80	4.52	0.17	0.075	0.030	0.030	0.020
28	0.075	0.085	1.02	32	9.28	13	4.61	0.78	0.075	0.030	0.030	0.020
29	0.075	0.090	0.90	20	7.50	17	2.74	0.55	0.075	0.030	–	0.020
30	0.075	0.32	14	21	8.47	10	2.05	0.32	0.070	0.030	–	0.030
31	–	0.67	–	13	31	–	1.85	–	0.070	0.035	–	0.030
Total	1.980	3.290	42.08	348.47	480.03	438.08	152.03	18.34	3.475	1.370	0.675	0.570
Mean	0.066	0.110	1.40	11.2	15.5	14.6	4.90	0.61	0.112	0.044	0.024	0.018
Max.	0.080	0.67	14	47	51	44	10	0.75	0.24	0.065	0.035	0.030
Min.	0.055	0.065	0.13	2.00	5.50	5.80	1.50	0.17	0.070	0.030	0.010	0.015
Runoff – mcm.	0.172	0.284	3.636	30.108	41.475	37.850	13.135	1.584	0.300	0.118	0.058	0.049

WATER YEAR 1977 : Max. 51 Min. 0.010 Mean 4.08 Annual Runoff 128.769 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Aug. 21	22.00	7.32	127				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
KHLONG YAI RIVER BASIN

Khlong Nong Pla Lai at Ban Nong Mapring, Rayong (Z. 4)

Location: Lat. 12°-54'-40" N., Long. 101°-17'-37" E., on left bank at Ban Nong Mapring, Amphoe Ban Khai, Rayong.

Drainage Area: 429 Sq.km.

Type of Gage: Staff gage.

Zero Gage at Bottom at: + 0.00 m. (A.D.)

Bench Mark: B.M. - H.S.

Location: Near the gage site.
Elevation: + 5.270 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: 1967-1974.
Rated by Float: -
Rated by Current Meter: 1967-1974.

Stability of Channel Regimes: Stable, no shifting adjustment for flow computation.

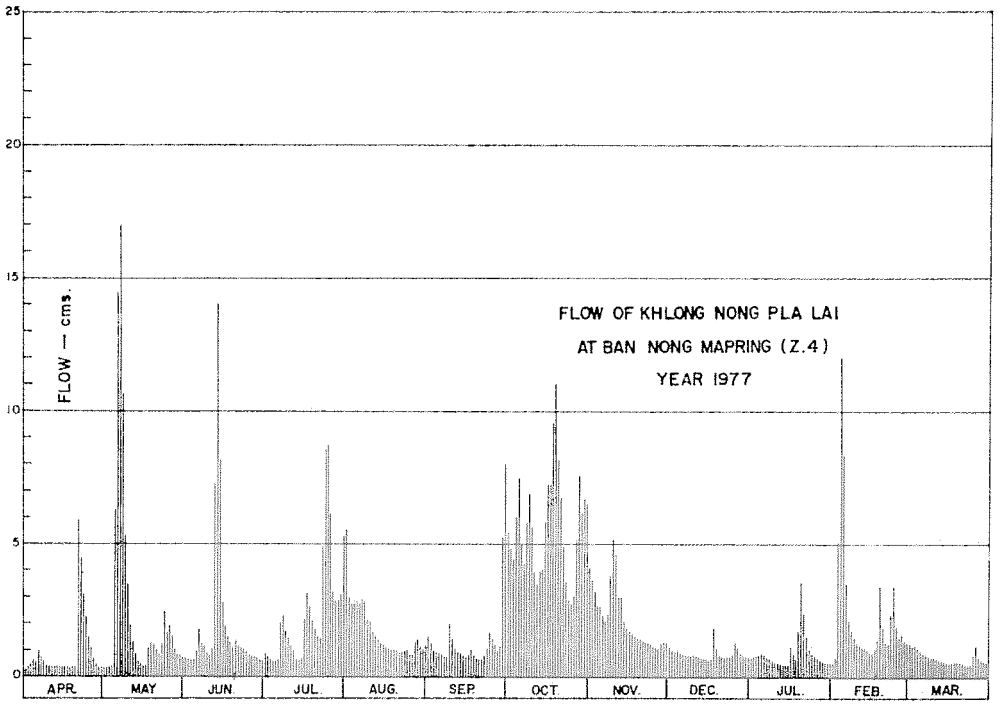
Overbank Flow Conditions: Overbank flow starts at elevation + 2.50 m. (A.D.)

General Description: Records fair. Stage-discharge relation defined by 321 discharge measurements made during 1972-1974.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.18	0.20	0.32	0.38	1.47	0.58	1.47	1.17	0.47	0.32	0.25	0.48
2	.18	.20	.31	.34	0.95	.50	.32	.07	.43	.35	.27	.45
3	.26	.20	.31	.31	.88	.42	.24	.00	.40	.35	.90	.46
4	.30	.23	.30	.31	.90	.40	.49	0.86	.42	.35	2.56	.45
5	.24	1.51	.38	.31	.93	.39	.82	.86	.39	.36	.06	.41
6	0.42	2.74	0.65	0.30	0.86	0.38	1.35	0.75	0.38	0.36	1.10	0.39
7	.34	.96	.50	.72	.93	.37	.18	.72	.37	.33	0.73	.37
8	.25	.53	.48	.78	.91	.35	.46	.78	.37	.31	.62	.35
9	.21	1.49	.40	.64	.73	.71	.72	1.15	.35	.28	.55	.34
10	.20	.11	.36	.54	.73	.53	.54	.39	.35	.28	.50	.33
11	0.20	0.72	0.42	0.46	0.63	0.45	1.14	1.31	0.34	0.26	0.48	0.32
12	.20	.50	2.00	.40	.58	.40	.04	0.94	.33	.25	.46	.30
13	.20	.37	.79	.32	.54	.40	.16	.95	.33	.24	.44	.29
14	.20	.28	.19	.30	.51	.37	.15	.72	.33	.24	.42	.28
15	.20	.25	1.04	.31	.49	.34	.39	.65	.32	.24	.40	.27
16	0.20	0.23	0.70	0.66	0.46	0.37	1.78	0.62	0.31	0.46	0.38	0.26
17	.20	.23	.57	1.00	.44	.43	.73	.59	.32	.38	.42	.25
18	.20	.45	.49	0.85	.42	.36	2.20	.56	.67	.30	.51	.27
19	.20	.51	.44	.70	.42	.33	.44	.55	.44	.43	1.05	.27
20	.20	.49	.54	.63	.42	.31	.03	.54	.37	1.07	0.62	.26
21	1.54	0.42	0.47	0.56	0.39	0.31	1.68	0.53	0.35	0.81	0.49	0.25
22	.32	.37	.46	.55	.41	.35	.28	.52	.33	.58	.47	.24
23	0.98	.48	.42	1.23	.42	.42	.07	.51	.33	.42	.76	.22
24	.80	.82	.39	2.01	.43	.62	0.93	.50	.34	.37	1.04	.21
25	.66	.60	.37	.05	.38	.57	.88	.46	.36	.34	0.67	.32
26	0.48	0.69	0.34	1.56	0.37	0.49	0.95	0.45	0.50	0.32	0.55	0.47
27	.35	.58	.35	0.98	.50	.40	1.32	.44	.46	.31	.59	.32
28	.24	.44	.32	.93	.54	.44	.84	.50	.38	.29	.52	.29
29	.20	.37	.30	.91	.46	1.20	.53	.52	.35	.27	-	.27
30	.20	.36	.31	.97	.43	.91	.69	.51	.34	.26	-	.27
31	-	.34	-	1.42	.47	-	.65	-	.33	.26	-	.26
Mean	0.38	0.73	0.63	0.75	0.61	0.50	1.47	0.74	0.38	0.37	0.71	0.32
Max.	1.54	2.96	2.79	2.05	1.47	1.91	2.44	1.39	0.67	1.07	0.56	0.48
Min.	0.18	0.20	0.30	0.30	0.37	0.31	0.88	0.44	0.31	0.24	0.25	0.21

WATER YEAR 1977 : Max. 2.96 m. Min. 0.18 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.36	0.40	0.71	0.89	5.55	1.58	5.55	4.05	1.19	0.71	0.52	1.23
2	0.36	0.40	0.68	0.77	3.00	1.30	4.80	3.55	1.05	0.80	0.57	1.12
3	0.55	0.40	0.68	0.68	2.72	1.02	4.40	3.20	0.95	0.80	2.80	1.16
4	0.65	0.47	0.65	0.68	2.80	0.95	5.65	2.64	1.02	0.80	12	1.12
5	0.50	5.75	0.89	0.68	2.92	0.92	7.46	2.64	0.92	0.83	8.81	0.98
6	1.02	14	1.82	0.65	2.64	0.89	4.95	2.20	0.89	0.83	3.70	0.92
7	0.77	17	1.30	2.08	2.92	0.86	4.10	2.08	0.86	0.74	2.12	0.86
8	0.52	12	1.23	2.32	2.84	0.80	5.50	2.32	0.86	0.68	1.72	0.80
9	0.42	5.65	0.95	1.79	2.12	2.04	6.91	3.95	0.80	0.60	1.47	0.77
10	0.40	3.75	0.83	1.44	2.12	1.40	5.92	5.15	0.80	0.60	1.30	0.74
11	0.40	2.08	1.02	1.16	1.75	1.12	3.90	4.75	0.77	0.55	1.23	0.71
12	0.40	1.30	8.45	0.95	1.58	0.95	3.40	2.96	0.74	0.52	1.16	0.65
13	0.40	0.86	14	0.71	1.44	0.95	4.00	3.00	0.74	0.50	1.09	0.62
14	0.40	0.60	9.63	0.65	1.33	0.86	3.95	2.08	0.74	0.50	1.02	0.60
15	0.40	0.52	3.40	0.68	1.26	0.77	5.15	1.82	0.71	0.50	0.95	0.57
16	0.40	0.47	2.00	1.86	1.16	0.86	7.24	1.72	0.68	1.16	0.89	0.55
17	0.40	0.47	1.54	3.20	1.09	1.05	6.96	1.61	0.71	0.89	1.02	0.52
18	0.40	1.12	1.26	2.60	1.02	0.83	9.70	1.51	1.89	0.65	1.33	0.57
19	0.40	1.33	1.09	2.00	1.02	0.74	11	1.47	1.09	1.05	3.45	0.57
20	0.40	1.26	1.44	1.75	1.02	0.68	8.63	1.44	0.86	3.55	1.72	0.55
21	5.92	1.02	1.19	1.51	0.92	0.68	6.69	1.40	0.80	2.44	1.26	0.52
22	4.80	0.86	1.16	1.47	0.98	0.80	4.60	1.37	0.74	1.58	1.19	0.50
23	3.12	1.23	1.02	4.35	1.02	1.02	3.55	1.33	0.74	1.02	2.24	0.45
24	2.40	2.48	0.92	8.51	1.05	1.72	2.92	1.30	0.77	0.86	3.40	0.42
25	1.86	1.65	0.86	8.75	0.89	1.54	2.72	1.16	0.83	0.77	1.89	0.71
26	1.23	1.96	0.77	6.03	0.86	1.26	3.00	1.12	1.30	0.71	1.47	1.19
27	0.80	1.58	0.80	3.12	1.30	0.95	4.80	1.09	1.16	0.68	1.61	0.71
28	0.50	1.09	0.71	2.92	1.44	1.09	7.57	1.30	0.89	0.62	1.37	0.62
29	0.40	0.86	0.65	2.84	1.16	4.20	5.86	1.37	0.80	0.57	–	0.57
30	0.40	0.83	0.68	3.08	1.05	7.95	6.74	1.33	0.77	0.55	–	0.57
31	–	0.77	–	5.30	1.19	–	6.52	–	0.74	0.55	–	0.55
Total	30.98	84.16	62.33	75.42	54.16	41.78	174.14	66.91	27.81	27.61	63.30	22.42
Mean	1.03	2.71	2.08	2.43	1.75	1.39	5.62	2.23	0.90	0.89	2.26	0.72
Max.	5.92	17	14	8.75	5.55	7.95	11	5.15	1.89	3.55	12	1.23
Min.	0.36	0.40	0.65	0.65	0.86	0.68	2.72	1.09	0.68	0.50	0.52	0.42
Runoff – mcm.	2.677	7.271	5.385	6.516	4.679	3.610	15.046	5.781	2.403	2.385	5.469	1.937

WATER YEAR 1977 : Max. 17 Min. 0.36 Mean 2.00 Annual Runoff 63.160 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
May 7	06.00	3.00	17				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
KHLONG PRASAE RIVER BASIN

Khlong Prasae at Ban Yang Ngam, Rayong (Z. 5)

Location: Lat. 12°-53'-03" N., Long. 101°-35'-58" E., on left bank of Ban Yang Ngam, Amphoe Klaeng, Rayong.

Drainage Area: 1,164 Sq.km.

Type of Gage: Water-stage recorder.

Zero Gage at Bottom at: + 0.00 m. (A.D.)

Bench Mark: B.M. - H.S.

Location: Infront of Z5 station office.
Elevation: + 7.595 m. (A.D.)

Gage Reading Frequency: Recording

Basis of Mean Daily Gage Height: Arithmetic mean of 24 hourly 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, no shifting adjustment for flow computation.

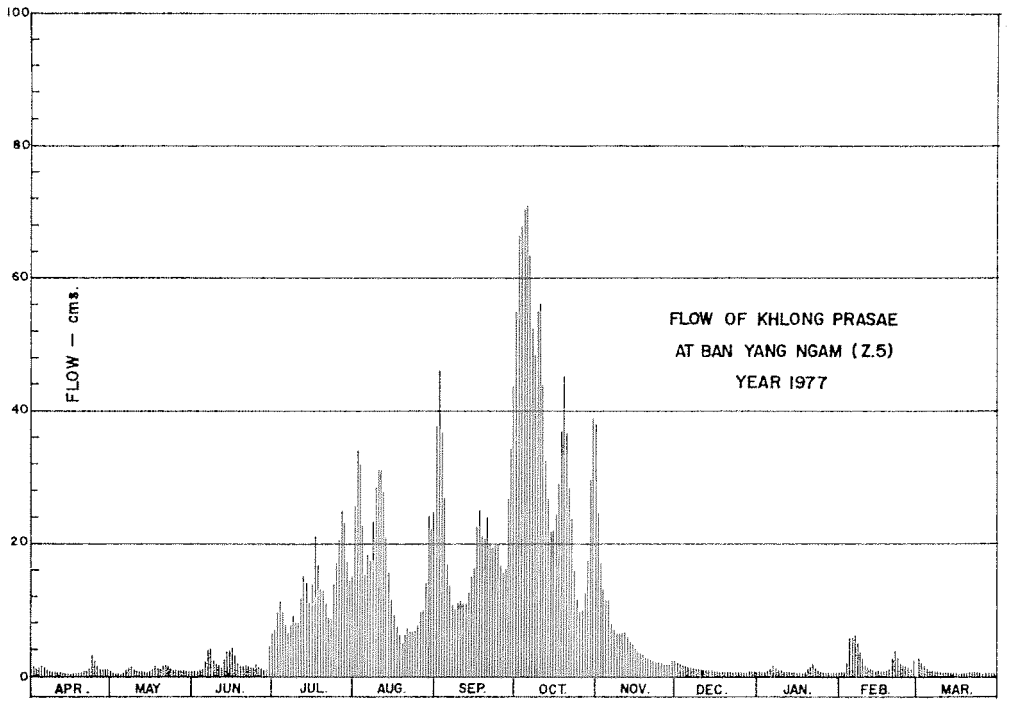
Overbank Flow Conditions: No overbank flow.

General Description: Records fair. Stage-discharge relation defined by 132 discharge measurements made in 1977.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	1.05	0.80	0.87	1.86	3.66	4.18	5.08	3.72	1.18	0.84	0.78	1.29
2	0.89	.79	.85	2.30	4.10	.69	.61	2.96	.13	.83	.81	.11
3	.86	.78	.87	.39	3.99	.52	.65	.61	.10	.83	1.26	.03
4	1.06	.77	.92	.17	.38	3.68	.77	.41	.08	.88	.72	0.97
5	.02	.79	1.14	1.97	2.79	2.98	.80	.20	.06	1.04	.73	.94
6	0.92	1.00	1.48	1.84	3.03	2.69	5.52	2.05	1.04	1.08	1.79	0.91
7	.85	.04	.49	2.04	2.97	.45	4.99	1.93	.03	.01	.66	.88
8	.82	.05	.30	.18	3.39	.26	.82	.87	.01	0.95	.37	.86
9	.80	.01	.21	.03	.76	.44	5.21	.86	1.00	.90	.16	.84
10	.78	0.94	.09	.05	.94	.45	.17	.87	0.98	.87	.08	.83
11	0.77	0.88	1.04	2.45	3.96	2.41	4.57	1.88	0.97	0.86	1.01	0.81
12	.76	.87	.39	.76	.47	.41	3.93	.81	.97	.84	0.98	.80
13	.75	.87	.43	.69	.08	.53	.69	.71	.95	.83	.94	.79
14	.74	.86	.47	.43	2.72	.83	.42	.62	.95	.82	.91	.78
15	.73	.87	.50	.44	.45	.83	.18	.55	.94	.81	.89	.77
16	0.73	0.98	1.33	2.85	2.24	3.32	3.45	1.48	0.93	0.80	0.87	0.76
17	.72	1.07	.15	3.27	.05	.53	.83	.43	.91	.79	.87	.75
18	.72	.04	.04	2.89	1.88	.20	4.32	.38	.90	.80	.88	.75
19	.76	0.98	.03	.56	.78	.27	.67	.34	.90	1.00	.89	.77
20	.82	1.12	.09	.56	.85	.50	.38	.31	.89	.11	1.17	.80
21	0.76	1.11	1.04	2.42	1.95	3.20	3.67	1.28	0.88	1.13	1.48	0.77
22	.92	.05	.02	.12	.88	.12	.18	.25	.87	.03	.26	.76
23	1.33	0.96	.01	.11	.87	.23	2.83	.22	.87	0.94	.11	.74
24	.22	.94	.09	.68	.92	.19	.55	.19	.87	.89	.08	.74
25	.05	.92	.01	.93	2.00	2.98	.35	.17	.87	.86	.05	.73
26	1.01	0.93	0.93	3.20	2.26	2.76	2.29	1.14	0.85	0.84	1.01	0.73
27	0.97	.98	.88	.54	.27	.85	.48	.15	.89	.82	0.97	.72
28	.93	.95	.91	.44	.74	3.79	3.03	.13	.92	.81	1.23	.71
29	.88	.92	1.51	2.94	3.49	4.23	.95	.28	.88	.80	-	.71
30	.84	.89	.80	.71	.25	.61	4.34	.27	.86	.80	-	.70
31	-	.87	-	.83	.50	-	.30	-	.85	.79	-	.72
Mean	0.88	0.94	1.16	2.54	2.83	3.20	4.13	1.70	0.95	0.89	1.14	0.82
Max.	1.33	1.12	1.80	3.54	4.10	4.69	5.80	3.72	1.18	1.13	1.79	1.29
Min.	0.72	0.77	0.85	1.84	1.78	2.26	2.29	1.13	0.85	0.79	0.78	0.70

WATER YEAR 1977 : Max. 5.80 m. Min. 0.30 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	1.50	0.60	0.81	6.62	26	35	54	27	2.10	0.72	0.54	2.74
2	0.87	0.57	0.75	10	34	46	66	17	1.85	0.69	0.63	1.75
3	0.78	0.54	0.81	11	32	42	67	13	1.70	0.69	2.56	1.42
4	1.54	0.51	0.98	8.96	23	27	70	11	1.62	0.84	5.64	1.18
5	1.38	0.57	1.90	7.39	15	17	71	9.20	1.54	1.46	5.71	1.06
6	0.98	1.30	3.96	6.48	18	14	64	8.00	1.46	1.62	6.13	0.94
7	0.75	1.46	4.03	7.92	17	11	52	7.11	1.42	1.34	5.22	0.84
8	0.66	1.50	2.80	9.04	23	9.68	48	6.69	1.34	1.10	3.22	0.78
9	0.60	1.34	2.26	7.84	28	11	57	6.62	1.30	0.90	2.00	0.72
10	0.54	1.06	1.66	8.00	31	11	56	6.69	1.22	0.81	1.62	0.69
11	0.51	0.84	1.46	11	31	11	43	6.76	1.18	0.78	1.34	0.63
12	0.48	0.81	2.34	15	24	11	31	6.27	1.18	0.72	1.22	0.60
13	0.45	0.81	3.61	14	18	12	27	5.57	1.10	0.69	1.06	0.57
14	0.42	0.78	3.89	11	14	15	23	4.94	1.10	0.66	0.94	0.54
15	0.39	0.81	4.10	11	11	15	20	4.45	1.04	0.63	0.87	0.51
16	0.39	1.22	2.98	16	9.52	22	24	3.96	1.02	0.60	0.81	0.48
17	0.36	1.58	1.95	21	8.00	25	29	3.61	0.94	0.57	0.81	0.45
18	0.36	1.46	1.46	16	6.76	20	38	3.28	0.90	0.60	0.84	0.45
19	0.48	1.22	1.42	13	5.06	21	45	3.04	0.90	1.30	0.87	0.51
20	0.66	1.80	1.66	13	6.55	24	39	2.86	0.87	1.75	2.05	0.60
21	0.48	1.75	1.46	11	7.25	20	27	2.68	0.84	1.85	3.96	0.51
22	0.98	1.50	1.38	8.56	6.76	19	20	2.50	0.81	1.42	2.56	0.48
23	2.98	1.14	1.34	8.48	6.69	20	15	2.32	0.81	1.06	1.75	0.42
24	2.32	1.06	1.66	14	7.04	20	12	2.15	0.81	0.87	1.62	0.42
25	1.50	0.98	1.34	16	7.60	17	10	2.05	0.81	0.78	1.50	0.39
26	1.34	1.02	1.02	20	9.68	15	9.92	1.90	0.75	0.72	1.34	0.39
27	1.18	1.22	0.84	25	9.76	16	12	1.95	0.87	0.66	1.18	0.36
28	1.02	1.10	0.94	23	14	28	18	1.85	0.98	0.63	2.38	0.33
29	0.84	0.98	4.17	16	24	36	31	2.68	0.84	0.60	–	0.33
30	0.72	0.87	6.20	14	21	44	39	2.62	0.78	0.60	–	0.30
31	–	0.81	–	15	24	–	38	–	0.75	0.57	–	0.36
Total	27.46	33.21	65.18	395.29	518.67	634.68	1,155.92	179.75	34.83	28.23	60.37	21.75
Mean	0.91	1.07	2.17	12.7	16.7	21.2	37.3	5.99	1.12	0.91	2.16	0.70
Max.	2.98	1.80	6.20	25	34	46	71	27	2.10	1.85	6.13	2.74
Min.	0.36	0.51	0.75	6.48	5.06	9.68	9.92	1.85	0.75	0.57	0.54	0.30
Runoff – MCM.	2.372	2.869	5.631	34.153	44.813	54.836	99.871	15.530	3.009	2.439	5.216	1.879

WATER YEAR 1977 : Max. 71 Min. 0.30 Mean 8.64 Annual Runoff 272.621 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Oct. 5	6.00	5.86	72				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
KHLONG TA NOT RIVER BASIN

Khlong Ta Not at Ban Thap Chum, Chanthaburi (Z. 7)

Location: Lat. 12°-47'-56" N., Long. 101°-54'-32" E., on right bank about 9 kilometers from entrance of Nikhom Dong Thap and 4 kilometers upstream from Nong Khla market, Amphoe Tha Mai, Chanthaburi.

Drainage Area: 1,318 Sq.km.

Type of Gage: Water-stage recorder.

Zero Gage at Bottom at: + 2.00 m. (A.D.)

Bench Mark: B.M. - H.S.

Location: Along the measuring line.
Elevation: + 8.953 m. (A.D.)

Gage Reading Frequency: Recording

Basis of Mean Daily Gage Height: Arithmetic mean of 24 hourly readings.

Period of Available Gage Records: 1965 to date.

Rating Operation:

Period of Rating: 1965-1974.
Rated by Float: -
Rated by Current Meter: 1965-1974.

Stability of Channel Regimes: Stable, no shifting adjustment for flow computation.

Overbank Flow Conditions: No overbank flow.

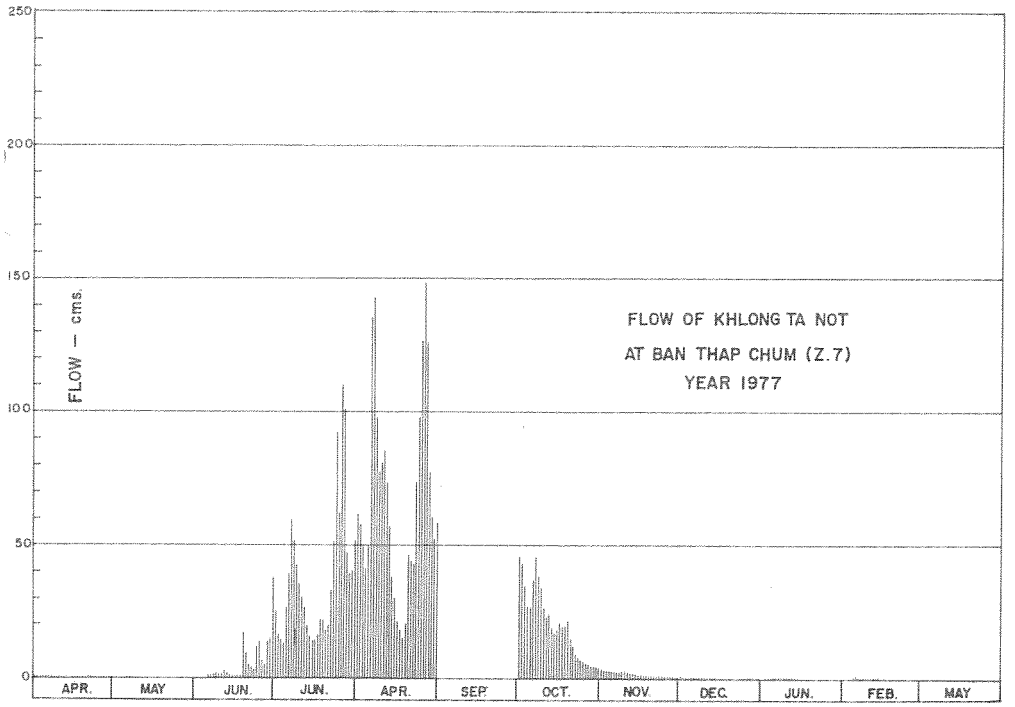
General Description: Records fair. Stage-discharge relation defined by 689 discharge measurements made during 1965-1970.

Remarks: No records on May - June 5, September 1-30 and March 1-31, 1978.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	2.64	2.57		5.11	6.38		5.83	3.45	2.92	2.73	2.65	
2	.64	.59		4.58	.25		.74	.40	.91	.73	.72	
3	.63	.64		.38	5.87		.41	.35	.90	.73	.79	
4	.63	.67		.24	.55		.04	.35	.89	.75	.87	
5	.63	.67		.90	6.02		4.97	.35	.88	.73	.92	
6	2.63	2.63	3.00	5.38	8.47		5.45	3.34	2.87	2.77	2.85	
7	.64	.66	.05	6.32	.67		.84	.30	.86	.82	.86	
8	.62	.76	.13	.15	7.44		.51	.32	.85	.80	.86	
9	.60		.19	5.67	6.89		.39	.35	.84	.77	.82	
10	.58		.04	.33	7.02		.17	.33	.84	.75	.79	
11	2.58		3.21	5.22	7.16		4.83	3.30	2.83	2.73	2.77	
12	.57		.22	.01	.00		.86	.27	.83	.72	.74	
13	.56		.15	4.69	6.35		.70	.24	.82	.71	.73	
14	.55		.03	.45	5.53		.51	.20	.82	.70	.71	
15	.53		2.95	.31	.07		.59	.17	.81	.70	.70	
16	2.54		2.91	4.36	4.76		4.72	3.14	2.80	2.69	2.70	
17	.54		.98	.43	.59		.67	.12	.80	.68	.69	
18	.54		3.11	.78	.36		.69	.09	.80	.68	.71	
19	.54		4.52	.77	.61		.78	.07	.79	.70	.71	
20	.60		.02	.58	5.88		.42	.05	.79	.69	.70	
21	2.65		3.59	4.70	5.80		4.19	3.04	2.78	2.69	2.70	
22	.64		.55	5.18	.72		.00	.03	.77	.68	.70	
23	.64		.42	.95	6.68		3.87	.01	.77	.68	.70	
24	.60		4.15	7.37	7.51		.76	2.99	.76	.67	.70	
25	.59		.28	6.32	.99		.69	.98	.76	.67	.70	
26	2.57		3.76	7.84	8.79		3.64	2.96	2.76	2.67	2.71	
27	.56		.65	.50	.54		.59	.95	.75	.66	.71	
28	.55		4.30	5.90	6.81		.56	.95	.75	.65	.70	
29	.55		.34	.55	.05		.51	.94	.75	.65		
30	.55		5.51	.66	.10		.50	.93	.74	.64		
31				6.05	.30		.49		.74	.64		
Mean	2.59			6.54	6.46		4.58	3.16	2.81	2.70	2.75	
Max.	2.65		5.51	7.84	8.79		5.84	3.45	2.92	2.82	2.92	
Min.	2.53		2.98	4.24	4.36		3.49	2.93	2.74	2.64	2.65	

WATER YEAR 1977 : Max. m. Min. m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.48	0.34		29	62		46	* 4.00	1.06	0.66	0.50	
2	0.48	0.38		18	58		43	* 3.00	1.03	0.66	0.64	
3	0.46	0.48		15	47		35	3.20	1.00	0.66	0.78	
4	0.46	0.54		13	39		27	3.20	0.98	0.70	0.94	
5	0.46	0.54		24	51		26	3.20	0.96	0.66	1.06	
6	0.46	0.46	1.30	34	135		36	3.12	0.94	0.74	0.90	
7	0.48	0.52	1.50	60	143		46	2.80	0.92	0.84	0.92	
8	0.44	0.72	1.85	55	96		38	2.96	0.90	0.80	0.92	
9	0.40		2.15	42	77		35	3.20	0.88	0.74	0.84	
10	0.36		1.46	33	81		30	3.04	0.88	0.70	0.78	
11	0.36		2.26	31	86		23	2.80	0.86	0.66	0.74	
12	0.34		2.32	27	80		24	2.61	0.86	0.64	0.68	
13	0.32		1.95	20	61		20	2.44	0.84	0.62	0.66	
14	0.30		1.42	16	38		17	2.20	0.84	0.60	0.62	
15	0.26		1.15	14	28		18	2.05	0.82	0.60	0.60	
16	0.28		1.03	15	22		21	1.90	0.80	0.58	0.60	
17	0.28		1.24	16	18		20	1.80	0.80	0.56	0.58	
18	0.28		1.75	22	15		20	1.66	0.80	0.56	0.62	
19	0.28		17	22	19		22	1.58	0.78	0.60	0.62	
20	0.40		10	18	47		16	1.50	0.78	0.58	0.60	
21	0.50		5.30	20	45		12	1.46	0.76	0.58	0.60	
22	0.48		4.90	30	43		10	1.42	0.74	0.56	0.60	
23	0.48		3.76	49	71		8.44	1.34	0.74	0.56	0.60	
24	0.40		12	93	98		7.22	1.27	0.72	0.54	0.60	
25	0.38		14	60	116		6.39	1.24	0.72	0.54	0.60	
26	0.34		7.22	110	148		5.84	1.18	0.72	0.54	0.62	
27	0.32		5.95	98	138		5.30	1.15	0.70	0.52	0.62	
28	0.30		14	47	75		5.00	1.15	0.70	0.50	0.60	
29	0.30		15	39	52		4.50	1.12	0.70	0.50		
30	0.30		38	41	53		4.40	1.09	0.68	0.48		
31				52	59		4.32		0.68	0.48		
Total	11.38			1,163	2,101		636.41	65.28	25.59	18.96	16.42	
Mean	0.38			37.5	67.8		20.5	2.18	0.82	0.61	0.59	
Max.	0.50		38	110	148		46	4.00	1.06	0.84	1.06	
Min.	0.26		1.03	13	15		4.32	1.09	0.68	0.48	0.50	
Runoff - mcm.	0.983			100.483	181.526		54.946	5.640	2.211	1.638	1.419	

WATER YEAR 1977 : Max. Min. Mean Annual Runoff mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
KHLONG YAI RIVER BASIN

Khlong Yai at Ban Si Bua Thong, Trat (Z. 10)

Location: Lat. 12°-28'-28" N., Long. 102°-28'-52" E., on right bank near Rong Rian Ban Pong, Tambon Ban Si Bua Thong, Amphoe Khao Saming, Trat.

Drainage Area: 920 Sq.km.

Type of Gage: Staff gage.

Zero Gage at Bottom at: + 0.00 m. (A.D.)

Bench Mark: B.M. - H.S.

Location: Near automatic building.
Elevation: + 11.280 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: 1970 to date.

Rating Operation:

Period of Rating: 1973-1978.
Rated by Float: -
Rated by Current Meter: 1973-1978.

Stability of Channel Regimes: Fairly stable, no shifting adjustment for flow computation.

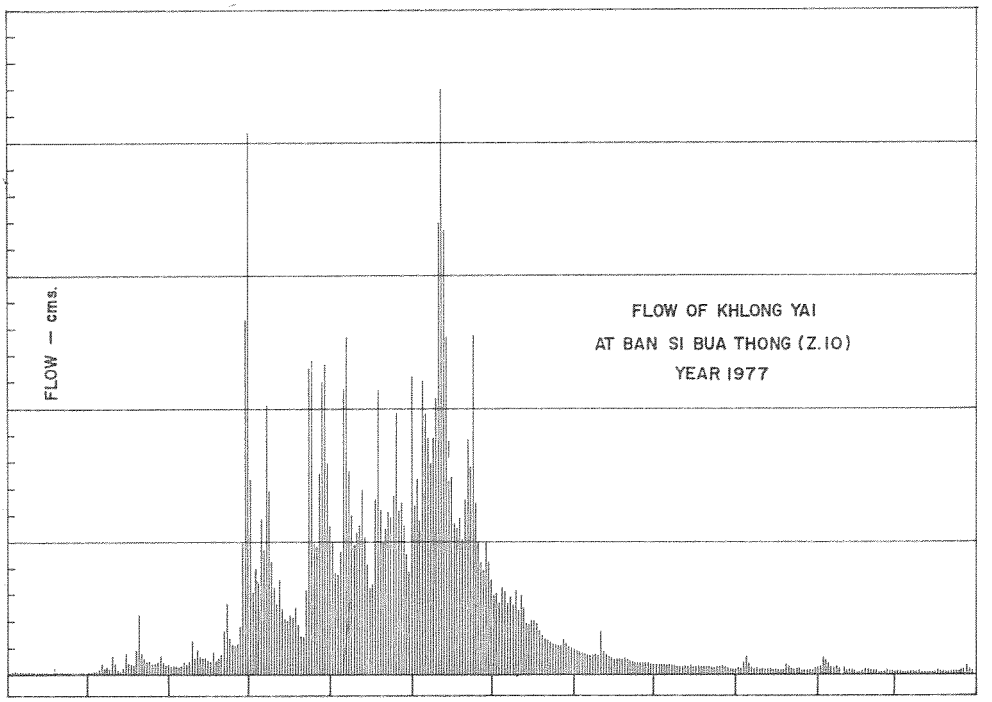
Overbank Flow Conditions: No overbank flow.

General Description: Records fair. Stage-discharge relation defined by 184 discharge measurements made in 1977.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.91	0.89	1.26	5.02	3.95	4.54	3.04	1.82	1.39	1.25	1.28	1.08
2	.91	.93	.39	3.14	.37	5.03	.11	.76	.37	.22	.62	.06
3	.93	.93	.34	.54	.43	4.27	2.85	.72	.38	.55	.47	.05
4	.91	1.08	.28	.28	.75	6.47	3.22	.73	.37	.65	.33	.05
5	.93	.13	.25	4.38	6.31	5.98	.13	.71	.37	.35	.28	.06
6	0.93	1.41	1.40	3.84	7.01	5.67	2.89	1.68	1.36	1.27	1.24	1.04
7	.93	.20	.38	6.13	4.82	.18	3.05	.66	.37	.25	.26	.16
8	.92	.26	.48	4.48	.33	.55	2.88	.69	.35	.23	.19	.15
9	.91	.17	2.05	3.57	3.90	6.23	3.16	.64	.36	.21	.19	.14
10	.90	.66	1.55	.09	4.17	8.31	2.66	2.34	.34	.21	.18	.04
11	0.89	1.32	1.83	2.85	4.25	9.53	3.07	1.86	1.33	1.22	1.17	1.03
12	.88	.13	.60	3.37	.86	8.21	2.72	.70	.33	.18	.17	.01
13	.90	.10	.57	2.71	3.99	6.41	.49	.65	.32	.19	.16	.03
14	.90	.17	.57	.57	.52	5.60	.42	.63	.30	.20	.12	.01
15	.92	.76	.52	.52	.20	.01	.57	.55	.29	.20	.07	.08
16	0.89	1.42	1.42	2.64	3.22	4.33	2.54	1.58	1.29	1.15	1.06	1.07
17	.87	.35	.76	.55	4.45	.21	.46	.35	.28	.20	.13	.11
18	.86	.32	.48	.82	6.36	.42	.27	.54	.28	.24	.13	.09
19	.86	.93	.57	.43	4.52	.00	.20	.53	.27	.41	.16	.06
20	.89	2.67	.65	.21	3.94	.67	.13	.53	.28	.31	.12	.08
21	0.88	1.67	2.32	2.18	4.29	5.62	2.08	1.50	1.26	1.23	1.09	1.09
22	.87	.56	.92	3.09	.50	.13	.03	.47	.26	.20	.11	.11
23	.87	.40	.21	6.63	4.36	7.04	.00	.45	.28	.19	.07	.10
24	.94	.41	1.99	.73	.83	4.64	1.96	.47	.27	.17	.07	.03
25	.96	.38	.92	3.96	6.03	3.96	.93	.45	.33	.16	.09	.13
26	0.94	1.37	1.95	3.89	4.48	3.62	1.94	1.45	1.29	1.16	1.11	1.28
27	.98	.47	2.35	5.04	.65	.43	2.10	.45	.29	.16	.11	.37
28	.94	.65	3.38	6.49	.07	4.00	1.97	.44	.25	.19	.10	.24
29	.91	.47	8.02	.68	3.73	3.71	.91	.42	.23	.16		.19
30	.88	.34	9.18	5.39	.44	.39	.85	.39	.22	.25		.17
31		.30		4.14	6.52		.83		.22	.27		.09
Mean	0.91	1.38	2.22	3.91	4.46	5.27	2.47	1.61	1.31	1.25	1.18	1.10
Max.	0.98	2.67	9.18	6.73	7.01	9.53	3.22	2.34	1.39	1.65	1.62	1.37
Min.	0.86	0.89	1.25	2.18	3.20	3.39	1.83	1.39	1.22	1.15	1.06	1.01

WATER YEAR 1977 : Max. 9.53 m. Min. 0.86 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.10	0.00	5.20	146	97	124	58	18	7.80	5.00	5.60	1.80
2	0.10	0.30	7.80	62	71	146	61	16	7.40	4.40	13	1.60
3	0.30	0.30	6.80	79	74	112	51	15	7.60	11	9.40	1.50
4	0.10	1.80	5.60	68	88	220	65	16	7.40	14	6.60	1.50
5	0.30	2.60	5.00	117	211	194	62	15	7.40	7.00	5.60	1.60
6	0.30	8.20	8.00	92	253	178	53	14	7.20	5.40	4.80	1.40
7	0.30	4.00	7.60	202	136	154	58	14	7.40	5.00	5.20	3.20
8	0.20	5.20	9.60	121	114	172	52	15	7.00	4.60	3.80	3.00
9	0.10	3.40	24	80	95	207	63	13	7.20	4.20	3.80	2.80
10	0.00	14	11	60	107	334	45	33	6.80	4.20	3.60	1.40
11	0.00	6.40	18	51	111	439	59	19	6.60	4.40	3.40	1.30
12		2.60	12	71	138	327	47	15	6.60	3.60	3.40	1.10
13		2.00	12	46	99	217	39	14	6.40	3.80	3.20	1.30
14		3.40	12	41	78	175	36	13	6.00	4.00	2.40	1.10
15		16	10	40	64	145	41	11	5.80	4.00	1.70	1.80
16		8.40	8.40	44	65	114	40	12	5.80	3.00	1.60	1.70
17		7.00	16	41	120	109	38	11	5.60	4.00	2.60	2.20
18		6.40	9.60	50	214	118	31	11	5.60	4.80	2.60	1.90
19		21	12	36	123	99	29	11	5.40	8.20	3.20	1.60
20		45	14	29	97	130	27	11	5.60	6.20	2.40	1.80
21		15	33	28	112	176	25	10	5.20	4.60	1.90	1.90
22		11	54	60	122	151	24	9.40	5.20	4.00	2.20	2.20
23	0.00	8.00	29	230	116	254	23	9.00	5.60	3.80	1.70	2.00
24	0.40	8.20	23	236	137	128	22	9.40	5.40	3.40	1.70	1.30
25	0.60	7.60	21	98	196	98	21	9.00	6.60	3.20	1.90	2.60
26	0.40	7.40	21	94	121	82	21	9.00	5.80	3.20	2.20	5.60
27	0.80	9.40	34	147	129	74	26	9.00	5.80	3.20	2.20	7.40
28	0.40	14	72	221	103	99	22	8.80	5.00	3.80	2.00	4.80
29	0.10	9.40	313	233	87	86	20	8.40	4.60	3.20		3.80
30	0.00	6.80	407	164	74	72	19	7.80	4.40	5.00		3.40
31		6.00		106	223		18		4.40	5.40		1.90
Total	4.70	260.80	1,221.60	3,093	3,775	4,934	1,196	386.80	190.60	153.60	103.70	72.50
Mean	0.16	8.41	40.7	99.8	122	164	38.6	12.9	6.15	4.95	3.70	2.34
Max.	0.80	45	407	236	253	439	65	33	7.80	14	13	7.40
Min.	0.00	0.00	5.00	28	64	72	18	7.80	4.40	3.00	1.60	1.10
Runoff - mcm.	0.406	22.533	105.546	267.235	326.160	426.298	103.334	33.420	16.468	13.271	8.960	6.264

WATER YEAR 1977 : Max. 439 Min. 0.00 Mean 42.2 Annual Runoff 1,329.895 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sept. 11	12.00	9.60	445				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
CHANTHABURI RIVER 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 at: + 0.00 m. (A.D.)

Bench Mark: B.M. - H.S.

Location: Near automatic gage building.
Elevation: + 8.109 m. (A.D.)

Gage Reading Frequency: Recording

Basis of Mean Daily Gage Height: Arithmetic mean of 24 hourly 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: Stable, no shifting adjustment for flow computation.

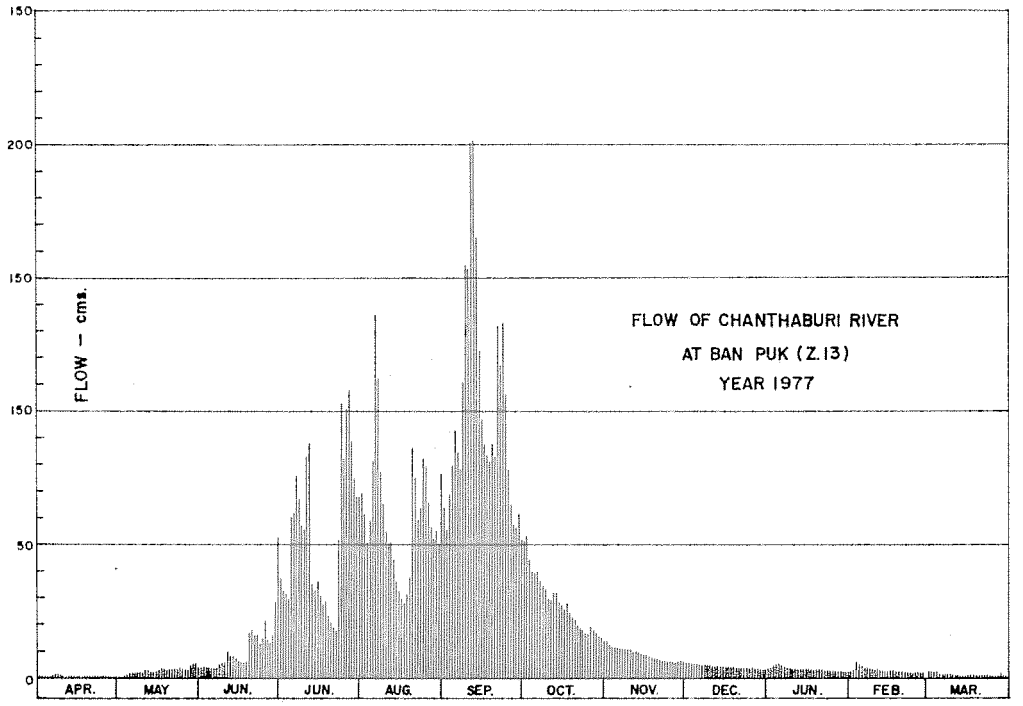
Overbank Flow Conditions: No overbank flow.

General Description: Records good. Stage-discharge relation defined by 153 discharge measurements made in 1977.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.30	0.26	0.54	1.77	2.62	2.52	2.14	0.99	0.63	0.47	0.42	0.40
2	.30	.27	.55	.66	.39	.26	.23	.96	.62	.47	.49	.39
3	.29	.29	.54	.65	.16	.62	1.99	.94	.61	.51	.64	.38
4	.29	.31	.50	.53	.38	.87	.86	.93	.59	.57	.60	.37
5	.29	.33	.48	2.41	.81	3.22	.85	.91	.59	.60	.52	.36
6	0.30	0.34	0.46	2.32	4.14	2.99	1.87	0.89	0.58	0.54	0.51	0.34
7	.31	.35	.46	.79	3.78	.86	.78	.88	.57	.51	.49	.33
8	.31	.39	.58	.58	2.79	3.58	.73	.89	.57	.50	.47	.33
9	.30	.38	.60	.32	.41	4.51	.67	.87	.57	.49	.45	.32
10	.29	.38	.60	.52	.28	.47	.58	.87	.56	.48	.45	.31
11	0.28	0.48	0.85	1.97	2.14	5.43	1.55	0.86	0.55	0.46	0.44	0.30
12	.27	.42	.75	2.09	.17	.44	.63	.84	.55	.45	.42	.29
13	.26	.39	.77	1.76	1.97	4.77	.64	.83	.55	.44	.41	.28
14	.25	.38	.71	.62	.77	3.84	.51	.81	.54	.44	.40	.28
15	.25	.40	.65	.76	.64	.32	.46	.79	.53	.44	.39	.28
16	0.24	0.44	0.62	1.60	1.53	3.11	1.44	0.77	0.52	0.44	0.39	0.29
17	.24	.48	.58	.48	.49	.01	.49	.75	.52	.44	.44	.31
18	.23	.47	.64	.51	.60	2.89	.41	.74	.52	.45	.44	.30
19	.23	.44	1.13	.35	.85	3.10	.34	.72	.51	.46	.43	.30
20	.27	.46	.17	.26	3.05	2.96	.29	.71	.51	.45	.42	.29
21	0.27	0.47	1.10	1.19	2.78	4.07	1.23	0.70	0.50	0.44	0.41	0.30
22	.27	.45	.07	.18	.37	3.75	.19	.69	.50	.44	.40	.30
23	.28	.46	0.97	2.04	.48	4.08	.15	.67	.50	.43	.39	.29
24	.28	.48	1.05	3.41	.94	3.58	.11	.67	.49	.42	.40	.28
25	.27	.47	.27	2.95	.87	2.80	.10	.66	.49	.41	.40	.28
26	0.27	0.46	1.05	3.35	2.63	2.50	1.19	0.65	0.50	0.40	0.43	0.28
27	.27	.46	0.97	3.54	.35	.34	.17	.65	.49	.38	.42	.28
28	.26	.52	1.13	2.85	.18	.30	.11	.66	.49	.38	.41	.28
29	.25	.58	.46	.69	.27	.44	.07	.66	.48	.38	-	.28
30	.23	.61	2.21	.59	.08	.17	.04	.64	.47	.38	-	.29
31	-	.55	-	.61	.80	-	.01	-	.47	.39	-	.29
Mean	0.27	0.42	0.85	2.14	2.14	3.33	1.48	0.79	0.53	0.45	0.44	0.31
Max.	0.31	0.61	2.21	3.54	4.14	5.44	2.23	0.99	0.63	0.60	0.64	0.40
Min.	0.23	0.26	0.46	1.18	1.49	2.17	1.01	0.64	0.47	0.38	0.39	0.28

WATER YEAR 1977 : Max. 5.44 m. Min. 0.23 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	1.00	0.60	4.60	36	69	65	50	14	5.95	3.55	2.80	2.50
2	1.00	0.70	4.75	33	60	54	53	13	5.80	3.55	3.85	2.35
3	0.90	0.90	4.60	32	50	69	44	12	5.65	4.15	6.10	2.05
4	0.90	1.15	4.00	29	59	79	40	12	5.35	5.05	5.50	2.05
5	0.90	1.45	3.70	60	76	93	39	12	5.35	5.50	4.30	1.90
6	1.00	1.60	3.40	57	136	84	40	11	5.20	4.60	4.15	1.60
7	1.15	1.75	3.40	76	119	78	37	11	5.05	4.15	3.85	1.45
8	1.15	2.35	5.20	67	76	110	35	11	5.05	4.00	3.55	1.45
9	1.00	2.20	5.50	57	60	154	33	11	5.05	3.85	3.25	1.30
10	0.90	2.20	5.50	65	55	152	30	11	4.90	3.70	3.25	1.15
11	0.80	3.70	10	83	50	200	29	10	4.75	3.40	3.10	1.00
12	0.70	2.80	8.00	88	51	201	32	10	4.75	3.25	2.80	0.90
13	0.60	2.35	8.40	36	45	167	32	9.75	4.75	3.10	2.65	0.80
14	0.50	2.20	7.20	32	36	121	28	9.25	4.00	3.10	2.50	0.80
15	0.50	2.50	6.25	36	32	98	27	8.80	4.45	3.10	2.35	0.80
16	0.40	3.10	5.80	31	29	88	26	8.40	4.30	3.10	2.35	0.90
17	0.40	3.70	5.20	27	28	84	28	8.00	4.30	3.10	3.10	1.15
18	0.30	3.55	6.10	28	31	80	25	7.80	4.30	3.25	3.10	1.00
19	0.30	3.10	17	23	39	88	23	7.40	4.15	3.40	2.95	1.00
20	0.70	3.40	18	21	86	82	22	7.20	4.15	3.25	2.80	0.90
21	0.70	3.55	16	19	75	132	20	7.00	4.00	3.10	2.65	1.00
22	0.70	3.25	16	18	59	117	19	6.85	4.00	3.10	2.50	1.00
23	0.80	3.40	13	46	63	133	18	6.55	4.00	2.95	2.35	0.90
24	0.80	3.70	15	102	82	110	17	6.55	3.85	2.80	2.50	0.80
25	0.70	3.55	21	82	79	76	16	6.40	3.85	2.65	2.50	0.80
26	0.70	3.40	15	99	69	64	19	6.25	4.00	2.50	2.95	0.80
27	0.70	3.40	13	108	58	58	18	6.25	3.85	2.20	2.80	0.80
28	0.60	4.30	17	78	51	56	17	6.40	3.85	2.20	2.65	0.80
29	0.50	5.20	27	72	55	62	16	6.40	3.70	2.20	–	0.80
30	0.30	5.65	52	68	47	51	15	6.10	3.55	2.20	–	0.90
31	–	4.75	–	68	76	–	14	–	3.55	2.35	–	0.90
Total	21.60	89.45	341.60	1,677	1,901	3,006	862	269.35	140.05	102.40	89.20	36.70
Mean	0.72	2.88	11.4	54.1	61.3	100	27.8	8.98	4.52	3.30	3.18	1.18
Max.	1.15	5.65	52	108	136	201	53	14	5.95	5.50	6.10	2.50
Min.	0.30	0.60	3.40	18	28	51	14	6.10	3.55	2.20	2.35	0.80
Runoff - mcm.	1.866	7.728	29.514	144.893	164.246	259.718	74.477	23.272	12.100	8.847	7.707	3.171

WATER YEAR 1976 : Max. 201 Min. 0.30 Mean 23.4 Annual Runoff 737.539 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sept. 12	1.00	5.78	218				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
KHLONG YAI RIVER 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 at: + 0.00 m. (A.D.)

Bench Mark: B.M.-H.S.

Location:
Elevation: + 4.715 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 to date.
Rated by Float: -
Rated by Current Meter: 1977 to date.

Stability of Channel Regimes: Fairly stable, no shifting adjustment for flow computation.

Overbank Flow Conditions: No overbank flow.

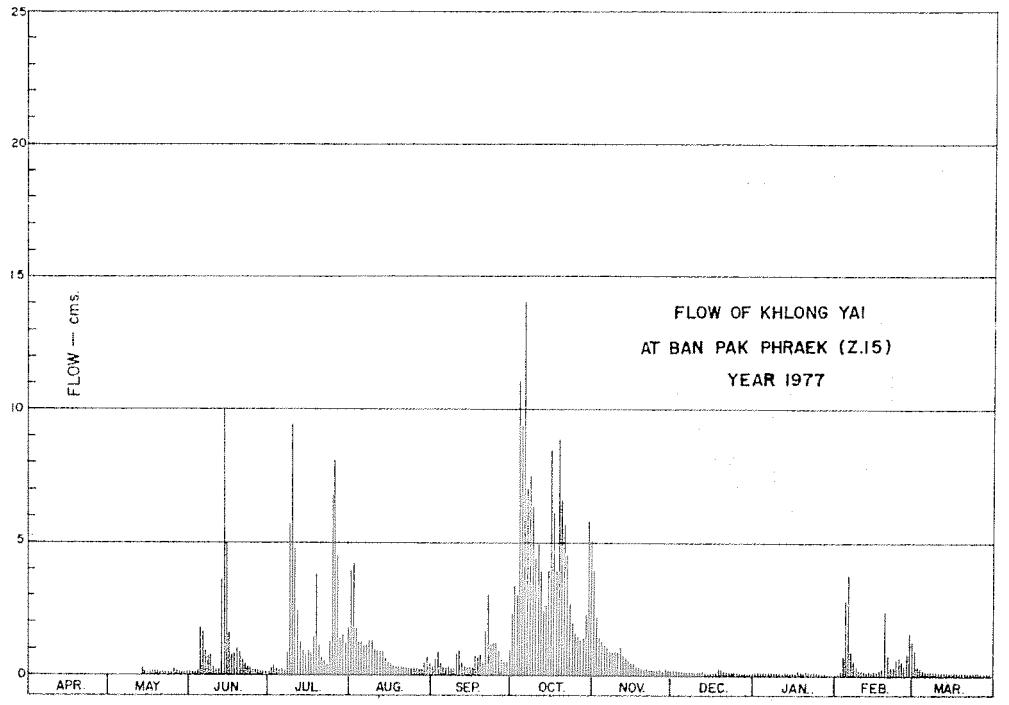
General Description: Records fair. Stage-discharge relation defined by 136 discharge measurements made in 1977.

Remarks: Stream gaging began on May 13, 1977.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1			0.62	0.89	2.25	1.01	2.07	1.72	0.84	0.63	0.57	1.10
2			.61	.91	1.75	.16	1.95	.50	.79	.67	.77	0.93
3			.72	.82	.35	.02	2.76	.37	.78	.66	1.14	.85
4			1.60	.77	.37	0.89	.71	.28	.75	.65	.95	.82
5			.88	.75	.29	.85	.84	.22	.76	.64	2.18	.78
6			1.19	0.74	1.28	0.90	2.58	1.17	0.75	0.63	1.22	0.76
7			.10	1.13	.38	.86	.57	.15	.73	.63	.01	.74
8			.08	2.29	.40	.85	.53	.15	.72	.62	0.92	.73
9			0.89	.71	.24	1.12	.29	.15	.71	.62	.85	.71
10			.83	.50	.15	.22	.37	.25	.72	.61	.81	.69
11			0.78	1.89	1.12	1.01	2.23	1.23	0.75	0.61	0.78	0.68
12			2.14	.35	.20	0.92	1.78	.15	.75	.60	.76	.66
13		0.86	.73	.24	.08	.88	.85	.09	.73	.60	.74	.65
14		.77	.38	.11	.01	.86	2.34	.05	.68	.59	.72	.65
15		.75	1.52	.20	0.96	.83	.67	.00	.67	.67	.70	.64
16		0.74	1.14	1.14	0.93	1.11	2.51	0.97	0.66	0.72	0.70	0.63
17		.70	.12	.43	.89	.07	.19	.94	.67	.80	.79	.63
18		.71	.26	2.17	.86	.12	.69	.92	.90	.72	.90	.61
19		.71	.15	1.40	.85	0.93	.56	.89	.82	.67	1.18	.62
20		.67	.03	.13	.86	1.19	.45	.88	.75	.64	.07	.63
21		0.70	0.95	1.02	0.86	1.98	2.44	0.87	0.72	0.69	0.86	0.62
22		.67	.90	0.97	.84	.32	1.95	.85	.69	.65	.90	.61
23		.72	.86	1.27	.85	.34	.66	.83	.68	.64	1.03	.60
24		.77	.82	2.56	.86	.33	.50	.82	.67	.63	.09	.59
25		.89	.80	.65	.84	.19	.42	.82	.67	.60	.04	.59
26		0.80	0.77	2.38	0.83	1.05	1.38	0.80	0.67	0.59	0.89	0.59
27		.70	.76	1.87	.82	0.98	.41	.79	.66	.59	1.20	.59
28		.70	.76	.48	.97	.98	.74	.84	.65	.58	.51	.58
29		.69	.75	.30	1.10	1.04	2.48	.81	.64	.57	-	.58
30		.66	.74	.51	0.96	.50	.42	.84	.64	.57	-	.58
31		.64	-	2.18	.90	-	.22	-	.64	.57	-	.57
Mean			1.13	1.51	1.10	1.08	2.21	1.04	0.72	0.63	1.01	0.68
Max.			2.73	2.71	2.25	1.98	2.84	1.72	0.90	0.80	2.18	1.10
Min.			0.61	0.74	0.82	0.83	1.38	0.79	0.64	0.57	0.57	0.57

WATER YEAR 1977 : Max. 2.84 m. Min. m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1			0.11	0.29	4.17	0.52	3.33	2.16	0.24	0.11	0.07	0.70
2			0.10	0.32	2.25	0.82	2.87	1.55	0.19	0.13	0.18	0.36
3			0.16	0.22	1.20	0.54	11	1.24	0.19	0.13	0.78	0.25
4			1.80	0.18	1.24	0.29	9.33	1.06	0.17	0.12	2.88	0.22
5			2.64	0.17	1.08	0.25	14	0.94	0.18	0.12	3.81	0.19
6			0.88	0.17	1.06	0.30	6.90	0.84	0.17	0.11	0.94	0.18
7			0.70	0.76	1.26	0.26	6.77	0.80	0.16	0.11	0.52	0.17
8			0.66	4.39	1.30	0.25	6.27	0.80	0.16	0.11	0.34	0.16
9			0.29	9.33	0.99	0.74	4.39	0.80	0.15	0.11	0.25	0.15
10			0.23	5.90	0.80	0.94	4.90	1.00	0.16	0.10	0.21	0.14
11			0.19	2.67	0.74	0.52	4.06	0.96	0.17	0.10	0.19	0.14
12			3.65	1.20	0.90	0.34	2.34	0.80	0.17	0.10	0.18	0.13
13		0.26	9.99	0.90	0.66	0.28	2.55	0.68	0.16	0.10	0.17	0.12
14		0.18	4.97	0.72	0.52	0.26	4.71	0.60	0.14	0.09	0.16	0.12
15		0.17	1.60	0.90	0.42	0.23	8.44	0.50	0.13	0.13	0.15	0.12
16		0.17	0.78	0.78	0.36	0.72	6.02	0.44	0.13	0.16	0.15	0.11
17		0.15	0.74	1.37	0.29	0.64	3.85	0.38	0.13	0.20	0.19	0.11
18		0.15	1.02	3.76	0.26	0.74	8.81	0.34	0.30	0.16	0.30	0.10
19		0.15	0.80	1.30	0.25	0.56	6.65	0.29	0.22	0.18	2.40	0.11
20		0.13	0.56	0.76	0.26	0.88	5.50	0.28	0.17	0.17	0.64	0.11
21		0.15	0.40	0.54	0.26	2.98	5.42	0.27	0.16	0.14	0.26	0.11
22		0.13	0.30	0.44	0.24	1.14	2.87	0.25	0.14	0.12	0.30	0.10
23		0.16	0.26	1.04	0.25	1.18	1.98	0.23	0.14	0.12	0.56	0.10
24		0.18	0.22	6.65	0.26	1.16	1.55	0.22	0.13	0.11	0.68	0.09
25		0.29	0.20	8.07	0.24	0.88	1.35	0.22	0.13	0.10	0.58	0.09
26		0.20	0.18	4.97	0.23	0.60	1.26	0.20	0.13	0.09	0.29	0.09
27		0.15	0.18	1.26	0.22	0.46	1.32	0.19	0.13	0.09	0.90	0.09
28		0.15	0.18	1.50	0.44	0.46	2.22	0.24	0.12	0.08	1.58	0.08
29		0.14	0.17	1.10	0.70	0.58	5.74	0.21	0.12	0.07	–	0.08
30		0.13	0.17	1.57	0.42	1.55	5.26	0.24	0.12	0.07	–	0.08
31		0.12	–	3.81	0.30	–	4.01	–	0.12	0.07	–	0.07
Total		3.16	34.11	67.04	23.56	20.87	155.67	18.73	4.93	3.60	19.66	4.67
Mean			1.14	2.16	0.76	0.69	5.02	0.62	0.16	0.12	0.70	0.15
Max.			9.99	9.33	4.17	2.98	14	2.16	0.30	0.20	3.81	0.70
Min.			0.10	0.17	0.22	0.23	26	0.19	0.12	0.07	0.07	0.07
Runoff – MCM.		0.273	2.947	5.792	2.035	1.803	13.450	1.618	0.426	0.311	1.699	0.403

WATER YEAR 1977 : Max. 14 Min. Mean Annual Runoff mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Oct. 4	18.00	3.07	35				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
MAE KLONG RIVER BASIN

Khwae Noi 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 at: + 30.40 m. (M.S.L.)

Bench Mark: B.M. - H.S.

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: Fairly stable, no shifting adjustment for flow computation.

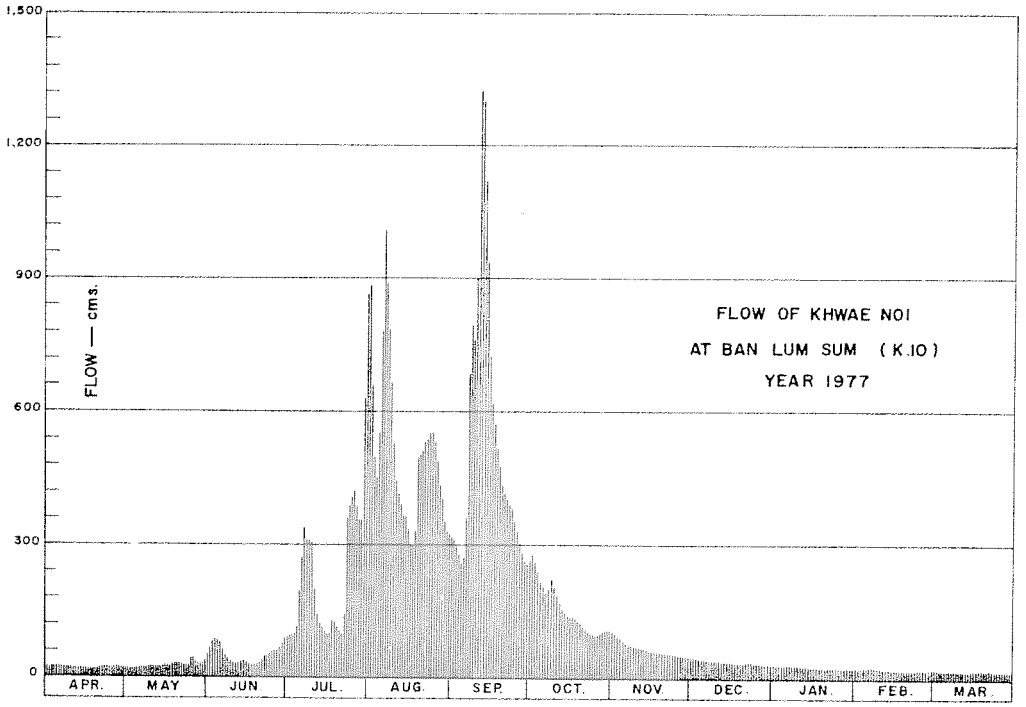
Overbank Flow Conditions: No overbank flow.

General Description: Records fair. Stage-discharge relation defined by 132 discharge measurements made in 1977.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	31.27	31.23	31.71	32.41	40.08	35.27	34.67	32.64	31.73	31.44	31.24	31.26
2	.25	.21	32.03	.55	38.52	.22	.85	.62	.71	.43	.24	.21
3	.24	.17	.29	.54	37.20	.06	.55	.53	.69	.42	.23	.18
4	.27	.17	.38	.58	36.72	34.83	.37	.40	.67	.43	.24	.15
5	.33	.19	.36	.94	37.57	.58	.09	.31	.65	.46	.27	.14
6	31.27	31.29	32.22	34.00	39.58	34.70	33.98	32.25	31.64	31.47	31.32	31.12
7	.26	.28	31.96	35.46	40.84	35.72	.85	.21	.63	.45	.40	.11
8	.25	.30	.73	.24	.22	38.65	.98	.18	.62	.43	.35	.10
9	.23	.31	.59	.16	38.79	39.56	34.20	.18	.61	.41	.28	.09
10	.21	.34	.50	.17	37.56	.30	33.96	.15	.60	.39	.25	.08
11	31.20	31.32	31.45	34.38	36.72	40.94	33.85	32.10	31.59	31.38	31.23	31.07
12	.19	.29	.47	33.60	.34	42.53	.60	.06	.58	.37	.21	.07
13	.18	.28	.51	.08	.01	.41	.42	.03	.57	.35	.20	.06
14	.17	.28	.56	32.86	35.80	41.36	.29	.00	.57	.35	.20	.05
15	.16	.38	.53	.71	.78	40.06	.20	31.97	.56	.34	.19	.05
16	31.15	31.41	31.48	32.59	35.39	39.04	33.17	31.95	31.55	31.33	31.19	31.05
17	.15	.34	.44	.61	.04	38.20	.20	.93	.54	.32	.17	.04
18	.15	.31	.41	33.06	.06	37.59	.15	.90	.53	.32	.18	.04
19	.15	.46	.41	.05	.67	.10	.07	.88	.52	.31	.17	.03
20	.16	.47	.49	32.76	37.16	36.65	32.90	.86	.52	.30	.16	.04
21	31.20	31.47	31.55	32.64	37.26	36.42	32.80	31.84	31.55	31.29	31.15	31.04
22	.24	.45	.71	.56	.43	.25	.72	.83	.59	.29	.18	.03
23	.29	.39	.75	33.68	.48	.13	.65	.82	.53	.28	.19	.02
24	.25	.37	.77	35.75	.59	.02	.59	.80	.51	.27	.20	.01
25	.25	.37	.89	36.14	.62	35.70	.54	.79	.49	.27	.20	.01
26	31.32	31.65	31.93	36.36	37.41	35.38	32.50	31.78	31.48	31.27	31.20	31.01
27	.27	.61	.91	.16	.08	.09	.59	.77	.47	.26	.21	.03
28	.31	.49	32.07	36.69	36.54	34.84	.62	.76	.48	.26	.22	.03
29	.28	.42	.26	.67	.00	.67	.65	.77	.48	.26		.02
30	.23	.41	.41	37.01	35.66	.58	.73	.75	.46	.26		.03
31		.52		39.95	.39		.69		.45	.25		.01
Mean	31.23	31.36	31.79	34.20	37.14	37.13	33.37	32.03	31.57	31.34	31.22	31.07
Max.	31.33	31.65	32.41	39.95	40.84	42.53	34.85	32.64	31.73	31.47	31.40	31.26
Min.	31.15	31.17	31.41	32.41	35.04	34.58	32.50	31.75	31.45	31.25	31.15	31.01

WATER YEAR 1977 : Max. 42.53 m. Min. 31.01 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	23	21	47	89	884	319	265	102	48	30	22	22
2	22	20	66	97	662	315	281	101	47	30	22	20
3	22	19	81	96	504	300	254	96	45	29	21	19
4	23	19	87	99	452	280	238	88	44	30	22	18
5	25	20	86	120	548	257	213	83	43	32	23	18
6	23	24	77	205	801	268	203	79	42	32	25	18
7	22	23	62	336	1,013	360	191	77	42	31	28	17
8	22	24	48	317	909	678	203	75	41	30	26	17
9	21	24	39	309	695	798	223	75	41	29	23	17
10	20	26	34	310	547	760	201	73	40	28	22	16
11	20	25	31	239	452	1,030	191	70	39	27	21	16
12	20	24	32	171	416	1,322	171	68	39	27	20	16
13	19	23	35	130	386	1,298	157	66	38	26	20	16
14	19	23	38	116	367	1,105	146	64	38	26	20	15
15	19	27	36	107	365	880	139	62	38	26	20	15
16	18	29	33	99	330	725	137	61	37	25	20	15
17	18	26	30	101	299	624	139	60	36	25	19	15
18	18	24	29	128	300	551	135	58	36	25	19	15
19	18	32	29	127	355	492	129	57	35	24	19	15
20	19	32	33	110	499	445	118	56	35	24	19	15
21	20	32	37	102	511	423	112	54	37	24	18	15
22	22	31	47	98	532	407	107	54	39	24	19	15
23	24	28	49	177	538	397	103	53	36	23	20	15
24	22	27	50	362	551	387	99	52	35	23	20	14
25	22	27	57	398	554	358	96	51	33	23	20	14
26	25	43	60	417	529	329	94	51	33	23	20	14
27	23	41	59	399	490	303	99	50	32	22	20	15
28	24	33	68	357	434	281	101	50	33	22	21	15
29	23	29	80	355	385	265	103	50	33	22		15
30	21	29	89	481	354	257	108	49	32	22		15
31		35		861	330		105		31	22		14
Total	637	840	1,549	7,313	15,992	16,214	4,861	1,985	1,178	806	589	496
Mean	21.2	27.1	51.6	236	516	540	157	66.2	38.0	26.0	21.0	16.0
Max.	25	43	89	861	1,013	1,322	281	102	48	32	28	22
Min.	18	19	29	89	299	257	94	49	31	22	18	14
Runoff - mcm.	55.037	72.576	133.834	631.843	1,381.709	1,400.890	419.990	171.504	101.779	69.638	50.890	42.854

WATER YEAR 1977 : Max. 1,322 Min. 14 Mean 144 Annual Runoff 4,532.544 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sept. 12	21.00	42.70	1,360				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
MAE KLONG RIVER BASIN

Mae Klong River at Ban Wang Khanai, Kanchanaburi (K. 11)

Location: Lat. 13°-56'-55" N., Long. 99°-38'-42" E., on left bank about 3 kilometers downstream from district office of Amphoe Tha Muang, Kanchanaburi.

Drainage Area: 26,449 Sq.km.

Type of Gage: Water-stage recorder.

Zero Gage at Bottom at: + 11.93 m. (M.S.L.)

Bench Mark: B.M. - R.S.

Location: Along the gage site.
Elevation: BM1 = + 22.097 m. (M.S.L.), BM2 = + 22.224 m. (M.S.L.)

Gage Reading Frequency: Recording

Basis of Mean Daily Gage Height: Arithmetic mean of 24 hourly readings.

Period of Available Gage Records: 1965 to date.

Rating Operation:

Period of Rating: 1965-1969, 1972 to date.
Rated by Float: -
Rated by Current Meter: 1965-1969, 1972 to date.

Stability of Channel Regimes: Stable, no shifting adjustment for flow computation.

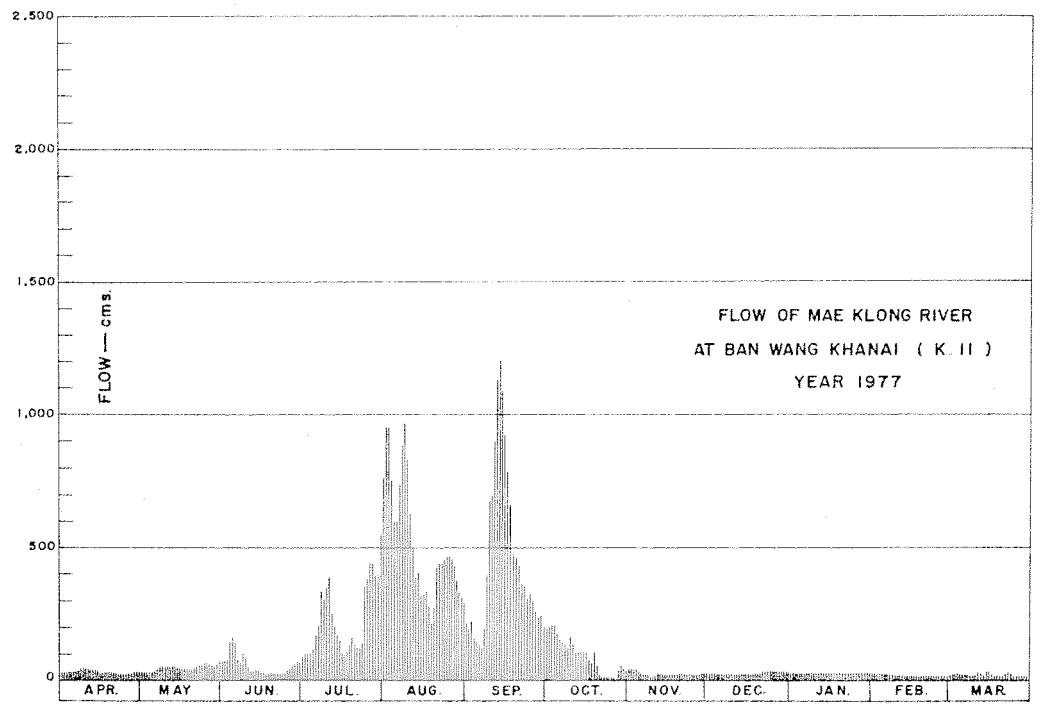
Overbank Flow Conditions: No overbank flow.

General Description: Records good. Stage-discharge relation defined by 54 discharge measurements made in 1977.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	12.04	12.08	12.42	12.51	15.83	13.24	13.08	12.20	11.96	12.04	12.01	11.99
2	.05	.09	.40	.61	.83	.13	.15	.20	.96	.04	.00	12.04
3	.04	.05	.48	.63	.45	.29	.15	.20	.97	.04	.00	.02
4	.04	.05	.88	.61	.02	12.94	.18	.17	.97	.04	11.99	.03
5	.06	.05	.95	.69	14.77	.89	12.97	.07	.97	.05	.97	.01
6	12.07	12.05	12.81	13.04	14.76	12.81	12.89	12.00	11.97	12.04	11.94	11.93
7	.07	.15	.43	.16	15.36	.72	.86	11.99	12.00	.06	.95	.91
8	.13	.24	.38	.75	.86	13.38	.78	.96	11.99	.06	.91	.90
9	.20	.24	.62	.65	.70	14.59	.73	.83	.98	.07	.93	.88
10	.21	.24	.49	.80	.09	15.00	.95	.94	.98	.07	.93	.96
11	12.19	12.25	12.22	13.99	14.54	15.09	12.80	11.98	11.98	12.06	11.92	12.06
12	.15	.25	.09	.50	.24	.80	.62	12.02	.98	.06	.91	.05
13	.16	.26	.08	.29	.00	16.31	.63	.00	.98	.06	.88	11.94
14	.16	.25	.15	.02	.05	.50	.62	.01	.97	.06	.88	.92
15	.06	.22	.08	12.89	13.67	.08	.65	.00	.97	.05	.87	12.13
16	12.03	12.19	12.01	12.62	13.72	15.49	12.64	11.99	11.96	12.04	11.88	11.99
17	.09	.17	.02	.57	.76	.00	.42	.97	.98	.04	.88	.90
18	.08	.16	.02	.77	.42	14.83	.36	.98	.96	.03	.88	.90
19	.07	.17	.01	.85	.24	.30	.62	.98	.97	.02	.89	.90
20	.02	.16	.02	.97	.66	.27	.19	.96	12.02	.02	.89	.90
21	12.01	12.17	12.03	12.75	14.14	14.02	12.00	11.96	12.07	12.02	11.89	11.97
22	.00	.25	.02	.74	.20	13.86	11.91	.96	.12	.02	.89	12.05
23	.00	.31	.02	.72	.22	.84	.86	12.01	.11	.02	.89	.04
24	.01	.34	.02	13.02	.27	.64	.86	.03	.09	.02	.90	11.96
25	.02	.36	.09	.86	.30	.74	.85	.02	.09	.02	.90	.89
26	12.02	12.36	12.12	13.99	14.30	13.62	11.85	11.99	12.08	12.02	11.90	11.88
27	.05	.30	.22	14.20	.21	.39	.82	.95	.09	.02	.90	.88
28	.07	.28	.33	.18	.04	.31	.81	.95	.10	.02	.91	.88
29	.07	.28	.36	13.99	13.76	.35	12.28	.95	.07	.02		.88
30	.07	.32	.38	.98	.67	.20	.21	.98	.04	.02		.89
31		.43		14.66	.55		.12		.04	.02		.89
Mean	12.07	12.22	12.27	13.26	14.41	14.12	12.48	12.01	12.01	12.04	11.90	11.95
Max.	12.21	12.43	12.95	14.66	15.86	16.50	13.18	12.20	12.12	12.07	12.01	12.13
Min.	12.00	12.05	12.01	12.51	13.24	12.72	11.81	11.83	11.96	12.02	11.87	11.88

WATER YEAR 1977 : Max. 16.50 m. Min. 11.81 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	29	33	74	86	951	218	186	46	22	29	26	24
2	30	34	71	102	951	196	200	46	22	29	25	29
3	29	30	82	105	817	229	200	46	23	29	25	27
4	29	30	149	102	677	160	206	43	23	29	24	28
5	31	30	162	115	601	151	166	32	23	30	23	26
6	32	30	137	179	598	137	151	25	23	29	20	19
7	32	40	75	202	787	121	146	24	25	31	21	18
8	38	51	68	332	962	248	131	22	24	31	18	17
9	46	51	103	308	904	548	122	13	23	32	19	16
10	47	51	84	344	700	671	162	20	23	32	19	22
11	45	52	48	390	534	700	135	23	23	31	19	31
12	40	52	34	274	453	940	103	27	23	31	18	30
13	42	53	33	229	393	1,130	105	25	23	31	16	20
14	42	52	40	175	405	1,202	103	26	23	31	16	19
15	31	48	33	151	313	1,043	108	25	23	30	15	38
16	28	45	26	103	325	831	107	24	22	29	16	24
17	34	43	27	95	334	671	74	23	23	29	16	17
18	33	42	27	130	256	619	66	23	22	28	16	17
19	32	43	26	144	218	469	103	23	23	27	16	17
20	27	42	27	166	310	461	45	22	27	27	16	17
21	26	43	28	126	428	398	25	22	32	27	16	23
22	25	52	27	124	443	358	18	22	37	27	16	30
23	25	59	27	121	448	364	15	26	36	27	16	29
24	26	63	27	175	461	306	15	28	34	27	17	22
25	27	66	34	358	469	330	14	27	34	27	17	16
26	27	66	38	390	469	301	14	24	35	27	17	16
27	30	58	48	443	446	250	12	21	34	27	17	16
28	32	56	62	438	403	233	12	21	35	27	18	16
29	32	56	66	390	334	241	56	21	32	27		16
30	32	61	68	388	313	210	47	23	29	27		16
31		75		568	285		37		29	27		16
Total	979	1,507	1,751	7,253	15,988	13,726	2,884	793	828	892	518	672
Mean	32.6	48.6	58.4	234	516	457	93.0	26.4	26.7	28.8	18.5	21.7
Max.	47	75	162	568	962	1,202	206	46	37	32	26	38
Min.	25	30	26	86	218	121	12	13	22	27	15	16
Runoff - mcm.	84.586	130.205	151.286	626.659	1,381.363	1,185.926	249.178	168.515	171.539	77.069	44.755	58.061

WATER YEAR 1977 : Max. 1,202 Min. 12 Mean 131 Annual Runoff 4,129.142 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sept. 14	14.00	16.79	1,316				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
KHWAE YAI RIVER BASIN

Lam Taphoen at Ban Thung Na Nang Rok, Kanchanaburi (K. 12)

Location: Lat. 14°-09'-15" N., Long. 99°-25'-06" E., on left bank about 50 meters downstream from Wat Thung Na Nang Rok, Tambon Lat Ya, Amphoe Muang, Kanchanaburi.

Drainage Area: 2,340 Sq.km.

Type of Gage: Water-stage recorder.

Zero Gage at Bottom at: + 0.00 m. (A.D.)

Bench Mark: B.M. – H.S.

Location: At the corner of Sala Wat Thung Na Nang Rok.
Elevation: + 9.260 m. (A.D.)

Gage Reading Frequency: Recording

Basis of Mean Daily Gage Height: Arithmetic mean of 24 hourly readings.

Period of Available Gage Records: 1965 to date.

Rating Operation:

Period of Rating: 1965-1968.
Rated by Float: –
Rated by Current Meter: 1965-1968.

Stability of Channel Regimes: Stable, shifting adjustment is included for flow computation.

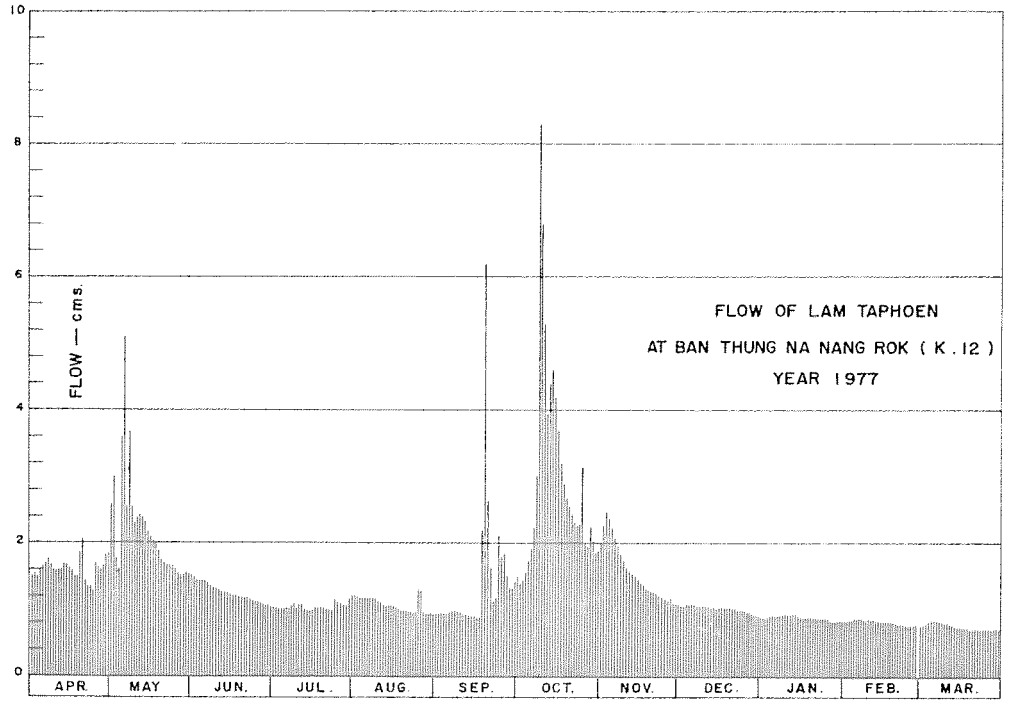
Overbank Flow Conditions: No overbank flow.

General Description: Records fair. Stage-discharge relation defined by 168 discharge measurements made in 1967.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.87	1.06	0.87	0.72	0.77	0.68	0.88	0.98	0.73	0.66	0.65	0.63
2	.88	.25	.86	.72	.77	.68	.86	1.03	.72	.66	.65	.63
3	.87	0.94	.85	.71	.76	.68	.81	.09	.72	.66	.65	.64
4	.88	.90	.85	.71	.76	.68	.87	.12	.73	.67	.65	.64
5	.91	1.25	.84	.71	.76	.68	.93	.08	.73	.68	.66	.65
6	0.92	1.76	0.84	0.71	0.76	0.69	0.96	1.05	0.73	0.67	0.66	0.65
7	.94	.14	.83	.71	.76	.69	1.02	.01	.73	.67	.66	.65
8	.92	.39	.82	.71	.76	.69	.22	0.99	.72	.67	.66	.64
9	.90	.14	.81	.73	.76	.69	.36	.97	.72	.68	.65	.64
10	.90	.08	.80	.71	.75	.68	2.18	.94	.72	.68	.65	.63
11	0.90	1.10	0.79	0.73	0.74	0.68	1.72	0.91	0.72	0.68	0.65	0.63
12	.90	.11	.79	.73	.73	.67	.45	.90	.71	.68	.65	.63
13	.92	.10	.79	.71	.72	.67	.52	.88	.71	.68	.65	.62
14	.92	.08	.79	.70	.72	.67	.58	.87	.71	.68	.64	.62
15	.91	.04	.78	.70	.72	.67	.56	.86	.71	.67	.64	.61
16	0.90	1.03	0.77	0.70	0.72	0.66	1.44	0.84	0.71	0.66	0.64	0.61
17	.88	.01	.77	.71	.71	.66	.36	.83	.71	.66	.64	.61
18	.87	.00	.76	.71	.70	1.06	.27	.81	.71	.66	.64	.61
19	.94	0.97	.76	.71	.70	.87	.21	.80	.71	.66	.64	.60
20	1.01	.95	.76	.71	.69	.28	.16	.79	.71	.66	.63	.60
21	0.86	0.93	0.76	0.71	0.69	0.95	1.13	0.79	0.71	0.66	0.63	0.60
22	.82	.92	.75	.70	.69	.81	.10	.79	.71	.66	.63	.60
23	.82	.92	.75	.70	.69	.82	.07	.77	.70	.66	.63	.60
24	.87	.92	.74	.71	.69	1.03	.07	.77	.70	.66	.62	.60
25	.92	.91	.74	.75	.80	0.94	.15	.76	.70	.66	.62	.60
26	0.91	0.90	0.74	0.74	0.80	0.96	1.29	0.76	0.69	0.66	0.62	0.60
27	.90	.88	.73	.73	.69	.87	.00	.74	.69	.65	.62	.60
28	.92	.87	.73	.73	.68	.81	0.98	.76	.68	.65	.63	.60
29	.96	.89	.73	.72	.68	.81	1.06	.73	.67	.65		.60
30	.96	.89	.72	.75	.68	.82	0.99	.73	.67	.65		.60
31		.88		.77	.68		.96		.67	.65		.60
Mean	0.90	1.04	0.78	0.72	0.73	0.82	1.20	0.88	0.71	0.66	0.64	0.62
Max.	1.01	1.76	0.87	0.77	0.80	1.87	2.18	1.12	0.73	0.68	0.66	0.65
Min.	0.82	0.87	0.72	0.70	0.68	0.66	0.81	0.73	0.67	0.65	0.62	0.60

WATER YEAR 1977 : Max. 2.18 m. Min. 0.60 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	1.51	2.24	1.51	1.06	1.21	0.94	1.54	1.92	1.09	0.88	0.85	0.79
2	1.54	3.00	1.48	1.06	1.21	0.94	1.48	2.12	1.06	0.88	0.85	0.79
3	1.51	1.76	1.45	1.03	1.18	0.94	1.33	2.36	1.06	0.88	0.85	0.82
4	1.54	1.60	1.45	1.03	1.18	0.94	1.51	2.48	1.09	0.91	0.85	0.82
5	1.64	3.00	1.42	1.03	1.18	0.94	1.72	2.32	1.09	0.94	0.88	0.85
6	1.68	5.58	1.42	1.03	1.18	0.97	1.84	2.20	1.09	0.91	0.88	0.85
7	1.76	2.56	1.39	1.03	1.18	0.97	2.08	2.04	1.09	0.91	0.88	0.85
8	1.68	3.65	1.36	1.03	1.18	0.97	2.88	1.96	1.06	0.91	0.88	0.82
9	1.60	2.56	1.33	1.09	1.18	0.97	3.50	1.88	1.06	0.94	0.85	0.82
10	1.60	2.32	1.30	1.03	1.15	0.94	8.26	1.76	1.06	0.94	0.85	0.79
11	1.60	2.40	1.27	1.09	1.12	0.94	5.36	1.64	1.06	0.94	0.85	0.79
12	1.60	2.44	1.27	1.09	1.09	0.91	3.95	1.60	1.03	0.94	0.85	0.79
13	1.68	2.40	1.27	1.03	1.06	0.91	4.30	1.54	1.03	0.94	0.85	0.76
14	1.68	2.32	1.27	1.00	1.06	0.91	4.60	1.51	1.03	0.94	0.82	0.76
15	1.64	2.16	1.24	1.00	1.06	0.91	4.50	1.48	1.03	0.91	0.82	0.73
16	1.60	2.12	1.21	1.00	1.06	0.88	3.90	1.42	1.03	0.88	0.82	0.73
17	1.54	2.04	1.21	1.03	1.03	0.88	3.50	1.39	1.03	0.88	0.82	0.73
18	1.51	2.00	1.18	1.03	1.00	2.24	3.08	1.33	1.03	0.88	0.82	0.73
19	1.76	1.88	1.18	1.03	1.00	6.22	2.84	1.30	1.03	0.88	0.82	0.70
20	2.64	1.80	1.18	1.03	0.97	3.12	2.64	1.27	1.03	0.88	0.79	0.70
21	1.48	1.72	1.18	1.03	0.97	1.80	2.52	1.27	1.03	0.88	0.79	0.70
22	1.36	1.68	1.15	1.00	0.97	1.33	2.40	1.27	1.03	0.88	0.79	0.70
23	1.36	1.68	1.15	1.00	0.97	1.36	2.28	1.21	1.00	0.88	0.79	0.70
24	1.51	1.68	1.12	1.03	0.97	2.12	2.28	1.21	1.00	0.88	0.76	0.70
25	1.68	1.64	1.12	1.15	1.30	1.76	2.60	1.18	1.00	0.88	0.76	0.70
26	1.64	1.60	1.12	1.12	1.30	1.84	3.16	1.18	0.97	0.88	0.76	0.70
27	1.60	1.54	1.09	1.09	0.97	1.51	2.00	1.12	0.97	0.85	0.76	0.70
28	1.68	1.51	1.09	1.09	0.94	1.33	1.92	1.18	0.94	0.85	0.79	0.70
29	1.84	1.57	1.09	1.06	0.94	1.33	2.24	1.09	0.91	0.85		0.70
30	1.84	1.57	1.06	1.15	0.94	1.36	1.96	1.09	0.91	0.85		0.70
31		1.54		1.21	0.94		1.84		0.91	0.85		0.70
Total	48.70	67.56	37.96	32.68	33.49	43.18	90.01	47.32	31.75	27.70	23.08	23.32
Mean	1.62	2.18	1.25	1.05	1.08	1.44	2.90	1.58	1.02	0.89	0.82	0.75
Max.	2.04	5.58	1.51	1.21	1.30	6.22	8.26	2.48	1.09	0.94	0.88	0.85
Min.	1.36	1.51	1.06	1.00	0.94	0.88	1.33	1.09	0.91	0.85	0.76	0.70
Runoff - MCM.	4.208	5.837	3.245	2.823	2.893	3.731	7.777	4.088	2.743	2.392	1.994	2.015

WATER YEAR 1977 : Max. 8.26 Min. 0.70 Mean 1.39 Annual Runoff 43.749 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Oct. 10	10.00	2.59	11				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
MAE KLONG RIVER BASIN

Khwae Noi at Ban Tha Khanun, Kanchanaburi (K. 13)

Location: Lat. 14°-43'-50" N., Long. 98°-38'-32" E., on right bank at Pompe Village, 200 meters downstream from Wat Tha Khanun, Amphoe Thong Pha Phum, Kanchanaburi.

Drainage Area: 4,047 Sq.km.

Type of Gage: Staff gage.

Zero Gage at Bottom at: + 73.70 m. (M.S.L.)

Bench Mark: B.M. - H.S.

Location: On right bank near the K13 station office.
Elevation: + 97.200 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: 1965-1971.
Rated by Float: -
Rated by Current Meter: 1965-1971.

Stability of Channel Regimes: Stable, no shifting adjustment for flow computation.

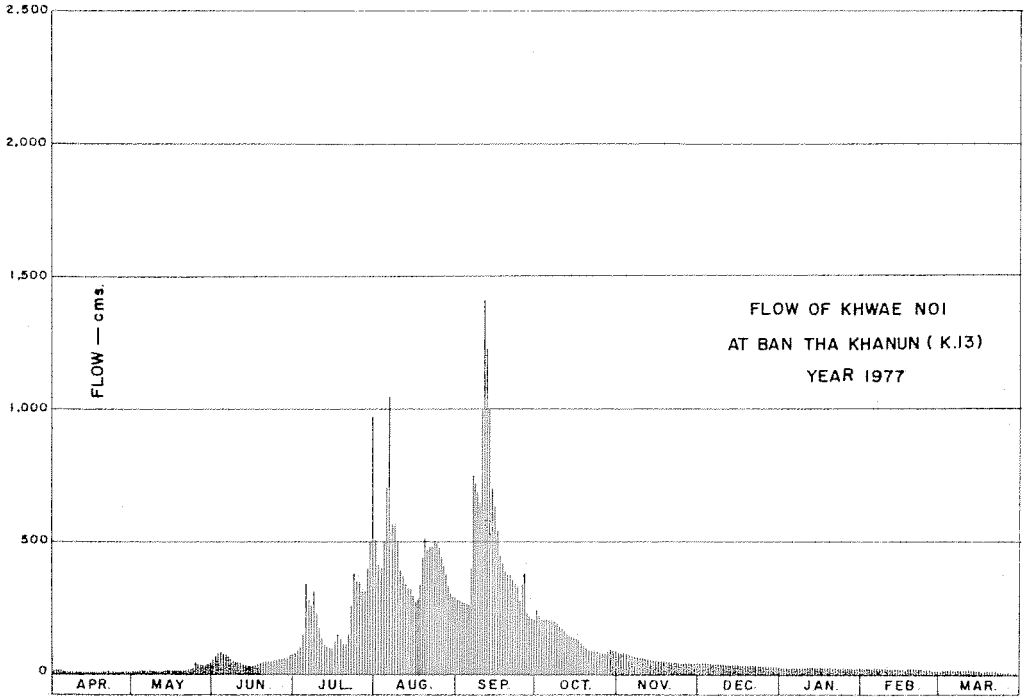
Overbank Flow Conditions: No overbank flow.

General Description: Records good. Stage-discharge relation defined by 789 discharge measurements made during 1966-1970.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	75.80	75.64	76.59	76.70	80.39	78.77	78.38	76.80	76.20	76.01	75.80	75.74
2	.77	.64	.73	.83	79.70	.64	.18	.81	.19	75.99	.80	.73
3	.75	.66	.71	77.03	.58	.52	.11	.79	.19	.98	.80	.72
4	.72	.67	.69	.24	80.52	.50	.08	.73	.18	.97	.80	.71
5	.69	.68	.68	.94	82.41	.47	.06	.67	.18	.96	.80	.70
6	75.67	75.69	76.53	79.21	83.55	79.35	78.04	76.63	76.17	75.95	75.80	75.69
7	.65	.70	.33	78.56	81.84	81.94	.01	.60	.17	.94	.83	.68
8	.64	.70	.30	79.03	80.75	.60	77.92	.54	.16	.93	.87	.67
9	.64	.71	.26	78.61	79.99	.26	.89	.55	.16	.92	.87	.66
10	.63	.71	.23	77.84	.55	83.59	.81	.52	.16	.91	.85	.65
11	75.63	75.73	76.19	77.38	79.42	85.36	77.65	76.47	76.15	75.90	75.81	75.64
12	.62	.74	.12	.13	.13	83.85	.53	.46	.15	.89	.75	.64
13	.62	.75	.06	.09	.11	82.75	.48	.42	.14	.88	.73	.64
14	.61	.78	75.98	76.96	.08	81.73	.45	.37	.14	.87	.71	.64
15	.61	.81	.99	.94	78.73	.01	.41	.34	.14	.87	.71	.63
16	75.61	75.83	76.02	77.21	78.57	80.60	77.38	76.33	76.13	75.86	75.70	75.63
17	.61	.84	.06	.52	.70	.16	.28	.32	.13	.86	.70	.62
18	.61	.85	.08	.33	79.45	79.71	.10	.30	.12	.85	.70	.62
19	.62	.87	.16	.10	80.44	.55	.09	.28	.11	.85	.70	.61
20	.64	.88	.19	.10	.15	.49	76.95	.27	.11	.85	.70	.60
21	75.64	75.89	76.23	77.21	80.27	79.39	76.94	76.26	76.10	75.84	75.70	75.59
22	.64	.92	.26	78.50	.27	.28	.91	.25	.09	.84	.70	.58
23	.64	76.01	.29	79.47	.41	.17	.84	.25	.08	.84	.71	.57
24	.64	.23	.33	.24	.34	78.72	.82	.24	.07	.83	.71	.56
25	.64	.14	.37	.25	.15	.68	.79	.23	.06	.83	.72	.55
26	75.64	76.14	76.42	79.19	79.91	79.54	76.83	76.23	76.05	75.83	75.73	75.54
27	.64	.16	.44	78.86	.51	78.34	.84	.22	.04	.82	.73	.54
28	.64	.18	.54	79.04	.17	.22	.90	.22	.03	.81	.74	.53
29	.64	.20	.64	80.33	78.97	.07	.92	.21	.02	.81		.53
30	.64	.22	.64	83.12	.79	.02	.88	.21	.01	.80		.52
31		.22		81.87	.78		.84		.01	.80		.52
Mean	75.65	75.87	76.33	78.28	79.92	80.07	77.39	76.55	76.11	75.88	75.75	75.62
Max.	75.80	76.23	76.73	83.12	83.55	85.36	78.38	76.83	76.20	76.01	75.87	75.74
Min.	75.61	75.64	75.98	76.70	78.57	78.02	76.79	76.21	76.01	75.80	75.70	75.52

WATER YEAR 1977 : Max. 85.36 m. Min. 75.52 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	16	9.60	69	77	505	288	242	86	42	29	16	14
2	15	9.60	79	86	408	273	220	85	41	27	16	13
3	14	10	78	103	391	258	212	83	41	27	16	13
4	13	11	76	124	525	256	209	79	41	26	16	12
5	12	11	76	194	840	252	207	75	41	26	16	12
6	11	12	65	341	1,045	359	204	72	40	25	16	12
7	10	12	51	263	737	755	201	70	40	24	18	11
8	9.60	12	49	320	562	698	192	66	39	24	20	11
9	9.60	12	46	269	449	644	189	66	39	23	20	10
10	9.20	12	44	184	387	1,053	181	64	39	23	19	10
11	9.20	13	41	138	369	1,404	165	61	38	22	17	9.60
12	8.80	14	36	113	332	1,102	153	60	38	21	14	9.60
13	8.80	14	32	109	329	901	148	57	38	21	13	9.60
14	8.40	15	27	97	326	719	145	54	38	20	12	9.60
15	8.40	17	27	95	284	604	141	52	38	20	12	9.20
16	8.40	18	29	121	264	538	138	51	37	20	12	9.20
17	8.40	18	32	152	280	472	128	50	37	20	12	8.80
18	8.40	19	34	133	373	409	110	49	36	19	12	8.80
19	8.80	20	39	110	512	387	109	48	36	19	12	8.40
20	8.60	21	41	110	471	379	96	47	36	19	12	8.00
21	9.60	21	44	121	488	365	95	46	35	18	12	7.60
22	9.60	23	46	256	488	350	93	45	34	18	12	7.20
23	9.60	29	48	376	508	336	87	45	34	18	12	6.80
24	9.60	44	51	345	498	282	86	45	33	18	12	6.40
25	9.60	38	54	346	471	278	83	44	32	18	13	6.00
26	9.60	38	57	339	437	386	86	44	31	18	13	5.60
27	9.60	39	59	299	381	337	87	43	31	17	13	5.60
28	9.60	41	66	321	336	224	92	43	30	17	14	5.20
29	9.60	42	73	496	312	208	94	43	29	17		5.20
30	9.60	43	73	968	291	202	90	43	29	16		4.80
31	9.60	43		743	290		87		29	16		4.80
Total	302.60	681.20	1,542	7,749	13,889	14,619	4,370	1,716	1,122	646	402	274.00
Mean	10.1	22.0	51.4	250	448	487	141	57.2	36.2	20.8	14.3	8.84
Max.	16	44	79	968	1,045	1,404	242	86	42	29	20	14
Min.	8.40	9.60	27	77	264	202	83	43	29	16	12	4.80
Runoff - mcm.	26.145	58.856	133.229	669,513	1,200.009	1,263.081	377.568	148.262	96.94	55.814	34.733	23.674

WATER YEAR 1977 : Max. 1,404 Min. 4.80 Mean 129 Annual Runoff 4,087.825 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sept. 11	08.00	85.74	1,480				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
KHWAE NOI RIVER BASIN

Lam Prachi at Ban Bo, 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, Tambon Suan Phung, Amphoe Chum Bung, Patchaburi.

Drainage Area: 1,355 Sq.km.

Type of Gage: Water-stage recorder.

Zero Gage at Bottom at: + 0.00 m. (A.D.)

Bench Mark: B.M. - H.S.

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 hourly 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, no shifting adjustment for flow computation.

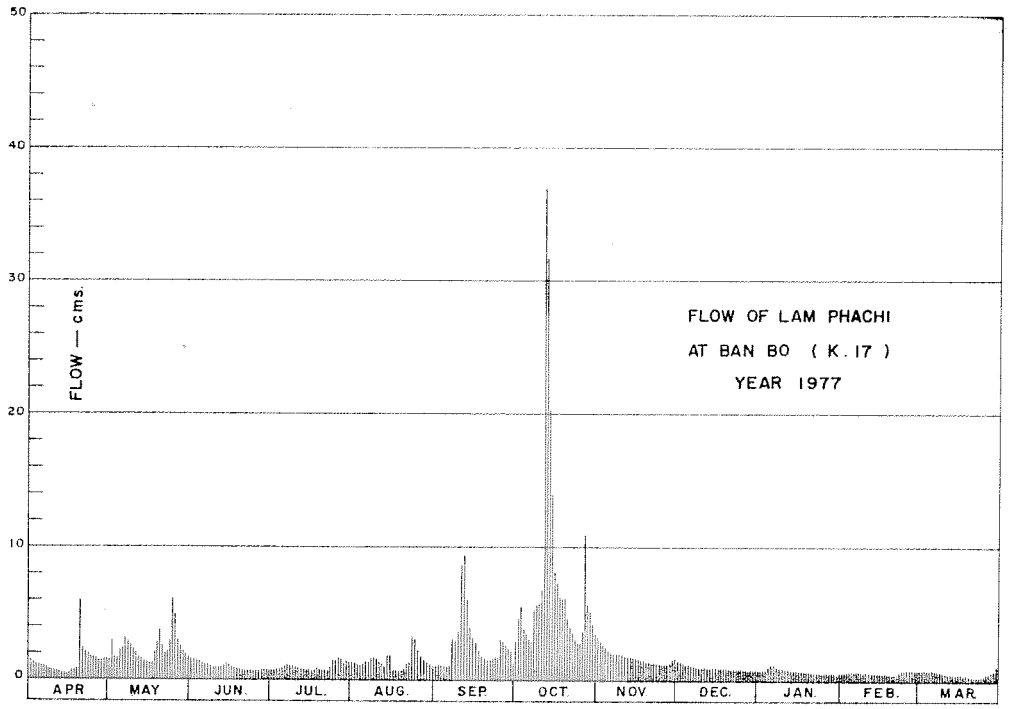
Overbank Flow Conditions: No,overbank flow.

General Description: Records good. Stage-discharge relation defined by 129 discharge measurements made in 1977.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	-0.04	-0.04	-0.03	-0.15	-0.06	-0.11	0.15	0.19	-0.04	-0.15	-0.18	-0.14
2	-0.08	+0.17	-0.04	-0.15	-0.07	-0.09	.34	.16	-0.06	-0.15	-0.18	-0.14
3	-0.09	-0.01	-0.04	-0.15	-0.09	-0.09	.41	.12	-0.07	-0.15	-0.16	-0.15
4	-0.10	-0.02	-0.05	-0.14	-0.09	-0.11	.27	.09	-0.08	-0.11	-0.17	-0.15
5	-0.11	+0.08	-0.07	-0.13	-0.04	-0.12	.24	.06	-0.09	-0.09	-0.16	-0.15
6	-0.10	+0.09	-0.08	-0.11	+0.05	-0.12	0.18	0.04	-0.09	-0.08	-0.16	-0.16
7	-0.12	0.20	-0.09	-0.08	+0.05	+0.04	.16	.03	-0.09	-0.10	-0.16	-0.16
8	-0.14	0.15	-0.10	-0.09	+0.02	+0.19	.39	.03	-0.10	-0.12	-0.16	-0.16
9	-0.15	0.13	-0.12	-0.10	+0.02	+0.17	.42	.04	-0.11	-0.12	-0.17	-0.16
10	-0.15	0.06	-0.12	-0.11	-0.04	+0.28	.25	.02	-0.11	-0.13	-0.17	-0.17
11	-0.16	0.01	-0.13	-0.12	-0.07	+0.61	0.49	0.01	-0.11	-0.14	-0.18	-0.18
12	-0.17	.01	-0.12	-0.13	-0.09	+0.66	1.57	0.00	-0.11	-0.14	-0.18	-0.19
13	-0.18	-0.04	-0.09	-0.14	-0.11	+0.44	.41	-0.01	-0.11	-0.14	-0.18	-0.20
14	-0.18	-0.05	-0.07	-0.15	-0.12	+0.27	.02	-0.02	-0.11	-0.15	-0.18	-0.20
15	-0.19	-0.06	-0.09	-0.14	-0.13	+0.19	0.75	-0.02	-0.11	-0.15	-0.19	-0.20
16	-0.17	-0.07	-0.11	-0.15	-0.14	+0.16	0.57	-0.02	-0.12	-0.15	-0.19	-0.20
17	-0.14	-0.07	-0.12	-0.14	-0.14	+0.06	.50	-0.03	-0.12	-0.15	-0.19	-0.21
18	-0.15	+0.07	-0.13	-0.12	-0.15	+0.01	.45	-0.04	-0.13	-0.16	-0.19	-0.21
19	-0.13	0.17	-0.14	-0.14	-0.15	-0.02	.45	-0.05	-0.13	-0.16	-0.19	-0.21
20	+0.43	0.26	-0.14	-0.15	-0.13	-0.04	.37	-0.05	-0.13	-0.16	-0.19	-0.21
21	+0.10	0.11	-0.15	-0.15	-0.07	-0.05	0.30	-0.06	-0.13	-0.17	-0.19	-0.22
22	+0.03	.03	-0.15	-0.15	-0.06	-0.04	.26	-0.06	-0.13	-0.17	-0.16	-0.23
23	+0.01	.09	-0.16	-0.13	+0.22	-0.01	.20	-0.07	-0.13	-0.17	-0.15	-0.22
24	-0.01	.21	-0.16	-0.04	+0.20	+0.00	.15	-0.06	-0.14	-0.17	-0.15	-0.23
25	-0.02	.45	-0.16	+0.04	+0.12	-0.02	.14	-0.07	-0.14	-0.17	-0.12	-0.23
26	-0.01	0.28	-0.16	-0.01	+0.04	+0.20	0.25	-0.08	-0.14	-0.17	-0.13	-0.20
27	-0.05	.16	-0.15	-0.02	-0.02	+0.15	.75	-0.08	-0.14	-0.17	-0.14	-0.19
28	-0.05	.08	-0.14	-0.07	-0.05	+0.09	.43	-0.07	-0.14	-0.17	-0.14	-0.18
29	-0.03	.05	-0.14	-0.05	-0.08	+0.07	.38	-0.03	-0.14	-0.17		-0.17
30	-0.03	.02	-0.14	-0.05	-0.09	-0.06	.32	-0.02	-0.14	-0.18		-0.13
31		-0.01		-0.05	-0.10		.23			-0.18		-0.12
Mean	-0.07	+0.08	-0.11	-0.10	-0.04	+0.09	0.44	+0.00	-0.11	-0.14	-0.16	-0.18
Max.	+0.43	0.45	-0.03	+0.04	+0.22	+0.66	1.57	0.19	-0.04	-0.08	-0.12	-0.12
Min.	-0.19	-0.07	-0.16	-0.15	-0.15	-0.12	0.14	-0.08	-0.14	-0.18	-0.19	-0.23

WATER YEAR 1977 : Max. 1.57 m. Min. -0.23 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	1.52	1.52	1.59	0.75	1.38	1.03	2.85	3.13	1.52	0.75	0.54	0.82
2	1.24	2.99	1.52	0.75	1.31	1.17	4.68	2.92	1.38	0.75	0.54	0.82
3	1.17	1.87	1.52	0.75	1.17	1.17	5.55	2.64	1.31	0.75	0.68	0.75
4	1.10	1.66	1.45	0.82	1.17	1.03	3.90	2.43	1.24	1.03	0.61	0.75
5	1.03	2.36	1.31	0.89	1.52	0.96	3.60	2.22	1.17	1.17	0.68	0.75
6	1.10	2.43	1.23	1.03	1.45	0.96	3.06	2.08	1.17	1.24	0.68	0.68
7	0.96	3.20	1.17	1.24	1.45	2.08	2.92	2.01	1.17	1.10	0.68	0.68
8	0.82	2.85	1.10	1.17	1.66	3.13	5.28	2.01	1.10	0.96	0.68	0.68
9	0.75	2.71	0.96	1.10	1.66	2.99	5.70	2.08	1.03	0.96	0.61	0.68
10	0.75	2.22	0.96	1.03	1.52	4.00	5.70	1.94	1.03	0.89	0.61	0.61
11	0.68	1.87	0.89	0.96	1.31	8.56	6.75	1.87	1.03	0.82	0.54	0.54
12	0.61	1.87	0.96	0.89	1.17	9.36	37	1.80	1.03	0.82	0.54	0.47
13	0.54	1.52	1.17	0.82	1.03	6.00	30	1.73	1.03	0.82	0.54	0.40
14	0.54	1.45	1.31	0.75	1.96	3.90	18	1.66	1.03	0.75	0.54	0.40
15	0.47	1.38	1.17	0.82	1.89	3.13	11	1.66	1.03	0.75	0.47	0.40
16	0.61	1.31	1.03	0.75	0.82	2.92	7.95	1.66	0.96	0.75	0.47	0.40
17	0.82	1.31	0.96	0.82	0.82	2.22	6.90	1.59	0.96	0.75	0.47	0.36
18	0.75	2.29	0.89	0.96	0.75	1.87	6.15	1.52	0.89	0.68	0.47	0.36
19	0.89	2.99	0.82	0.82	0.75	1.66	6.15	1.45	0.89	0.68	0.47	0.36
20	5.85	3.80	0.82	0.75	0.89	1.52	5.04	1.45	0.89	0.68	0.47	0.36
21	2.50	2.57	0.75	0.75	1.31	1.45	4.20	1.38	0.89	0.61	0.47	0.32
22	2.01	2.01	0.75	0.75	1.38	1.52	3.80	1.38	0.89	0.61	0.68	0.28
23	1.87	2.43	0.68	0.89	3.40	1.73	3.20	1.31	0.89	0.61	0.75	0.32
24	1.73	3.30	0.68	1.52	3.20	1.80	2.85	1.38	0.82	0.61	0.75	0.28
25	1.66	6.15	0.68	1.52	2.64	1.66	2.78	1.31	0.82	0.61	0.96	0.28
26	1.73	4.00	0.68	1.73	2.08	3.20	3.70	1.24	0.82	0.61	0.89	0.40
27	1.45	2.92	0.75	1.66	1.66	2.85	11	1.24	0.82	0.61	0.82	0.47
28	1.45	2.36	0.82	1.31	1.45	2.43	5.85	1.31	0.82	0.61	0.82	0.54
29	1.59	2.15	0.82	1.45	1.24	2.29	5.16	1.59	0.82	0.61		0.61
30	1.59	1.94	0.82	1.45	1.17	1.38	4.44	1.66	0.82	0.54		0.89
31		1.73		1.45	1.10		3.50		0.82	0.54		0.96
Total	39.78	75.16	30.26	32.35	44.31	79.97	228.66	53.65	31.09	23.67	17.43	16.62
Mean	1.32	2.42	1.00	1.04	1.42	2.66	7.37	1.78	1.00	0.76	0.62	0.53
Max.	5.85	6.15	1.59	1.73	3.40	9.36	37	3.13	1.52	1.24	0.96	0.96
Min.	0.47	1.31	0.68	0.75	0.75	0.96	2.78	1.24	0.82	0.54	0.47	0.28
Runoff - MCM.	3.437	6.494	2.615	2.795	3.828	6.909	19.756	4.635	2.681	2.045	1.506	1.436

WATER YEAR 1977 : Max. 37 Min. 0.28 Mean 1.84 Annual Runoff 58.142 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Oct.12	13.00	1.95	55				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
MAE KLONG RIVER BASIN

Khwae Yai at Ban Tha Thong Mon, Kanchanaburi (K. 20)

Location: Lat. 14°-20'-52" N., Long. 99°-10'-45" E., on right bank about 500 meters upstream from Ban Kaeng Khao, Tambon Tha Kradan, Amphoe Si Sawat, Kanchanaburi.

Drainage Area: 11,184 Sq.km.

Type of Gage: Water-stage recorder.

Zero Gage at Bottom at: + 44.50 m. (M.S.L.)

Bench Mark: B.M. - H.S.

Location: On right bank along gage line.
Elevation: + 60.932 m. (M.S.L.)

Gage Reading Frequency: Recording.

Basis of Mean Daily Gage Height: Arithmetic mean of 24 hourly readings.

Period of Available Gage Records: 1966-1977.

Rating Operation:

Period of Rating: 1966-1976.
Rated by Float: -
Rated by Current Meter: 1966-1976.

Stability of Channel Regimes: Stable, no shifting adjustment for flow computation.

Overbank Flow Conditions: No overbank flow.

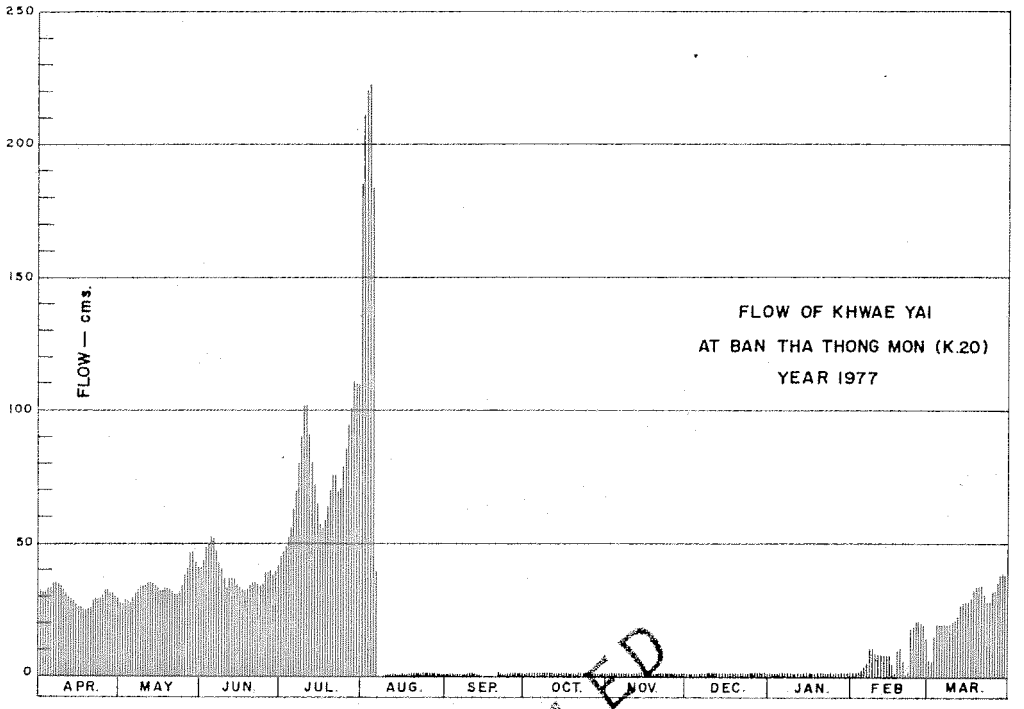
General Description: Records fair. Stage-discharge relation defined by 862 discharge measurements made during 1966-1970.

CANCELLED

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	45.53	45.44	45.71	45.75	47.51	44.76	44.77	44.77	44.77	44.77	44.80	45.13
2	.52	.47	.78	.77	.58	.77	.77	.77	.77	.77	.75	44.99
3	.53	.48	.80	.83	.60	.77	.77	.77	.77	.77	.75	.99
4	.55	.47	.82	.88	.56	.76	.77	.77	.74	.78	.76	45.34
5	.56	.48	.82	.94	45.94	.76	.77	.77	.78	.78	.87	.34
6	45.58	45.52	45.79	46.04	44.65	44.76	44.77	44.77	44.77	44.78	44.94	45.34
7	.59	.54	.73	.19	.62	.76	.77	.77	.77	.78	45.00	.34
8	.57	.56	.66	.30	.68	.76	.77	.77	.77	.79	.15	.34
9	.55	.57	.62	.43	.70	.76	.77	.77	.75	.77	.15	.34
10	.53	.57	.57	.43	.71	.77	.77	.77	.77	.77	.07	.35
11	45.51	45.58	45.61	46.32	44.69	44.77	44.77	44.77	44.77	44.77	45.07	45.36
12	.48	.58	.61	.20	.79	.77	.77	.77	.77	.77	.07	.45
13	.46	.58	.61	.07	.68	.74	.77	.77	.77	.77	.07	.45
14	.45	.57	.59	45.97	.70	.61	.77	.77	.77	.77	.07	.46
15	.44	.55	.57	.89	.71	.63	.77	.77	.77	.79	.08	.46
16	45.43	45.54	45.53	45.87	44.72	44.63	44.77	44.77	44.77	44.77	45.01	45.46
17	.42	.55	.53	.93	.72	.63	.77	.77	.77	.75	44.74	.51
18	.41	.55	.55	46.00	.73	.63	.77	.77	.78	.75	45.12	.57
19	.41	.54	.57	.09	.74	.63	.77	.77	.79	.75	.14	.57
20	.47	.53	.58	.12	.77	.67	.77	.77	.78	.76	.04	.57
21	45.47	45.52	45.57	46.12	44.75	44.83	44.77	44.77	44.78	44.77	44.79	45.57
22	.48	.52	.56	.05	.75	.73	.77	.77	.78	.81	.81	.48
23	.48	.52	.56	.06	.75	.76	.77	.77	.78	.77	45.30	.46
24	.50	.53	.59	.16	.75	.77	.77	.77	.78	.77	.32	.46
25	.53	.64	.65	.29	.75	.77	.77	.77	.78	.78	.35	.54
26	45.53	45.69	45.66	46.37	44.76	44.77	44.77	44.77	44.77	44.76	45.35	45.57
27	.52	.75	.64	.49	.76	.77	.77	.77	.77	.76	.35	.60
28	.52	.76	.65	.53	.75	.77	.77	.77	.77	.75	.31	.65
29	.50	.74	.69	.52	.76	.77	.77	.77	.77	.77		.65
30	.48	.69	.74	.85	.76	.76	.77	.77	.77	.76		.65
31		.68		47.31	.76		.77		.77	.77		.65
Mean	45.50	45.57	45.64	46.19	45.13	44.73	44.77	44.77	44.77	44.77	45.04	45.44
Max.	45.58	45.76	45.82	47.31	47.60	44.83	44.77	44.77	44.79	44.81	45.35	45.65
Min.	45.41	45.44	45.53	45.75	44.02	44.61	44.77	44.77	44.74	44.75	44.74	44.99

WATER YEAR 1977 : Max. 47.60 m. Min. 44.61 m.



CANCELED

DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	32	26	43	46	212	1.60	1.70	1.70	1.70	1.70	2.00	10
2	31	28	48	48	220	1.70	1.70	1.70	1.70	1.70	1.50	5.80
3	32	29	50	52	222	1.70	1.70	1.70	1.70	1.70	1.50	5.80
4	33	28	52	56	216	1.60	1.70	1.70	1.40	1.80	1.60	20
5	34	29	52	61	159	1.60	1.70	1.70	1.80	1.80	3.40	20
6	35	31	49	69	0.50	1.60	1.70	1.70	1.70	1.80	4.80	20
7	35	32	44	81	0.20	1.60	1.70	1.70	1.70	1.80	6.00	20
8	34	34	40	90	0.80	1.60	1.70	1.70	1.70	1.90	11	20
9	33	34	37	102	1.00	1.60	1.70	1.70	1.50	1.70	11	20
10	32	34	34	102	1.10	1.70	1.70	1.70	1.70	1.70	8.10	21
11	31	35	37	92	0.90	1.70	1.70	1.70	1.70	1.70	8.10	22
12	29	35	37	82	1.90	1.70	1.70	1.70	1.70	1.70	8.10	27
13	28	35	37	72	0.80	1.40	1.70	1.70	1.70	1.70	8.10	27
14	27	34	35	64	1.00	0.10	1.70	1.70	1.70	1.70	8.10	28
15	26	33	34	57	1.10	0.30	1.70	1.70	1.70	1.90	8.40	28
16	26	32	32	56	1.20	0.30	1.70	1.70	1.70	1.70	6.30	28
17	25	33	32	60	1.20	0.30	1.70	1.70	1.70	1.50	1.40	31
18	25	33	33	66	1.30	0.30	1.70	1.70	1.80	1.50	9.80	34
19	25	32	34	73	1.40	0.30	1.70	1.70	1.90	1.50	11	34
20	28	32	35	76	1.70	0.70	1.70	1.70	1.80	1.60	7.20	34
21	28	31	34	76	1.50	2.60	1.70	1.70	1.80	1.70	1.90	34
22	29	31	34	70	1.50	1.30	1.70	1.70	1.80	2.20	2.20	29
23	29	31	34	71	1.50	1.60	1.70	1.70	1.80	1.70	18	28
24	30	32	35	79	1.50	1.70	1.70	1.70	1.80	1.70	19	28
25	32	38	39	89	1.50	1.70	1.70	1.70	1.80	1.80	21	32
26	32	41	40	96	1.60	1.70	1.70	1.70	1.70	1.60	21	34
27	31	46	38	107	1.60	1.70	1.70	1.70	1.70	1.60	21	36
28	31	47	39	111	1.50	1.70	1.70	1.70	1.70	1.50	19	39
29	30	45	41	110	1.60	1.70	1.70	1.70	1.70	1.70		39
30	29	41	45	141	1.60	1.60	1.70	1.70	1.70	1.60		39
31		41		190	1.60		1.70		1.70	1.70		39
Total	902	1,063	1,174	2,545	964.10	40.70	52.70	51.00	53.20	52.90	250.50	832.60
Mean	30.1	34.3	39.1	82.1	31.1	1.36	1.70	1.70	1.72	1.71	8.95	26.8
Max.	35	47	52	190	222	2.60	1.70	1.70	1.90	2.20	21	39
Min.	25	26	32	46	0.20	0.10	1.70	1.70	1.40	1.50	1.40	5.80
Runoff - mcm.	77.933	91.843	101.434	219.888	83.298	3.516	4.553	4.406	4.596	4.570	21.643	71.937

WATER YEAR 1977 : Max. 222 Min. 0.10 Mean 21.9 Annual Runoff 689,619 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Aug.2	24.00	47.60	222				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
KHWAE NOI RIVER BASIN

Huai Mae Nam Noi at Tha Thung Na, Kanchanaburi (K. 22A)

Location: Lat. 14°-26'-44" N., Long. 98°-48'-08" E., on left bank about 3 kilometers downstream from K22 station at Tambon Tha Thung Na, Amphoe Sai Yok, Kanchanaburi.

Drainage Area: 321 Sq.km.

Type of Gage: Staff gage.

Zero Gage at Bottom at: + 66.690 m. (M.S.L.)

Bench Mark: B.M. - H.S.

- Location: Near the Meteorological Station.
- Elevation: + 76.874 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: 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, no shifting adjustment for flow computation.

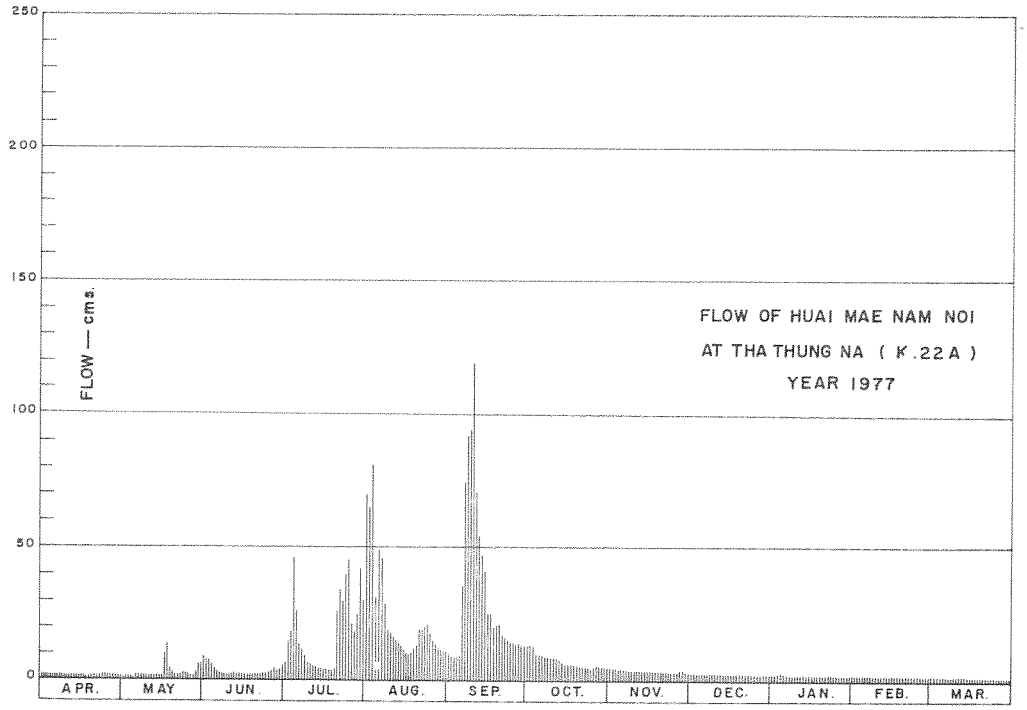
Overbank Flow Conditions: No overbank flow.

General Description: Records fair. Stage-discharge relation defined by 70 discharge measurements made in 1977.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	67.19	67.14	67.62	67.50	69.39	67.73	67.80	67.44	67.32	67.25	67.23	67.20
2	.19	.14	.58	.53	.28	.68	.80	.43	.32	.25	.24	.20
3	.18	.14	.57	.85	.62	.64	.80	.42	.31	.24	.25	.20
4	.17	.14	.50	68.01	.38	.62	.68	.41	.30	.33	.23	.19
5	.17	.14	.36	.84	68.43	.64	.67	.40	.30	.32	.23	.19
6	67.19	67.14	67.32	68.37	68.90	68.02	67.66	67.39	67.30	67.27	67.23	67.19
7	.18	.26	.30	67.85	.80	.82	.67	.39	.30	.26	.23	.19
8	.17	.21	.27	.74	.42	69.81	.64	.38	.30	.25	.22	.19
9	.17	.20	.25	.66	.16	.80	.62	.38	.30	.25	.22	.18
10	.17	.19	.25	.53	.02	70.32	.62	.38	.30	.24	.22	.17
11	67.16	67.19	67.30	67.48	67.98	69.55	67.61	37.37	67.29	67.24	67.21	67.17
12	.16	.19	.26	.46	.89	.17	.60	.37	.29	.24	.20	.16
13	.16	.20	.25	.42	.85	68.94	.58	.36	.29	.24	.19	.16
14	.15	.22	.26	.41	.87	.84	.58	.36	.28	.23	.19	.16
15	.15	.20	.23	.39	.77	.66	.52	.36	.28	.23	.19	.16
16	67.15	67.18	67.22	67.38	67.71	68.27	67.52	67.35	67.28	67.23	67.19	67.16
17	.15	.18	.22	.37	.68	.24	.51	.35	.28	.23	.19	.15
18	.15	.82	.22	.36	.70	.11	.51	.34	.27	.23	.19	.15
19	.15	.44	.22	.35	.76	.08	.49	.34	.28	.23	.20	.15
20	.17	.30	.22	.34	.80	.12	.47	.33	.27	.23	.21	.15
21	67.19	67.24	67.24	68.19	68.06	68.00	67.46	67.33	67.27	67.23	67.21	67.14
22	.17	.22	.26	.51	.06	67.99	.46	.33	.27	.23	.21	.14
23	.17	.23	.25	.38	.04	.95	.45	.32	.26	.22	.21	.14
24	.24	.29	.26	.40	.12	.90	.44	.32	.26	.22	.20	.14
25	.21	.26	.29	.82	.07	.85	.44	.32	.26	.22	.20	.14
26	67.19	67.23	67.34	68.71	69.96	67.85	67.49	67.32	67.26	67.22	67.20	67.14
27	.18	.22	.39	.11	.85	.82	.47	.32	.25	.22	.20	.14
28	.17	.22	.37	67.99	.80	.85	.46	.38	.25	.21	.20	.14
29	.15	.23	.36	68.32	.77	.80	.45	.34	.25	.21		.14
30	.14	.52	.38	.74	.74	.82	.44	.32	.25	.21		.14
31		.51		.44	.74		.44		.25	.21		.14
Mean	67.17	67.25	67.32	67.92	68.57	68.66	67.56	67.36	67.28	67.24	67.21	67.16
Max.	67.24	67.82	67.62	68.84	69.62	70.32	67.80	67.44	67.32	67.33	67.25	67.20
Min.	67.14	67.14	67.22	67.34	67.68	67.62	67.44	67.32	67.25	67.21	67.19	67.14

WATER YEAR 1977 : Max. 70.32 m. Min. 67.14 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	1.50	1.00	8.44	5.80	70	11	13	4.84	2.92	2.10	1.90	1.60
2	1.50	1.00	7.56	6.46	65	9.76	13	4.68	2.92	2.10	2.00	1.60
3	1.40	1.00	7.34	14	81	8.88	13	4.52	2.76	2.00	2.10	1.60
4	1.30	1.00	5.80	18	70	8.44	9.76	4.36	2.60	3.08	1.90	1.50
5	1.30	1.00	3.56	46	31	8.88	9.54	4.20	2.60	2.92	1.90	1.50
6	1.50	1.00	2.92	29	49	18	9.32	4.04	2.60	2.30	1.90	1.50
7	1.40	2.20	2.60	14	45	45	9.54	4.04	2.60	2.20	1.90	1.50
8	1.30	1.70	2.30	11	30	91	8.88	3.88	2.60	2.10	1.80	1.50
9	1.30	1.60	2.10	9.32	22	93	8.44	3.88	2.60	2.10	1.80	1.40
10	1.30	1.50	2.10	6.46	18	119	8.44	3.88	2.60	2.00	1.80	1.30
11	1.20	1.50	2.60	5.48	17	78	8.22	3.72	2.50	2.00	1.70	1.30
12	1.20	1.50	2.20	5.16	15	60	8.00	3.72	2.50	2.00	1.60	1.20
13	1.20	1.60	2.10	4.52	14	50	7.56	3.56	2.50	2.00	1.50	1.20
14	1.10	1.80	2.20	4.36	14	46	6.68	3.56	2.40	1.90	1.50	1.20
15	1.10	1.60	1.90	4.04	12	39	6.24	3.56	2.40	1.90	1.50	1.20
16	1.10	1.40	1.80	3.88	10	25	6.24	3.40	2.40	1.90	1.50	1.20
17	1.10	1.40	1.80	3.72	9.76	25	6.02	3.40	2.40	1.90	1.50	1.10
18	1.10	13	1.80	3.56	10	21	6.02	3.24	2.30	1.90	1.50	1.10
19	1.10	4.84	1.80	3.40	12	20	5.64	3.24	2.40	1.90	1.60	1.10
20	1.30	2.60	1.80	3.24	13	21	5.32	3.08	2.30	1.90	1.70	1.10
21	1.50	2.00	2.00	23	19	17	5.16	3.08	2.30	1.90	1.70	1.00
22	1.30	1.80	2.20	34	19	17	5.16	3.08	2.30	1.90	1.70	1.00
23	1.30	1.90	2.10	29	19	16	5.00	2.92	2.20	1.90	1.70	1.00
24	2.00	2.50	2.20	30	21	15	4.84	2.92	2.20	1.90	1.60	1.00
25	1.70	2.20	2.50	45	19	14	4.84	2.92	2.20	1.90	1.60	1.00
26	1.50	1.90	3.24	41	16	14	5.64	2.92	2.20	1.90	1.60	1.00
27	1.40	1.80	4.04	21	14	13	5.32	2.72	2.10	1.90	1.60	1.00
28	1.30	1.80	3.72	17	13	14	5.16	3.88	2.10	1.80	1.60	1.00
29	1.10	1.90	3.56	27	12	13	5.00	3.24	2.10	1.80		1.00
30	1.00	6.24	3.88	42	11	13	4.84	3.24	2.10	1.80		1.00
31		6.02		31	11		4.84	2.92	2.10	1.80		1.00
Total	39.40	74.30	94.16	541.40	781.76	943.96	224.66	107.60	74.80	62.70	47.70	37.70
Mean	1.31	2.40	3.14	17.5	25.2	31.5	7.25	3.59	2.41	2.02	1.70	1.22
Max.	2.00	13	8.44	46	81	119	13	4.84	2.92	3.08	2.10	1.60
Min.	1.00	1.00	1.80	3.24	9.76	8.44	4.84	2.92	2.10	1.80	1.50	1.00
Runoff - mcm.	3.404	6.419	8.135	46.777	67.544	81.558	19.410	9.297	6.463	5.417	4.121	3.257

WATER YEAR 1977 : Max. 119 Min. 1.00 Mean 8.30 Annual Runoff 261.801 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sept. 10	16.00	70.44	127				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
KHWAE YAI RIVER BASIN

Lam Taphoen at Ban Wang Yai, Kanchanaburi (K. 27)

Location: Lat. 14°-20'-14" N., Long. 99°-29'-22" E., on left bank about 3 kilometers upstream from Ban Lat Ya, Amphoe Bo Phloi, Kanchanaburi.

Drainage Area: 1,921 Sq.km.

Type of Gage: Water-stage recorder.

Zero Gage at Bottom at: + 0.00 m. (A.D.)

Bench Mark: B.M. - H.S.

Location: In the fence of Meteorological station.
Elevation: + 6.750 m. (A.D.)

Gage Reading Frequency: Recording

Basis of Mean Daily Gage Height: Arithmetic mean of 24 hourly 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, no shifting adjustment for flow computation.

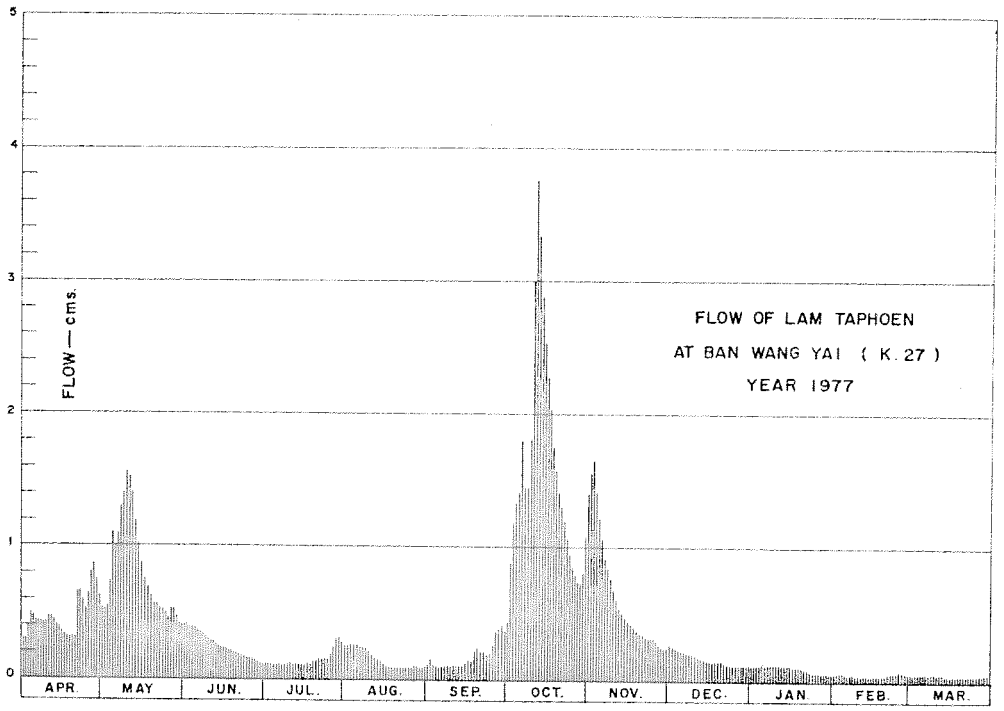
Overbank Flow Conditions: No overbank flow.

General Description: Records fair. Stage-discharge relation defined by 12 discharge measurements made in 1977.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.77	0.87	0.82	0.66	0.74	0.66	0.83	1.17	0.75	0.66	0.61	0.61
2	.77	.87	.82	.66	.75	.69	.98	.20	.75	.66	.61	.61
3	.82	.88	.81	.66	.75	.66	1.07	.15	.74	.66	.62	.61
4	.86	1.02	.81	.66	.75	.65	.12	.11	.73	.67	.62	.61
5	.84	.06	.81	.66	.75	.64	.14	.06	.73	.67	.62	.61
6	0.83	1.03	0.80	0.66	0.74	0.65	1.24	1.03	0.72	0.66	0.60	0.61
7	.83	.07	.79	.66	.74	.65	.20	.00	.72	.67	.61	.61
8	.82	.11	.78	.66	.74	.65	.15	0.97	.72	.67	.61	.61
9	.82	.15	.78	.66	.73	.65	.15	.95	.72	.67	.60	.61
10	.83	.18	.77	.67	.72	.65	.32	.93	.71	.67	.60	.61
11	0.85	1.17	0.76	0.67	0.70	0.65	1.55	0.91	0.71	0.67	0.60	0.61
12	.84	.13	.75	.66	.69	.65	.64	.88	.71	.67	.60	.61
13	.83	.08	.75	.66	.69	.66	.55	.87	.70	.66	.60	.61
14	.81	.04	.74	.65	.68	.66	.48	.85	.70	.66	.60	.60
15	.80	.01	.74	.65	.67	.67	.41	.84	.69	.66	.60	.60
16	0.79	0.98	0.73	0.65	0.65	0.68	1.35	0.83	0.69	0.65	0.60	0.60
17	.78	.96	.73	.67	.65	.68	.29	.82	.68	.65	.60	.60
18	.78	.94	.72	.66	.64	.68	.23	.81	.68	.65	.60	.60
19	.77	.91	.72	.66	.64	.73	.18	.80	.68	.64	.60	.60
20	.77	.89	.71	.68	.64	.74	.15	.79	.68	.64	.60	.60
21	0.77	0.89	0.71	0.69	0.63	0.72	1.13	0.79	0.68	0.63	0.60	0.60
22	.92	.87	.71	.69	.64	.72	.10	.78	.67	.63	.62	.60
23	.92	.87	.70	.69	.64	.71	.07	.77	.66	.62	.62	.60
24	.89	.86	.70	.70	.64	.71	.03	.77	.66	.62	.62	.60
25	.87	.84	.69	.69	.63	.72	.00	.77	.66	.62	.62	.60
26	0.94	0.84	0.69	0.69	0.64	0.76	0.97	0.77	0.66	0.62	0.63	0.60
27	.99	.87	.68	.73	.65	.80	.95	.75	.66	.62	.62	.60
28	.98	.87	.68	.77	.64	.81	.94	.74	.66	.61	.62	.61
29	.95	.84	.67	.78	.64	.82	.96	.74	.66	.61		.61
30	.91	.82	.67	.77	.64	.80	1.01	.74	.66	.61		.61
31		.82		.75	.65		.09		.67	.61		.61
Mean	0.84	0.96	0.74	0.68	0.68	0.70	1.17	0.89	0.69	0.64	0.61	0.60
Max.	0.99	1.18	0.82	0.78	0.75	0.82	1.64	1.20	0.75	0.67	0.63	0.61
Min.	0.77	0.82	0.67	0.65	0.63	0.64	0.83	0.74	0.66	0.61	0.60	0.60

WATER YEAR 1977 : Max. 1.64 m. Min. 0.60 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.31	0.53	0.42	0.12	0.25	0.12	0.44	1.53	0.27	0.12	0.06	0.06
2	0.31	0.53	0.42	0.12	0.27	0.16	0.84	1.65	0.27	0.12	0.06	0.06
3	0.42	0.55	0.39	0.12	0.27	0.12	1.14	1.45	0.25	0.12	0.07	0.06
4	0.51	0.97	0.39	0.12	0.27	0.11	1.33	1.29	0.23	0.13	0.07	0.06
5	0.46	1.11	0.39	0.12	0.27	0.10	1.41	1.11	0.23	0.13	0.07	0.06
6	0.44	1.00	0.37	0.12	0.25	0.10	1.81	1.00	0.21	0.12	0.05	0.06
7	0.44	1.14	0.35	0.12	0.25	0.11	1.65	0.90	0.21	0.13	0.06	0.06
8	0.42	1.29	0.33	0.12	0.25	0.11	1.45	0.81	0.21	0.13	0.06	0.06
9	0.44	1.45	0.33	0.12	0.23	0.11	1.45	0.75	0.21	0.13	0.05	0.06
10	0.44	1.57	0.31	0.13	0.21	0.11	2.14	0.69	0.19	0.13	0.05	0.06
11	0.48	1.53	0.29	0.13	0.17	0.11	3.27	0.63	0.19	0.13	0.05	0.06
12	0.46	1.37	0.27	0.12	0.16	0.11	3.77	0.55	0.19	0.13	0.05	0.06
13	0.44	1.18	0.27	0.12	0.16	0.12	3.27	0.53	0.17	0.12	0.05	0.06
14	0.39	1.04	0.25	0.11	0.15	0.12	2.90	0.48	0.17	0.12	0.05	0.05
15	0.37	0.93	0.25	0.11	0.13	0.13	2.55	0.46	0.16	0.12	0.05	0.05
16	0.35	0.84	0.23	0.11	0.11	0.15	2.27	0.44	0.16	0.11	0.05	0.05
17	0.33	0.78	0.23	0.13	0.11	0.15	2.01	0.42	0.15	0.11	0.05	0.05
18	0.33	0.72	0.21	0.12	0.10	0.15	1.77	0.39	0.15	0.11	0.05	0.05
19	0.31	0.63	0.21	0.12	0.10	0.23	1.57	0.37	0.15	0.10	0.05	0.05
20	0.31	0.58	0.19	0.15	0.10	0.25	1.45	0.35	0.15	0.10	0.05	0.05
21	0.31	0.58	0.19	0.16	0.09	0.21	1.37	0.35	0.15	0.09	0.05	0.05
22	0.66	0.53	0.19	0.16	0.10	0.21	1.25	0.33	0.13	0.09	0.07	0.05
23	0.66	0.53	0.17	0.16	0.10	0.19	1.14	0.31	0.12	0.07	0.07	0.05
24	0.58	0.51	0.17	0.17	0.10	0.19	1.00	0.31	0.12	0.07	0.07	0.05
25	0.53	0.46	0.16	0.16	0.09	0.21	0.90	0.31	0.12	0.07	0.07	0.05
26	0.72	0.46	0.16	0.16	0.10	0.29	0.81	0.31	0.12	0.07	0.09	0.05
27	0.87	0.53	0.15	0.23	0.11	0.37	0.75	0.27	0.12	0.07	0.07	0.05
28	0.84	0.53	0.15	0.31	0.10	0.39	0.72	0.25	0.12	0.06	0.07	0.06
29	0.75	0.46	0.13	0.33	0.10	0.42	0.78	0.25	0.12	0.06		0.06
30	0.65	0.42	0.13	0.31	0.10	0.37	0.93	0.25	0.12	0.06		0.06
31		0.42		0.27	0.11		1.21		0.13	0.06		0.06
Total	14.49	25.17	7.70	4.85	4.91	5.52	49.35	18.74	5.29	3.18	1.66	1.72
Mean	0.48	0.81	0.26	0.16	0.16	0.18	1.59	0.62	0.17	0.10	0.059	0.055
Max.	0.87	1.57	0.42	0.33	0.27	0.42	3.77	1.65	0.27	0.13	0.09	0.06
Min.	0.31	0.42	0.13	0.11	0.09	0.10	0.44	0.25	0.12	0.06	0.05	0.05
Runoff - mcm.	1.252	2.175	0.665	0.419	0.424	0.477	4.264	1.619	0.457	0.275	0.143	0.149

WATER YEAR 1977 : Max. 3.77 Min. 0.05 Mean 0.39 Annual Runoff 12.319 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Oct. 12	12.00	1.66	3.88				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
MAE KLONG RIVER BASIN

Huai Samnak Mai Teng at Ban Nam Phu, Ratchaburi (K. 28)

Location: Lat. 13°-30'-23" N., Long. 99°-36'-04" E., on left bank of Huai Samnak Mai Teng about 30 kilometers from Amphoe Pak Tho, Ratchaburi.

Drainage Area: 183 Sq.km.

Type of Gage: Staff gage.

Zero Gage at Bottom at: + 0.00 m. (A.D.)

Bench Mark: B.M. - H.S.

Location: Near staff gage site.
Elevation: + 6.189 m. (A.D.)

Gage Reading Frequency: 5-7 time daily reading at 03.00, 06.00-18.00 and 21.00 hours.

Basis of Mean Daily Gage Height: Arithmetic mean of 5-7 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, no shifting adjustment for flow computation.

Overbank Flow Conditions: No overbank flow.

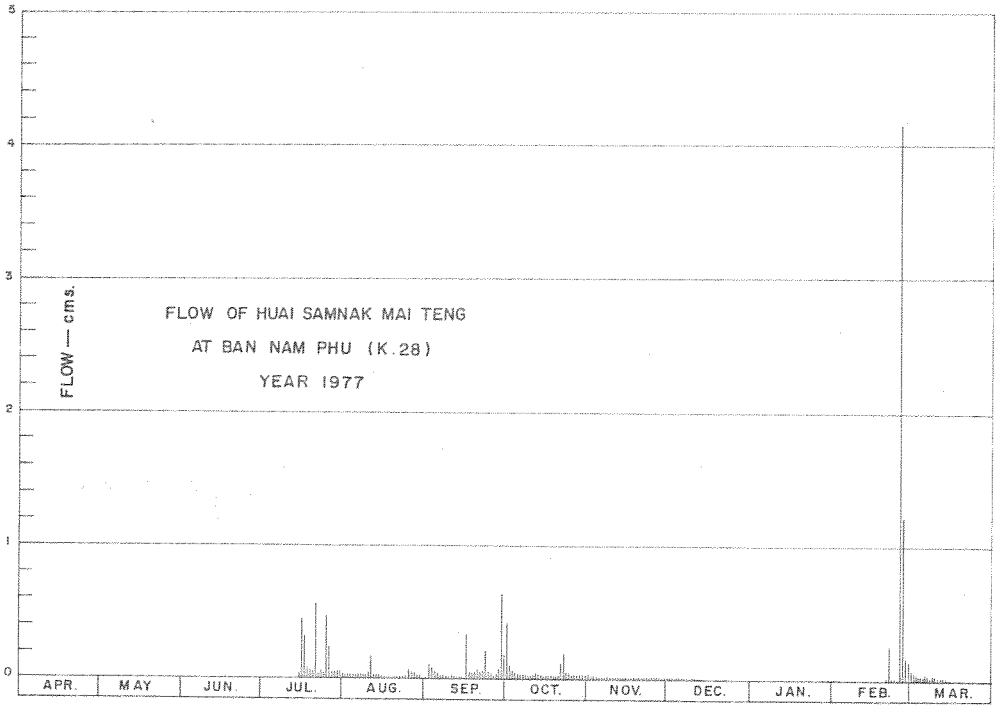
General Description: Records good. Stage-discharge relation defined by 13 discharge measurements made in 1977.

Remarks: Stream gaging began on July 15, 1977. Discharge record for periods of no flow are omitted.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1					0.78	0.76	1.07	0.76	0.75	0.53	0.25	0.85
2					.77	.91	0.91	.76	.75	.52	.26	.80
3					.77	.88	.85	.75	.74	.51	.25	.77
4					.77	.85	.81	.75	.74	.50	.25	.75
5					.76	.79	.80	.75	.74	.49	.24	.75
6					0.77	0.78	0.78	0.75	0.74	0.48	0.23	0.79
7					.76	.76	.78	.74	.73	.47	.22	1.07
8					.76	.76	.77	.74	.73	.47	.22	0.86
9					.76	.75	.77	.75	.73	.46	.21	.79
10					.81	.76	.76	.74	.73	.45	.20	.75
11					0.94	0.75	0.79	0.74	0.72	0.44	0.19	0.74
12					.79	.75	.83	.74	.72	.43	.18	.73
13					.78	.75	.79	.74	.71	.42	.17	.72
14					.76	.74	.77	.74	.70	.41	.17	.72
15				0.80	.75	.75	.77	.74	.69	.40	.16	.71
16				1.08	0.75	1.03	0.76	0.74	0.68	0.40	0.15	0.71
17				.01	.74	0.84	.76	.74	.67	.39	.14	.71
18				0.88	.74	.80	.76	.74	.65	.38	.13	.70
19				.84	.74	.82	.76	.75	.64	.37	.12	.70
20				.82	.75	.87	.76	.75	.63	.36	.11	.69
21				0.81	0.75	0.80	0.86	0.75	0.63	0.35	0.16	0.68
22				.80	.76	.89	.94	.75	.62	.34	.98	.67
23				.81	.75	.96	.82	.75	.61	.33	.75	.66
24				.80	.76	.83	.79	.75	.60	.32	.72	.64
25				1.09	.87	.79	.78	.75	.59	.32	.70	.63
26				0.99	0.80	0.77	0.77	0.74	0.58	0.31	1.88	0.62
27				.82	.82	.79	.78	.74	.57	.30	.17	.60
28				.81	.77	.90	.77	.74	.57	.29	0.93	.59
29				.81	.76	1.15	.77	.75	.55	.28		.58
30				.81	.75	0.95	.77	.75	.55	.27		.57
31				.82	.75		.77		.54	.26		.55
Mean				0.87	0.77	0.83	0.80	0.75	0.66	0.39	0.40	0.71
Max.				1.09	0.94	1.15	1.07	0.76	0.75	0.53	1.88	1.07
Min.				0.80	0.74	0.74	0.76	0.74	0.54	0.26	0.11	0.55

WATER YEAR 1977 : Max. 1.88 m. Min. 0.11 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1					0.04	0.03	0.44	0.03	0.025	0.00	0.00	0.075
2					0.035	0.12	0.12	0.03	0.025			0.05
3					0.035	0.09	0.075	0.025	0.02			0.035
4					0.035	0.075	0.055	0.025	0.02			0.025
5					0.03	0.045	0.05	0.025	0.02			0.025
6					0.035	0.04	0.04	0.025	0.02			0.045
7					0.03	0.03	0.04	0.02	0.015			0.44
8					0.03	0.03	0.035	0.02	0.015			0.08
9					0.03	0.025	0.035	0.025	0.015			0.045
10					0.055	0.03	0.03	0.02	0.015			0.025
11					0.18	0.025	0.045	0.02	0.01			0.02
12					0.045	0.025	0.065	0.02	0.01			0.015
13					0.04	0.025	0.045	0.02	0.005			0.01
14					0.03	0.02	0.035	0.02	0.00			0.01
15				0.05	0.025	0.025	0.035	0.02				0.005
16				0.46	0.025	0.34	0.03	0.02				0.005
17				0.32	0.02	0.07	0.03	0.02				0.005
18				0.09	0.02	0.05	0.03	0.02				0.00
19				0.07	0.02	0.06	0.03	0.025				
20				0.06	0.025	0.085	0.03	0.025			0.00	
21				0.555	0.025	0.05	0.08	0.025			0.00	
22				0.05	0.03	0.095	0.18	0.025			0.26	
23				0.055	0.025	0.22	0.06	0.025			0.025	
24				0.05	0.03	0.065	0.045	0.025			0.01	
25				0.48	0.085	0.045	0.04	0.025			0.00	
26				0.28	0.05	0.035	0.035	0.02			4.16	
27				0.06	0.06	0.045	0.04	0.02			0.71	
28				0.055	0.035	0.10	0.035	0.02			0.16	
29				0.055	0.03	0.65	0.035	0.025				
30				0.055	0.025	0.20	0.035	0.025				
31				0.06	0.025		0.035		0.00	0.00		0.00
Total				2.305	1.205	2.745	1.915	0.690	0.215	0.00	5.325	0.815
Mean				0.14	0.039	0.091	0.062	0.023	0.007	0.00	0.190	0.026
Max.				0.48	0.18	0.65	0.44	0.03	0.025	0.00	4.16	0.44
Min.				0.055	0.02	0.02	0.03	0.02	0.00	0.00	0.00	0.00
Runoff - mcm.				0.199	0.104	0.74	0.165	0.060	0.018	0.000	0.460	0.070

WATER YEAR 1977 : Max. 4.16 Min. 0.00 Mean Annual Runoff mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Feb.26	15.00	3.64	26				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
PHET RIVER BASIN

Phet River at Ban Rai Phaniat, Phetchaburi (B. 1A)

Location: Lat. 13°-04'-22" N., Long. 99°-56'-37" E., 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 at: + 0.00 m. (M.S.L.)

Bench Mark: B.M. - RID 075

Location: At the cross road infront of Wong Ban Pun.
Elevation: + 4.179 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: 1961 to date.

Rating Operation:

Period of Rating: 1965, 1967-1971
Rated by Float: -
Rated by Current Meter: 1965, 1967-1971.

Stability of Channel Regimes: Stable, no shifting adjustment for flow computation.

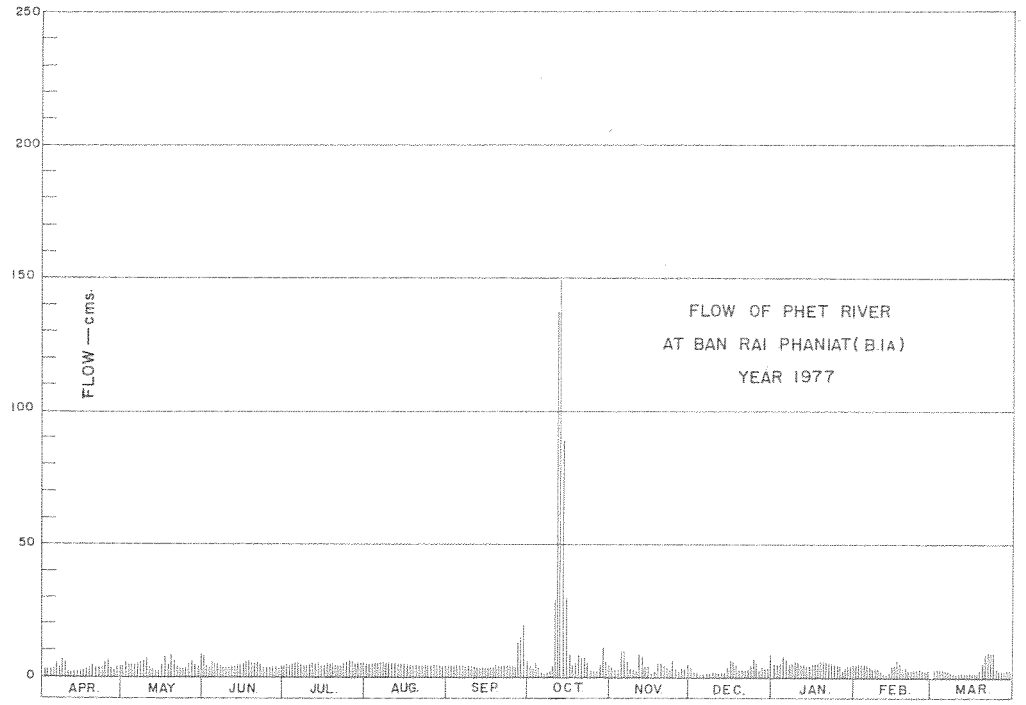
Overbank Flow Conditions: No overbank flow.

General Description: Records fair. Stage-discharge relation defined by 112 discharge measurements made during 1965-1970. Flow regulated by Kaeng Krachan Reservoir and Phet Diversion Dam at above g ge site for irrigation about 27,800 hectares.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.98	1.10	1.12	1.12	1.14	1.10	1.10	1.07	1.05	1.15	1.09	0.95
2	1.02	.14	.06	.12	.15	.11	.04	0.95	0.89	.12	.11	.99
3	0.95	.11	.06	.10	.15	.13	0.98	.98	.89	.10	.13	.99
4	.97	.12	.18	.15	.16	.11	1.16	.97	.89	.18	.12	.97
5	1.01	.13	.11	.20	.18	.09	.04	1.46	.88	.27	.09	.93
6	1.14	1.13	1.15	1.18	1.18	1.09	0.90	1.43	0.89	1.25	1.08	0.93
7	.03	.14	.08	.14	.16	.08	.89	.17	.89	.13	.05	.93
8	.24	.16	.04	.11	.15	.08	.90	0.98	.89	.16	0.98	.85
9	.14	.23	.04	.10	.16	.08	.94	1.01	.89	.17	1.02	.82
10	0.97	.26	.06	.12	.16	.08	1.13	0.96	.94	.16	0.94	.81
11	0.92	1.05	1.06	1.15	1.14	1.07	2.27	0.96	0.92	1.14	0.84	0.84
12	.94	.02	.05	.14	.14	.06	4.87	1.35	.92	.11	.82	.84
13	.94	0.96	.08	.14	.14	.07	5.11	.27	.92	.11	.82	.84
14	.96	.94	.14	.14	.14	.06	3.85	.03	.93	.09	.91	.86
15	.96	.99	.12	.10	.14	.06	2.28	.07	1.13	.10	1.08	.84
16	0.99	1.16	1.15	1.11	1.12	1.06	1.53	0.94	1.25	1.14	1.12	0.84
17	.99	.30	.24	.16	.12	.06	.26	.91	.17	.17	.19	.83
18	1.06	.08	.18	.15	.11	.06	.09	.94	.12	.18	.13	.83
19	.19	.34	.16	.16	.11	.08	.31	1.17	0.97	.20	.00	.94
20	.07	.26	.12	.12	.11	.08	.36	.18	.93	.20	.02	1.14
21	1.07	1.13	1.18	1.12	1.11	1.11	1.27	1.09	0.95	1.19	0.94	1.34
22	.03	.04	.10	.13	.12	.11	.31	.01	.95	.19	.94	.39
23	.01	.04	.07	.14	.12	.12	.17	0.98	1.00	.14	.94	.37
24	.15	.02	.06	.19	.12	.12	0.99	1.26	.15	.11	.97	.37
25	.25	.06	.06	.22	.12	.11	.96	.04	.26	.10	.99	0.98
26	1.02	1.18	1.05	1.22	1.12	1.10	0.97	0.92	0.95	1.09	0.98	0.94
27	.00	.22	.08	.22	.12	.58	.97	.96	.93	0.95	.92	.93
28	.07	.14	.06	.18	.11	.68	1.11	1.01	1.07	1.03	.94	.92
29	.07	.06	.03	.19	.10	.92	.51	0.95	.02	.10		.96
30	.04	.10	.08	.19	.11	.37	.18	1.12	0.99	.10		.94
31		.37		.14	.10		.08		1.35	.11		.94
Mean	1.04	1.13	1.10	1.15	1.13	1.16	1.53	1.07	1.00	1.14	1.00	0.97
Max.	1.25	1.37	1.24	1.22	1.18	1.92	5.11	1.46	1.35	1.27	1.19	1.39
Min.	0.92	0.94	1.03	1.10	1.10	1.06	0.89	0.91	0.88	0.95	0.82	0.81

WATER YEAR 1977 : Max. 5.11 m. Min. 0.81 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	2.74	4.40	4.72	4.72	5.04	4.40	4.40	3.98	3.70	5.20	4.26	2.35
2	3.28	5.04	3.84	4.72	5.20	4.56	3.56	2.35	1.61	4.72	4.56	2.87
3	2.35	4.56	3.84	4.40	5.20	4.88	2.74	2.74	1.61	4.40	4.88	2.87
4	2.61	4.72	5.68	5.20	5.36	4.56	5.36	2.61	1.61	5.68	4.72	2.61
5	3.14	4.88	4.56	6.00	5.68	4.26	3.56	10	1.52	7.12	4.26	2.09
6	5.04	4.88	5.20	5.68	5.68	4.26	1.70	9.80	1.61	6.80	4.12	2.09
7	3.42	5.04	4.12	5.04	5.36	4.12	1.61	5.52	1.61	4.88	3.70	2.09
8	6.64	5.36	3.56	4.56	5.20	4.12	1.70	2.74	1.61	5.36	2.74	1.25
9	5.04	6.48	3.56	4.40	5.36	4.12	2.22	3.14	1.61	5.52	3.28	0.98
10	2.61	6.96	3.84	4.72	5.36	4.12	4.88	2.48	2.22	5.36	2.22	0.89
11	1.96	3.70	3.84	5.20	5.04	3.98	29	2.48	1.96	5.04	1.16	1.16
12	2.22	3.28	3.70	5.04	5.04	3.84	137	8.40	1.96	4.56	0.98	1.16
13	2.22	2.48	4.12	5.04	5.04	3.98	1.49	7.12	1.96	4.56	0.98	1.16
14	2.48	2.22	5.04	5.04	5.04	3.84	89	3.42	2.09	4.26	1.83	1.34
15	2.48	2.87	4.72	4.40	5.04	3.84	30	3.98	4.88	4.40	4.12	1.16
16	2.87	5.36	5.20	4.56	4.72	3.84	12	2.22	6.80	5.04	4.72	1.16
17	2.87	7.60	6.64	5.36	4.72	3.84	6.96	1.83	5.52	5.52	5.84	1.07
18	3.84	4.12	5.68	5.20	4.56	3.84	4.26	2.22	4.72	5.68	4.88	1.07
19	5.84	8.24	5.36	5.36	4.56	4.12	7.76	5.52	2.61	6.00	3.00	2.22
20	3.98	6.96	4.72	4.72	4.56	4.12	8.56	5.68	2.09	6.00	3.28	5.04
21	3.98	4.88	5.68	4.72	4.56	4.56	7.12	4.26	2.35	5.84	2.22	8.24
22	3.42	3.56	4.40	4.88	4.72	4.56	7.76	3.14	2.35	5.84	2.22	9.04
23	3.14	3.56	3.98	5.04	4.72	4.72	5.52	2.74	3.00	5.04	2.22	8.72
24	5.20	3.28	3.84	5.84	4.72	4.72	2.87	6.96	5.20	4.56	2.61	8.72
25	6.80	3.84	3.84	6.32	4.72	4.56	2.48	3.56	6.96	4.40	2.87	2.74
26	3.28	5.68	3.70	6.32	4.72	4.40	2.61	1.96	2.35	4.26	2.74	2.22
27	3.00	6.32	4.12	6.32	4.72	13	2.61	2.48	2.09	2.35	1.96	2.09
28	3.98	5.04	3.84	5.68	4.56	15	4.56	3.14	3.98	3.42	2.22	1.96
29	3.98	3.84	3.42	5.84	4.40	20	11	2.35	3.28	4.40		2.48
30	3.56	4.40	4.12	5.84	4.56	8.72	5.68	4.72	2.87	4.40		2.22
31		8.72		5.04	4.40		4.12		8.40	4.56		2.22
Total	107.97	152.27	132.88	161.20	152.56	162.16	561.60	123.54	96.13	155.17	88.59	87.28
Mean	3.60	4.91	4.43	5.20	4.92	5.40	18.1	4.12	3.10	5.00	3.16	2.81
Max.	6.80	8.72	6.64	6.32	5.68	20	149	10	8.40	7.12	5.84	9.04
Min.	1.96	2.22	3.42	4.40	4.40	3.84	1.61	1.83	1.52	2.35	0.98	0.89
Runoff – mcm.	9.329	13.156	11.481	13.928	13.181	14.011	48.522	10.674	8.306	13.407	7.654	7.541

WATER YEAR 1977 : Max. 149 Min. 0.89 Mean 5.43 Annual Runoff 171.189 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Oct. 13	91.00	5.17	152				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
PHET RIVER BASIN

Phet River at Ban Tha Sik, Phetchaburi (B. 2A)

Location: Lat. 12°-54'-44" N., Long. 99°-51'-31" E., on left bank about 500 meters downstream from Phet Barrage, Amphoe Tha Yang, Phetchaburi.

Drainage Area: 4,060 Sq.km.

Type of Gage: Staff gage.

Zero Gage at Bottom at: + 12.00 m. (M.S.L.)

Bench Mark: B.M. – H.S.

Location: On abutment of Phet Barrage.
Elevation: + 23.00 m. (M.S.L.)

Gage Reading Frequency: 24-time daily readings at 01.00-24.00 hours.

Basis of Mean Daily Gage Height: Arithmetic mean of 24 hourly readings.

Period of Available Gage Records: 1959 to date.

Rating Operation:

Period of Rating: 1960-1961, 1965 to date.
Rated by Float: –
Rated by Current Meter: 1960-1961, 1965 to date.

Stability of Channel Regimes: Fairly stable, no shifting adjustment for flow computation.

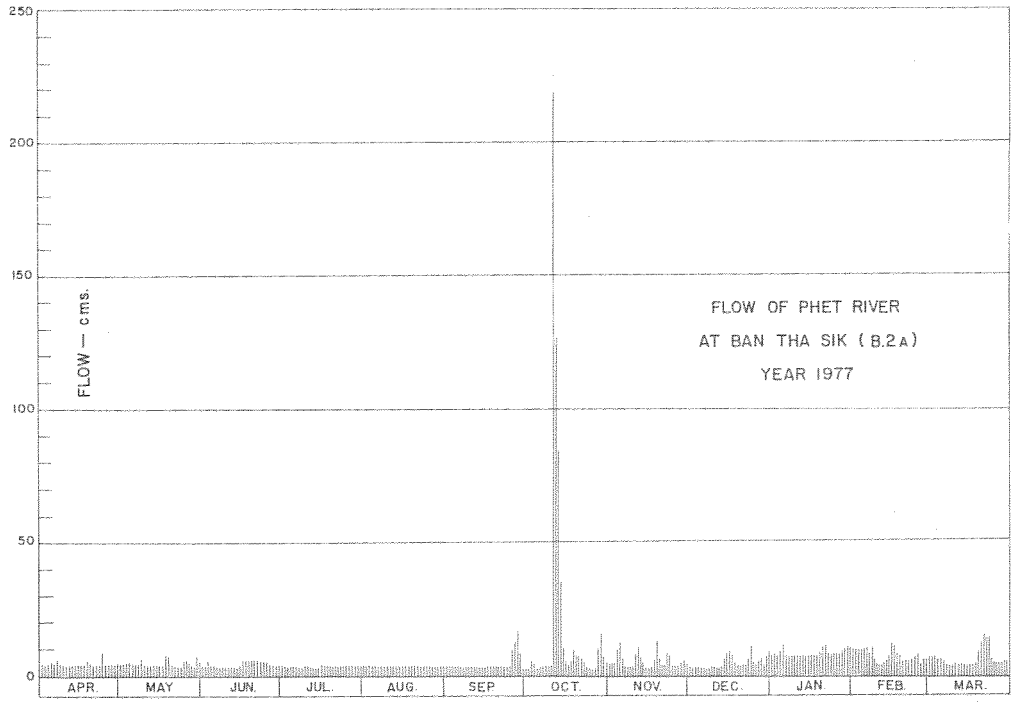
Overbank Flow Conditions: No overbank flow.

General Description: Records fair. Stage-discharge relation defined by 16 discharge measurements made during 1974-1977. Flow regulated by Kaeng Krachan Reservoir and Phet Barrage at above gage site for irrigation of about 27,800 hectares.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	12.22	12.22	12.17	12.18	12.20	12.20	12.10	12.25	12.15	12.35	12.47	12.35
2	.18	.22	.17	.18	.20	.20	.13	.25	.15	.36	.48	.35
3	.15	.22	.27	.18	.20	.20	.30	.25	.15	.36	.48	.33
4	.21	.24	.18	.18	.20	.20	.25	.47	.15	.41	.45	.28
5	.25	.22	.18	.18	.20	.20	.19	.60	.15	.52	.45	.28
6	12.18	12.22	12.17	12.18	12.19	12.20	12.18	12.33	12.15	12.38	12.45	12.23
7	.31	.22	.17	.17	.18	.20	.18	.17	.15	.35	.38	.17
8	.27	.22	.17	.15	.18	.18	.20	.16	.15	.36	.46	.17
9	.19	.33	.17	.15	.18	.18	.20	.16	.17	.35	.28	.19
10	.18	.20	.17	.20	.18	.18	.20	.16	.17	.36	.20	.22
11	12.18	12.19	12.17	12.20	12.18	12.18	14.32	12.36	12.16	12.36	12.20	12.22
12	.18	.17	.17	.15	.18	.18	15.95	.52	.16	.35	.20	.22
13	.18	.17	.17	.15	.18	.18	14.19	.26	.16	.35	.25	.22
14	.19	.17	.17	.15	.18	.18	13.21	.17	.31	.35	.26	.22
15	.20	.18	.19	.15	.19	.18	12.45	.16	.39	.35	.46	.22
16	12.20	12.33	12.29	12.20	12.19	12.18	12.27	12.14	12.43	12.36	12.54	12.22
17	.20	.19	.30	.20	.18	.18	.15	.15	.35	.36	.47	.22
18	.28	.36	.30	.20	.18	.18	.29	.29	.22	.37	.35	.23
19	.23	.35	.30	.18	.18	.18	.46	.60	.17	.47	.34	.39
20	.20	.25	.30	.18	.18	.18	.38	.29	.18	.52	.23	.54
21	12.18	12.20	12.30	12.18	12.18	12.18	12.36	12.20	12.21	12.52	12.26	12.64
22	.17	.17	.29	.18	.18	.18	.34	.21	.20	.48	.27	.63
23	.17	.17	.28	.20	.18	.18	.22	.41	.30	.48	.28	.63
24	.40	.17	.28	.20	.18	.18	.15	.35	.50	.48	.34	.29
25	.20	.29	.28	.20	.18	.18	.13	.17	.23	.49	.37	.20
26	12.20	12.29	12.25	12.20	12.18	12.48	12.13	12.18	12.16	12.36	12.18	12.23
27	.21	.24	.16	.20	.18	.57	.14	.21	.28	.42	.29	.22
28	.22	.18	.16	.20	.18	.74	.44	.22	.33	.45	.30	.27
29	.22	.17	.18	.20	.18	.39	.67	.29	.19	.50		.27
30	.22	.34	.18	.20	.18	.10	.34	.25	.38	.50		.25
31		.22		.20	.18		.25		.43	.48		.25
Mean	12.21	12.22	12.21	12.18	12.18	12.23	12.53	12.27	12.23	12.41	12.34	12.29
Max.	12.40	12.36	12.30	12.20	12.20	12.74	15.95	12.60	12.50	12.52	12.54	12.64
Min.	12.15	12.17	12.16	12.15	12.18	12.10	12.10	12.16	12.15	12.35	12.18	12.17

WATER YEAR 1977 : Max. 15.95 m. Min. 12.10 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	4.40	4.40	3.55	3.70	4.00	4.00	2.50	5.00	3.25	7.25	10	7.25
2	3.70	4.40	3.55	3.70	4.00	4.00	2.95	5.00	3.25	7.50	10	7.25
3	3.25	4.40	5.40	3.70	4.00	4.00	6.00	5.00	3.25	7.50	10	6.75
4	4.20	4.80	3.70	3.70	4.00	4.00	5.00	10	3.25	8.75	10	5.60
5	5.00	4.40	3.70	3.70	4.00	4.00	3.85	13	3.25	11	10	5.60
6	3.70	4.40	3.55	3.70	3.85	4.00	3.70	6.75	3.25	8.00	10	4.60
7	6.25	4.40	3.55	3.55	3.70	4.00	3.70	3.55	3.25	7.25	8.00	3.55
8	5.40	4.40	3.55	3.25	3.70	3.70	4.00	3.40	3.25	7.50	10	3.55
9	3.85	6.75	3.55	3.25	3.70	3.70	4.00	3.40	3.55	7.25	5.60	3.85
10	3.70	4.00	3.55	4.00	3.70	3.70	4.00	3.40	3.55	7.50	4.00	4.40
11	3.70	3.85	3.55	4.00	3.70	3.70	93	7.50	3.40	7.50	4.00	4.40
12	3.70	3.55	3.55	3.25	3.70	3.70	219	11	3.40	7.25	4.00	4.40
13	3.70	3.55	3.55	3.25	3.70	3.70	85	5.20	3.40	7.25	5.00	4.40
14	3.85	3.55	3.55	3.25	3.70	3.70	35	3.55	6.25	7.25	5.20	4.40
15	4.00	3.70	3.85	3.25	3.85	3.70	10	3.40	8.25	7.25	10	4.40
16	4.00	6.75	5.80	4.00	3.85	3.70	5.40	3.10	9.25	7.50	12	4.40
17	4.00	3.85	6.00	4.00	3.70	3.70	3.25	3.25	7.25	7.50	10	4.40
18	5.60	7.50	6.00	4.00	3.70	3.70	5.80	5.80	4.40	7.75	7.25	4.60
19	4.60	7.25	6.00	3.70	3.70	3.70	10	13	3.55	10	7.00	8.25
20	4.00	5.00	6.00	3.70	3.70	3.70	8.00	5.80	3.70	11	4.60	12
21	3.70	4.00	6.00	3.70	3.70	3.70	7.50	4.00	4.20	11	5.20	15
22	3.55	3.55	5.80	3.70	3.70	3.70	7.00	4.20	4.00	8.00	5.40	14
23	3.55	3.55	5.60	4.00	3.70	3.70	4.40	8.75	6.00	8.00	5.60	14
24	8.50	3.55	5.60	4.00	3.70	3.70	3.25	7.25	11	8.00	7.00	5.80
25	4.00	5.80	5.60	4.00	3.70	3.70	2.95	3.55	4.60	8.25	7.75	4.00
26	4.00	5.80	5.00	4.00	3.70	10	2.95	3.70	3.40	7.50	3.70	4.60
27	4.20	4.80	3.40	4.00	3.70	13	3.10	4.20	5.60	9.00	5.80	4.40
28	4.40	3.70	3.40	4.00	3.70	17	9.50	4.40	6.75	10	6.00	5.40
29	4.40	3.55	3.70	4.00	3.70	8.25	16	5.80	3.85	11		5.40
30	4.40	7.00	3.70	4.00	3.70	2.50	7.00	5.00	8.00	11		5.00
31		4.40		4.00	3.70		5.00		9.25	10		5.00
Total	129.30	144.60	133.30	116.05	116.65	145.35	582.80	170.95	152.60	261.50	203.10	190.65
Mean	4.31	4.66	4.44	3.74	3.76	4.84	18.8	5.69	4.92	8.43	7.25	6.15
Max.	8.50	7.50	6.00	4.00	4.00	17	219	13	11	11	12	15
Min.	3.25	3.55	3.40	3.25	3.70	2.50	2.50	3.40	3.25	7.25	3.70	3.55
Runoff - mcm.	11.171	12.493	11.517	10.027	10.078	12.558	50.354	14.770	13.185	22.594	17.548	16.472

WATER YEAR 1977 : Max. 219 Min. 2.50 Mean 6.43 Annual Runoff 202.768 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Oct. 11	20.00	16.15	238				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
PHET RIVER BASIN

Phet 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 at: + 41.00 m. (M.S.L.)

Bench Mark: B.M. - H.S.

Location: Near the top gage.
Elevation: + 49.760 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: 1930 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: Stable, no shifting adjustment for flow computation.

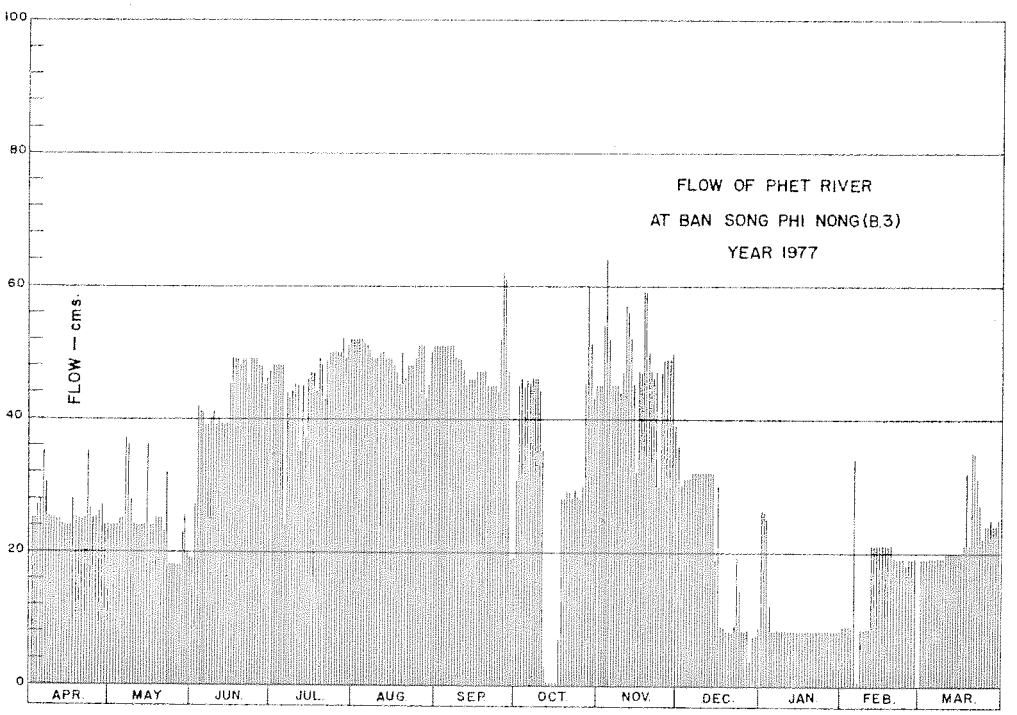
Overbank Flow Conditions: No overbank flow.

General Description: Records fair. Stage-discharge relation defined by 12 discharge measurements made in 1974. Flow regulated by Kaeng Krachan Reservoir.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	42.45	42.43	42.33	42.84	42.91	42.89	42.56	42.80	42.64	42.48	42.09	42.33
2	.45	.43	.50	.84	.91	.89	.80	.79	.55	.48	.09	.33
3	.45	.44	.75	.84	.90	.89	.81	.93	.57	.46	.09	.33
4	.51	.45	.74	.84	.90	.89	.80	43.08	.57	.27	.08	.33
5	.51	.45	.73	.84	.89	.89	.81	42.91	.57	.07	.62	.33
6	42.63	42.45	42.70	42.43	42.89	42.89	42.80	42.79	42.59	42.07	41.82	42.33
7	.54	.66	.70	.78	.88	.89	.81	.79	.59	.07	42.08	.33
8	.46	.65	.71	.76	.85	.86	.81	.80	.58	.07	.08	.33
9	.46	.52	.74	.78	.85	.85	.81	.78	.42	.07	.08	.33
10	.45	.43	.70	.79	.87	.85	.78	.83	.58	.07	.08	.35
11	42.45	42.43	42.71	42.79	42.87	42.82	42.63	42.98	42.58	42.07	42.08	42.36
12	.45	.43	.70	.63	.87	.80	41.91	.96	.58	.07	.37	.36
13	.44	.43	.70	.79	.86	.81	.82	.90	.58	.07	.37	.36
14	.44	.43	.70	.67	.86	.81	.76	.79	.58	.07	.37	.36
15	.44	.65	.76	.81	.86	.81	.74	.59	.33	.07	.37	.36
16	42.44	42.43	42.86	42.83	42.84	42.82	41.73	42.82	42.55	42.07	42.37	42.36
17	.51	.44	.86	.83	.83	.82	42.03	.83	.08	.07	.38	.37
18	.45	.45	.85	.78	.80	.82	.51	43.01	.08	.07	.38	.58
19	.45	.45	.84	.85	.87	.82	.51	.00	.07	.07	.38	.38
20	.45	.45	.85	.84	.81	.79	.53	42.87	.07	.07	.33	.63
21	42.45	42.41	42.85	42.77	42.84	42.79	42.53	42.82	42.06	42.07	42.34	42.63
22	.46	.58	.80	.86	.84	.80	.52	.81	.08	.07	.33	.57
23	.63	.31	.85	.88	.84	.79	.53	.83	.33	.07	.33	.50
24	.45	.31	.85	.88	.85	.78	.52	.54	.23	.07	.34	.40
25	.45	.31	.85	.87	.89	.90	.51	.83	.07	.07	.32	.43
26	42.45	42.32	42.84	42.87	42.89	43.05	42.54	42.86	42.07	42.07	42.33	42.44
27	.47	.32	.84	.87	.89	.04	.79	.86	.07	.07	.33	.45
28	.50	.41	.80	.90	.76	42.83	43.02	.86	41.93	.07	.33	.43
29	.43	.48	.81	.85	.80	.33	42.89	.87	42.05	.07		.43
30	.43	.35	.83	.89	.88	.33	.77	.70	.05	.07		.45
31		.33		.91	.89		.80		.08	.07		.45
Mean	42.47	42.44	42.76	42.81	42.86	42.82	42.53	42.84	42.33	42.12	42.26	42.41
Max.	42.63	42.66	42.86	42.91	42.91	43.05	43.02	43.08	42.64	42.48	42.62	42.63
Min.	42.43	42.31	42.33	42.43	42.76	42.33	41.73	42.54	41.93	42.07	41.82	42.33

WATER YEAR 1977 : Max. 43.08 m. Min. 41.73 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	25	24	19	48	52	51	31	45	35	26	8.87	19
2	25	24	27	48	52	51	45	45	30	26	8.87	19
3	25	24	42	48	52	51	46	54	31	25	8.87	19
4	28	25	41	48	52	51	45	64	31	16	8.54	19
5	28	25	41	48	51	51	46	52	31	8.21	34	19
6	35	25	39	24	51	51	45	45	32	8.21	0.52	19
7	30	37	39	44	50	51	46	45	32	8.21	8.54	19
8	25	36	40	43	49	49	46	45	32	8.21	8.54	19
9	25	28	41	44	49	49	46	44	23	8.21	8.54	19
10	25	24	39	45	50	49	44	47	32	8.21	8.54	20
11	25	24	40	45	50	47	35	57	32	8.21	8.54	20
12	25	24	39	35	50	45	2.93	56	32	8.21	21	20
13	24	24	39	45	49	46	0.52	52	32	8.21	21	20
14	24	24	39	37	49	46	0.00	45	32	8.21	21	20
15	24	36	43	46	49	46	0.00	32	19	8.21	21	20
16	24	24	49	47	48	47	0.00	47	30	8.21	21	20
17	28	24	49	47	47	47	6.89	47	8.54	8.21	21	21
18	25	25	49	44	45	47	28	59	8.54	8.21	21	32
19	25	25	48	49	50	47	28	59	8.21	8.21	21	21
20	25	25	49	48	46	45	29	50	8.21	8.21	19	35
21	25	23	49	43	48	45	29	47	7.88	8.21	19	35
22	25	32	45	49	48	45	28	46	8.54	8.21	19	31
23	35	18	49	50	48	45	29	47	19	8.21	19	27
24	25	18	49	50	49	44	28	30	14	8.21	19	22
25	25	18	49	50	51	52	28	47	8.21	8.21	18	24
26	25	18	48	50	51	62	30	49	8.21	8.21	19	24
27	26	18	48	50	51	61	45	49	8.21	8.21	19	25
28	27	23	45	52	43	47	60	49	3.59	8.21	19	24
29	24	26	46	49	45	19	51	50	7.55	8.21		24
30	24	20	47	51	50	19	43	39	7.55	8.21		25
31		19		52	51		45		8.54	8.21		25
Total	781	760	1,287	1,429.	1,526	1,406	986.34	1,443	620.78	314.67	450.37	706
Mean	26.0	24.5	42.9	46.1	49.2	46.9	31.8	48.1	20.0	10.2	16.1	22.8
Max.	35	37	49	52	52	62	60	64	35	26	34	35
Min.	24	18	19	24	43	19	0.00	30	3.59	8.21	0.52	19
Runoff - MCM.	67.478	65.664	111.197	123.466	131.846	121.478	85.220	124.675	53.635	27.187	38.912	60.998

WATER YEAR 1977 : Max. 64 Min. 0.00 Mean 32.1 Annual Runoff 1,011.756 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Nov.4	06.00	43.08	64				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
PHET RIVER BASIN

Phet River at Ban Wang Won, Phetchaburi (B. 5)

Location: Lat. 12°-54'-40" N., Long. 99°-38'-38" E., on right bank about 1 kilometer downstream from Kaeng Krachan Reservoir, Amphoe Tha Yang, Phetchaburi.

Drainage Area: 2,207 Sq.km.

Type of Gage: Water-stage recorder.

Zero Gage at Bottom at: + 48.48 m. (M.S.L.)

Bench Mark: B.M. - H.S. No. 11

Location: Infront of B5 station office.
Elevation: + 66.904 m. (M.S.L.)

Gage Reading Frequency: Recording

Basis of Mean Daily Gage Height: Arithmetic mean of 24 hourly readings.

Period of Available Gage Records: 1962 to date.

Rating Operation:

Period of Rating: 1962 to date.
Rated by Float: -
Rated by Current Meter: 1962 to date.

Stability of Channel Regimes: Stable, no shifting adjustment for flow computation.

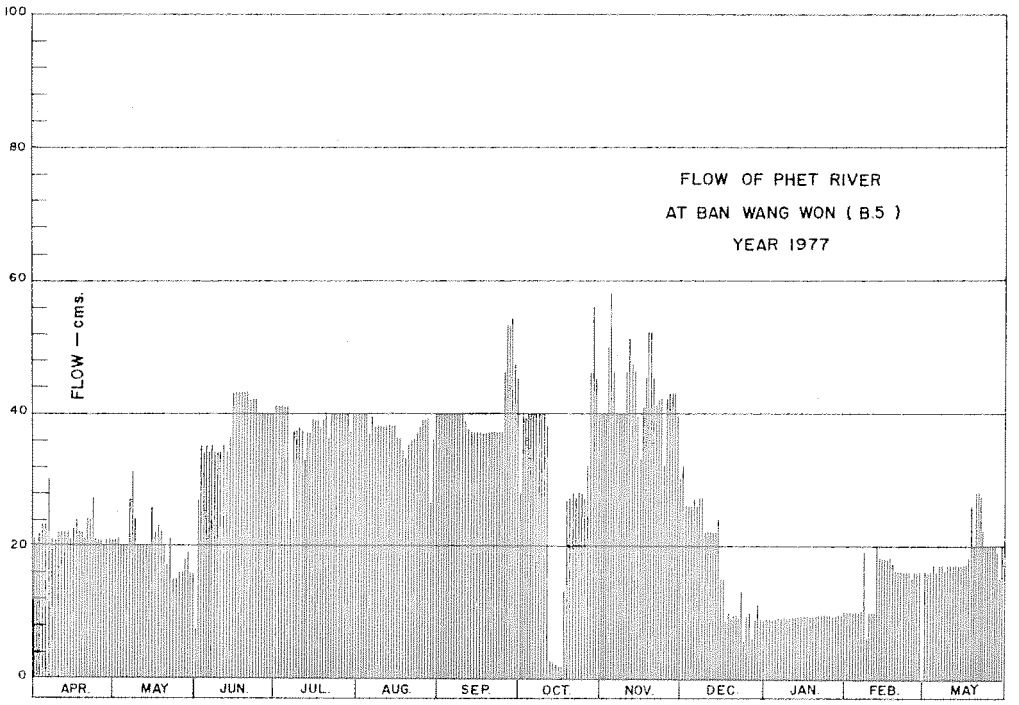
Overbank Flow Conditions: No overbank flow.

General Description: Records good. Stage-discharge relation defined by 12 discharge measurements made in 1977.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	49.08	49.07	48.84	49.70	49.68	49.68	49.33	49.69	49.45	48.42	48.50	48.87
2	.06	.07	49.30	.71	.68	.69	.67	.68	.28	.41	.49	.87
3	.11	.07	.54	.71	.67	.69	.66	.92	.28	.42	.50	.86
4	.18	.06	.53	.70	.68	.69	.67	50.08	.28	.41	.50	.92
5	.17	.06	.54	.70	.58	.69	.68	49.82	.29	.42	.48	.87
6	49.36	49.07	49.52	49.18	49.65	49.68	49.67	49.68	49.27	48.43	48.50	48.88
7	.17	.30	.55	.59	.63	.67	.67	.67	.30	.43	.99	.89
8	.06	.42	.52	.60	.63	.67	.69	.69	.30	.44	.17	.87
9	.09	.19	.52	.62	.62	.67	.68	.69	.13	.43	.49	.89
10	.12	.04	.53	.63	.63	.65	.68	.83	.12	.42	.53	.89
11	49.11	49.04	49.54	49.61	49.64	49.63	48.64	49.94	49.12	48.44	48.49	48.90
12	.12	.04	.53	.48	.63	.60	47.85	.86	.12	.43	49.02	.89
13	.11	.05	.54	.61	.63	.61	.83	.83	.13	.46	48.95	.90
14	.11	.05	.61	.60	.63	.61	.82	.61	.18	.44	.96	.90
15	.12	.28	.76	.65	.62	.60	.78	.51	48.82	.45	.95	.89
16	49.15	49.04	49.76	49.65	49.57	49.60	47.73	49.71	48.81	48.45	48.94	48.90
17	.20	.11	.76	.65	.57	.60	48.69	.80	.38	.44	.97	.94
18	.11	.15	.76	.62	.52	.60	49.31	.75	.45	.44	.89	49.27
19	.11	.14	.75	.65	.50	.61	.31	.95	.42	.44	.85	.04
20	.10	.05	.75	.67	.54	.60	.32	.80	.43	.44	.85	.33
21	49.18	48.91	49.74	49.57	49.58	49.61	49.32	49.71	48.46	48.47	48.85	49.33
22	.21	49.10	.74	.67	.58	.60	.31	.72	.43	.46	.85	.32
23	.30	48.82	.74	.69	.59	.61	.32	.74	.70	.46	.85	.14
24	.09	.78	.68	.68	.62	.59	.32	.46	.15	.46	.83	.02
25	.07	.83	.67	.67	.65	.83	.30	.73	.44	.46	.81	.03
26	49.08	48.85	49.67	49.68	49.66	49.97	49.46	49.75	48.48	48.45	48.86	49.03
27	.03	.85	.68	.67	.66	.97	.83	.76	.17	.45	.87	.03
28	.07	.95	.67	.69	.27	50.00	50.05	.76	.40	.47	.85	.01
29	.07	49.01	.69	.60	.58	49.84	49.81	.69	.61	.49		48.78
30	.07	48.86	.68	.67	.63	.80	.69	.37	.41	.49		49.02
31		.84		.68	.68		.68		.40	.50		.02
Mean	49.13	49.03	49.60	49.63	49.61	49.69	49.22	49.75	48.81	48.44	48.74	48.98
Max.	49.36	49.42	49.76	49.71	49.68	50.00	50.05	50.08	49.45	48.50	49.02	49.33
Min.	49.03	48.78	48.84	49.18	49.27	49.60	47.73	49.37	48.15	48.41	48.17	48.78

WATER YEAR 1977 : Max. 50.08 m. Min. 47.73 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	21	21	7.50	41	40	40	28	40	32	9.06	10	16
2	20	21	27	41	40	40	40	40	26	8.93	9.97	16
3	22	21	35	41	40	40	39	50	26	9.06	10	16
4	24	20	34	41	40	40	40	58	26	8.93	10	17
5	23	20	35	41	36	40	40	46	27	9.06	9.84	16
6	30	21	34	24	39	40	40	40	26	9.19	10	17
7	23	27	35	37	38	40	40	40	27	9.19	19	17
8	20	31	34	37	38	40	40	40	27	9.32	5.94	16
9	21	24	34	38	38	40	40	40	22	9.19	9.97	17
10	22	20	34	38	38	39	40	46	22	9.06	10	17
11	22	20	35	37	38	38	38	51	22	9.32	9.97	17
12	22	20	34	33	38	37	2.70	47	22	9.19	20	17
13	22	20	35	37	38	37	2.54	46	22	9.58	18	17
14	22	20	37	37	38	37	2.46	37	24	9.32	18	17
15	21	26	43	39	38	37	2.14	33	15	9.45	18	17
16	23	20	43	39	36	37	1.74	41	15	9.45	18	17
17	24	22	43	39	36	37	13	45	8.54	9.32	18	18
18	22	23	43	38	34	37	27	52	9.45	9.32	17	26
19	22	22	43	39	33	37	27	52	9.06	9.32	16	20
20	21	20	43	40	35	37	28	45	9.19	9.32	16	28
21	24	17	42	36	36	37	28	41	9.58	9.71	16	28
22	24	21	42	40	36	37	27	42	9.19	9.58	16	27
23	27	15	42	40	37	37	28	42	13	9.58	16	22
24	21	15	40	40	38	37	28	32	5.70	9.58	16	20
25	21	16	40	40	39	46	27	42	9.32	9.58	15	20
26	21	16	40	40	39	53	32	43	9.84	9.45	16	20
27	20	16	40	40	39	53	46	43	5.94	9.45	16	20
28	21	18	40	40	26	54	56	43	8.80	9.71	16	19
29	21	19	40	37	36	47	45	40	11	9.97		15
30	21	16	40	40	38	45	40	30	8.93	9.97		20
31		16		40	40		40		8.80	10		20
Total	668	624	1,114.50	1,190	1,155	1,216	928.58	1,287	517.34	291.16	400.69	590
Mean	22.3	20.1	37.1	38.4	37.2	40.5	29.9	42.9	16.7	9.39	14.3	19.0
Max.	30	31	43	41	40	54	56	58	32	10	20	28
Min.	20	15	7.50	24	26	37	1.74	30	5.70	8.93	5.94	15
Runoff - MCM.	57.715	53.914	96.293	102.816	99.792	105.062	80.229	111.197	44.698	25.156	34.620	50.976

WATER YEAR 1977 : Max. 58 Min. 1.74 Mean 27.3 Annual Runoff 862.468 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Nov. 4	05 .00	50.99	58				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
PHET 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 on country road Khuan Phet – Kaeng Krachan Reservoir, Amphoe Tha Yang, Phetchaburi.

Drainage Area: 1,015 Sq.km.

Type of Gage: Water-stage recorder.

Zero Gage at Bottom at: + 22.71 m. (M.S.L.)

Bench Mark: B.M. – H.S./RID

Location: Near the automatic gage building.
Elevation: + 30.288 m. (M.S.L.)

Gage Reading Frequency: Recording

Basis of Mean Daily Gage Height: Arithmetic mean of 24 hourly readings.

Period of Available Gage Records: 1941-1942, 1961 to date.

Rating Operation:

Period of Rating: 1961 to date.
Rated by Float: –
Rated by Current Meter: 1961 to date.

Stability of Channel Regimes: Stable, no shifting adjustment for flow computation.

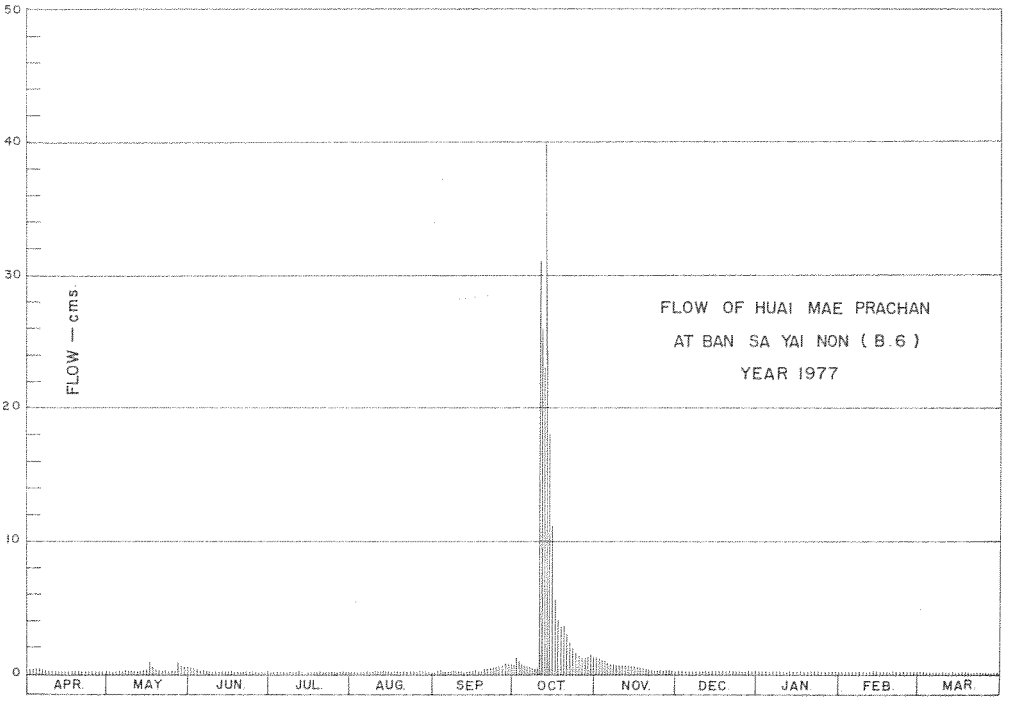
Overbank Flow Conditions: No overbank flow.

General Description: Records fair. Stage-discharge relation defined by 19 discharge measurements made in 1977.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	23.62	23.40	23.65	23.45	23.46	23.50	23.73	23.85	23.58	23.48	23.38	23.29
2	.62	.43	.67	.44	.47	.58	.85	.84	.59	.48	.40	.29
3	.62	.42	.63	.44	.46	.62	.80	.82	.55	.47	.41	.29
4	.61	.42	.61	.41	.46	.57	.74	.80	.56	.47	.41	.29
5	.61	.41	.59	.36	.46	.52	.71	.78	.54	.47	.41	.29
6	23.61	23.40	23.58	23.36	23.48	23.52	23.68	23.75	23.52	23.46	23.41	23.29
7	.57	.56	.58	.36	.50	.60	.69	.75	.52	.46	.41	.29
8	.52	.59	.57	.35	.49	.61	.66	.74	.48	.45	.41	.29
9	.52	.57	.56	.36	.49	.60	.64	.73	.47	.42	.41	.29
10	.52	.55	.56	.39	.62	.58	.74	.74	.49	.44	.40	.28
11	23.52	23.52	23.55	23.38	23.58	23.55	25.04	23.73	23.51	23.44	23.39	23.28
12	.52	.50	.54	.58	.56	.51	24.82	.73	.51	.44	.38	.28
13	.51	.48	.54	.53	.60	.52	25.28	.72	.51	.43	.38	.28
14	.51	.56	.53	.47	.57	.57	24.67	.73	.46	.43	.37	.28
15	.51	.63	.53	.47	.49	.61	.38	.71	.47	.42	.37	.28
16	23.51	23.54	23.53	23.45	23.59	23.62	24.26	23.70	23.46	23.42	23.36	23.28
17	.50	.78	.52	.43	.56	.60	.16	.68	.45	.43	.35	.28
18	.50	.68	.53	.44	.55	.57	.08	.66	.45	.42	.35	.28
19	.50	.62	.53	.44	.56	.56	.06	.65	.45	.42	.35	.28
20	.50	.58	.52	.44	.53	.67	.07	.64	.45	.42	.35	.28
21	23.50	23.55	23.51	23.42	23.49	23.69	24.02	23.62	23.46	23.42	23.34	23.29
22	.49	.63	.50	.43	.45	.69	23.98	.64	.48	.41	.31	.30
23	.49	.57	.50	.46	.44	.69	.94	.62	.47	.41	.30	.30
24	.49	.56	.49	.47	.49	.71	.90	.62	.46	.41	.29	.30
25	.48	.60	.48	.53	.50	.73	.88	.59	.46	.41	.29	.28
26	23.48	23.55	23.48	23.56	23.58	23.70	23.85	23.58	23.49	23.41	23.29	23.25
27	.48	.68	.48	.55	.56	.73	.84	.60	.49	.40	.29	.25
28	.48	.73	.47	.53	.54	.77	.84	.59	.49	.40	.29	.25
29	.47	.71	.46	.51	.53	.76	.85	.62	.48	.40		.25
30	.45	.69	.45	.48	.52	.74	.89	.61	.48	.39		.25
31		.67		.47	.52		.86		.47	.39		.24
Mean	23.52	23.57	23.54	23.45	23.52	23.62	24.03	23.69	23.49	23.43	23.36	23.28
Max.	23.62	23.78	23.67	23.58	23.60	23.77	25.28	23.85	23.59	23.48	23.41	23.30
Min.	23.45	23.40	23.45	23.35	23.44	23.50	23.64	23.58	23.45	23.39	23.29	23.24

WATER YEAR 1977 : Max. 25.28 m. Min. 23.24 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.32	0.02	0.40	0.05	0.06	0.08	0.67	1.29	0.22	0.07	0.02	0.01
2	0.32	0.04	0.46	0.04	0.06	0.22	1.23	1.23	0.24	0.07	0.02	0.01
3	0.32	0.03	0.34	0.04	0.06	0.32	0.97	1.10	0.17	0.06	0.03	0.01
4	0.29	0.03	0.29	0.03	0.06	0.21	0.71	0.97	0.19	0.06	0.03	0.01
5	0.29	0.03	0.24	0.02	0.06	0.12	0.58	0.88	0.15	0.06	0.03	0.01
6	0.29	0.02	0.22	0.02	0.07	0.12	0.48	0.75	0.12	0.06	0.03	0.01
7	0.21	0.19	0.22	0.02	0.08	0.26	0.51	0.75	0.12	0.06	0.03	0.01
8	0.12	0.24	0.21	0.01	0.07	0.29	0.43	0.71	0.07	0.05	0.03	0.01
9	0.12	0.21	0.19	0.02	0.07	0.26	0.37	0.67	0.06	0.03	0.03	0.01
10	0.12	0.17	0.19	0.02	0.32	0.22	0.71	0.71	0.07	0.03	0.02	0.01
11	0.12	0.12	0.17	0.02	0.22	0.17	31	0.67	0.12	0.04	0.02	0.01
12	0.12	0.08	0.15	0.22	0.19	0.10	23	0.67	0.12	0.04	0.02	0.01
13	0.10	0.07	0.15	0.13	0.26	0.12	40	0.63	0.12	0.04	0.02	0.01
14	0.10	0.19	0.13	0.06	0.21	0.21	18	0.67	0.06	0.04	0.02	0.01
15	0.10	0.34	0.13	0.06	0.07	0.29	11	0.58	0.06	0.03	0.02	0.01
16	0.10	0.15	0.13	0.05	0.24	0.32	7.88	0.54	0.06	0.03	0.02	0.01
17	0.08	0.88	0.12	0.04	0.19	0.26	5.58	0.48	0.05	0.04	0.01	0.01
18	0.08	0.48	0.13	0.04	0.17	0.21	5.86	0.43	0.05	0.03	0.01	0.01
19	0.08	0.32	0.13	0.04	0.19	0.19	3.52	0.40	0.05	0.03	0.01	0.01
20	0.08	0.22	0.12	0.04	0.13	0.46	3.69	0.37	0.05	0.03	0.01	0.01
21	0.08	0.17	0.10	0.03	0.07	0.51	2.84	0.32	0.06	0.03	0.01	0.01
22	0.07	0.34	0.08	0.04	0.05	0.51	2.32	0.37	0.07	0.03	0.01	0.01
23	0.07	0.21	0.08	0.06	0.04	0.51	1.97	0.32	0.06	0.03	0.01	0.01
24	0.07	0.19	0.07	0.06	0.07	0.58	1.61	0.32	0.06	0.03	0.01	0.01
25	0.07	0.26	0.07	0.13	0.08	0.57	1.48	0.24	0.06	0.03	0.01	0.01
26	0.07	0.17	0.07	0.19	0.22	0.54	1.29	0.22	0.07	0.03	0.01	0.005
27	0.07	0.48	0.07	0.17	0.19	0.67	1.23	0.26	0.07	0.02	0.01	0.005
28	0.07	0.67	0.06	0.13	0.15	0.84	1.23	0.24	0.07	0.02	0.01	0.005
29	0.06	0.58	0.06	0.10	0.13	0.80	1.29	0.32	0.07	0.02		0.005
30	0.05	0.51	0.05	0.07	0.12	0.71	1.55	0.29	0.07	0.02		0.005
31		0.46		0.06	0.12		1.35		0.06	0.02		0.004
Total	4.04	7.87	4.83	2.01	4.02	10.67	172.35	17.40	2.87	1.18	0.51	0.28
Mean	0.13	0.25	0.16	0.06	0.13	0.35	5.56	0.58	0.09	0.04	0.02	0.01
Max.	0.32	0.88	0.46	0.22	0.26	0.84	40	1.29	0.24	0.07	0.03	0.01
Min.	0.05	0.02	0.05	0.01	0.04	0.08	0.37	0.22	0.05	0.02	0.01	0.004
Runoff — ล้าน ลบ.ม.	0.349	0.680	0.417	0.174	0.347	0.922	14.891	1.503	0.248	0.102	0.044	0.024

WATER YEAR 1977 : Max. 40 Min. 0.004 Mean 0.62 Annual Runoff 19.701 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Oct.11	08.00	25.76	65				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
PHET RIVER BASIN

Huai Mae Prachan at Ban Nong Bua, Phetchaburi (B. 7)

Location: Lat. 13°-01'-45" N., Long. 99°-44'-00" E., on left bank at Ban Nong Bua, Amphoe Tha Yang, Phetchaburi.

Drainage Area: 846 Sq.km.

Type of Gage: Water-stage recorder.

Zero Gage at Bottom at: + 0.00 m. (A.D.)

Bench Mark: B.M. - H.S.

Location: Infront of B7 station office.
Elevation: + 10.495 m. (A.D.)

Gage Reading Frequency: Recording

Basis of Mean Daily Gage Height: Arithmetic mean of 24 hourly 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, no shifting adjustment for flow computation.

Overbank Flow Conditions: No overbank flow.

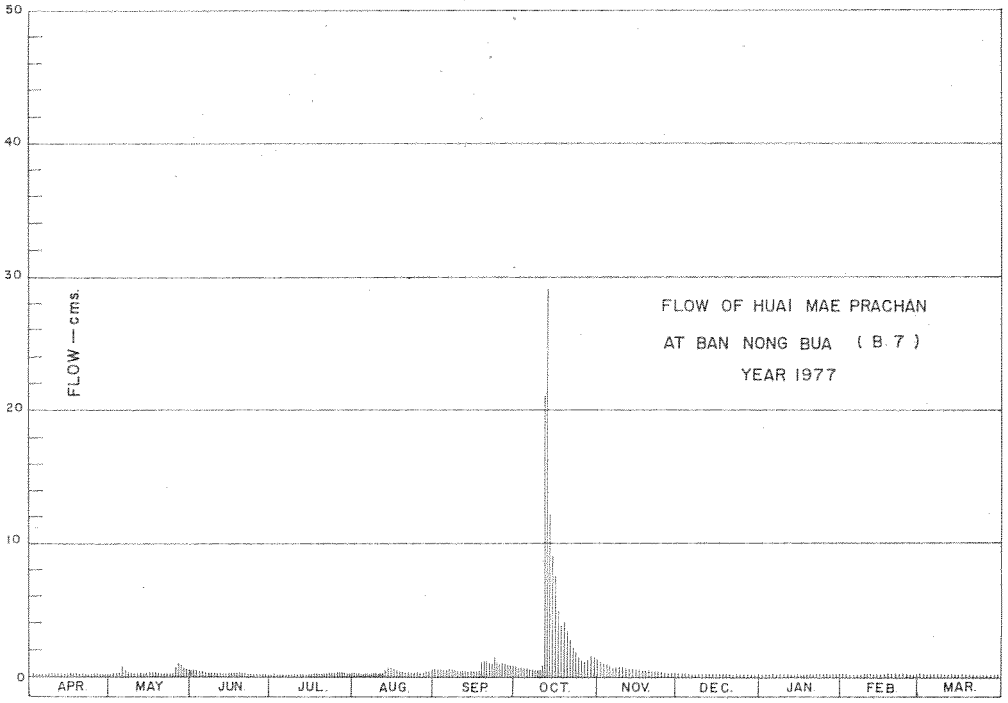
General Description: Records good. Stage-discharge relation defined by 44 discharge measurements made in 1977.

Remarks: Discharge record for periods of no flow are omitted.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.68	0.68	0.91	0.68	0.75	0.99	1.06	1.20	0.77	0.66	0.60	0.60
2	.68	.68	.89	.68	.74	.96	.02	.16	.74	.66	.61	.60
3	.68	.69	.86	.67	.74	.94	.01	.12	.76	.66	.63	.60
4	.69	.69	.83	.66	.74	.91	.01	.10	.74	.67	.64	.60
5	.68	.69	.81	.66	.73	.94	0.99	.08	.72	.68	.63	.61
6	0.68	1.02	0.79	0.66	0.73	1.00	0.97	1.03	0.72	0.67	0.63	0.60
7	.68	0.84	.77	.66	.73	0.97	.94	0.99	.71	.66	.64	.60
8	.69	.75	.77	.66	.73	.93	.89	1.02	.71	.66	.64	.59
9	.68	.72	.75	.66	.76	.90	.90	.04	.71	.65	.63	.60
10	.68	.71	.74	.67	.75	.89	.90	.03	.70	.65	.61	.60
11	0.67	0.70	0.73	0.67	0.74	0.89	1.07	1.03	0.70	0.64	0.61	0.60
12	.67	.70	.73	.68	.74	.87	3.49	.01	.70	.64	.60	.60
13	.69	.70	.73	.69	.82	.86	4.12	.00	.70	.65	.60	.60
14	.69	.70	.73	.69	1.01	.87	2.75	0.98	.69	.65	.60	.59
15	.69	.69	.75	.70	.00	.89	.36	.96	.70	.65	.60	.67
16	0.69	0.74	0.76	0.71	0.96	0.88	2.07	0.95	0.69	0.65	0.60	0.57
17	.68	.76	.76	.71	.90	.88	1.86	.94	.69	.63	.60	.59
18	.68	.78	.76	.72	.86	1.13	.69	.92	.69	.64	.60	.58
19	.68	.73	.75	.72	.84	.18	.75	.90	.69	.63	.60	.58
20	.67	.71	.73	.72	.82	.16	.67	.89	.68	.63	.60	.59
21	0.68	0.71	0.71	0.70	0.82	1.12	1.55	0.88	0.68	0.63	0.60	0.58
22	.68	.71	.71	.73	.80	.09	.45	.86	.68	.64	.60	.58
23	.68	.70	.71	.78	.79	.23	.35	.84	.67	.63	.60	.58
24	.68	.70	.70	.78	.78	.13	.29	.84	.67	.63	.60	.58
25	.68	.69	.69	.78	.81	.09	.24	.80	.67	.63	.61	.57
26	0.67	1.02	0.68	0.79	0.80	1.16	1.19	0.80	0.67	0.63	0.61	0.58
27	.68	.13	.67	.78	.79	.12	.16	.79	.68	.62	.60	.57
28	.67	.07	.67	.77	.82	.08	.17	.78	.67	.62	.59	.57
29	.67	.05	.66	.76	.82	.07	.27	.78	.67	.62		.58
30	.67	0.98	.67	.75	.89	.06	.25	.79	.67	.61		.58
31		.94		.75	.99		.23		.66	.61		.58
Mean	0.68	0.78	0.75	0.71	0.81	1.01	1.50	0.95	0.70	0.64	0.61	0.59
Max.	0.69	1.13	0.91	0.79	1.01	1.23	4.12	1.20	0.77	0.68	0.64	0.61
Min.	0.67	0.68	0.66	0.66	0.73	0.86	0.89	0.78	0.66	0.61	0.59	0.58

WATER YEAR 1977 : Max. 4.12 m. Min. 0.58 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.12	0.12	0.46	0.12	0.22	0.58	0.78	1.20	0.25	0.09	0.00	0.00
2	0.12	0.12	0.43	0.12	0.21	0.54	0.66	1.08	0.21	0.09	0.01	
3	0.12	0.13	0.39	0.10	0.21	0.51	0.63	0.96	0.24	0.09	0.04	
4	0.13	0.13	0.34	0.09	0.21	0.46	0.63	0.90	0.21	0.10	0.06	0.00
5	0.12	0.13	0.31	0.09	0.19	0.51	0.63	0.84	0.18	0.12	0.04	0.01
6	0.12	0.66	0.28	0.09	0.19	0.60	0.55	0.69	0.18	0.10	0.04	0.00
7	0.12	0.36	0.25	0.09	0.19	0.55	0.51	0.58	0.16	0.09	0.06	
8	0.13	0.22	0.25	0.09	0.19	0.49	0.43	0.66	0.16	0.09	0.06	
9	0.12	0.18	0.22	0.09	0.24	0.45	0.45	0.72	0.16	0.07	0.04	
10	0.12	0.16	0.21	0.10	0.22	0.43	0.45	0.69	0.15	0.07	0.01	
11	0.10	0.15	0.19	0.10	0.21	0.43	0.81	0.69	0.15	0.06	0.01	
12	0.10	0.15	0.19	0.12	0.21	0.40	21	0.63	0.15	0.06	0.00	
13	0.13	0.15	0.19	0.13	0.33	0.39	29	0.60	0.15	0.07		
14	0.13	0.15	0.19	0.13	0.63	0.40	12	0.57	0.13	0.07		
15	0.13	0.13	0.22	0.15	0.63	0.43	8.68	0.54	0.15	0.07		
16	0.13	0.21	0.24	0.16	0.54	0.42	6.36	0.52	0.13	0.07		
17	0.12	0.24	0.24	0.16	0.45	0.42	4.82	0.51	0.13	0.04		
18	0.12	0.27	0.24	0.18	0.39	0.99	3.74	0.48	0.13	0.06		
19	0.12	0.19	0.22	0.18	0.36	1.14	4.10	0.45	0.13	0.04		
20	0.10	0.16	0.19	0.18	0.33	1.08	3.62	0.43	0.12	0.04		
21	0.12	0.16	0.16	0.15	0.33	0.96	2.95	0.42	0.12	0.04		
22	0.12	0.16	0.16	0.19	0.30	0.87	2.45	0.39	0.12	0.06		
23	0.12	0.15	0.16	0.27	0.28	1.35	1.95	0.36	0.10	0.04		
24	0.12	0.15	0.15	0.27	0.27	0.99	1.65	0.36	0.10	0.04	0.00	
25	0.12	0.13	0.13	0.27	0.31	0.87	1.40	0.30	0.10	0.04	0.01	
26	0.10	0.66	0.12	0.28	0.30	1.08	1.17	0.30	0.10	0.04	0.01	
27	0.12	0.99	0.10	0.27	0.28	0.96	1.08	0.28	0.12	0.03	0.00	
28	0.10	0.81	0.10	0.25	0.33	0.84	1.11	0.27	0.10	0.03	0.00	
29	0.10	0.69	0.09	0.24	0.33	0.81	1.55	0.27	0.10	0.03		
30	0.10	0.57	0.10	0.22	0.43	0.78	1.45	0.28	0.10	0.01		
31		0.51		0.22	0.58		1.35		0.09	0.01		0.00
Total	3.52	8.99	6.52	5.10	9.89	20.73	117.96	16.97	4.42	1.86	0.39	0.01
Mean	0.12	0.29	0.22	0.16	0.32	0.69	3.80	0.56	0.14	0.06	0.01	0.00
Max.	0.13	0.99	0.46	0.28	0.63	1.35	29	1.20	0.25	0.12	0.06	0.01
Min.	0.10	0.12	0.09	0.09	0.19	0.39	0.43	0.27	0.09	0.01	0.00	0.00
Runoff – mcm.	0.304	0.777	0.563	0.441	0.854	1.791	10.192	1.466	0.382	0.161	0.034	0.001

WATER YEAR 1977 : Max. 29 Min. 0.00 Mean 0.54 Annual Runoff 16.966 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Oct. 13	05.00	4.56	35				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
PHET 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 Phinong, Amphoe Tha Yang, Phetchaburi.

Drainage Area: 264 Sq.km.

Type of Gage: Water-Stage recorder.

Zero Gage at Bottom at: + 0.00 m. (A.D.)

Bench Mark: B.M. - H.S.

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 hourly 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: Fairly stable, no shifting adjustment for flow computation.

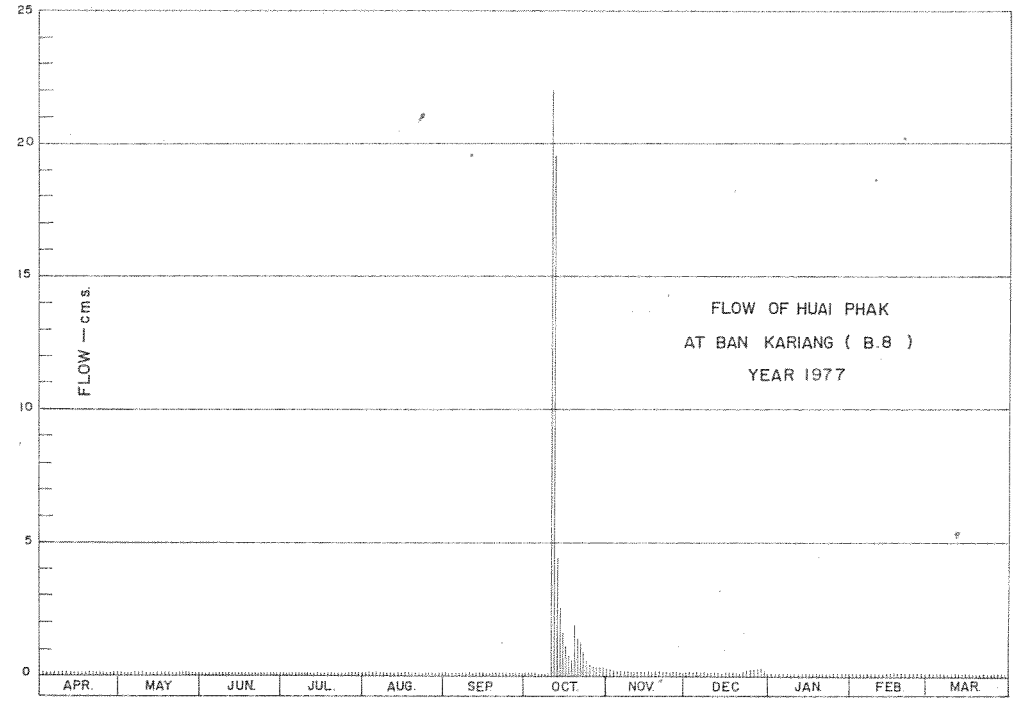
Overbank Flow Conditions: No overbank flow.

General Description: Records fair. Stage-discharge relation defined by 3 discharge measurements made in 1977.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	1.68	1.66	1.68	1.64	1.64	1.66	1.69	1.83	1.74	1.68	1.68	1.67
2	.68	.65	.68	.64	.64	.66	.68	.83	.74	.68	.69	.67
3	.68	.65	.68	.64	.65	.66	.68	.82	.74	.68	.68	.67
4	.68	.65	.66	.64	.65	.66	.67	.81	.74	.69	.68	.67
5	.68	.65	.66	.64	.65	.66	.67	.79	.74	.69	.67	.66
6	1.68	1.65	1.66	1.64	1.65	1.66	1.67	1.79	1.74	1.70	1.67	1.66
7	.68	.65	.66	.65	.65	.66	.67	.79	.73	.69	.67	.65
8	.68	.66	.66	.65	.65	.66	.67	.79	.72	.70	.67	.65
9	.67	.65	.66	.65	.66	.66	.67	.80	.72	.70	.67	.64
10	.66	.65	.66	.66	.67	.66	.67	.79	.72	.68	.67	.66
11	1.66	1.65	1.66	1.66	1.67	1.66	4.25	1.78	1.73	1.69	1.66	1.65
12	.66	.65	.66	.66	.70	.66	3.62	.77	.73	.69	.67	.67
13	.66	.66	.66	.66	.69	.66	2.67	.78	.73	.69	.67	.68
14	.66	.67	.66	.66	.68	.66	.39	.78	.73	.68	.67	.68
15	.66	.68	.66	.66	.67	.66	.20	.78	.73	.68	.67	.68
16	1.66	1.67	1.66	1.66	1.66	1.66	2.08	1.78	1.73	1.68	1.66	1.69
17	.66	.67	.66	.66	.66	.67	.00	.78	.73	.68	.66	.68
18	.66	.67	.66	.66	.66	.67	1.96	.78	.73	.69	.66	.67
19	.66	.67	.66	.66	.66	.67	.93	.78	.73	.68	.67	.66
20	.66	.67	.65	.66	.66	.68	2.27	.76	.72	.68	.67	.64
21	1.66	1.67	1.65	1.66	1.66	1.68	2.13	1.75	1.72	1.68	1.67	1.64
22	.66	.67	.65	.66	.66	.68	.10	.75	.75	.68	.67	.63
23	.66	.67	.64	.68	.66	.68	.01	.75	.81	.68	.67	.63
24	.66	.69	.64	.68	.66	.68	1.95	.75	.82	.68	.67	.64
25	.66	.79	.64	.67	.66	.68	.91	.75	.82	.67	.67	.65
26	1.66	1.74	1.64	1.67	1.66	1.68	1.89	1.75	1.83	1.67	1.67	1.63
27	.66	.72	.64	.66	.65	.68	.88	.75	.84	.67	.67	.63
28	.66	.70	.64	.66	.65	.70	.87	.75	.84	.67	.67	.63
29	.66	.70	.64	.65	.65	.70	.87	.75	.83	.67		.63
30	.66	.70	.64	.65	.65	.70	.86	.75	.81	.67		.63
31		.69		.65	.65		.86		.72	.68		.63
Mean	1.66	1.67	1.65	1.66	1.66	1.67	2.05	1.78	1.75	1.68	1.67	1.65
Max.	1.68	1.79	1.68	1.68	1.70	.70	4.25	1.83	1.84	1.70	1.69	1.69
Min.	1.66	1.65	1.64	1.64	1.64	1.66	1.67	1.75	1.72	1.67	1.66	1.63

WATER YEAR 1977 : Max. 4.25 m. Min. 1.63 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.08	0.06	0.08	0.04	0.04	0.06	0.09	0.26	0.14	0.08	0.08	0.07
2	0.08	0.05	0.08	0.04	0.04	0.06	0.08	0.26	0.14	0.08	0.09	0.07
3	0.08	0.05	0.08	0.04	0.05	0.06	0.08	0.24	0.14	0.08	0.08	0.07
4	0.08	0.05	0.06	0.04	0.05	0.06	0.07	0.22	0.14	0.09	0.08	0.07
5	0.08	0.05	0.06	0.04	0.05	0.06	0.07	0.19	0.14	0.09	0.07	0.06
6	0.08	0.05	0.06	0.04	0.05	0.06	0.07	0.19	0.14	0.10	0.07	0.06
7	0.08	0.05	0.06	0.05	0.05	0.06	0.07	0.19	0.13	0.09	0.07	0.05
8	0.08	0.06	0.06	0.05	0.05	0.06	0.07	0.19	0.12	0.10	0.07	0.05
9	0.07	0.05	0.06	0.05	0.06	0.06	0.07	0.20	0.12	0.10	0.07	0.04
10	0.06	0.05	0.06	0.06	0.07	0.06	0.07	0.19	0.12	0.08	0.07	0.06
11	0.06	0.05	0.06	0.06	0.07	0.06	22	0.18	0.13	0.09	0.06	0.05
12	0.06	0.05	0.06	0.06	0.10	0.06	14	0.17	0.13	0.09	0.07	0.07
13	0.06	0.06	0.06	0.06	0.09	0.06	4.39	0.18	0.13	0.09	0.07	0.08
14	0.06	0.07	0.06	0.06	0.08	0.06	2.45	0.18	0.13	0.08	0.07	0.08
15	0.06	0.08	0.06	0.06	0.07	0.06	1.60	0.18	0.13	0.08	0.07	0.08
16	0.06	0.07	0.06	0.06	0.06	0.06	1.12	0.18	0.13	0.08	0.06	0.09
17	0.06	0.07	0.06	0.06	0.06	0.07	0.80	0.18	0.13	0.08	0.06	0.08
18	0.06	0.07	0.06	0.06	0.06	0.07	0.64	0.18	0.13	0.09	0.06	0.07
19	0.06	0.07	0.06	0.06	0.06	0.07	0.52	0.18	0.13	0.08	0.07	0.06
20	0.06	0.07	0.05	0.06	0.06	0.08	1.88	0.16	0.12	0.08	0.07	0.04
21	0.06	0.07	0.05	0.06	0.06	0.08	1.32	0.15	0.12	0.08	0.07	0.04
22	0.06	0.07	0.05	0.06	0.06	0.08	1.20	0.15	0.15	0.08	0.07	0.03
23	0.06	0.07	0.04	0.08	0.06	0.08	0.84	0.15	0.22	0.08	0.07	0.03
24	0.06	0.09	0.04	0.08	0.06	0.08	0.60	0.15	0.24	0.08	0.07	0.04
25	0.06	0.19	0.04	0.07	0.06	0.08	0.44	0.15	0.24	0.07	0.07	0.05
26	0.06	0.14	0.04	0.07	0.06	0.08	0.38	0.15	0.26	0.07	0.07	0.03
27	0.06	0.12	0.04	0.06	0.05	0.08	0.36	0.15	0.28	0.07	0.07	0.03
28	0.06	0.10	0.04	0.06	0.05	0.10	0.34	0.15	0.28	0.07	0.07	0.03
29	0.06	0.10	0.04	0.05	0.05	0.10	0.34	0.15	0.26	0.07		0.03
30	0.06	0.10	0.04	0.05	0.05	0.10	0.32	0.15	0.22	0.07		0.03
31		0.09		0.05	0.05		0.32		0.12	0.08		0.03
Total	1.97	2.32	1.67	1.74	1.83	2.11	56.60	5.40	5.01	2.55	1.97	1.67
Mean	0.06	0.07	0.05	0.06	0.06	0.07	1.82	0.18	0.16	0.08	0.07	0.05
Max.	0.08	0.19	0.08	0.08	0.10	0.10	22	0.26	0.28	0.10	0.09	0.09
Min.	0.06	0.05	0.04	0.04	0.04	0.06	0.07	0.15	0.12	0.27	0.06	0.03
Runoff - mcm.	0.170	0.200	0.144	0.150	0.158	0.182	4.890	0.467	0.433	0.220	0.170	0.144

WATER YEAR 1977 : Max. 22 Min. 0.03 Mean 0.23 Annual Runoff 7.328 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Oct. 11	16.00	6.61	65				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
PRAN RIVER BASIN

Pran River at Pran Buri Damsite, Prachuap Khiri Khan (Pr. 3A)

Location: Lat. 12°-23'-59" N., Long. 99°-48'-37" E., on right bank about 1.5 kilometers downstream from Pran Damsite, Amphoe Pran Buri, Prachuap Khiri Khan.

Drainage Area: 2,067 Sq.km.

Type of Gage: Water-stage recorder.

Zero Gage at Bottom at: + 13.800 m. (M.S.L.)

Bench Mark: B.M. - H.S.

Location: Near automatic gage building.
Elevation: + 26.276 m. (M.S.L.)

Gage Reading Frequency: Recording

Basis of Mean Daily Gage Height: Arithmetic mean of 24 hourly 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: Stable, no shifting adjustment for flow computation.

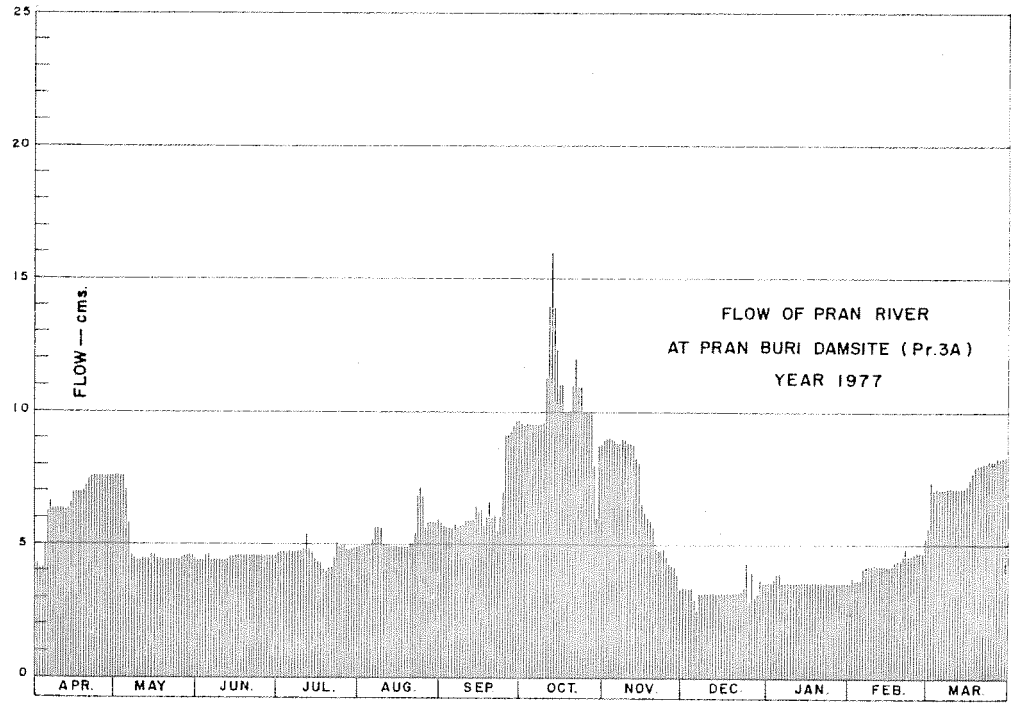
Overbank Flow Conditions: No overbank flow.

General Description: Records good. Stage-discharge relation defined by 208 discharge measurements made in 1976.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	15.62	15.90	15.64	15.66	15.68	15.75	16.04	16.00	15.54	15.56	15.56	15.75
2	.61	.90	.64	.66	.68	.74	.04	.00	.54	.56	.58	.88
3	.61	.90	.64	.66	.68	.74	.04	.00	.54	.57	.57	.86
4	.66	.90	.65	.66	.68	.74	.04	.00	.54	.59	.57	.86
5	.79	.85	.65	.66	.68	.74	.04	15.99	.46	.59	.57	.86
6	15.82	15.70	15.64	15.66	15.71	15.74	16.04	15.99	15.52	15.56	15.61	15.86
7	.80	.65	.64	.66	.74	.74	.04	.99	.52	.56	.62	.86
8	.80	.64	.64	.66	.74	.75	.04	16.00	.52	.56	.62	.86
9	.80	.64	.64	.66	.74	.75	.04	15.99	.52	.56	.62	.86
10	.80	.64	.64	.66	.69	.76	.12	.99	.52	.56	.62	.86
11	15.80	15.64	15.64	15.67	15.69	15.76	16.33	15.99	15.52	15.56	15.62	15.86
12	.80	.64	.64	.72	.69	.76	.44	.98	.52	.56	.62	.86
13	.80	.64	.65	.67	.68	.76	.32	.95	.52	.56	.62	.86
14	.82	.65	.65	.66	.68	.81	.18	.93	.52	.56	.62	.86
15	.85	.64	.65	.64	.68	.79	.13	.81	.52	.56	.62	.86
16	15.85	15.65	15.65	15.63	15.68	15.80	16.12	15.79	15.52	15.56	15.62	15.87
17	.85	.64	.65	.63	.68	.75	.10	.76	.52	.56	.62	.89
18	.85	.64	.65	.61	.68	.78	.09	.76	.52	.56	.63	.91
19	.85	.64	.65	.60	.68	.82	.09	.74	.52	.56	.64	.93
20	.87	.64	.65	.61	.69	.77	.16	.68	.52	.56	.64	.93
21	15.90	15.64	15.65	15.61	15.69	15.78	16.21	15.67	15.52	15.56	15.64	15.93
22	.90	.64	.65	.63	.73	.73	.17	.67	.53	.56	.67	.93
23	.90	.64	.65	.69	.84	.78	.12	.67	.54	.56	.65	.93
24	.90	.64	.65	.68	.87	.87	.10	.66	.63	.56	.65	.94
25	.90	.64	.65	.68	.83	16.01	.10	.63	.48	.56	.65	.94
26	15.90	15.65	15.65	15.68	15.73	16.01	16.09	15.62	15.60	15.56	15.66	15.94
27	.90	.65	.65	.67	.76	.02	.07	.62	.51	.56	.66	.95
28	.90	.65	.65	.67	.76	.04	15.97	.60	.52	.56	.66	.95
29	.90	.65	.65	.67	.76	.05	.77	.54	.57	.56		.95
30	.90	.65	.65	.68	.76	.05	.98	.54	.56	.56		.95
31		.64		.68	.77		.98		.56	.56		.95
Mean	15.82	15.68	15.65	15.66	15.72	15.82	16.10	15.82	15.53	15.56	15.62	15.89
Max.	15.90	15.90	15.65	15.72	15.87	16.05	16.44	16.00	15.60	15.59	15.67	15.95
Min.	15.61	15.64	15.64	15.60	15.68	15.74	15.77	15.54	15.46	15.56	15.56	15.75

WATER YEAR 1977 : Max. 16.44 m. Min. 15.46 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	4.24	7.60	4.48	4.72	4.96	5.80	9.56	9.00	3.40	3.60	3.60	5.68
2	4.12	7.60	4.48	4.72	4.96	5.68	9.56	9.00	3.40	3.60	3.80	7.36
3	4.12	7.60	4.48	4.72	4.96	5.68	9.56	9.00	3.40	3.70	3.70	7.12
4	4.72	7.60	4.60	4.72	4.96	5.68	9.56	9.00	3.40	3.90	3.70	7.12
5	6.28	7.00	4.60	4.72	4.96	5.68	9.56	8.86	2.60	3.90	3.70	7.12
6	6.64	5.20	4.48	4.72	5.32	5.80	9.56	8.86	3.20	3.60	4.12	7.12
7	6.40	4.60	4.48	4.72	5.68	5.68	9.56	8.86	3.20	3.60	4.24	7.12
8	6.40	4.48	4.48	4.72	5.68	5.80	9.56	9.00	3.20	3.60	4.24	7.12
9	6.40	4.48	4.48	4.72	5.68	5.80	9.56	8.86	3.20	3.60	4.24	7.12
10	6.40	4.48	4.48	4.72	5.08	5.92	11	8.86	3.20	3.60	4.24	7.12
11	6.40	4.48	4.48	4.84	5.08	5.92	14	8.86	3.20	3.60	4.24	7.12
12	6.40	4.48	4.48	5.44	5.08	5.92	16	8.72	3.20	3.60	4.24	7.12
13	6.40	4.48	4.60	4.84	4.96	5.92	14	8.30	3.20	3.60	4.24	7.12
14	6.64	4.60	4.60	4.72	4.96	6.52	12	8.02	3.20	3.60	4.24	7.12
15	7.00	4.68	4.60	4.48	4.96	6.28	11	6.52	3.20	3.60	4.24	7.12
16	7.00	4.60	4.60	4.36	4.96	6.40	11	6.28	3.20	3.60	4.24	7.24
17	7.00	4.48	4.60	4.36	4.96	5.80	10	5.92	3.20	3.60	4.24	7.48
18	7.00	4.48	4.60	4.12	4.96	6.16	10	5.92	3.20	3.60	4.36	7.74
19	7.00	4.48	4.60	4.00	4.96	6.64	10	5.68	3.20	3.60	4.48	8.02
20	7.24	4.48	4.60	4.12	5.08	6.04	11	4.96	3.20	3.60	4.48	8.02
21	7.60	4.48	4.60	4.12	5.08	6.16	12	4.84	3.20	3.60	4.48	8.02
22	7.60	4.48	4.60	4.36	5.56	5.56	11	4.84	3.30	3.60	4.84	8.02
23	7.60	4.48	4.60	5.08	6.88	6.16	11	4.84	3.40	3.60	4.60	8.02
24	7.60	4.48	4.60	4.96	7.24	7.24	10	4.72	4.36	3.60	4.60	8.16
25	7.60	4.48	4.60	4.96	6.76	9.14	10	4.36	2.80	3.60	4.60	8.16
26	7.60	4.60	4.60	4.96	5.56	9.14	10	4.24	4.00	3.60	4.72	8.16
27	7.60	4.60	4.60	4.84	5.92	9.28	9.98	4.24	3.10	3.60	4.72	8.30
28	7.60	4.60	4.60	4.84	5.92	9.56	8.58	4.00	3.20	3.60	4.72	8.30
29	7.60	4.60	4.60	4.84	5.92	9.70	6.04	3.40	3.70	3.60		8.30
30	7.60	4.60	4.60	4.96	5.92	9.70	8.72	3.40	3.60	3.60		8.30
31		4.48		4.96	6.04		8.72		3.60	3.60		8.30
Total	199.80	154.76	136.80	145.36	169.00	200.76	322.08	201.36	102.46	112.30	119.86	234.14
Mean	6.33	4.99	4.56	4.69	5.45	6.69	10.4	6.71	3.30	3.62	4.28	7.55
Max.	7.60	7.60	4.60	5.44	7.24	9.70	16	9.00	4.00	3.90	4.84	8.30
Min.	4.12	4.48	4.48	4.00	4.96	5.68	6.04	3.40	2.60	3.60	3.60	5.68
Runoff - mcm.	17.263	13.371	11.819	12.559	14.602	17.346	27.828	17.397	8.852	9.703	10.356	20.230

WATER YEAR 1977 : Max. 16 Min. 2.60 Mean 5.75 Annual Runoff 181.326 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Oct.11	21.00	16.48	17				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
PRAN RIVER BASIN

Khlong Bung at Ban Wang Sai Ding, Prachuap Khiri Khan (Gt. 5)

Location: Lat. 11°-55'-46" N., Long. 99°-42'-56" E., on right bank at Ban Wang Sai Ding, Tambon Ao Noi, Amphoe Muang, Prachuap Khirikhan.

Drainage Area: 141 Sq.km.

Type of Gage: Staff gage.

Zero Gage at Bottom at: + 0.00 m. (A.D.)

Bench Mark: B.M. - H.S.

Location: At about 3 meters east of station office of Gt. 5
Elevation: + 5.665 m. (A.D.)

Gage Reading Frequency: 24-time daily readings at 01.00-24.00 hours.

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

Period of Available Gage Records: 1975 to date.

Rating Operation:

Period of Rating: 1975 to date.
Rated by Float: -
Rated by Current Meter: 1975 to date.

Stability of Channel Regimes: Stable, no shifting adjustment for flow computation.

Overbank Flow Conditions: No overbank flow.

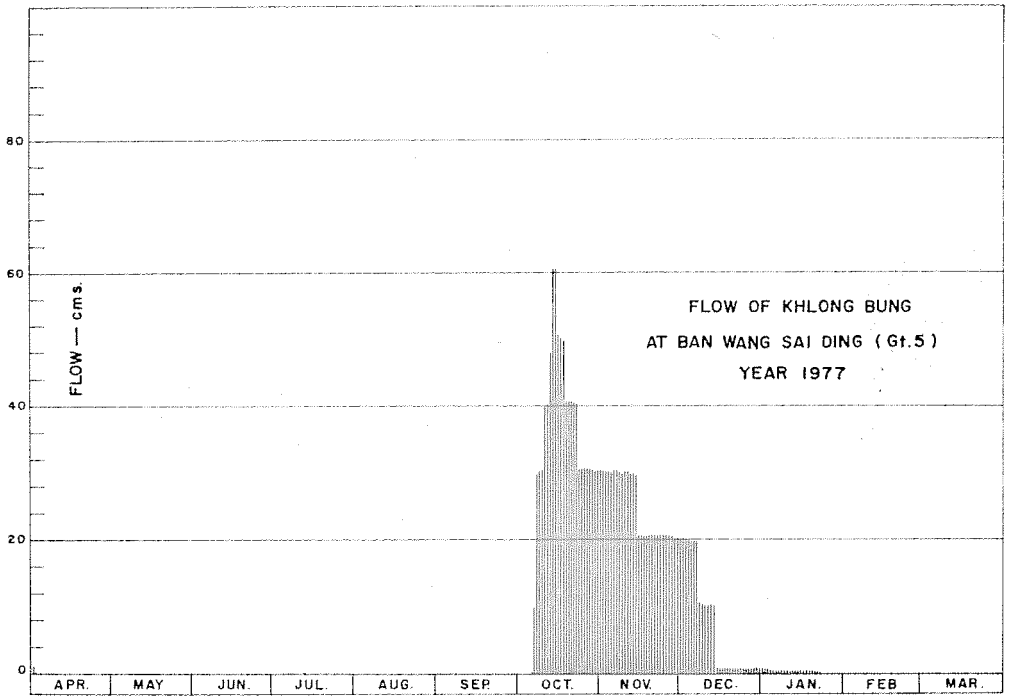
General Description: Records fair except those for periods of no gage height records which are poor. Stage-discharge relation defined by 9 discharge measurements made in 1977.

Remarks: Gage height and discharge record for periods of no flow are omitted.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	1.86	0.94	0.07				0.19	1.98	1.95	1.91	1.52	
2	.85	.90	.07				.65	.98	.95	.91	.46	
3	.85	.85	.07				1.24	.98	.95	.90	.39	
4	.85	.79	.07				.48	.98	.95	.90	.31	
5	.85	.76	.07				.67	.97	.94	.90	.22	
6	1.85	0.73	0.07				1.84	1.99	1.94	1.90	1.09	
7	.84	.69	.07				.93	.99	.94	.90	.00	
8	.83	.65	.07				.97	.98	.93	.90	0.89	
9	.83	.60	.07				.98	.97	.93	.90	.80	
10	.82	.56	.07				.99	.98	.92	.90	.70	
11	1.82	0.53	0.07				2.00	1.99	1.92	1.90	0.58	
12	.82	.50	.07				.01	.97	.92	.90	.46	
13	.81	.43	.07				.02	.97	.92	.90	.32	
14	.79	.36	.07				.04	.97	.92	.89	.32	
15	.78	.32	.07				.04	.96	.91	.89	.17	
16	1.76	0.27	0.07				2.03	1.96	1.91	1.89		
17	.72	.20	.07				.02	.97	.91	.89		
18	.68	.19	.07				.01	.97	.91	.89		
19	.64	.19	.07				.01	.96	.91	.89		
20	.59	.17	.07				.01	.96	.91	.89		
21	1.54	0.15	0.07				2.01	1.96	1.91	1.89		
22	.48	.12	.07				.01	.96	.91	.87		
23	.44	.09	.07				.00	.96	.91	.86		
24	.37	.07	.07				1.99	.96	.91	.84		
25	.30	.05	.07				.99	.96	.91	.82		
26	1.22	0.02	0.07			0.16	1.99	1.96	1.91	1.80		
27	.16	.02	.07			.21	.99	.96	.91	.75		
28	.12	.04	.07			.10	.99	.96	.91	.70		
29	.09	.06	.07			.05	.98	.95	.91	.65		
30	.01	.07	.07			.10	.98	.95	.91	.59		
31		.08					.98		.91	.55		
Mean	1.62	0.37	0.07				1.84	1.97	1.92	1.85		
Max.	1.86	0.94	0.07				2.04	1.99	1.95	1.91		
Min.	1.01	0.02	0.07				0.19	1.95	1.91	1.55		

WATER YEAR 1977 : Max. 2.04 m. Min. 0.02 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.34	0.23	0.08	0.00	0.00
2	0.00							0.34	0.23	0.08		
3								0.34	0.23	0.05		
4								0.34	0.23	0.05		
5								0.34	0.19	0.05		
6							0.00	0.37	0.19	0.05		
7							0.15	0.37	0.19	0.05		
8							0.30	0.37	0.15	0.05		
9							0.34	0.30	0.15	0.05		
10							0.37	0.34	0.12	0.05		
11							0.40	0.37	0.12	0.05		
12							0.46	0.30	0.12	0.05		
13							0.53	0.30	0.12	0.05		
14							0.66	0.30	0.12	0.04		
15							0.66	0.27	0.08	0.04		
16							0.59	0.27	0.08	0.04		
17							0.53	0.27	0.08	0.04		
18							0.53	0.27	0.08	0.04		
19							0.46	0.27	0.08	0.04		
20							0.46	0.27	0.08	0.04		
21							0.46	0.27	0.08	0.03		
22							0.46	0.27	0.08	0.02		
23							0.40	0.27	0.08	0.01		
24							0.37	0.27	0.08	0.00		
25							0.37	0.27	0.08			
26							0.37	0.27	0.08			
27							0.37	0.27	0.08			
28							0.37	0.27	0.08			
29							0.34	0.23	0.08		0.00	
30	0.00		0.00			0.00	0.34	0.23	0.08			
31		0.00		0.00	0.00		0.34		0.08	0.00		0.00
Total	0.01	0.00	0.00				10.63	8.89	3.75	1.05		
Mean	0.00	0.00	0.00				0.34	0.30	0.12	0.03		
Max.	0.01	0.00	0.00				0.66	0.37	0.23	0.08		
Min.	0.00	0.00	0.00				0.00	0.23	0.08	0.00		
Runoff - MCM.	0.001	0.000	0.000				0.918	0.768	0.324	0.091		

WATER YEAR 1977 : Max. 0.66 Min. 0.00 Mean 0.07 Annual Runoff 2.102 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Oct. 14	3.00	2.04	0.66				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
KHLONG RAP RO RIVER BASIN

Khlong Rap Ro at Ban Tha Kham, Chumphon (X. 46A)

Location: Lat. 10°-37'-18" N., Long. 99°-03'-39" E., on left bank about 10 kilometers upstream from X46 station at Ban Tha Kham, Tambon Rap Ro, Amphoe Tha Sae, Chumphon.

Drainage Area: 617 Sq.km.

Type of Gage: Staff gage.

Zero Gage at Bottom at: + 0.00 m. (A.D.)

Bench Mark: B.M. – H.S.

Location: –
Elevation: –

Gage Reading Frequency: 14-time daily readings at 06.00-18.00 and 21.00 hours.

Basis of Mean Daily Gage Height: Arithmetic mean of 14 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, no shifting adjustment for flow computation.

Overbank Flow Conditions: No overbank flow.

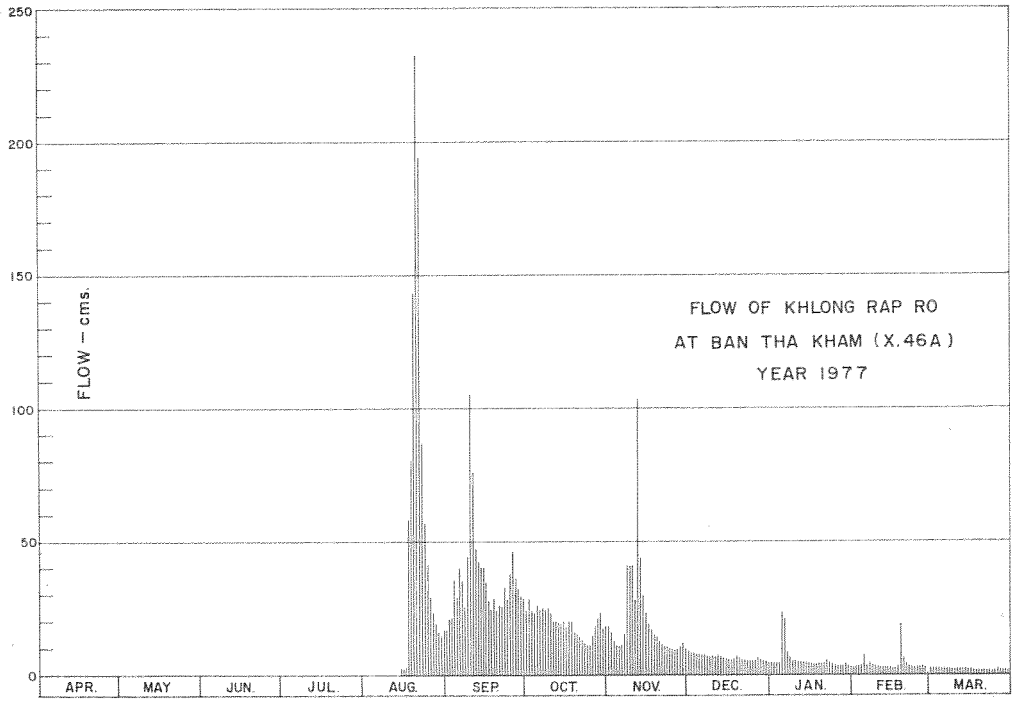
General Description: Records fair. Stage-discharge relation defined by 73 discharge measurements made in 1977.

Remarks: Stream gaging began on August 15, 1977.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1						1.55	1.76	1.61	1.30	1.10	1.02	0.99
2						.68	.84	.51	.27	.09	.01	.98
3						.68	.76	.44	.26	.08	.01	.97
4						2.00	.72	.40	.24	.08	.04	.97
5						1.85	.81	.40	.24	.73	.25	.96
6						2.09	1.74	1.38	1.23	1.66	1.05	0.95
7						1.95	.77	.49	.23	.29	.08	.95
8						.78	.75	2.13	.22	.17	.03	.95
9						2.20	.78	.13	.21	.13	.02	.94
10						0.25	.72	.13	.21	.12	.01	.94
11						2.82	1.65	1.85	1.20	1.12	1.00	0.93
12						2.27	.64	3.23	.21	.11	.00	.93
13						2.15	.65	2.21	.20	.09	.00	.92
14						2.09	.62	1.89	.18	.08	0.99	.92
15					0.98	2.10	.64	.73	.17	.08	.99	.91
16					0.97	1.96	1.60	1.62	1.16	1.07	0.98	0.91
17					1.00	.83	.65	.56	.16	.07	.98	.90
18					2.37	.77	.64	.51	.17	.06	1.00	.90
19					2.89	.84	.53	.47	.21	.10	1.61	.90
20					3.73	.75	.52	.44	.17	.07	.18	.89
21					4.62	1.79	1.48	1.41	1.15	1.11	1.08	0.89
22					4.26	.79	.44	.39	.14	.16	.03	.89
23					2.99	.92	.41	.37	.13	.08	.02	.89
24					2.46	.84	.39	.35	.13	.06	.00	.88
25					2.11	2.06	.40	.34	.12	.05	.00	.88
26					1.87	2.25	1.49	1.32	1.13	1.04	1.01	0.93
27					1.72	2.02	.63	.31	.20	.04	.01	.90
28					1.62	1.93	.68	.37	.15	.04	.00	.89
29					1.54	.86	.79	.42	.13	.07	–	.90
30					1.49	.86	.57	.33	.12	.04	–	.88
31					1.60	–	.58	–	.11	.03	–	.91
Mean					2.24	1.99	1.63	1.63	6.51	5.72	1.05	0.90
Max.					4.62	3.25	1.84	3.23	9.00	21	1.61	0.99
Min.					0.97	1.68	1.39	1.32	4.91	3.51	0.98	0.88

WATER YEAR 1977 : Max. 4.62 m. Min. 0.88 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1						17	24	18	9.00	4.70	2.34	2.89
2						21	28	15	8.34	4.53	3.17	2.78
3						21	24	13	8.12	4.36	3.17	2.67
4						36	23	11	7.68	4.36	3.68	2.67
5						28	26	11	7.68	23	7.90	2.56
6						40	24	11	7.46	21	3.85	2.45
7						33	25	15	7.46	8.78	4.36	2.45
8						25	24	41	7.24	6.17	3.51	2.45
9						44	25	41	7.02	5.33	3.34	2.34
10						105	23	41	7.02	5.12	3.17	2.34
11						76	20	28	6.80	5.12	3.00	2.23
12						47	20	103	7.02	4.91	3.00	2.23
13						42	20	44	6.80	4.53	3.00	2.12
14						40	19	30	6.38	4.36	2.89	2.12
15					2.78	40	20	23	6.17	4.36	2.89	2.01
16					2.67	34	18	19	5.96	4.19	2.78	2.01
17					3.00	27	20	17	5.96	4.19	2.78	1.90
18					58	25	20	15	6.17	4.02	3.00	1.90
19					80	28	16	14	7.02	4.70	19	1.90
20					143	24	16	13	6.17	4.19	6.38	1.81
21					232	26	14	12	5.75	4.91	4.36	1.81
22					194	26	13	11	5.54	5.96	3.51	1.81
23					87	32	12	11	5.33	4.36	3.34	1.81
24					56	28	11	10	5.33	4.02	3.00	1.72
25					41	38	11	10	5.12	3.85	3.00	1.72
26					29	46	15	9.25	5.33	3.68	3.17	2.23
27					23	37	19	9.50	6.80	3.68	3.17	1.90
28					19	32	21	11	5.75	3.68	3.00	1.81
29					16	29	23	12	5.33	4.19	–	1.90
30					15	29	17	10	5.12	3.68	–	1.72
31					18	–	18	–	4.91	3.51	–	2.01
Total					1,019.45	10.76	609	628.75	201.89	177.44	113.61	66.27
Mean					59.9	35.9	19.6	20.9	6.51	5.72	4.05	2.13
Max.					232	105	28	103	9.00	21	19	2.89
Min.					2.67	21	11	9.25	4.91	3.51	2.78	1.72
Runoff – mcm.					88.080	92.966	52.618	54.324	17.44	15.331	9.816	5.726

WATER YEAR 1977 : Max. 232 Min. 1.72 Mean Annual Runoff mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Aug. 21	16.00	5.01	274				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
KHLONG CHOMPHON RIVER BASIN

Khlong Chumphon at Ban Siap Yuan, Chumphon (X. 53)

Location: Lat. 10°-29'-57" N., Long. 99°-04'-15" E., on left bank upstream side of the bridge near Rong Rain Phayom Thawai, Amphoe Muang, Chumphon.

Drainage Area: 223 Sq.km.

Type of Gage: Water-stage recorder.

Zero Gage at Bottom at: + 0.00 m. (A.D.)

Bench Mark: B.M. - H.S.

Location: On left bank near the gage site.
Elevation: + 9.502 m. (A.D.)

Gage Reading Frequency: Recording

Basis of Mean Daily Gage Height: Arithmetic mean of 24 hourly readings.

Period of Available Gage Records: 1971 to date.

Rating Operation:

Period of Rating: 1973.
Rated by Float: -
Rated by Current Meter: 1973.

Stability of Channel Regimes: Stable, no shifting adjustment for flow computation.

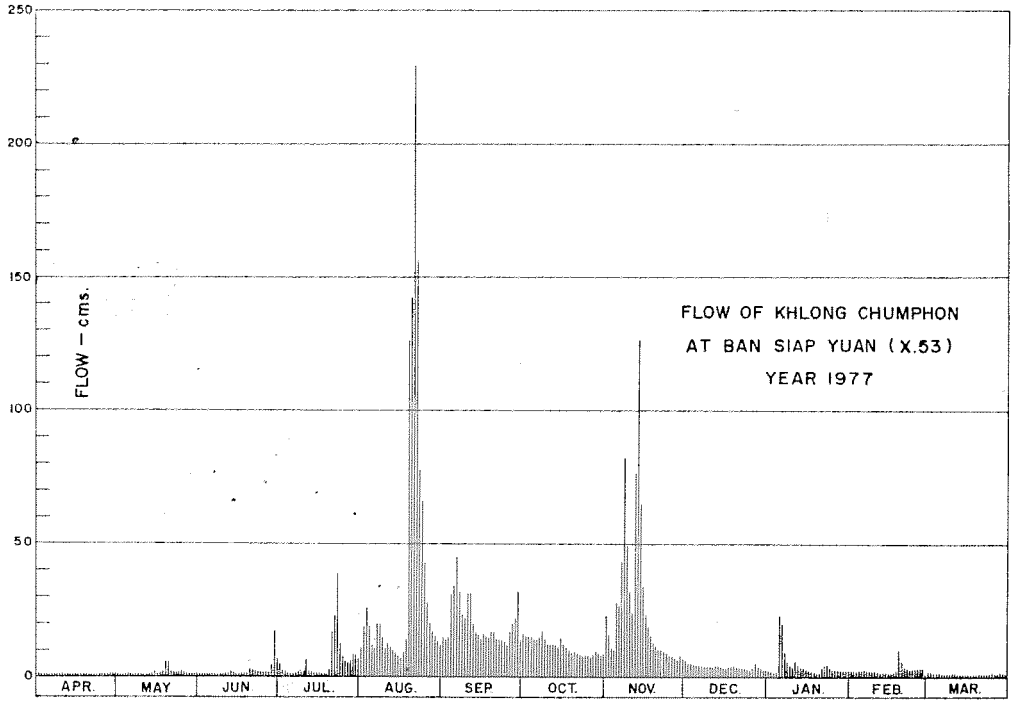
Overbank Flow Conditions: No overbank flow.

General Description: Records fair. Stage-discharge relation defined by 183 discharge measurements made in 1973.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.55	0.52	0.57	0.90	1.20	1.35	1.41	1.65	0.94	0.72	0.72	0.70
2	.54	.51	.57	.79	.51	.34	.37	.40	.92	.71	.71	.66
3	.54	.51	.57	.74	.74	.38	.35	.20	.89	.70	.71	.64
4	.53	.51	.56	.69	.49	.86	.37	.17	.88	.71	.75	.64
5	.53	.51	.56	.67	.23	.95	.32	.80	.86	1.62	.73	.64
6	0.53	0.50	0.54	0.66	1.21	2.23	1.32	1.75	0.85	1.52	0.72	0.63
7	.52	.50	.54	.66	.54	1.91	.35	2.18	.84	.11	.71	.62
8	.52	.50	.54	.70	.54	.67	.45	3.05	.84	0.93	.70	.62
9	.52	.50	.54	.67	.35	.59	.32	2.33	.84	.85	.70	.61
10	.52	.50	.54	.65	.21	.88	.25	1.90	.84	.82	.69	.61
11	0.52	0.50	0.57	1.00	1.27	1.86	1.24	1.66	0.83	0.95	0.68	0.61
12	.53	.50	.58	0.76	.19	.52	.26	2.94	.85	.85	.68	.60
13	.53	.51	.66	.71	.15	.42	.25	3.82	.84	.80	.68	.60
14	.53	.59	.61	.68	.11	.40	.19	2.70	.82	.77	.68	.60
15	.52	.66	.58	.66	.04	.34	.31	1.96	.80	.75	.68	.59
16	0.52	0.60	0.57	0.65	1.00	1.39	1.24	1.64	0.80	0.74	0.68	0.58
17	.52	.61	.56	.64	.11	.37	.18	.47	.82	.72	.69	.58
18	.52	.62	.55	.64	.31	.36	.13	.38	.83	.72	.75	.58
19	.52	.91	.63	.64	3.82	.45	.08	.29	.82	.71	1.15	.57
20	.52	.93	.71	.72	4.09	.42	.08	.22	.79	.73	0.92	.56
21	0.52	0.70	0.75	1.43	5.25	1.34	1.09	1.17	0.78	0.83	0.82	0.56
22	.52	.69	.73	.63	4.32	.33	.05	.13	.77	.89	.77	.56
23	.52	.68	.71	2.08	2.94	.32	.03	.10	.77	.85	.76	.56
24	.52	.66	.70	1.29	.72	.29	.05	.08	.76	.79	.75	.57
25	.52	.68	.69	.05	.18	.25	.03	.05	.76	.76	.74	.62
26	0.51	0.64	0.66	0.96	1.79	1.42	1.02	1.03	0.79	0.75	0.74	0.60
27	.51	.61	.64	.94	.53	.55	.08	.00	.90	.75	.75	.59
28	.50	.60	.86	.96	.42	.61	.11	0.97	.83	.73	.74	.64
29	.53	.58	1.46	1.08	.37	.91	.09	1.03	.77	.74	-	.61
30	.54	.58	.04	.05	.28	.32	.05	0.98	.73	.72	-	.60
31	-	.58	-	0.97	.35	-	.09	-	.72	.72	-	.62
Mean	0.52	0.59	0.65	0.89	1.84	1.53	1.19	1.63	0.82	0.83	0.74	0.60
Max.	0.55	0.93	1.46	2.08	5.25	2.23	1.45	3.82	0.94	1.62	1.15	0.70
Min.	0.50	0.50	0.54	0.64	1.00	1.25	1.02	0.97	0.72	0.70	0.68	0.56

WATER YEAR 1977 : Max. 5.25 m. Min. 0.50 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.75	0.60	0.85	5.00	11	15	16	23	5.80	2.30	2.30	2.00
2	0.70	0.55	0.85	3.35	19	14	15	16	5.40	2.15	2.15	1.60
3	0.70	0.55	0.85	2.60	26	15	15	11	4.85	2.00	2.15	1.40
4	0.65	0.55	0.80	1.90	19	31	15	10	4.70	2.15	2.75	1.40
5	0.65	0.55	0.80	1.70	12	34	14	28	4.40	23	2.45	1.40
6	0.65	0.50	0.70	1.60	11	45	14	27	4.25	20	2.30	1.30
7	0.60	0.50	0.70	1.60	20	32	15	43	4.10	9.20	2.15	1.20
8	0.60	0.50	0.70	2.00	20	24	17	82	4.10	5.60	2.00	1.20
9	0.60	0.50	0.70	1.70	15	22	14	49	4.10	4.25	2.00	1.10
10	0.60	0.50	0.70	1.50	11	31	12	32	4.10	3.80	1.90	1.10
11	0.60	0.50	0.85	7.00	13	31	12	24	3.95	6.00	1.80	1.10
12	0.65	0.50	0.90	2.90	11	20	12	77	4.25	4.25	1.80	1.00
13	0.65	0.55	1.60	2.15	10	17	12	126	4.10	3.50	1.80	1.00
14	0.65	0.95	1.10	1.80	9.20	16	11	65	3.80	3.05	1.80	1.00
15	0.60	1.60	0.90	1.60	7.80	14	14	34	3.50	2.75	1.80	0.95
16	0.60	1.00	0.85	1.50	7.00	16	12	23	3.50	2.60	1.80	0.90
17	0.60	1.10	0.80	1.40	9.20	15	11	18	3.80	2.30	1.90	0.90
18	0.60	1.20	0.75	1.40	14	17	10	15	3.95	2.30	2.75	0.90
19	0.60	5.20	1.30	1.40	126	17	8.60	13	3.80	2.15	10	0.85
20	0.60	5.60	2.15	2.30	142	14	8.60	11	3.35	2.45	5.40	0.80
21	0.60	2.00	2.75	17	229	14	8.80	10	3.20	3.95	3.80	0.80
22	0.60	1.90	2.45	23	157	14	8.00	10	3.05	4.85	3.05	0.80
23	0.60	1.80	2.15	39	77	14	7.60	9.00	3.05	4.25	2.90	0.80
24	0.60	1.60	2.00	13	66	13	8.00	8.60	2.90	3.35	2.75	0.85
25	0.60	1.80	1.90	8.00	43	12	7.60	8.00	2.90	2.90	2.60	1.20
26	0.55	1.40	1.60	6.20	28	17	7.40	7.60	3.35	2.75	2.60	1.00
27	0.55	1.10	1.40	5.80	20	20	8.60	7.00	5.00	2.75	2.75	0.95
28	0.50	1.00	4.40	6.20	17	22	9.20	6.40	3.95	2.45	2.60	1.40
29	0.65	0.90	18	8.60	15	32	8.80	7.60	3.05	2.60	–	1.10
30	0.70	0.90	7.80	8.00	13	14	8.00	6.60	2.45	2.30	–	1.00
31	–	0.90	–	6.40	12	–	8.80	–	2.30	2.30	–	1.20
Total	18.60	38.80	63.30	187.60	1,190.20	613	349.00	807.80	119.00	140.25	76.05	34.20
Mean	0.62	1.25	2.11	6.05	38.4	20.4	11.2	26.9	3.84	4.52	2.72	1.10
Max.	0.75	5.60	18	39	229	45	17	126	5.80	23	10	2.00
Min.	0.50	0.50	0.70	1.40	7.00	12	7.40	6.40	2.30	2.00	1.80	0.80
Runoff – mcm.	1.607	3.352	5.469	16.209	102.833	52.963	30.154	69.794	10.282	12.118	6.571	2.955

WATER YEAR 1977 : Max. 229 Min. 0.50 Mean 9.96 Annual Runoff 314.306 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Aug. 21	12.00	5.86	240				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
KHLONG THA TAPHAO RIVER BASIN

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 Cooperative office, Tambon Ban Tha Kham, Amphoe Tha Sae, Chumphon.

Drainage Area: 957 Sq.km.

Type of Gage: Staff gage.

Zero Gage at Bottom at: + 0.00 m. (A.D.)

Bench Mark: B.M. - H.S.

Location: On left bank near the gage site.
Elevation: + 1.196 m. (A.D.)

Gage Reading Frequency: 24-time daily readings at 01.00-24.00 hours.

Basis of Mean Daily Gage Height: Arithmetic mean of 24 hourly readings.

Period of Available Gage Records: 1973 to date.

Rating Operation:

Period of Rating: 1974-1975.
Rated by Float: -
Rated by Current Meter: 1974-1975.

Stability of Channel Regimes: Fairly stable, no shifting adjustment for flow computation.

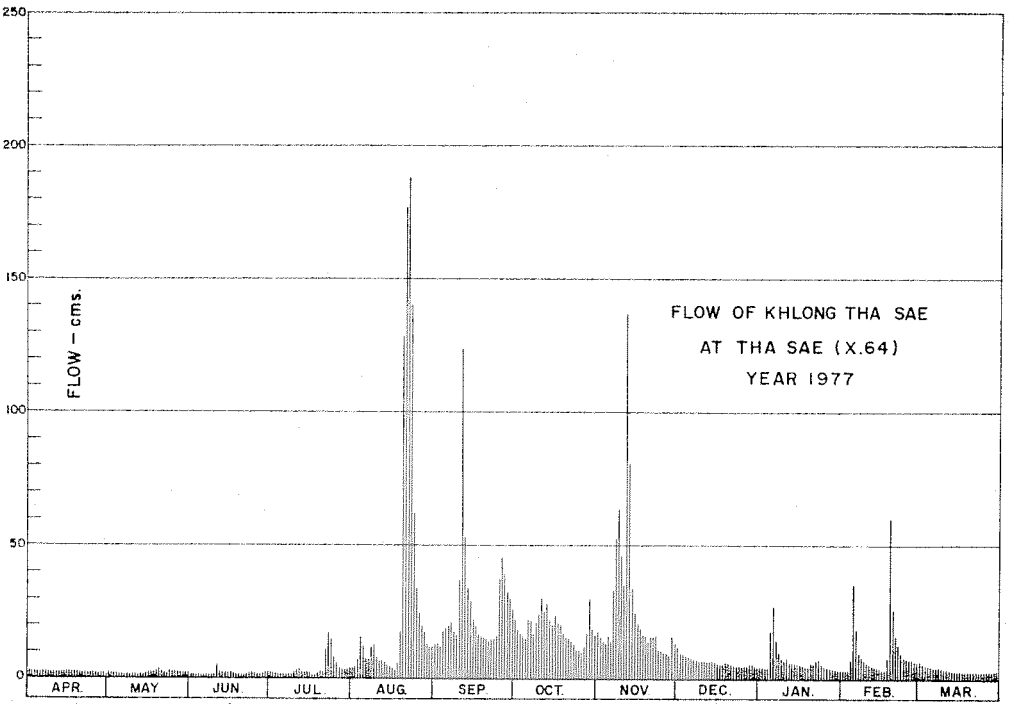
Overbank Flow Conditions: No overbank flow.

General Description: Records fair. Stage-discharge relation defined by 323 discharge measurements made during 1974-1975.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.60	0.55	0.52	0.56	0.67	1.05	1.41	1.27	1.02	0.67	0.61	0.76
2	.59	.55	.52	.55	.70	.05	.30	.18	0.93	.67	.61	.72
3	.59	.54	.52	.54	.81	.04	.21	.11	.90	.65	.60	.70
4	.59	.54	.52	.53	1.18	.28	.19	.08	.88	.66	.80	.70
5	.58	.53	.52	.53	.01	.30	.16	.19	.87	1.27	1.84	.68
6	0.58	0.53	0.51	0.52	0.82	1.36	1.42	1.10	0.85	1.59	1.25	0.65
7	.58	.53	.51	.52	.83	.39	.43	.19	.81	.12	0.96	.65
8	.57	.53	.51	.51	1.03	.26	.24	2.36	.80	0.92	.86	.65
9	.57	.52	.50	.50	.07	.22	.38	.69	.80	.84	.79	.65
10	.56	.52	.50	.50	0.88	.93	.47	.20	.80	.79	.75	.63
11	0.56	0.52	0.72	0.62	0.78	4.11	1.68	1.84	0.80	0.85	0.72	0.63
12	.56	.52	.58	.63	.80	2.39	.51	4.39	.79	.79	.70	.60
13	.58	.52	.59	.57	.76	1.82	.63	3.09	.79	.75	.69	.60
14	.58	.52	.58	.55	.72	.65	.42	1.81	.78	.74	.68	.59
15	.58	.54	.57	.54	.68	.54	.35	.52	.76	.72	.65	.59
16	0.57	0.60	0.56	0.54	0.65	1.34	1.47	1.39	0.74	0.71	0.62	0.59
17	.57	.57	.55	.50	.63	.22	.38	.29	.74	.70	.62	.59
18	.57	.58	.52	.50	.76	.18	.36	.24	.72	.68	.85	.59
19	.57	.60	.52	.54	1.25	.20	.22	.18	.76	.67	2.59	.59
20	.57	.66	.51	.60	2.78	.15	.18	.12	.75	.75	1.54	.58
21	0.56	0.60	0.50	0.56	5.16	1.10	1.14	1.19	0.73	0.74	1.17	0.58
22	.56	.59	.52	.99	.35	.13	.12	.18	.70	.80	.05	.58
23	.55	.57	.55	1.24	4.44	.13	.07	.15	.70	.81	0.93	.58
24	.55	.61	.57	.15	2.65	.20	0.99	0.98	.69	.72	.85	.58
25	.54	.60	.55	0.85	1.82	.47	.97	.98	.69	.68	.83	.58
26	0.54	0.60	0.53	0.73	1.52	2.17	0.96	0.95	0.69	0.67	0.80	0.58
27	.54	.58	.53	.65	.34	1.99	1.03	.93	.70	.66	.80	.58
28	.54	.57	.52	.64	.25	.58	.23	.90	.73	.65	.78	.58
29	.54	.55	.55	.64	.10	.75	.69	1.18	.73	.62	-	.58
30	.52	.55	.55	.63	.03	.63	.29	.10	.69	.61	-	.58
31	-	.54	-	.65	.01	-	.20	-	.68	.61	-	.58
Mean	0.56	0.56	0.54	0.63	1.47	1.52	1.29	1.49	0.77	0.78	0.93	0.62
Max.	0.60	0.66	0.72	1.24	5.35	4.11	1.69	4.39	1.02	1.59	2.59	0.76
Min.	0.53	0.52	0.50	0.50	0.63	1.04	0.96	0.90	0.68	0.61	0.60	0.58

WATER YEAR 1977 : Max. 5.35 m. Min. 0.50 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	3.00	2.25	1.80	2.40	4.40	13	22	18	12	4.40	3.20	6.20
2	2.85	2.25	1.80	2.55	5.00	13	19	16	9.75	4.40	3.20	5.40
3	2.85	2.10	1.80	2.10	7.20	12	17	14	9.00	4.00	3.00	5.00
4	2.85	2.10	1.80	1.95	16	18	16	13	8.60	4.20	7.00	5.00
5	2.70	1.95	1.80	1.95	12	19	15	16	8.40	18	35	4.60
6	2.70	1.95	1.65	1.80	7.40	20	22	14	8.00	27	18	4.00
7	2.70	1.95	1.65	1.80	7.60	21	22	16	7.20	14	10	4.00
8	2.55	1.95	1.65	1.65	12	18	17	52	7.00	9.50	8.20	4.00
9	2.55	1.80	1.50	1.50	13	17	21	64	7.00	7.80	6.80	4.00
10	2.40	1.80	1.50	1.50	8.60	37	24	46	7.00	6.80	6.00	3.60
11	2.40	1.80	5.40	3.40	6.60	124	30	35	7.00	8.00	5.40	3.60
12	2.40	1.80	2.70	3.60	7.00	53	25	137	6.80	6.80	5.00	3.00
13	2.70	1.80	2.85	2.55	6.20	34	28	80	6.80	6.00	4.80	3.00
14	2.70	1.80	2.70	2.25	5.40	29	22	34	6.60	5.80	4.60	2.85
15	2.70	2.10	2.55	2.10	4.60	26	20	25	6.20	5.40	4.00	2.85
16	2.55	3.00	2.40	2.10	4.00	20	24	21	5.80	5.20	3.40	2.85
17	2.55	2.55	2.25	1.50	3.60	17	21	19	5.80	5.00	3.40	2.85
18	2.55	2.70	1.80	1.50	6.20	16	20	17	5.40	4.60	8.00	2.85
19	2.55	3.00	1.80	2.10	18	16	17	16	6.20	4.40	60	2.85
20	2.55	4.20	1.65	3.00	67	15	16	14	6.00	6.00	26	2.70
21	2.40	3.00	1.50	2.40	177	14	15	16	5.60	5.80	16	2.70
22	2.40	2.85	1.80	11	188	15	14	16	5.00	7.00	13	2.70
23	2.25	2.55	2.25	17	140	15	13	17	5.00	7.20	9.75	2.70
24	2.25	3.20	2.55	15	62	16	11	11	4.80	5.40	8.00	2.70
25	2.10	3.00	2.25	80	34	24	11	11	4.80	4.60	7.60	2.70
26	2.10	3.00	1.95	5.60	25	45	10	10	4.80	4.40	7.00	2.70
27	2.10	2.70	1.95	4.00	20	39	12	9.75	5.00	4.20	7.00	2.70
28	2.10	2.55	1.80	3.80	18	27	17	9.00	5.60	4.00	6.60	2.70
29	2.10	2.25	2.25	3.80	14	32	30	16	5.60	3.40	–	2.70
30	1.95	2.25	2.25	3.60	12	28	19	14	4.80	3.20	–	2.70
31	–	2.10	–	4.00	12	–	16	–	4.60	3.20	–	2.70
Total	74.55	74.30	63.60	121.50	923.80	7.93	586	796.75	202.15	209.70	299.95	104.90
Mean	2.48	2.40	2.12	3.92	29.8	26.4	18.9	26.6	6.52	6.76	10.7	3.38
Max.	3.00	4.20	5.40	17	188	124	30	137	12	27	60	6.20
Min.	1.95	1.80	1.50	1.50	3.60	12	10	9.00	4.60	3.20	3.00	2.70
Runoff – MCM.	6.441	6.419	5.495	10.498	79.816	68.515	50.630	68.839	17.466	18.118	25.916	9.063

WATER YEAR 1977 : Max. 188 Min. 1.50 Mean 11.6 Annual Runoff 367,216 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Nov. 12	19.00	5.71	211				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
TA PI RIVER BASIN

Ta Pi River at Phrasaeng, Surat Thani (X. 37A)

Location: Lat. 8°-34'-03" N., Long. 99°-15'-15" E., on right bank about 500 meters downstream from Amphoe Wieng Sra at Thung Luang, Amphoe Wieng Sra, Surat Thani.

Drainage Area: 5,200 Sq.km.

Type of Gage: Water-stage recorder.

Zero Gage at Bottom at: + 4.833 m. (M.S.L.)

Bench Mark: B.M. - H.S.

Location: Infront of the X37A station office.
Elevation: + 10.680 m. (M.S.L.)

Gage Reading Frequency: Recording

Basis of Mean Daily Gage Height: Arithmetic mean of 24 hourly 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, no shifting adjustment for flow computation.

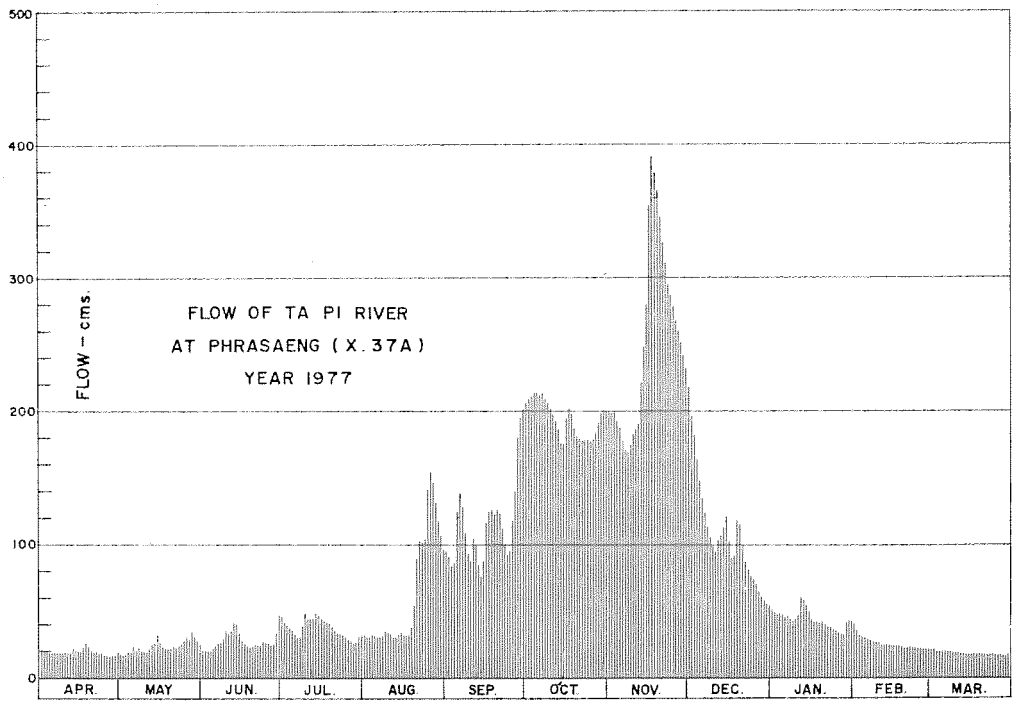
Overbank Flow Conditions: Overbank flow starts at elevation + 12.00 m. (M.S.L.), records are channel flow only.

General Description: Records fair. Stage-discharge relation defined by 10 discharge measurements made in 1977.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	5.54	5.45	5.62	6.34	5.99	7.49	9.58	9.45	9.78	6.50	6.22	5.59
2	.53	.46	.58	.23	.96	.40	.63	.45	.50	.45	.09	.59
3	.51	.50	.54	.18	.98	.24	.67	.47	.16	.41	.00	.58
4	.50	.51	.55	.15	6.03	.32	.71	.34	8.80	.39	5.95	.58
5	.50	.50	.60	.08	5.99	8.10	.72	.24	.51	.35	.92	.57
6	5.49	5.68	5.72	6.00	5.98	8.34	9.69	9.07	8.29	6.32	5.90	5.55
7	.48	.58	.79	5.93	.97	.16	.68	8.95	.07	.35	.87	.55
8	.47	.63	.81	.96	6.01	7.78	.64	.91	7.86	.31	.85	.54
9	.47	.57	.94	6.21	.08	.45	.58	9.01	.71	.27	.83	.52
10	.47	.52	6.07	.41	.06	.34	.50	.17	.56	.30	.82	.51
11	5.50	5.51	6.02	6.31	6.01	7.70	9.44	9.23	7.50	6.38	5.79	5.53
12	.51	.63	.09	.31	5.98	.60	.36	.30	.66	.69	.78	.52
13	.64	.74	.23	.30	.98	.27	.22	.83	.74	.64	.76	.50
14	.62	.81	.20	.39	6.02	.06	.04	10.22	.88	.54	.75	.49
15	.58	.99	.02	.36	.04	.36	.03	.71	8.02	.43	.74	.50
16	5.58	5.79	5.86	6.31	6.00	7.94	9.38	11.73	7.64	6.31	5.73	5.49
17	.69	.67	.77	.24	5.99	8.10	.51	12.26	.36	.24	.71	.49
18	.79	.67	.71	.23	6.00	.14	.42	.18	.45	.25	.71	.50
19	.66	.60	.70	.21	.17	.06	.26	11.92	.97	.23	.70	.49
20	.56	.59	.70	.14	.55	.12	.15	.64	.90	.25	.70	.47
21	5.52	5.69	5.78	6.08	7.31	8.08	9.10	11.39	7.59	6.21	5.71	5.46
22	.51	.65	.78	.03	.62	7.85	.08	.17	.34	.15	.70	.45
23	.49	.68	.76	5.99	.62	.60	.07	10.98	.18	.13	.66	.46
24	.47	.75	.82	.99	.68	.44	.07	.82	.08	.09	.64	.48
25	.44	.86	.83	.95	8.38	.54	.06	.68	.03	.06	.65	.46
26	5.43	5.92	5.79	5.90	8.64	7.96	9.10	10.55	6.95	6.05	5.63	5.45
27	.42	.87	.75	.84	.50	8.38	.20	.43	.82	.01	.61	.43
28	.41	6.05	.80	.81	.21	9.12	.35	.30	.72	.03	.59	.42
29	.42	5.95	6.02	.85	7.94	.39	.45	.14	.65	.26	-	.41
30	.44	.85	.37	.96	.70	.51	.48	9.98	.60	.28	-	.43
31	-	.71	-	6.01	.51	-	.48	-	.55	.25	-	.51
Mean	5.52	5.68	5.84	6.12	6.71	7.89	9.38	10.25	7.70	6.29	5.79	5.50
Max.	5.79	6.05	6.37	6.41	8.64	9.51	9.72	12.26	9.78	6.69	6.22	5.59
Min.	5.41	5.45	5.54	5.81	5.96	7.06	9.03	8.91	6.55	6.01	5.59	5.41

WATER YEAR 1977 : Max. 12.26 m. Min. 5.41 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	19	17	21	46	32	95	206	199	218	52	41	21
2	19	17	20	41	31	91	209	199	201	50	36	21
3	19	18	19	39	31	84	211	200	183	48	32	20
4	18	19	20	38	33	87	214	193	163	48	30	20
5	18	18	21	35	32	125	214	187	147	46	30	20
6	18	23	24	32	31	138	212	178	135	45	29	20
7	18	20	26	30	31	128	212	171	123	46	28	20
8	18	22	26	31	32	109	209	169	113	44	27	19
9	18	20	30	40	35	93	206	175	105	43	27	19
10	18	19	35	48	34	88	201	183	98	44	27	19
11	18	19	33	44	32	105	198	187	95	47	26	19
12	19	22	36	44	31	100	194	190	103	60	25	19
13	22	24	41	44	31	85	186	221	107	58	25	18
14	21	26	40	48	33	76	176	246	114	54	25	18
15	20	32	33	46	34	89	176	280	121	49	24	18
16	20	26	28	44	32	117	195	352	102	44	24	18
17	23	23	25	42	32	125	202	391	89	42	24	18
18	26	23	24	41	32	127	197	385	93	42	24	18
19	22	21	23	40	39	123	188	366	118	41	23	18
20	20	21	23	38	54	126	182	345	115	42	23	18
21	79	23	25	35	87	124	179	327	100	40	24	17
22	19	22	25	33	101	112	178	312	88	38	23	17
23	18	23	25	32	101	100	178	299	81	37	22	17
24	18	25	27	32	104	93	178	287	77	36	22	18
25	17	28	27	30	140	97	177	278	74	34	22	17
26	17	30	26	29	154	118	179	268	71	34	22	17
27	16	28	25	27	146	140	185	260	65	32	21	17
28	16	34	26	26	131	181	193	251	61	33	21	16
29	16	30	33	27	117	195	199	241	58	42	–	16
30	17	27	47	31	105	202	200	231	56	42	–	17
31	–	24	–	32	96	–	200	–	54	42	–	19
Total	567	724	834	1,145	1,954	3,473	6,034	7,571	3,328	1,356	727	569
Mean	18.9	23.3	27.8	36.9	63.0	116	195	252	107	43.7	26.0	18.4
Max.	26	34	47	48	154	202	214	391	218	60	41	21
Min.	16	17	19	26	31	76	176	169	54	32	21	16
Runoff - mcm.	48.989	62.553	72.058	98.928	168.826	300.067	521.338	654.134	287.539	117.158	62.813	51.494

WATER YEAR 1977 : Max. 391 Min. 16 Mean 77.5 Annual Runoff 2,445.897 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Nov. 17	18.00	12.28	393				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
PHUM DUANG RIVER BASIN

Phum Duang at Ban Ta Khun, Surat Thani (X. 38A)

Location: Lat. 8°-54'-56" N., Long. 98°-53'-30" E., on right bank at Ban Ta Khun, Amphoe Muang, Surat Thani.

Drainage Area: 2,706 Sq.km.

Type of Gage: Water-stage recorder.

Zero Gage at Bottom at: + 3.51 m. (M.S.L.)

Bench Mark: B.M. - H.S.

Location: Near the automatic gage site.
Elevation: + 20.697 m. (M.S.L.)

Gage Reading Frequency: Recording

Basis of Mean Daily Gage Height: Arithmetic mean of 24 hourly 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: Rather unstable, no shifting adjustment but periodic curves areused for flow computation.

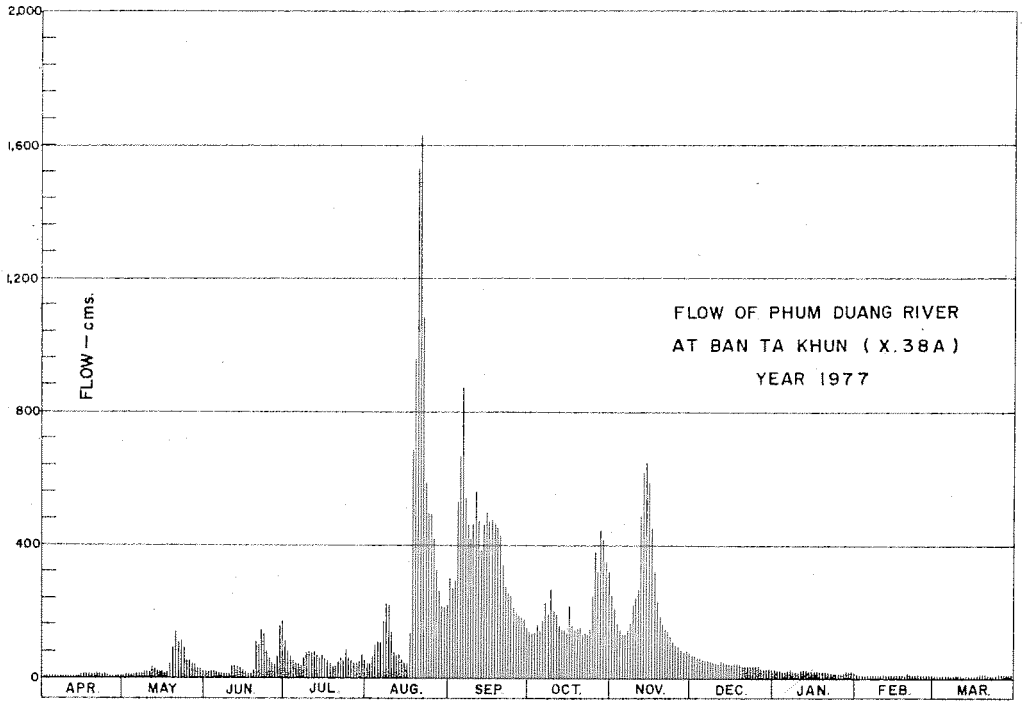
Overbank Flow Conditions: No overbank flow.

General Description: Records fair. Stage-discharge relation defined by 148 discharge measurements made in 1977.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	4.29	4.36	4.67	6.03	5.09	7.61	6.28	7.14	5.47	4.76	4.55	4.37
2	.29	.44	.63	5.65	.10	.33	.16	6.87	.43	.74	.52	.36
3	.29	.48	.63	.43	.41	.57	.28	.47	.35	.72	.51	.35
4	.29	.37	.64	.21	.81	9.27	.50	.24	.30	.71	.50	.35
5	.28	.38	.57	.08	.91	10.18	.29	.16	.29	.71	.50	.35
6	4.28	4.46	4.55	5.08	5.95	11.34	6.54	6.21	5.24	4.75	4.49	4.35
7	.28	.43	.53	.00	6.54	10.52	7.07	.29	.22	.74	.49	.35
8	.27	.46	.54	.35	.98	9.19	6.71	.51	.18	.71	.48	.34
9	.27	.59	.50	.55	.95	8.53	7.36	.99	.14	.71	.47	.35
10	.27	.62	.53	.62	.30	9.61	6.86	7.20	.13	.71	.47	.35
11	4.27	4.61	4.90	5.53	5.55	10.71	6.75	7.36	5.12	4.74	4.46	4.34
12	.28	.90	.88	.64	.43	9.39	.44	9.71	.20	.80	.46	.34
13	.31	.77	.87	.47	.47	8.27	.25	11.20	.13	.72	.45	.35
14	.32	.66	.81	.37	.22	9.24	.34	.39	.07	.68	.44	.35
15	.32	.59	.65	.50	.13	.97	.21	10.97	.04	.66	.43	.36
16	4.41	4.62	4.58	5.27	5.08	9.39	6.95	9.05	5.01	4.65	4.42	4.36
17	.53	.51	.52	.19	6.18	.66	.52	7.77	.13	.68	.42	.36
18	.42	.63	.49	.07	9.97	.22	.26	.13	.11	.64	.43	.42
19	.38	5.05	.71	4.95	11.79	.07	.31	6.74	.01	.63	.47	.51
20	.43	.91	5.94	.94	14.04	8.65	.44	.57	4.95	.63	.60	.45
21	4.56	6.23	5.83	5.16	14.97	7.97	6.16	6.32	4.93	4.61	4.51	4.37
22	.46	5.65	6.32	.37	13.71	.45	.22	.24	.92	.57	.47	.36
23	.36	6.00	.16	.29	11.20	.27	.19	.09	.92	.55	.44	.36
24	.39	5.71	5.68	.72	9.93	.20	.33	5.96	.90	.55	.42	.37
25	.36	.27	.33	.36	.83	6.91	7.19	.85	.95	.55	.42	.43
26	4.31	5.20	5.12	5.21	8.57	6.80	8.17	5.74	4.90	4.55	4.40	4.45
27	.29	.06	.01	.15	7.83	.72	7.79	.66	.84	.55	.39	.40
28	.28	.02	.35	.11	.33	.70	9.39	.59	.82	.68	.38	.37
29	.27	4.84	6.40	.21	6.94	.60	8.37	.63	.80	.72	-	.35
30	.26	.70	.54	.59	.89	.42	.01	.57	.79	.64	-	.40
31	-	.66	-	.26	.98	-	7.81	-	.77	.59	-	.91
Mean	4.33	4.88	5.06	5.33	7.68	8.49	6.84	7.09	5.07	4.67	4.46	4.39
Max.	4.56	6.23	6.54	6.03	14.97	11.34	9.39	11.39	5.47	4.80	4.60	4.91
Min.	4.26	4.36	4.49	4.94	5.08	6.42	6.16	5.57	4.77	4.55	4.38	4.34

WATER YEAR 1977 : Max. 14.97 m. Min. 4.26 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	6.25	8.30	20.00	118.00	44.00	297.00	142.00	240.00	70.00	25.00	15.00	8.60
2	.25	11.00	18.00	84.00	45.00	263.00	130.00	207.00	66.00	24.00	14.00	.30
3	.25	12.00	.00	66.00	65.00	292.00	142.00	163.00	60.00	23.00	13.00	.00
4	.25	8.60	19.00	52.00	98.00	524.00	166.00	138.00	57.00	22.00	.00	.00
5	.00	.90	16.00	44.00	107.00	670.00	143.00	130.00	56.00	.00	.00	.00
6	6.00	12.00	15.00	44.00	110.00	872.00	170.00	135.00	53.00	24.00	13.00	8.00
7	.00	10.00	14.00	39.00	170.00	540.00	231.00	143.00	52.00	.00	.00	.00
8	5.75	12.00	15.00	60.00	221.00	457.00	189.00	167.00	50.00	22.00	12.00	7.70
9	.75	17.00	13.00	76.00	217.00	417.00	266.00	222.00	47.00	.00	.00	8.00
10	.75	18.00	14.00	82.00	144.00	476.00	206.00	247.00	.00	.00	.00	.00
11	5.75	17.00	33.00	74.00	76.00	559.00	193.00	266.00	46.00	24.00	12.00	7.70
12	6.00	33.00	32.00	83.00	66.00	465.00	159.00	482.00	51.00	27.00	.00	.70
13	.80	25.00	31.00	70.00	70.00	383.00	139.00	618.00	47.00	23.00	11.00	8.00
14	7.10	20.00	28.00	62.00	52.00	459.00	148.00	645.00	43.00	21.00	.00	.00
15	.10	17.00	19.00	72.00	47.00	497.00	135.00	588.00	41.00	20.00	10.00	.30
16	9.85	18.00	16.00	55.00	44.00	465.00	217.00	451.00	40.00	19.00	10.00	8.30
17	14.00	13.00	14.00	50.00	132.00	479.00	168.00	318.00	47.00	21.00	.00	.30
18	10.00	18.00	13.00	43.00	636.00	458.00	140.00	239.00	46.00	19.00	.00	10.00
19	8.90	42.00	22.00	36.00	957.00	452.00	145.00	192.00	40.00	18.00	12.00	13.00
20	10.00	107.00	110.00	35.00	1,418.00	434.00	159.00	174.00	36.00	.00	17.00	11.00
21	15.00	137.00	100.00	49.00	1,625.00	344.00	130.00	146.00	35.00	17.00	13.00	8.60
22	12.00	84.00	146.00	62.00	1,086.00	277.00	136.00	138.00	34.00	16.00	12.00	.30
23	8.30	115.00	130.00	56.00	618.00	255.00	133.00	123.00	.00	15.00	11.00	.30
24	9.20	89.00	86.00	90.00	495.00	247.00	147.00	111.00	33.00	.00	10.00	.60
25	8.30	55.00	59.00	61.00	489.00	212.00	246.00	101.00	36.00	.00	.00	10.00
26	6.80	51.00	46.00	52.00	423.00	199.00	370.00	92.00	33.00	15.00	9.50	11.00
27	.25	42.00	40.00	48.00	326.00	190.00	321.00	85.00	29.00	.00	.20	9.50
28	.00	40.00	60.00	46.00	263.00	188.00	543.00	79.00	28.00	21.00	8.90	8.60
29	5.75	29.00	155.00	52.00	216.00	177.00	396.00	82.00	27.00	23.00	–	.80
30	.50	22.00	170.00	79.00	210.00	157.00	349.00	78.00	26.00	19.00	–	9.50
31	–	20.00	–	55.00	221.00	–	323.00	–	25.00	17.00	–	34.00
Total	228.85	1,111.80	1,472.00	1,895.00	10,691.00	11,705.00	6,482.00	6,800.00	1,335.00	628.00	328.60	295.30
Mean	7.63	35.90	49.10	61.10	34.50	390.00	209.00	227.00	43.10	20.20	11.70	9.52
Max.	15.00	137.00	170.00	118.00	1,625.00	872.00	543.00	645.00	70.00	27.00	17.00	34.00
Min.	5.50	8.30	13.00	35.00	44.00	157.00	130.00	78.00	25.00	15.00	8.90	7.70
Runoff – MCM.	19.773	96.059	127.181	163.728	923.702	1,011.312	560.045	587.520	115.344	54.259	28.391	25.514

WATER YEAR 1977 : Max. 1,625 Min. 5.50 Mean 118.00 Annual Runoff 3,712.828 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Aug. 21	11.00	15.11	1,657.00				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
PHUM DUANG RIVER BASIN

Khlong Saeng at Ban Khao Phang, Surat Thani (X. 39)

Location: Lat. 8°-57'-07" N., Long. 98°-48'-53" E., on left bank at Ban Khao Phang, Amphoe Kiri Ratthanikhom, Surat Thani.

Drainage Area: 1,437 Sq.km.

Type of Gage: Water-stage recorder.

Zero Gage at Bottom at: + 8.550 m. (M.S.L.)

Bench Mark: B.M. – H.S.

Location: About 10 meters above measuring line.
Elevation: + 21.675 m. (M.S.L.)

Gage Reading Frequency: Recording.

Basis of Mean Daily Gage Height: Arithmetic mean of 24 hourly readings.

Period of Available Gage Records: 1964 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, no shifting adjustment for flow computation.

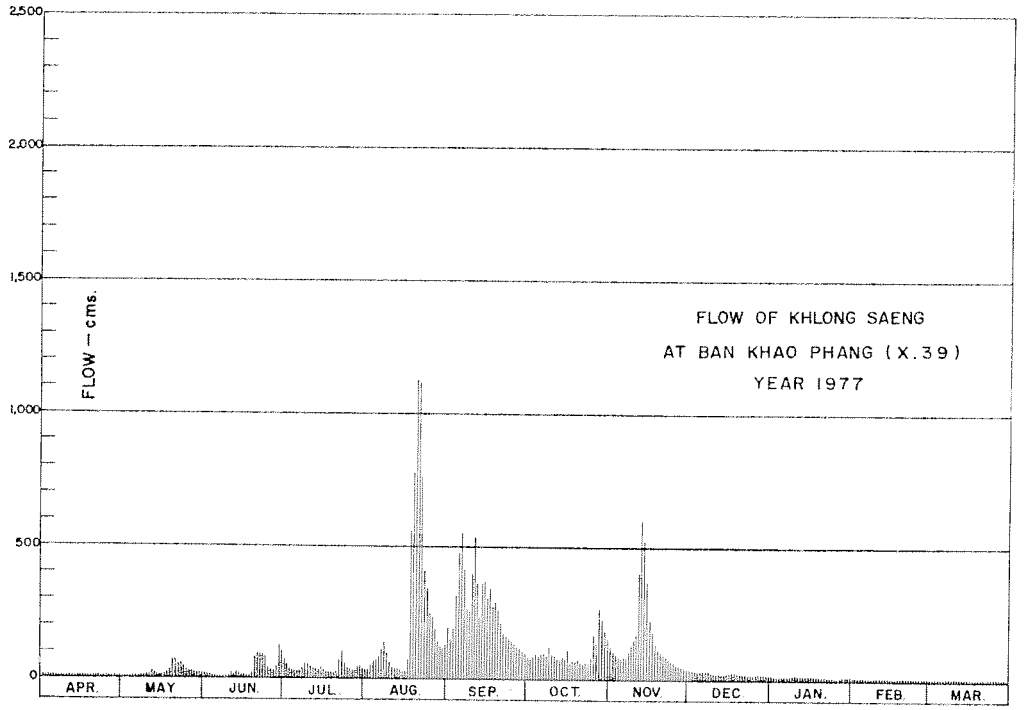
Overbank Flow Conditions: No overbank flow.

General Description: Records fair. Stage-discharge relation defined by 105 discharge measurements made in 1977.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	9.17	9.15	9.35	10.45	9.77	11.90	10.62	11.17	9.99	9.46	9.32	9.23
2	.17	.17	.32	.22	.84	.54	.55	10.93	.98	.43	.31	.22
3	.17	.18	.31	9.90	10.18	.91	.67	.73	.92	.43	.30	.22
4	.17	.17	.32	.77	.36	13.18	.74	.59	.89	.41	.30	.21
5	.17	.16	.29	.67	.51	14.43	.62	.56	.85	.41	.30	.21
6	9.17	9.18	9.27	9.64	10.49	14.83	10.80	10.61	9.83	9.41	9.29	9.20
7	.16	.23	.26	.75	.99	13.63	.86	.56	.80	.41	.29	.20
8	.15	.27	.31	.88	11.36	12.71	.70	.94	.78	.40	.28	.20
9	.14	.33	.29	10.14	10.73	12.48	11.13	11.23	.74	.40	.28	.20
10	.14	.32	.31	.14	.35	13.90	11.80	.52	.74	.40	.27	.20
11	9.14	9.33	9.59	10.05	10.09	14.74	10.74	11.73	9.72	9.47	9.27	9.20
12	.15	.61	.41	.07	10.00	13.17	.59	13.56	.71	.50	.26	.20
13	.17	.41	.54	9.82	9.96	12.31	.52	15.20	.69	.42	.26	.20
14	.17	.34	.49	.84	.85	13.39	.63	14.69	.67	.39	.26	.19
15	.15	.28	.40	.97	.76	13.51	.48	13.35	.64	.38	.26	.19
16	9.22	9.30	9.30	0.79	9.70	12.94	10.97	12.26	9.62	9.38	9.25	9.21
17	.26	.29	.25	.68	10.58	13.25	.66	11.67	.75	.37	.25	.20
18	.23	.46	.25	.65	14.93	12.64	.48	.30	.72	.36	.25	.20
19	.21	.80	.56	.58	16.27	12.88	.43	.04	.61	.35	.29	.26
20	.23	10.66	10.46	.60	18.32	12.49	.54	10.85	.58	.35	.41	.22
21	9.32	10.66	10.73	9.81	18.23	11.96	10.35	10.73	9.58	9.35	9.31	9.19
22	.24	.14	.73	10.39	15.93	11.57	.31	.63	.57	.35	.27	.20
23	.19	.26	.67	.93	13.84	11.54	.34	.48	.57	.35	.26	.21
24	.19	.03	.16	.34	.49	11.49	.28	.40	.55	.34	.25	.19
25	.17	9.77	9.88	.03	12.49	11.24	.83	.32	.53	.34	.24	.22
26	9.16	9.68	9.79	9.86	12.32	11.13	11.63	10.23	9.53	9.28	9.24	9.22
27	.16	.65	9.66	9.82	11.68	.12	.31	.17	.51	.27	.23	.20
28	.15	.57	10.04	9.76	.32	.05	12.59	.12	.49	.31	.23	.19
29	.16	.47	11.15	10.01	.13	10.91	.12	.10	.49	.36	–	.18
30	.16	.39	10.85	10.24	.10	.74	11.79	.06	.48	.37	–	.19
31	–	.37	–	9.92	.27	–	.49	–	.47	.34	–	.51
Mean	9.18	9.54	9.73	9.96	11.8	12.49	10.86	11.26	9.68	9.38	9.28	9.21
Max.	9.32	10.66	11.15	10.93	18.32	14.83	12.59	15.20	9.99	9.50	9.41	9.51
Min.	9.14	9.15	9.25	9.58	9.70	10.74	10.28	10.06	9.47	9.27	9.23	9.18

WATER YEAR 1977 : Max. 18.32 m. Min. 9.14 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	6.10	5.50	12	72	31	194	84	127	42	16	10	7.90
2	6.10	6.10	11	56	35	161	79	107	42	15	10	7.60
3	6.10	6.40	10	38	54	195	88	92	39	15	10	7.60
4	6.10	6.10	11	31	66	332	93	82	37	14	10	7.30
5	6.10	5.80	9.70	26	77	490	84	80	35	14	10	7.30
6	6.10	6.40	9.10	25	75	546	97	84	34	14	9.70	7.00
7	5.80	7.90	8.80	30	112	386	102	80	33	14	9.70	7.00
8	5.50	9.10	10	37	144	278	90	108	32	14	9.40	7.00
9	5.20	11	9.70	51	92	253	124	133	30	14	9.40	7.00
10	5.20	11	10	51	65	418	97	159	30	14	9.10	7.00
11	5.20	11	22	46	48	534	93	178	29	17	9.10	7.00
12	5.50	23	14	47	43	330	82	377	28	18	8.80	7.00
13	6.10	14	20	34	41	235	77	600	27	15	8.80	7.00
14	6.10	12	18	35	35	357	85	527	26	14	8.80	6.70
15	5.50	9.40	14	41	31	371	75	352	25	13	8.80	6.70
16	7.60	10	10	32	28	303	111	230	24	13	8.50	7.30
17	8.80	9.70	8.50	27	82	340	67	172	30	13	8.50	7.00
18	7.90	16	8.50	25	560	270	75	139	29	12	8.50	7.00
19	7.30	33	21	22	765	297	71	116	23	12	9.70	8.80
20	7.90	67	73	23	1,122	254	79	101	22	12	14	7.60
21	11	67	92	33	1,105	200	65	92	22	12	10	6.70
22	8.20	51	92	68	711	163	63	85	21	12	9.10	7.00
23	6.70	59	88	107	411	161	65	75	21	12	8.80	7.30
24	6.70	45	53	65	369	156	61	69	20	12	8.50	6.70
25	6.10	31	37	45	254	134	99	63	19	12	8.20	7.60
26	5.80	27	32	36	236	124	169	57	19	9.40	8.20	7.60
27	5.80	25	26	34	173	123	140	53	18	9.10	7.90	7.00
28	5.50	21	45	31	141	117	265	50	18	10	7.90	6.70
29	5.80	17	125	44	124	106	216	49	18	12	–	6.40
30	5.80	14	101	58	121	93	183	47	17	13	–	6.70
31	–	13	–	39	136	–	156	–	17	12	–	18
Total	183.70	650.40	992.2	1,309.0	7,287	7,921	3,235	4,484	827	408.50	259.40	232.50
Mean	6.12	21.0	33.1	42.2	235	264	104	149	26.7	13.2	9.26	7.50
Max.	11	67	1.25	107	1,122	546	265	600	42	18	14	18
Min.	5.20	5.50	8.50	22	28	93	61	47	17	9.10	7.90	6.40
Runoff – MCM.	15.872	56.194	85.726	113.098	629.597	684.374	279.504	387.418	71.453	35.294	22.412	20.088

WATER YEAR 1977 : Max. 1,122 Min. 5.20 Mean 76.1 Annual Runoff 2,401.030 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Aug.20	24.00	18.83	1,214				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
PHUM DUANG RIVER BASIN

Khlong Sok at Ban Song Phi Nong, Surat Thani (X. 51)

Location: Lat. 8°-50'-39" N., Long. 98°-44'-39" E., on left bank at Ban Song Pi Nong, Amphoe Phanom, Surat Thani.

Drainage Area: 431 Sq.km.

Type of Gage: Staff gage.

Zero Gage at Bottom at: + 0.00 m. (A.D.)

Bench Mark: B.M. - H.S.

Location: BM1 on left bank near the staff gage, BM2 on left bank under the ceiba tree.
Elevation: BM1 = + 9.199 m. (A.D.), BM2 = + 9.516 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: 1972-1978.

Rating Operation:

Period of Rating: 1972-1977.
Rated by Float: -
Rated by Current Meter: 1972-1977.

Stability of Channel Regimes: Fairly stable, no shifting adjustment for flow computation.

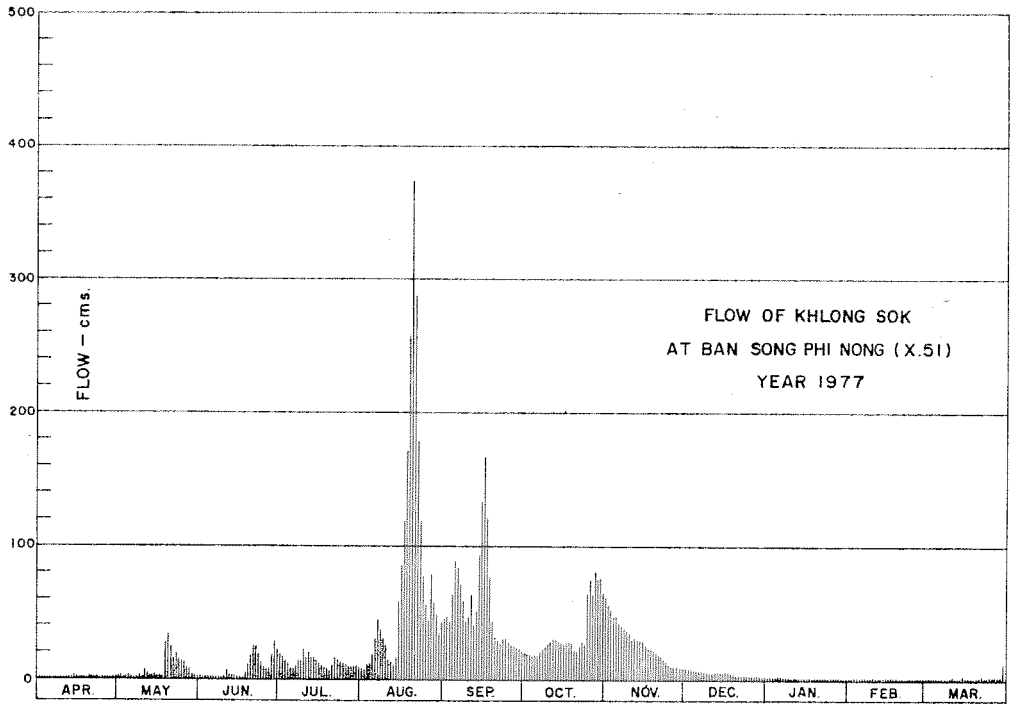
Overbank Flow Conditions: No overbank flow.

General Description: Records fair. Stage-discharge relation defined by 9 discharge measurements made in 1976.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	-0.17	0.12	0.35	1.13	0.55	1.91	1.12	2.26	0.62	0.27	0.15	0.05
2	-0.17	.30	.29	.06	.56	.93	.10	.13	.60	.27	.14	.04
3	-0.16	.09	.26	0.93	.77	.86	.09	.03	.57	.26	.13	.04
4	-0.16	.27	.25	.83	.84	2.35	.08	1.95	.56	.25	.12	.03
5	-0.15	.32	.24	.63	1.18	.84	.07	.96	.55	.27	.11	.03
6	-0.15	0.25	0.20	0.58	1.41	2.74	1.06	1.81	0.53	0.26	0.11	0.03
7	-0.14	.15	.23	.70	.90	.48	.16	.75	.52	.25	.11	.02
8	-0.14	.17	.21	.95	.66	.16	.23	.69	.51	.24	.10	.06
9	-0.13	.34	.18	.90	.49	1.86	.33	.66	.50	.23	.10	.05
10	-0.16	.24	.17	1.21	.35	.96	.39	.58	.49	.23	.10	.16
11	-0.16	0.51	0.52	1.01	0.92	2.31	1.46	1.46	0.48	0.23	0.09	0.14
12	.07	.43	.37	.18	.83	1.75	.50	.48	.47	.22	.09	.08
13	.13	.32	.35	0.99	.75	2.00	.43	.47	.46	.22	.09	.04
14	.34	.29	.31	.99	1.02	.93	.40	.42	.49	.21	.08	.18
15	.16	.38	.24	.89	.91	3.70	.38	.40	.47	.21	.08	.28
16	0.07	0.23	0.20	0.78	2.70	4.26	1.33	1.33	0.50	0.20	0.08	0.10
17	.03	.32	.19	.73	3.50	3.45	.37	.23	.48	.20	.07	.09
18	.02	.29	.17	.65	4.52	2.41	.40	.21	.46	.21	.07	.08
19	.05	1.33	.76	.59	5.65	1.83	.38	.19	.40	.19	.06	.09
20	.14	.54	1.09	.54	7.07	.51	.17	.16	.39	.19	.06	.09
21	0.09	1.24	1.28	0.74	5.76	1.43	1.19	1.11	0.38	0.18	0.11	0.23
22	.04	0.94	.30	.99	4.13	.37	.30	.03	.37	.18	.10	.23
23	.25	1.11	.13	.91	3.19	.48	.42	0.93	.36	.18	.09	.14
24	.12	0.93	0.82	.81	2.61	.47	.34	.85	.35	.17	.08	.16
25	.16	.73	.66	.77	.19	.38	2.32	.75	.34	.17	.06	.23
26	0.02	0.77	0.60	0.73	1.89	1.34	2.58	0.69	0.33	0.19	0.05	0.10
27	-0.19	.58	.58	.66	2.64	.30	.33	.66	.32	.19	.05	.12
28	-0.18	.54	.95	.64	.21	.25	.70	.71	.31	.20	.05	.08
29	-0.17	.37	1.39	.68	1.94	.21	.57	.69	.30	.20	-	.04
30	0.03	.33	.22	.73	.57	.18	.59	.64	.29	.17	-	.32
31	-	.26	-	.62	.82	-	.38	-	.28	.15	-	.71
Mean	-0.02	0.51	0.55	0.82	2.27	2.05	1.55	1.34	0.44	0.21	0.09	0.13
Max.	0.34	1.54	1.39	1.26	7.07	4.26	2.70	2.26	0.62	0.27	0.15	0.71
Min.	-0.19	0.09	0.17	0.54	0.55	1.18	1.06	0.64	0.28	0.15	0.05	0.02

WATER YEAR 1977 : Max. 7.07 m. Min. -0.19 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.00	0.94	3.25	20	7.00	46	19	61	8.40	2.20	1.15	0.50
2		2.50	2.40	18	7.20	47	19	55	8.00	2.20	1.08	0.44
3		0.74	2.00	15	11	44	19	51	7.40	2.10	1.01	0.44
4		2.20	2.10	13	13	65	18	47	7.20	2.00	0.94	0.38
5		2.80	1.90	8.60	21	88	18	48	7.00	2.20	0.87	0.38
6		2.00	1.50	7.60	28	83	18	42	6.60	2.10	0.87	0.38
7		1.15	1.80	10	45	71	20	40	6.40	2.00	0.87	0.32
8		1.29	1.60	15	37	56	23	38	6.20	1.90	0.80	0.56
9		3.10	1.36	14	31	44	26	37	6.00	1.80	0.80	0.50
10		1.90	1.29	23	26	48	28	34	5.80	1.80	0.80	1.22
11	0.00	6.20	6.40	17	14	63	30	30	5.60	1.80	0.74	1.08
12	0.62	4.60	3.55	21	13	40	31	31	5.40	1.70	0.74	0.68
13	1.01	2.80	3.25	16	11	49	29	30	5.20	1.70	0.74	0.44
14	3.10	2.40	2.65	16	17	93	28	29	5.80	1.60	0.68	1.36
15	1.22	3.70	1.90	14	46	133	27	28	5.40	1.60	0.68	2.30
16	0.62	1.80	1.50	12	81	167	26	26	6.00	1.50	0.68	0.80
17	0.38	2.80	1.43	11	121	119	27	23	5.60	1.50	0.62	0.74
18	0.32	2.40	1.29	9.00	184	67	28	23	5.20	1.60	0.62	0.68
19	0.50	26	11	7.80	263	43	27	21	4.00	1.43	0.56	0.74
20	1.08	33	19	6.80	373	32	21	20	3.85	1.43	0.56	0.74
21	0.74	23	24	11	271	29	21	19	3.70	1.36	0.87	1.80
22	0.44	15	25	16	159	27	25	17	3.55	1.36	0.80	1.80
23	2.00	19	20	14	106	30	29	15	3.40	1.36	0.74	1.08
24	0.94	15	12	12	77	31	26	13	3.25	1.29	0.68	1.22
25	0.56	11	9.20	11	57	27	63	11	3.10	1.29	0.56	1.80
26	0.32	11	8.00	11	45	26	75	9.80	2.95	1.43	0.50	0.80
27	0.00	7.60	7.60	9.20	78	25	64	9.20	2.80	1.43	0.50	0.94
28	0.00	6.80	15	8.80	58	24	81	10	2.65	1.50	0.50	0.68
29	0.00	3.55	28	9.60	47	23	75	9.80	2.50	1.50	–	0.44
30	0.38	2.95	23	11	34	21	76	8.80	2.40	1.29	–	2.80
31	–	2.10	–	8.40	43	–	66	–	2.30	1.15	–	10
Total	14.23	221.32	242.97	396.80	2,324.20	1,661	1,083	836.60	153.65	51.12	20.96	38.04
Mean	0.47	7.14	8.10	12.8	75.0	55.5	34.9	27.9	4.96	1.65	0.75	1.23
Max.	3.10	33	28	23	375	167	81	61	8.40	2.20	1.15	10
Min.	0.00	0.74	1.29	6.80	7.00	21	18	8.80	2.30	1.15	0.50	0.32
Runoff - mcm.	1.229	19.122	20.993	34.283	200.811	143.510	93.571	72.282	13.275	4.417	1.811	3.287

WATER YEAR 1977 : Max. 373 Min. 0.00 Mean 19.3 Annual Runoff 608.591 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Aug.20	06.00	7.76	428				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
TA PI RIVER BASIN

Khlong Chong Lom at Ban Chong Lom, Surat Thani (X. 57)

Location: Lat. 8°-53'-10" N., Long. 98°-41'-27" E., on left bank downstream of the concrete bridge on Takuapa – Surat Thani highway, Amphoe Phanom, Surat Thani.

Drainage Area: 8 Sq.km.

Type of Gage: Staff gage.

Zero Gage at Bottom at: + 0.00 m. (A.D.)

Bench Mark: B.M. – H.S.

Location: BM1 on left bank about 6 meters, BM2 on left bank about 13 meters from gage site.
Elevation: BM1 = + 3.183 m. (A.D.), BM2 = + 3.262 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: 1972-1974.
Rated by Float: –
Rated by Current Meter: 1972-1974.

Stability of Channel Regimes: Stable, no shifting adjustment for flow computation.

Overbank Flow Conditions: No overbank flow.

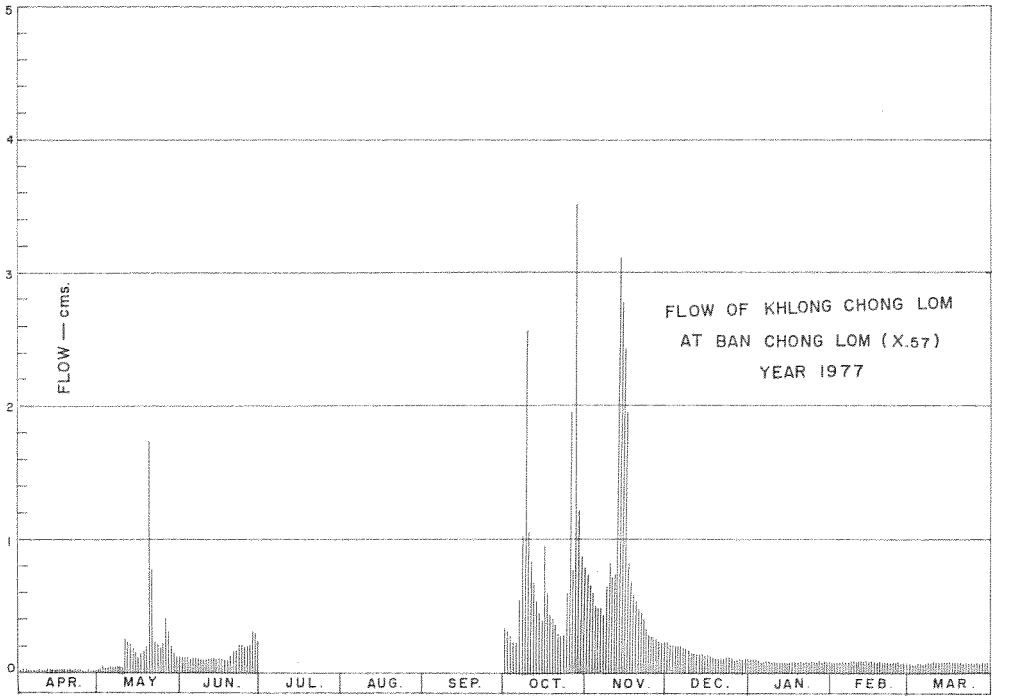
General Description: Records good. Stage-discharge relation defined by 13 discharge measurements made in 1974.

Remarks: No records on July 1 – September 30, 1977.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.13	0.14	0.34				0.59	0.91	0.49	0.31	0.28	0.27
2	.13	.15	.33				.56	.85	.48	.31	.28	.27
3	.12	.15	.33				.54	.76	.47	.31	.28	.27
4	.12	.15	.32				.49	.72	.46	.30	.28	.27
5	.12	.22	.32				.50	.72	.45	.30	.28	.27
6	0.12	0.21	0.32				0.58	0.72	0.44	0.30	0.28	0.27
7	.12	.20	.31				.98	.68	.42	.30	.28	.27
8	.11	.21	.30				1.10	.82	.41	.30	.28	.29
9	.11	.23	.30				.73	.95	.39	.29	.28	.29
10	.11	.26	.30				.10	.89	.38	.29	.28	.29
11	0.11	0.51	0.32				0.96	0.92	0.37	0.29	0.28	0.28
12	.10	.48	.32				.81	1.54	.37	.29	.28	.28
13	.10	.45	.32				.74	.93	.37	.29	.28	.28
14	.10	.41	.31				.67	.82	.36	.29	.28	.28
15	.11	.36	.31				.64	.70	.36	.29	.29	.28
16	0.12	0.35	0.30				1.03	1.00	0.36	0.29	0.30	0.28
17	.12	.40	.30				0.74	0.88	.35	.29	.29	.28
18	.12	.41	.30				.67	.79	.35	.29	.29	.28
19	.12	.49	.35				.63	.76	.34	.29	.29	.27
20	.12	1.40	.39				.61	.71	.34	.29	.28	.27
21	0.12	0.89	0.41				0.54	0.69	0.33	0.29	0.28	0.27
22	.12	.48	.43				.55	.65	.33	.29	.27	.27
23	.12	.46	.48				.57	.58	.33	.28	.27	.27
24	.12	.43	.45				.76	.55	.33	.28	.27	.27
25	.12	.49	.43				1.09	.53	.32	.28	.27	.27
26	0.12	0.66	0.46				1.49	0.52	0.32	0.28	0.27	0.27
27	.12	.58	.49				0.92	.51	.32	.28	.27	.27
28	.12	.46	.57				2.06	.50	.31	.28	.27	.27
29	.12	.38	.55				1.14	.50	.31	.28	.27	.27
30	.12	.35	.47				1.03	.49	.31	.28		.27
31	–	.34	–				0.94	–	.31	.28		.27
Mean	0.12	0.41	0.37				0.86	0.85	0.37	0.29	0.28	0.27
Max.	0.13	1.40	0.57				2.06	1.93	0.49	0.31	0.30	0.29
Min.	0.10	0.14	0.30				0.49	0.49	0.31	0.28	0.27	0.27

WATER YEAR 1977 : Max. m. Min. m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.02	0.02	0.12				0.33	0.76	0.23	0.10	0.08	0.07
2	0.02	0.03	0.11				0.30	0.67	0.22	0.10	0.08	0.07
3	0.02	0.03	0.11				0.28	0.54	0.22	0.10	0.08	0.07
4	0.02	0.03	0.10				0.23	0.49	0.21	0.09	0.08	0.07
5	0.02	0.05	0.10				0.24	0.49	0.20	0.09	0.08	0.07
6	0.02	0.04	0.10				0.32	0.49	0.19	0.09	0.08	0.07
7	0.02	0.04	0.10				0.87	0.44	0.18	0.09	0.08	0.07
8	0.02	0.04	0.09				1.10	0.63	0.17	0.09	0.08	0.08
9	0.02	0.05	0.09				2.58	0.82	0.15	0.08	0.08	0.08
10	0.02	0.07	0.09				1.10	0.73	0.15	0.08	0.08	0.08
11	0.01	0.25	0.10				0.84	0.77	0.14	0.08	0.08	0.08
12	0.01	0.22	0.10				0.61	2.08	0.14	0.08	0.08	0.08
13	0.02	0.20	0.10				0.52	3.12	0.14	0.08	0.08	0.08
14	0.02	0.17	0.10				0.42	2.82	0.13	0.08	0.08	0.08
15	0.02	0.13	0.10				0.39	2.50	0.13	0.08	0.09	0.08
16	0.02	0.12	0.09				0.96	0.90	0.13	0.08	0.08	0.08
17	0.02	0.16	0.09				0.52	0.71	0.12	0.08	0.08	0.08
18	0.02	0.17	0.09				0.42	0.59	0.12	0.08	0.08	0.08
19	0.02	0.23	0.12				0.38	0.54	0.12	0.08	0.08	0.07
20	0.02	0.74	0.15				0.35	0.47	0.12	0.08	0.07	0.07
21	0.02	0.73	0.17				0.28	0.45	0.11	0.08	0.07	0.07
22	0.02	0.72	0.18				0.29	0.40	0.11	0.08	0.07	0.07
23	0.02	0.21	0.22				0.31	0.32	0.11	0.08	0.07	0.07
24	0.02	0.18	0.20				0.54	0.29	0.11	0.08	0.07	0.07
25	0.02	0.23	0.18				1.08	0.27	0.10	0.08	0.07	0.07
26	0.02	0.41	0.21				1.96	0.26	0.10	0.08	0.07	0.07
27	0.02	0.32	0.23				0.77	0.25	0.10	0.08	0.07	0.07
28	0.02	0.21	0.31				3.50	0.24	0.10	0.08	0.07	0.07
29	0.02	0.15	0.29				1.18	0.24	0.10	0.08	0.07	0.07
30	0.02	0.12	0.22				0.96	0.23	0.10	0.08		0.07
31		0.12	-				0.80	-	0.10	0.08		0.07
Total	0.57	6.69	4.26				24.43	23.51	4.35	2.59	2.18	2.28
Mean	0.02	0.22	0.14				0.79	0.78	0.14	0.08	0.08	0.07
Max.	0.02	1.74	0.31				3.50	3.12	0.23	0.10	0.09	0.08
Min.	0.01	0.02	0.09				0.23	0.23	0.10	0.08	0.07	0.07
Runoff - mcm.	0.049	0.578	0.368				2.111	2.031	0.376	0.224	0.188	0.197

WATER YEAR 1977 : Max. 3.50 Min. Mean Annual Runoff mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Oct. 28	18.00	3.68	2.12				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
PHUM DUANG RIVER BASIN

Khlong Sok at Ban Lang Tham, Surat Thani (X. 58)

Location: Lat. 8°-53'-05" N., Long. 98°-40'-06" E., on right bank about 10 meters downstream from the concrete bridge on Takuapa – Surat Thani highway, Amphoe Phanom, Surat Thani.

Drainage Area: 312 Sq.km.

Type of Gage: Staff gage.

Zero Gage at Bottom at: + 0.00 m. (A.D.)

Bench Mark: B.M. – H.S.

Location: BM1 on right bank under Tack Fruit tree, BM2 on right bank under Ross Apple tree.
Elevation: BM1 = + 7.079 m. (A.D.), BM2 = + 6.942 m. (A.D.)

Gage Reading Frequency: 5-time daily reading 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 to date.
Rated by Float: –
Rated by Current Meter: 1972 to date.

Stability of Channel Regimes: Stable, no shifting adjustment for flow computation.

Overbank Flow Conditions: No overbank flow.

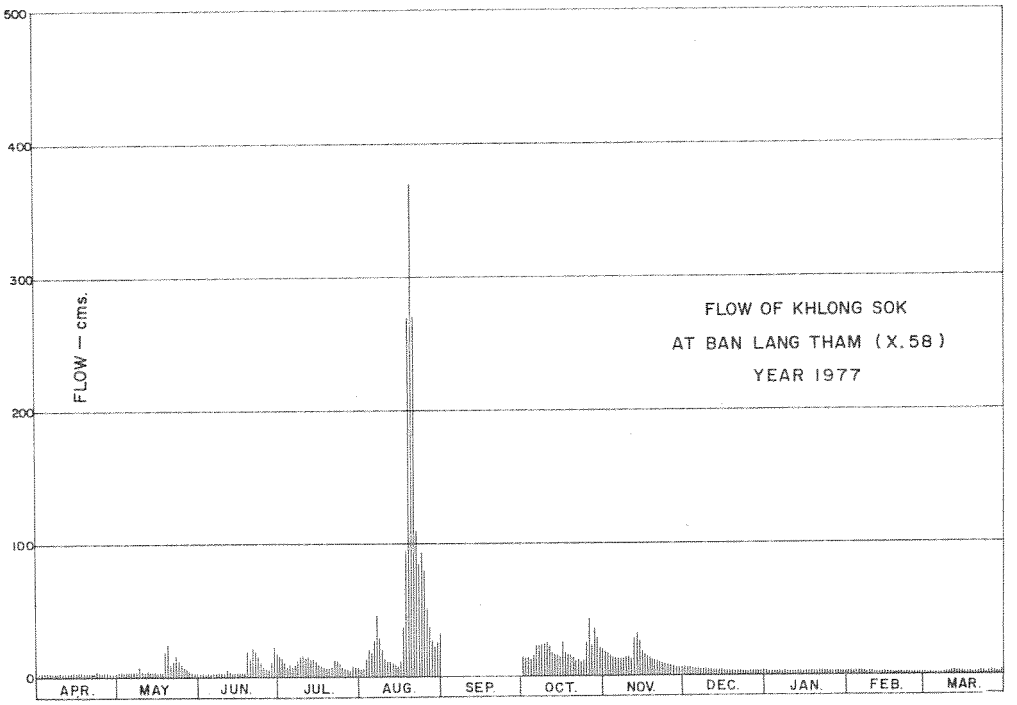
General Description: Records fair. Stage-discharge relation defined by 6 discharge measurements made in 1977.

Remarks: No records on September 1 – 30, 1977.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.32	0.48	0.38	1.04	0.63		1.06	1.15	0.68	0.42	0.30	0.24
2	.32	.41	.36	0.96	.69		.01	.11	.67	.42	.30	.24
3	.32	.45	.36	.87	1.01		0.99	.05	.65	.42	.30	.24
4	.32	.43	.37	.73	.23		.98	.06	.63	.42	.30	.23
5	.31	.49	.35	.80	.15		1.10	.00	.63	.42	.29	.23
6	0.31	0.45	0.32	0.73	1.49		1.35	0.97	0.62	0.43	0.29	0.23
7	.31	.47	.37	.80	.97		.32	.97	.61	.41	.29	.23
8	.31	.46	.33	.89	.47		.32	1.01	.60	.39	.28	.31
9	.30	.73	.31	1.06	.15		.39	.00	.60	.38	.28	.30
10	.30	.44	.32	.09	0.98		.40	.04	.59	.38	.28	.33
11	0.30	0.38	0.63	0.99	0.89		1.30	0.96	0.60	0.39	0.27	0.35
12	.32	.50	.49	1.05	.88		.15	1.42	.63	.38	.27	.32
13	.44	.49	.48	0.92	.86		.09	.70	.58	.38	.26	.34
14	.34	.36	.41	.98	.80		.08	.45	.57	.37	.26	.36
15	.34	.43	.37	.89	.75		.15	.17	.56	.37	.26	.39
16	0.41	0.35	0.33	0.82	0.87		1.43	1.08	0.54	0.36	0.25	0.26
17	.34	.45	.32	.76	2.03		.14	.03	.57	.36	.25	.36
18	.30	.47	.33	.71	3.58		.08	0.99	.54	.36	.24	.42
19	.36	1.21	1.21	.66	5.98		.03	.93	.51	.35	.25	.26
20	.37	1.40	0.95	.66	6.57		0.98	.90	.52	.38	.31	.23
21	0.36	0.82	1.30	0.78	4.89		0.94	0.87	0.50	0.36	0.31	0.22
22	.34	.90	.17	.97	3.39		.95	.84	.49	.34	.27	.36
23	.56	1.06	.05	.94	2.89		.87	.82	.49	.34	.27	.29
24	.36	0.87	0.84	.81	3.07		.89	.81	.48	.32	.26	.25
25	.30	.81	.71	.73	2.80		1.38	.78	.48	.32	.26	.39
26	0.29	0.67	0.64	0.67	2.15		1.92	0.75	0.47	0.32	0.25	0.32
27	.27	.57	.59	.65	1.76		.35	.74	.46	.32	.25	.27
28	.27	.49	.86	.63	.48		.71	.74	.46	.35	.25	.24
29	.30	.43	1.31	.79	.33		.50	.74	.45	.36	–	.24
30	.34	.42	.14	.75	.47		.28	.71	.44	.32	–	.47
31	–	.41	–	.66	.64		.25	–	.43	.31	–	.44
Mean	0.33	0.59	0.62	0.83	1.99		1.21	0.99	0.55	0.37	0.27	0.30
Max.	0.44	1.06	1.31	1.09	6.57		1.92	1.70	0.68	0.43	0.31	0.47
Min.	0.27	0.35	0.31	0.63	0.63		0.87	0.71	0.43	0.31	0.24	0.22

WATER YEAR 1977 : Max. 6.57 m. Min. 0.22 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	2.46	3.82	2.94	15	5.95		15	18	6.70	3.28	2.30	1.82
2	2.46	3.19	2.78	13	6.85		14	17	6.55	3.28	2.30	1.82
3	2.46	3.55	2.78	11	14		14	15	6.25	3.28	2.30	1.82
4	2.46	3.37	2.86	7.60	20		13	15	5.93	3.28	2.30	1.74
5	2.38	3.91	2.70	9.00	18		16	14	5.93	3.28	2.22	1.74
6	2.38	3.55	2.46	7.60	28		23	13	5.80	3.37	2.22	1.74
7	2.38	3.73	2.86	9.00	45		23	13	5.65	3.19	2.22	1.74
8	2.38	3.64	2.54	11	27		23	14	5.50	3.02	2.14	2.38
9	2.30	7.60	2.38	15	18		25	14	5.50	2.94	2.14	2.30
10	2.30	3.46	2.46	16	13		25	15	5.35	2.94	2.14	2.54
11	2.30	2.94	5.95	14	11		22	13	5.50	3.02	2.06	2.70
12	2.46	4.00	3.91	15	11		18	26	5.95	2.94	2.06	2.46
13	3.46	3.91	3.82	12	10		16	35	5.20	2.94	1.98	2.62
14	2.62	2.78	3.19	13	9.00		16	26	5.05	2.86	1.98	2.78
15	2.62	3.37	2.86	11	8.00		15	18	4.90	2.86	1.98	3.02
16	3.19	2.70	2.54	9.50	11		26	16	4.60	2.78	1.90	1.98
17	2.62	3.55	2.46	8.20	47		17	15	5.05	2.78	1.90	2.30
18	2.38	3.73	2.54	7.20	122		16	14	4.60	2.78	1.82	3.28
19	2.78	19	19	6.40	301		15	12	4.15	2.70	1.90	1.98
20	2.86	25	13	6.40	369		13	11	4.30	2.94	2.38	1.74
21	2.78	9.50	22	8.60	207		12	11	4.00	2.78	2.38	1.66
22	2.62	11	18	13	111		13	10	3.91	2.62	2.06	2.78
23	4.90	15	15	12	85		11	9.50	3.91	2.62	2.06	2.22
24	2.78	11	10	9.25	94		11	9.25	3.82	2.46	1.98	1.90
25	2.30	9.25	7.20	7.60	81		24	8.60	3.82	2.46	1.98	3.02
26	2.22	6.55	6.10	6.55	52		43	8.00	3.73	2.46	1.90	2.46
27	2.06	5.05	5.35	6.25	37		23	7.80	3.64	2.46	1.90	2.06
28	2.06	3.91	10	5.95	27		35	7.80	3.64	2.70	1.90	1.82
29	2.30	3.37	22	8.80	23		28	7.80	3.55	2.78	–	1.82
30	2.62	3.28	17	8.00	27		21	7.20	3.46	2.46	–	3.73
31	–	3.19	–	6.40	33		20	–	3.37	2.38	–	3.46
Total	77.89	191.90	218.68	30.930	1,871.80		606.00	420.95	149.31	88.64	58.40	71.43
Mean	2.60	6.19	7.29	9.98	60.4		19.5	14.0	4.82	2.86	2.08	2.30
Max.	3.46	15	22	16	369		43	35	6.70	3.37	2.38	3.73
Min.	2.06	2.70	2.38	5.95	5.95		11	7.20	3.37	2.38	1.82	1.66
Runoff – mcm.	6.730	16.580	18.894	26.723	161.723		52.358	36.370	12.900	7.658	5.046	6.171

WATER YEAR 1977 : Max. 369 Min. 1.66 Mean Annual Runoff mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Aug. 20	6.00	6.82	402				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
PHUM DUANG RIVER BASIN

Khlong Yan at Ban Takuk Nua, Surat Thani (X. 66)

Location: Lat. 9°-18'-27" N., Long. 98°-51'-52" E., on left bank at Kaeng Krung, Amphoe Khiri Ratthanikhom, Surat Thani.

Drainage Area: 661 Sq.km.

Type of Gage: Staff gage.

Zero Gage at Bottom at: + 53.052 m. (M.S.L.)

Bench Mark: B.M. - H.S.

Location: On left bank near the gage site.
Elevation: + 64.675 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: 1972 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, no shifting adjustment for flow computation.

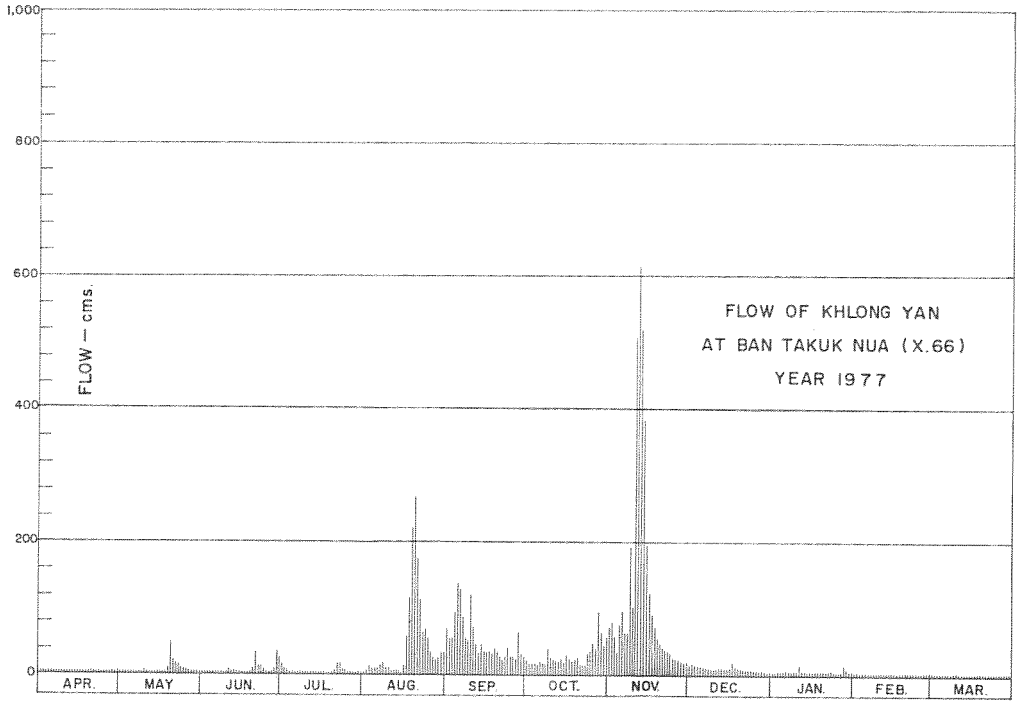
Overbank Flow Conditions: No overbank flow.

General Description: Records fair. Stage-discharge relation defined by 110 discharge measurements made in 1977.

GAGE HEIGHT IN METER (M.S.L), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	53.51	53.47	53.55	54.17	53.67	55.07	54.28	55.08	54.12	53.82	53.72	53.63
2	.50	.47	.55	53.97	.91	54.85	.20	.19	.18	.82	.71	.62
3	.50	.47	.63	.88	54.06	.87	.16	54.86	.15	.81	.70	.61
4	.50	.46	.61	.80	.02	55.28	.21	.53	.11	.81	.70	.60
5	.50	.46	.58	.75	.01	.84	.13	55.14	.08	.80	.70	.60
6	53.49	53.46	53.55	53.73	53.97	55.75	54.24	55.35	54.07	53.86	53.69	53.60
7	.49	.46	.55	.71	54.10	.28	.17	54.97	.04	.80	.69	.60
8	.49	.57	.59	.71	.22	54.86	.17	.97	.03	.80	.68	.59
9	.49	.61	.55	.68	.04	.80	.63	56.30	.02	.84	.68	.59
10	.48	.84	.55	.73	53.99	55.64	.37	55.46	.00	.81	.67	.63
11	53.48	53.63	53.89	53.75	53.91	55.07	54.29	58.37	54.00	54.10	53.66	53.59
12	.48	.61	.84	.83	.86	54.69	.29	.94	.05	53.87	.66	.58
13	.47	.66	.85	.76	.91	.49	.22	.31	.02	.80	.65	.58
14	.47	.67	.74	.71	.86	.75	.32	57.59	53.99	.79	.65	.58
15	.58	.57	.64	.67	.79	.52	.21	56.32	.96	.78	.65	.58
16	53.60	53.61	53.62	53.66	53.77	54.51	54.44	55.70	53.95	53.78	53.65	53.57
17	.55	.58	.58	.63	54.87	.55	.36	.33	54.26	.79	.64	.56
18	.51	.56	.56	.62	55.43	.49	.27	.06	.06	.77	.64	.56
19	.52	.92	.57	.60	56.51	.62	.33	54.87	53.98	.76	.73	.58
20	.50	54.73	.67	.60	.89	.54	.36	.72	.95	.78	.77	.57
21	53.50	54.25	54.50	53.86	56.18	54.40	54.19	54.66	53.93	53.71	53.67	53.56
22	.50	.13	.06	54.18	55.56	.30	.13	.58	.92	.76	.65	.55
23	.51	.08	.07	.19	54.96	.40	.13	.53	.92	.84	.66	.57
24	.49	.02	53.92	53.93	55.05	.62	.49	.49	.90	.77	.64	.56
25	.48	53.96	.79	.84	54.84	.40	.55	.39	.89	.74	.63	.55
26	53.47	53.90	53.73	53.78	54.61	54.38	54.73	54.33	53.87	53.73	53.63	53.55
27	.47	.83	.68	.75	.41	.36	.56	.27	.87	.73	.62	.54
28	.47	.75	.94	.71	.29	.97	55.34	.23	.86	54.12	.62	.54
29	.47	.69	54.56	.71	.40	.48	54.94	.21	.85	53.90	-	.54
30	.48	.62	.34	.77	.53	.38	.68	.23	.84	.78	-	.58
31	-	.57	-	.70	.51	-	.76	-	.83	.74	-	.84
Mean	53.50	53.73	53.77	53.79	54.52	54.77	54.39	55.37	53.99	53.81	53.67	53.59
Max.	53.60	54.73	54.56	54.19	56.89	55.84	55.34	58.94	54.26	54.12	53.77	53.84
Min.	53.47	53.46	53.55	53.60	53.67	54.30	54.13	54.21	53.83	53.71	53.62	53.54

WATER YEAR 1977 : Max. 58.94 m. Min. 53.46 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	1.65	1.14	2.25	19	4.19	74	24	74	17	7.50	5.16	3.51
2	1.50	1.14	2.25	12	9.80	58	20	83	20	7.50	4.93	3.34
3	1.50	1.14	3.51	9.00	15	59	19	59	18	7.25	4.70	3.17
4	1.50	1.02	3.17	7.00	13	90	21	37	17	7.25	4.70	3.00
5	1.50	1.02	2.70	5.85	13	142	18	79	16	7.00	4.70	3.00
6	1.38	1.02	2.25	5.39	12	132	22	95	15	8.50	4.53	3.00
7	1.38	1.02	2.25	4.93	16	90	19	66	14	7.00	4.53	3.00
8	1.38	2.55	2.85	4.93	21	59	19	66	14	7.00	4.36	2.85
9	1.38	3.17	2.25	4.36	14	54	43	193	13	8.00	4.36	2.85
10	1.26	8.00	2.25	5.39	12	121	28	105	12	7.25	4.19	3.51
11	1.26	3.51	9.25	5.85	9.80	74	25	507	12	16	4.02	2.85
12	1.26	3.17	8.00	7.75	8.50	47	25	613	14	8.75	4.02	2.70
13	1.14	4.02	8.25	6.08	9.80	37	21	496	13	7.00	3.85	2.70
14	1.14	4.19	5.62	4.93	8.50	51	26	374	12	6.77	3.85	2.70
15	2.70	2.55	3.68	4.19	6.77	37	21	196	11	6.54	3.85	2.70
16	3.00	3.17	3.34	4.02	6.31	36	32	127	11	6.54	3.85	2.55
17	2.25	2.70	2.70	3.51	59	38	28	94	23	6.77	3.68	2.40
18	1.65	2.40	2.40	3.34	102	35	24	73	15	6.31	3.68	2.40
19	1.80	10	2.55	3.00	219	43	27	59	12	6.08	5.39	2.70
20	1.50	50	4.19	3.00	270	38	28	49	11	6.54	6.31	2.55
21	1.50	23	35	8.50	180	30	20	45	10	4.93	4.19	2.40
22	1.50	18	15	20	114	25	18	40	10	6.08	3.85	2.25
23	1.65	16	15	20	66	30	18	37	10	8.00	4.02	2.55
24	1.38	13	10	10	72	43	35	35	9.50	6.31	3.68	2.40
25	1.26	11	6.77	8.00	57	30	38	29	9.25	5.62	3.51	2.25
26	1.14	9.50	5.39	6.54	42	29	50	27	8.75	5.39	3.51	2.25
27	1.14	7.75	4.36	5.85	30	28	39	24	8.75	5.39	3.34	2.10
28	1.14	5.85	11	4.93	25	66	95	22	8.50	17	3.34	2.10
29	1.14	4.53	39	4.93	30	34	64	21	8.25	9.50	–	2.10
30	1.26	3.34	27	6.51	37	29	46	22	8.00	6.54	–	2.70
31	–	2.55	–	4.70	36	–	52	–	7.75	5.62	–	8.00
Total	45.24	221.45	244.23	223.48	1,518.67	1,657	965	3,747	388.75	231.93	118.10	88.58
Mean	1.51	7.14	8.14	7.21	49.0	55.2	31.1	125	12.5	7.48	4.22	2.86
Max.	3.00	50	39	20	270	142	95	613	23	17	6.31	8.00
Min.	1.14	1.02	2.25	3.00	4.19	25	18	21	7.75	4.93	3.34	2.10
Runoff – mcm.	3.909	19.133	21.101	19.309	131.213	143.165	83.376	323.741	33.588	20.039	10.204	7.653

WATER YEAR 1977 : Max. 613 Min. 1.02 Mean 25.9 Annual Runoff 816.431 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Nov. 12	16.00	60.47	958				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
KHLONG YAN RIVER BASIN

Khlong Yan at Ban Nam Hak, Surat Thani (X. 92)

Location: Lat. 9°-06'-18" N., Long. 98°-58'-52" E., on right bank at Ban Nam Hak, Amphoe Khiri Ratthanikhom, Surat Thani.

Drainage Area: 1,001 Sq.km.

Type of Gage: Staff gage.

Zero Gage at Bottom at: + 0.00 m. (A.D.)

Bench Mark: B.M. – H.S.

Location: At the pedestal of cableway support.
Elevation: + 6.958 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: 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: Stable, no shifting adjustment for flow computation.

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

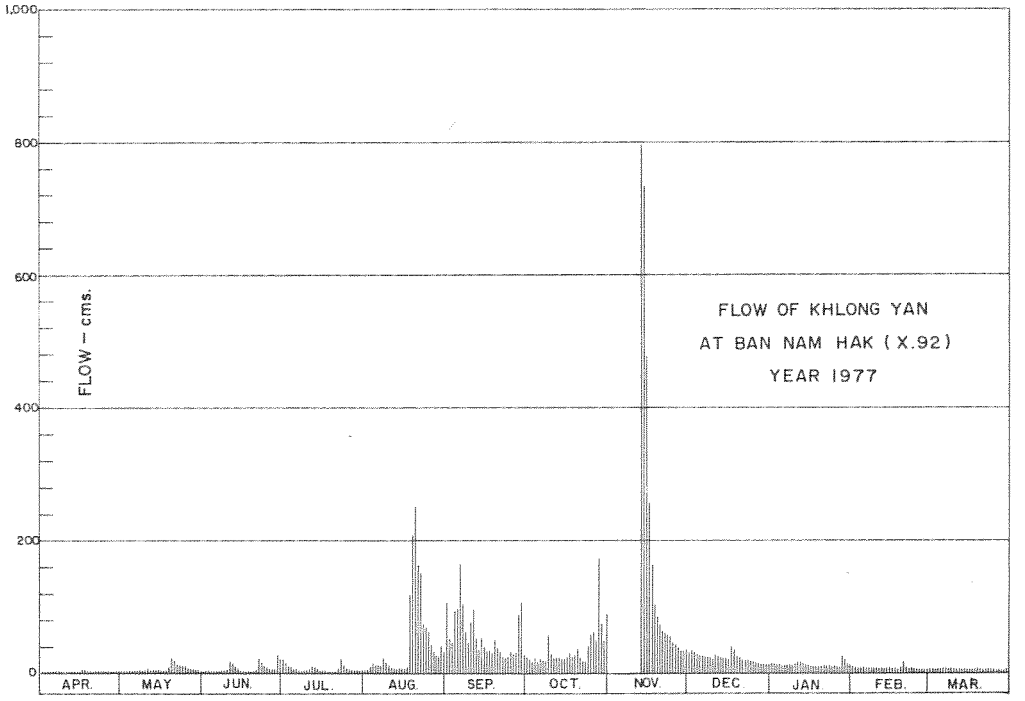
General Description: Records fair. Stage-discharge relation defined by 115 discharge measurements made in 1977.

Remarks: Flood on November 1-12, 1977.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.59	0.58	0.63	1.17	0.69	2.44	1.22		1.38	1.00	0.90	0.80
2	.59	.57	.63	.02	.68	1.71	.15		.44	0.99	.89	.80
3	.59	.59	.63	0.91	.88	.66	.11		.38	.98	.88	.79
4	.59	.57	.62	.85	1.02	2.33	.20		.32	.98	.87	.79
5	.59	.57	.63	.80	0.92	.34	.06		.29	.97	.86	.78
6	0.59	0.56	0.65	0.76	0.95	3.08	1.17		1.27	0.99	0.86	0.78
7	.59	.60	.63	.72	.93	2.40	.12		.24	.99	.86	.78
8	.58	.61	.67	.71	1.21	1.89	.09		.22	.96	.85	.77
9	.58	.65	.66	.70	.02	.65	.82		.20	.97	.85	.79
10	.58	.66	.67	.74	0.95	2.11	.31		.19	1.00	.84	.77
11	0.58	0.78	1.07	0.80	0.89	2.31	1.17		1.29	1.10	0.84	0.78
12	.58	.66	.00	.91	.84	1.70	.21		.28	.09	.83	.76
13	.58	.70	0.91	.84	.83	.45	.18	7.68	.24	.00	.83	.75
14	.58	.70	.84	.77	.83	.69	.16	.33	.20	0.95	.82	.75
15	.58	.69	.74	.72	.80	.51	.17	5.71	.17	.95	.82	.75
16	0.70	0.63	0.68	0.69	0.76	1.44	1.23	4.01	1.14	0.94	0.82	0.75
17	.67	.65	.67	.67	.76	.43	.34	3.08	.55	.94	.82	.75
18	.64	.64	.66	.65	2.60	.38	.22	2.45	.43	.94	.81	.75
19	.62	.83	.65	.64	3.55	.69	.28	.20	.24	.93	.83	.75
20	.61	1.16	.66	.63	.95	.51	.42	.00	.18	.92	1.04	.74
21	0.60	1.12	0.73	0.63	3.09	1.34	1.18	1.90	1.15	0.95	0.88	0.74
22	.60	0.95	1.20	.80	2.96	.24	.10	.85	.13	.92	.83	.74
23	.59	.93	.06	1.14	.07	.22	.08	.82	.12	.97	.82	.74
24	.59	.94	0.94	0.95	.01	.25	.54	.76	.09	.95	.82	.74
25	.58	.94	.85	.86	1.90	.37	.84	.64	.07	.90	.81	.74
26	0.57	0.81	0.80	0.79	1.59	1.31	1.88	1.56	1.06	0.89	0.80	0.73
27	.57	.78	.74	.74	.38	.38	.72	.49	.05	.89	.80	.73
28	.57	.74	.71	.73	.26	2.23	3.18	.44	.04	1.28	.80	.73
29	.59	.71	1.31	.71	.23	.48	2.07	.41	.03	.09	–	.72
30	.61	.68	.16	.74	.58	1.30	1.68	.47	.01	0.98	–	.77
31	–	.64	–	.71	.42	–	2.24	–	.00	.93	–	.90
Mean	0.60	0.73	0.80	0.79	1.50	1.76	1.42		1.21	0.98	0.85	0.75
Max.	0.70	1.16	1.31	1.17	3.95	3.08	3.18	7.68	1.55	1.28	1.04	0.90
Min.	0.57	0.56	0.62	0.63	0.68	1.22	1.08	1.47	1.00	0.89	0.80	0.72

WATER YEAR 1977 : Max. 7.68 m. Min. 0.56 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	2.55	2.40	3.33	22	4.59	104	24		32	15	11	7.50
2	2.55	2.25	3.33	15	4.38	51	21		35	14	10	7.50
3	2.55	2.55	3.33	11	10	48	19		32	14	10	7.23
4	2.55	2.25	3.12	9.15	15	95	23		29	14	9.81	7.23
5	2.55	2.25	3.33	7.50	12	96	17		28	13	9.48	6.96
6	2.55	2.10	3.75	6.42	13	162	22		27	14	9.48	6.96
7	2.55	2.70	3.33	5.34	12	101	20		25	14	9.48	6.96
8	2.40	2.91	4.17	5.07	24	62	19		24	13	9.15	6.69
9	2.40	3.75	3.96	4.80	15	47	58		23	13	9.15	7.23
10	2.40	3.96	4.17	5.88	13	78	29		23	15	8.82	6.69
11	2.40	6.96	18	7.50	10	93	22		28	19	8.82	6.96
12	2.40	3.96	15	11	8.82	50	24		27	19	8.49	6.42
13	2.40	4.80	11	8.82	8.49	36	23	7.94	25	15	8.49	6.15
14	2.40	4.80	8.82	6.69	8.49	49	22	7.34	23	13	8.16	6.15
15	2.40	4.59	5.88	5.34	7.50	39	22	4.79	22	13	8.16	6.15
16	4.80	3.33	4.38	4.59	6.42	35	25	2.57	21	12	8.16	6.15
17	4.17	3.75	4.17	4.17	6.42	35	30	1.62	41	12	8.16	6.15
18	3.54	3.54	3.96	3.75	119	32	24	105	35	12	7.83	6.15
19	3.12	8.49	3.75	3.54	209	49	27	84	25	12	8.49	6.15
20	2.91	22	3.96	3.33	251	39	34	70	23	12	16	5.88
21	2.70	20	5.61	3.33	163	30	23	63	21	13	10	5.88
22	2.70	13	23	7.50	151	25	19	60	20	12	8.49	5.88
23	2.55	12	17	21	75	24	18	58	20	13	8.16	5.88
24	2.55	12	12	13	71	26	41	54	19	13	8.16	5.88
25	2.40	12	9.15	9.48	63	32	59	46	18	11	7.83	5.88
26	2.25	7.83	7.50	7.23	43	29	62	42	17	10	7.50	5.61
27	2.25	6.96	5.88	5.88	32	32	51	38	17	10	7.50	5.61
28	2.25	5.88	5.07	5.61	26	87	172	35	16	27	7.50	5.61
29	2.55	5.07	29	5.07	25	108	75	34	16	19	–	5.34
30	2.91	4.38	22	5.88	43	28	49	37	15	14	–	6.69
31	–	3.54	–	5.07	34	–	88	–	15	12	–	11
Total	80.40	195.70	250.95	239.94	1,484.11	1,722.00	1,163.00		742.00	432.00	252.27	202.52
Mean	2.68	6.31	8.36	7.74	47.9	57.4	37.5		23.9	13.9	9.01	6.53
Max.	4.80	22	29	22	251	162	172	7.94	41	27	16	21
Min.	2.25	2.10	3.12	3.33	4.38	24	18	37	15	10	7.50	5.34
Runoff – mcm.	6.946	16.908	21.682	20.731	128.227	148.781	100.483		64.109	37.325	21.796	17.448

WATER YEAR 1977 : Max. 794 Min. 2.10 Mean Annual Runoff mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
May 6	06.00	0.56	2.10				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
TA PI RIVER BASIN

Khlong Tan at Wieng Sra, Surat Thani (X. 99)

Location: Lat. 8°-38'-07" N., Long. 99°-22'-59" E., on right bank upstream side of the bridge near Rong Rian Ban Wieng Sra, Amphoe Wieng Sra, Surat Thani.

Drainage Area: 105 Sq.km.

Type of Gage: Staff gage.

Zero Gage at Bottom at: + 0.00 m. (A.D.)

Bench Mark: B.M. – H.S.

Location: On right bank near the gage site.
Elevation: + 6.154 m. (A.D.)

Gage Reading Frequency: 14-time daily readings at 06.00-18.00 and 21.00 hours.

Basis of Mean Daily Gage Height: Arithmetic mean of 14 readings.

Period of Available Gage Records: 1975 to date.

Rating Operation:

Period of Rating: 1975 to date.
Rated by Float: –
Rated by Current Meter: 1975 to date.

Stability of Channel Regimes: Fairly stable, no shifting adjustment for flow computation.

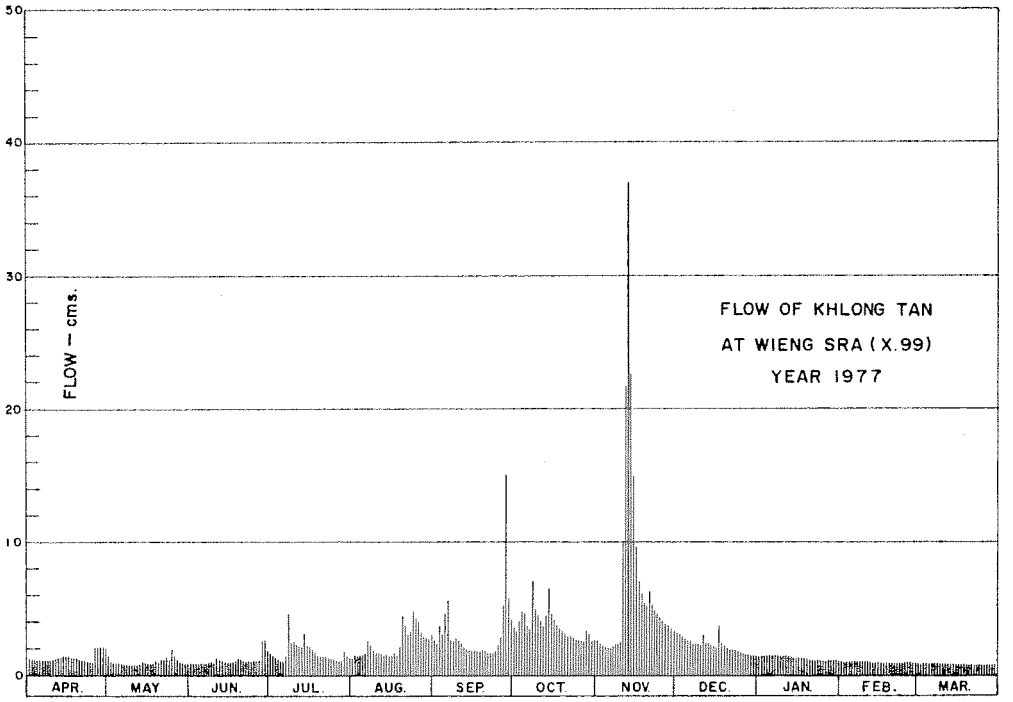
Overbank Flow Conditions: No overbank flow.

General Description: Records fair. Stage-discharge relation defined by 157 discharge measurements made in 1977.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.84	0.81	0.78	0.92	0.87	1.07	1.20	1.07	1.13	0.88	0.81	0.77
2	.83	.79	.78	.91	.92	.04	.15	.05	.12	.89	.80	.77
3	.82	.78	.77	.88	.90	.22	.26	.02	.10	.90	.80	.76
4	.81	.77	.77	.86	.91	.13	.33	.00	.09	.89	.82	.76
5	.82	.76	.78	.83	.92	.25	.32	0.99	.07	.89	.83	.76
6	0.82	0.76	0.79	0.83	0.94	1.42	1.22	0.99	1.06	0.89	0.82	0.76
7	.82	.76	.77	.89	1.08	.07	.18	.99	.04	.89	.83	.76
8	.82	.76	.77	1.30	.00	.06	.55	1.04	.03	.88	.83	.77
9	.83	.76	.80	.03	0.97	.09	.34	.04	.03	.89	.82	.77
10	.84	.76	.77	.07	.94	.08	.31	.07	.02	.88	.81	.78
11	0.86	0.77	0.86	1.03	0.93	1.03	1.26	1.40	1.12	0.89	0.81	0.77
12	.86	.77	.84	.00	.92	.00	.21	2.50	.03	.88	.80	.77
13	.87	.77	.82	.00	.91	0.97	.31	3.49	.02	.87	.79	.78
14	.89	.81	.80	.14	.92	.97	.50	2.53	.02	.87	.78	.77
15	.89	.78	.79	.01	.90	.97	.33	1.95	.00	.86	.78	.76
16	0.88	0.77	0.79	0.99	0.89	0.96	1.26	1.69	0.99	0.86	0.79	0.76
17	.86	.77	.79	.96	.94	.96	.22	.54	1.20	.86	.79	.76
18	.85	.78	.81	.94	.91	.95	.18	.44	.04	.86	.79	.75
19	.85	.83	.85	.90	1.01	.96	.15	.39	.01	.86	.79	.76
20	.82	.80	.84	.88	.28	.96	.14	.38	0.99	.85	.78	.75
21	0.81	0.85	0.82	0.90	0.21	0.94	1.11	1.48	0.97	0.84	0.78	0.75
22	.80	.84	.82	.88	.13	.93	.10	.38	.96	.83	.78	.75
23	.80	.88	.83	.87	.15	.92	.09	.33	.96	.84	.79	.75
24	.79	.85	.82	.86	.33	.93	.11	.29	.96	.83	.79	.75
25	.79	.96	.80	.84	.28	1.03	.07	.26	.94	.83	.79	.75
26	0.78	0.88	0.81	0.84	1.25	1.14	1.06	1.24	0.93	0.83	0.79	0.75
27	.78	.83	.84	.83	.16	.37	.04	.22	.91	.83	.78	.75
28	.78	.81	1.06	.83	.11	2.14	.16	.20	.90	.84	.78	.75
29	.78	.79	.06	.97	.11	1.49	.12	.17	.90	.83	–	.75
30	.78	.78	0.97	.91	.09	.28	.08	.15	.90	.83	–	.78
31	–	.79	–	.88	.13	–	.07	–	.90	.83	–	.82
Mean	0.82	0.80	0.82	0.93	1.03	1.11	1.20	1.40	1.01	0.86	0.79	0.76
Max.	0.89	0.96	1.06	1.30	1.33	2.14	1.55	3.49	1.20	0.90	0.83	0.82
Min.	0.78	0.76	0.77	0.83	0.87	0.92	1.04	0.99	0.90	0.83	0.78	0.75

WATER YEAR 1977 : Max. 3.49 m. Min. 0.75 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	1.20	1.05	0.90	1.64	1.35	2.69	3.70	2.69	3.14	1.40	1.05	0.85
2	1.15	0.95	0.90	1.57	1.64	2.48	3.30	2.55	3.06	1.45	1.00	0.85
3	1.10	0.90	0.85	1.40	1.50	3.88	4.24	2.34	2.90	1.50	1.00	0.80
4	1.05	0.85	0.85	1.30	1.57	3.14	4.87	2.20	2.83	1.45	1.10	0.80
5	1.10	0.80	0.90	1.15	1.64	4.15	4.78	2.13	2.69	1.45	1.15	0.80
6	1.10	0.80	0.95	1.15	1.78	5.70	3.88	2.13	2.62	1.45	1.10	0.80
7	1.10	0.80	0.85	1.45	2.76	2.69	3.54	2.13	2.48	1.45	1.15	0.80
8	1.10	0.80	0.85	4.60	2.20	2.62	7.05	2.48	2.41	1.40	1.15	0.85
9	1.15	0.80	1.00	2.41	1.99	2.83	4.96	2.48	2.41	1.45	1.10	0.85
10	1.20	0.80	0.85	2.69	1.78	2.76	4.69	2.69	2.34	1.40	1.05	0.90
11	1.30	0.85	1.30	2.41	1.71	2.41	4.24	5.50	3.06	1.45	1.05	0.85
12	1.30	0.85	1.20	2.20	1.64	2.20	3.79	20	2.41	1.40	1.00	0.85
13	1.35	0.85	1.10	2.20	1.57	1.99	4.69	37	2.34	1.35	0.95	0.90
14	1.45	1.05	1.00	3.22	1.64	1.99	6.50	20	2.34	1.35	0.90	0.85
15	1.45	0.90	0.95	2.27	1.50	1.99	4.87	12	2.20	1.30	0.90	0.80
16	1.40	0.85	0.95	2.13	1.45	1.92	4.24	8.68	2.13	1.30	0.95	0.80
17	1.30	0.85	0.95	1.92	1.78	1.92	3.88	6.94	3.70	1.30	0.95	0.80
18	1.25	0.90	1.05	1.78	1.50	1.85	3.54	5.90	2.48	1.30	0.95	0.75
19	1.25	1.15	1.25	1.50	2.27	1.92	3.30	5.41	2.27	1.30	0.95	0.80
20	1.10	1.00	1.20	1.40	4.42	1.92	3.22	5.32	2.13	1.25	0.90	0.75
21	1.05	1.25	1.10	1.50	3.79	1.78	2.98	6.30	1.99	1.20	0.90	0.75
22	1.00	1.20	1.10	1.40	3.14	1.71	2.90	5.32	1.92	1.15	0.90	0.75
23	1.00	1.40	1.15	1.35	3.30	1.64	2.83	4.87	1.92	1.20	0.95	0.75
24	0.95	1.25	1.10	1.30	4.87	1.71	2.98	4.51	1.92	1.15	0.95	0.75
25	0.95	1.92	1.00	1.20	4.42	2.41	2.69	4.24	1.78	1.15	0.95	0.75
26	0.90	1.40	1.05	1.20	4.15	3.22	2.62	4.06	1.71	1.15	0.95	0.75
27	0.90	1.15	1.20	1.15	3.38	5.23	2.48	3.88	1.57	1.15	0.90	0.75
28	0.90	1.05	2.62	1.15	2.98	15	3.38	3.70	1.50	1.20	0.90	0.75
29	0.90	0.95	2.62	1.99	2.98	6.40	3.06	3.46	1.50	1.15	–	0.75
30	0.90	0.90	1.99	1.57	2.83	4.42	2.76	3.30	1.50	1.15	–	0.90
31	–	0.95	–	1.40	3.14	–	2.69	–	1.50	1.15	–	1.10
Total	33.85	31.22	34.78	55.60	76.74	96.57	118.65	194.21	70.75	40.50	27.75	25.20
Mean	1.13	1.01	1.16	1.79	2.47	3.22	3.83	6.47	2.28	1.31	0.99	0.81
Max.	1.45	1.92	2.62	4.60	4.87	15	7.05	37	3.70	1.50	1.15	1.10
Min.	0.90	0.80	0.85	1.15	1.35	1.64	2.48	2.13	1.50	1.15	0.90	0.75
Runoff - mcm.	2.925	2.697	3.005	4.804	6.630	8.344	10.251	16.780	6.113	3.499	2.398	2.177

WATER YEAR 1977 : Max. 37 Min. 0.75 Mean 2.21 Annual Runoff 69.623 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Nov. 13	14.00	4.24	53				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
KHLONG THA DI RIVER BASIN

Khlong Tha Di at Ban Na Kam, Nakhon Si Thammarat (X. 55)

Location: Lat. 8°-23'-53" N., Long. 99°-50'-15" E., on left bank about 450 meters downstream from the bridge of Karom road at Ban Na Kam, Amphoe Lan Saka, Nakhon Si Thammarat.

Drainage Area: 105 Sq.km.

Type of Gage: Staff gage.

Zero Gage at Bottom at: + 0.00 m. (A.D.)

Bench Mark: B.M. - H.S.

Location: BM1 near the staff gage, BM2 on right bank at abutment of the bridge.
Elevation: BM1 = + 3.798 m. (A.D.), BM2 = + 6.706 m. (A.D.)

Gage Reading Frequency: 6-time daily readings at 06.00, 09.00, 12.00, 15.00, 18.00 and 21.00 hours.

Basis of Mean Daily Gage Height: Arithmetic mean of 6 readings.

Period of Available Gage Records: 1967 to date.

Rating Operation:

Period of Rating: 1967-1971.
Rated by Float: -
Rated by Current Meter: 1967-1971.

Stability of Channel Regimes: Stable, no shifting adjustment for flow computation.

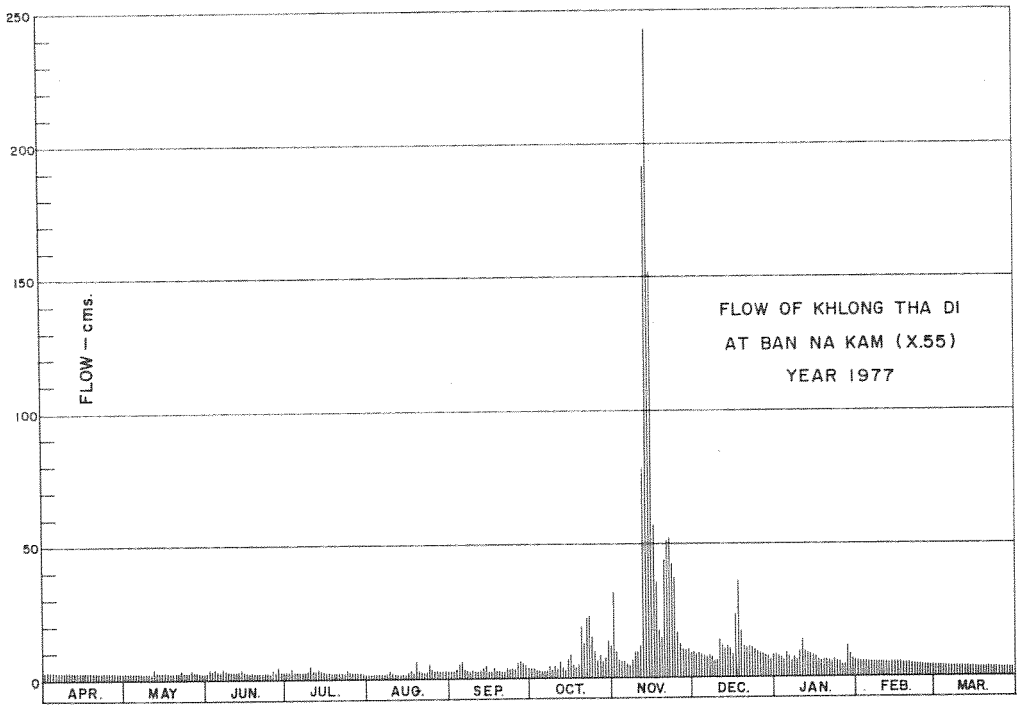
Overbank Flow Conditions: No overbank flow.

General Description: Records fair. Stage-discharge relation defined by discharge measurements made during 1967-1971.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.49	0.41	0.39	0.44	0.38	0.45	0.52	1.92	0.96	0.84	0.72	0.59
2	.49	.41	.52	.43	.38	.45	.50	0.93	.87	.82	.72	.59
3	.49	.44	.46	.56	.37	.44	.47	.79	.92	.80	.71	.58
4	.48	.40	.53	.43	.37	.63	.45	.71	.86	.79	.71	.58
5	.48	.40	.44	.43	.37	.72	.45	.71	.82	.91	.70	.57
6	0.48	0.40	0.43	0.43	0.37	0.51	0.44	0.63	0.82	0.80	0.70	0.57
7	.48	.40	.57	.42	.37	.47	.44	.62	.85	.78	.69	.57
8	.47	.39	.49	.42	.37	.44	.61	.74	.81	.81	.69	.56
9	.47	.39	.50	.51	.44	.51	.49	.91	.78	.79	.68	.56
10	.47	.39	.47	.58	.38	.45	.59	.91	.75	.94	.68	.56
11	0.47	0.39	0.46	0.48	0.37	0.44	0.52	0.97	1.14	1.16	0.67	0.55
12	.46	.55	.45	.47	.37	.48	.70	1.34	.05	0.92	.67	.55
13	.46	.44	.49	.52	.36	.55	.55	4.42	0.98	.88	.67	.55
14	.46	.42	.55	.46	.36	.62	.48	.86	1.06	.86	.66	.54
15	.46	.45	.43	.42	.36	.45	.76	3.93	0.92	.83	.66	.54
16	0.45	0.43	0.42	0.41	0.36	0.44	0.87	2.88	0.85	0.81	0.65	0.54
17	.45	.42	.42	.40	.50	.58	.58,	1.95	1.37	.79	.65	.53
18	.45	.41	.41	.40	.38	.45	.54	.33	2.08	.77	.65	.53
19	.44	.41	.41	.40	.79	.44	.62	.17	1.35	.75	.64	.53
20	.44	.50	.40	.39	.45	.44	1.38	2.28	.05	.73	.64	.53
21	0.44	0.42	0.40	0.39	0.40	0.43	1.11	2.64	0.97	0.72	0.63	0.52
22	.44	.56	.40	.39	.39	.54	.50	.67	1.02	.69	.63	.52
23	.23	.43	.39	.39	.46	.49	.57	.36	0.98	.71	.63	.52
24	.43	.42	.39	.49	.68	.54	.23	.10	.93	.68	.62	.52
25	.43	.41	.39	.39	.51	.54	0.90	1.29	.90	.66	.61	.51
26	0.42	0.53	0.51	0.39	0.48	0.67	0.69	1.07	0.88	0.63	0.61	0.51
27	.42	.44	.44	.39	.47	.78	.86	.00	.85	.62	.60	.51
28	.42	.45	.58	.39	.46	.68	.69	0.94	.84	1.06	.60	.50
29	.42	.42	.48	.38	.46	.65	.82	.98	.82	0.85	-	.50
30	.41	.40	.44	.38	.46	.52	1.12	.90	.78	.74	-	.50
31	-	.40	-	.38	.45	-	.02	-	.86	.73	-	.49
Mean	0.45	0.43	0.45	0.43	0.43	0.53	0.76	1.66	0.97	0.80	0.66	0.54
Max.	0.49	0.56	0.58	0.58	0.79	0.78	1.57	4.86	2.08	1.16	0.72	0.59
Min.	0.41	0.39	0.39	0.38	0.36	0.43	0.44	0.62	0.75	0.62	0.60	0.49

WATER YEAR 1977 : Max. 4.86 m. Min. 0.36 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	3.10	2.30	2.10	2.60	2.00	2.70	3.48	32	10	8.32	6.32	4.46
2	3.10	2.30	3.48	2.50	2.00	2.70	3.20	9.94	8.86	7.96	6.32	4.46
3	3.10	2.60	2.80	4.04	1.90	2.60	2.90	7.44	9.76	7.60	6.16	4.32
4	3.00	2.20	3.62	2.50	1.90	5.02	2.70	6.16	8.68	7.44	6.16	4.32
5	3.00	2.20	2.60	2.50	1.90	6.32	2.70	6.16	7.96	9.58	6.00	4.18
6	3.00	2.20	2.50	2.50	1.90	3.34	2.60	5.02	7.96	7.60	6.00	4.18
7	3.00	2.20	4.18	2.40	1.90	2.90	2.60	4.88	8.50	7.28	5.86	4.18
8	2.90	2.10	3.10	2.40	1.90	2.60	4.74	6.64	7.78	7.78	5.86	4.04
9	2.90	2.10	3.20	3.34	2.60	3.34	3.10	9.58	7.28	7.44	5.72	4.04
10	2.90	2.10	2.90	4.32	2.00	2.70	4.46	9.58	6.80	10	5.72	4.04
11	2.90	2.10	2.80	3.00	1.90	2.60	3.48	11	14	14	5.58	3.90
12	2.80	3.90	2.70	2.90	1.90	3.00	6.00	18	12	9.76	5.58	3.90
13	2.80	2.60	3.10	3.48	1.80	3.90	3.90	172	11	9.04	5.58	3.90
14	2.80	2.40	3.90	2.80	1.80	4.88	3.00	243	12	8.68	5.44	3.76
15	2.80	2.70	2.50	2.40	1.80	2.70	6.96	111	9.76	8.14	5.44	3.76
16	2.70	2.50	2.40	2.30	1.80	2.60	8.86	59	8.50	7.78	5.30	3.76
17	2.70	2.40	2.40	2.20	3.20	4.32	4.32	33	19	7.44	5.30	3.62
18	2.70	2.30	2.30	2.20	2.00	2.70	3.76	18	36	7.12	5.30	3.62
19	2.60	2.30	2.30	2.20	7.44	2.60	4.88	15	18	6.80	5.16	3.62
20	2.60	3.20	2.20	2.10	2.70	2.60	19	41	12	6.48	5.16	3.62
21	2.60	2.40	2.20	2.10	2.20	2.50	13	51	11	6.32	5.02	3.48
22	2.60	4.04	2.20	2.10	2.10	3.76	22	52	12	5.86	5.02	3.48
23	2.50	2.50	2.10	2.10	2.80	3.10	23	44	11	6.16	5.02	3.48
24	2.50	2.40	2.10	3.10	5.72	3.76	16	37	9.94	5.72	4.88	3.48
25	2.50	2.30	2.10	2.10	3.34	3.76	9.40	17	9.40	5.44	4.74	3.34
26	2.40	3.62	3.34	2.10	3.00	5.58	5.86	13	9.04	5.02	4.74	3.34
27	2.40	2.62	2.60	2.10	2.90	7.28	8.68	11	8.50	4.88	4.60	3.34
28	2.40	2.70	4.32	2.10	2.80	5.72	5.86	10	8.32	12	4.60	3.20
29	2.40	2.40	3.00	2.00	2.80	5.30	7.96	11	7.96	8.50	–	3.20
30	2.30	2.20	2.60	2.00	2.80	3.48	14	9.40	7.28	6.64	–	3.20
31	–	2.20	–	2.00	2.70	–	12	–	8.68	6.48	–	3.10
Total	82.00	78.06	83.64	78.48	79.50	110.36	234.40	1,073.80	338.96	239.26	152.58	116.32
Mean	2.73	2.52	2.79	2.53	2.56	3.68	7.56	35.8	10.9	7.72	5.45	3.75
Max.	3.10	4.04	4.32	4.32	7.44	7.28	23	243	36	14	6.32	4.46
Min.	2.30	2.10	2.10	2.00	1.80	2.50	2.60	4.88	6.80	4.88	4.60	3.10
Runoff – mcm.	7.085	6.744	7.226	6.781	6.869	9.535	20.252	92.776	29.286	20.672	13.183	10.050

WATER YEAR 1977 : Max. 243 Min. 1.80 Mean 7.31 Annual Runoff 230.460 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Nov. 13	21.00	5.04	278				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
KHLONG BAN TAN RIVER BASIN

Khlong Ban Tan at Ban Wang Kong, NakhonSi Thammarat (X.70)

Location: Lat. 8°-25'-35" N., Long. 99°-51'-53" E., on right bank downstream side of the bridge on Nakhon Si Thammarat, Amphoe Muang, Nakhon Si Thammarat.

Drainage Area: 39 Sq.km.

Type of Gage: Staff gage.

Zero Gage at Bottom at: + 0.00 m. (A.D.)

Bench Mark: B.M. - H.S.

Location: About 5 meters east of the top gage.
Elevation: + 7.247 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.
Rated by Float: -
Rated by Current Meter: 1967-1971.

Stability of Channel Regimes: Fairly stable, no shifting adjustment for flow computation.

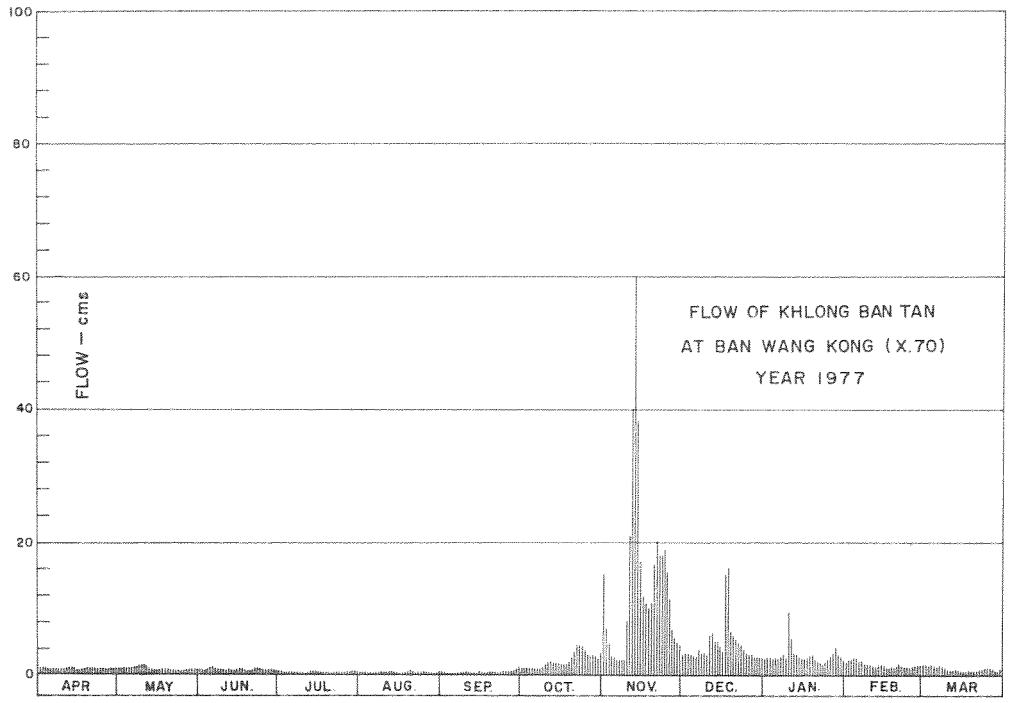
Overbank Flow Conditions: No overbank flow.

General Description: Records fair. Stage-discharge relation defined by 461 discharge measurements made during 1967-1971.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.35	0.29	0.25	0.27	0.22	0.24	0.34	2.10	0.77	0.59	0.58	0.40
2	.34	.30	.25	.26	.22	.24	.35	1.32	.75	.56	.56	.39
3	.34	.28	.24	.25	.22	.27	.38	.05	.73	.55	.54	.38
4	.33	.28	.36	.25	.22	.29	.36	0.70	.70	.54	.52	.43
5	.33	.27	.28	.24	.22	.29	.34	.64	.68	.60	.51	.41
6	0.33	0.27	0.31	0.24	0.23	0.29	0.32	0.61	0.66	0.57	0.49	0.37
7	.35	.34	.28	.24	.22	.28	.31	.59	.89	.58	.47	.36
8	.33	.27	.27	.31	.22	.27	.30	.57	.79	.56	.45	.36
9	.32	.25	.26	.26	.27	.28	.30	.57	.72	0.81	.44	.35
10	.32	.24	.37	.25	.26	.31	.60	.91	.80	1.54	.45	.35
11	0.31	0.33	0.33	0.29	0.22	0.33	0.44	1.95	1.14	1.10	0.43	0.34
12	.32	.31	.32	.29	.23	.28	.57	4.42	.12	0.74	.43	.34
13	.31	.29	.37	.28	.23	.29	.57	5.02	.05	.68	.41	.33
14	.31	.46	.32	.26	.23	.28	.47	3.37	.03	.64	.41	.32
15	.33	.38	.36	.25	.23	.27	.53	2.32	0.84	.63	.41	.32
16	0.30	0.33	0.31	0.24	0.23	0.27	0.47	1.84	0.69	0.62	0.40	0.32
17	.29	.29	.31	.23	.23	.29	.47	.67	2.09	.72	.40	.31
18	.28	.27	.29	.24	.23	.27	.46	.64	.17	.63	.40	.31
19	.30	.28	.28	.23	.34	.32	.58	.67	1.32	.60	.44	.31
20	.29	.27	.27	.23	.29	.28	.78	2.19	.08	.58	.45	.30
21	0.30	0.26	0.25	0.23	0.25	0.25	0.67	2.56	1.03	0.55	0.42	0.30
22	.30	.30	.31	.24	.33	.24	.86	.35	0.96	.54	.41	.30
23	.30	.28	.29	.23	.28	.25	.94	.37	.85	.52	.43	.30
24	.29	.27	.27	.23	.33	.24	.85	.47	.84	.51	.40	.30
25	.28	.27	.25	.23	.29	.32	.74	.16	.78	.50	.39	.29
26	0.29	0.28	0.29	0.23	0.28	0.33	0.66	1.68	0.74	0.49	0.43	0.29
27	.29	.34	.26	.22	.25	.49	.63	.31	.72	.55	.42	.29
28	.29	.30	.36	.22	.24	.49	.70	.03	.70	.78	.43	.31
29	.38	.29	.29	.22	.25	.47	.69	0.90	.70	.84	-	.32
30	.31	.28	.28	.22	.24	.37	.68	.87	.65	.69	-	.36
31	-	.26	-	.22	.24	-	.86	-	.61	.63	-	.34
Mean	0.31	0.29	0.30	0.24	0.25	0.30	0.56	1.76	0.92	0.66	0.45	0.34
Max.	0.38	0.46	0.37	0.31	0.34	0.49	0.94	5.02	2.17	1.54	0.58	0.43
Min.	0.28	0.24	0.24	0.22	0.22	0.24	0.30	0.57	0.61	0.49	0.39	0.29

WATER YEAR 1977 : Max. 5.02 m. Min. 0.22 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	1.07	0.81	0.65	0.73	0.53	0.61	1.03	15	3.44	2.29	2.24	1.30
2	1.03	0.85	0.65	0.69	0.53	0.61	1.07	7.67	3.30	2.13	2.13	1.25
3	1.03	0.77	0.61	0.65	0.53	0.73	1.21	5.47	3.16	2.07	2.02	1.21
4	0.98	0.77	1.12	0.65	0.53	0.81	1.12	2.95	2.95	2.02	1.91	1.45
5	0.98	0.73	0.77	0.61	0.53	0.81	1.03	2.59	2.83	2.35	1.85	1.35
6	0.98	0.73	0.89	0.61	0.57	0.81	0.94	2.41	2.71	2.18	1.75	1.16
7	1.07	1.03	0.77	0.61	0.53	0.77	0.89	2.29	4.28	2.24	1.65	1.12
8	0.98	0.73	0.73	0.89	0.53	0.73	0.85	2.18	3.58	2.13	1.55	1.12
9	0.94	0.65	0.69	0.69	0.57	0.77	0.85	2.18	3.09	3.72	1.50	1.07
10	0.94	0.61	1.16	0.65	0.69	0.89	2.35	4.42	3.65	9.61	1.55	1.07
11	0.89	0.98	0.98	0.81	0.53	0.98	1.50	13	6.17	5.85	1.45	1.03
12	0.94	0.89	0.94	0.81	0.57	0.77	2.18	48	6.01	3.23	1.45	1.03
13	0.89	0.81	1.16	0.77	0.57	0.81	2.18	59	5.47	2.83	1.35	0.98
14	0.89	1.60	0.94	0.69	0.57	0.77	1.65	31	5.32	2.59	1.35	0.94
15	0.98	1.21	1.12	0.65	0.57	0.73	1.96	17	3.93	2.53	1.35	0.94
16	0.85	0.98	0.89	0.61	0.57	0.73	1.65	12	2.89	2.47	1.30	0.94
17	0.81	0.81	0.89	0.57	0.57	0.81	1.65	11	15	3.09	1.30	0.89
18	0.77	0.73	0.81	0.61	0.57	0.73	1.60	10	16	2.53	1.30	0.89
19	0.85	0.77	0.77	0.57	1.03	0.94	2.24	11	7.67	2.35	1.50	0.89
20	0.81	0.73	0.73	0.57	0.81	0.77	3.51	16	5.70	2.24	1.55	0.85
21	0.85	0.69	0.65	0.57	0.65	0.65	2.77	20	5.32	2.07	1.40	0.85
22	0.85	0.85	0.89	0.61	0.98	0.61	4.07	18	4.80	2.02	1.35	0.85
23	0.85	0.77	0.81	0.57	0.77	0.65	4.65	18	4.00	1.91	1.45	0.85
24	0.81	0.73	0.73	0.57	0.98	0.61	4.00	19	3.93	1.85	1.30	0.85
25	0.77	0.73	0.65	0.57	0.81	0.94	3.23	16	3.51	1.80	1.25	0.81
26	0.81	0.77	0.81	0.57	0.77	0.98	2.71	11	3.23	1.75	1.45	0.81
27	0.81	1.03	0.69	0.53	0.65	1.75	2.53	7.58	3.09	2.07	1.40	0.81
28	0.81	0.85	1.12	0.53	0.61	1.75	2.95	5.32	2.95	3.51	1.45	0.89
29	1.21	0.81	0.81	0.53	0.65	1.65	2.89	4.35	2.95	3.93	–	0.94
30	0.89	0.77	0.77	0.53	0.61	1.16	2.83	4.14	2.65	2.89	–	1.12
31	–	0.69	–	0.53	0.61	–	4.07	–	2.41	2.53	–	1.03
Total	27.34	25.88	25.20	19.55	19.99	26.33	68.16	398.55	145.99	86.78	43.10	31.29
Mean	0.91	0.83	0.84	0.63	0.64	0.88	2.20	13.3	4.71	2.80	1.54	1.01
Max.	1.21	1.60	1.16	0.89	1.03	1.75	4.65	59	16	9.61	2.24	1.45
Min.	0.77	0.61	0.61	0.53	0.53	0.61	0.85	2.18	2.41	1.75	1.25	0.81
Runoff – mcm.	2.362	2.236	2.177	1.689	1.727	2.275	5.889	34.435	12.613	7.498	3.724	2.703

WATER YEAR 1977 : Max. 59 Min. 0.53 Mean 2.51 Annual Runoff 79.329 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Nov. 12	22.00	5.76	73				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
KHLONG THA THON RIVER BASIN

Khlong Tha Thon at Ban Nam Cha, NakhonSi Thammarat (X. 101)

Location: Lat. 8°-52'-30" N., Long. 99°-51'-40" E., on right bank at Ban Nam Cha, Amphoe Sichon, Nakhon Si Thammarat.

Drainage Area: 95 Sq.km.

Type of Gage: Staff gage.

Zero Gage at Bottom at : + 0.00 m. (A.D.)

Bench Mark: B.M. – H.S.

Location: About 11 meters north of observer's house.
Elevation: + 8.666 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: 1976 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, no shifting adjustment for flow computation.

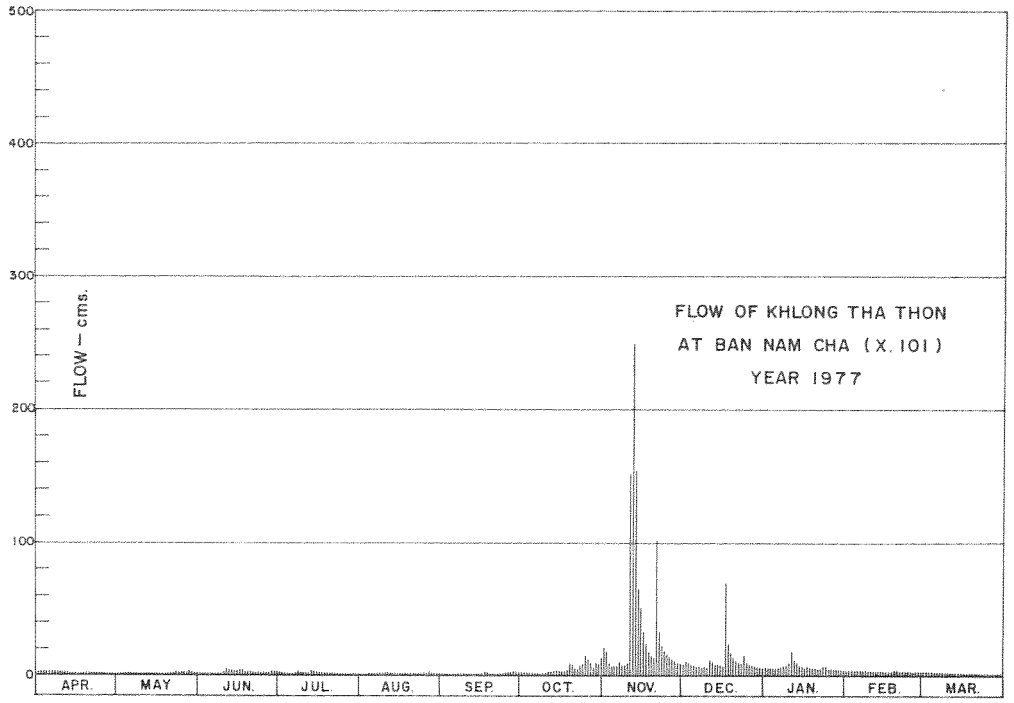
Overbank Flow Conditions: No overbank flow.

General Description: Records good. Stage-discharge relation defined by 189 discharge measurements made in 1977.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.61	0.55	0.60	0.62	0.56	0.56	0.64	1.49	1.06	0.90	0.77	0.66
2	.61	.57	.60	.60	.56	.57	.62	.40	.14	.88	.76	.65
3	.61	.57	.59	.57	.55	.56	.59	.01	.07	.86	.75	.65
4	.61	.55	.59	.57	.55	.55	.58	0.96	.02	.84	.74	.64
5	.61	.55	.58	.56	.54	.54	.58	.96	0.99	.89	.73	.64
6	0.60	0.54	0.58	0.56	0.54	0.54	0.56	0.95	0.94	1.02	0.72	0.63
7	.60	.54	.57	.55	.60	.53	.56	1.14	.92	0.91	.72	.63
8	.59	.54	.57	.72	.59	.53	.55	.02	.90	.89	.71	.62
9	.59	.54	.59	.62	.63	.53	.58	.01	.88	1.02	.70	.62
10	.59	.54	.59	.62	.68	.53	.64	.11	.89	.10	.69	.62
11	0.58	0.54	0.83	0.62	0.61	0.53	0.62	2.45	1.16	1.41	0.69	0.61
12	.58	.53	.79	.75	.58	.52	.67	4.93	.10	.15	.68	.61
13	.58	.53	.77	.82	.57	.51	.76	.27	.02	.06	.68	.61
14	.58	.57	.70	.74	.56	.51	.76	2.65	.07	0.98	.67	.60
15	.58	.55	.79	.70	.56	.52	.70	.37	0.97	.95	.67	.60
16	0.58	0.55	0.70	0.66	0.55	0.56	0.66	1.84	0.94	0.93	0.67	0.60
17	.57	.54	.70	.63	.55	.65	.65	.55	2.61	.95	.67	.60
18	.57	.53	.05	.61	.55	.60	.67	.37	1.58	.90	.67	.59
19	.57	.58	.63	.60	.55	.57	1.09	.26	.33	.88	.80	.59
20	.57	.58	.62	.59	.55	.55	0.97	.23	.22	.88	.71	.59
21	0.57	0.56	0.60	0.59	0.54	0.54	0.87	3.15	1.17	0.85	0.71	0.59
22	.57	.53	.59	.59	.54	.53	.82	1.83	.11	.86	.67	.59
23	.57	.66	.58	.58	.53	.53	1.03	.55	.08	1.01	.66	.58
24	.56	.66	.61	.58	.56	.53	.05	.43	.29	0.87	.69	.58
25	.56	.60	.61	.58	.62	.56	.29	.31	.10	.85	.67	.58
26	0.56	0.70	0.59	0.57	0.58	0.75	1.15	1.23	1.04	0.82	0.66	0.57
27	.56	.64	.62	.57	.64	.73	.00	.16	.02	.81	.65	.58
28	.56	.74	.73	.56	.57	.77	0.90	.10	0.98	.81	.68	.58
29	.56	.71	.70	.56	.58	.67	1.12	.08	.97	.82	–	.57
30	.56	.62	.63	.57	.56	.62	.00	.05	.93	.79	–	.59
31	–	.61	–	.58	.58	–	.25	–	.92	.77	–	.62
Mean	0.58	0.58	0.64	0.61	0.57	0.57	0.80	1.66	1.12	0.92	0.70	0.61
Max.	0.61	0.74	0.83	0.82	0.68	0.77	1.29	4.93	2.61	1.41	0.80	0.66
Min.	0.56	0.53	0.57	0.55	0.53	0.51	0.55	0.95	0.88	0.77	0.65	0.57

WATER YEAR 1977 : Max. 4.93 m. Min. 0.51 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	2.10	1.50	2.00	2.20	1.60	1.60	2.40	21	8.50	5.50	3.70	2.60
2	2.10	1.70	2.00	2.00	1.60	1.70	2.20	18	10	5.20	3.60	2.50
3	2.10	1.70	1.90	1.70	1.50	1.60	1.90	7.25	8.75	4.90	3.50	2.50
4	2.10	1.50	1.90	1.70	1.50	1.50	1.80	6.40	7.50	4.60	3.40	2.40
5	2.10	1.50	1.80	1.60	1.40	1.40	1.80	6.40	6.85	5.35	3.30	2.40
6	2.00	1.40	1.80	1.60	1.40	1.40	1.60	6.25	6.10	7.50	3.20	2.30
7	2.00	1.40	1.70	1.50	2.00	1.30	1.60	10	5.80	5.65	3.20	2.30
8	1.90	1.40	1.70	3.20	1.90	1.30	1.50	7.50	5.50	5.35	3.10	2.20
9	1.90	1.40	1.90	2.20	2.30	1.30	1.80	7.25	5.20	7.50	3.00	2.20
10	1.90	1.40	1.90	2.20	2.80	1.30	2.40	9.75	5.35	9.50	2.90	2.20
11	1.80	1.40	4.45	2.20	2.10	1.30	2.20	60	11	18	2.90	2.10
12	1.80	1.30	3.90	3.50	1.80	1.20	2.70	249	9.50	11	2.80	2.10
13	1.80	1.30	3.70	4.30	1.70	1.10	3.60	187	7.50	8.50	2.80	2.10
14	1.80	1.70	3.00	3.40	1.60	1.10	3.60	71	8.75	6.70	2.70	2.00
15	1.80	1.50	3.90	3.00	1.60	1.20	3.00	56	6.55	6.25	2.70	2.00
16	1.80	1.50	3.00	2.60	1.50	1.60	2.60	34	6.10	5.95	2.70	2.00
17	1.70	1.40	3.00	2.30	1.50	2.50	2.50	22	69	6.25	2.70	2.00
18	1.70	1.30	2.50	2.10	1.50	2.00	2.70	17	23	5.50	2.70	1.90
19	1.70	1.80	2.30	2.00	1.50	1.70	9.25	14	16	5.20	4.00	1.90
20	1.70	1.80	2.20	1.90	1.50	1.50	6.55	13	13	5.20	3.10	1.90
21	1.74	1.60	2.00	1.90	1.40	1.40	5.05	101	11	4.75	3.10	1.90
22	1.70	1.30	1.90	1.90	1.40	1.30	4.30	33	9.75	4.90	2.70	1.90
23	1.70	2.60	1.80	1.80	1.30	1.30	7.75	22	9.00	7.25	2.60	1.80
24	1.60	2.60	2.10	1.80	1.60	1.30	8.25	19	15	5.05	2.90	1.80
25	1.62	2.00	2.10	1.80	2.20	1.60	15	15	9.50	4.75	2.70	1.80
26	1.60	3.00	1.90	1.70	1.80	3.50	11	13	8.00	4.30	2.60	1.70
27	1.60	2.40	2.20	1.70	2.40	3.30	7.00	11	7.50	4.15	2.50	1.80
28	1.60	3.40	3.30	1.60	1.70	3.70	5.50	9.50	6.70	4.15	2.80	1.80
29	1.60	3.10	3.00	1.60	1.80	2.70	10	9.00	6.55	4.30	–	1.70
30	1.60	2.20	2.30	1.70	1.60	2.20	7.00	8.25	5.95	3.90	–	1.90
31	–	2.10	–	1.80	1.80	–	13	–	5.80	3.70	–	2.20
Total	54.10	56.20	73.15	66.50	53.30	51.90	151.55	1,063.55	334.70	190.80	83.90	63.90
Mean	1.80	1.81	2.44	2.14	1.72	1.73	4.89	35.4	10.8	6.15	3.00	2.06
Max.	2.10	3.40	4.45	4.30	2.80	3.70	15	249	69	18	4.00	2.60
Min.	1.60	1.30	1.70	1.50	1.30	1.10	1.50	6.25	5.20	3.70	2.50	1.70
Runoff - mcm.	4.674	4.856	6.320	5.746	4.605	4.484	13.094	91.891	28.918	16.485	7.249	5.521

WATER YEAR 1977 : Max. 249 Min. 1.10 Mean 6.15 Annual Runoff 193.843 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Nov. 12	19.00	6.46	407				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
KHLONG SANG RIVER BASIN

Khlong Sang at Ban Thang Kham, Nakhon Si Thammarat (X. 102A)

Location: Lat. 8°-17'-57" N., Long. 99°-23'-00" E., on right bank at Ban Thang Kham, Tambon Tha Yang, Amphoe Thung Yai, Nakhon Si Thammarat.

Drainage Area: 152 Sq.km.

Type of Gage: Staff gage.

Zero Gage at Bottom at: + 0.00 m. (A.D.)

Bench Mark: B.M. - H.S.

Location: On right bank about 2.70 meters from observer's house.
Elevation: + 5.323 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: 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: Fairly stable, no shifting adjustment for flow computation.

Overbank Flow Conditions: Overbank flow starts at elevation + 4.80 m. (A.D.) and is included.

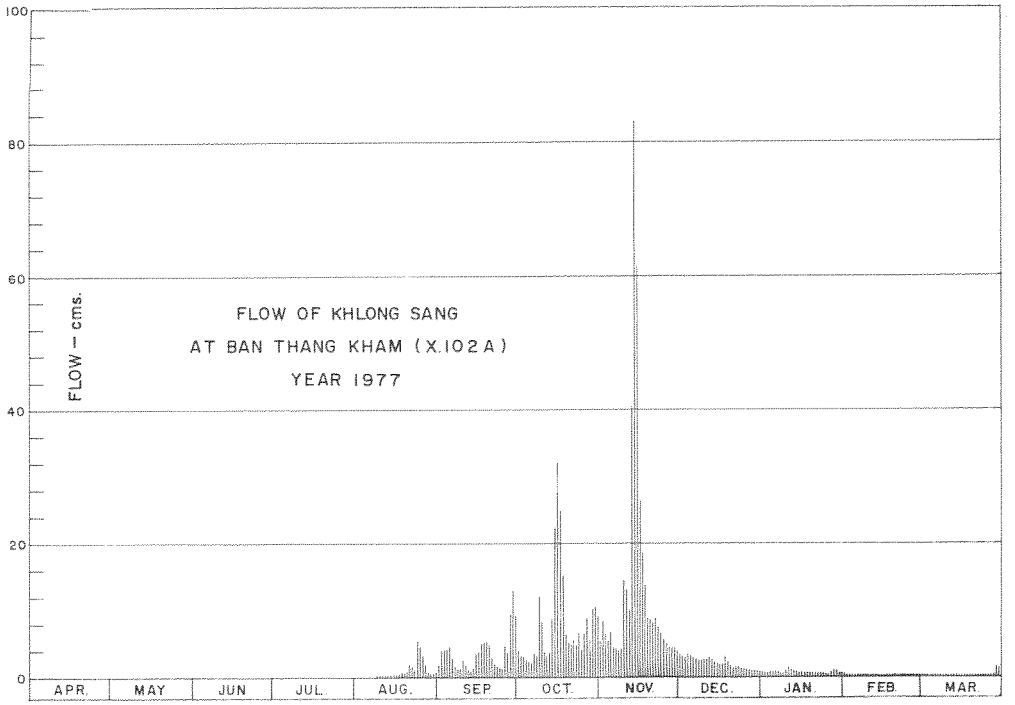
General Description: Records fair. Stage-discharge relation defined by 111 discharge measurements made in 1977.

Remarks: Stream gaging began on August 9, 1977.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1						1.02	1.92	2.18	1.78	1.02	0.84	0.56
2						.89	.70	.76	.72	0.96	.70	.57
3						.96	.64	.40	.66	.94	.76	.58
4						.96	.56	.18	.72	1.01	.73	.57
5						2.02	.44	.46	.73	0.96	.70	.57
6						1.56	1.42	2.00	1.65	0.98	0.70	0.56
7						.30	.72	1.94	.59	1.03	.64	.56
8						.11	.72	.89	.56	0.92	.72	.56
9					1.12	.14	3.32	2.08	.52	.90	.68	.50
10					.23	.57	2.74	3.62	.56	.98	.66	.54
11					1.28	1.41	1.80	3.49	1.62	1.25	0.58	0.50
12					.31	.13	.69	.06	.66	.12	.64	.54
13					.32	.00	.80	5.08	.54	.02	.62	.53
14					.32	.12	2.87	.69	.46	.02	.64	.54
15					.40	.74	4.08	.46	.39	0.92	.62	.51
16					1.50	1.83	5.06	5.08	1.38	0.92	0.62	0.54
17					.50	2.14	4.91	4.60	.39	.88	.62	.52
18					.75	.18	3.96	3.70	.71	.88	.61	.56
19					.72	.18	2.40	2.88	.45	.93	.62	.52
20					.73	.06	.12	.77	.33	.91	.61	.52
21					2.08	1.66	2.08	2.72	1.20	0.88	0.60	0.52
22					.03	.37	.22	.84	.26	.85	.60	.51
23					1.94	.26	.07	.59	.24	.82	.59	.50
24					2.20	.23	.42	.43	.19	.81	.58	.50
25					.00	.14	1.90	.24	.17	.79	.58	.51
26					1.74	2.04	2.44	2.10	1.14	0.81	0.58	0.50
27					.30	1.85	.82	.01	.10	.88	.57	.52
28					0.98	2.92	.12	1.94	.09	1.06	.58	.56
29					.86	3.57	3.12	.96	.07	.12	-	.54
30					.84	2.90	.29	.86	.04	0.94	-	1.25
31					.94	-	2.92	-	.04	.84	-	0.96
Mean						1.74	2.49	2.93	1.42	0.95	0.64	0.57
Max.						3.57	5.06	5.69	1.78	1.25	0.84	1.25
Min.						1.00	1.42	1.86	1.04	0.79	0.57	0.50

WATER YEAR 1977 : Max. 5.69 m. Min. 0.50 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1						0.96	4.19	5.45	3.62	0.96	0.58	0.11
2						4.06	3.30	8.48	3.38	0.82	0.30	0.12
3						4.37	3.06	6.55	3.14	0.78	0.42	0.13
4						4.37	2.74	5.45	3.38	0.93	0.36	0.12
5						4.65	2.29	6.85	3.42	0.82	0.30	0.12
6						2.82	2.22	4.55	3.10	0.86	0.30	0.11
7						1.80	3.38	4.28	2.86	0.99	0.21	0.11
8						1.23	3.38	4.06	2.74	0.74	0.34	0.11
9					0.070	1.32	12	4.95	2.58	0.70	0.27	0.050
10					0.13	2.78	8.37	14	2.74	0.86	0.24	0.090
11					0.17	2.18	3.70	13	2.98	1.65	0.13	0.050
12					0.19	1.29	3.26	10	3.14	1.26	0.21	0.090
13					0.19	0.90	3.70	33	2.66	0.96	0.18	0.080
14					0.19	1.26	9.08	83	2.36	0.96	0.21	0.090
15					0.25	3.46	17	60	2.11	0.74	0.18	0.060
16					0.35	3.82	32	33	2.08	0.74	0.18	0.090
17					0.35	5.25	26	20	2.11	0.66	0.18	0.070
18					0.80	5.45	16	14	3.34	0.66	0.16	0.11
19					0.74	5.45	6.55	9.14	2.32	0.76	0.18	0.070
20					0.76	4.85	5.15	8.53	1.90	0.72	0.16	0.070
21					1.82	3.14	4.95	8.26	1.50	0.66	0.15	0.070
22					1.62	2.04	5.65	8.92	1.68	0.60	0.15	0.060
23					1.29	1.68	4.90	7.54	1.62	0.54	0.14	0.050
24					5.55	1.59	6.65	6.70	1.47	0.52	0.13	0.050
25					4.55	1.32	4.10	5.75	1.41	0.48	0.13	0.060
26					3.46	4.75	6.75	5.05	1.32	0.52	0.13	0.050
27					1.80	3.90	8.81	4.60	1.20	0.66	0.12	0.070
28					0.86	9.36	5.15	4.28	1.17	1.08	0.13	0.11
29					0.62	13	10	4.37	1.11	1.26	–	0.090
30					0.58	9.25	11	3.94	1.02	0.78	–	1.65
31					0.78	–	9.36	–	1.02	0.58	–	0.82
Total						112.30	244.69	407.70	70.48	25.25	6.17	4.93
Mean						3.74	7.89	13.6	2.27	0.81	0.22	0.16
Max.						13	32	83	3.62	1.65	0.58	1.65
Min.						0.90	2.22	3.94	1.02	0.48	0.12	0.050
Runoff - mcm.						9.703	21.141	35.225	6.089	2.182	0.533	0.426

WATER YEAR 1977 : Max. 83 Min. 0.050 Mean Annual Runoff mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Nov. 14	10.00	5.70	85				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
TRANG RIVER BASIN

Trang River at Ban Tha Pradu, Trang (X. 56)

Location: Lat. 7°-46'-01" N., Long. 99°-32'-25" E., on left bank about 200 meters at left side from Huai Yat – Krabi highway, 16 kilometers from Amphoe Huai Yat, Trang.

Drainage Area: 1,801 Sq.km.

Type of Gage: Staff gage.

Zero Gage at Bottom at: + 0.00 m. (A.D.)

Bench Mark: B.M. – H.S.

Location: On left bank near the camp of gaging station X56.
Elevation: + 8.855 m. (A.D.)

Gage Reading Frequency: 5–13 time daily readings at 06.00–18.00 hours.

Basis of Mean Daily Gage Height: Arithmetic mean of 5–13 readings.

Period of Available Gage Records: 1966 to date.

Rating Operation:

Period of Rating: 1966–1969, 1978 to date.
Rated by Float: –
Rated by Current Meter: 1966–1969, 1978 to date.

Stability of Channel Regimes: Fairly stable, no shifting adjustment for flow computation.

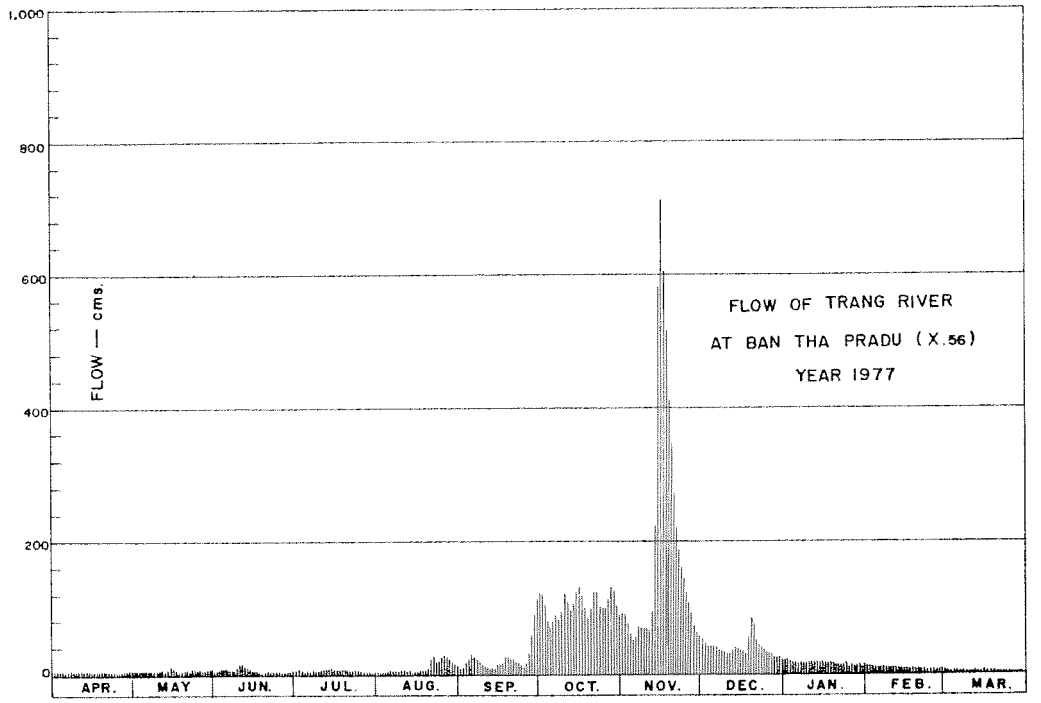
Overbank Flow Conditions: No overbank flow.

General Description: Records fair. Stage-discharge relation defined by 510 discharge measurements made during 1966–1968.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	1.48	1.59	1.49	1.67	1.46	1.94	5.59	4.76	3.45	2.27	1.86	1.59
2	.48	.62	.48	.69	.45	.92	.53	.66	.32	.24	.84	.58
3	.47	.51	.46	.65	.45	2.26	.03	.31	.27	.21	.82	.57
4	.46	.43	.46	.60	.44	.56	4.41	3.84	.26	.18	.80	.57
5	.46	.41	.48	.58	.46	.68	.06	.54	.28	.16	.79	.56
6	1.45	1.39	1.63	1.53	1.45	2.67	4.08	3.80	3.09	2.18	1.78	1.56
7	.44	.38	.59	.51	.47	.44	.56	4.14	2.99	.18	.77	.55
8	.44	.37	.67	.50	.48	.20	.46	.12	.89	.13	.76	.54
9	.43	.38	2.02	.55	.50	.03	.69	.05	.79	.11	.75	.53
10	.43	.37	.05	.63	.49	1.93	5.31	.01	.75	.13	.74	.53
11	1.43	1.40	2.14	1.60	1.48	1.96	5.49	3.98	2.75	2.19	1.73	1.52
12	.43	.38	1.83	.71	.46	.90	4.97	4.69	3.09	.18	.72	.51
13	.42	.39	.85	.84	.45	.82	.98	6.54	.19	.13	.71	.51
14	.42	.44	.68	.73	.47	.79	5.30	8.57	.03	.13	.70	.50
15	.42	.86	.60	.71	.51	2.15	.68	9.32	2.93	.13	.69	.49
16	1.48	1.72	1.55	1.70	1.49	2.11	5.84	9.63	2.80	2.08	1.68	1.48
17	.49	.58	.51	.67	.57	.19	.54	.30	.79	.05	.68	.47
18	.50	.50	.49	.75	.59	.66	.05	8.82	3.92	.03	.66	.46
19	.45	.50	.48	.73	.64	.54	4.46	.37	4.60	.02	.65	.46
20	.42	.49	.49	.66	.97	.40	.90	.01	.15	1.99	.64	.46
21	1.41	1.49	1.51	1.63	2.53	2.31	5.61	7.59	3.51	1.97	1.63	1.45
22	.41	.50	.50	.60	.52	.19	.67	.07	.20	.94	.64	.45
23	.40	.49	.51	.57	.30	.06	.17	6.63	.01	.92	.63	.44
24	.40	.51	.56	.56	.39	1.94	4.96	.17	2.85	.91	.62	.44
25	.38	.60	.57	.53	.64	.91	5.02	5.70	.73	.90	.61	.43
26	1.38	1.56	1.54	1.50	2.67	2.22	5.04	5.17	2.62	1.88	1.60	1.42
27	.38	.57	.51	.48	.57	3.13	.54	4.62	.53	.88	.60	.41
28	.39	.71	.51	.46	.41	.93	.79	.11	.46	.88	.59	.41
29	.39	.60	.58	.46	.23	4.79	.67	3.82	.41	2.00		.42
30	.41	.56	.68	.46	.09	5.33	.09	.63	.36	1.94		.44
31	–	.50	–	.48	1.96	–	4.63	–	.31	.89		.48
Mean	1.43	1.51	1.61	1.60	1.83	2.47	5.12	5.77	3.04	2.06	1.70	1.49
Max.	1.50	1.86	2.14	1.84	2.67	5.33	5.84	9.63	4.60	2.27	1.86	1.59
Min.	1.38	1.37	1.46	1.46	1.44	1.79	4.06	3.54	2.31	1.88	1.59	1.41

WATER YEAR 1977 : Max. 9.63 m. Min. 1.37 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	4.70	6.30	4.85	7.55	4.40	12.80	122.60	92.10	50.00	19.40	11.20	6.35
2	4.70	6.80	4.70	7.85	4.25	12.40	120.20	88.60	46.10	18.80	10.80	6.20
3	4.55	5.15	4.40	7.25	4.25	19.20	101.55	76.35	44.60	18.20	10.40	6.05
4	4.40	3.95	4.40	6.50	4.10	26.50	79.85	61.70	44.30	17.60	10.00	6.05
5	4.40	3.65	4.70	6.20	4.40	29.50	68.30	52.70	44.90	17.20	9.80	5.90
6	4.25	3.40	6.96	5.45	4.25	29.25	85.80	60.50	39.75	17.60	9.60	5.90
7	4.10	3.30	6.35	5.15	4.55	23.50	85.10	70.70	37.25	17.60	9.40	5.75
8	4.10	3.20	7.55	5.00	4.70	18.00	81.60	70.10	34.75	16.60	9.20	5.60
9	3.95	3.30	14.40	5.75	5.00	14.60	89.65	68.00	32.25	16.20	9.00	5.45
10	3.95	3.20	15.00	6.95	4.85	12.60	111.40	66.80	31.25	16.60	8.80	5.45
11	3.95	3.50	16.80	6.50	4.70	13.20	118.60	65.90	31.25	17.80	8.60	5.30
12	3.95	3.30	10.60	8.20	4.40	12.00	99.45	89.65	39.75	17.60	8.40	5.15
13	3.80	3.40	11.00	10.80	4.25	10.40	99.80	166.00	42.25	17.60	8.20	5.15
14	3.80	4.10	7.70	8.60	4.55	9.80	111.00	402.10	38.25	17.60	8.00	5.00
15	3.80	11.20	6.50	8.20	5.15	17.00	126.20	611.20	35.75	17.60	7.85	4.85
16	4.70	8.40	5.75	8.00	4.85	16.20	132.60	710.50	32.50	17.60	7.70	4.70
17	4.85	6.20	5.15	7.55	6.05	17.80	120.60	605.00	32.25	15.00	7.55	4.55
18	5.00	5.00	4.85	9.00	6.35	29.00	102.25	465.20	64.10	14.60	7.40	4.40
19	4.25	5.00	4.70	8.60	7.10	26.00	81.60	358.00	86.50	14.40	7.25	4.40
20	3.80	4.85	4.85	7.40	13.40	22.50	97.00	293.60	71.00	13.80	7.10	4.40
21	3.65	4.85	5.15	6.95	25.75	20.25	123.40	241.00	51.80	13.40	6.95	4.25
22	3.65	5.00	5.00	6.50	25.50	17.80	125.80	197.40	42.50	12.80	7.10	4.25
23	3.50	4.85	5.15	6.05	20.00	15.20	106.45	170.50	37.75	12.40	6.95	4.10
24	3.50	5.15	5.90	5.90	22.25	12.80	99.10	147.50	33.75	12.20	6.80	4.10
25	3.30	6.50	6.05	5.45	28.50	12.20	101.20	127.00	30.75	12.00	6.65	3.95
26	3.30	5.90	5.60	5.00	29.25	18.40	101.90	106.45	28.00	11.60	6.50	3.80
27	3.30	6.05	5.15	4.70	26.75	40.75	120.60	87.20	25.75	11.60	6.50	3.65
28	3.40	8.20	5.15	4.40	22.75	64.40	130.60	69.80	24.00	11.60	6.35	3.65
29	3.40	6.50	6.20	4.40	18.60	93.15	125.80	61.10	22.75	14.00	–	3.80
30	3.65	5.90	7.70	4.40	15.80	112.20	103.65	55.40	21.50	12.80	–	4.10
31		5.00	–	4.70	13.20	–	87.55	–	20.25	11.80	–	4.70
Total	119.65	161.15	208.25	204.95	353.90	779.40	3,261.20	5,738.05	1,217.55	470.60	230.05	150.95
Mean	3.99	5.20	6.94	6.61	11.42	25.98	105.20	191.27	39.28	15.18	8.22	4.87
Max.	5.00	11.20	16.80	10.80	29.25	112.20	132.60	710.50	86.50	19.40	11.20	6.35
Min.	3.30	3.20	4.40	4.40	4.10	9.80	68.30	52.70	20.25	11.60	6.35	3.65
Runoff – mcm.	10.338	13.923	17.993	17.708	30.577	67.340	281.767	495.767	105.196	40.660	19.876	13.042

WATER YEAR 1977 : Max. 710.50 Min. 3.20 Mean 35.33 Annual Runoff 1,114.187 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Nov. 16	09.00	9.65	717.50				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
KHLONG THA KHAE RIVER BASIN

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 on Phatthalung - Hat Yai highway at Tambon Tha Khae, Amphoe Muang, Phatthalung.

Drainage Area: 298 Sq.km.

Type of Gage: Staff gage.

Zero Gage at Bottom at: + 0.00 m. (A.D.)

Bench Mark: B.M. - H.S.

Location: On right bank about 15 meters from the highway bridge.
Elevation: + 4.659 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: 1967-1972.
Rated by Float: -
Rated by Current Meter: 1967-1972.

Stability of Channel Regimes: Fairly stable by some scouring, no shifting adjustment for flow computation.

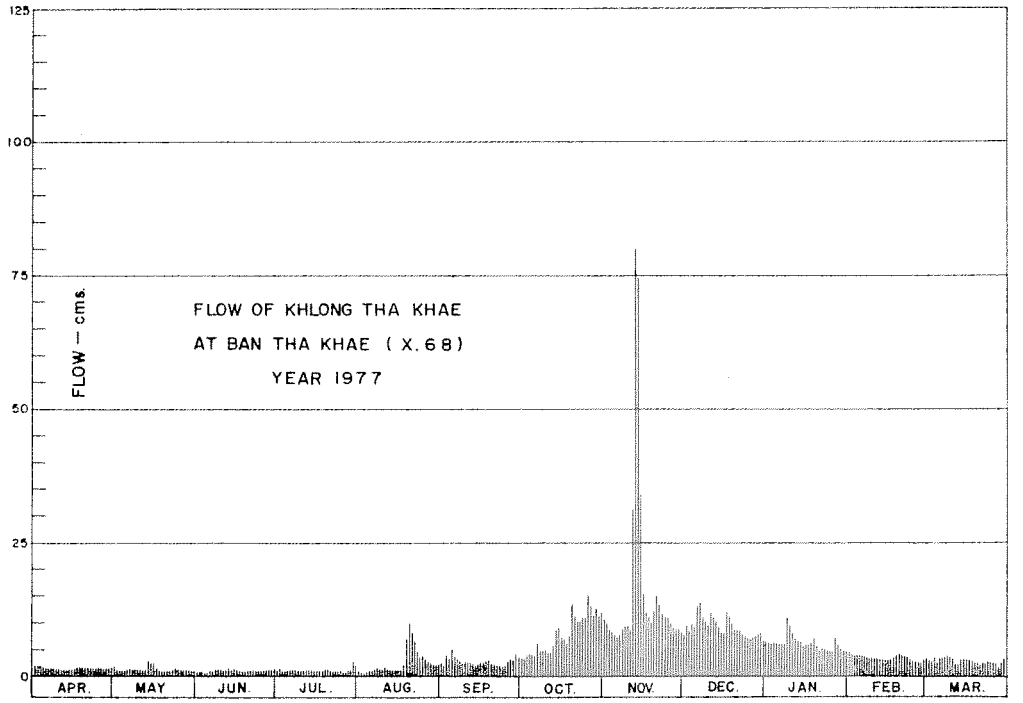
Overbank Flow Conditions: No overbank flow.

General Description: Records fair. Stage-discharge relation defined by 258 discharge measurements made during 1967-1972.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.70	0.66	0.53	0.62	0.54	0.76	0.84	1.59	1.31	1.23	1.02	0.84
2	.71	.57	.53	.65	.49	.73	.85	.46	.44	.15	.00	.85
3	.71	.55	.54	.61	.48	.97	.94	.40	.38	.19	0.97	.85
4	.70	.57	.52	.60	.52	.88	.99	.36	.51	.15	.96	.92
5	.67	.57	.53	.60	.61	1.08	.95	.30	.43	.19	.95	.79
6	0.66	0.61	0.60	0.59	0.62	0.93	0.97	1.26	1.66	1.16	0.94	0.90
7	.65	.67	.61	.59	.63	.87	1.17	.27	.77	.15	.93	.92
8	.65	.60	.64	.60	.65	.81	.03	.37	.57	.15	.92	.94
9	.65	.62	.63	.60	.61	.77	.04	.44	.52	.59	.91	.93
10	.63	.62	.58	.60	.59	.80	.04	.45	.46	.47	.90	.90
11	0.62	0.59	0.57	0.59	0.68	0.78	1.00	1.39	1.61	1.35	0.89	0.88
12	.61	.58	.60	.60	.61	.78	0.99	2.38	.58	.27	.89	.75
13	.61	.60	.65	.58	.60	.74	1.13	4.20	.50	.25	.87	.76
14	.61	.86	.59	.57	.60	.72	1.37	4.01	.43	.22	.85	.86
15	.59	.77	.59	.57	.59	.71	.43	2.54	.35	.22	.85	.85
16	0.65	0.80	0.54	0.56	0.60	0.79	1.29	1.82	1.34	1.17	0.85	0.85
17	.67	.65	.54	.59	.56	.80	.25	.61	.64	.16	.85	.84
18	.66	.60	.54	.66	.70	.81	.18	.55	.59	.19	.94	.81
19	.66	.58	.55	.59	1.04	.84	.27	.47	.47	.27	.96	.77
20	.65	.57	.57	.66	.52	.77	.67	.65	.39	.13	.98	.71
21	0.65	0.57	0.61	0.57	1.41	0.74	1.57	1.81	1.40	1.11	0.93	0.72
22	.65	.58	.61	.54	.23	.72	.48	.69	.39	.09	.79	.78
23	.64	.62	.60	.54	0.99	.69	.49	.57	.34	.09	.80	.74
24	.64	.64	.59	.53	.92	.69	.59	.57	.30	.04	.83	.79
25	.65	.59	.59	.52	.93	.68	.59	.54	.28	.03	.80	.83
26	0.64	0.58	0.61	0.50	0.88	0.81	1.83	1.50	1.24	1.02	0.80	0.76
27	.63	.57	.61	.50	.83	.83	.71	.42	.28	.31	.89	.73
28	.62	.57	.61	.57	.79	.84	.60	.39	.28	.19	.77	.65
29	.64	.57	.62	.58	.75	1.00	.70	.41	.31	.08	-	.73
30	.64	.54	.65	.80	.73	0.87	.59	.35	.23	.03	-	.89
31	-	.54	-	.64	.72	-	.63	-	.24	.03	-	.74
Mean	0.65	0.61	0.58	0.59	0.75	0.81	1.29	1.72	1.43	1.18	0.89	0.81
Max.	0.71	0.86	0.65	0.80	1.52	1.08	1.83	4.20	1.77	1.59	1.02	0.94
Min.	0.59	0.54	0.52	0.50	0.48	0.68	0.84	1.26	1.23	1.02	0.77	0.65

WATER YEAR 1977 : Max. 4.20 m. Min. 0.48 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	2.00	1.72	0.95	1.44	1.00	2.42	3.02	11	7.73	6.76	4.60	3.02
2	2.07	1.15	0.95	1.65	0.76	2.21	3.10	9.68	9.42	5.90	4.40	3.10
3	2.07	1.05	1.00	1.37	0.72	4.13	3.86	8.90	8.64	6.30	4.13	3.10
4	2.00	1.15	0.90	1.30	0.90	3.34	4.31	8.38	10	5.90	4.04	3.68
5	1.79	1.15	0.95	1.30	1.37	5.20	3.95	7.60	9.29	6.30	3.95	2.63
6	1.72	1.37	1.30	1.25	1.44	3.77	4.13	7.12	13	6.00	3.86	3.50
7	1.65	1.79	1.37	1.25	1.51	3.26	6.10	7.24	14	5.90	3.77	3.68
8	1.65	1.30	1.58	1.30	1.65	2.78	4.70	8.51	11	5.90	3.68	3.86
9	1.65	1.44	1.51	1.30	1.37	2.49	4.80	9.42	10	11	3.59	3.77
10	1.51	1.44	1.20	1.30	1.25	2.70	4.80	9.55	9.68	9.81	3.50	3.50
11	1.44	1.25	1.15	1.25	1.86	2.56	4.40	8.77	12	8.25	3.42	3.34
12	1.37	1.20	1.30	1.30	1.37	2.56	4.31	26	11	7.24	3.42	2.35
13	1.37	1.30	1.65	1.20	1.30	2.28	5.70	80	10	7.00	3.26	2.42
14	1.37	3.18	1.25	1.15	1.30	2.14	8.51	73	9.29	6.64	3.10	3.18
15	1.25	2.49	1.25	1.15	1.25	2.07	9.29	29	8.25	6.64	3.10	3.10
16	1.65	2.70	1.00	1.10	1.30	2.63	7.48	15	8.12	6.10	3.10	3.10
17	1.79	1.65	1.00	1.25	1.10	2.70	7.00	12	12	6.00	3.10	3.02
18	1.72	1.30	1.00	1.72	2.00	2.78	6.20	11	11	6.30	3.86	2.78
19	1.72	1.20	1.05	1.25	4.80	3.02	7.24	9.81	9.81	7.24	4.04	2.49
20	1.65	1.15	1.15	1.72	10	2.49	13	12	8.77	5.70	4.22	2.07
21	1.65	1.15	1.37	1.15	9.03	2.28	11	15	8.90	5.00	3.77	2.14
22	1.65	1.20	1.37	1.00	6.76	2.14	9.94	13	8.77	5.30	2.63	2.56
23	1.58	1.44	1.30	1.00	4.31	1.93	10	11	8.12	5.30	2.70	2.28
24	1.58	1.58	1.25	0.95	3.68	1.93	11	11	7.60	4.80	2.94	2.63
25	1.65	1.25	1.25	0.90	3.77	1.86	11	11	7.36	4.70	2.70	2.94
26	1.58	1.20	1.37	0.80	3.34	2.78	15	10	6.88	4.60	2.70	2.42
27	1.51	1.15	1.37	0.80	2.94	2.94	13	9.16	7.36	7.73	3.42	2.21
28	1.44	1.15	1.37	1.15	2.63	3.02	12	8.77	7.36	6.30	2.49	1.65
29	1.58	1.15	1.44	1.20	2.35	4.40	13	9.03	7.73	5.20	–	2.21
30	1.58	1.00	1.65	2.70	2.21	3.26	11	8.25	6.76	4.70	–	3.42
31	–	1.00	–	1.58	2.14	–	12	–	6.88	4.70	–	2.28
Total	49.24	44.25	37.25	39.78	81.41	84.07	244.84	470.19	286.72	195.21	97.49	88.43
Mean	1.64	1.43	1.24	1.28	2.63	2.80	7.90	15.8	9.25	6.30	3.48	2.85
Max.	2.07	3.18	1.65	2.70	10	5.20	15	80	14	11	4.60	3.86
Min.	1.25	1.00	0.90	0.80	0.72	1.86	3.02	7.12	6.76	4.60	2.49	1.65
Runoff - MCM.	4.254	3.823	3.218	3.437	7.034	7.264	21.154	40.624	24.773	16.866	8.423	7.640

WATER YEAR 1977 : Max. 80 Min. 0.72 Mean 4.71 Annual Runoff 148.511 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Nov. 13	14.00	4.40	88				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
KHLONG NA THAWI RIVER BASIN

Khlong Na Thawi at Ban Pa Kan, Songkhla (X. 42)

Location: Lat. 6°-41'-13" N., Long. 100°-41'-21" E., on left bank at Ban Pa Kan, Tambon Tha Pradu, Amphoe Na Thawi, Songkhla.

Drainage Area: 443 Sq.km.

Type of Gage: Staff gage.

Zero Gage at Bottom at: + 0.00 m. (A.D.)

Bench Mark: B.M. - H.S.

Location: On left bank about 7 meters from staff gage.
Elevation: + 7.013 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: 1965 to date.

Rating Operation:

Period of Rating: 1976-1977.
Rated by Float: -
Rated by Current Meter: 1976-1977.

Stability of Channel Regimes: Stable, no shifting adjustment for flow computation.

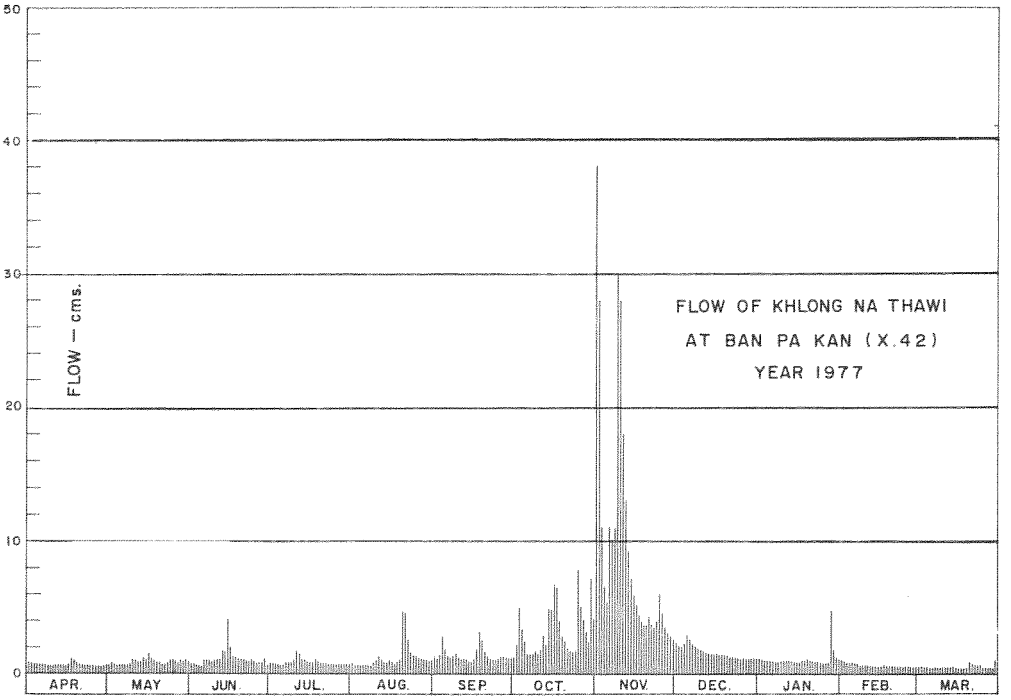
Overbank Flow Conditions: No overbank flow.

General Description: Records good. Stage-discharge relation defined by 129 discharge measurements made in 1977.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.49	0.47	0.52	0.53	0.50	0.73	0.78	4.98	1.07	0.67	0.63	0.40
2	.48	.51	.50	.51	.46	.74	1.04	.21	.02	.65	.60	.40
3	.47	.46	.48	.51	.44	.83	.61	2.48	.01	.63	.57	.39
4	.47	.41	.45	.49	.43	1.18	.29	1.89	.06	.62	.55	.39
5	.46	.45	.46	.48	.46	0.97	.08	.69	.18	.61	.54	.38
6	0.45	0.43	0.72	0.49	0.48	0.80	0.85	2.43	1.13	0.60	0.53	0.38
7	.45	.42	.65	.52	.47	.74	.84	.35	.04	.59	.52	.38
8	.45	.47	.60	.52	.46	.79	.85	.47	.00	.59	.48	.37
9	.45	.49	.56	.53	.56	.90	.91	4.31	0.96	.60	.48	.36
10	.44	.67	.63	.64	.76	.78	.83	.21	.95	.66	.46	.36
11	0.43	0.60	0.70	0.89	0.77	0.68	0.94	3.29	0.93	0.63	0.46	0.36
12	.44	.51	.69	.83	.61	.68	1.19	2.69	.90	.62	.46	.36
13	.43	.55	.89	.68	.54	.66	.04	.24	.88	.61	.43	.35
14	.43	.78	.87	.61	.52	.60	.59	1.97	.85	.59	.42	.35
15	.43	.68	1.42	.57	.59	.58	.58	.77	.84	.57	.43	.34
16	0.45	0.85	1.00	0.54	0.53	0.67	1.91	1.65	0.84	0.57	0.43	0.34
17	.62	.68	0.79	.56	.49	.97	.87	.52	.84	.61	.47	.34
18	.56	.59	.72	.63	.57	1.23	.42	.42	.84	.62	.46	.34
19	.49	.55	.68	.56	.68	1.12	.19	.35	.81	.68	.46	.34
20	.46	.50	.67	.52	1.57	0.89	1.09	.36	.79	.64	.44	.57
21	0.44	0.48	0.61	0.50	1.54	0.75	0.97	1.46	0.78	0.61	0.44	0.48
22	.43	.46	.59	.50	1.12	.69	.90	.36	.78	.58	.43	.42
23	.42	.51	.57	.48	0.91	.65	.87	.32	.77	.57	.42	.42
24	.42	.60	.61	.47	.79	.62	0.90	.44	.76	.56	.41	.43
25	.41	.61	.56	.47	.79	.65	2.09	.81	.76	.55	.42	.38
26	0.40	0.55	0.54	0.47	0.71	.77	1.64	1.49	0.74	0.54	0.40	0.37
27	.40	.56	.53	.47	.65	.79	.43	.33	.73	.59	.40	.36
28	.40	.60	.55	.46	.63	.72	.24	.23	.72	1.58	.40	.36
29	.40	.58	.62	.45	.60	.69	.09	.19	.72	0.98	-	.36
30	.43	.61	.56	.48	.56	.73	.98	.13	.71	.77	-	.60
31	-	.54	-	.48	.58	-	.45	-	.70	.69	-	.95
Mean	0.45	0.55	0.66	0.54	0.67	0.78	1.24	2.13	0.85	0.65	0.46	0.40
Max.	0.62	0.85	1.42	0.89	1.57	1.23	2.09	4.98	1.18	1.58	0.63	0.95
Min.	0.40	0.41	0.45	0.45	0.43	0.58	0.78	1.13	0.70	0.54	0.40	0.34

WATER YEAR 1977 : Max. 4.98 m. Min. 0.34 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.78	0.74	0.84	0.86	0.80	1.26	1.36	38	2.38	1.14	1.06	0.60
2	0.76	0.82	0.80	0.82	0.72	1.28	2.26	28	2.18	1.10	1.00	0.60
3	0.74	0.72	0.76	0.82	0.68	1.49	4.95	11	2.14	1.06	0.94	0.58
4	0.74	0.62	0.70	0.78	0.66	2.82	3.35	6.54	2.34	1.04	0.90	0.58
5	0.72	0.70	0.72	0.76	0.72	1.92	2.42	5.35	2.82	1.02	0.88	0.56
6	0.70	0.66	1.24	0.78	0.76	1.40	1.55	11	2.62	1.00	0.86	0.56
7	0.70	0.64	1.10	0.84	0.74	1.28	1.52	10	2.26	0.98	0.84	0.56
8	0.70	0.74	1.00	0.84	0.72	1.38	1.55	11	2.10	0.98	0.76	0.54
9	0.70	0.78	0.92	0.86	0.92	1.70	1.73	30	1.88	1.00	0.76	0.52
10	0.68	1.14	1.06	1.08	1.32	1.36	1.49	28	1.85	1.12	0.72	0.52
11	0.66	1.00	1.20	1.67	1.34	1.16	1.82	18	1.79	1.06	0.72	0.52
12	0.68	0.82	1.18	1.49	1.02	1.16	2.86	13	1.70	1.04	0.72	0.52
13	0.66	0.90	1.67	1.16	0.88	1.12	2.26	9.12	1.64	1.02	0.66	0.50
14	0.66	1.36	1.61	1.02	0.84	1.00	4.85	7.09	1.55	0.98	0.64	0.50
15	0.66	1.16	4.00	0.94	0.98	0.96	4.80	5.82	1.52	0.94	0.66	0.48
16	0.70	1.55	2.10	0.88	0.86	1.14	6.67	5.15	1.52	0.94	0.66	0.48
17	1.04	1.16	1.38	0.92	0.78	1.92	6.42	4.50	1.52	1.02	0.74	0.48
18	0.92	0.98	1.24	1.06	0.94	3.05	4.00	4.00	1.52	1.04	0.72	0.48
19	0.78	0.90	1.16	0.92	1.16	2.58	2.86	3.65	1.43	1.16	0.72	0.48
20	0.72	0.80	1.14	0.84	4.75	1.67	2.46	3.70	1.38	1.08	0.68	0.94
21	0.68	0.76	1.02	0.80	4.60	1.30	1.92	4.20	1.36	1.02	0.68	0.76
22	0.66	0.72	0.98	0.80	2.58	1.18	1.70	3.70	1.36	0.96	0.66	0.64
23	0.64	0.82	0.94	0.76	1.73	1.10	1.61	3.50	1.34	0.94	0.64	0.64
24	0.64	1.00	1.02	0.74	1.38	1.04	1.70	4.10	1.32	0.92	0.62	0.66
25	0.62	1.02	0.92	0.74	1.38	1.10	7.93	6.06	1.32	0.90	0.64	0.56
26	0.60	0.90	0.88	0.74	1.22	1.34	5.10	4.35	1.28	0.88	0.60	0.54
27	0.60	0.92	0.86	0.74	1.10	1.38	4.05	3.55	1.26	0.98	0.60	0.52
28	0.60	1.00	0.90	0.72	1.06	1.24	3.10	3.05	1.24	4.80	0.60	0.52
29	0.60	0.96	1.04	0.70	1.00	1.18	2.46	2.86	1.24	1.95	–	0.52
30	0.66	1.02	0.72	0.76	0.92	1.26	7.16	2.62	1.22	1.34	–	1.00
31	–	0.88	–	0.76	0.96	–	4.15	–	1.20	1.18	–	1.85
Total	21.00	28.19	35.10	27.60	39.52	43.77	102.06	290.91	52.28	36.59	20.68	19.21
Mean	0.70	0.94	1.17	0.89	1.27	1.45	3.31	9.69	1.68	1.18	0.73	0.61
Max.	1.04	1.55	4.00	1.67	4.75	3.05	7.93	38	2.82	4.80	1.06	1.85
Min.	0.60	0.62	0.70	0.70	0.66	0.96	1.36	2.62	1.20	0.88	0.60	0.48
Runoff – mcm.	1.814	2.435	3.032	2.385	3.295	3.782	8.818	25.135	4.517	3.161	1.787	1.660

WATER YEAR 1977 : Max. 38 Min. 0.48 Mean 1.96 Annual Runoff 61.821 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Nov. 1	14.00	5.12	40				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
KHLONG U-TAPHAO RIVER BASIN

Khlong U-Taphao at Hat Yai, Songkhla (X. 44)

Location: Lat. 7°-00'-02" N., Long. 100°-27'-32" E., on left bank upstream side of the concrete bridge on Patthalung – Hat Yai highway, Amphoe Hat Yai, Songkhla.

Drainage Area: 1,740 Sq.km.

Type of Gage: Staff gage.

Zero Gage at Bottom at: + 0.00 m. (A.D.)

Bench Mark: B.M. – H.S.

Location: Near the staff gage.
Elevation: + 6.582 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: 1967-1972.
Rated by Float: –
Rated by Current Meter: 1967-1972.

Stability of Channel Regimes: Fairly stable, no shifting adjustment for flow computation.

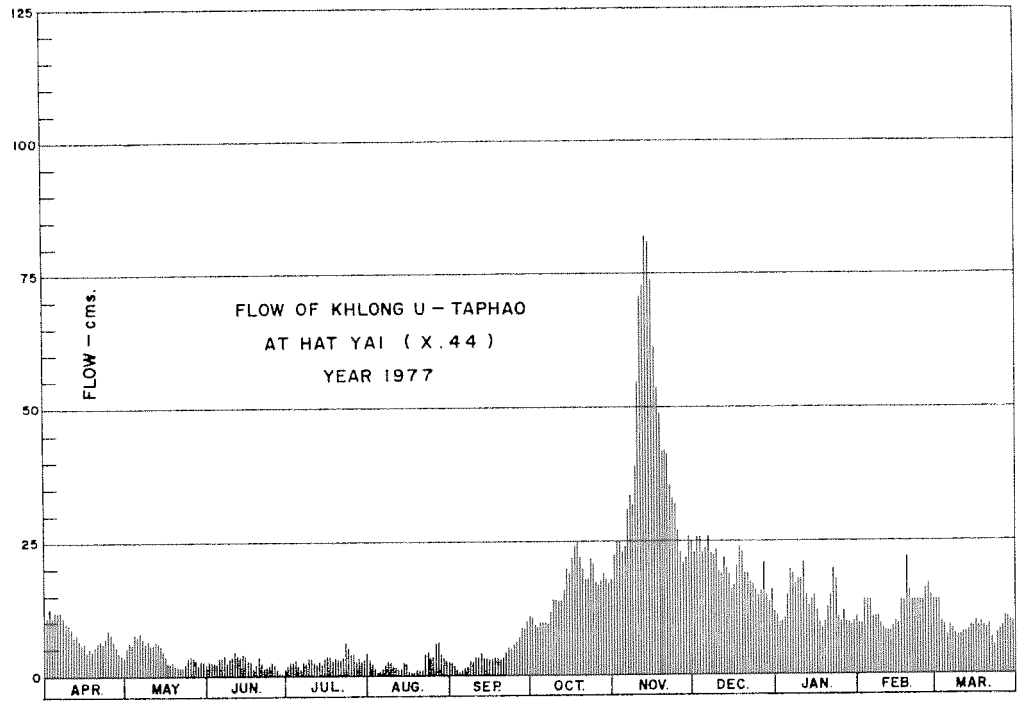
Overbank Flow Conditions: No overbank flow.

General Description: Records fair. Stage-discharge relation defined by 122 discharge measurements made during 1967-1972.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	1.13	0.90	0.77	0.72	0.79	0.74	1.12	1.47	1.49	1.13	1.07	1.23
2	.19	.93	.75	.75	.75	.72	.06	.55	.58	.07	.07	.24
3	.12	.93	.75	.76	.73	.67	.04	.56	.59	.09	.22	.10
4	.18	.99	.74	.74	.66	.59	.07	.51	.49	.12	.23	.05
5	.15	.98	.79	.72	.66	.65	.07	.53	.52	.27	.22	0.99
6	1.15	1.00	0.80	0.68	0.69	0.70	1.07	1.72	1.58	1.42	1.13	1.07
7	.11	0.96	.81	.75	.73	.72	.06	.79	.50	.39	.12	.02
8	.08	.93	.75	.75	.76	.77	.17	.74	.42	.32	.11	0.98
9	.07	.95	.79	.78	.76	.75	.24	.92	.45	.36	.08	.97
10	.04	.91	.81	.79	.71	.80	.25	2.31	.40	.37	.05	.98
11	0.98	0.92	0.84	0.76	0.71	0.80	1.22	2.63	1.40	1.45	1.01	1.00
12	1.00	.94	.83	.74	.69	.84	.24	.69	.46	.28	.01	.00
13	0.95	.93	.81	.76	.70	.79	.28	.84	.43	.21	.01	.00
14	.92	.89	.83	.73	.74	.78	.42	.82	.38	.22	.04	.05
15	.94	.84	.81	.78	.73	.78	.40	.68	.31	.26	.08	.04
16	0.87	0.78	0.77	0.81	0.64	0.78	1.46	2.45	1.34	1.18	1.07	1.09
17	.88	.74	.76	.80	.62	.82	.53	.27	.44	.10	.23	.07
18	.86	.76	.69	.77	.60	.81	.56	.16	.53	.03	.23	.09
19	.91	.73	.74	.81	.68	.80	.47	.01	.57	.08	.48	.04
20	.94	.71	.80	.78	.68	.81	.42	.01	.38	.20	.29	.03
21	0.95	0.72	0.73	0.77	0.73	0.84	1.36	1.97	1.40	1.27	1.23	1.06
22	.93	.72	.69	.80	.83	.89	.37	.86	.34	.45	.23	0.95
23	.97	.74	.71	.93	.85	.88	.46	.78	.33	.37	.22	.89
24	1.03	.79	.73	.89	.80	.91	.44	.74	.31	.11	.24	1.00
25	.00	.82	.75	.85	.81	.83	.34	.62	.26	.08	.22	.02
26	0.93	0.80	0.73	0.83	0.93	0.93	1.32	1.51	1.31	1.16	1.29	1.05
27	.89	.78	.69	.76	.94	1.03	.37	.45	.45	.10	.34	.12
28	.85	.70	.62	.79	.83	.03	.38	.47	.28	.07	.28	.12
29	.82	.77	.65	.76	.79	.09	.36	.60	.25	.05	–	.09
30	.82	.76	.69	.78	.77	.11	.32	.55	.29	.09	–	.07
31	–	.72	–	.83	.75	–	.36	–	.18	.11	–	.04
Mean	0.99	0.84	0.75	0.78	0.74	0.82	1.30	1.94	1.41	1.21	1.17	1.05
Max.	1.19	1.00	0.84	0.93	0.94	1.11	1.56	2.84	1.59	1.45	1.48	1.24
Min.	0.82	0.71	0.62	0.68	0.60	0.59	1.04	1.45	1.31	1.03	1.01	0.89

WATER YEAR 1977 : Max. 2.84 m. Min. 0.59 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	11	5.50	2.90	1.90	3.30	2.30	11	22	23	11	9.75	14
2	13	6.25	2.50	2.50	2.50	1.90	9.50	25	26	9.75	9.75	14
3	11	6.25	2.50	2.70	2.10	1.05	9.00	25	26	10	14	10
4	12	7.75	2.30	2.30	0.90	0.00	9.75	23	23	11	14	9.25
5	12	7.50	3.30	1.90	0.90	0.75	9.75	24	24	15	14	7.75
6	12	8.00	3.50	1.20	1.35	1.50	9.75	31	26	20	11	9.75
7	11	7.00	3.70	2.50	2.10	1.90	9.50	34	23	19	11	8.50
8	10	6.25	2.50	2.50	2.70	2.90	12	32	20	17	11	7.50
9	9.75	6.75	3.30	3.10	2.70	2.50	14	39	21	18	10	7.25
10	9.00	5.75	3.70	3.30	1.70	3.50	14	55	19	18	9.25	7.50
11	7.50	6.00	4.50	2.70	1.70	3.50	14	71	19	21	8.25	8.00
12	8.00	6.50	4.10	2.30	1.35	4.30	14	74	22	15	8.25	8.00
13	6.75	6.25	3.70	2.70	1.50	3.30	15	82	20	13	8.25	8.00
14	6.00	5.30	4.10	2.10	2.30	3.10	20	81	19	14	9.00	9.25
15	6.50	4.30	3.70	3.10	2.10	3.10	19	74	16	15	10	9.00
16	4.90	3.10	2.90	3.70	0.60	3.10	22	62	17	12	9.75	10
17	5.10	2.30	2.70	3.50	0.30	3.90	24	54	21	10	14	9.75
18	4.70	2.70	1.35	2.90	0.00	3.70	25	49	24	8.75	14	10
19	5.75	2.10	2.30	3.70	1.20	3.50	22	42	23	10	22	9.00
20	6.50	1.70	3.50	3.10	1.20	3.70	20	42	19	13	16	8.75
21	6.75	1.90	2.10	2.90	2.10	4.30	18	41	19	15	14	9.50
22	6.25	1.90	1.35	3.50	4.10	5.30	18	36	17	21	14	6.75
23	7.25	2.30	1.70	6.25	4.50	5.10	22	33	17	18	14	5.30
24	8.75	3.30	2.10	5.30	3.50	5.75	21	32	16	11	14	8.00
25	8.00	3.90	2.50	4.50	3.70	4.10	17	27	15	10	14	8.50
26	6.25	3.50	2.10	4.10	6.25	6.25	17	23	16	12	16	9.25
27	5.30	3.10	1.35	2.70	6.50	8.75	18	21	21	10	17	11
28	4.50	1.50	0.30	3.30	4.10	8.75	19	22	15	9.75	15	11
29	3.90	2.90	0.75	2.70	3.30	10	18	26	14	9.25	–	10
30	3.90	2.70	1.35	3.10	2.90	11	17	25	16	10	–	9.75
31	–	1.90	–	4.10	2.50	–	18	–	12	11	–	9.00
Total	233.30	136.15	78.45	96.15	75.95	122.80	506.25	1,227.00	609.00	417.50	351.25	283.30
Mean	7.78	4.39	2.61	3.10	2.45	4.09	16.3	40.9	19.6	13.5	12.5	9.14
Max.	13	8.00	4.50	6.25	6.50	11	25	82	26	21	22	14
Min.	3.90	1.70	0.30	1.20	0.00	0.00	9	21	16	8.75	8.25	5.30
Runoff - mcm.	20.157	11.763	6.778	8.307	6.562	10.610	43.740	106.013	52.618	36.072	30.348	24.477

WATER YEAR 1977 : Max. 82 Min. 0.00 Mean 11.3 Annual Runoff 357.445 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Nov. 13	18.00	2.87	83				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
KHLONG U-TAPHAO RIVER BASIN

Khlong U-Taphao at Ban Bang Sala, Songkhla (X. 90)

Location: Lat. 6°-55'-39" N., Long. 100°-26'-37" E., on left bank upstream side of the bridge about 5 meters near the Pattana Tambon Street, Amphoe Hat Yai, Songkhla.

Drainage Area: 1,562 Sq.km.

Type of Gage: Staff gage.

Zero Gage at Bottom at: + 0.00 m. (A.D.)

Bench Mark: B.M. - H.S.

Location: BM1 on right bank about 46 meters, BM2 on left bank about 68 meters from gage site.
Elevation: BM1 = + 5.909 m. (A.D.), BM2 = + 7.651 m. (A.D.)

Gage Reading Frequency: 5-7 time daily readings at 03.00, 06.00, 09.00, 12.00, 15.00, 18.00 and 21.00 hours.

Basis of Mean Daily Gage Height: Arithmetic mean of 5-7 readings.

Period of Available gage Records: 1971 to date.

Rating Operation:

Period of Rating: 1971-1972.
Rated by Float: -
Rated by Current Meter: 1971-1972.

Stability of Channel Regimes: Stable, no shifting adjustment for flow computation.

Overbank Flow Conditions: No overbank flow.

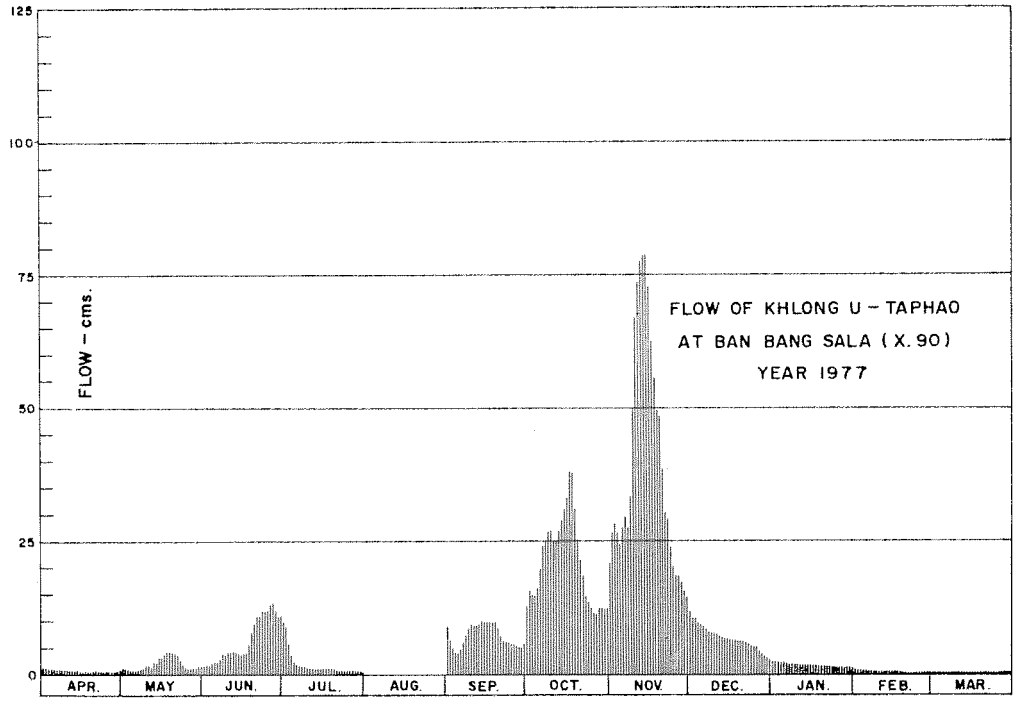
General Description: Records fair. Stage-discharge relation defined by 176 discharge measurements made during 1971-1972.

Remarks: Discharge record for periods of no flow are omitted. No records on August 1-31, 1977.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.77	0.81	0.85	1.66		1.58	1.83	2.40	1.80	1.00	0.80	0.59
2	.76	.79	.89	.57		.38	2.08	.74	.75	.00	.79	.58
3	.75	.77	.88	.30		.24	1.98	.85	.70	0.99	.78	.57
4	.74	.74	.93	.13		.19	2.01	.71	.65	.98	.78	.56
5	.74	.73	.96	0.95		.15	.10	.64	.63	.98	.77	.55
6	0.73	0.72	0.96	0.90		1.23	2.35	2.81	1.60	0.97	0.76	0.55
7	.72	.75	.99	.87		.30	.55	.89	.55	.96	.75	.54
8	.72	.78	1.13	.85		.44	.62	.81	.52	.96	.75	.54
9	.71	.79	.12	.85		.56	.71	3.10	.50	.95	.74	.53
10	.71	.84	.15	.84		.62	.70	.87	.50	.95	.73	.53
11	0.70	0.85	1.15	0.83		1.60	2.64	4.56	1.48	0.94	0.72	0.52
12	.70	.83	.16	.83		.60	.64	.93	.47	.93	.72	.52
13	.69	.94	.15	.82		.62	.72	5.07	.44	.93	.71	.51
14	.69	.89	.13	.82		.65	.85	.14	.42	.92	.71	.51
15	.68	.03	.16	.81		.64	.93	.12	.41	.91	.70	.51
16	0.68	1.04	1.19	0.80		1.65	3.03	4.89	1.40	0.91	0.70	0.51
17	.68	.12	.20	.80		.66	.27	.44	.39	.90	.69	.50
18	.68	.15	.26	.79		.68	.27	.18	.38	.90	.69	.50
19	.67	.15	.49	.78		.67	2.98	3.88	.38	.89	.68	.50
20	.67	.14	.62	.77		.58	.66	.60	.37	.89	.67	.50
21	0.69	1.12	1.70	0.76		1.43	2.46	3.30	1.36	0.88	0.66	0.50
22	.68	.10	.72	.75		.35	.25	2.96	.35	.88	.65	.50
23	.68	0.99	.76	.73		.35	.00	.89	.33	.87	.64	.51
24	.66	.89	.80	.73		.32	1.90	.57	.30	.87	.63	.50
25	.67	.80	.82	.72		.30	.85	.38	.29	.86	.63	.50
26	0.67	0.78	1.83	0.72		1.30	1.80	2.29	1.25	0.86	0.62	0.50
27	.66	.80	.91	.71		.27	.76	.24	.21	.86	.61	.53
28	.66	.80	.81	.70		.26	.85	.18	.17	.85	.60	.52
29	.68	.80	.71	.70		.25	.86	.08	.13	.85	-	.52
30	.68	.84	.70	.69		.32	.86	1.99	.09	.85	-	.51
31	-	.85	-	.68		-	.89	-	.05	.84	-	.51
Mean	0.70	0.89	1.34	0.87		1.44	2.37	3.32	1.41	0.91	0.70	0.52
Max.	0.77	1.15	1.91	1.66		1.68	3.27	5.14	1.80	1.00	0.80	0.59
Min.	0.66	0.72	0.88	0.68		1.15	1.76	1.99	1.05	0.84	0.60	0.50

WATER YEAR 1977 : Max. 5.14 m. Min. 0.50 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	1.02	1.28	1.60	10		9.16	13	21	12	2.80	1.20	0.00
2	0.96	1.14	1.92	9.04		6.76	16	27	11	2.80	1.14	
3	0.90	1.02	1.84	5.80		5.08	15	29	11	2.72	1.08	
4	0.84	0.84	2.24	3.90		4.50	15	27	10	2.64	1.08	
5	0.84	0.78	2.48	2.40		4.10	16	25	9.82	2.64	1.02	
6	0.78	0.72	2.48	2.00		4.96	20	28	9.40	2.56	0.96	
7	0.72	0.90	2.72	1.76		5.80	24	30	8.80	2.48	0.90	
8	0.72	1.08	3.90	1.60		7.48	25	28	8.44	2.48	0.90	
9	0.66	1.14	3.80	1.60		8.92	27	34	8.20	2.40	0.84	
10	0.66	1.52	4.10	1.52		9.68	27	50	8.20	2.40	0.78	
11	0.60	1.60	4.10	1.44		9.40	25	65	7.96	2.32	0.72	
12	0.60	1.44	4.20	1.44		9.40	25	74	7.84	2.24	0.72	
13	0.54	2.32	4.10	1.36		9.68	27	78	7.48	2.24	0.66	
14	0.54	1.92	3.90	1.36		10	29	79	7.24	2.16	0.66	
15	0.48	3.04	4.20	1.28		9.96	31	79	7.12	2.08	0.60	
16	0.48	3.12	4.50	1.20		10	33	73	7.00	2.08	0.60	
17	0.48	3.80	4.60	1.20		10	38	63	6.88	2.00	0.54	
18	0.48	4.10	5.32	1.14		10	38	57	6.76	2.00	0.54	
19	0.42	4.10	8.08	1.08		10	32	50	6.76	1.92	0.48	
20	0.42	4.00	9.68	1.02		9.16	26	44	6.64	1.92	0.42	
21	0.54	3.80	11	0.96		7.36	22	38	6.52	1.84	0.36	
22	0.48	3.60	11	0.90		6.40	19	31	6.40	1.84	0.30	
23	0.48	2.72	12	0.78		6.40	15	30	6.16	1.76	0.24	
24	0.36	1.92	12	0.78		6.04	14	24	5.80	1.76	0.18	
25	0.42	1.20	12	0.72		5.80	13	21	5.68	1.68	0.18	
26	0.42	1.08	13	0.72		5.80	12	19	5.20	1.68	0.12	
27	0.36	1.20	14	0.66		5.44	12	19	4.72	1.68	0.06	
28	0.36	1.20	12	0.60		5.32	13	18	4.30	1.60	0.00	
29	0.48	1.20	11	0.60		5.20	13	16	3.90	1.60	–	
30	0.48	1.52	11	0.54		6.04	13	15	3.52	1.60	–	
31	–	1.60	–	0.48		–	13	–	3.20	1.52	–	0.00
Total	17.52	60.90	198.76	59.88		223.84	661	1,192	223.94	65.44	17.28	0.00
Mean	0.58	1.96	6.62	1.93		7.46	21.3	39.7	7.22	2.11	0.62	0.00
Max.	1.02	4.10	14	10		10	38	79	12	2.80	1.20	0.00
Min.	0.36	0.72	1.84	0.48		4.10	12	15	3.20	1.52	0.00	0.00
Runoff - MCM.	1.514	5.262	17.173	5.174		19.340	57.110	102.989	19.348	5.654	1.493	0.00

WATER YEAR 1977 : Max. 79 Min. 0.00 Mean Annual Runoff mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Nov. 14	6-12	5.15	0.00				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
KHLONG RATTAPHUM RIVER BASIN

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 bridge of Phatthalung – Songkhla highway, Amphoe Rattaphum, Songkhla.

Drainage Area: 272 Sq.km.

Type of Gage: Staff gage.

Zero Gage at Bottom at: + 0.00 m. (A.D.)

Bench Mark: B.M. – H.S.

Location: BM1 on right bank near abutment of the bridge, BM2 on left bank near abutment of the bridge.
Elevation: BM1 = + 3.415 m. (A.D.), BM2 = + 3.307 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: 1967-1972.
Rated by Float: –
Rated by Current Meter: 1967-1972.

Stability of Channel Regimes: Rather unstable because of backwater effect, no shifting adjustment for flow computation.

Overbank Flow Conditions: No overbank flow.

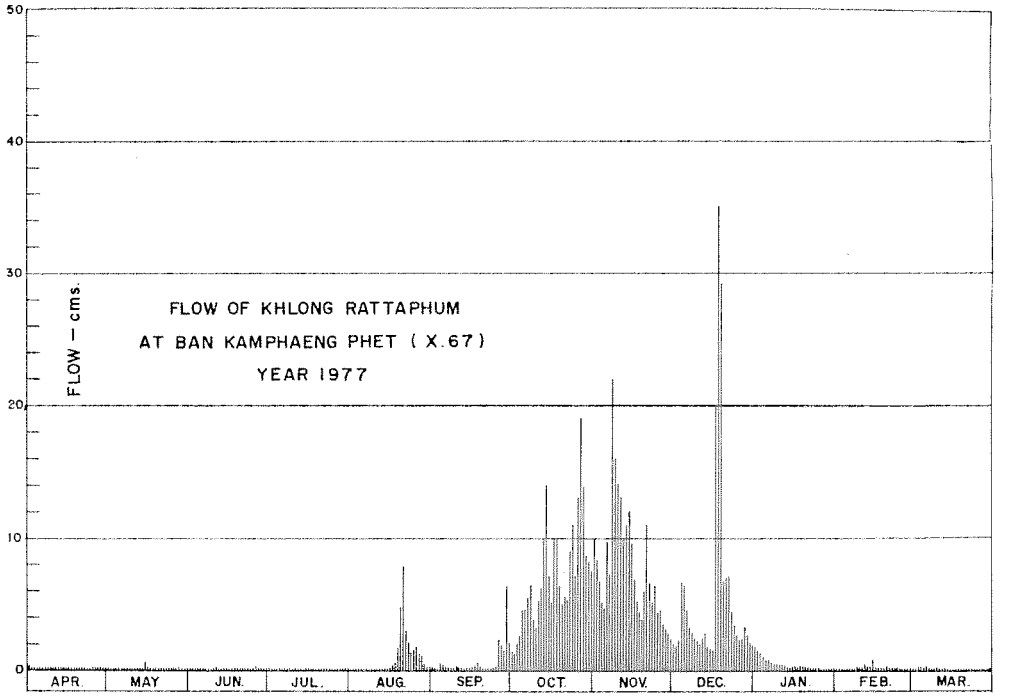
General Description: Records fair. Stage-discharge relation defined by 282 discharge measurements made during 1967-1972. Flow regulated by Rattaphum weir for irrigation of about 10,688 hectares.

Remarks: Discharge record for periods of no flow are omitted.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	-0.15	-0.31	-0.31	-0.30	-0.31	-0.15	0.08	0.85	0.16	0.13	-0.25	-0.24
2	-0.22	-0.32	-0.31	-0.30	-0.31	-0.20	.06	.72	.15	.09	-0.25	-0.27
3	-0.21	-0.32	-0.32	-0.30	-0.32	-0.23	.16	.60	.21	.06	-0.25	-0.13
4	-0.27	-0.32	-0.32	-0.31	-0.31	-0.06	.24	.46	.60	.02	-0.20	-0.14
5	-0.24	-0.32	-0.32	-0.31	-0.31	-0.08	.41	.43	.58	-0.02	-0.22	-0.18
6	-0.29	-0.32	-0.11	-0.31	-0.31	-0.13	0.44	0.81	0.43	-0.03	-0.22	-0.17
7	-0.30	-0.32	-0.26	-0.31	-0.30	-0.15	.47	.65	.32	-0.05	-0.21	-0.20
8	-0.30	-0.31	-0.39	-0.31	-0.30	-0.18	.59	1.49	.26	-0.07	-0.20	-0.23
9	-0.29	-0.31	-0.30	-0.31	-0.30	-0.21	.44	.20	.22	-0.07	-0.15	-0.21
10	-0.27	-0.31	-0.30	-0.30	-0.30	-0.18	.29	.07	.19	-0.10	-0.17	-0.15
11	-0.26	-0.31	-0.30	-0.30	-0.29	-0.20	0.50	0.99	0.16	-0.08	-0.16	-0.22
12	-0.28	-0.31	-0.30	-0.30	-0.29	-0.21	.57	.85	.22	-0.08	-0.07	-0.23
13	-0.29	-0.30	-0.30	-0.30	-0.30	-0.26	.88	.90	.26	-0.15	-0.13	-0.24
14	-0.30	-0.30	-0.31	-0.30	-0.30	-0.20	1.05	.95	.14	-0.15	-0.13	-0.27
15	-0.30	-0.04	-0.31	-0.30	-0.30	-0.23	0.64	.80	.12	-0.15	-0.04	-0.36
16	-0.26	-0.18	-0.29	-0.30	-0.30	-0.19	0.47	0.62	0.11	-0.15	-0.13	-0.36
17	-0.28	-0.23	-0.30	-0.30	-0.27	-0.09	.85	.49	.56	-0.18	-0.16	-0.32
18	-0.27	-0.31	-0.30	-0.30	-0.22	-0.05	.83	.42	1.95	-0.10	-0.18	-0.33
19	-0.29	-0.30	-0.30	-0.31	0.13	-0.11	.57	.36	.80	-0.15	-0.17	-0.33
20	-0.30	-0.31	-0.30	-0.31	.47	-0.16	.48	.56	0.60	-0.15	-0.15	-0.34
21	-0.30	-0.31	-0.17	-0.31	0.68	-0.25	0.51	0.92	0.68	-0.18	-0.12	-0.35
22	-0.31	-0.31	-0.21	-0.31	.28	-0.30	.49	.60	.64	-0.18	-0.13	-0.36
23	-0.31	-0.30	-0.29	-0.31	.16	-0.31	.76	.48	.41	-0.20	-0.15	-0.36
24	-0.30	-0.19	-0.30	-0.31	.08	-0.30	.90	.58	.32	-0.20	-0.15	-0.36
25	-0.31	-0.29	-0.30	-0.31	.11	-0.29	.64	.41	.24	-0.20	-0.26	-0.38
26	-0.32	-0.29	-0.30	-0.31	0.14	0.21	1.03	0.43	0.21	-0.20	-0.24	-0.39
27	-0.32	-0.29	-0.30	-0.32	.05	.14	.32	.33	.22	-0.22	-0.23	-0.39
28	-0.32	-0.16	-0.29	-0.32	.02	.09	.05	.28	.33	-0.25	-0.24	-0.39
29	-0.32	-0.28	-0.29	-0.32	-0.09	.57	0.74	.26	.25	-0.20	–	-0.34
30	-0.32	-0.29	-0.30	-0.31	-0.15	.18	.70	.22	.21	-0.20	–	-0.34
31	–	-0.31	–	–	-0.19	–	.66	–	.15	-0.22	–	-0.24
Mean	-0.28	-0.28	-0.29	-0.31	-0.12	-0.12	0.61	0.66	0.41	0.12	-0.18	-0.29
Max.	-0.15	-0.04	-0.11	-0.30	0.68	0.57	1.32	1.49	1.95	0.13	-0.04	-0.13
Min.	-0.32	-0.32	-0.39	-0.32	-0.32	-0.31	0.06	0.22	0.11	-0.25	-0.26	-0.39

WATER YEAR 1977 : Max. 1.95 m. Min. -0.32 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.30	0.00	0.00	0.00	0.00	0.30	1.48	10	2.02	1.81	0.10	0.12
2	0.16		0.00			0.20	1.36	8.40	1.95	1.54	0.10	0.060
3	0.18		0.00			0.14	2.02	6.70	2.39	1.36	0.10	0.34
4	0.060		0.00			0.64	2.66	4.96	6.70	1.12	0.20	0.32
5	0.12		0.00			0.52	4.41	4.63	6.44	0.88	0.16	0.24
6	0.020		0.38			0.34	4.74	9.76	4.63	0.82	0.16	0.26
7	0.00		0.080			0.30	5.07	7.30	3.42	0.70	0.18	0.20
8	0.00		0.00			0.24	6.57	22	2.84	0.58	0.20	0.14
9	0.020		0.00			0.18	4.74	16	2.48	0.58	0.30	0.18
10	0.060		0.00		0.00	0.24	3.11	14	2.23	0.40	0.26	0.30
11	0.080		0.00		0.020	0.20	5.40	13	2.02	0.52	0.28	0.16
12	0.040		0.00		0.020	0.18	6.31	10	2.48	0.52	0.58	0.14
13	0.020		0.00		0.00	0.080	11	11	2.84	0.30	0.34	0.12
14	0.00	0.00	0.00		0.00	0.20	14	12	1.88	0.30	0.34	0.060
15	0.00	0.76	0.00		0.00	0.14	7.16	9.60	1.74	0.30	0.76	0.00
16	0.080	0.24	0.020		0.00	0.22	5.07	6.98	1.67	0.30	0.34	0.00
17	0.040	0.14	0.00		0.060	0.46	10	5.29	6.18	0.24	0.28	
18	0.060	0.00	0.00		0.16	0.70	10	4.52	35	0.40	0.24	
19	0.020	0.00	0.00		1.81	0.38	6.31	3.86	29	0.30	0.26	
20	0.00	0.00	0.00		5.07	0.28	5.18	6.18	6.70	0.30	0.30	
21	0.00	0.00	0.26		7.86	0.10	5.53	11	7.72	0.24	0.36	
22	0.00	0.00	0.18		3.02	0.00	5.29	6.70	7.16	0.24	0.34	
23	0.00	0.00	0.020		2.02	0.00	9.00	5.18	4.41	0.20	0.30	
24	0.00	0.22	0.00		1.48	0.00	11	6.44	3.42	0.20	0.30	
25	0.00	0.020	0.00		1.67	0.020	7.16	4.41	2.66	0.20	0.080	
26	0.00	0.020	0.00		1.88	2.39	13	4.63	2.39	0.20	0.12	
27	0.00	0.020	0.00		1.30	1.88	19	3.53	2.48	0.16	0.14	
28	0.00	0.28	0.020		1.12	1.54	14	3.02	3.53	0.16	0.12	
29	0.00	0.040	0.020		0.46	6.31	8.70	2.84	2.75	0.20	–	
30	0.00	0.020	0.00		0.30	2.16	8.10	2.48	2.39	0.20	–	0.00
31	–	0.00	–	0.00	0.22	–	7.44	–	1.95	0.16	–	0.12
Total	1.26	1.76	0.98	0.00	28.47	20.34	224.81	236.41	165.47	15.37	7.24	2.76
Mean	0.042	0.057	0.033	0.00	0.92	0.68	7.25	7.88	5.34	0.49	0.26	0.089
Max.	0.30	0.76	0.38	0.00	7.86	6.31	19	22	35	1.81	0.76	0.34
Min.	0.00	0.00	0.00	0.00	0.00	0.00	1.36	2.48	1.67	0.10	0.080	0.00
Runoff – mcm.	0.109	0.152	0.085	0.00	2.460	1.757	19.423	20.426	14.297	1.328	0.625	0.238

WATER YEAR 1977 : Max. 35 Min. 0.00 Mean 1.93 Annual Runoff 60.901 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Dec. 18	12.00	2.23	40				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
KHLONG PHRU PHO RIVER BASIN

Khlong Phru Pho at Ban Phru Pho, Songkhla (X. 69)

Location: Lat. 7°-11'-25" N., Long. 100°-13'-26" E., on right bank upstream side of the bridge on Phatthalung – Hat Yai highway at Ban Phru Pho, Amphoe Rattaphum, Songkhla.

Drainage Area: 88 Sq.km.

Type of Gage: Staff gage.

Zero Gage at Bottom at: + 0.00 m. (A.D.)

Bench Mark: B.M. – H.S.

Location: On left bank about 300 meters from the bridge.
Elevation: + 4.229 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: 1967-1972.
Rated by Float: –
Rated by Current Meter: 1967-1972.

Stability of Channel Regimes: Stable, no shifting adjustment for flow computation.

Overbank Flow Conditions: No overbank flow.

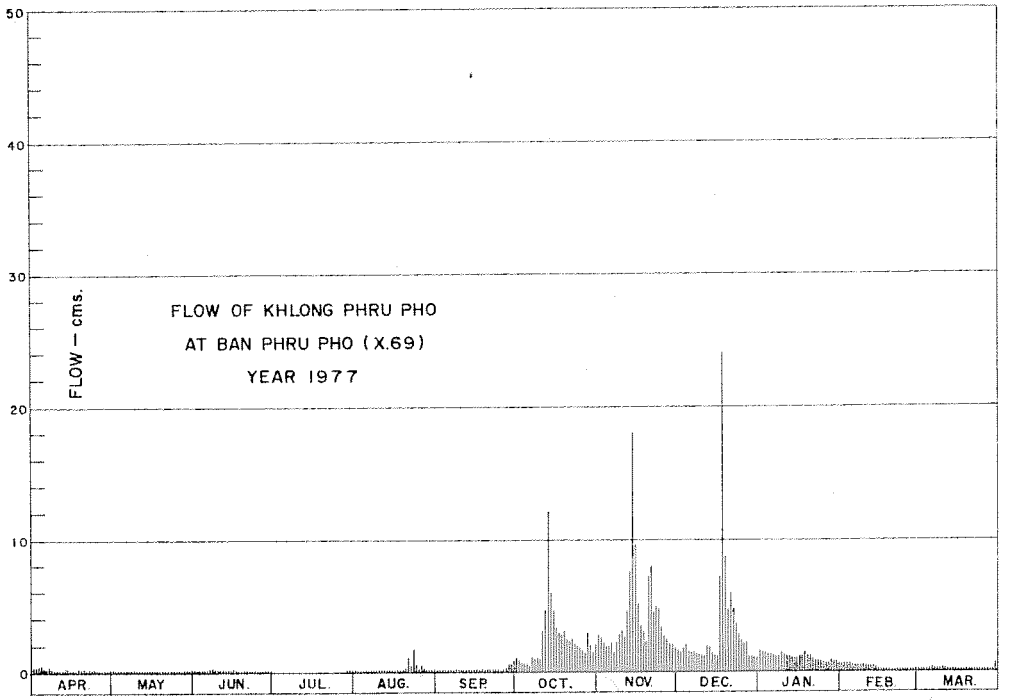
General Description: Records fair. Stage-discharge relation defined by 266 discharge measurements made during 1967-1972.

Remarks: No records on July 1-31, 1977.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.62	0.49	0.44		0.35	0.41	0.80	1.10	0.91	0.89	0.70	0.45
2	.65	.48	.45		.35	.42	.74	.03	.89	.88	.69	.45
3	.65	.45	.43		.35	.42	.70	0.97	.94	.87	.69	.45
4	.64	.47	.42		.35	.48	.69	.96	.99	.85	.68	.45
5	.62	.53	.44		.35	.49	.68	.96	.89	.85	.67	.60
6	0.57	0.52	0.57		0.34	0.49	0.65	0.99	0.88	0.83	0.67	0.59
7	.63	.50	.59		.34	.50	.79	.88	.88	.81	.67	.57
8	.61	.48	.59		.34	.41	.77	1.01	.86	.82	.67	.58
9	.50	.45	.49		.36	.44	.79	.09	.85	.88	.67	.59
10	.37	.46	.47		.36	.45	.76	.12	.83	.85	.66	.60
11	0.45	0.46	0.46		0.35	0.45	1.14	1.07	0.82	0.82	0.66	0.57
12	.42	.47	.46		.35	.45	.60	.30	.96	.81	.66	.53
13	.40	.46	.49		.35	.42	2.03	.59	.94	.80	.64	.55
14	.40	.47	.57		.37	.43	1.45	2.27	.86	.79	.64	.55
15	.40	.48	.49		.36	.50	.29	1.75	.83	.79	.54	.54
16	0.40	0.46	0.56		0.35	0.49	1.15	1.35	0.82	0.81	0.45	0.50
17	.46	.47	.56		.35	.50	.11	.17	1.42	.82	.45	.50
18	.56	.46	.53		.35	.56	.09	.12	2.62	.87	.45	.50
19	.56	.46	.50		.37	.54	.13	.02	1.68	.82	.47	.49
20	.56	.48	.47		.62	.53	.05	.57	.31	.82	.46	.49
21	0.54	0.50	.44		0.80	0.52	1.02	1.63	1.45	0.78	0.45	0.49
22	.55	.53	.40		.65	.51	.04	.29	.32	.75	.45	.49
23	.55	.52	.40		.74	.52	0.98	.34	.18	.75	.45	.50
24	.55	.53	.45		.65	.49	.95	.32	.09	.73	.45	.52
25	.52	.54	.44		.56	.50	.93	.17	.02	.72	.45	.52
26	0.50	0.55	0.47		0.65	0.53	0.88	1.08	0.99	0.70	0.45	0.52
27	.50	.54	.48		.58	.61	.87	.05	1.00	.72	.45	.53
28	.50	.52	.45		.50	.68	1.10	0.99	.98	.75	.45	.50
29	.50	.47	.46		.46	.68	0.97	.97	.99	.73	–	.50
30	.48	.45	.47		.46	.74	.88	.95	.94	.73	–	.60
31	–	.45	–		.45	–	.97	–	.91	.71	–	.77
Mean	0.52	0.49	0.48		0.44	0.50	1.00	1.20	1.20	0.80	0.56	0.53
Max.	0.65	0.55	0.59		0.80	0.74	2.03	2.27	2.62	0.89	0.70	0.77
Min.	0.37	0.45	0.40		0.34	0.41	0.65	0.95	0.82	0.70	0.45	0.45

WATER YEAR 1977 : Max. 2.62 m. Min. 0.37 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.38	0.09	0.04		0.00	0.01	1.10	2.90	1.66	1.55	0.70	0.05
2	0.50	0.08	0.05		0.00	0.02	0.86	2.41	1.55	1.50	0.66	0.05
3	0.50	0.05	0.03		0.00	0.02	0.70	2.02	1.84	1.45	0.66	0.05
4	0.46	0.07	0.02		0.00	0.08	0.66	1.96	2.14	1.35	0.62	0.05
5	0.38	0.16	0.04		0.00	0.09	0.62	1.96	1.55	1.35	0.58	0.30
6	0.24	0.14	0.24		0.00	0.09	0.50	2.14	1.50	1.25	0.58	0.28
7	0.42	0.10	0.28		0.00	0.10	1.06	1.50	1.50	1.15	0.58	0.24
8	0.34	0.08	0.28		0.00	0.01	0.98	2.27	1.40	1.20	0.58	0.26
9	0.10	0.05	0.09		0.00	0.04	1.06	2.83	1.35	1.50	0.58	0.28
10	0.00	0.06	0.07		0.00	0.05	0.94	3.06	1.25	1.35	0.54	0.30
11	0.05	0.06	0.06		0.00	0.05	3.22	2.69	1.20	1.20	0.54	0.24
12	0.02	0.07	0.06		0.00	0.05	7.60	4.60	1.96	1.15	0.54	0.16
13	0.00	0.06	0.09		0.00	0.02	14	7.49	1.84	1.10	0.46	0.20
14	0.00	0.07	0.24		0.00	0.03	6.00	18	1.40	1.06	0.46	0.20
15	0.00	0.08	0.09		0.00	0.10	4.51	9.55	1.25	1.06	0.18	0.18
16	0.00	0.06	0.22		0.00	0.09	3.30	5.05	1.20	1.15	0.05	0.10
17	0.06	0.07	0.22		0.00	0.10	2.98	3.46	5.70	1.20	0.05	0.10
18	0.22	0.06	0.16		0.00	0.22	2.83	3.06	24	1.45	0.05	0.10
19	0.22	0.06	0.10		0.00	0.18	3.14	2.34	8.64	1.20	0.07	0.09
20	0.22	0.08	0.07		0.38	0.16	2.55	7.27	4.69	1.20	0.06	0.09
21	0.18	0.10	0.04		1.10	0.14	2.34	7.99	6.00	1.02	0.05	0.09
22	0.20	0.16	0.00		0.50	0.12	2.48	4.51	4.78	0.90	0.05	0.09
23	0.20	0.14	0.00		0.86	0.14	2.08	4.96	3.54	0.90	0.05	0.10
24	0.20	0.16	0.05		0.50	0.09	1.90	4.78	2.83	0.82	0.05	0.14
25	0.14	0.18	0.04		0.22	0.10	1.78	3.46	2.34	0.78	0.05	0.14
26	0.10	0.20	0.07		0.50	0.16	1.50	2.76	2.14	0.70	0.05	0.14
27	0.10	0.18	0.08		0.26	0.34	1.45	2.55	2.20	0.78	0.05	0.16
28	0.10	0.14	0.05		0.10	0.62	2.90	2.14	13	0.90	0.05	0.10
29	0.10	0.07	0.06		0.06	0.62	2.02	2.02	13	0.82	–	0.10
30	0.08	0.05	0.07		0.06	0.86	1.50	1.90	12	0.82	–	0.30
31	–	0.05	–		0.05	–	2.02	–	12	0.74	–	0.98
Total	5.51	2.98	2.91		4.59	4.70	80.58	123.63	141.45	34.60	8.94	5.66
Mean	0.184	0.096	0.097		0.148	0.157	2.60	4.12	4.56	1.12	0.319	0.122
Max.	0.50	0.20	0.28		1.10	0.86	14	18	24	1.55	0.70	0.98
Min.	0.00	0.05	0.00		0.00	0.01	0.50	1.90	1.20	0.70	0.05	0.05
Runoff – MCM.	0.476	0.257	0.251		0.396	0.406	6.962	10.682	12.221	2.989	0.772	0.489

WATER YEAR 1977 : Max. 24 Min. 0.00 Mean Annual Runoff mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Dec. 18	6.00	2.91	30				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
KHLONG TAM RIVER BASIN

Khlong Tam at Khuan Lang, Songkhla (X. 71)

Location: Lat. 6°-59'-33" N., Long. 100°-25'-57" E., on right bank downstream side of bridge of Phet Kasem highway at Ban Khuan Lang, Amphoe Hat Yai, Songkhla.

Drainage Area: 127 Sq.km.

Type of Gage: Staff gage.

Zero Gage at Bottom at: + 0.00 m. (A.D.)

Bench Mark: B.M. - H.S.

Location: On left bank about 12 meters from highway bridge.
Elevation: + 6.569 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: 1967-1972.
Rated by Float: -
Rated by Current Meter: 1967-1972.

Stability of Channel Regimes: Fairly stable by some scouring, no shifting adjustment for flow computation.

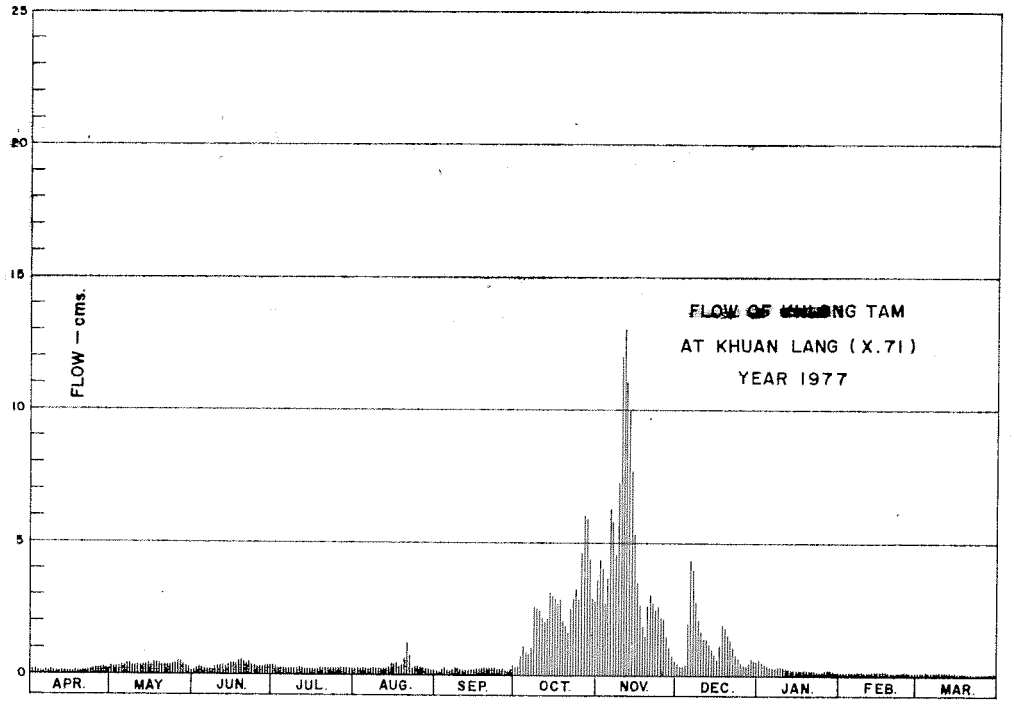
Overbank Flow Conditions: No overbank flow.

General Description: Records fair. Stage-discharge relation defined by 153 discharge measurements made during 1967-1971.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	1.45	1.61	1.53	1.69	1.56	1.46	1.61	2.60	1.73	1.76	1.43	1.42
2	.46	.61	.58	.66	.55	.41	.69	.74	.69	.72	.44	.44
3	.44	.63	.64	.57	.54	.53	.83	.57	.68	.71	.43	.44
4	.43	.65	.62	.56	.53	.56	.93	.37	.70	.65	.45	.46
5	.43	.65	.54	.56	.52	.50	.85	.60	.95	.64	.45	.43
6	1.46	1.66	1.53	1.55	1.53	1.48	1.84	3.11	2.74	1.61	1.44	1.44
7	.45	.71	.51	.54	.54	.54	.90	.03	.67	.58	.44	.43
8	.45	.71	.53	.57	.55	.57	2.34	2.79	.38	.59	.44	.43
9	.44	.69	.68	.55	.57	.56	.33	3.27	.22	.62	.44	.42
10	.44	.69	.69	.56	.57	.52	.31	.95	.11	.61	.43	.41
11	1.44	1.70	1.69	1.61	1.57	1.49	2.23	4.05	2.01	1.58	1.44	1.42
12	.45	.69	.70	.60	.57	.48	.20	3.81	.03	.57	.43	.41
13	.45	.70	.61	.59	.57	.49	.23	.70	1.95	.53	.43	.39
14	.43	.70	.70	.58	.66	.49	.47	.34	.89	.50	.49	.40
15	.43	.71	.72	.58	.73	.50	.45	2.95	.83	.51	.48	.39
16	1.44	1.70	1.72	1.57	1.71	1.54	2.41	2.58	1.76	1.50	1.46	1.38
17	.45	.72	.73	.54	.72	.56	.25	.36	.94	.50	.44	.39
18	.44	.72	.74	.53	.65	.55	.41	.16	2.17	.50	.41	.39
19	.44	.72	.76	.57	.72	.56	.20	.06	.16	.54	.43	.36
20	.44	.69	.75	.58	.78	.59	.16	.37	.07	.51	.43	.36
21	1.46	1.68	1.72	1.58	1.98	1.57	2.09	2.46	2.01	1.53	1.41	1.36
22	.49	.68	.73	.57	.81	.57	.31	.38	1.93	.52	.42	.35
23	.52	.69	.70	.56	.60	.57	.42	.32	.83	.50	.43	.36
24	.53	.70	.69	.56	.65	.54	.51	.35	.77	.49	.43	.34
25	.55	.71	.69	.56	.63	.54	.39	.25	.73	.48	.44	.35
26	1.55	1.75	1.67	1.57	1.60	1.59	2.74	2.23	1.70	1.52	1.43	1.35
27	.56	.74	.66	.58	.60	.54	3.07	.06	.67	.51	.44	.36
28	.58	.68	.67	.58	.56	.46	.05	1.91	.72	.50	.42	.34
29	.57	.63	.69	.57	.54	.52	2.76	.81	.77	.50	-	.34
30	.57	.58	.69	.56	.50	.65	.43	.74	.76	.47	-	.35
31	-	.49	-	.55	.49	-	.39	-	.74	.44	-	.36
Mean	1.47	1.68	1.66	1.57	1.62	1.53	2.28	2.66	1.94	1.55	1.44	1.39
Max.	1.58	1.75	1.76	1.69	1.98	1.65	3.07	4.05	2.74	1.76	1.49	1.46
Min.	1.43	1.49	1.51	1.53	1.49	1.41	1.61	1.74	1.67	1.44	1.41	1.34

WATER YEAR 1977 : Max. 4.05 m. Min. 1.34 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.15	0.31	0.25	0.39	0.26	0.16	0.31	3.60	0.49	0.58	0.13	0.12
2	0.16	0.31	0.28	0.36	0.25	0.11	0.39	4.30	0.39	0.46	0.14	0.14
3	0.14	0.33	0.34	0.27	0.24	0.23	0.79	3.48	0.38	0.43	0.13	0.14
4	0.13	0.35	0.32	0.26	0.23	0.26	1.09	2.68	0.40	0.35	0.15	0.16
5	0.13	0.35	0.24	0.26	0.22	0.20	0.35	3.60	1.15	0.34	0.15	0.13
6	0.16	0.36	0.23	0.25	0.23	0.18	0.82	6.26	4.30	0.31	0.14	0.14
7	0.15	0.43	0.21	0.24	0.24	0.24	1.00	5.78	3.95	0.28	0.14	0.13
8	0.15	0.43	0.23	0.27	0.25	0.27	2.56	4.55	2.72	0.29	0.14	0.13
9	0.14	0.39	0.38	0.25	0.27	0.26	2.52	7.22	2.08	0.32	0.14	0.12
10	0.14	0.39	0.39	0.26	0.27	0.22	2.44	12	1.64	0.31	0.13	0.11
11	0.14	0.40	0.39	0.31	0.27	0.19	2.12	13	1.33	0.28	0.14	0.12
12	0.15	0.39	0.40	0.30	0.27	0.18	2.00	11	1.39	0.27	0.13	0.11
13	0.15	0.40	0.31	0.29	0.26	0.19	2.12	10	1.15	0.23	0.13	0.09
14	0.13	0.40	0.40	0.28	0.36	0.19	3.08	7.64	0.97	0.20	0.19	0.10
15	0.13	0.43	0.46	0.28	0.49	0.20	3.00	5.35	0.79	0.21	0.18	0.09
16	0.14	0.40	0.46	0.27	0.43	0.24	2.84	3.52	0.58	0.20	0.16	0.08
17	0.15	0.46	0.49	0.24	0.46	0.26	2.20	2.64	1.12	0.20	0.14	0.09
18	0.14	0.46	0.52	0.23	0.35	0.25	2.84	1.84	1.88	0.20	0.11	0.09
19	0.14	0.46	0.58	0.27	0.46	0.26	2.00	1.48	1.84	0.24	0.13	0.06
20	0.14	0.39	0.55	0.28	0.64	0.29	1.84	2.68	1.51	0.21	0.13	0.06
21	0.16	0.38	0.46	0.28	1.24	0.27	1.57	3.04	1.33	0.23	0.11	0.06
22	0.19	0.38	0.49	0.27	0.73	0.27	2.44	2.72	1.09	0.22	0.12	0.05
23	0.22	0.39	0.40	0.26	0.30	0.27	2.88	2.48	0.79	0.20	0.13	0.06
24	0.23	0.40	0.39	0.26	0.35	0.24	3.24	2.60	0.61	0.19	0.13	0.04
25	0.25	0.43	0.39	0.26	0.33	0.24	2.76	2.20	0.49	0.18	0.14	0.05
26	0.25	0.55	0.37	0.27	0.30	0.29	4.30	2.12	0.40	0.22	0.13	0.05
27	0.26	0.52	0.36	0.28	0.30	0.24	6.02	1.48	0.37	0.21	0.14	0.06
28	0.28	0.38	0.37	0.28	0.26	0.16	5.90	1.03	0.46	0.20	0.12	0.04
29	0.27	0.33	0.39	0.27	0.24	0.22	4.40	0.73	0.61	0.20	–	0.04
30	0.27	0.28	0.39	0.26	0.20	0.35	2.92	0.52	0.58	0.17	–	0.05
31	–	0.19	–	0.25	0.19	–	2.76	–	0.52	0.14	–	0.06
Total	5.24	12.07	11.42	8.50	10.89	6.93	76.00	131.54	37.31	8.07	3.85	2.77
Mean	0.175	0.389	0.381	2.74	0.351	0.231	2.45	4.38	1.20	0.260	0.137	0.089
Max.	0.28	0.55	0.58	0.39	1.24	0.35	6.02	13	4.30	0.58	0.19	0.16
Min.	0.13	0.19	0.21	0.23	0.19	0.11	0.31	0.52	0.37	0.14	0.11	0.04
Runoff – MCM.	0.453	1.043	0.987	0.734	0.941	0.599	6.566	11.365	3.224	0.697	0.333	0.239

WATER YEAR 1977 : Max. 13 Min. 0.04 Mean 0.86 Annual Runoff 27.181 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Nov.11	01.00	4.12	13				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
PATTANI RIVER BASIN

Pattani River at Yala, Yala (X. 40)

Location: Lat. 6°-34'-03" N., Long. 101°-17'-40" E., on right bank about 500 meters downstream from state railway bridge crossing Pattani River at Ban Streng Nok, Amphoe Muang, Yala.

Drainage Area: 3,295 Sq.km.

Type of Gage: Staff gage.

Zero Gage at Bottom at: + 9.600 m. (M.S.L.)

Bench Mark: B.M. – H.S.

Location: About 15 meters upstream from the top gage.
Elevation: + 16.134 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: 1964-1975.
Rated by Float: –
Rated by Current Meter: 1964-1975.

Stability of Channel Regimes: Fairly stable, no shifting adjustment for flow computation.

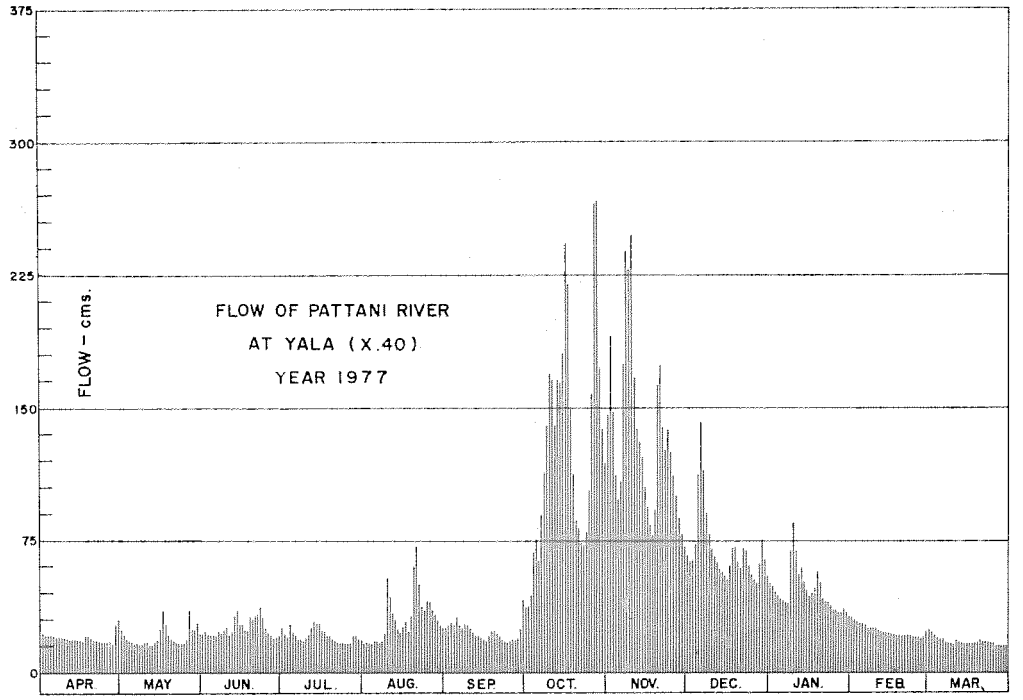
Overbank Flow Conditions: No overbank flow.

General Description: Records fair. Stage-discharge relation defined by 1,081 discharge measurements made during 1966-1975.

GAGE HEIGHT IN METER (M.S.L), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	10.57	10.63	10.57	10.64	10.46	10.66	10.89	12.31	11.40	11.14	10.76	10.62
2	.56	.54	.60	.57	.44	.69	.90	.78	.33	.10	.74	.60
3	.55	.50	.56	.53	.44	.71	11.02	.23	.35	.05	.73	.56
4	.54	.47	.55	.69	.45	.72	.42	11.93	.49	.01	.71	.53
5	.54	.45	.55	.60	.47	.77	.51	.79	.95	10.98	.70	.51
6	10.53	10.44	10.56	10.54	10.48	10.71	11.34	11.90	12.28	10.96	10.68	10.49
7	.53	.44	.60	.51	.45	.65	.50	12.62	11.96	.94	.67	.46
8	.53	.43	.57	.50	.47	.70	.94	13.23	.71	.94	.66	.45
9	.52	.42	.63	.48	.58	.71	12.25	.15	.55	11.21	.65	.43
10	.51	.46	.66	.49	11.17	.64	.56	.31	.45	.63	.64	.42
11	10.51	10.45	10.55	10.55	11.00	10.59	12.53	12.68	11.38	11.41	10.62	10.48
12	.50	.43	.57	.66	10.80	.55	.26	.25	.33	.21	.61	.46
13	.49	.42	.78	.72	.72	.54	.53	.16	.27	.26	.60	.44
14	.48	.46	.83	.71	.63	.53	.52	.06	.23	.14	.59	.44
15	.47	.51	.68	.70	.60	.50	.68	11.87	.18	.05	.58	.43
16	10.47	10.64	10.68	10.62	10.67	10.49	13.27	11.75	11.16	11.02	10.58	10.43
17	.56	.84	.63	.59	.72	.56	.06	.65	.30	.04	.57	.43
18	.55	.69	.62	.55	.62	.62	12.36	.55	.44	.09	.56	.44
19	.52	.57	.77	.54	.76	.62	11.95	.72	.46	.23	.56	.45
20	.50	.51	.75	.51	11.29	.58	.65	12.51	.34	.13	.55	.47
21	10.47	10.47	10.78	10.48	11.46	10.55	11.60	12.61	11.27	11.00	10.55	10.46
22	.46	.45	.80	.46	.12	.51	.48	.25	.45	10.96	.54	.45
23	.45	.44	.88	.45	10.91	.48	.46	.10	.43	.94	.54	.44
24	.45	.45	.73	.44	.85	.47	.57	.21	.29	.90	.53	.43
25	.45	.46	.62	.43	.94	.47	.85	.08	.22	.86	.53	.42
26	10.44	10.49	10.58	10.44	10.94	10.50	12.44	11.94	11.15	10.84	10.52	10.41
27	.44	.85	.54	.44	.84	.50	13.46	.80	.13	.83	.52	.40
28	.43	.65	.52	.56	.78	.50	.47	.66	.33	.85	.56	.40
29	.68	.62	.52	.54	.75	.65	12.61	.55	.51	.87	–	.40
30	.75	.70	.56	.51	.68	.96	.23	.46	.36	.82	–	.41
31	–	.57	–	.49	.64	–	.00	–	.22	.78	–	.54
Mean	10.51	10.53	10.64	10.55	10.75	10.60	12.07	12.17	11.42	11.04	10.61	10.46
Max.	10.75	10.84	10.88	10.72	11.46	10.96	13.47	13.31	12.28	11.63	10.76	10.62
Min.	10.43	10.42	10.52	10.43	10.44	10.47	10.89	11.46	11.13	10.78	10.52	10.40

WATER YEAR 1977 : Max. 13.47 m. Min. 10.40 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1,1977 TO MARCH 31,1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	22	24	22	25	17	26	37	145	67	51	31	24
2	21	21	23	22	17	27	38	190	63	49	30	23
3	21	19	21	20	17	28	44	138	64	46	29	21
4	21	18	21	27	17	29	68	111	73	44	28	20
5	21	17	21	23	18	31	75	98	112	42	28	19
6	20	17	21	21	18	28	63	108	142	41	27	19
7	20	17	23	19	17	25	74	174	113	40	26	17
8	20	16	22	19	18	28	112	238	91	40	26	17
9	20	16	24	18	22	28	139	228	78	56	25	16
10	19	17	26	19	53	25	168	247	70	84	25	16
11	19	17	21	21	43	23	165	180	66	68	24	18
12	19	16	22	26	33	21	140	139	63	56	23	17
13	19	16	32	29	29	21	165	131	59	59	23	17
14	18	17	34	28	24	20	164	122	57	51	23	17
15	18	19	27	28	23	19	180	105	54	46	22	16
16	18	25	27	24	26	19	242	94	53	44	22	16
17	21	35	24	23	29	21	219	86	61	45	22	16
18	21	27	24	21	24	24	149	78	70	48	21	17
19	20	22	31	21	31	24	112	92	71	57	21	17
20	19	19	30	19	60	22	86	163	63	51	21	18
21	18	18	32	18	71	21	82	173	59	43	21	17
22	17	17	33	17	50	19	73	139	70	41	21	17
23	17	17	37	17	38	18	71	126	69	40	21	17
24	17	17	29	17	35	18	80	136	60	38	20	16
25	17	17	24	16	40	18	103	124	56	36	20	16
26	17	19	22	17	40	19	157	112	52	35	20	15
27	17	35	21	17	35	19	265	99	51	34	20	15
28	16	25	20	21	32	19	266	87	63	35	21	15
29	27	24	20	21	30	25	173	78	75	36	–	15
30	30	28	21	19	27	41	138	71	65	34	–	15
31	–	22	–	19	25	–	117	–	56	32	–	21
Total	590	634	755	652	959	706	3,965	4,012	2,166	1,422	661	
Mean	19.7	20.4	25.2	21.0	30.9	23.5	128	134	69.9	45.9	23.6	
Max.	30	35	37	29	71	41	266	247	142	84	31	
Min.	16	16	20	16	17	18	37	71	51	32	20	
Runoff – MCM.	50.976	54.778	65.232	56.333	82.858	60.998	342.576	346.637	187.142	122.861	57.110	

WATER YEAR 1977 : Max. 266 Min. 15 Mean 46.7 Annual Runoff 1,474.157 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Oct.28	01.00	13.68	292				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
KHLONG YAHA RIVER BASIN

Khlong Yaha at Ban La Ae, Yala (X. 72)

Location: Lat. 6°-28'-21" N., Long. 101°-10'-03" E., on right bank about 4 kilometers from Amphoe Yaha along the rural road and about 3 kilometers downstream from confluence with Khlong Ban Tac at Ban La Ae, Amphoe Yaha, Yala.

Drainage Area: 382 Sq.km.

Type of Gage: Water-stage recorder.

Zero Gage at Bottom at: + 0.00 m. (A.D.)

Bench Mark: B.M. - H.S.

Location: Along the measuring line.
Elevation: + 7.109 m. (A.D.)

Gage Reading Frequency: Recording

Basis of Mean Daily Gage Height: Arithmetic mean of 24 hourly readings.

Period of Available Gage Records: 1967 to date.

Rating Operation:

Period of Rating: 1967-1969.
Rated by Float: -
Rated by Current Meter: 1967-1969.

Stability of Channel Regimes: Fairly stable, no shifting adjustment for flow computation.

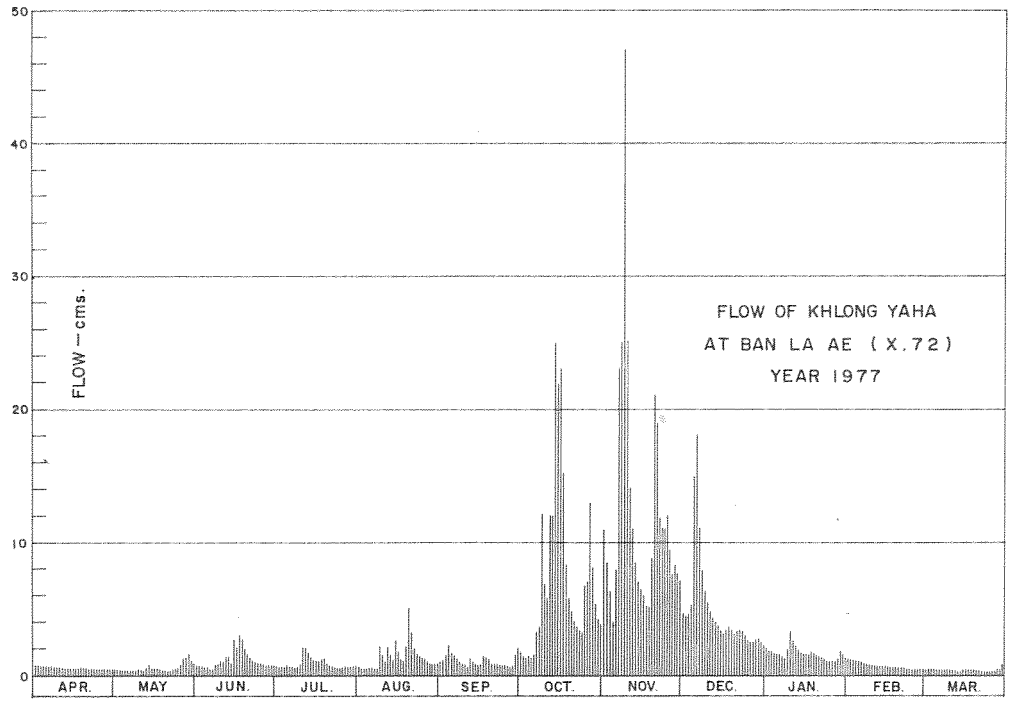
Overbank Flow Conditions: No overbank flow.

General Description: Records fair. Stage-discharge relation defined by 43 discharge measurements made during 1967-1968.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	1.29	1.17	1.29	1.28	1.26	1.38	1.51	2.58	1.92	1.55	1.41	1.20
2	.29	.17	.29	.27	.23	.41	.44	.42	.90	.52	.40	.21
3	.28	.15	.29	.29	.23	.48	.43	.16	.93	.52	.40	.21
4	.28	.15	.25	.28	.23	.59	.45	.07	2.02	.51	.38	.20
5	.28	.15	.23	.31	.24	.51	.43	1.85	.84	.49	.36	.20
6	1.25	1.14	1.20	1.27	1.23	1.44	1.48	2.28	3.10	1.47	1.36	1.19
7	.24	.14	.19	.25	.23	.40	.73	3.36	2.56	.45	.33	.19
8	.24	.13	.30	.24	.21	.36	.78	.46	.28	.43	.33	.18
9	.24	.13	.32	.25	.60	.32	2.67	4.50	.13	.56	.31	.18
10	.23	.17	.37	.35	.48	.31	.18	3.51	.04	.77	.30	.18
11	1.23	1.16	1.36	1.58	1.36	1.27	2.08	2.82	1.95	1.65	1.29	1.18
12	.23	.14	.40	.58	.57	.42	.64	.53	.88	.60	.29	.13
13	.23	.24	.40	.50	.47	.36	.66	.33	.84	.54	.28	.13
14	.22	.32	.34	.42	.39	.33	3.49	.20	.80	.51	.28	.12
15	.21	.21	.66	.37	.61	.31	.32	.14	.75	.49	.27	.16
16	1.21	1.20	1.57	1.38	1.50	1.33	3.42	2.10	1.72	1.48	1.27	1.16
17	.21	.20	.70	.38	.39	.45	2.70	.00	.75	.48	.26	.16
18	.24	.18	.68	.41	.37	.44	.32	.00	.80	.51	.25	.15
19	.22	.16	.53	.41	.59	.40	.10	.35	.76	.49	.24	.15
20	.22	.14	.45	.34	2.10	.34	1.95	3.28	.72	.46	.24	.15
21	1.20	1.12	1.42	1.30	1.75	1.32	1.87	3.13	1.75	1.43	1.24	1.14
22	.20	.12	.38	.27	.57	.32	.79	2.65	.76	.42	.24	.12
23	.19	.19	.35	.25	.48	.30	.75	.59	.74	.40	.23	.12
24	.18	.20	.33	.23	.45	.30	.73	.57	.70	.38	.21	.12
25	.17	.21	.33	.23	.44	.30	2.16	.61	.65	.38	.21	.11
26	1.17	1.30	1.31	1.24	1.42	1.25	2.20	2.42	1.63	1.38	1.20	1.10
27	.17	.42	.29	.28	.36	.24	.74	.24	.63	.38	.20	.11
28	.17	.44	.30	.27	.33	.27	.31	.12	.67	.44	.20	.19
29	.17	.48	.30	.25	.32	.48	.02	.05	.68	.54		.17
30	.18	.36	.29	.27	.33	.57	1.88	1.99	.63	.49		.27
31		.32		.29	.34		.82		.59	.43		.31
Mean	1.22	1.21	1.37	1.32	1.42	1.37	2.13	2.54	1.91	1.49	1.28	1.71
Max.	1.29	1.48	1.70	1.58	2.10	1.59	3.49	4.50	3.10	1.77	1.41	1.31
Min.	1.17	1.12	1.19	1.23	1.21	1.24	1.43	1.85	1.59	1.38	1.20	1.10

WATER YEAR 1977 : Max. 4.50 m. Min. 1.10 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.77	0.44	0.77	0.74	0.68	1.12	1.76	11.26	4.56	2.00	1.25	0.50
2	0.77	0.44	0.77	0.71	0.59	1.25	1.40	9.42	4.40	1.82	1.20	0.53
3	0.74	0.40	0.77	0.77	0.59	1.60	1.35	6.70	4.64	1.82	1.20	0.53
4	0.74	0.40	0.65	0.74	0.59	2.24	1.45	5.83	5.38	1.76	1.12	0.50
5	0.74	0.40	0.59	0.84	0.62	1.76	1.35	4.05	14.66	1.65	1.04	0.50
6	0.65	0.38	0.50	0.71	0.59	1.40	1.60	7.90	18.40	1.55	1.04	0.48
7	0.62	0.38	0.48	0.65	0.59	1.20	3.21	22.78	11.02	1.45	0.92	0.48
8	0.62	0.36	0.80	0.62	0.53	1.04	3.56	24.64	7.90	1.35	0.92	0.46
9	0.62	0.36	0.88	0.65	2.30	0.88	12.41	46.70	6.40	2.06	0.84	0.46
10	0.59	0.44	1.08	1.00	1.60	0.84	6.90	25.59	5.56	3.49	0.80	0.46
11	0.59	0.42	1.04	2.18	1.04	0.71	5.92	14.38	4.80	2.65	0.77	0.46
12	0.59	0.38	1.20	2.18	2.12	1.30	12.02	10.66	4.26	2.30	0.77	0.36
13	0.59	0.62	1.20	1.70	1.55	1.04	12.28	8.43	3.98	1.94	0.74	0.36
14	0.56	0.88	0.96	1.30	1.16	0.92	25.21	7.10	3.70	1.76	0.74	0.34
15	0.53	0.53	2.72	1.08	2.37	0.84	22.06	6.50	3.35	1.65	0.71	0.42
16	0.53	0.50	2.12	1.12	1.70	0.92	23.88	6.10	3.14	1.60	0.71	0.42
17	0.53	0.50	3.00	1.12	1.16	1.45	12.80	5.20	3.35	1.60	0.68	0.42
18	0.62	0.46	2.86	1.25	1.08	1.40	8.32	5.20	3.70	1.76	0.65	0.40
19	0.56	0.42	1.88	1.25	2.24	1.20	6.10	8.65	3.42	1.65	0.62	0.40
20	0.56	0.38	1.45	0.96	6.10	0.96	4.80	21.36	3.14	1.50	0.62	0.40
21	0.50	0.34	1.30	0.80	3.35	0.88	4.19	18.88	3.35	1.35	0.62	0.38
22	0.50	0.34	1.12	0.71	2.12	0.88	3.63	12.15	3.42	1.30	0.62	0.34
23	0.48	0.48	1.00	0.65	1.60	0.80	3.35	11.38	3.28	1.20	0.59	0.34
24	0.46	0.50	0.92	0.59	1.45	0.80	3.21	11.14	3.00	1.12	0.53	0.34
25	0.44	0.53	0.92	0.59	1.40	0.80	6.70	11.63	2.65	1.12	0.53	0.32
26	0.44	0.80	0.84	0.62	1.30	0.65	7.10	9.42	2.51	1.12	0.50	0.30
27	0.44	1.30	0.77	0.74	1.04	0.62	13.32	7.50	2.51	1.12	0.50	0.32
28	0.44	1.40	0.80	0.71	0.92	0.71	8.21	6.30	2.79	1.40	0.50	0.48
29	0.44	1.60	0.80	0.65	0.88	1.60	5.38	5.65	2.86	1.94		0.44
30	0.46	1.04	0.77	0.71	0.92	2.12	4.26	5.12	2.51	1.65		0.71
31		0.88		0.77	0.96		3.84		2.24	1.35		0.84
Total	17.12	18.30	34.96	29.11	45.14	33.93	231.57	357.62	150.88	52.03	21.73	13.69
Mean	0.57	0.59	1.17	0.94	1.46	1.13	7.47	11.92	4.87	1.68	0.78	0.44
Max.	0.77	1.60	3.00	2.18	6.10	2.24	25.21	46.70	18.40	3.49	1.25	0.84
Min.	0.44	0.34	0.48	0.59	0.53	0.62	1.35	4.05	2.24	1.12	0.50	0.30
Runoff - mcm.	1.479	1.581	3.021	2.515	3.900	2.932	20.008	30.898	13.036	4.495	1.877	1.183

WATER YEAR 1977 : Max. 46.70 Min. 0.30 Mean 2.76 Annual Runoff 86.925 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Nov. 9	15.06	4.80	54				

HYDROLOGY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1977
KHLONG AO YON RIVER BASIN

Huai Ao Yon at Ban Ao Yon, Phuket (X. 97)

Location: Lat. 7°-49'-07" N., Long. 98°-23'-44" E., on left bank near Tank Project of Songkhla Nakharin University, Amphoe Muang, Phuket.

Drainage Area: 2 Sq.km.

Type of Gage: Water-stage recorder.

Zero Gage at Bottom at: + 0.810 m. (M.S.L.)

Bench Mark: B.M. - H.S.

Location: On left bank near gage site.
Elevation: + 3.050 m. (M.S.L.)

Gage Reading Frequency: Recording

Basis of Mean Daily Gage Height: Arithmetic mean of 24 hourly readings.

Period of Available Gage Records: 1974, 1976 to date.

Rating Operation:

Period of Rating: 1974, 1976 to date.
Rated by Float: -
Rated by Current Meter:

Stability of Channel Regimes: Stable, no shifting adjustment for flow computation.

Overbank Flow Conditions: No overbank flow.

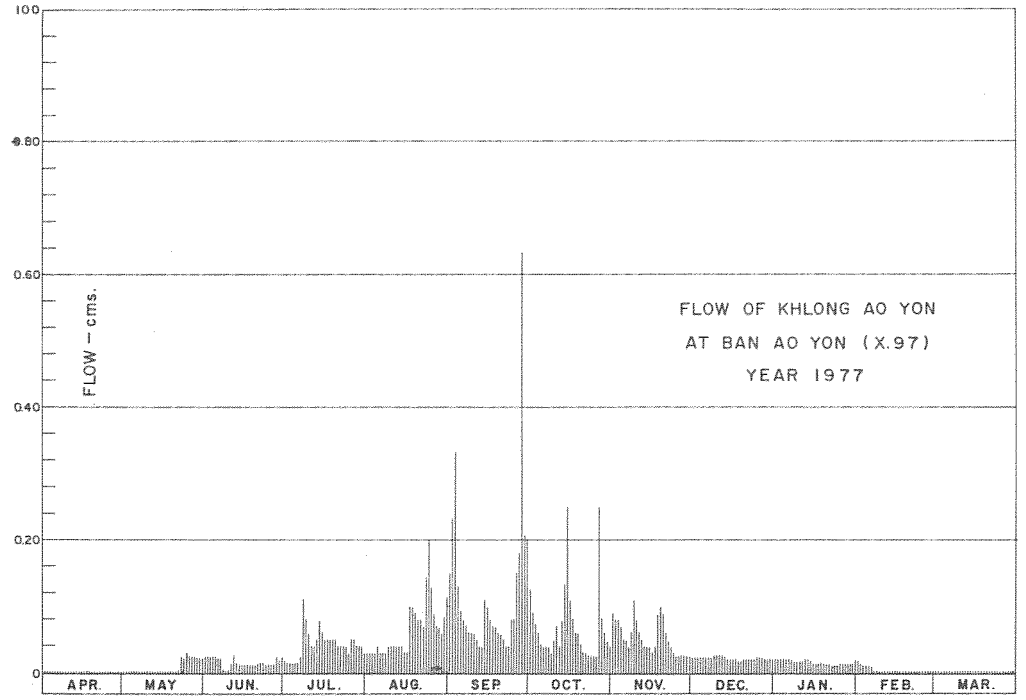
General Description: Records good. Stage-discharge relation defined by 44 discharge measurements made in 1977.

Remarks: Gage height and Discharge record for periods of no flow are omitted.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1			1.08	1.06	1.10	1.21	1.19	1.16	1.08	1.07	1.06	
2			.08	.05	.10	.24	.16	.15	.08	.07	.05	
3			.08	.05	.10	.31	.14	.15	.08	.07	.04	
4			.08	.05	.10	.20	.13	.14	.08	.07	.04	
5			.08	.05	.11	.17	.11	.12	.08	.07	.04	
6			1.07	1.05	1.10	1.15	1.11	1.12	1.08	1.07	1.03	
7			.07	.09	.10	.14	.11	.11	.08	.07	.00	
8			0.99	.18	.10	.13	.11	.13	.08	.06	0.98	
9			.91	.15	.11	.13	.10	.18	.09	.06	.96	
10			.97	.13	.11	.13	.12	.15	.09	.06	.94	
11			1.05	1.11	1.11	1.12	1.14	1.13	1.09	1.06	0.92	
12			.09	.11	.11	.11	.11	.12	.09	.07	.91	
13			.05	.12	.11	.11	.15	.11	.08	.07	.90	
14			.04	.15	.11	.18	.20	.11	.07	.06	.90	
15			.04	.13	.10	.17	.27	.11	.07	.05	.89	
16			1.04	1.12	1.10	1.15	1.18	1.10	1.07	1.05	0.88	
17			.04	.12	.17	.14	.15	.11	.07	.05	.86	
18			.04	.12	.17	.14	.13	.16	.06	.06	.85	
19			.04	.12	.16	.13	.13	.17	.06	.05	.84	
20			.04	.12	.15	.13	.11	.16	.07	.05	.83	
21			1.05	1.11	1.15	1.12	1.10	1.13	1.07	1.05	0.83	
22			.05	.11	.14	.11	.10	.12	.07	.04	.82	
23		1.08	.05	.11	.15	.11	.09	.11	.07	.04		
24		.07	.04	.11	.24	.15	.09	.10	.07	.04		
25		.10	.04	.10	.20	.15	.09	.09	.08	.05		
26		1.08	1.04	1.12	1.16	1.21	1.09	1.09	1.08	1.05		
27		.08	.04	.12	.14	.23	.27	.09	.08	.05		
28		.08	.08	.11	.14	.41	.15	.09	.07	.05		
29		.07	.06	.11	.13	.25	.13	.09	.07	.05		
30		.07	.08	.11	.14	.24	.12	.08	.07	.05		
31		.07	-	.10	.14	-	.11	-	.07	.06		
Mean	0.00	0.31	1.05	1.11	1.13	1.17	1.13	1.12	1.07	1.06	0.73	-
Max.	0.00	1.10	1.09	1.18	1.24	1.41	1.27	1.18	1.09	1.07	1.06	-
Min.	0.00	-	0.91	1.05	1.10	1.11	1.09	1.08	1.06	1.04	-	-

WATER YEAR 1977 : Max. 1.41 m. Min. 0.00 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1977 TO MARCH 31, 1978

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1			0.024	0.018	0.030	0.15	0.12	0.090	0.024	0.021	0.018	
2			0.024	0.015	0.030	0.20	0.090	0.080	0.024	0.021	0.015	
3			0.024	0.015	0.030	0.33	0.070	0.080	0.024	0.021	0.012	
4			0.024	0.015	0.030	0.13	0.060	0.070	0.024	0.021	0.012	
5			0.024	0.015	0.040	0.10	0.040	0.050	0.024	0.021	0.012	
6			0.021	0.015	0.030	0.080	0.040	0.050	0.024	0.021	0.009	
7			0.021	0.027	0.030	0.070	0.040	0.040	0.024	0.021	0.00	
8			0.00	0.11	0.030	0.060	0.040	0.060	0.024	0.018	0.00	
9			0.00	0.080	0.040	0.060	0.030	0.11	0.027	0.018	0.00	
10			0.00	0.060	0.040	0.060	0.050	0.080	0.027	0.018	0.00	
11			0.015	0.040	0.040	0.050	0.070	0.060	0.027	0.018	0.00	
12			0.027	0.040	0.040	0.040	0.040	0.050	0.027	0.021	0.00	
13			0.015	0.050	0.040	0.040	0.080	0.040	0.024	0.021	0.00	
14			0.012	0.080	0.040	0.11	0.13	0.040	0.021	0.018	0.00	
15			0.012	0.060	0.030	0.10	0.25	0.040	0.021	0.015	0.00	
16			0.012	0.050	0.030	0.080	0.11	0.030	0.021	0.015	0.00	
17			0.012	0.050	0.10	0.070	0.080	0.040	0.021	0.015	0.00	
18			0.012	0.050	0.10	0.070	0.060	0.090	0.018	0.018	0.00	
19			0.012	0.050	0.090	0.060	0.060	0.10	0.018	0.015	0.00	
20			0.012	0.050	0.080	0.060	0.040	0.090	0.021	0.015	0.00	
21			0.015	0.040	0.080	0.050	0.030	0.060	0.021	0.015	0.00	
22			0.015	0.040	0.070	0.040	0.030	0.050	0.021	0.012	0.00	
23		0.024	0.015	0.040	0.080	0.040	0.027	0.040	0.021	0.012		
24		0.021	0.012	0.040	0.20	0.080	0.027	00.030	0.021	0.012		
25		0.030	0.012	0.030	0.13	0.080	0.027	0.027	0.024	0.015		
26		0.024	0.012	0.050	0.090	0.15	0.027	0.027	0.024	0.015		
27		0.024	0.012	0.050	0.070	0.18	0.25	0.027	0.024	0.015		
28		0.024	0.024	0.040	0.070	0.63	0.080	0.027	0.021	0.015		
29		0.021	0.018	0.040	0.060	0.21	0.060	0.027	0.021	0.015		
30		0.021	0.024	0.030	0.070	0.20	0.050	0.024	0.021	0.015		
31					0.11		0.040		0.021	0.018		
Total	0.00	0.210	0.462	1.330	1.950	3.580	2.148	1.629	0.705	0.531	0.078	0.00
Mean	0.00	0.007	0.015	0.043	0.063	0.12	0.069	0.054	0.023	0.017	0.003	0.00
Max.	0.00	0.030	0.027	0.11	0.20	0.63	0.25	0.11	0.027	0.021	0.018	0.00
Min.	0.00	0.00	0.00	0.015	0.030	0.040	0.027	0.024	0.018	0.012	–	0.00
Runoff – mcm.	0.000	0.018	0.040	0.115	0.168	0.309	0.185	0.114	0.061	0.046	0.007	0.000

WATER YEAR 1977 : Max. 0.63 Min. 0.00 Mean 0.034 Annual Runoff 1.091 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Oct. 14	24.00	1.95	3.45				