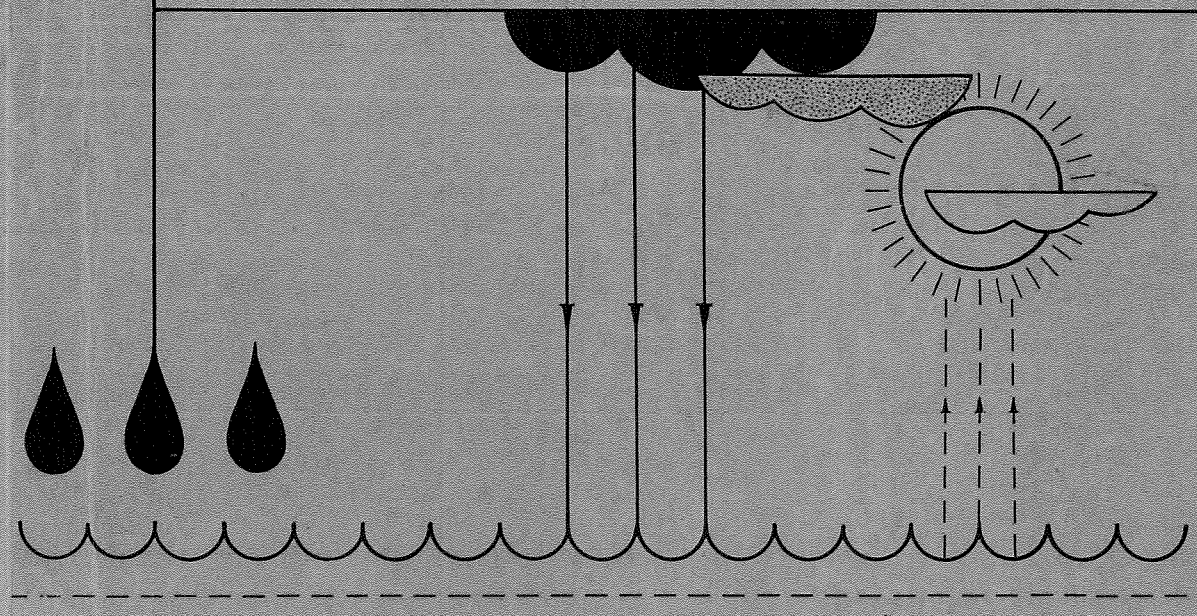
THAILAND
HYDROLOGICAL YEARBOOK

WATER YEAR 1968
VOLUME 11



HYDROLOGY DIVISION

ROYAL IRRIGATION DEPARTMENT

BANGKOK THAILAND

89

Hydrology No. 400/76

THAILAND

HYDROLOGICAL YEARBOOK

VOLUME 11

WATER YEAR 1968

HYDROLOGY DIVISION

ROYAL IRRIGATION DEPARTMENT

BANGKOK, THAILAND

FOREWORD

The programme of yearbook publications was initiated in the year 1966. Great efforts have been made in the editing as well as the setting up of standard for yearbook publication. The previously processed data have been reviewed and arranged into serial orders or volumes to be published. The first issue was Volume 8, published in 1968, contained the flow data as of water year 1965. The second issue was Volume 7, published in 1969, contained the flow data as of water years 1963 and 1964. The third issue was Volume 6, published in 1973, contained the flow data as of water years 1960, 1961 and 1962. The forth issue was Volume 5, published in 1974, contained the flow data as of water years 1957, 1958 and 1959. The fifth issue was Volume 9, published in 1975, contained the flow data as of water year 1966. The sixth issue was Volume 4, published in 1976, contained the flow data as of water years 1954 to 1956. The seventh issue was Volume 1, published in 1976, contained the flow data as of water years 1912 to 1937. The eight issue was Volume 2, published in 1976, contained the flow data as of water years 1938 to 1947. The ninth issue was Volume 3, published in 1976, contained the flow data as of water years 1948 to 1953. The tenth issue was Volume 10, published in 1976, contained the flow data as of water year 1967.

The Volume 11 of the series is the eleventh issue which contains the flow data of 187 stations for water year 1968. The number of flow data processed from actual calibrating sites is 123, while the rest is of computed flow based on the application of mean daily gage height to stage-discharge relationship of previously or subsequently calibrated at such sites. Remarks on such application are made under each station description.

Damrong Jaraswathana
Director of Hydrology Division
September 1976.

ACKNOWLEDGEMENT

The editorial staff of this hydrological yearbook publication feels particularly indebted to Mr. Boonchob Kanchanalak, former Senior 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 to adopt engineering standard, method and steps for implementation by which further publication of the series will be based upon.

We also wish to express our sincere appreciations to the Chief of Public Relations and Printing Services Branch, Program Coordination and Budget Division, and his efficient staff whose kind assistance and co-ordinated efforts have contributed to the success of this Volume 11 issue.

Hydrology Division

September 1976.

TABLE OF CONTENTS

Page

FOREWORD i

ACKNOWLEDGEMENT ii

ILLUSTRATION OF STREAMFLOW GAGING ACTIVITIES

METHOD OF INVESTIGATION AND DATA PROCESSING xiv

UNIT OF MEASUREMENT USED xxi

STREAM GAGING DATA 1

PING RIVER BASIN

1. Mae Ping River at Nawarat Bridge, Chiang Mai. (P. 1) 2
2. Mae Ping River at Ban Tha Khae, Tak. (P. 2A) 4
3. Mae Taeng River at Mae Taeng Bridge, Chiang Mai. (P. 4A) 6
4. Mae Kuang River at Tha Sing Phitak Bridge, Lumphun. (P. 5) 8
5. Mae Ping River at Muang, Kamphaeng Phet. (P. 7A) 10
6. Mae Ping River at Wang Kra Chao, Tak. (P. 12) 12
7. Mae Taeng River at Kaeng Kut, Chiang Mai. (P. 13) 14
8. Mae Chaem Creek at Kaeng Ob Luang, Chiang Mai. (P. 14) 16
9. Mae ChaemCreek at Mae Chaem Bridge, Chiang Mai. (P. 14A) .. 18
10. Mae Ping River at Amphoe Khlong Khlung, Kamphaeng Phet. (P. 15) 20
11. Mae Ping River at Amphoe Khanu Woralaksaburi, Kamphaeng Phet. (P. 16) 22
12. Mae Ping River at Amphoe Banphot Phisai, Nakhon Sawan. (P. 17).. 24
13. Mae Ping River at Wutthikun Bridge, Tak. (P. 18) 26

Page

14. Mae Ping River at Ban Tha Sala, Chiang Mai. (P. 19A) 28

15. Mae Rim Creek at Mae Rim Bridge, Chiang Mai. (P. 21) 30

16. Mae Sa Creek at Mae Sa Bridge, Chiang Mai. (P. 22) 32

17. Mae Khan River at Mae Khan Bridge, Chiang Mai. (P. 23) 34

18. Mae Klang River at Mae Klang Bridge, Chiang Mai. (P. 24) 36

19. Mae Kuang River at Ban Pha Taek, Chiang Mai. (P. 25) 38

20. Mae Kuang River at Koh Matan Canal, Chiang Mai. (P. 25A).. .. 40

21. Mae Kuang River at Muang Wa Canal, Chiang Mai. (P. 25B) 42

22. Mae Kuang River at Pha Taek Canal, Chiang Mai. (P. 25C) 44

23. Khlong Suan Mak at Ban Mai, Kamphaeng Phet. (P. 26) 46

24. Huai Mae Nai at Ban Pa Muang, Chiang Mai. (P. 27) 48

25. Huai Mae Nai at Ban Mae Nai, Chiang Mai. (P. 27A) 50

26. Mae Ngat River at Ban Mai, Chiang Mai. (P. 28) 52

27. Mae Kuang River at Ban Kaeng Kha Mai, Chiang Mai. (P. 30) .. 54

28. Huai Mae Ko at Ban Ko Thung, Lamphun. (P. 31) 56

WANG RIVER BASIN

29. Mae Wang River at Kittikhachon II Bridge, Lampang. (W. 1A) .. 58

30. Mae Wang River at Siriyong Bridge, Lampang. (W. 3A) 60

31. Mae Wang River at Ban Wang Khrai, Tak. (W. 4) 62

32. Mae Wang River at Ko Kha Bridge, Lampang. (W. 5A) 64

33. Mae Wang River at Tail of Kiu Lom Damsite, Lampang. (W. 10A) .. 66

34. Mae Chang River at Ban Sop Po, Lampang. (W. 15) 68

Page

YOM RIVER BASIN

35. Mae Yom River at Muang, Phrae. (Y. 1) 70

36. Mae Yom River at Sawankhalok Bridge, Sukhothai. (Y. 3A) 72

37. Mae Yom River at Talat Thani, Sukhothai. (Y. 4) 74

38. Mae Yom River at Pho Thale, Phichit. (Y. 5) 76

39. Mae Yom River at above Kaeng Luang, Sukhothai. (Y. 6) 78

40. Ngao Creek at Ngao Bridge, Lampang. (Y. 13) 80

41. Mae Yom River at Don Rabiang, Sukhothai. (Y. 14) 82

42. Mae Yom River at Kong Krailat, Sukhothai. (Y. 15) 84

43. Mae Yom River at Bang Rakam, Phitsanulok. (Y. 16) 86

44. Mae Yom River at Amphoe Sam Ngam, Phichit. (Y. 17) 88

45. Nam Ngim at Ban Hae, Chiang Rai. (Y. 19) 90

NAN RIVER BASIN

46. Nan River at Tha-It, Uttaradit. (N. 2A) 92

47. Nan River at Ban Wang Phaniat. (N. 4) 94

48. Nan River at Amphoe Muang, Phitsanulok. (N. 5A) 96

49. Nan River at Amphoe Tha Pla, Uttaradit. (N. 6A) 98

50. Nan River at Muang, Phichit. (N. 7) 100

51. Nan River at Bang Mun Nak, Phichit. (N. 8) 102

52. Nan River at Amphoe Taphan Hin, Phichit. (N. 10) 104

53. Nan River at Ban Hat Phai, Uttaradit. (N. 12A) 106

54. Nan River at Ban San, Nan. (N. 13) 108

Page

55. Nan River at Amphoe Chum Saeng, Nakhon Sawan. (N. 14) .. 110

56. Nam Pat at Ban Fai, Uttaradit. (N. 16) 112

57. Nan River at Ban Mon, Nan. (N. 17) 114

58. Khwae Noi at Ban Yang, Phitsanulok. (N. 22) 116

59. Nan River at Ban Phra Fang, Uttaradit. (N. 23) 118

60. Khek River at Ban Wang Nok Aen, Phitsanulok. (N. 24) 120

61. Khlong Ta Yom at Ban Wat Ta Yom, Phitsanulok. (N. 25) 122

62. Nan River at Amphoe Tron, Uttaradit. (N. 26) 124

63. Nan River at Amphoe Phrom Phiram, Phitsanulok. (N. 27) 126

64. Khlong Tron at Ban Nam Lai, Uttaradit. (N. 28) 128

65. Nam Pat at Ban Wang Bang, Uttaradit. (N. 33) 130

66. Khlong Chom Phu at Ban Tha Mun Ram, Phitsanulok. (N. 34) .. 132

67. Nan River at Kaeng Sarang, Nan. (N. 35) 134

68. Khwae Noi at Tambon Nong Krathao, Phitsanulok. (N. 36) 136

69. Nan River at Thap Krit, Nakhon Sawan. (N. 37) 138

70. Nam Khan at Ban Pa Khai, Phitsanulok. (N. 38) 140

CHAO PHYA RIVER BASIN

71. Chao Phya River at Muang, Nakhon Sawan. (C. 2) 142

72. Chao Phya River at Bang Kaeo, Ang Thong. (C. 7) 144

73. Chao Phya River at Wat Pho Ngam, Chai Nat. (C. 13) 146

74. Chao Phya River at In Buri, Sing Buri. (C. 14) 148

75. Chao Phya River at Wat Chula Mani, Ayutthaya. (C. 15) 150

Page

76. Khlong Wang Kra Thum at Highway Bridge, Lop Buri. (C. 24) .. 152

77. Huai Yai at Khok Samrong, Lop Buri. (C. 25) 154

78. Huai Thap Salao at Ban Prada Hak, Uthai Thani. (Ct. 3) 156

79. Mae Wong River at Ban HinDat, Nakhon Sawan. (Ct. 5) 158

SUPHAN RIVER BASIN

80. Huai Kra Sieo at Ban Wang Yao, Suphan Buri. (T. 3) 160

81. Huai Kra Sieo at Ban Dan Chang, Suphan Buri. (T. 3B) 162

PA SAK RIVER BASIN

82. Pa Sak River at Kaeng Khoi, Saraburi. (S. 2) 164

83. Pa Sak River at Amphoe Muang, Phetchabun. (S. 4B) 166

84. Lam Muak Lek at highway bridge, Saraburi. (S. 7) 168

85. Nam Phung at Nam Phung Bridge, Phetchabun. (S. 10) 170

SALWEEN RIVER BASIN

86. Huai Mae Lamao at Ban Ko Ko, Tak. (Sw. 1) 172

87. Yuam River at Ban Tha Kham, Mae Hong Son. (Sw. 2) 174

MAE KHONG RIVER BASIN

88. Mae Kok River at Mae Kok Bridge, Chiang Rai. (G. 2A) 176

89. Huai Mong at Ban Na Ang, Udon Thani. (Kh. 18) 178

90. Nam Un at Ban Khok Sa-At, Sakon Nakhon. (Kh. 20B) 180

91. Nam Phung at Ban Chan Phen, Sakon Nakhon. (Kh. 21A) 182

92. Nam Loei at Wat Ku Kam, Loei. (Kg. 43).. 184

Page

93. Nam Loei at Tambon Ban Sai Khao, Loei. (Kh. 43A) 186

94. Nam Ngoen at Ban Mae Rai, Chiang Rai. (Kh. 49) 188

CHI RIVER BASIN

95. Chi River at Wat Tai Kosum, Maha Sarakham. (E. 1) 190

96. Chi River at Wat Si Thammaram, Ubon Ratchathani. (E. 2) 192

97. Chi River at Kaeng Tha Dua, Chaiyaphum. (E. 5) 194

98. Huai Pa Thao at Ban Na Fai, Chaiyaphum. (E. 6A) 196

99. Chi River at Ban Tha Khon Yang, Maha Sarakham. (E. 8A) 198

100. Chi River at Ban Tha Nang Luan, Khon Kaen. (E. 9) 200

101. Chi River at Ban Tha Phra, Khon Kaen. (E. 16A) 202

102. Nam Phong at Ban Tha Hin, Khon Kaen. (E. 17) 204

103. Chi River at District Office, Ubon Ratchathani. (E. 20) 206

104. Chi River at Ban Kaeng Ko, Chaiyaphum. (E. 21) 208

105. Nam Phong at Ban Nong Wai, Khon Kaen. (E. 22A) 210

106. Chi River at highway bridge, Chaiyaphum. (E. 23) 212

107. Chi River at Ban Nong O, Chaiyaphum. (E. 32A) 214

108. Nam Yang at Ban Nong Saeng Thung, Roi Et. (E. 33A) 216

109. Huai Prong Khun Phet at Ban Nong Bua Noi, Chaiyaphum. (E. 35) 218

110. Lam Krachuan at Ban Nong Bua Raheo, Chaiyaphum. (E. 36) .. 220

111. Lam Chi Long at Ban Kut Yang, Chaiyaphum. (E. 49) 222

112. Huai Yang at Ban Yang Khai, Chaiyaphum. (E. 50) 224

Page

MUN RIVER BASIN

113. Mun River at Tha Chang, Nakhon Ratchasima. (M. 2) 226

114. Mun River at Rasi Salai, Si Sa Ket. (M. 5) 228

115. Mun River at Seri Prachathipatai Bridge, Ubon Ratchathani. (M. 7) 230

116. Lam Plai Mat at railway bridge, Buri Ram. (M. 8) 232

117. Huai Samran at highway bridge, Si Sa Ket. (M. 9) 234

118. Mun River at Kaeng Saphu, Ubon Ratchathani. (M. 11) 236

119. Lam Chi at Ban Kho Kho, Surin. (M. 26).. 238

120. Lam Se Bai at Phawaphutanon Bridge, Ubon Ratchathani. (M. 32). 240

121. Lam Se Bai at Ban Kaeng, Yasothon. (M. 32A) 242

122. Lam Takhong at Ban Khlong Phai, Nakhon Ratchasima. (M. 34C) . 244

123. Lam Takhong at Khao Yai, Nakhon Ratchasima. (M. 43) 246

124. Mun River at Ban Chorakhe Hin, Nakhon Ratchasima. (M. 49) .. 248

125. Lam Sae at Amphoe Khon Buri, Nakhon Ratchasima. (M. 50) .. 250

126. Huai Khayung at Ban Nam Om, Si Sa Ket. (M. 66) 252

127. Huai Kwang at Ban Kaeng Yang, Ubon Ratchathani. (M. 75) .. 254

128. Lam Dom Noi at Ban Fang Lum, Ubon Ratchathani. (M. 79).. .. 256

129. Lam Dom Yai at Det Udom, Ubon Ratchathani. (M. 80) 258

130. Lam Sae at Ban Mak Krat, Nakhon Ratchasima. (M.81) 260

NAKHON NAYOK RIVER BASIN

131. Nakhon Nayok River at Khao Kariang, Nakhon Nayok. (Ny. 1) . 262

PRACHIN RIVER BASIN

132. PrachinRiver at Amphoe Muang, Prachin Buri. (Kgt. 1).. 264

133. Prachin River at Kabin Buri, Prachin Buri. (Kgt. 3) 266

134. Khlong Phra Sathung at Ban Wang Khian, Prachin Buri. (Kgt. 10). 268

135. Khlong Phra Prong at Ban Kaeng, Prachin Buri. (Kgt. 12) 270

136. Lam Phra Prong at Kabin Buri, Prachin Buri. (Kgt. 13) 272

137. Huai Yang at Ban Thung Faek, Prachin Buri. (Kgt. 14).. 274

138. Huai Samong at highway bridge, Prachin Buri. (Kgt. 15) 276

139. Huai Samong at Ban Kaeng Din So, Prachin Buri. (Kgt. 15A) .. 278

140. Khlong Luang at Ban Mai, Chon Buri. (Kgt. 19) 280

141. Prachin River at Ban Sang, Prachin Buri. (Kgt. 22) 282

RAYONG RIVER BASIN

142. Khlong Mae Nam Khu at Ban Mae Nam Khu, Rayong. (Z. 3) .. 284

143. Khlong Nong Pla Lai at Ban Nong Mapring, Rayong.(Z. 4).. .. 286

144. Khlong Prasae at Ban Yang Ngam, Rayong. (Z. 5) 288

145. Khlong Ta Not at Ban Thap Chum, Chanthaburi. (Z. 7) 290

MAE KLONG RIVER BASIN

146. Mae Klong River at Tha Muang, Kanchanaburi. (K. 4).. 292

147. Khwae Yai at Kaeng Riang, Kanchanaburi. (K. 6).. 294

148. Mae Klong River at Ban Tham, Kanchanaburi. (K. 8) 296

149. Khwae Noi at Wang Pho, Kanchanaburi. (K.9) 298

150. Khwae Noi at Lum Sum, Kanchanaburi. (K. 10) 300

Page

151. Mae Klong River at Wang Khanai, Kanchanaburi. (K. 11) 302

152. Lam Taphoen at Ban Thung Na Nang Rok, Kanchanaburi. (K. 12). 304

153. Khwae Noi at Ban Tha Khanun, Kanchanaburi. (K. 13) 306

154. Lam Phachi at Frontier Police Station, Ratchaburi. (K. 17) 308

155. Khwae Yai at Ban Ong Kha, Kanchanaburi. (K. 19) 310

156. Kwae Yai at Khao Wang Masang, Kanchanaburi. (K. 20) 312

157. Huai Mae Nam Noi at Sai Yok, Kanchanaburi. (K. 22) 314

158. Lam Taphoen at Ban Wang Yai, Kanchanaburi. (K. 27) 316

PHET RIVER BASIN

159. Phet River at Ban Rai Phaniat, Phetchaburi. (B. 1A) 318

160. Phet River at Phet Barrage, Phetchaburi. (B. 2A) 320

161. Phet River at Ban Song Phi Nong, Phetchaburi. (B. 3) 322

162. Phet River at Takhian Ha-Bat, Phetchaburi. (B. 5) 324

163. Huai Mae Prachan at highway bridge, Phetchaburi. (B. 6) 326

164. Huai Mae Prachan at Ban Nong Bua, Phetchaburi. (B. 7) 328

PRAN RIVER BASIN

165. Pran River at Khao Noi, Prachuap Khiri Khan. (Pr. 2) 330

166. Pran River at Khao Tok Nam, Prachuap Khiri Khan. (Pr. 3).. .. 332

167. Pran River at Pran Headwork, Prachuap Khiri Khan. (Pr. 3A) .. 334

KHLONG U-TA-PHAO RIVER BASIN

168. Khlong Wat at Ton Nga Chang, Songkhla. (X. 14) 336

169. Khlong U-Ta-Phao at Khok Samet Chum, Songkhla. (X. 44) .. 338

Page

KHLONG DUSON RIVER BASIN

170. Khlong Duson at Thung Nui, Satun. (X. 16A) 340

KHLONG AI TO RIVER BASIN

171. Khlong Ai To at Wat Mahanpawat, Patthalung. (X. 21B) 342

KHLONG THEPHA RIVER BASIN

172. Khlong Thepha at Huai Prak Pring, Songkhla. (X. 27) 344

TAPI RIVER BASIN

173. Phum Duang River at Ban Yan Lon, Surat Thani. (X. 38) 346

174. Khlong Saeng at Ban Khao Phang, Surat Thani. (X. 39) 348

PATTANI RIVER BASIN

175. Pattani River at Muang, Yala. (X. 40) 350

176. Pattani River at Bang Rang Damsite, Yala. (X.78) 352

177. Pattani River at Ban Bang Rang, Yala. (X. 78A) 354

KHLONG SAO THONG RIVER BASIN

178. Khlong Sao Thong at Wat Sai Ngam, Nakhon Si Thammarat. (X.41) 356

KHLONG PA BON RIVER BASIN

179. Khlong Pa Bon at Ban Pa Bon, Phatthalung. (X. 49) 358

KHLONG THA DI RIVER BASIN

180. Khlong Tha Di at Ban Na Kam, Nakhon Si Thammarat. (X. 55) .. 360

181. Trang River at Ban Pradu Tai, Trang. (X. 56) 362

KHLONG RATTAPHUM RIVER BASIN

182. Khlong Rattaphum at Ban Kamphaeng Phet, Songkhla. (X. 67) .. 364

Page

KHLONG THA KHAE RIVER BASIN

183. Khlong Tha Khae at Ban Tha Khae, Phatthalung. (X. 68) 366

KHLONG PHRU PHO RIVER BASIN

184. Khlong Phru Pho at Ban Phru Pho, Songkhla. (X. 69) 368

KHLONG BAN TAN RIVER BASIN

185. Khlong Ban Tan at Ban Wang Kong, Nakhon Si Thammarat. (X.70). 370

KHLONG TAM RIVER BASIN

186. Khlong Tam at Ban Khuan Lang, Songkhla. (X. 71) 372

KHLONG YAHA RIVER BASIN

187. Khlong Yaha at Ban La Ae, Yala. (X. 72) 374

LOCATION MAP OF HYDROLOGIC OBSERVATION STATIONS IN WATER YEAR 1968.

* * * * *

ILLUSTRATION OF STREAMFLOW GAGING ACTIVITIES



Figure 1. Close-up of Rating Operation

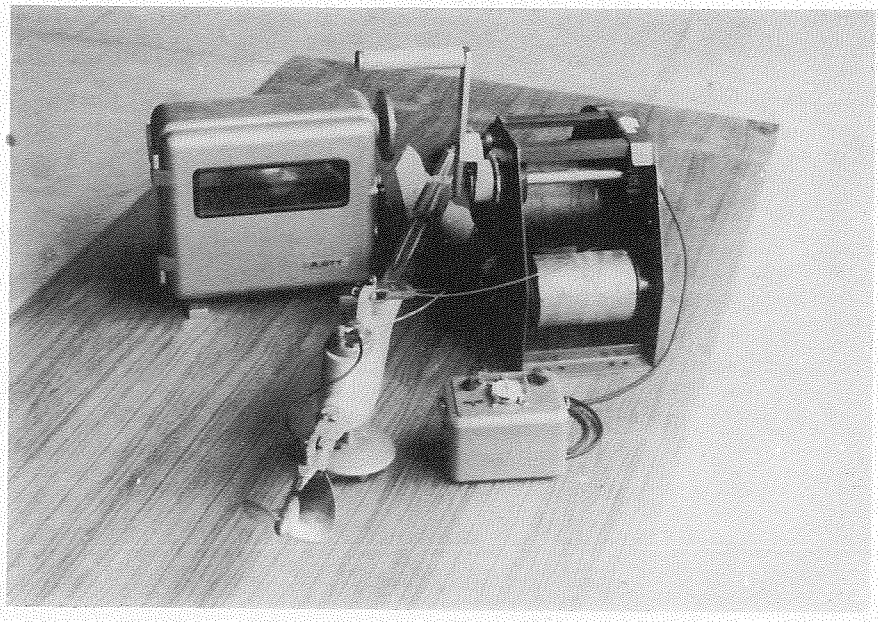


Figure 2. Standard Hydrologic Equipment

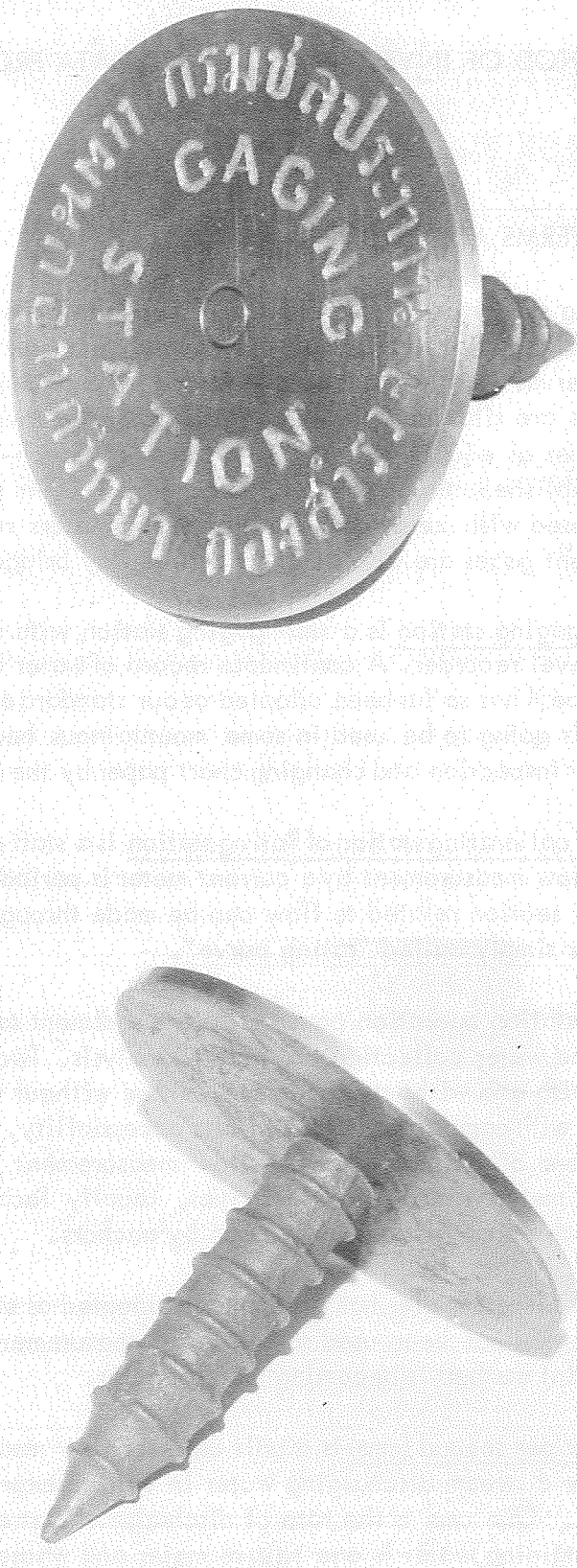


Figure 3. Standard bench mark

METHOD OF INVESTIGATION AND DATA PROCESSING

* * * * *

DEFINITION OF TERMS AND ABBREVIATIONS

Staff gaging station is a place on a stream bank where a staff gage is installed for manually observing water level; usually frequency of observation varies from 1 to 5 times of equal interval in the day time. At some specific station where streamflow measurement camps are situated, the observation of water level by night is also made usually 1 to 3 times of equal interval. The standard bench-mark of the Hydrology Section is also established nereby the gage site. The 1.00-m standard enamelled staff gage sections are used with zero reading specified in meters related to mean sea level datum. Wire-weight gages are also adopted on highway bridges.

Recording gaging station is a staff gaging station with additional installation of automatic water-level recorder. A continuous record of water level is obtained at such station. A. Ott type X has so far been adopted as our standard equipment. The pneumatic recording gage is going to be used in some mountainous headwater area. Weekly visit to the gage for inspection and changing chart paper by the crew is under practice.

Streamflow calibrating station of Rating station is a staff gaging station or recording station where flow measurement by a current meter is periodically performed, so that calibration of river section related to flow can be made through development of stage-flow relationship or simply called "rating curve".

The rating station operation covers also the sediment sampling, water temperature observation and water collection for quality analysis. Two types of the station are under operation: with and without crew camp. Those without the camp are under moving team and those with camps are subject to less accessibility. Fixed boat by cableway across the river is one of typical means of flow measurement by the current meter for medium river, 100 meter wide. For wider river, usually located in the deltaic plain with low velocity, the boat is fixed in position by anchors.

The A. Ott current meter has so far been adopted as standard equipment. The multiple-points method has been used as velocity measurement working practice. At present the two-point method is becoming more popular.

Cubic meter per second (cms) is a unit used for flow measurement. It is the rate of flow of a river or a stream discharging water in volume expressed in cubic meter per one second of time. One cms is the rate of discharge of a stream whose channel cross sectional area containing water is one square meter and whose average velocity is one meter per second.

Million cubic meter (mcm) is the volume of water expressed in millions of cubic meter. It is the quantity of water required to cover one square kilometer in area to the depth of one meter.

Water year is the year related to annual cycle of river flow beginning from April 1 to March 31 for this region, during which the river flow begins to rise, reaching its flood stage and subsiding toward its cyclic minimum.

The volume of river water in each water year, usually termed as annual runoff, is approximately the effective runoff from the rainfall accumulated during the water year.

Drainage area is an area above a specified location of a stream, measured in a horizontal plane, which is so enclosed by a topographic divide, in which direct surface runoff from rainfall would drain by gravity into the river above the specified site. The drainage area in square kilometers given herein is the total enclosed area including non-runoff contributing area, if any.

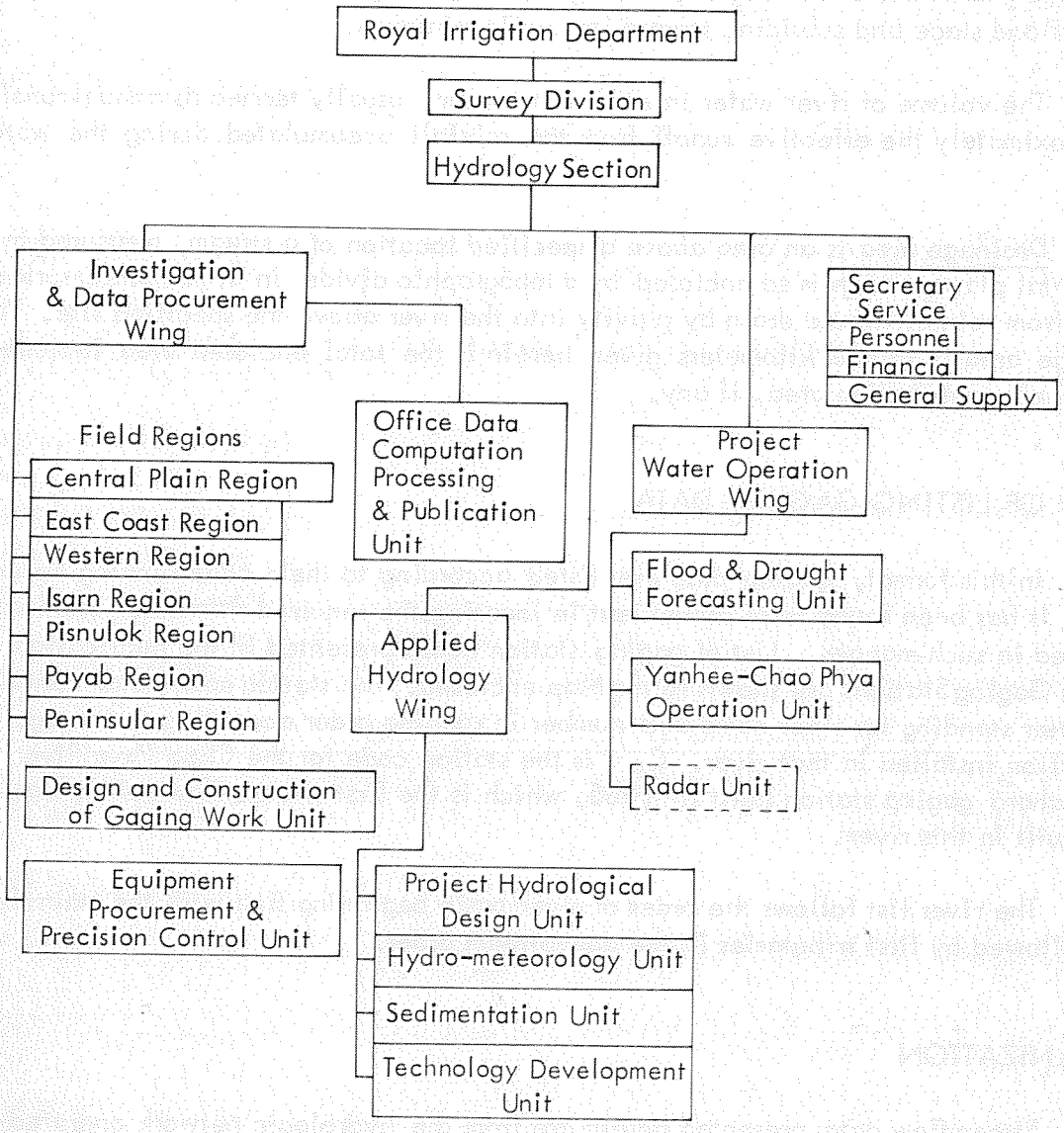
ORDER OF LISTING GAGING DATA

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. List of gaging station codes presented in the publication of Stream Gaging Stations are shown in the Map enclosed. 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. C. 1 is the station code for the Chao Phya River at Wat Tahard gaging station built in 1905, which is the first stream-flow rating station ever built in this river.

The river list follows the order of river basin beginning first with the main river and followed by first tributaries in the downstream order.

ORGANIZATION

Streamflow data presented herein are from the hydrologic network operated by Hydrology Section of Royal Irrigation Department. Field collection, Office processing and publication are its hydrologic activity under Investigation and Data Procurement Wing which is a part of the Section Works. The organization structure of the Section is diagramatically shown below:


Royal Irrigation Department
Survey Division
Hydrology Section
Investigation & Data Procurement Wing
Secretary Service
Personnel
Financial
General Supply
Field Regions
Central Plain Region
East Coast Region
Western Region
Isarn Region
Pisnulok Region
Payab Region
Peninsular Region
Office Data Computation Processing & Publication Unit
Project Water Operation Wing
Flood & Drought Forecasting Unit
Yanhee-Chao Phya Operation Unit
Radar Unit
Applied Hydrology Wing
Design and Construction of Gaging Work Unit
Equipment Procurement & Precision Control Unit
Project Hydrological Design Unit
Hydro-meteorology Unit
Sedimentation Unit
Technology Development Unit

STANDARD OF DATA COLLECTION WORK

Field work - The minimum standards of hydrologic basic data field observations and measurements are equal to those recommended in the United Nations ECAFE Flood Control Series No. 6.

Water level data are obtained by staff gage reading and recorders in such manner as previously explained.

Measurements of flow are made with current meter by accepted methods as previously mentioned. 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.

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 a fashion of using cross section made during dry season for discharge computation.

The standard methods of U. S. Geological Survey are basic methods adopted in the network field operation.

Office Record 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 shifting control could be eliminated or reduced. Zero flow elevation of the rating section is determined by trial 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 both by direct velocity measurement and slope-area method whenever applicable.

Determination of Daily Mean Flow - Application of the adjusted daily mean gage height to rating tables gives the corresponding daily mean discharge, from which

the monthly and the yearly mean discharge are computed. Shifting adjustment or observed gage height is made when necessary. Shifting design is made base 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 time average reading (for daytime) gives an error of daily mean flow not more than 15% for mountain streams, less than 10% for larger valley streams and not more than 5% for lower deltaic streams. Most of mountain and valley streams are under recording operation, only deltaic streams that daytime reading are still used.

The daily mean water level tabulated herein are the actual arithmetic mean of the observed data available. Adjusted water level due to shifting, which are applicable to rating curve for daily mean flow determination are not shown but they will be found in the computation file of H. 25.

It is noted that the daily mean flow presented herein are mostly subject to upstream diversion utilization. Headwater utilization of water by people diversions and state-own diversions are expected in many of 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.

CLASSIFICATION OF DATA

Time basis used for daily mean flow is from midnight to midnight. The degrees of accuracy of the data are classified as follows:

Excellent indicates the error of data of less than 5% being believable;

Good being less than 10%

Fair being less than 15%; and

Poor being more than 15% probable.

Review of Procedure for Streamflow Record Processing

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

1. Checking of gage height data which are obtained either from staff gage reading or from 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 recorder 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 the location of gage at which the rating curve is developed.

2. Checking of availability and goodness of field measurement notes, H. 23.

3. Checking of differential magnitude of water level during rating as to which arithmetic average or weighed average is desirable.

4. Checking of stability of rating curve used, HS. 1004.

5. Review of shifting control sample and design shifting, H. 24-25, if any.

6. Adjustment of backwater, flood wave, etc., by rate of change of falls as index, H. 31-32, if any.

7. Overall review of daily mean flow data as an end-product, H. 26.

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

SERIES OF YEARBOOK PUBLICATIONS

The yearbook volumes in which the flow data had been or will be published, are to arranged as follows:

Volume	Years of Record	No. of Station-years
1	1912 - 1937	112
2	1938 - 1947	103
3	1948 - 1953	146
4	1954 - 1956	178
5	1957 - 1959	203
6	1960 - 1962	213
7	1963 - 1964	182
8	1965	113
9	1966	129
10	1967	172
11	1968	187
12	1969	183
13	1970	169
14	1971	156
15	1972	176
16	1973	184
17	1974	203
18	1975	180
19	1976	189

It is earnestly hopeful that the Volume 12 and the further volumes will be released in serial order.

UNIT OF MEASUREMENT USED

UNIT CONVERSION FACTORS

1 meter (m) = 39.37 inches	=	3.2808 feet
1 kilometer (km) = 0.6214 mile	=	3,280.8 feet
1 square meter (m^2 of sq m)	=	1.196 square yards
	=	10.764 square feet
1 square kilometer (km^2 or sq km)	=	0.3861 square mile
	=	247.1 acres
	=	625 rai (Thai)
1 cubic meter (m^3 or cu m)	=	1,000 litres
	=	1.308 cubic yards
	=	35.31 cubic feet
1 million cubic meter (mcm)	=	1,000,000 m^3
	=	810.7 acre-feet
1 acre-foot	=	1,233 m^3
1 hectare	=	6.25 rai (Thai)
1 acre	=	2.50 rai
1 rai (Thai)	=	1,600 m^2
1 day	=	86,400 seconds
1 month (average)	=	2.63 million seconds
1 year (average)	=	31.6 million seconds

STREAM GAGING DATA

WATER YEAR 1968

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
PING RIVER BASIN

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

Location: Lat 18°- 47'- 09" N., Long 99°- 00'- 29" E., on left bank 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. of Military Survey and Mapping Department.

Location: At the east abutment of Nawarat Bridge.
Elevation: + 306.867 m. (M.S.L.)

Gage Reading Frequency: Recording.

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

Period of Available Gage Records: 1921 to date.

Period of Rating: 1936 - 38, 1954 - 60, 1967 to date
Rated by Float: 1936 - 38
Rated by Current Meter: 1954 - 60, 1967 to date

Stability of Channel Regimes: Unstable, no shifting adjustment but periodic rating curve is used for flow computation.

Overbank Flow Conditions: No overbank flow.

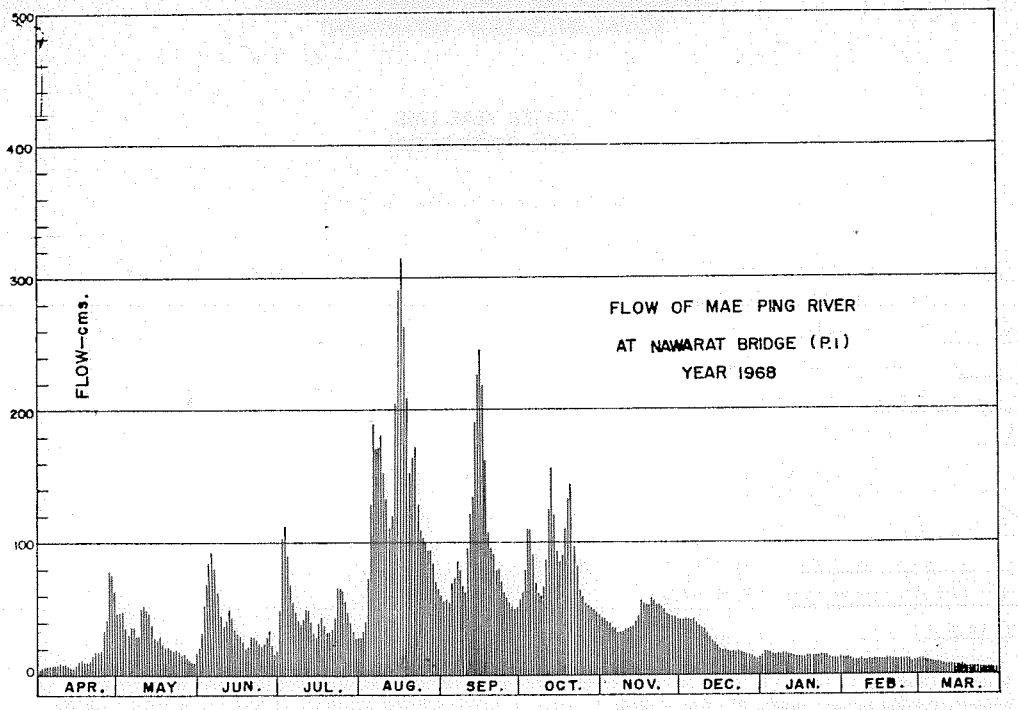
General Description: Records good. Stage - discharge relationship used is defined by discharge measurements made during 1968. Upstream state diversion for irrigation of about 11,200 hectares since 1936 at Mae Faek Weir. The data presented in form of actual flow at gage site, no adjustment made for virgin flow.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	301.15	301.79	301.51	301.93	301.59	301.86	301.85	301.68	301.66	301.27	301.22	301.17
2	.20	.86	.73	302.41	.67	.81	.92	.67	.67	.30	.22	.18
3	.23	.88	.99	.50	.74	.84	302.12	.65	.67	.30	.23	.16
4	.23	.68	302.24	.27	.96	.80	.36	.62	.67	.30	.21	.15
5	.23	.60	.31	.10	302.50	.97	.28	.60	.66	.28	.19	.14
6	301.22	301.72	302.21	301.93	303.08	302.02	302.09	301.55	301.68	301.27	301.19	301.13
7	.23	.71	.08	.86	302.94	.14	301.95	.53	.63	.28	.19	.13
8	.25	.62	301.95	.80	.95	.08	.91	.53	.61	.27	.20	.12
9	.26	.62	.81	.73	303.01	301.93	.82	.53	.59	.28	.19	.12
10	.25	.90	.71	.81	302.79	.89	.99	.56	.56	.28	.18	.10
11	301.24	301.92	301.80	301.90	302.66	302.20	302.17	301.57	301.52	301.27	301.17	301.09
12	.22	.88	.89	.88	.48	.46	.55	.59	.47	.26	.18	.08
13	.18	.82	.80	.76	.47	.57	.74	.59	.44	.24	.18	.08
14	.19	.69	.70	.64	.74	.97	.49	.64	.40	.24	.18	.08
15	.24	.60	.66	.59	303.20	303.30	.21	.69	.36	.23	.18	.07
16	301.31	301.59	301.63	301.78	303.72	303.40	302.13	301.84	301.34	301.23	301.18	301.07
17	.33	.61	.57	.82	.87	.05	.18	.82	.32	.23	.18	.06
18	.30	.53	.50	.74	.59	302.55	.21	.79	.32	.24	.20	.04
19	.26	.49	.49	.66	.03	.29	.47	.79	.31	.24	.20	.04
20	.28	.51	.62	.67	302.67	.22	.64	.87	.32	.25	.20	.03
21	301.35	301.47	301.64	301.69	302.80	302.17	302.39	301.83	301.31	301.25	301.19	301.03
22	.44	.46	.58	.81	.85	.07	.15	.80	.32	.25	.19	.04
23	.46	.47	.54	302.06	.48	.10	.02	.81	.32	.25	.18	.04
24	.40	.43	.53	.06	.33	301.95	301.92	.77	.30	.26	.17	.03
25	.47	.40	.54	.05	.30	.88	.87	.74	.29	.26	.17	.02
26	301.76	301.40	301.60	301.93	302.26	301.83	301.82	301.72	301.28	301.24	301.17	301.01
27	.83	.36	.69	.85	.20	.81	.80	.70	.26	.23	.15	.01
28	302.19	.33	.52	.76	.22	.77	.78	.70	.24	.22	.16	.01
29	.12	.29	.41	.66	.11	.76	.76	.69	.23	.21		.00
30	301.99	.28	.46	.60	301.99	.79	.74	.68	.23	.21		.00
31		.43		.60	.91		.71		.23	.22		300.99
Mean	301.39	301.59	301.72	301.86	301.53	302.18	302.10	301.68	301.43	301.25	301.19	301.07
Max.	302.19	301.92	302.31	302.50	303.87	303.40	302.74	301.87	301.68	301.30	301.23	301.18
Min.	301.15	301.28	301.41	301.59	301.59	301.76	301.71	301.53	301.23	301.21	301.15	300.99

WATER YEAR 1968 : Max. 303.87 m. Min. 300.99 m.

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	4.75	42	22	51	27	58	57	42	41	15	13	11
2	6.50	48	37	103	33	53	63	42	42	17	13	11
3	7.85	49	59	114	38	56	83	40	42	17	13	10
4	7.85	34	84	88	56	52	110	38	42	17	12	9.75
5	7.85	28	92	69	114	68	101	36	40	16	11	9.30
6	7.40	36	81	54	190	72	79	33	42	15	11	8.85
7	7.85	36	68	48	170	85	66	32	39	16	11	8.85
8	8.75	29	55	42	172	78	62	32	37	15	12	8.40
9	9.20	29	45	37	180	64	58	32	36	16	11	8.40
10	8.75	51	36	43	150	60	69	34	34	16	11	7.50
11	8.30	53	42	51	133	91	88	34	31	15	11	7.15
12	7.40	49	50	49	112	122	132	36	27	15	11	6.80
13	5.80	44	42	39	110	135	156	36	26	14	11	6.80
14	6.15	34	35	31	144	187	124	39	23	14	11	6.80
15	8.30	28	32	27	207	232	93	43	21	13	11	6.45
16	11	27	30	41	288	246	84	56	19	13	11	6.45
17	12	29	26	44	315	198	89	54	18	13	11	6.10
18	11	23	21	38	273	132	93	52	18	14	12	5.40
19	9.20	21	21	32	195	102	123	52	18	14	12	5.40
20	10	22	29	33	147	94	143	58	18	14	12	5.05
21	13	20	31	34	164	88	112	55	18	14	11	5.05
22	18	19	27	43	171	77	86	52	18	14	11	5.40
23	19	20	24	66	124	80	72	53	18	14	11	5.40
24	16	18	23	66	106	66	63	50	17	15	11	5.05
25	20	16	24	65	103	59	58	47	16	15	11	4.70
26	39	16	28	54	98	55	54	46	16	14	11	4.35
27	45	14	34	47	91	53	52	44	15	13	9.75	4.35
28	79	12	23	39	94	50	51	44	14	13	10	4.35
29	72	10	16	32	82	49	49	43	13	12	–	4.00
30	59	10	19	28	69	52	47	42	13	12	–	4.00
31	–	18	–	28	62	–	45	–	14	13	–	3.72
Total	545.90	885	1,154	1,536	4,218	2,814	2,562	1,297	786	448	316.75	205.82
Mean	18.2	28.5	38.5	49.5	136	93.8	82.6	43.2	25.3	14.4	11.3	6.63
Max.	79	53	92	114	315	246	156	58	42	17	13	11
Min.	4.75	10	16	27	27	49	45	32	13	12	9.75	3.72
Runoff - mcm.	47.166	76.464	99.706	132.710	364.435	243.130	221.357	112.061	67.910	38.707	27.367	17.783

WATER YEAR 1968 : Max. 315 Min. 3.72 Mean 45.9 Annual Runoff 1,448.796 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Aug.17&8	06.00	303.88	316				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
PING RIVER BASIN

Mae Ping River at Tha Khae, 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, at 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. - M.S.

Location: Near Automatic building.
Elevation: + 115.321 m. (M.S.L.)

Gage Reading Frequency: Recording.

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

Period of Available Gage Records: 1952 to date.

Rating Operation:

Period of Rating: 1952 - 67, 1971 to date
Rated by Float:
Rated by Current Meter: 1952 - 67, 1971 to date

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

Overbank Flow Conditions: No overbank flow.

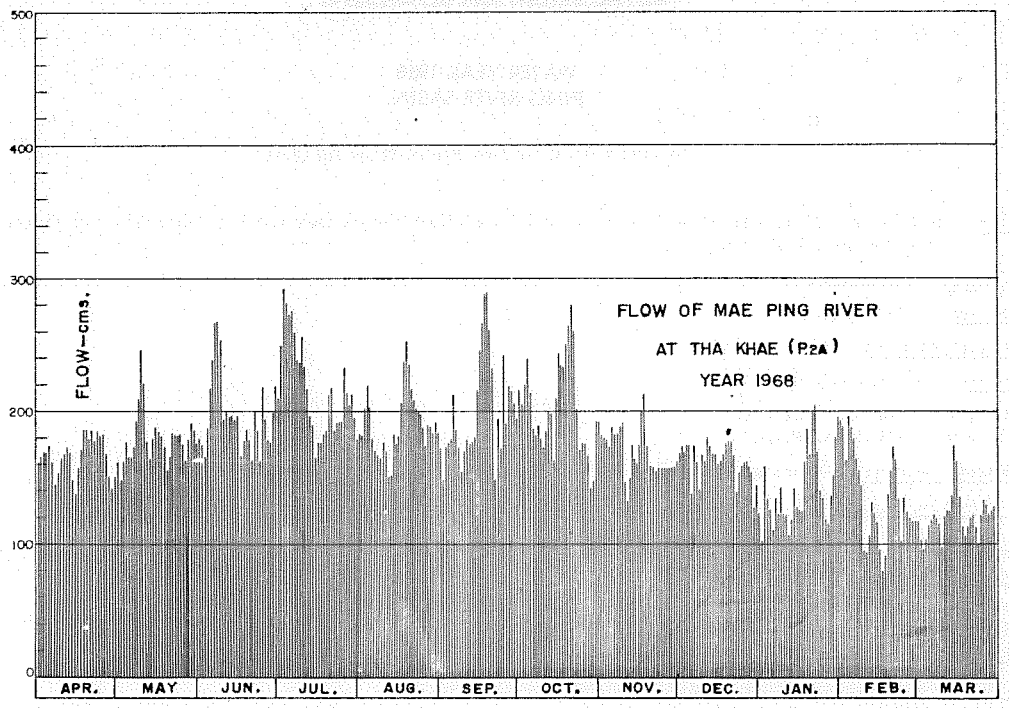
General Description: Records fair. Stage - discharge relationship used is defined by discharge measurements made during 1964-67. Flow regulated by Yanhee Reservoir, since 1964 upstream. Diversion for irrigation of about 40,300 hectares No adjustment made for virgin flow.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	105.07	105.06	105.13	105.20	105.14	105.11	105.25	105.14	105.09	104.87	105.17	104.89
2	.09	104.96	.08	.38	.13	.01	.20	.13	.11	.75	.15	.83
3	.10	105.09	.05	.49	.19	.11	.26	.13	.09	105.05	.03	.79
4	.08	.12	.13	.44	.26	.12	o.33	.10	.11	104.94	.18	.81
5	.11	.08	.26	.43	.15	.12	.26	.16	.11	.93	.15	.87
6	105.06	105.07	105.34	105.44	105.12	105.24	105.19	105.14	104.93	104.77	105.12	104.89
7	.02	.11	.42	.39	.09	.13	.13	.14	105.11	.96	.05	.91
8	104.97	.17	.40	.31	.09	.09	.16	.15	.05	.88	.04	.90
9	105.06	.25	.30	.32	.07	.02	.13	.07	104.94	.99	104.99	.88
10	.08	.35	.17	.38	.12	.10	.10	.00	105.09	.91	.74	.76
11	105.09	105.20	105.20	105.26	105.09	105.13	105.15	104.91	105.06	104.91	104.79	104.90
12	.11	.11	.18	.25	.02	.12	.20	105.03	.14	.89	.84	.92
13	.09	.05	.19	.19	.03	.12	.19	.11	.10	.79	.95	.92
14	104.99	.12	.17	.15	.14	.13	104.96	.06	.08	.99	.91	.97
15	.94	.16	.19	.06	.11	.23	105.20	.06	.09	.94	.88	105.11
16	105.04	105.15	105.14	105.12	105.13	105.35	105.34	105.14	105.05	104.92	104.77	105.05
17	.11	.14	.05	.12	.21	.43	.31	.24	.07	.92	.70	104.92
18	.15	.12	.13	.14	.32	.48	.31	.17	.09	105.00	.73	.87
19	.15	.11	.15	.14	.37	.48	.36	.09	.12	.15	.95	.83
20	.12	.01	.12	.24	.31	.32	.41	.05	.13	.04	105.03	.87
21	105.15	105.10	105.04	105.26	105.24	105.30	105.45	105.05	105.12	105.19	105.11	104.90
22	.11	.15	.20	.14	.22	104.91	.34	.04	.08	.21	.06	.91
23	.15	.13	.12	.17	.18	105.18	.15		104.93	.06	104.86	.86
24	.14	.14	.04	.17	.20	.01	.19		105.03	104.98	.77	.77
25	.14	.14	.26	.17	.16	.34	.12		.05	.96	.96	.91
26	105.11	105.09	105.15	105.31	105.03	105.10	105.11		105.06	104.92	104.92	104.95
27	.05	.04	.12	.24	.16	.26	.07		.07	.81	.90	.93
28	.02	.15	.11	.20	.16	.24	104.98		.05	.96	.89	.91
29	104.96	.17	.20	.24	.13	.21	.99		.03	105.00		
30	105.03	.14	.26	.17	.17	.14	105.17		104.90	.14		
31		.11		.11	.14		.17		105.00	.18		
Mean	105.08	105.12	105.18	105.25	105.16	105.18	105.20		105.06	104.97	104.95	104.95
Max.	105.15	105.35	105.42	105.49	105.37	105.48	105.45	105.24	105.14	105.21	105.18	105.11
Min.	104.94	104.96	105.04	105.06	105.02	104.91	104.96	104.91	104.90	104.75	104.70	104.76

NO RECORD

WATER YEAR 1968 : Max. 105.49 m. Min. 104.70 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	162	160	179	200	182	173	215	182	167	112	191	112
2	167	134	165	255	179	147	200	179	173	85	185	105
3	170	167	157	292	197	174	218	179	167	157	152	94
4	165	176	179	275	218	176	239	170	173	129	194	98
5	173	165	218	271	185	176	218	188	173	126	185	112
6	160	162	242	275	176	212	197	182	126	90	176	117
7	149	173	268	258	167	179	179	182	173	134	157	121
8	136	191	261	233	167	167	188	185	157	114	154	119
9	160	215	230	236	162	149	179	191	129	141	141	114
10	165	245	191	225	176	170	170	144	167	121	83	88
11	167	200	200	218	167	179	185	121	160	121	94	119
12	173	173	194	215	149	176	200	152	182	117	105	124
13	167	157	197	197	152	176	197	173	170	94	131	124
14	141	176	191	185	182	179	134	160	165	141	121	136
15	129	188	197	160	173	209	200	160	167	129	114	173
16	154	185	182	176	179	245	242	182	157	124	90	157
17	173	182	157	176	205	271	233	212	162	124	75	124
18	185	176	179	182	236	288	233	191	167	144	81	112
19	185	173	185	182	252	288	249	167	176	185	131	105
20	176	147	176	212	235	236	264	157	179	154	152	112
21	185	170	154	218	212	230	276	157	176	197	173	119
22	173	185	200	182	206	121	242	154	165	203	160	121
23	165	179	176	191	194	194	185	156	126	160	110	110
24	182	182	154	191	200	147	167	156	152	139	90	90
25	182	182	218	191	188	242	176	156	157	134	134	121
26	173	167	185	233	165	170	173	156	160	124	124	131
27	157	154	176	212	188	218	162	156	162	96	119	126
28	149	185	173	200	188	212	139	156	152	134	117	121
29	134	191	200	212	179	203	141	157	152	144	–	124
30	152	182	218	191	191	182	191	157	119	182	–	126
31	–	173	–	173	182	–	191	160	144	194	–	129
Total	4,929	5,496	5,802	6,647	5,828	5,888	6,185	5,178	4,960	4,351	3,739	3,685
Mean	164	177	193	214	188	196	199	167	160	137	135	119
Max.	185	245	268	292	252	288	278	212	182	203	194	173
Min.	129	134	154	160	149	121	134	421	119	85	75	88
Runoff – mcm.	425.866	474.768	501.293	547.301	503.539	508.723	534.384	447.379	428.544	367.286	323.050	318.384

WATER YEAR 1968 : Max. 292 Min. 75 Mean 171 Annual Runoff 5,407.517 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sep.14,68	9.00	1.15.62	359				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
PING RIVER BASIN

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

Location: Lat 19° – 07' – 20" N., Long 98° – 56' – 51" E., on left bank about 5 meters downstream from Chiang Mai – Fang Highway Bridge. 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 staff gage site.
Elevation: +339.397 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 – 60, 1967 to date
Rated by Float:
Rated by Current Meter: 1955 – 60, 1967 to date

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

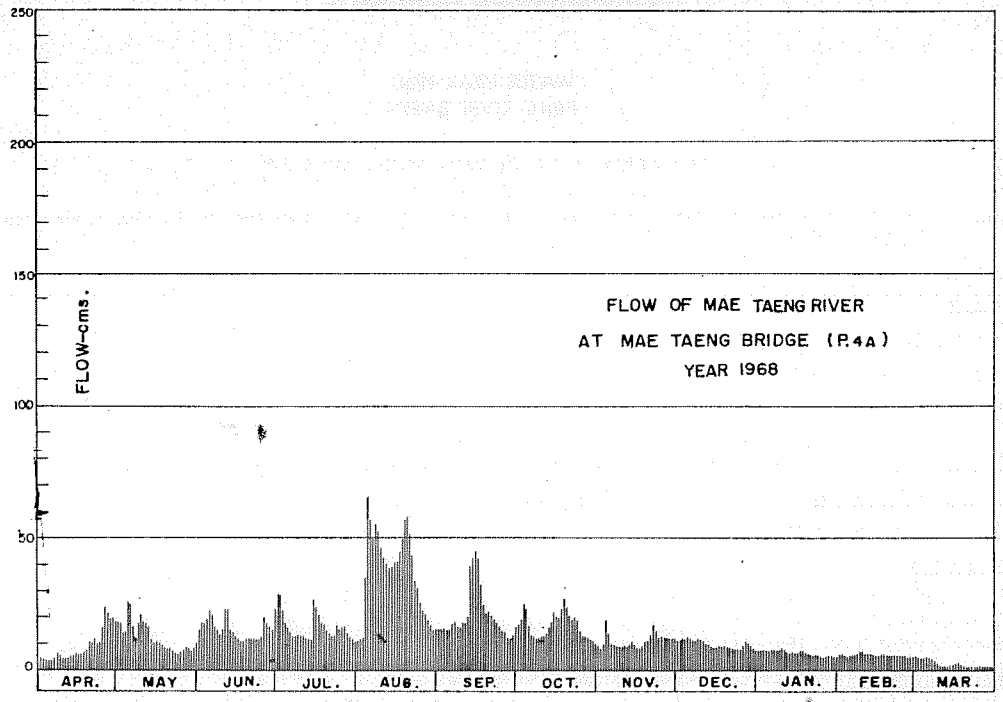
Overbank Flow Conditions: No overbank flow.

General Description: Records fair. Stage – discharge relationship used is defined by discharge measurements made during 1967. Upstream diversions for irrigation of about 23,700 hectares at Mae Taeng Weir. No adjustment made for virgin flow.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	334.03	334.55	334.44	334.82	334.33	334.47	334.51	334.24	334.31	334.19	334.11	334.09
2	.00	.53	.55	.82	.34	.45	.55	.19	.31	.18	.12	.06
3	.00	.43	.53	.65	.34	.48	.64	.25	.35	.18	.08	.05
4	333.98	.41	.53	.50	.91	.45	.73	.58	.37	.17	.06	.04
5	.97	.75	.66	.49	335.45	.45	.56	.37	.38	.16	.11	.03
6	333.99	334.70	334.65	334.41	335.25	334.50	334.43	334.28	334.35	334.19	334.11	334.06
7	334.06	.49	.50	.37	.21	.53	.40	.27	.31	.21	.11	.02
8	.13	.30	.45	.38	.30	.49	.37	.24	.32	.17	.13	333.97
9	.09	.53	.40	.38	.25	.49	.37	.25	.36	.19	.16	.88
10	.03	.63	.44	.38	.12	.53	.40	.24	.34	.24	.17	.81
11	334.04	334.55	334.66	334.38	335.08	334.55	334.39	334.26	334.33	334.20	334.14	333.83
12	.03	.53	.67	.35	.04	.56	.43	.24	.29	.15	.12	.85
13	.06	.48	.44	.34	334.99	335.02	.48	.30	.29	.15	.13	.84
14	.10	.32	.41	.31	.99	.10	.58	.32	.24	.17	.11	.87
15	.13	.27	.40	.77	335.03	.13	.64	.24	.22	.15	.10	.90
16	334.11	334.32	334.37	334.69	335.05	335.08	334.60	334.21	334.22	334.14	334.09	333.94
17	.12	.29	.32	.59	.12	334.74	.60	.20	.25	.19	.12	.93
18	.15	.26	.31	.55	.21	.67	.70	.25	.24	.16	.13	.89
19	.18	.21	.35	.50	.33	.63	.76	.33	.25	.14	.10	.82
20	.32	.21	.38	.44	.35	.64	.65	.33	.22	.12	.09	.80
21	334.28	334.19	334.34	334.41	335.17	334.60	334.60	334.40	334.23	334.10	334.08	333.83
22	.34	.16	.34	.39	.00	.57	.57	.51	.21	.08	.08	.82
23	.26	.15	.36	.40	334.83	.54	.59	.43	.21	.11	.09	.81
24	.29	.10	.36	.51	.86	.48	.55	.37	.19	.10	.09	.83
25	.52	.13	.40	.44	.73	.44	.39	.38	.20	.07	.10	.83
26	334.70	334.17	334.59	334.49	334.68	334.41	334.38	334.37	334.24	334.05	334.08	333.82
27	.61	.22	.54	.50	.63	.37	.38	.35	.29	.08	.06	.82
28	.58	.21	.47	.42	.58	.35	.37	.35	.27	.11	.08	.81
29	.59	.15	.43	.39	.50	.39	.35	.34	.23	.09		.82
30	.54	.19	.53	.37	.46	.41	.32	.36	.18	.08		.82
31		.26		.32	.46		.29		.17	.07		.82
Mean	334.21	334.34	334.46	334.47	334.92	334.58	334.50	334.31	334.27	334.14	334.10	333.89
Max.	334.70	334.75	334.67	334.82	335.45	335.13	334.76	334.58	334.38	334.24	334.17	334.09
Min.	333.97	334.10	334.31	334.31	334.33	334.35	334.29	334.19	334.17	334.05	334.06	333.80

WATER YEAR 1968 : Max. 335.45 m. Min. 333.80 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	4.44	18	15	29	11	16	17	8.94	11	7.68	5.92	5.52
2	3.90	18	18	29	12	15	18	7.68	11	7.46	6.14	4.98
3	3.90	14	18	22	12	16	22	9.20	12	7.46	5.34	4.80
4	3.58	14	18	17	34	15	25	19	12	7.24	4.96	4.62
5	3.42	26	23	16	65	15	19	12	13	7.02	5.30	5.34
6	3.74	24	22	14	52	17	14	9.98	12	7.68	5.92	4.98
7	4.98	16	17	12	49	18	13	9.72	11	8.16	5.92	4.26
8	6.36	10	15	13	55	16	12	8.94	11	7.24	6.36	3.42
9	5.52	18	13	13	52	16	12	9.20	12	7.68	7.02	2.08
10	4.44	21	15	13	44	18	13	8.94	12	8.94	7.24	1.31
11	4.62	18	23	13	42	18	13	9.46	11	7.90	6.58	1.53
12	4.44	18	25	12	40	19	14	8.94	10	6.80	6.14	1.75
13	4.98	16	15	12	38	39	16	10	10	6.80	6.36	1.64
14	5.70	11	14	11	38	43	19	11	8.94	7.24	5.92	1.97
15	6.36	9.72	13	27	40	45	22	8.94	8.42	6.80	5.70	2.39
16	5.92	11	12	24	41	42	20	8.16	8.42	6.58	5.52	2.94
17	6.14	10	11	20	44	26	20	7.90	9.20	7.68	6.14	2.78
18	6.36	9.46	11	18	49	23	24	9.20	8.94	7.02	6.36	2.19
19	7.46	8.16	12	18	57	21	27	11	9.20	6.58	5.70	1.42
20	11	8.16	13	18	58	22	22	11	8.42	6.14	5.52	1.20
21	9.46	7.68	12	14	47	20	20	13	8.68	5.70	5.34	1.53
22	12	7.02	12	13	38	19	19	17	8.16	5.32	5.34	1.42
23	9.46	6.80	12	13	30	18	20	14	8.16	5.92	5.52	1.31
24	10	5.70	12	17	331	16	18	12	7.68	5.70	5.52	1.53
25	17	6.36	13	15	25	15	13	13	7.90	5.16	5.70	1.53
26	24	7.24	20	16	23	14	13	12	8.94	4.80	5.34	1.42
27	21	8.42	18	17	21	12	13	12	10	5.34	4.98	1.42
28	19	8.16	16	14	19	12	12	12	9.72	5.92	5.34	1.31
29	20	6.80	14	13	17	13	12	12	8.68	5.52	–	1.42
30	18	7.68	18	12	15	14	11	12	7.46	5.34	–	1.42
31	–	9.46	–	11	15	–	10	–	7.24	5.16	–	1.42
Total	267.70	379.82	468	502	1,114	613	523	328.20	302.16	206	163.56	76.96
Mean	8.92	12.2	15.6	16.2	35.9	20.4	16.9	10.9	9.75	6.64	5.84	2.48
Max.	24	26	23	29	65	45	27	19	13	8.94	7.24	5.52
Min.	3.42	5.70	11	11	11	12	10	7.68	7.24	4.80	4.98	1.20
Runoff - MCM.	23.129	32.816	40.435	43.373	96.250	52.963	45.187	28.356	26.107	17.798	14.131	6.632

WATER YEAR 1968 : Max. 65 Min. 1.20 Mean 13.5 Annual Runoff 427.179 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Aug.5,68	12.00	335.75	85				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
PING RIVER BASIN

Mae Kuang River at Tha Sing Phithak Bridge, Lamphun (P.5)

Location: Lat 18° – 34' – 32" N., Long 99° – 00' – 44" E., on right bank about 10 meters downstream from Tha Sing Phithak 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./R.I.D. No.7

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

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

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

Period of Available Gage Records: 1955 to date.

Rating Operation:

Period of Rating: 1955 – 61, 1967 to date
Rated by Float:
Rated by Current Meter: 1955 – 61, 1967 to date

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

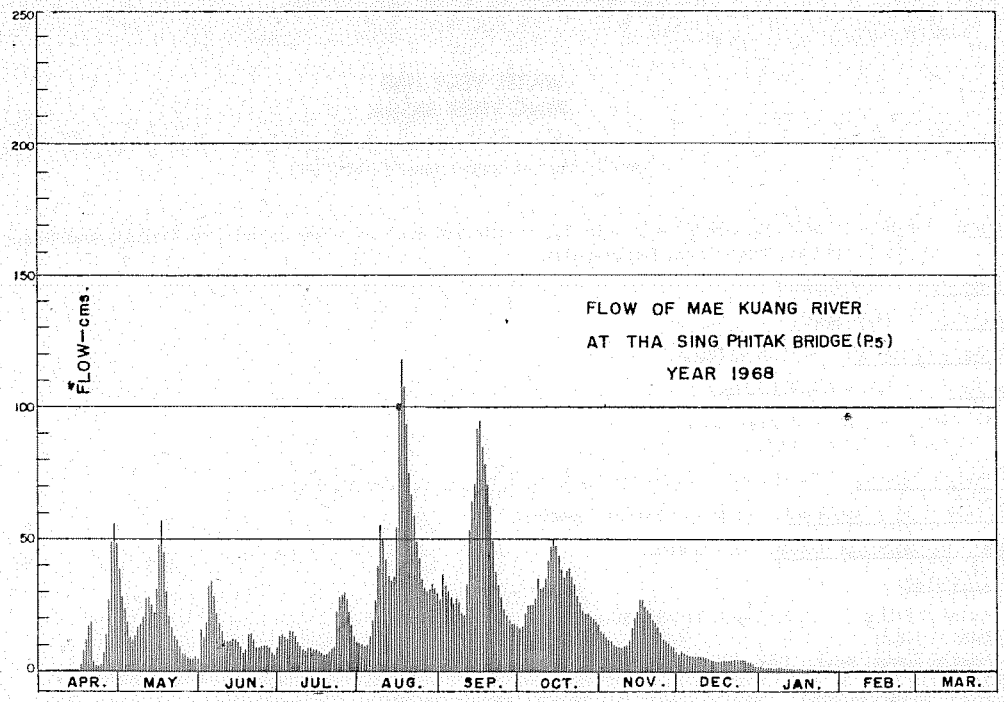
Overbank Flow Conditions: No overbank flow.

General Description: Records good. Stage – discharge relationship used is defined by discharge measurements made during 1967. Upstream diversions for irrigation of about 9,600 hectares at Mae Kuang Weir. No adjustment made for virgin flow.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	289.34	290.64	290.08	289.97	289.90	290.41	290.07	290.05	289.68	289.45	289.32	289.32
2	.34	.40	289.95	290.01	.82	.73	.12	.00	.76	.41	.32	.32
3	.34	.31	290.28	289.97	.82	.58	.25	289.95	.71	.40	.32	.32
4	.35	.09	.57	.94	.87	.52	.36	.94	.69	.40	.32	.33
5	.35	289.95	.64	290.03	290.01	.44	.37	.90	.68	.40	.32	.33
6	289.35	289.95	290.44	290.03	290.27	290.36	290.36	289.88	289.67	289.40	289.32	289.33
7	.35	290.04	.27	289.96	.48	.45	.43	.83	.67	.42	.32	.33
8	.35	.13	.15	.90	.84	.39	.66	.82	.66	.42	.32	.33
9	.35	.16	.03	.84	291.19	.28	.55	.81	.65	.41	.32	.33
10	.35	.25	289.93	.80	.04	.25	.57	.85	.65	.40	.33	.33
11	289.35	290.45	289.88	289.76	290.83	290.57	290.67	289.88	289.64	289.40	289.33	289.34
12	.36	.46	.88	.76	.69	291.13	.80	.94	.62	.40	.33	.34
13	.36	.29	.94	.81	.62	.40	.99	290.10	.59	.39	.33	.34
14	.36	.27	.92	.80	.69	.59	291.05	.22	.58	.39	.33	.35
15	.34	.60	.91	.78	291.24	292.05	290.98	.27	.58	.39	.33	.35
16	289.35	291.01	289.84	289.77	292.27	292.12	290.85	290.42	289.58	289.39	289.33	289.35
17	.65	.24	.71	.75	.62	291.89	.72	.42	.59	.38	.33	.35
18	.86	290.68	.77	.72	.30	.72	.65	.35	.60	.38	.33	.35
19	290.07	.34	.99	.70	291.90	.50	.75	.30	.60	.38	.32	.35
20	.17	.19	290.04	.77	.59	.20	.76	.28	.59	.39	.32	.35
21	289.55	290.04	289.92	289.80	291.39	290.90	290.66	290.18	289.60	289.37	289.32	289.35
22	.45	289.96	.82	.84	.26	.69	.56	.14	.60	.35	.32	.35
23	.45	.94	.80	290.24	290.97	.55	.46	.07	.61	.35	.32	.35
24	.53	.80	.83	.46	.78	.46	.40	.01	.62	.38	.32	.35
25	.69	.73	.85	.49	.64	.32	.31	289.93	.62	.36	.32	.35
26	289.96	289.68	289.86	290.51	290.56	290.25	290.28	289.89	289.59	289.33	289.32	289.35
27	290.36	.64	.82	.44	.52	.18	.27	.87	.55	.33	.32	.35
28	291.03	.61	.74	.23	.54	.15	.23	.85	.54	.35	.32	.35
29	.21	.63	.69	.12	.60	.15	.20	.83	.51	.34		.35
30	290.89	.66	.75	289.95	.55	.10	.17	.73	.47	.32		.35
31		.58		.91	.47		.08		.46	.32		.35
Mean	289.68	290.15	289.98	289.97	290.85	290.77	290.50	289.99	289.61	289.38	289.32	289.34
Max.	291.21	291.24	290.64	290.51	292.62	292.12	291.05	290.42	289.76	289.45	289.33	289.35
Min.	289.34	289.58	289.69	289.70	289.82	289.10	290.07	289.73	289.46	289.32	289.32	289.32

WATER YEAR 1968 : Max. 292.62 m. Min. 289.32 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.40	34	16	13	11	26	16	15	5.90	1.70	0.20	0.20
2	0.40	26	12	14	10	37	17	14	7.68	1.14	0.20	0.20
3	0.40	23	22	13	9.08	32	21	12	6.53	1.00	0.20	0.20
4	0.50	16	32	12	10	30	25	12	6.10	1.00	0.20	0.30
5	0.50	12	34	15	14	28	25	11	5.90	1.00	0.20	0.30
6	0.50	12	28	15	22	25	25	10	5.20	1.00	0.20	0.30
7	0.50	15	22	13	29	28	27	9.32	5.76	1.29	0.20	0.30
8	0.50	17	18	11	42	26	35	9.08	5.50	1.28	0.20	0.30
9	0.50	18	15	9.56	55	22	31	8.84	5.30	1.14	0.20	0.30
10	0.50	21	12	8.60	49	21	32	9.80	5.30	1.00	0.50	0.30
11	0.60	28	11	7.68	41	32	35	10	5.10	1.00	0.30	0.40
12	0.60	28	11	7.68	36	53	40	12	4.70	1.00	0.30	0.40
13	0.60	22	12	8.84	34	64	47	17	4.11	0.90	0.30	0.40
14	0.60	22	12	8.60	36	72	50	20	3.92	0.90	0.30	0.50
15	0.40	33	11	8.14	57	92	47	22	3.92	0.90	0.30	0.50
16	0.50	48	9.56	7.91	102	95	442	27	3.92	0.90	0.30	0.50
17	5.30	57	8.53	7.45	118	85	37	27	4.11	0.80	0.30	0.50
18	10	36	7.91	6.76	104	77	35	24	4.30	0.80	0.30	0.50
19	16	24	14	6.30	85	68	38	23	4.30	0.80	0.20	0.50
20	19	19	15	7.91	72	56	39	22	4.11	0.90	0.20	0.50
21	3.35	15	12	8.60	63	44	35	19	4.30	0.70	0.20	0.50
22	1.70	13	9.08	9.56	58	36	31	18	4.30	0.50	0.20	0.50
23	1.84	12	8.60	21	46	31	28	16	4.50	0.50	0.20	0.50
24	2.07	8.60	9.32	28	59	28	26	14	4.70	0.80	0.20	0.50
25	6.10	6.99	9.32	29	34	23	23	12	4.70	0.60	0.20	0.50
26	13	5.90	10	30	31	21	22	11	4.11	0.50	0.20	0.50
27	25	5.10	9.08	28	30	19	22	10	3.35	0.30	0.20	0.50
28	47	4.50	7.22	22	31	18	21	9.80	5.10	0.50	0.20	0.50
29	56	4.90	6.10	17	33	18	20	9.32	5.59	0.40	–	0.50
30	43	5.50	7.45	12	31	17	19	6.99	1.98	0.20	–	0.50
31	–	3.92	–	11	29	–	18	–	1.84	0.20	–	0.50
Total	208.26	596.41	409.17	417.54	1,361.08	1,222	927	441.15	141.63	25.44	6.50	12.90
Mean	8.67	19.2	13.6	13.5	43.9	40.8	29.9	14.7	4.57	0.821	0.232	0.416
Max.	56	57	34	30	118	95	50	27	7.68	1.70	0.50	0.50
Min.	0.40	3.92	6.10	6.30	9.08	17	18	6.99	1.84	0.20	0.20	0.20
Runoff - mcm.	12.486	51.530	35.352	36.08	117.597	105.754	80.093	38.115	12.237	2.198	.562	1.114

WATER YEAR 1968 : Max. 118 Min. 0.20 Mean 15.9 Annual Runoff 503.118 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Aug.17,68	08.00	292.67	121				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
PING RIVER BASIN

Mae Ping River at Muang 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, at Ban Nakhon Chum, Amphoe Muang, Kamphaeng Phet.

Drainage Area: 42,700 sq.km.

Type of Gage: Staff gage.

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

Bench Mark: B.M. - H.S./R.I.D. No.2

Location: Near house of gage observer.
Elevation: + 77.642 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: 1960 to date.

Rating Operation:

Period of Rating: 1960 - 61, 1967 to date
Rated by Float:
Rated by Current Meter: 1960 - 61, 1967 to date

Stability of Channel Regimes: Rather unstable, shifting adjustment is included for flow computation.

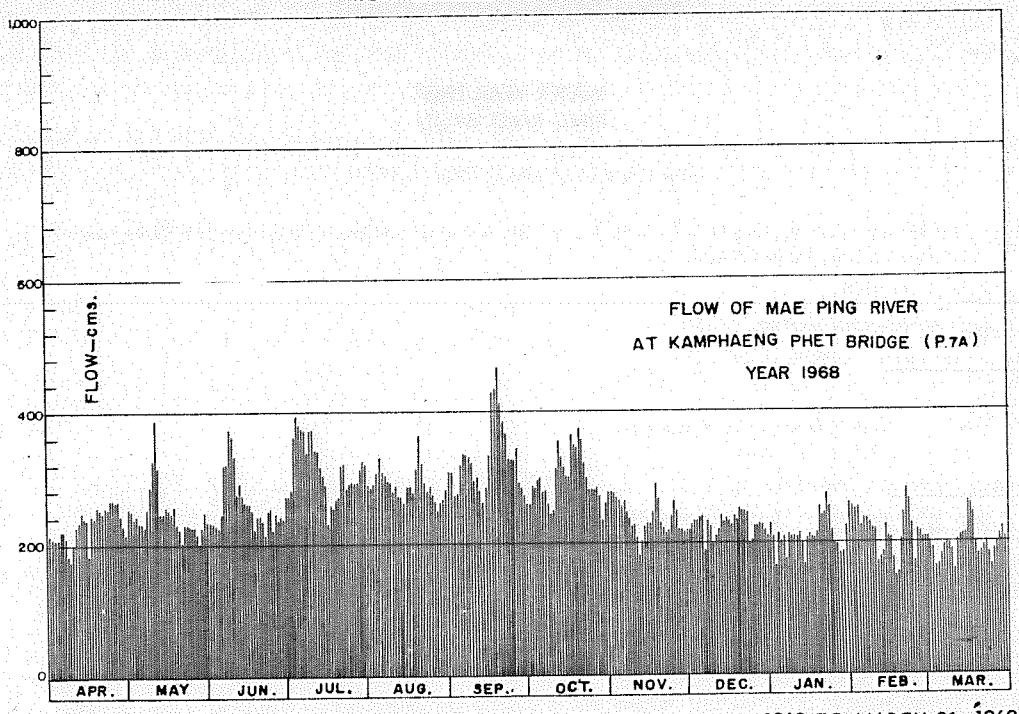
Overbank Flow Conditions: No overbank flow.

General Description: Records good. Stage - discharge relationship used is defined by discharge measurements made during 1968. Flow regulated by Yanhee Reservoir and diverted for irrigation of about 40,300 hectares above gage site. No adjustment made for virgin flow.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	74.01	74.08	74.10	74.17	74.19	74.20	74.26	74.25	74.14	74.17	74.19	74.01
2	73.99	.07	.10	.20	.17	.12	.36	.25	.18	.09	.17	73.98
3	74.01	.02	.09	.44	.22	.07	.33	.23	.19	73.88	.20	.92
4	.02	.13	.02	.47	.26	.15	.38	.22	.18	74.09	.09	.85
5	.06	.19	.12	.41	.30	.17	.39	.18	.20	.04	.16	.87
6	74.05	74.10	74.30	74.42	74.24	74.17	74.32	74.22	74.20	74.08	74.13	73.93
7	.02	.06	.29	.41	.19	.16	.34	.25	73.97	73.93	.15	.97
8	73.93	.15	.43	.32	.18	.16	.28	.23	74.18	74.08	.10	.98
9	.90	.29	.40	.31	.15	.14	.23	.16	.17	.06	.10	.97
10	74.01	.38	.31	.31	.11	.13	.25	.20	.05	.11	.08	.94
11	74.05	74.54	74.14	74.23	74.15	74.18	74.33	74.13	74.13	74.06	73.80	73.81
12	.06	.35	.22	.23	.10	.22	.45	.04	.14	.09	.86	.99
13	.11	.17	.17	.18	.11	.18	.40	.14	.20	.01	.89	74.01
14	.08	.14	.14	.14	.03	.22	.35	.20	.17	73.92	74.02	.01
15	.08	.17	.14	.10	.14	.31	.31	.20	.19	74.10	73.96	.02
16	73.86	74.16	74.14	74.00	74.15	74.42	74.31	74.20	74.18	74.08	73.96	74.16
17	74.09	.14	.10	.12	.16	.60	.47	.27	.15	.06	.84	.14
18	.07	.17	.01	.09	.29	.61	.43	.36	.20	.06	.75	.06
19	.13	.10	.09	.14	.35	.68	.42	.28	.17	.12	.79	73.95
20	.11	.07	.09	.15	.45	.56	.49	.13	.23	.20	74.02	.91
21	74.09	73.96	74.05	74.27	74.30	74.46	74.44	74.18	74.22	74.12	74.14	73.94
22	.13	74.09	73.97	.28	.26	.44	.32	.16	.22	.25	.21	.97
23	.11	.09	74.12	.15	.22	.34	.28	.13	.21	.21	.12	.98
24	.16	.08	.12	.20	.25	.36	.25	.22	.05	.12	73.96	.93
25	.16	.08	73.99	.21	.22	.35	.26	.30	.11	.05	.83	.84
26	74.14	74.08	74.10	74.20	74.19	74.50	74.25	74.24	74.16	74.03	74.04	73.96
27	.15	.04	.06	.19	.13	.32	.27	.15	.15	.01	.01	.99
28	.07	73.98	.09	.24	.19	.35	.13	.17	.17	73.94	.00	74.00
29	.03	74.09	.07	.29	.20	.33	.09	.16	.16	74.03		.05
30	73.94	.14	.17	.28	.10	.28	.21	.14	.13	.11		.02
31		.10		.20	.19		.24		.11	.22		73.95
Mean	74.03	74.14	74.14	74.24	74.20	74.31	74.32	74.20	74.16	74.13	74.11	74.06
Max.	74.16	74.54	74.43	74.47	74.45	74.68	74.49	74.25	74.23	74.25	74.21	74.16
Min.	73.86	73.96	73.97	74.00	74.03	74.07	74.09	74.04	73.97	73.88	73.75	73.81

WATER YEAR 1968 : Max. 74.68 m. Min. 73.75 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	206	254	232	273	288	311	250	276	219	229	250	209
2	199	250	232	284	280	280	288	276	232	202	243	199
3	206	232	229	382	299	261	276	269	236	159	254	180
4	209	243	219	395	314	292	295	265	232	215	215	159
5	222	229	254	368	330	335	299	250	239	199	259	165
6	219	232	322	373	307	335	273	265	239	212	229	183
7	209	219	318	368	303	330	250	246	165	165	250	196
8	180	250	377	350	299	330	257	239	232	212	219	199
9	171	284	364	373	288	322	239	215	229	206	219	196
10	206	318	326	373	273	280	246	229	190	209	212	186
11	229	386	261	339	288	299	307	206	215	206	156	149
12	232	307	292	339	269	273	356	177	219	215	174	202
13	250	239	273	318	273	257	335	209	239	190	183	209
14	239	246	261	303	243	273	314	229	229	162	226	209
15	239	257	261	288	284	314	299	229	236	219	206	212
16	168	254	261	219	288	351	299	229	232	212	206	261
17	243	246	246	261	250	430	364	254	222	206	168	254
18	236	257	215	250	299	435	347	288	239	206	142	226
19	257	232	243	269	322	467	343	257	229	226	153	190
20	250	222	243	273	364	412	373	222	250	254	212	177
21	243	186	229	318	303	368	351	222	246	226	254	186
22	257	229	202	322	288	361	303	215	246	273	280	196
23	250	229	254	273	273	318	288	222	243	257	246	199
24	269	226	254	292	284	326	276	236	190	226	193	183
25	269	226	209	295	273	322	280	265	209	202	153	156
26	261	226	246	292	261	343	276	243	226	196	219	193
27	265	212	232	288	239	273	284	212	222	190	209	202
28	236	193	243	307	261	284	250	219	229	168	206	206
29	222	229	236	326	265	276	219	215	226	196	–	222
30	206	246	273	322	273	257	261	219	215	222	–	212
31	–	232	–	292	307	–	273		209	161	–	190
Total	6,848	7,591	7,807	9,705	8,888	9,715	9,101	7,098	6,984	6,501	5,902	6,106
Mean	228	245	236	313	287	324	293	237	225	210	211	197
Max.	269	386	377	395	364	467	373	276	250	273	280	261
Min.	168	186	202	219	239	257	219	177	165	139	142	149
Runoff – RCM.	591.667	655.862	674.594	838.512	767.923	839.376	786.326	613.267	603.417	561.686	509.932	527.558

WATER YEAR 1968 : Max. 467 Min. 139 Mean 253 Annual Runoff 7,970.054 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sept.19	6.00	74.76	530				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
PING RIVER BASIN

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

Location: Lat 17° – 14' – 30" N., Long 99° – 00' – 45" E., on right bank about 4 kilometers downstream from Yanhee 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: + 135.192 m. (M.S.L.)

Bench Mark:

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

Gage Reading Frequency: Recording.

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

Period of Available Gage Records: 1952 to date.

Rating Operation:

Period of Rating: 1952 to date
Rated by Float:
Rated by Current Meter: 1952 to date

Stability of Channel Regimes: Unstable, shifting adjustment is used for flow computation.

Overbank Flow Conditions: No overbank flow.

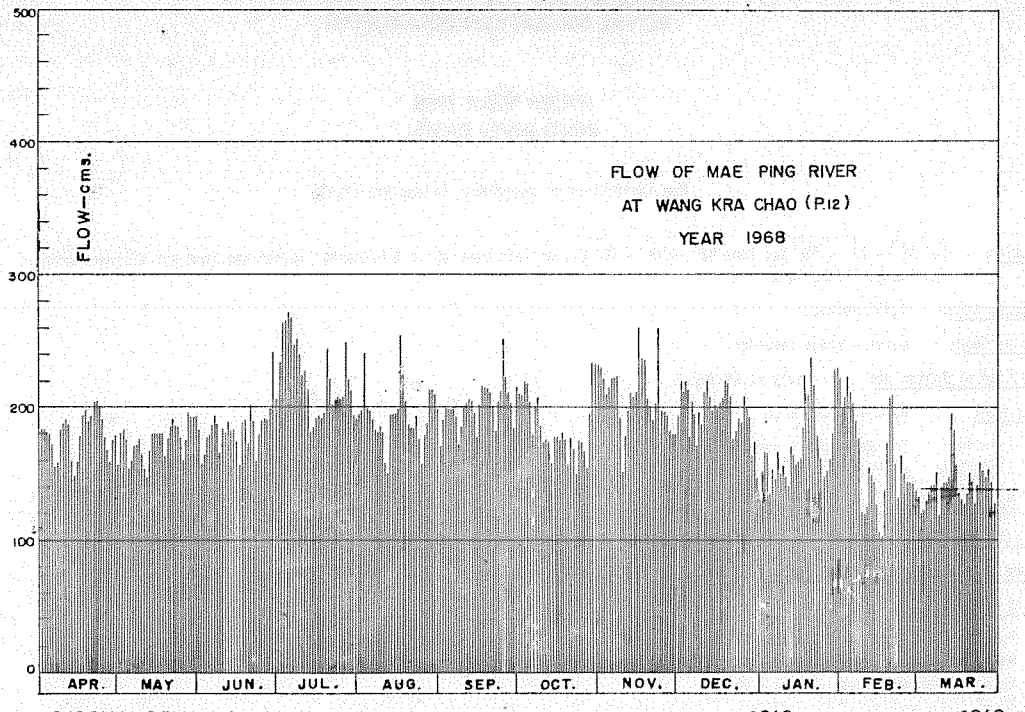
General Description: Records good. Stage – discharge relationship used is defined by discharge measurements made during 1968. Flow regulated by Yanhee Reservoir. Upstream state diversion for irrigation of about 28,000 hectares. No adjustment made for virgin flow.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	136.01	135.80	135.92	136.09	135.99	135.79	136.05	136.08	136.05	135.54	136.07	135.66
2	.02	.97	.74	.28	136.03	.97	.04	.06	.05	.77	135.88	.55
3	.00	.99	.91	.32	.22	136.01	.02	135.99	.00	.82	136.09	.60
4	.01	.04	.94	.33	.03	.01	.05	136.06	.05	.81	.07	.67
5	135.97	.77	.95	.35	.04	.00	135.99	.09	135.76	.55	.01	.72
6	135.87	135.87	135.99	136.33	136.01	136.01	135.85	136.11	135.98	135.75	135.95	135.75
7	.82	.92	136.01	.23	135.97	135.96	.89	.11	.96	.66	.92	.73
8	.94	.93	135.96	.27	.95	.81	136.01	.09	.78	.82	.86	.80
9	136.03	.95	.80	.24	.98	.98	135.93	135.92	.98	.70	.47	.52
10	.04	.91	.97	.13	.95	136.02	.90	.71	.91	.76	.54	.75
11	136.05	135.81	135.94	136.18	135.80	136.03	135.92	135.93	136.04	135.71	135.64	135.76
12	.03	.76	.99	.12	.76	.04	.89	.98	.08	.63	.80	.76
13	135.84	.90	136.00	.02	.97	.03	.68	136.03	.00	.84	.76	.80
14	.74	.95	.01	135.86	.97	135.97	.90	.00	135.97	.79	.73	136.03
15	.90	.95	135.95	136.00	.97	.86	.91	.04	136.00	.76	.55	135.92
16	135.99	135.95	135.80	136.01	135.99	136.03	135.89	136.23	135.97	135.79	135.44	135.72
17	136.06	.95	.98	.01	136.22	.05	.90	.14	136.01	.80	.47	.69
18	.08	.95	136.01	.00	.07	.04	.92	.14	.03	136.09	.79	.60
19	.02	.79	135.99	.05	.00	.04	.88	135.96	.08	135.89	.90	.67
20	.08	.95	.81	.03	135.97	.02	.67	.99	.07	136.09	136.01	.70
21	136.05	135.98	136.05	136.06	135.96	135.97	135.90	135.96	136.00	136.14	136.02	135.75
22	.08	136.00	135.94	.05	.96	.84	.84	.97	135.77	.02	135.68	.65
23	.08	135.98	.79	.04	136.00	136.02	.71	136.26	.91	135.79	.58	.51
24	.06	136.01	.97	.05	135.91	.06	.89	.07	.95	.79	.80	.73
25	135.98	135.95	.99	.03	.79	.22	.89	135.99	.93	.73	.73	.79
26	135.92	135.84	136.00	136.05	135.94	136.06	135.85	135.99	136.00	135.59	135.73	135.76
27	.90	.99	.00	.25	.98	.05	.66	.98	135.95	.79	.73	.75
28	.78	136.05	.00	.09	136.02	.01	.95	.91	.92	.83	.73	.79
29	.95	.02	.23	.10	.02	135.88	136.09	.92	.74	.98		.72
30	.96	135.98	.04	.01	.01	136.07	.07	.90	.86	136.10		.55
31		.98		.00	135.95		.09		.67	.11		.78
Mean	135.97	135.93	135.96	136.11	135.98	135.99	135.91	136.02	135.95	135.82	135.78	135.71
Max.	136.08	136.05	136.23	136.35	136.22	136.22	136.09	136.26	136.08	136.14	136.09	136.03
Min.	135.74	135.76	135.80	135.86	135.76	135.79	135.66	135.71	135.67	135.54	135.44	135.51

WATER YEAR 1968 : Max. 136.35 m. Min. 135.44 m.

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	182	148	180	208	195	155	210	231	208	120	219	152
2	184	180	146	254	197	191	208	227	219	197	178	116
3	180	184	172	264	241	199	219	210	208	168	224	123
4	182	174	178	266	197	199	217	210	219	165	219	129
5	174	143	180	272	199	197	201	217	159	121	206	136
6	155	161	189	266	195	199	172	222	204	153	193	141
7	146	170	193	241	184	189	201	222	193	138	186	158
8	168	172	182	251	180	155	206	197	157	166	174	150
9	186	176	152	243	186	193	178	180	197	146	110	106
10	189	168	184	217	180	201	172	141	182	155	120	141
11	191	150	178	229	152	204	176	182	213	146	127	143
12	186	141	189	215	145	206	174	199	219	133	153	143
13	190	170	182	193	195	204	156	210	201	170	146	150
14	133	180	184	161	195	191	176	204	195	161	141	195
15	161	180	172	191	195	168	178	213	201	159	114	172
16	178	180	145	193	199	210	174	259	195	161	100	156
17	193	180	156	195	254	215	176	236	204	163	104	133
18	197	180	193	191	212	213	180	236	208	224	152	120
19	184	156	189	201	193	213	172	195	219	180	182	130
20	197	180	153	243	186	208	135	201	217	224	206	135
21	191	186	201	254	184	197	176	189	201	236	208	150
22	204	191	178	201	184	166	165	191	155	208	141	133
23	204	180	150	206	195	204	141	259	182	161	118	113
24	199	186	184	208	174	213	174	213	191	161	163	146
25	182	174	189	204	152	231	174	195	186	150	150	157
26	170	153	191	208	180	213	166	195	208	127	143	148
27	166	182	191	249	189	210	133	193	197	161	143	146
28	145	195	189	210	213	201	201	178	191	161	143	153
29	176	189	241	213	215	174	234	180	155	191	–	141
30	178	193	197	193	210	215	229	176	174	227	–	116
31	–	193	–	191	197	–	234	–	139	229	–	152
Total	5,331	5,389	5,438	6,779	5,972	5,556	5,688	6,161	5,694	5,215	4,463	4,326
Mean	178	174	181	219	193	199	183	205	193	168	159	139
Max.	204	195	241	272	254	251	234	259	219	236	224	195
Min.	133	141	145	161	145	155	133	141	139	120	100	106
Runoff - mcm.	460.598	465.610	469.843	585.706	515.861	514.771	491.443	532.310	517.882	450.506	385.603	373.766

WATER YEAR 1968 : Max. 272 Min. 100 Mean 183 Annual Runoff 5,764.089 mcm.

Momentary Peak Discharge

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

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
PING RIVER BASIN

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

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

Drainage Area: 1,765 sq.km.

Type of Gage: Water – stage recorder.

Zero Gage at Bottom at: + 441.31 m. (M.S.L.)

Bench Mark: B.M. – R.I.D. No.6

Location: In rubber plant garden infront of gaging station.
Elevation: + 444.360 m. (M.S.L.)

Gage Reading Frequency: Recording.

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

Period of Available Gage Records: 1952 to date.

Rating Operation:

Period of Rating: 1952 – 71
Rated by Float:
Rated by Current Meter: 1952 – 71

Stability of Channel Regimes: Unstable, shifting adjustment is used for flow computation.

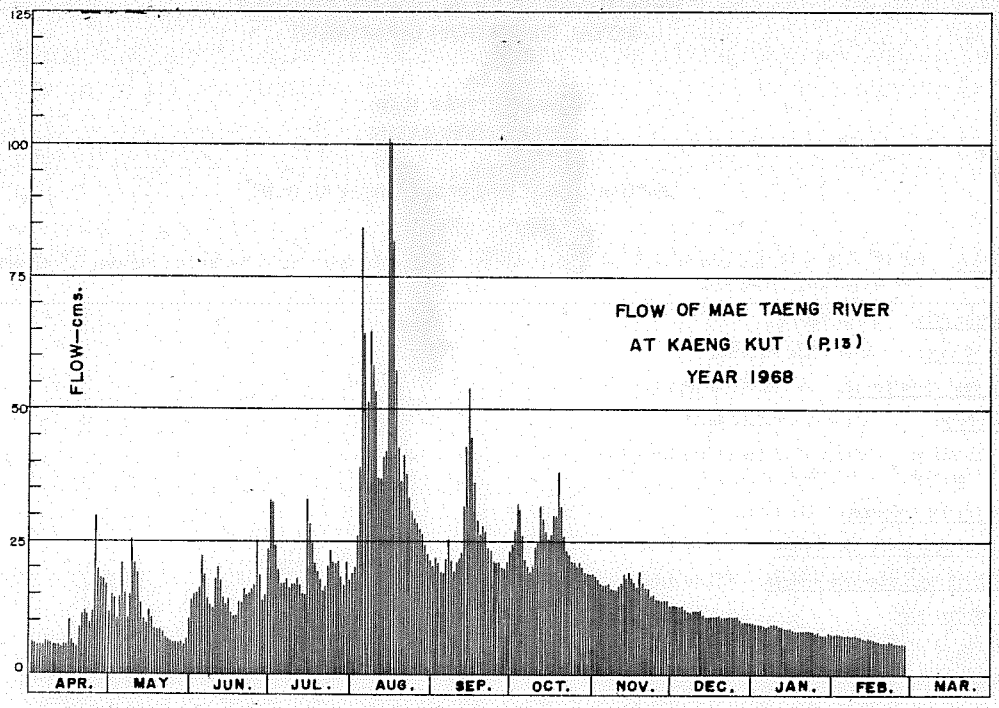
Overbank Flow Conditions: No overbank flow.

General Description: Records fair. Stage – discharge relationship used is defined by discharge measurements made during 1968. No upstream state diversions for irrigation except those built by local residents. No adjustment made for virgin flow.

GAGE HEIGHT IN METER (M.S.L), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	441.94	442.13	442.15	442.46	442.23	442.29	442.34	442.23	442.12	442.04	441.98	
2	.93	.18	.17	.44	.23	.33	.39	.22	.12	.03	.98	
3	.93	.07	.17	.27	.36	.31	.47	.21	.12	.03	.97	
4	.93	.05	.21	.23	.59	.28	.45	.20	.11	.03	.97	
5	.93	.29	.30	.19	443.16	.28	.35	.20	.11	.02	.97	
6	441.95	442.18	442.18	442.19	442.80	442.33	442.29	442.19	442.10	442.02	441.97	
7	.94	.09	.15	.21	.75	.38	.27	.19	.10	.02	.97	
8	.94	.05	.12	.17	.95	.29	.24	.18	.10	.03	.97	
9	.93	.36	.09	.20	.81	.25	.26	.18	.10	.03	.97	
10	.93	.28	.23	.19	.75	.31	.33	.18	.09	.03	.96	
11	441.92	442.24	442.26	442.21	442.58	442.32	442.33	442.19	442.09	442.02	441.96	
12	.92	.23	.19	.20	.55	.33	.46	.19	.09	.02	.95	
13	.94	.10	.12	.16	.61	.60	.42	.24	.08	.01	.95	
14	442.00	.06	.11	.15	.57	.73	.59	.22	.08	.01	.95	
15	.07	.03	.12	.47	443.24	.82	.35	.23	.08	.01	.95	
16	441.97	442.11	442.07	442.38	443.22	442.65	442.36	442.21	442.08	448.00	441.94	
17	.95	.04	.05	.30	442.88	.46	.43	.19	.07	.00	.94	
18	.94	.01	.06	.23	.71	.38	.44	.18	.07	.00	.94	
19	442.05	.01	.13	.24	.60	.35	.55	.23	.07	.00	.93	
20	.11	.00	.11	.20	.59	.39	.43	.20	.07	.00	.93	
21	442.13	442.00	442.16	442.14	442.64	442.35	442.34	442.18	442.07	442.00	441.93	
22	.09	441.97	.14	.22	.54	.31	.30	.17	.06	.00	.93	
23	.02	.96	.14	.29	.51	.31	.29	.16	.06	.00	.93	
24	.09	.95	.16	.30	.46	.28	.28	.15	.06	.00	.92	
25	.46	.94	.15	.26	.44	.27	.27	.14	.06	441.99	.92	
26	442.26	441.95	442.33	442.28	442.42	442.27	442.26	442.14	442.06	441.99	441.92	
27	.25	.94	.21	.28	.41	.25	.27	.13	.05	.98	.92	
28	.23	.95	.11	.19	.37	.25	.24	.13	.05	.98	.92	
29	.21	.93	.09	.18	.35	.28	.24	.13	.05	.98		
30	.09	.94	.31	.28	.32	.32	.23	.12	.04	.99		
31		442.08		.19	.30				.04	.99		
Mean	442.03	442.07	442.16	442.25	442.61	442.36	442.34	442.18	442.08	442.01	442.95	
Max.	442.46	442.36	442.33	442.47	443.24	442.82	442.55	442.24	442.12	442.04	441.98	
Min.	441.92	441.93	442.05	442.14	442.23	442.25	442.23	442.12	442.04	441.98	441.92	

WATER YEAR 1968 : Max. 443.24 m. Min. m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	5.75	13	14	33	19	20	24	19	13	9.90	7.50	
2	5.40	15	15	32	19	22	27	18	13	9.50	7.90	
3	5.40	11	15	21	26	21	32	18	13	9.50	7.50	
4	5.40	9.90	17	19	41	19	31	17	13	9.50	7.50	
5	5.40	21	22	17	84	19	25	17	13	9.10	7.50	
6	6.10	16	16	17	53	22	21	17	12	9.10	7.50	
7	5.75	11	14	18	49	25	20	17	12	9.10	7.50	
8	5.75	9.90	13	16	65	20	19	16	12	9.50	7.50	
9	5.40	26	11	17	54	18	20	16	12	9.50	7.50	
10	5.40	21	18	17	49	21	24	16	12	9.50	7.15	
11	5.05	19	20	18	36	22	24	17	12	9.10	7.15	
12	5.05	18	17	17	37	23	32	17	12	9.10	6.80	
13	5.75	12	14	15	41	37	29	19	11	8.70	6.80	
14	7.15	10	13	15	38	46	27	18	11	8.70	6.80	
15	9.90	9.10	14	33	101	54	25	19	11	8.70	6.80	
16	6.10	12	11	27	99	40	26	18	11	8.30	6.45	
17	5.40	9.50	11	23	59	32	30	17	11	8.30	6.45	
18	5.05	8.30	11	19	45	27	30	16	11	8.30	6.45	
19	9.10	8.30	14	19	37	26	38	19	11	8.30	6.10	
20	11	7.90	13	17	36	28	30	17	11	8.30	6.10	
21	12	7.90	16	14	41	26	25	16	11	8.30	6.10	
22	11	6.80	15	18	34	23	23	16	11	8.30	6.10	
23	7.90	6.45	15	22	33	23	22	15	11	8.30	6.10	
24	11	6.10	16	23	30	21	21	15	11	8.30	5.75	
25	30	5.75	15	20	29	21	21	14	11	7.90	5.75	
26	19	6.10	25	21	28	21	20	14	11	7.90	5.75	
27	18	5.75	18	21	27	20	21	14	10	7.50	5.75	
28	18	6.10	13	17	25	20	20	14	10	7.50	5.75	
29	17	5.40	12	16	24	21	19	14	10	7.50	–	
30	11	5.75	24	21	22	23	19	13	9.90	7.90	–	
31	–	11	–	17	21	–	19	–	9.90	7.90	–	
Total	280.20	341.00	462	620	1,302	761	764	493	352.80	267.30	188.00	
Mean	9.34	11.0	15.4	20.0	42.0	25.4	24.6	16.4	11.4	8.62	6.71	
Max.	30	26	25	33	101	54	38	19	13	9.90	7.90	
Min.	5.05	5.40	11	14	19	18	19	13	9.90	7.50	5.75	
Runoff - mcm.	24.209	29.462	39.917	53.568	112.493	65.750	66.010	42.595	30.482	23.095	16.243	

WATER YEAR 1968 : Max. 101 Min. Mean Annual Runoff mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Aug.15	11.00	443.49	128				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
PING RIVER BASIN

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

Location: Lat 18° - 13' - 49" N., Long 98° - 33' - 3[illegible] E., on right bank near bridge on Hot - Mae Sariang Highway, 7.5 kilometers from 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./R.I.D. No.13

Location: Infront of office of station P.14
Elevation: + 282.079 m. (M.S.L.)

Gage Reading Frequency: Recording.

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

Period of Available Gage Records: 1953 to date.

Rating Operation:

Period of Rating: 1953 - 60, 1968 to date
Rated by Float:
Rated by Current Meter: 1953 - 60, 1968 to date

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

Overbank Flow Conditions: No overbank flow.

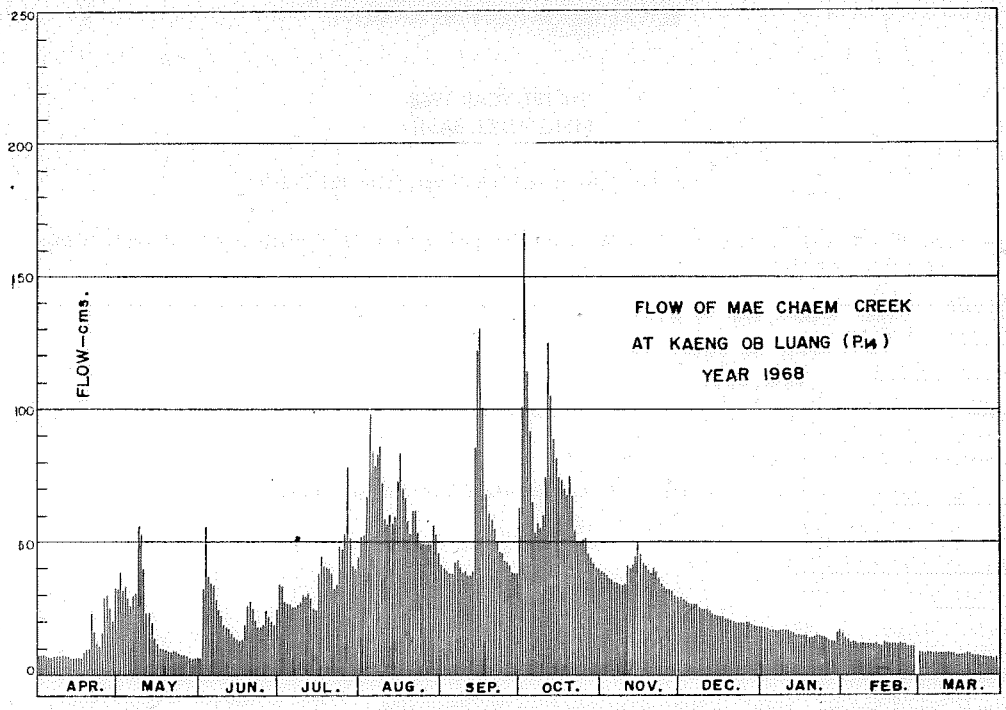
General Description: Records fair. Stage - discharge relationship used is defined by discharge measurements made during 1969. No upstream state diversions for irrigation except those built by local residents. No adjustment made for virgin flow.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	276.82	277.23	276.80	277.28	277.49	277.36	277.59	277.33	277.21	277.04	277.00	276.85
2	.82	.32	277.19	.25	.45	.35	278.01	.33	.20	.04	276.98	.85
3	.82	.21	.52	.18	.52	.33	.39	.31	.19	.03	.96	.85
4	.81	.26	.30	.18	.67	.32	.02	.30	.19	.03	.96	.85
5	.81	.18	.28	.19	.91	.31	277.75	.30	.18	.03	.95	.84
6	276.81	277.16	277.27	277.17	277.76	277.37	277.55	277.29	277.18	277.02	276.94	276.84
7	.82	.24	.20	.16	.70	.38	.46	.29	.17	.02	.94	.84
8	.82	.24	.14	.17	.80	.34	.53	.28	.16	.02	.94	.83
9	.82	.51	.11	.19	.69	.32	.49	.28	.15	.02	.94	.84
10	.82	.46	.05	.23	.54	.33	.58	.28	.15	.02	.94	.84
11	276.82	277.21	277.04	277.23	277.52	277.31	277.72	277.36	277.15	277.02	276.94	276.84
12	.81	.07	.02	.22	.55	.31	278.10	.34	.14	.01	.93	.84
13	.81	.13	.00	.19	.52	.45	277.94	.37	.13	.01	.93	.83
14	.80	.06	276.97	.14	.54	.90	.78	.40	.12	.00	.93	.83
15	.80	276.94	.95	.14	.65	278.10	.75	.46	.11	276.99	.92	.83
16	276.80	276.91	276.93	277.32	277.77	278.14	277.68	277.38	277.11	276.99	276.92	276.83
17	.80	.89	.98	.39	.65	277.73	.68	.37	.11	.99	.96	.83
18	.86	.88	277.13	.34	.63	.58	.65	.36	.10	.99	.94	.83
19	.89	.87	.17	.34	.51	.57	.62	.33	.09	.98	.93	.84
20	.90	.87	.20	.35	.46	.55	.70	.31	.09	.98	.93	.83
21	277.12	276.86	277.12	277.32	277.58	277.51	277.57	277.35	277.08	277.00	276.93	276.82
22	276.99	.87	.08	.24	.58	.44	.48	.32	.07	.00	.93	.82
23	.94	.86	.05	.26	.46	.41	.45	.29	.07	.00	.93	.82
24	.92	.84	.04	.43	.45	.41	.46	.27	.07	276.99	.92	.81
25	277.03	.83	.06	.41	.44	.38	.47	.26	.08	.98	.92	.81
26	277.21	276.83	277.14	277.48	277.44	277.37	277.41	277.25	277.07	276.97	276.92	276.80
27	.23	.82	.10	.73	.45	.35	.39	.25	.07	.96	.91	.80
28	.09	.81	.08	.48	.45	.32	.38	.23	.06	.96	.91	.80
29	.06	.79	.04	.36	.52	.32	.36	.22	.05	.95		.80
30	.26	.81	.15	.34	.46	.32	.35	.21	.05	277.01		.80
31		.80		.37	.39		.34		.05	.03		.80
Mean	276.91	277.02	277.10	277.29	277.57	277.50	277.63	277.31	277.12	277.00	276.94	276.83
Max.	277.26	277.51	277.52	277.73	277.91	278.14	278.39	277.46	277.21	277.04	277.00	276.85
Min.	276.80	276.79	277.80	277.14	277.39	277.31	277.34	277.21	277.05	276.95	276.91	276.80

WATER YEAR 1968 : Max. 278.39 m. Min. 276.79 m.

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	7.30	30	6.50	34	53	41	63	39	29	18	15	8.50
2	7.30	38	27	32	49	40	112	39	28	18	14	8.50
3	7.30	29	56	27	56	39	116	37	27	17	13	8.50
4	6.90	33	36	27	72	38	113	36	27	17	13	8.50
5	6.90	27	34	27	99	37	80	36	27	17	13	8.10
6	6.90	25	34	26	82	42	59	35	27	17	12	8.10
7	7.30	31	28	25	75	43	50	35	26	17	12	8.10
8	7.30	31	24	26	86	40	57	34	25	17	12	8.10
9	7.30	55	22	27	74	38	53	34	25	17	12	8.10
10	7.30	50	18	30	58	39	62	34	25	17	12	8.10
11	7.30	29	18	30	56	37	77	41	25	17	12	8.10
12	6.90	20	17	30	60	37	124	40	24	16	12	8.10
13	6.90	23	15	27	56	49	103	42	23	16	12	7.70
14	6.50	19	14	24	58	98	84	45	23	15	12	7.70
15	6.50	12	13	24	69	124	80	50	22	15	11	7.70
16	6.50	11	12	38	83	130	73	43	22	15	11	7.70
17	6.50	10	14	44	69	78	73	42	22	15	13	7.70
18	8.90	9.70	23	40	67	62	69	41	21	15	12	7.70
19	10	9.30	26	40	55	61	66	39	21	14	12	8.10
20	10	9.30	28	40	50	59	75	37	21	14	12	7.70
21	23	8.90	23	38	62	55	61	40	20	15	12	7.30
22	15	9.30	20	31	62	49	52	38	20	15	12	7.30
23	12	8.90	18	33	50	46	49	35	20	15	12	7.30
24	11	8.10	18	48	49	46	50	34	20	15	11	6.90
25	17	7.70	19	46	49	43	51	33	20	14	11	6.90
26	29	7.70	24	52	49	42	51	32	20	14	11	6.50
27	30	7.30	21	78	49	40	44	32	20	13	11	6.50
28	21	6.90	20	52	49	38	43	30	19	13	11	6.50
29	19	6.15	18	41	56	38	41	30	18	13	–	6.50
30	33	6.90	25	40	50	38	40	29	18	16	–	6.50
31	–	6.50	–	42	44	–	40	–	18	17	–	6.50
Total	357.80	585.65	671.50	1,119	1,896	1,567	2,161	1,112	703	484	338	235.10
Mean	11.9	18.9	22.4	36.1	61.2	52.2	69.7	37.1	22.7	15.6	12.1	7.58
Max.	33	55	56	78	99	130	166	50	29	18	15	8.50
Min.	6.50	6.15	6.50	24	44	37	40	29	18	13	11	6.50
Runoff – mcm.	30.914	50.600	58.018	96.682	163.814	135.389	186.710	96.077	60.739	41.818	29.203	20.313

WATER YEAR 1968 : Max. 166 Min. 6.15 Mean 30.8 Annual Runoff 970.276 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Oct.21	24.00	278.58	196				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
PING RIVER BASIN

Mae Chaem Creek at Mae Chaem Bridge, Chiang Mai (P.14 A)

Location: Lat. 18° – 12' – 02" N., Long 98° – 37' – 01" E., on right bank upstream side of bridge on Hot – Chiang Mai Highway, Amphoe Hot, Chiang Mai.

Drainage Area: 3,909 sq.km.

Type of Gage: Staff gage.

Zero Gage at Bottom at: + 262.70 m. (M.S.L.)

Bench Mark: B.M. – H.S./R.I.D. No.11

Location: Infront of office of station P.14 A
Elevation: +267.062 m. (M.S.L.)

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

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

Period of Available Gage Records: 1958 – 69

Rating Operation:

Period of Rating: 1958 – 60, 1964
Rated by Float:
Rated by Current Meter: 1958 – 60, 1964

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

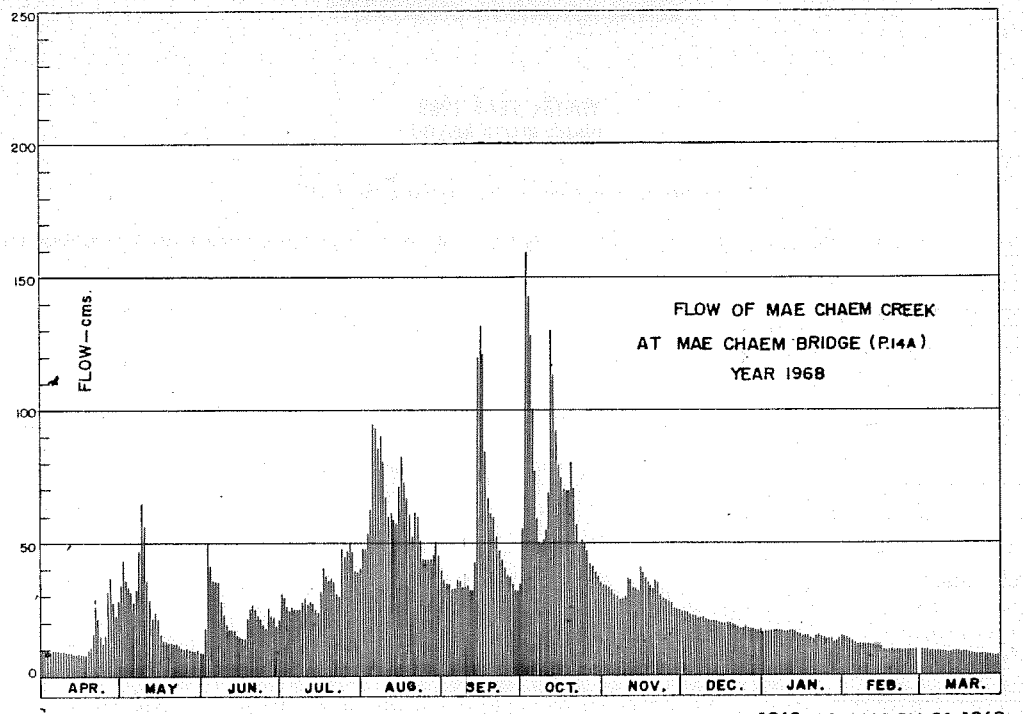
Overbank Flow Conditions: No overbank flow.

General Description: Records fair. Stage – discharge relationship used is defined by discharge measurements made during 1958 – 60 and 1964. No upstream state diversions except those built by local residents. No adjustment made for virgin flow.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	262.89	263.21	262.86	263.17	263.32	263.22	263.41	263.20	263.09	263.01	262.97	262.90
2	.89	.29	263.07	.14	.33	.21	.66	.20	.09	.01	.96	.89
3	.88	.20	.35	.10	.38	.20	264.04	.19	.09	.00	.95	.89
4	.88	.19	.23	.09	.47	.19	263.87	.17	.08	.00	.94	.88
5	.88	.17	.22	.11	.68	.18	.73	.17	.08	.00	.93	.88
6	262.88	263.11		263.09	263.66	263.22	263.45	263.16	263.07	263.00	262.93	262.88
7	.88	.22		.10	.60	.22	.36	.15	.07	.00	.92	.88
8	.87	.32	263.12	.10	.65	.19	.34	.14	.06	.00	.92	.88
9	.87	.47	.08	.13	.56	.19	.35	.14	.06	.00	.92	.88
10	.87	.40	.03	.14	.45	.20	.41	.23	.05	.01	.92	.87
11	262.86	263.21	263.00	263.11	263.42	263.18	263.53	263.22	263.05	263.00	262.92	262.87
12	.86	.09	.00	.13	.44	.18	.88	.19	.05	.00	.92	.87
13	.85	.04	.00	.11	.41	.28	.74	.19	.05	262.99	.91	.88
14	.85	.09	262.98	.09	.42	.82	.61	.18	.05	.99	.91	.88
15	.85	.02	.96	.08	.53	.90	.56	.27	.04	.98	.91	.88
16	262.85	262.96	262.95	263.22	263.60	263.90	263.53	263.23	263.04	262.98	262.90	262.87
17	.85	.94	.96	.27	.50	.60	.50	.22	.04	.98	.90	.87
18	.85	.94	263.07	.23	.49	.46	.51	.21	.04	.97	.90	.87
19	.91	.92	.10	.21	.40	.44	.50	.20	.04	.96	.89	.86
20	.91	.92	.15	.23	.35	.43	.58	.18	.03	.96	.89	.86
21	263.14	262.92	263.09	263.21	263.44	263.37	263.44	263.92	263.03	262.97	262.89	262.86
22	.01	.93	.08	.15	.43	.33	.36	.18	.03	.97	.89	.85
23	262.95	.91	.05	.16	.34	.30	.33	.16	.02	.97	.89	.85
24	.93	.90	.03	.34	.30	.27	.36	.15	.02	.96	.89	.85
25	.99	.89	.01	.28	.30	.23	.34	.14	.03	.96	.89	.85
26	263.17	262.89	263.10	263.32	263.30	263.23	263.30	263.13	263.02	262.95	262.89	262.85
27	.23	.89	.07	.35	.30	.21	.28	.12	.02	.95	.89	.85
28	.09	.88	.06	.32	.31	.18	.27	.11	.02	.94	.89	.84
29	.05	.88	.02	.24	.36	.18	.25	.10	.01	.94		.84
30	.14	.88	.04	.25	.31	.18	.23	.10	.01	.96		.84
31		.86		.25	.25		.81		.01	.98		.84
Mean	262.94	263.05	263.06	263.18	263.43	263.32	263.48	263.17	263.04	262.98	262.91	262.87
Max.	263.23	263.47	263.35	263.35	263.68	263.90	264.04	263.27	263.09	263.01	262.97	262.90
Min.	262.85	262.86	262.86	263.08	263.25	263.18	263.21	263.10	263.01	262.94	262.89	262.84

WATER YEAR 1968 : Max. 264.04 m. Min. 262.84 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31,1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	10	35	8.50	31	47	36	57	34	24	17	15	10
2	10	43	22	29	48	35	92	34	24	17	14	10
3	9.50	34	50	25	54	34	159	33	24	17	14	10
4	9.50	33	37	24	65	33	127	31	23	17	13	9.50
5	9.50	31	36	26	95	32	103	31	23	17	12	9.50
6	9.50	26	36	24	92	36	62	30	22	17	12	9.50
7	9.50	36	35	25	82	36	51	29	22	17	12	9.50
8	9.00	47	27	25	90	33	49	29	22	17	12	9.50
9	9.00	65	23	28	77	33	50	29	22	17	12	9.50
10	9.00	56	19	29	62	34	57	37	21	17	12	9.00
11	8.50	35	17	26	58	32	73	36	21	17	12	9.00
12	8.50	24	17	28	61	32	129	33	21	17	12	9.00
13	8.00	20	17	26	57	42	104	33	21	16	11	9.50
14	8.00	24	15	24	58	118	84	32	21	16	11	9.50
15	8.00	18	14	23	73	132	77	41	20	15	11	9.50
16	8.00	14	14	36	62	132	73	37	20	15	10	9.00
17	8.00	13	14	41	69	82	69	36	20	15	10	9.00
18	8.00	13	22	37	67	64	70	35	20	15	10	9.00
19	11	12	25	35	56	61	69	34	20	14	10	8.50
20	11	12	29	37	50	60	80	32	19	14	10	8.50
21	29	12	24	35	61	52	61	36	19	15	10	8.50
22	17	12	23	29	60	48	51	32	19	15	10	8.00
23	14	11	21	30	49	44	48	30	18	15	10	8.00
24	12	10	19	49	44	41	51	29	18	14	10	8.00
25	16	10	17	42	44	37	49	29	19	14	10	8.00
26	31	10	25	47	44	37	44	28	18	14	10	8.00
27	37	10	22	50	44	35	42	27	18	14	10	8.00
28	24	9.50	22	47	45	32	41	26	18	13	10	7.50
29	21	9.50	18	38	51	32	39	25	17	13	–	7.50
30	29	9.50	20	39	45	32	37	25	17	14	–	7.50
31	–	8.50	–	39	39	–	35	–	17	15	–	7.50
Total	411.50	703.00	688.50	1,024	1,869	1,487	2,133	953	628	480	315	273.00
Mean	13.7	22.7	22.9	33.0	60.3	49.6	68.8	31.8	20.2	15.5	11.2	8.81
Max.	37	65.	50	50	95	132	159	41	24	17	15	10
Min.	8.00	8.50	8.50	23	39	32	35	25	17	13	10.	7.50
Runoff - mcm.	35.554	60.739	59.486	88.474	161.482	128.477	184.291	82.339	54.259	41.472	27.216	23.587

WATER YEAR 1968 : Max. 159 Min. 7.50 Mean 30.0 Annual Runoff 947.376 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Oct.3	09.00	264.15	181				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
PING RIVER BASIN

Mae 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.2 – H.S.

Location: Near staff gage site infront of Wat Si Phirom.
Elevation: +56.442 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: 1954 – 59, 1962 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.

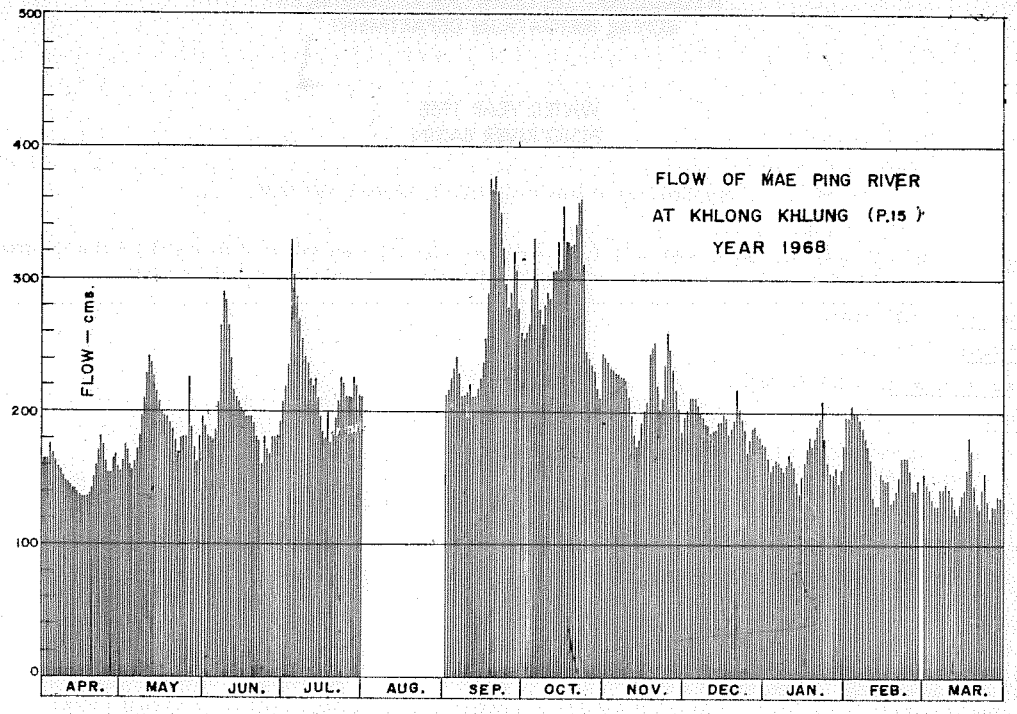
General Description: Records fair. Stage – discharge relationship used is defined by discharge measurements made during 1968. Flow regulated by Yanhee Reservoir. No adjustment made for virgin flow.

Remarks: No record for period Aug. 1 – 31.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	53.69	53.70	53.78	53.86		53.85	54.00	53.95	53.80	53.73	53.80	53.65
2	.68	.73	.75	.89		.87	.02	.94	.82	.68	.80	.60
3	.73	.71	.75	.95		.90	.04	.92	.85	.65	.83	.60
4	.70	.65	.73	54.21		.92	.13	.92	.85	.67	.81	.55
5	.69	.67	.76	.14		.95	.22	.91	.85	.69	.81	.55
6	53.67	53.71	53.80	54.09		53.90	54.10	53.91	53.83	53.68	53.79	53.55
7	.66	.75	54.03	.04		.85	.06	.90	.81	.67	.77	.60
8	.64	.79	.10	53.99		.85	.00	.90	.80	.65	.75	.60
9	.62	.86	.08	.95		.86	.07	.89	.78	.67	.73	.62
10	.62	.92	.03	.94		.88	.10	.85	.78	.71	.67	.60
11	53.60	53.95	53.92	53.90		53.85	54.08	53.80	53.75	53.69	53.55	53.60
12	.60	.93	.85	.87		.85	.15	.75	.77	.67	.55	.55
13	.59	.90	.85	.90		.87	.15	.72	.77	.60	.55	.50
14	.58	.85	.83	.85		.90	.21	.75	.79	.57	.65	.55
15	.57	.83	.82	.80		.92	.11	.79	.79	.65	.63	.58
16	53.57	53.81	53.80	53.75	NO RECORD	53.99	54.29	53.82	53.81	53.69	53.63	53.60
17	.57	.80	.80	.75		54.11	.20	.82	.80	.72	.61	.65
18	.58	.80	.80	.81		.34	.21	.96	.75	.75	.55	.75
19	.60	.78	.80	.70		.31	.20	.98	.77	.72	.57	.70
20	.65	.77	.75	.78		.35	.21	.99	.80	.75	.60	.60
21	53.70	53.73	53.75	53.81		54.30	54.26	53.82	53.87	53.78	53.65	53.55
22	.75	.70	.72	.85		.24	.30	.82	.80	.80	.70	.53
23	.73	.75	.67	.90		.17	.30	.85	.79	.84	.70	.60
24	.70	.75	.75	.87		.09	53.99	.94	.75	.70	.70	.65
25	.65	.75	.70	.85		.05	.95	54.01	.69	.68	.65	.55
26	53.65	53.90	53.71	53.85		54.11	53.95	53.94	53.75	53.65	53.60	53.50
27	.69	.75	.75	.85		.19	.93	.90	.77	.65	.60	.55
28	.71	.73	.75	.90		.13	.91	.85	.78	.67	.63	.55
29	.67	.65	.76	.87		.06	.85	.80	.75	.59	–	.58
30	.65	.75	.81	.85		53.99	.85	.75	.75	.66	–	.58
31	–	.80	–	.85		–	.96	–	.73	.73	–	.60
Mean	53.65	53.77	53.81	53.88		54.02	54.09	53.87	53.78	53.69	53.67	53.59
Max.	53.75	53.95	54.10	54.21		54.35	54.30	54.01	53.85	53.84	53.83	53.75
Min.	53.57	53.65	53.67	53.70		53.85	53.85	53.72	53.69	53.57	53.55	53.50

WATER YEAR 1968 : Max. 54.35 m. Min. 53.50 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	164	166	190	214		211	256	241	196	175	196	154
2	161	175	181	223		217	263	238	202	161	196	142
3	175	169	181	241		226	270	232	211	154	205	142
4	166	154	175	328		232	300	232	211	159	199	130
5	164	159	184	304		241	331	229	211	164	199	130
6	159	169	196	288		226	290	229	205	161	193	130
7	156	181	266	270		211	277	226	199	159	187	142
8	152	193	290	253		211	256	226	196	154	181	142
9	147	214	284	241		214	281	223	190	159	175	147
10	147	232	266	238		220	290	211	190	169	159	142
11	142	241	232	226		211	284	196	181	164	130	142
12	142	235	211	217		211	307	181	187	159	130	130
13	140	226	211	226		217	307	172	187	142	130	118
14	137	211	205	211		226	328	181	193	135	154	130
15	135	205	202	196		232	293	193	193	154	149	137
16	135	199	196	181	-	253	356	202	199	164	149	142
17	135	196	196	181	NO RECORD	293	324	202	196	172	144	154
18	137	196	196	199		374	328	244	181	181	130	181
19	142	190	196	166		364	324	250	187	172	135	166
20	154	187	181	190	-	378	328	253	196	181	142	142
21	166	175	181	199		360	346	202	217	190	154	130
22	181	166	172	211		338	360	202	196	196	166	125
23	175	181	159	226		314	360	211	193	208	166	142
24	166	181	181	217		288	253	238	181	166	166	154
25	154	181	166	211		273	241	259	164	161	154	130
26	154	226	169	211		293	241	238	181	154	142	118
27	164	181	181	211		321	235	226	187	154	142	130
28	169	175	181	226		300	229	211	190	159	149	130
29	159	154	184	217		277	211	196	181	140	–	137
30	154	181	199	211		253	211	181	181	156	–	137
31	–	196	–	211		–	244	–	175	175	–	142
Total	4,632	5,895	6,012	6,944		7,985	9,024	6,525	5,957	5,098	4,522	4,318
Mean	154	190	200	224		266	291	217	192	164	161	139
Max.	181	241	290	328		378	360	259	211	208	205	181
Min.	135	154	159	166		211	211	172	164	140	130	118
Runoff - mcm.	400.204	509.328	519.436	599.961		689.904	779.673	563.760	514.684	440.467	390.700	373.075

WATER YEAR 1968 : Max. 378 Min. 118 Mean Annual Runoff mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sep.20	12.00	54.35	378				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
PING RIVER BASIN

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

Location: Lat 16° – 03' – 42" N., Long 99° – 51' – 51" E., on right bank about 100 meters infront of the district office of Amphoe Khanu Woralaksaburi, 6 kilometer on right side of Phahon Yothin Highway at Ban Salok Bat, Kamphaeng Phet.

Drainage Area: 45,677 sq.km.

Type of Gage: Staff gage.

Zero Gage at Bottom at: +41.78 m. (M.S.L.)

Bench Mark: B.M. – P.16

Location: At the gate infront Amphoe Khanu Woralaksaburi Office.
Elevation: +45.976 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 – 60, 1962 to date.

Rating Operation:

Period of Rating: 1960, 1967 to date.
Rated by Float: –
Rated by Current Meter: 1960, 1967 to date.

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

Overbank Flow Conditions: No overbank flow.

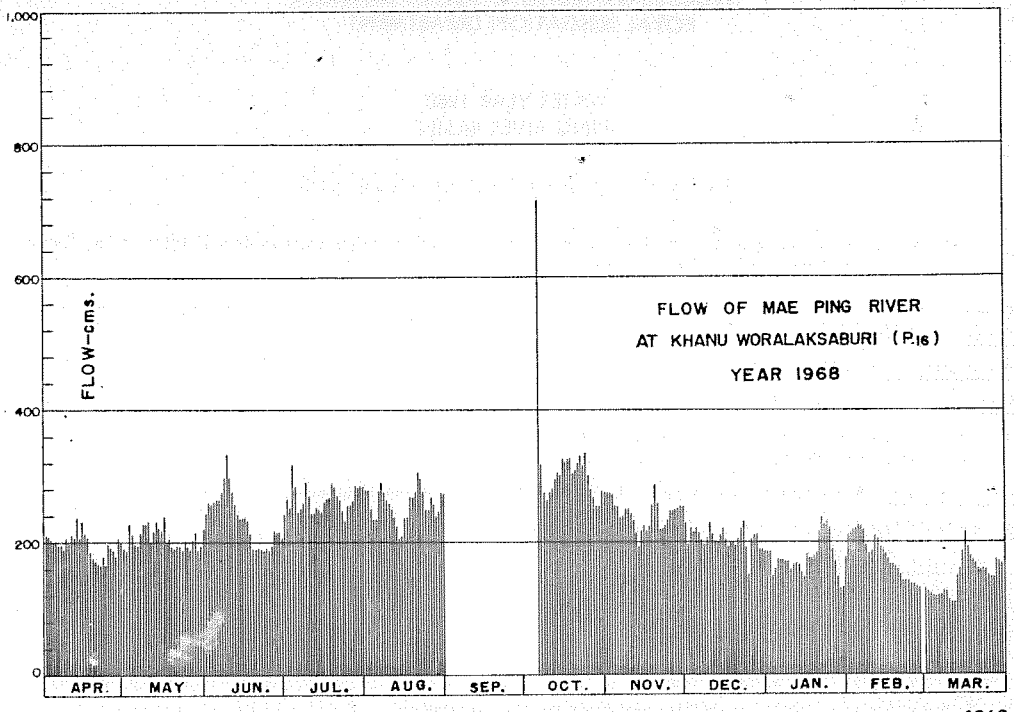
General Description: Records fair. Stage – discharge relationship used is defined by discharge measurements made during 1968. Upstream state diversions for irrigation of about 40,000 hectares at Yanhee Reservoir. No adjustment made for virgin flow.

Remarks: No records for period Sept. 1 – Oct.5

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	43.36	43.29	43.46	43.49	43.55			43.53	43.37	43.27	43.36	43.07
2	.36	.29	.50	.51	.55			.54	.28	.27	.36	.05
3	.32	.41	.48	.45	.46			.53	.38	.12	.38	.03
4	.32	.35	.50	.65	.42			.46	.36	.16	.39	.02
5	.33	.30	.51	.54	.41			.46	.39	.22	.40	.02
6	43.30	43.30	43.51	43.45	43.54		44.52	43.43	43.36	43.23	43.39	43.03
7	.31	.37	.54	.47	.58		43.59	.43	.32	.23	.37	.03
8	.27	.41	.61	.50	.53		.54	.46	.30	.22	.28	.06
9	.34	.40	.69	.58	.50		.50	.47	.37	.22	.26	.04
10	.32	.42	.57	.53	.49		.54	.45	.41	.16	.28	.00
11	43.36	43.30	43.52	43.45	43.47		43.55	43.42	43.33	43.20	43.35	42.98
12	.33	.37	.48	.45	.42		.58	.36	.32	.21	.34	.99
13	.44	.42	.44	.48	.37		.62	.26	.32	.20	.30	43.15
14	.29	.40	.43	.47	.32		.59	.37	.35	.15	.28	.19
15	.42	.36	.44	.45	.36		.67	.40	.38	.08	.26	.28
16	43.36	43.44	43.43	43.50	43.43		43.65	43.36	43.31	43.26	43.23	43.37
17	.34	.32	.41	.51	.49		.67	.39	.29	.23	.20	.27
18	.26	.34	.31	.52	.52		.67	.47	.32	.24	.20	.24
19	.24	.30	.28	.58	.52		.60	.57	.32	.25	.19	.22
20	.22	.29	.29	.55	.54		.63	.48	.30	.27	.17	.19
21	43.21	43.31	43.30	43.52	43.62		43.66	43.38	43.33	43.38	43.12	43.18
22	.20	.30	.29	.50	.57		.68	.38	.39	.43	.11	.17
23	.25	.28	.27	.45	.51		.64	.40	.42	.39	.12	.18
24	.17	.33	.29	.40	.45		.69	.42	.21	.42	.11	.17
25	.32	.29	.28	.49	.47		.57	.46	.10	.35	.09	.14
26	43.29	43.28	43.30	43.48	43.52		43.55	43.46	43.32	43.26	43.10	43.14
27	.29	.33	.38	.51	.48		.51	.47	.35	.21	.08	.14
28	.21	.37	.37	.57	.42		.48	.47	.36	.11	.07	.23
29	.34	.26	.37	.56	.47		.48	.48	.27	.05	–	.22
30	.31	.31	.33	.57	.54		.54	.48	.29	.07	–	.21
31	–	.38	–	.55	.53		.54	–	.27	.27	–	.20
Mean	43.30	43.34	43.42	43.51	43.48			43.44	43.32	43.23	43.25	43.13
Max.	43.44	43.44	43.69	43.65	43.62			43.57	43.42	43.43	43.40	43.37
Min.	43.17	43.26	43.28	43.40	43.32			43.26	43.10	43.05	43.07	42.98

WATER YEAR 1968 : Max. 43.69 m. Min. 42.98 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	211	189	248	256	278			271	214	184	211	129
2	211	189	260	264	278			274	186	184	211	124
3	198	228	253	242	246			271	218	142	218	119
4	198	208	260	316	231			246	211	153	221	117
5	202	192	264	274	228			246	221	170	224	117
6	192	192	264	242	274		714	235	211	172	221	119
7	195	214	274	249	289		292	235	198	172	214	119
8	184	228	300	260	271		274	246	192	170	186	126
9	205	224	332	289	260		260	249	214	170	181	122
10	198	231	285	271	256		274	242	228	153	186	112
11	211	192	267	242	249		278	231	202	164	208	108
12	202	214	253	242	231		289	211	198	167	205	110
13	238	231	238	253	214		304	161	198	164	192	150
14	189	244	235	249	198		292	214	208	150	186	161
15	231	211	238	242	211		324	224	218	131	181	186
16	211	238	235	260	235		316	211	195	181	172	214
17	205	198	228	264	256		324	221	189	172	164	184
18	181	205	195	267	267		324	249	198	175	164	175
19	175	192	186	289	267		296	285	198	178	161	170
20	170	189	189	278	274		308	253	192	184	156	161
21	167	195	192	267	304		320	218	202	218	142	158
22	164	192	189	260	285		328	218	221	235	139	156
23	178	186	184	242	264		312	224	231	221	142	158
24	156	202	189	224	242		332	231	167	231	139	156
25	198	189	186	256	249		285	246	136	208	134	147
26	189	186	192	253	267		278	246	198	181	136	147
27	189	202	218	264	253		264	249	208	167	131	147
28	167	214	214	285	231		253	249	211	139	129	172
29	205	181	214	282	249		253	253	184	124	–	170
30	195	195	202	285	274		274	253	189	129	–	167
31	–	218	–	278	271		274	–	184	184	–	164
Total	5,815	6,349	6,982	8,145	7,902			7,182	6,220	5,373	4,954	4,565
Mean	194	205	233	263	255			239	201	173	177	147
Max.	238	238	332	316	304		714	285	231	235	224	214
Min.	156	181	186	224	198		274	181	136	124	129	108
Runoff – mcm.	502.416	548.554	603.245	703.728	682.733			620.525	537.408	464.227	428.026	394.416

WATER YEAR 1968 : Max. Min. 108 Mean Annual Runoff mcm.

Momentary Peak Discharge

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

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
PING RIVER BASIN

Mae 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 Som 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. – P.17

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 – cont.

Rating Operation:

Period of Rating: 1960, 1967 to date.
Rated by Float: –
Rated by Current Meter: 1960, 1967 to date.

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

Overbank Flow Conditions: No overbank flow.

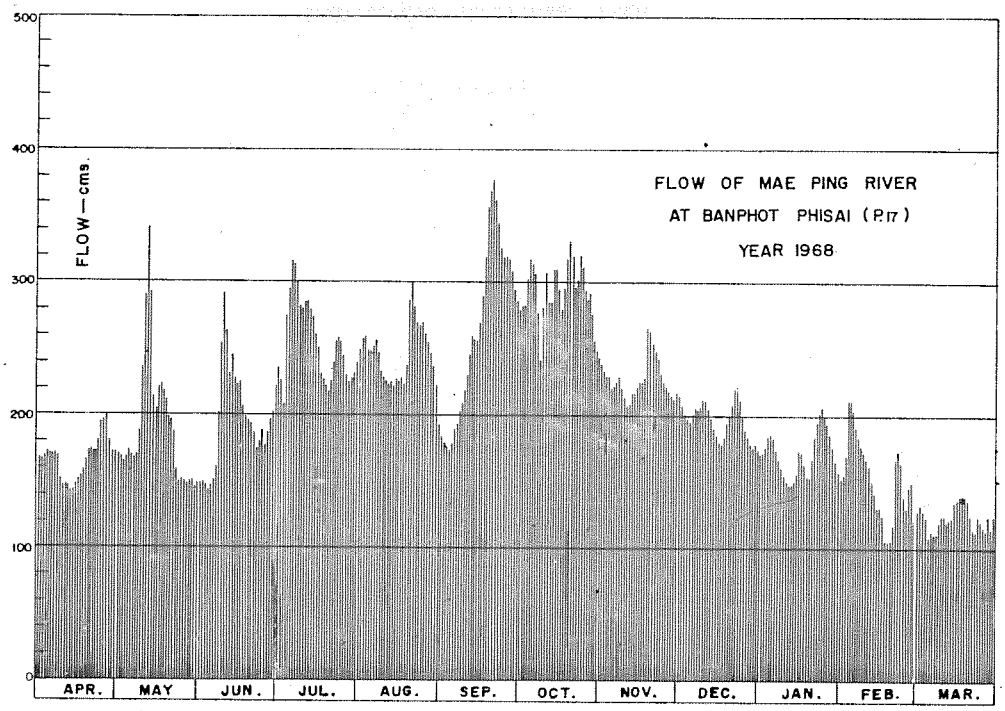
General Description: Records good. Stage – discharge relationship used is defined by discharge measurements made during 1968. Upstream state diversions for irrigation of about 40,300 hectares at Yanhee Reservoir. No adjustment made for virgin flow.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	34.88	34.89	34.79	35.13	35.17	34.95	35.27	35.14	35.05	34.89	34.80	34.70
2	.87	.88	.80	.07	.20	.93	.29	.12	.01	.89	.82	.72
3	.88	.86	.79	34.99	.21	.91	.29	.10	.00	.91	.89	.70
4	.90	.88	.77	35.27	.18	.90	.36	.10	34.99	.94	35.04	.67
5	.89	.90	.78	.34	.16	.90	.40	.07	.97	.95	.04	.59
6	34.89	34.89	34.80	35.40	35.18	34.95	35.39	35.08	35.00	34.93	34.99	34.63
7	.89	.88	.85	.39	.20	.97	.34	.09	.02	.90	.96	.62
8	.88	.86	35.04	.34	.17	35.01	.23	.10	.01	.87	.93	.62
9	.80	.95	.20	.29	.12	.02	.11	.05	.02	.84	.91	.66
10	.78	35.14	.32	.28	.10	.07	.29	.04	.04	.82	.89	.68
11	34.79	35.30	35.19	35.30	35.09	35.11	35.37	35.01	35.04	34.80	34.87	34.68
12	.78	.48	.08	.30	.08	.17	.28	.03	.01	.79	.85	.65
13	.77	.25	.16	.28	.09	.21	.30	.06	34.98	.79	.80	.67
14	.77	.06	.09	.26	.07	.20	.38	.06	.96	.80	.75	.68
15	.79	.00	.08	.21	.10	.20	.38	.08	.95	.83	.71	.73
16	34.81	35.07	35.09	35.17	35.09	35.26	35.31	35.09	34.93	34.90	34.71	34.74
17	.82	.09	.03	.11	.10	.32	.25	.09	.92	.89	.65	.76
18	.85	.07	.00	.10	.07	.44	.32	.10	.95	.82	.59	.78
19	.88	.04	34.98	.08	.11	.53	.41	.23	.98	.81	.59	.78
20	.90	34.99	.98	.06	.30	.57	.45	.22	35.00	.82	.60	.23
21	34.90	34.99	34.97	35.09	35.35	35.59	35.43	35.19	35.03	34.90	34.69	34.67
22	.90	.94	.93	.15	.27	.52	.32	.17	.07	.94	.88	.63
23	.90	.80	.88	.20	.25	.47	.36	.14	.08	.98	.90	.63
24	.98	.80	.96	.21	.83	.43	.41	.10	.04	35.01	.83	.68
25	.98	.81	.87	.19	.25	.40	.38	.09	34.99	.02	.71	.66
26	35.00	34.80	34.93	35.14	35.21	35.41	35.32	35.07	34.96	34.99	34.70	34.64
27	34.94	.79	.96	.10	.19	.40	.30	.06	.94	.96	.78	.63
28	.89	.80	.99	.09	.16	.37	.32	.05	.92	.93	.80	.68
29	.89	.80	35.01	.10	.13	.32	.21	.04	.90	.90	–	.63
30	.89	.78	.09	.12	.09	.30	.18	.06	.92	.85	–	.68
31	–	.79	–	.14	34.99	–	.16	–	.90	.83	–	.68
Mean	34.87	34.95	34.98	35.19	35.16	35.23	35.32	35.09	34.99	34.89	34.81	34.68
Max.	35.00	35.48	35.32	35.40	35.35	35.59	35.45	35.23	35.08	35.02	35.04	34.78
Min.	34.77	34.78	34.77	34.99	34.99	34.90	35.11	35.01	34.90	34.79	34.59	34.59

WATER YEAR 1968 : Max. 35.59 m. Min. 34.59 m.

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	168	171	148	236	248	186	276	239	214	171	150	128
2	166	168	150	220	256	181	282	234	203	171	155	132
3	168	164	148	197	259	176	282	228	200	176	171	128
4	173	168	143	276	250	173	304	228	197	184	211	122
5	171	173	146	297	245	173	316	220	192	186	211	105
6	171	171	150	316	250	186	313	222	200	181	197	113
7	171	168	161	313	256	192	297	225	206	173	189	111
8	168	164	211	297	248	203	265	228	203	166	181	111
9	150	186	256	282	234	206	231	214	206	159	176	120
10	146	239	291	279	228	220	282	211	211	155	171	124
11	148	285	253	285	225	231	307	203	211	150	166	124
12	146	341	222	285	222	248	279	208	203	148	161	117
13	143	270	245	279	225	259	285	217	195	148	150	122
14	143	217	225	273	220	256	310	217	189	150	139	124
15	148	200	222	259	228	256	310	222	186	157	130	135
16	152	220	225	248	225	273	288	225	181	173	130	137
17	155	225	208	231	228	291	270	225	178	171	117	141
18	161	220	200	228	220	328	291	228	186	155	105	146
19	168	211	195	222	231	357	319	265	195	152	105	146
20	173	197	195	217	285	370	331	262	200	155	107	135
21	173	197	192	225	300	377	325	253	208	173	126	122
22	173	184	181	242	276	354	291	248	220	185	168	113
23	173	150	168	256	270	338	304	239	222	195	173	113
24	195	150	189	259	265	325	319	228	211	203	157	123
25	195	152	166	253	270	316	310	225	197	206	130	120
26	200	150	181	239	259	319	291	220	189	197	128	115
27	184	148	189	228	253	316	285	217	184	189	146	113
28	171	150	197	225	245	307	291	214	178	181	150	124
29	171	150	203	228	236	291	259	211	173	173	–	113
30	171	146	225	234	225	285	250	217	178	161	–	124
31	–	148	–	239	197	–	245	–	173	157	–	124
Total	4,995	5,883	5,885	7,868	7,579	7,993	9,008	6,793	6,089	5,301	4,300	3,825
Mean	166	190	196	254	244	266	290	226	196	171	153	123
Max.	200	341	291	316	300	377	331	265	222	206	211	146
Min.	143	146	143	197	197	173	231	203	173	148	105	105
Runoff – mcm.	431.568	508.291	508.464	679.795	654.826	690.595	778.291	586.915	526.090	458.006	371.520	330.480

WATER YEAR 1968 : Max. 377 Min. 105 Mean 207 Annual Runoff 6,524.842 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sept.21	6.00	35.60	380				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
PING RIVER BASIN

Mae Ping River at Wutthikun Bridge, Tak (P.18)

Location: Lat 16° - 40' - 57" N., Long 99° - 16' - 40" E., on right bank at Wutthikun Bridge on Phahon Yothin Highway, about 30 kilometers from Tak and 35 kilometers from Kamphaeng Phet, at Ban Wang Chao, Amphoe Muang, Kamphaeng Phet.

Drainage Area: 40,273 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, 15.00 and 18.00 hours.

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

Period of Available Gage Records: 1954 - 55, 1957 - 59, 1962 - 70.

Rating Operation:

Period of Rating: 1954 - 55
Rated by Float:
Rated by Current Meter: 1954 - 55

Stability of Channel Regimes: Stable, no shifting adjustment for flow computation for year without actual ratings.

Overbank Flow Conditions: No overbank flow.

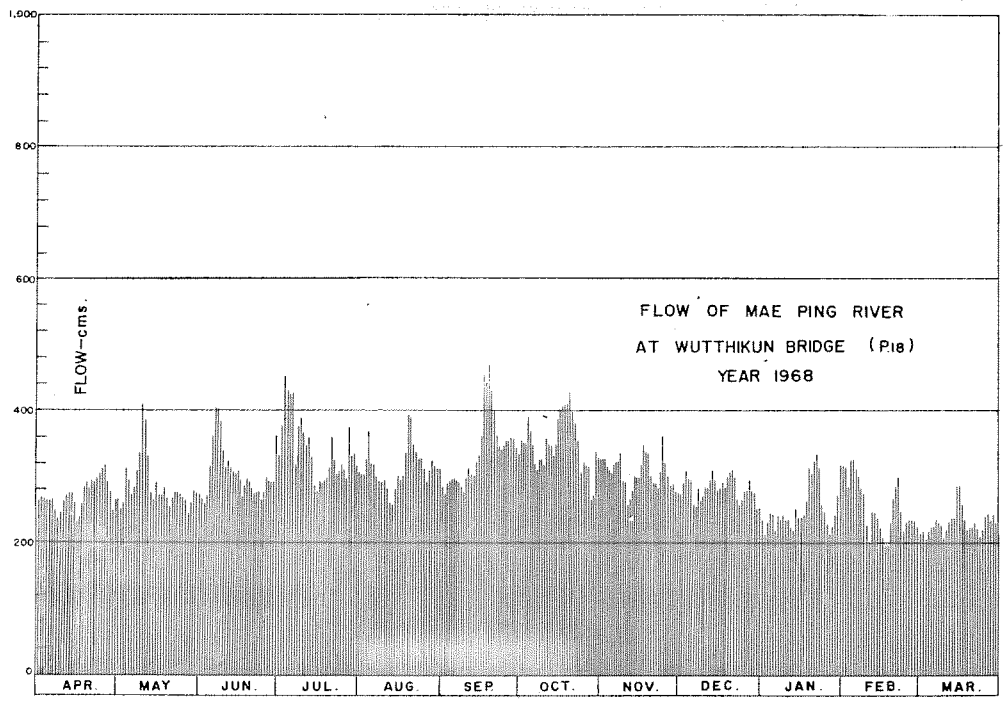
General Description: Records fair. Stage - discharge relationship used is defined by discharge measurements made during 1954 - 55. Flow regulated by Yanhee Reservoir and upstream diversions for irrigation of about 40,300 hectares. No adjustment made for virgin flow.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	3.13	3.14	3.16	3.30	3.26	3.20	3.41	3.33	3.16	3.02	3.30	2.96
2	.15	.06	.12	.47	.24	.15	.40	.33	.22	2.95	.29	2.97
3	.13	.14	.10	.68	.28	.22	.39	.30	.27	3.04	.17	.91
4	.13	.28	.19	.62	.45	.23	.51	.27	.24	.07	.32	.95
5	.13	.22	.35	.60	.30	.24	.44	.26	.23	.06	.33	.99
6	3.13	3.15	3.46	3.61	3.30	3.24	3.38	3.32	3.11	2.95	3.28	2.99
7	.07	.19	.55	.21	.25	.22	.25	.31	.10	3.06	.24	3.03
8	.03	.28	.55	.47	.22	.21	.32	.35	.19	.03	.18	.01
9	.06	.38	.48	.51	.21	.14	.32	.22	.10	.06	.16	.00
10	.13	.56	.24	.46	.23	.23	.29	.22	.20	.03	2.97	2.92
11	3.15	3.49	3.31	3.36	3.19	3.28	3.41	3.09	3.19	3.04	2.87	2.99
12	.17	.25	.29	.43	.12	.25	.39	.15	.22	2.99	3.07	3.03
13	.17	.15	.28	.34	.10	.24	.38	.20	.28	.97	.07	.04
14	.12	.11	.25	.25	.23	.31	.32	.25	.23	3.09	.04	.04
15	.01	.22	.27	.14	.25	.33	.49	.23	.18	.05	2.99	.20
16	3.04	3.15	3.23	3.23	3.22	3.44	3.54	3.25	3.19	3.03	2.95	3.20
17	.13	.15	.13	.21	.25	.68	.53	.39	.22	.06	.89	.07
18	.20	.20	.21	.23	.31	.64	.56	.35	.18	.06	.89	.02
19	.22	.15	.24	.24	.52	.72	.57	.35	.25	.29	3.01	2.97
20	.18	.08	.21	.27	.51	.61	.61	.20	.27	.24	.14	.99
21	3.23	3.14	3.16	3.42	3.39	3.56	3.48	3.22	3.28	3.31	3.20	2.99
22	.22	.17	.17	.31	.37	.43	.48	.19	.21	.35	.24	3.01
23	.24	.18	.18	.25	.32	.38	.36	.19	.10	.29	.06	2.98
24	.27	.17	.13	.27	.32	.36	.23	.43	.13	.05	2.96	.92
25	.29	.15	.17	.30	.28	.41	.31	.31	.18	.08	3.02	.98
26	3.30	3.14	3.24	3.26	3.21	3.41	3.29	3.25	3.18	3.03	3.03	3.05
27	.16	.06	.22	.21	.28	.42	.29	.19	.23	2.95	.03	.06
28	.18	.07	.22	.46	.32	.42	.13	.21	.18	3.02	.03	.02
29	.06	.18	.23	.29	.29	.37	.25	.17	.17	.06		.06
30	.14	.18	.43	.35	.28	.33	.36	.17	.08	.17		.01
31		.16		.27	.28		.33		.10	.30		2.95
Mean	3.15	3.19	3.25	3.35	3.28	3.35	3.38	3.25	3.18	3.07	3.09	3.00
Max.	3.30	3.56	3.55	3.68	3.52	3.72	3.61	3.43	3.28	3.35	3.33	3.20
Min.	3.01	3.06	3.10	3.14	3.10	3.14	3.13	3.09	3.08	2.95	2.87	2.91

WATER YEAR 1968 : Max. 3.72 m. Min. 2.87 m.

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	264	267	273	319	305	286	355	328	273	232	319	214
2	270	243	261	376	299	270	352	328	292	212	315	217
3	264	267	255	454	312	292	348	319	309	237	276	200
4	264	312	282	431	369	295	391	309	299	246	325	212
5	264	292	335	424	319	299	366	305	295	243	328	223
6	264	270	373	427	319	299	345	325	258	212	312	223
7	246	282	405	289	302	292	302	322	255	243	299	234
8	234	312	405	376	292	289	325	335	282	234	279	229
9	243	345	380	391	289	267	325	292	255	243	273	226
10	264	409	299	373	295	295	315	292	286	234	217	203
11	270	384	322	338	282	312	355	252	282	237	189	223
12	276	302	315	362	261	302	348	270	292	223	246	234
13	276	270	312	332	255	299	345	286	312	217	246	237
14	261	258	302	302	295	322	325	302	295	252	237	237
15	229	292	309	267	302	328	384	295	279	240	223	286
16	237	270	295	295	292	366	402	302	282	234	212	286
17	264	270	264	289	302	454	308	348	292	243	195	246
18	286	286	289	295	322	439	409	335	279	243	195	232
19	292	270	299	299	394	470	412	335	302	315	229	217
20	279	249	289	309	391	427	427	286	309	299	267	223
21	295	267	273	359	348	409	380	292	312	322	286	223
22	292	276	276	322	342	362	380	282	289	335	299	229
23	299	279	279	302	328	345	338	282	255	315	243	220
24	309	276	264	309	328	338	295	362	264	240	214	203
25	315	270	276	319	312	355	322	322	279	249	232	220
26	319	267	299	305	289	355	315	302	279	234	234	240
27	273	243	292	289	312	359	315	282	295	212	234	243
28	279	246	292	373	325	359	264	289	279	232	234	232
29	243	279	295	315	315	342	270	276	276	243	–	243
30	267	279	362	335	312	328	338	276	249	279	–	229
31	–	273	–	309	312	–	328	–	255	319	–	212
Total	8,138	8,805	9,172	10,485	9,720	10,155	10,684	9,131	8,760	7,816	7,158	7,096
Mean	271	284	306	338	313	338	345	304	282	252	256	229
Max.	319	409	405	454	394	470	427	362	312	335	328	286
Min.	229	243	255	267	255	267	264	252	255	212	189	200
Runoff – mcm.	703.123	760.752	792.460	905.904	839.808	877.392	923.097	788.918	756.864	675.302	618.451	613.094

WATER YEAR 1968 : Max. 470 Min. 189 Mean 293 Annual Runoff 9,255.168 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sept.19	18.00	3.79	497				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
PING RIVER BASIN

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

Location: Lat 18° - 25' - 29" N., Long 98° - 42' - 11" E., on left bank about 300 meters downstream from confluence with Li Creek, Amphoe Chom Thong, Chiang Mai.

Drainage Area: 14,023 sq.km.

Type of Gage: Water - stage recorder.

Zero Gage at Bottom at: +271.35 m. (M.S.L.)

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

Location: At rain - tree infront of 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 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: Unstable, shifting adjustment is included for flow computation.

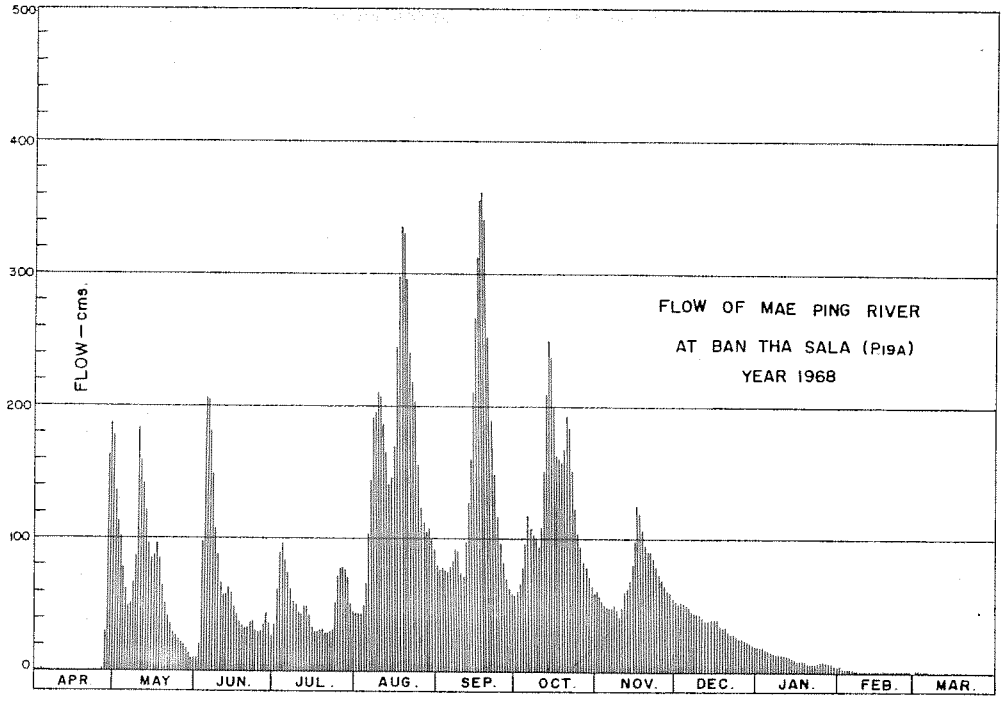
Overbank Flow Conditions: No overbank flow.

General Description: Records good. Stage - discharge relationship used is defined by discharge measurements made during 1968. Upstream state diversions for irrigation of about 28,000 hectares. No adjustment made for virgin flow.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	272.13	273.55	272.36	272.70	272.72	272.95	272.83	272.85	272.79	272.39	272.16	272.13
2	.11	.34	.53	273.01	.72	.93	.88	.80	.78	.38	.11	.10
3	.09	.27	273.08	.21	.73	.93	.95	.78	.80	.37	.10	.08
4	.08	.08	.67	.28	.81	.91	273.15	.74	.78	.35	.09	.06
5	.07	272.93	.91	.10	273.06	.89	.31	.73	.77	.33	.09	.05
6	272.06	272.81	273.77	273.07	273.39	272.95	273.23	272.73	272.75	272.31	272.09	272.04
7	.06	.87	.57	272.92	.77	.99	.20	.73	.73	.30	.09	.03
8	.04	273.00	.32	.84	.79	273.05	.19	.72	.73	.30	.09	.02
9	.05	.14	.16	.79	.87	272.97	.15	.63	.72	.30	.08	.02
10	.05	.75	272.99	.73	.84	.87	.11	.64	.72	.30	.08	.01
11	272.04	273.61	272.90	272.73	273.70	272.85	273.37	272.80	272.68	272.29	272.07	272.01
12	.04	.52	.91	.78	.58	273.17	.87	.81	.65	.28	.07	.00
13	.04	.37	.96	.76	.45	.52	274.12	.87	.65	.26	.07	271.99
14	.04	.22	.92	.71	.45	.85	.02	.94	.64	.25	.07	.98
15	.03	.11	.85	.69	.64	274.25	273.85	273.09	.64	.22	.07	.98
16	272.04	273.15	272.79	272.65	274.09	274.59	273.63	273.29	272.64	272.21	272.07	271.98
17	.04	.22	.74	.68	.39	.61	.63	.28	.60	.21	.07	.98
18	.04	.11	.70	.69	.50	.49	.58	.20	.57	.21	.08	.98
19	.04	272.93	.66	.68	.43	.18	.67	.13	.58	.20	.08	.98
20	.10	.84	.66	.64	.16	273.93	.82	.10	.56	.19	.08	.98
21	272.14	272.76	272.68	272.66	273.97	273.72	273.77	273.11	273.53	272.19	272.09	271.98
22	.17	.69	.71	.67	.91	.53	.56	.09	.52	.18	.10	.98
23	.16	.63	.64	.70	.81	.36	.38	.03	.51	.20	.11	.97
24	.13	.61	.61	.92	.64	.23	.28	.00	.49	.20	.12	.96
25	.11	.57	.60	273.02	.40	.13	.23	272.95	.48	.23	.12	.96
26	272.15	272.55	272.62	273.02	273.28	273.03	273.15	272.93	272.47	272.22	272.13	271.96
27	.70	.52	.68	.03	.24	272.96	.09	.88	.46	.20	.13	.96
28	273.49	.48	.75	272.97	.21	.90	.05	.87	.45	.19	.13	.96
29	.87	.42	.64	.85	.22	.85	.00	.85	.43	.18		.96
30	.87	.36	.55	.75	.13	.84	272.96	.82	.42	.17		.95
31		.34		.72	.06		.90		.41	.16		.95
Mean	272.27	272.96	272.90	272.84	273.54	273.35	273.35	272.91	272.61	272.25	272.09	272.00
Max.	273.87	273.75	273.91	273.28	274.50	274.61	274.12	273.29	272.80	272.39	272.16	278.13
Min.	272.03	272.34	272.36	272.64	272.72	272.84	278.83	272.63	272.41	272.16	262.07	271.95

WATER YEAR 1968 : Max. 274.61 m. Min. 271.95 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	1.40	144	10	36	43	77	57	61	52	20	5.40	1.80
2	1.00	112	21	68	43	77	62	55	51	19	3.70	1.20
3	0.60	102	78	90	44	78	71	53	53	19	3.36	0.80
4	0.40	77	165	96	53	76	96	49	51	17	3.02	0.40
5	0.20	59	206	76	83	73	119	48	50	16	3.02	0.20
6	0.00	45	183	74	130	81	108	48	48	15	3.02	0.00
7	0.00	52	149	59	192	86	103	48	45	14	1.40	0.00
8	0.00	67	110	52	196	93	102	51	45	14	1.40	0.00
9	0.00	84	88	49	210	83	96	41	44	14	1.20	0.00
10	0.00	184	67	44	205	71	91	42	44	14	1.20	0.00
11	0.00	154	57	44	181	68	128	60	40	14	1.00	0.00
12	0.00	139	58	50	160	110	212	61	37	13	1.00	0.00
13	0.00	116	63	48	139	149	249	68	37	12	1.00	0.00
14	0.00	95	59	42	139	223	229	77	40	11	1.00	0.00
15	0.00	81	51	32	170	286	197	95	40	9.54	1.00	0.00
16	0.00	87	44	29	252	356	160	125	40	9.08	1.00	0.00
17	0.00	96	39	31	312	361	160	115	36	9.08	1.00	0.00
18	0.00	82	35	32	335	335	152	103	33	9.08	1.20	0.00
19	0.00	60	31	31	321	272	167	94	34	8.62	1.20	0.00
20	0.00	50	32	28	266	223	192	90	32	6.78	0.80	0.00
21	0.00	41	34	29	229	186	184	91	29	6.78	1.00	0.00
22	0.00	34	38	30	217	154	149	88	29	6.32	1.20	0.00
23	0.00	29	32	33	199	127	121	81	28	7.24	1.40	0.00
24	0.00	27	29	66	154	108	106	77	26	7.24	1.60	0.00
25	0.00	24	29	78	131	94	99	71	25	8.62	1.60	0.00
26	0.40	22	31	78	113	81	88	68	25	8.16	1.80	0.00
27	29	20	37	79	108	72	81	62	24	7.24	1.80	0.00
28	125	17	44	72	103	65	76	61	23	6.78	1.80	0.00
29	187	14	53	58	108	59	70	59	22	6.32	–	0.00
30	187	10	25	46	96	58	65	55	21	5.86	–	0.00
31	–	9.08	–	43	90	–	58	–	20	5.40	–	0.00
Total	533.60	2,133.08	1,878	1,623	5,022	4,182	3,848	2,097	1,124	340.14	49.12	4.40
Mean	17.8	68.8	62.6	52.3	159	139	124	69.9	36.3	11.0	1.75	0.14
Max.	187	184	206	96	335	361	249	125	53	20	5.40	1.80
Min.	0.00	9.08	10	28	43	58	57	41	20	5.40	0.80	0.00
Runoff – mcm.	46.103	184.298	162.259	140.227	433.901	361.325	332.467	181.181	97.114	29.388	4.244	0.380

WATER YEAR 1968 : Max. 361 Min. 0.00 Mean 62.5 Annual Runoff 1,972.887 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sept.17	16.00	274.64	365				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
PING RIVER BASIN

Mae Rim Creek at Mae Rim Bridge, 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./R.I.D. No.4

Location: Near pond which belong to Mr. Bunsri Thongsuksakul
Elevation: +321.928 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:
Rated by Float:
Rated by Current Meter: 1954 – 60

Stability of Channel Regimes: Stable, no shifting adjustment for flow computation for year without actual ratings.

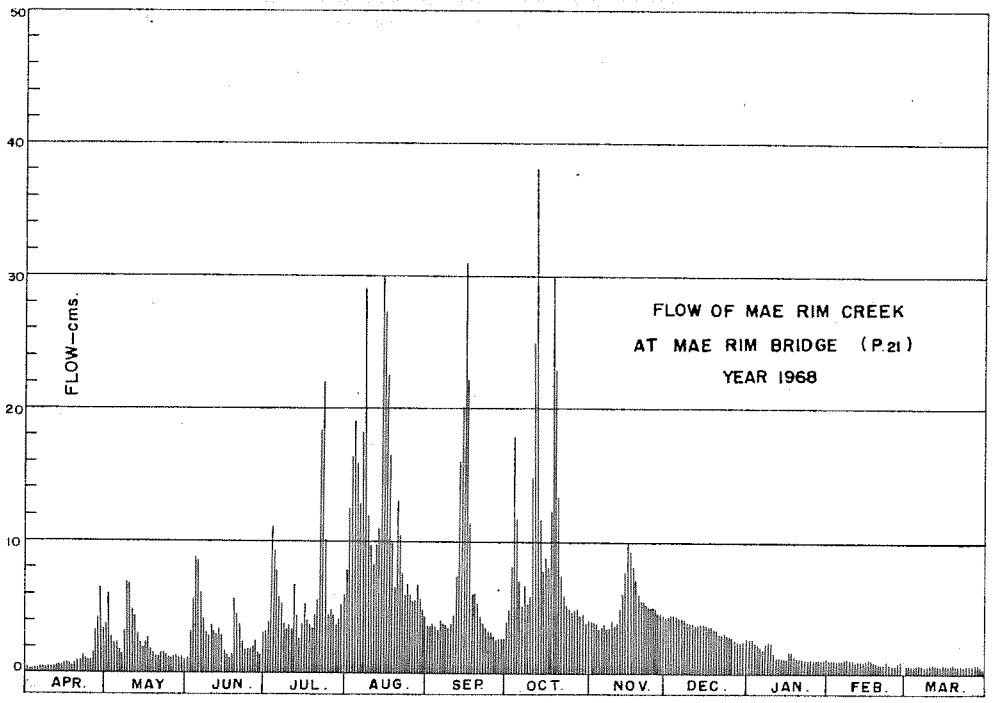
Overbank Flow Conditions: No overbank flow.

General Description: Records fair. Stage – discharge relationship used is defined by discharge measurements made during 1955 – 59. No upstream state diversions for irrigation except those built by local residents. No adjustment made for virgin flow.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	320.21	320.51	320.44	320.60	320.94	320.62	320.67	320.68	320.69	320.55	320.35	320.28
2	.17	.81	.53	.65	321.16	.64	.76	.66	.71	.54	.35	.28
3	.18	.56	.79	.74	.33	.65	.93	.66	.71	.54	.34	.26
4	.20	.47	.99	321.10	.45	.63	321.40	.65	.71	.51	.34	.27
5	.17	.50	.97	320.95	.34	.60	.07	.61	.70	.49	.34	.27
6	320.21	320.45	320.85	320.81	321.07	320.68	320.73	320.63	320.69	320.46	320.34	320.28
7	.21	.41	.68	.76	.28	.64	.71	.65	.68	.45	.36	.26
8	.20	.40	.58	.62	.73	.64	.86	.62	.67	.51	.38	.25
9	.22	.87	.49	.60	.17	.61	.74	.62	.66	.53	.35	.28
10	.21	.87	.64	.63	.06	.67	.79	.67	.66	.52	.36	.28
11	320.21	320.73	320.60	320.56	320.92	320.71	321.36	320.63	320.65	320.39	320.39	320.30
12	.23	.69	.53	.86	321.01	.87	.96	.65	.64	.37	.35	.29
13	.24	.57	.61	.63	.10	321.34	.38	.74	.65	.38	.34	.26
14	.25	.51	.59	.52	.05	.23	.07	.84	.65	.37	.33	.27
15	.27	.43	.45	.65	.77	.79	320.87	.87	.65	.37	.35	.31
16	320.31	320.50	320.39	320.77	321.67	321.29	320.99	321.05	320.64	320.37	320.36	320.27
17	.26	.55	.34	.65	.44	.00	.93	320.99	.64	.44	.36	.26
18	.21	.45	.40	.64	.05	320.81	.99	.94	.63	.44	.32	.29
19	.29	.41	.79	.61	320.84	.82	321.75	.87	.62	.37	.32	.29
20	.32	.37	.69	.73	.83	.74	.43	.80	.61	.37	.30	.25
21	320.32	320.37	320.64	320.20	321.57	320.69	321.03	320.78	320.59	320.38	320.30	320.27
22	.40	.42	.48	321.39	320.87	.65	320.85	.78	.58	.35	.30	.27
23	.35	.42	.44	.55	.77	.63	.78	.76	.59	.35	.34	.25
24	.32	.38	.45	320.92	.87	.60	.75	.75	.57	.35	.29	.27
25	.32	.37	.45	.62	.82	.60	.74	.74	.56	.37	.26	.29
26	320.35	320.35	320.45	320.74	320.77	320.57	320.71	320.75	320.56	320.35	320.27	320.26
27	.61	.37	.53	.70	.78	.53	.73	.73	.52	.35	.32	.29
28	.69	.39	.42	.62	.86	.55	.74	.71	.46	.36	.34	.31
29	.84	.36	.37	.67	.80	.54	.70	.71	.52	.34		.26
30	.61	.37	.59	.77	.73	.53	.71	.70	.52	.36		.22
31		.32		.80	.67		.65		.54	.38		.22
Mean	320.31	320.49	320.57	320.76	321.09	320.76	320.95	320.74	320.62	320.42	320.33	320.27
Max.	320.84	320.81	320.99	321.55	321.77	321.79	321.96	321.05	320.71	320.55	320.38	320.31
Min.	320.17	320.35	320.34	320.52	320.67	320.53	320.65	320.61	320.46	320.34	320.27	320.22

WATER YEAR 1968 : Max. 321.96 m. Min. 320.17 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.44	2.39	1.76	3.20	7.94	3.44	4.04	4.16	4.28	2.75	1.10	0.72
2	0.31	5.95	2.57	3.80	12	3.68	5.24	3.92	4.54	2.66	1.10	0.72
3	0.34	2.84	5.66	4.96	16	3.80	7.78	3.92	4.54	2.66	1.04	0.64
4	0.40	2.03	8.74	11	19	3.56	18	3.80	4.54	2.39	1.04	0.68
5	0.31	2.30	8.42	8.10	16	3.20	10	3.32	4.40	2.21	1.04	0.68
6	0.44	1.85	6.55	5.95	10	4.16	4.82	3.56	4.28	1.94	1.04	0.72
7	0.44	1.49	4.16	5.24	15	3.68	4.54	3.80	4.16	1.85	1.16	0.64
8	0.40	1.40	3.02	3.44	29	3.68	6.70	3.44	4.04	2.39	1.28	0.60
9	0.48	6.85	2.21	3.20	12	3.32	4.96	3.44	3.92	2.57	1.10	0.72
10	0.41	6.85	3.68	3.56	10	4.04	5.66	4.04	3.92	2.48	1.16	0.72
11	0.41	4.82	3.20	2.84	7.62	4.54	17	3.56	3.80	1.34	0.92	0.80
12	0.52	4.28	2.57	6.70	9.09	6.85	38	3.80	3.68	1.22	1.10	0.76
13	0.56	2.93	3.32	3.56	11	16	17	4.96	3.80	1.28	1.04	0.64
14	0.60	2.39	3.11	2.48	9.85	13	10	6.40	3.80	1.22	0.98	0.68
15	0.68	1.67	1.85	3.80	30	31	6.85	6.85	3.80	1.22	1.10	0.86
16	0.86	2.30	1.34	5.38	27	15	8.74	9.85	3.68	1.22	1.16	0.68
17	0.64	2.75	1.04	3.80	19	8.90	7.78	8.74	3.68	1.76	1.16	0.64
18	0.44	1.85	1.40	3.68	9.85	5.95	8.74	7.94	3.56	1.76	0.92	0.76
19	0.76	1.49	5.66	3.32	6.40	6.10	30	6.85	3.44	1.22	0.92	0.76
20	0.92	1.22	4.28	4.82	6.25	4.96	19	5.80	3.32	1.22	0.80	0.60
21	0.92	1.22	3.68	5.80	23	4.28	9.47	5.52	3.11	1.28	0.80	0.68
22	1.40	1.58	2.12	17	6.85	3.80	6.55	5.52	3.02	1.10	0.80	0.68
23	1.10	1.58	1.76	22	5.38	3.56	5.52	5.24	3.11	1.10	1.04	0.60
24	0.92	1.28	1.85	7.62	6.85	3.20	5.10	5.10	2.93	1.10	0.76	0.68
25	0.92	1.22	1.85	3.44	6.10	3.20	4.96	4.96	2.84	1.22	0.64	0.76
26	1.10	1.10	1.85	4.96	5.38	2.93	4.54	5.10	2.84	1.10	0.68	0.64
27	3.32	1.22	2.57	4.40	5.52	2.57	4.82	4.82	2.48	1.10	0.92	0.76
28	4.28	1.34	1.56	3.44	6.70	2.75	4.96	4.54	1.94	1.16	1.04	0.86
29	6.40	1.16	1.22	4.04	5.80	2.66	4.40	4.54	2.48	1.04		0.64
30	3.32	1.22	3.11	5.38	4.82	2.57	4.54	4.40	2.48	1.16		0.48
31		0.92		5.80	4.04		3.80		2.66	1.26		0.48
Total	34.04	73.49	96.13	176.71	363.17	180.38	293.51	151.89	109.07	50.00	27.84	21.28
Mean	1.13	2.37	3.20	5.70	11.7	6.01	9.47	5.06	3.52	1.61	0.99	0.69
Max.	6.40	6.85	8.74	22	30	31	38	9.85	4.54	2.75	1.28	0.86
Min.	0.31	0.92	1.04	2.48	4.04	2.57	4.04	3.32	1.94	1.04	0.64	0.48
Runoff - MCM.	2.941	6.349	8.306	15.268	31.378	15.585	25.359	13.123	9.424	4.320	2.405	1.838

WATER YEAR 1968 : Max. 38 Min. 0.31 Mean 4.32 Annual Runoff 136.297 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Aug.8	06.00	322.11	44				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
PING RIVER BASIN

Mae Sa Creek at Mae Sa Bridge, Chiang Mai (P.22)

Location: Lat 18° – 53' – 45" N., Long 98° – 57' – 12" E., on left bank about 50 meters from bridge at Tambon Mae Sa, Amphoe Mae Rim, Chiang Mai.

Drainage Area: 135 sq.km.

Type of Gage: Staff gage.

Zero Gage at Bottom at: +317.43 m. (M.S.L.)

Bench Mark: B.M. – H.S./R.I.D.

Location: On left bank about 9 meters downstream from bridge.
Elevation: +321.845 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 – 69.

Rating Operation:

Period of Rating: 1954 – 60
Rated by Float: –
Rated by Current Meter: 1954 – 60

Stability of Channel Regimes: Stable, no shifting adjustment for flow computation for year without actual ratings.

Overbank Flow Conditions: No overbank flow.

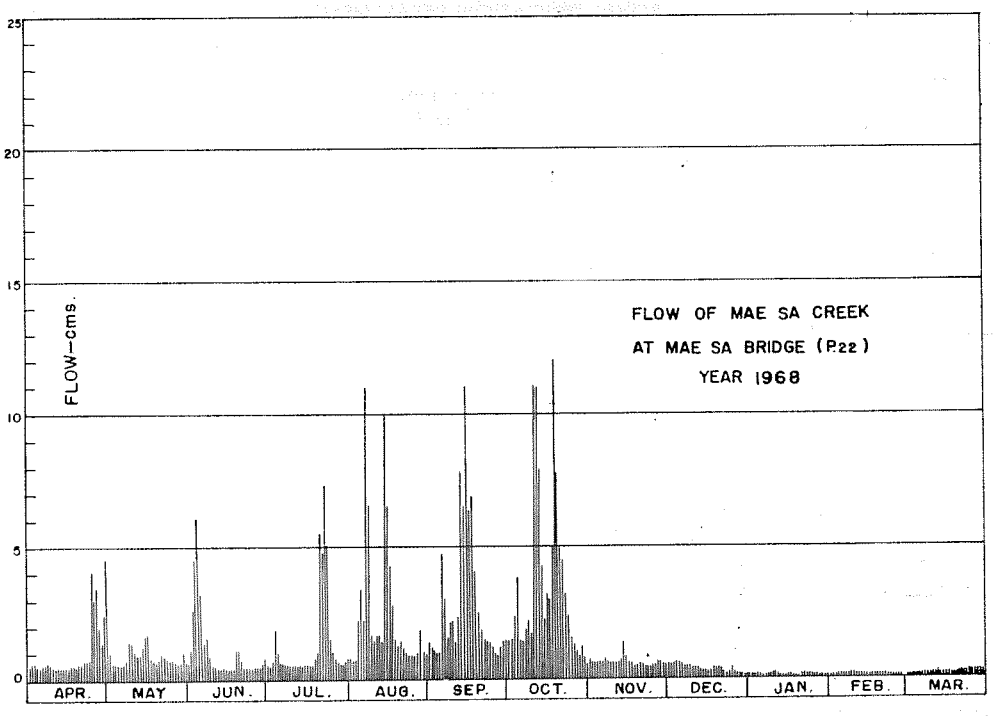
General Description: Records fair. Stage – discharge relationship used is defined by discharge measurements made during 1959 – 60. No upstream state diversions for irrigation except those built by local residents. No adjustment made for virgin flow.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	317.73	317.91	317.78	317.75	317.83	317.96	317.96	317.82	317.78	317.60	317.57	317.56
2	.76	.84	.93	.73	.81	.91	.94	.77	.75	.58	.57	.56
3	.77	.76	318.25	.76	.78	.89	318.01	.77	.77	.60	.57	.59
4	.73	.77	.35	318.02	.82	.86	.20	.77	.79	.60	.58	.57
5	.73	.75	.21	317.79	318.17	.87	317.96	.77	.78	.58	.59	.57
6	317.75	317.75	317.99	317.77	318.08	318.26	317.93	317.78	317.75	317.57	317.60	317.58
7	.76	.75	.90	.77	317.96	317.99	.98	.82	.73	.58	.60	.58
8	.78	.77	.98	.75	318.59	.97	318.06	.78	.74	.59	.60	.58
9	.75	.96	.78	.74	.02	318.05	317.98	.77	.74	.61	.61	.59
10	.73	.94	.74	.75	317.91	.06	.99	.77	.72	.63	.60	.59
11	317.71	317.87	317.73	317.74	317.98	317.90	318.58	317.77	317.73	317.61	317.59	317.61
12	.73	.85	.72	.74	318.01	.99	.59	.77	.72	.60	.59	.61
13	.71	.84	.72	.74	317.93	318.45	.26	.80	.67	.97	.57	.65
14	.73	.89	.73	.72	.99	.29	.11	.95	.66	.57	.59	.57
15	.73	.99	.71	.74	318.57	.61	.01	.79	.66	.59	.58	.58
16	317.73	318.00	317.71	317.75	318.34	318.34	318.15	317.78	317.65	317.59	317.58	317.62
17	.75	317.83	.71	.74	.20	.40	.12	.77	.66	.58	.57	.60
18	.74	.80	.71	.74	.00	.23	.31	.73	.73	.56	.57	.58
19	.72	.80	.90	.81	317.91	.11	.64	.73	.71	.55	.57	.58
20	.77	.77	.89	.88	.91	.08	.30	.77	.72	.57	.58	.60
21	317.75	317.87	317.76	318.32	317.96	318.00	318.25	317.75	317.66	317.60	317.58	317.64
22	.81	.84	.72	.24	.90	317.96	.20	.73	.62	.62	.57	.62
23	.81	.84	.73	.42	.86	.95	.09	.73	.62	.63	.56	.62
24	.76	.79	.72	.01	.86	.94	.04	.73	.64	.61	.56	.64
25	318.22	.81	.72	317.91	.85	.90	317.97	.74	.73	.59	.56	.65
26	317.91	317.81	317.72	317.87	317.85	317.86	317.92	317.76	317.62	317.58	317.55	317.63
27	318.17	.77	.73	.81	.85	.85	.88	.80	.61	.57	.56	.63
28	317.87	.78	.73	.78	318.03	.90	.83	.78	.60	.57	.56	.63
29	.98	.75	.74	.76	317.91	.96	.82	.75	.60	.57	–	.63
30	318.25	.88	.82	.75	.88	.96	.78	.75	.59	.57	–	.62
31	–	.77	–	.81	.86	–	.75	–	.62	.57	–	.62
Mean	317.81	317.83	317.83	317.84	317.99	318.05	318.08	317.77	317.69	317.59	317.58	317.60
Max.	318.25	318.00	318.35	318.42	318.59	318.61	318.64	317.95	317.79	317.63	317.61	317.65
Min.	317.71	317.75	317.71	317.72	317.78	317.85	317.75	317.73	317.59	317.55	317.55	317.56

WATER YEAR 1968 : Max. 318.64 m. Min. 317.55 m.

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.49	1.20	0.64	0.55	0.82	1.46	1.46	0.78	0.64	0.20	0.14	0.12
2	0.58	0.86	1.30	0.49	0.74	1.20	1.35	0.61	0.55	0.16	0.14	0.12
3	0.61	0.58	4.50	0.58	0.64	1.10	1.79	0.61	0.61	0.20	0.14	0.18
4	0.49	0.61	6.05	1.88	0.78	0.95	3.80	0.61	0.67	0.20	0.16	0.14
5	0.49	0.55	3.94	0.67	3.44	1.00	1.46	0.61	0.64	0.16	0.18	0.14
6	0.55	0.55	1.64	0.61	2.42	4.64	1.30	0.64	0.55	0.14	0.20	0.16
7	0.58	0.55	1.15	0.61	1.46	1.64	1.58	0.78	0.49	0.16	0.20	0.16
8	0.64	0.61	1.58	0.55	11	1.52	2.24	0.64	0.52	0.18	0.20	0.16
9	0.55	1.46	0.64	0.52	1.88	2.15	1.58	0.61	0.52	0.22	0.22	0.18
10	0.49	1.35	0.52	0.55	1.20	2.24	1.64	0.61	0.46	0.26	0.20	0.18
11	0.43	1.00	0.49	0.52	1.58	1.15	11	0.61	0.49	0.22	0.18	0.22
12	0.49	0.90	0.46	0.52	1.79	1.64	11	0.61	0.46	0.20	0.18	0.22
13	0.43	0.86	0.46	0.52	1.30	7.90	4.64	0.70	0.34	0.14	0.14	0.30
14	0.49	1.10	0.49	0.46	1.64	5.06	2.72	1.40	0.32	0.14	0.18	0.14
15	0.49	1.64	0.43	0.52	10	11	1.79	0.67	0.32	0.18	0.16	0.16
16	0.49	1.70	0.43	0.55	5.88	5.88	3.20	0.64	0.30	0.18	0.16	0.24
17	0.55	0.82	0.43	0.52	3.80	6.90	2.84	0.61	0.32	0.16	0.14	0.20
18	0.52	0.70	0.43	0.52	1.70	4.22	5.37	0.49	0.49	0.12	0.14	0.16
19	0.46	0.70	1.15	0.74	1.20	2.72	12	0.49	0.43	0.10	0.14	0.16
20	0.61	0.61	1.10	1.05	1.20	2.42	5.20	0.61	0.46	0.14	0.16	0.20
21	0.55	1.00	0.58	5.54	1.46	1.70	4.50	0.55	0.32	0.20	0.16	0.28
22	0.74	0.86	0.46	4.36	1.15	1.46	3.80	0.49	0.24	0.24	0.14	0.24
23	0.74	0.86	0.49	7.30	0.95	1.40	2.51	0.49	0.24	0.26	0.12	0.24
24	0.58	0.67	0.46	1.79	0.95	1.35	2.02	0.49	0.28	0.22	0.12	0.28
25	4.08	0.74	0.46	1.20	0.90	1.15	1.50	0.52	0.49	0.18	0.12	0.30
26	1.20	0.74	0.46	1.00	0.90	0.95	1.25	0.58	0.24	0.16	0.10	0.26
27	3.44	0.61	0.49	0.74	0.90	0.90	1.05	0.70	0.22	0.14	0.12	0.26
28	1.00	0.64	0.49	0.64	1.97	1.15	0.82	0.64	0.20	0.14	0.12	0.26
29	1.58	0.55	0.52	0.58	1.20	1.46	0.78	0.55	0.20	0.14	–	0.26
30	4.50	1.05	0.78	0.55	1.05	1.46	0.64	0.55	0.18	0.14	–	0.24
31	–	0.61	–	0.74	0.95	–	0.55	–	0.24	0.14	–	0.24
Total	28.84	26.68	33.02	37.37	66.85	79.77	97.44	18.89	12.43	5.42	4.36	6.40
Mean	0.96	0.86	1.10	1.20	2.16	2.66	3.14	0.63	0.40	0.17	0.15	0.21
Max.	4.50	1.70	6.05	7.30	11	11	12	1.40	0.67	0.26	0.22	0.30
Min.	0.43	0.55	0.43	0.46	0.64	0.90	0.55	0.49	0.18	0.10	0.10	0.12
Runoff – mcm.	2.492	2.305	2.853	3.229	5.776	6.892	8.419	1.632	1.074	0.468	0.377	0.553

WATER YEAR 1968 : Max. 12 Min. 0.10 Mean 1.14 Annual Runoff 36.069 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Oct.19	06.00	318.96	21				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
PING RIVER BASIN

Mae Khan Creek at Mae Khan Bridge, Chiang Mai (P.23)

Location: Lat 18 – 31 – 37 N., Long 98 – 51 – 42 E., on left bank at downstream side 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: +285.62 m. (M.S.L.)

Bench Mark: B.M. – H.S./R.I.D. No.8

Location: On left bank near Mae Khan Bridge.
Elevation: +291.767 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 – 60
Rated by Float: –
Rated by Current Meter: 1955 – 60

Stability of Channel Regimes: Stable, no shifting adjustment for flow computation for year without actual ratings.

Overbank Flow Conditions: No overbank flow.

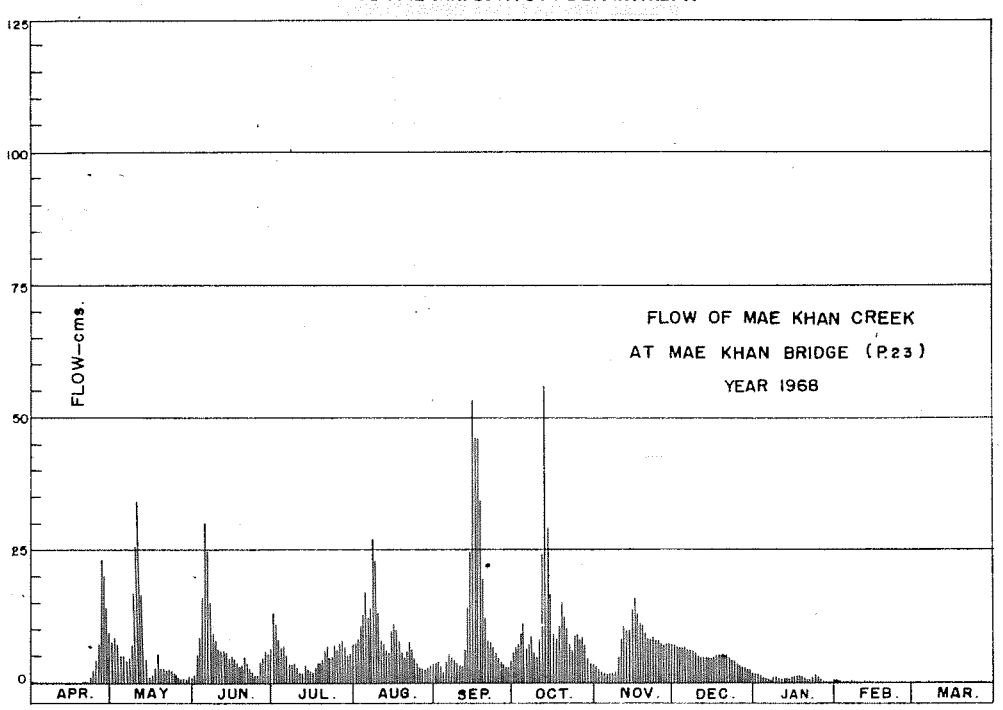
General Description: Records fair. Stage – discharge relationship used is defined by discharge measurements made during 1957 – 60. No upstream state diversions for irrigation except those built by local residents. No adjustment made for virgin flow.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	286.31	286.98	286.76	287.17	286.99	286.84	286.96	286.79	286.98	286.71	286.57	286.34
2	.31	287.02	.99	.09	.99	.84	.97	.75	.97	.70	.53	.34
3	.31	286.96	287.08	286.95	287.09	.72	287.03	.71	.97	.66	.50	.34
4	.28	.89	.41	.97	.17	.71	.11	.69	.97	.62	.49	.34
5	.28	.90	.59	.97	.29	.88	286.98	.67	.97	.59	.48	.33
6	286.29	286.86	287.29	286.84	287.13	286.91	286.90	286.69	286.95	286.57	268.49	286.33
7	.29	.84	.14	.77	.22	.88	287.05	.70	.95	.58	.50	.33
8	.29	.97	.05	.77	.52	.85	286.98	.71	.95	.64	.50	.33
9	.31	287.44	.01	.76	.24	.82	.91	.73	.92	.65	.50	.33
10	.31	.65	286.92	.73	.08	.79	.86	.98	.90	.62	.49	.32
11	286.30	287.34	286.93	286.70	286.99	286.78	287.11	287.12	286.90	286.57	286.49	286.32
12	.30	.08	.93	.76	.98	.90	288.01	.10	.90	.58	.48	.34
13	.29	286.98	.92	.79	.92	287.29	287.72	.08	.90	.59	.46	.34
14	.28	.69	.87	.75	.92	.49	.37	.10	.89	.61	.45	.35
15	.28	.57	.90	.73	287.07	.97	.11	.20	.89	.63	.45	.34
16	286.28	286.65	286.87	286.71	287.12	287.65	287.01	287.27	286.90	286.65	286.45	286.34
17	.27	.76	.80	.79	.04	.87	.03	.17	.91	.67	.44	.34
18	.27	.92	.77	.82	286.99	.43	.12	.13	.91	.67	.42	.34
19	.29	.75	.81	.79	.89	.25	.24	.11	.91	.66	.42	.34
20	.60	.77	.89	.92	.88	.05	.15	.04	.91	.59	.42	.34
21	286.60	286.72	286.80	286.98	286.96	287.01	287.08	287.02	286.91	286.55	286.42	286.34
22	.62	.76	.74	.86	287.00	.00	286.96	.02	.89	.58	.42	.34
23	.68	.72	.69	.89	286.90	286.93	.93	.04	.87	.66	.41	.34
24	.72	.71	.65	.98	.82	.92	287.05	.00	.85	.68	.38	.32
25	.89	.63	.67	.92	.79	.87	.06	.02	.82	.58	.37	.31
26	286.99	286.59	286.85	286.99	286.76	286.83	287.01	287.00	286.80	286.54	286.37	286.26
27	287.55	.58	.99	287.01	.74	.81	.05	286.98	.79	.52	.36	.23
28	.34	.58	.93	286.94	.75	.78	286.92	.99	.78	.50	.36	.22
29	.09	.58	.89	.90	.77	.79	.87	287.00	.76	.49	–	.22
30	.05	.64	.97	.87	.81	.89	.82	286.99	.75	.47	–	.20
31	–	.61	–	.99	.82	–	.82	–	.71	.60	–	.20
Mean	286.52	286.84	286.94	286.87	286.99	287.03	287.07	286.96	286.89	286.60	286.45	286.31
Max.	287.55	287.65	287.59	287.17	287.52	287.97	288.01	287.27	286.98	286.71	286.57	286.34
Min.	286.27	286.57	286.63	286.70	286.74	286.71	286.82	286.67	286.71	286.47	286.36	286.20

WATER YEAR 1968 : Max. 288.01 m. Min. 286.20 m.

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.00	7.00	2.64	13	7.25	3.92	6.50	3.06	7.00	1.94	0.62	0.00
2	0.00	8.08	7.25	10	7.25	3.92	6.75	2.50	6.75	1.80	0.38	0.00
3	0.00	6.50	9.82	6.25	10	2.08	8.37	1.94	6.75	1.40	0.20	0.00
4	0.00	4.82	22	6.75	13	1.94	11	1.70	6.75	1.00	0.18	0.00
5	0.00	5.00	30	6.75	17	4.64	7.00	1.50	6.75	0.74	0.16	0.00
6	0.00	4.28	17	3.92	11	5.25	5.00	1.70	6.25	0.62	0.18	0.00
7	0.00	3.92	12	2.78	14	4.64	8.95	1.80	6.25	0.68	0.20	0.00
8	0.00	6.75	8.95	2.78	27	4.10	7.00	1.94	6.25	1.20	0.20	0.00
9	0.00	23	7.79	2.64	15	3.56	5.25	2.22	5.50	1.30	0.20	0.00
10	0.00	34	5.50	2.22	9.82	3.06	4.28	7.00	5.00	1.00	0.18	0.00
11	0.00	19	5.75	1.80	7.25	2.92	11	11	5.00	0.62	0.18	0.00
12	0.00	9.82	5.75	2.64	7.00	5.00	56	10	5.00	0.68	0,16	0.00
13	0.00	7.00	5.50	3.06	5.50	17	37	9.82	5.00	0.74	0.12	0.00
14	0.00	1.70	4.46	2.50	5.50	25	20	10	4.82	0.90	0.10	0.00
15	0.00	0.62	5.00	2.22	9.53	53	11	14	4.82	1.10	0.10	0.00
16	0.00	1.30	4.46	1.94	11	45	7.79	16	5.00	1.30	0.10	0.00
17	0.00	2.64	3.20	3.06	8.66	46	8.37	13	5.25	1.50	0.08	0.00
18	0.00	5.50	2.78	3.56	7.25	23	11	11	5.25	1.50	0.04	0.00
19	0.00	2.50	3.38	3.06	4.82	15	15	11	5.25	1.40	0.04	0.00
20	0.08	2.78	4.82	5.50	4.64	8.95	12	8.66	5.25	0.74	0.04	0.00
21	0.08	2.08	3.20	7.00	6.50	7.79	9.82	8.08	5.25	0.50	0.04	0.00
22	0.10	2.64	2.36	4.28	7.50	7.50	6.50	8.08	4.82	0.68	0.04	0.00
23	1.60	2.08	1.70	4.82	5.00	5.75	5.75	8.66	4.46	1.40	0.02	0.00
24	2.08	1.94	1.10	7.00	3.56	5.50	8.95	7.50	4.10	1.60	0.00	0.00
25	4.82	1.10	1.50	5.50	3.06	4.46	9.24	8.08	3.56	0.68	0.00	0.00
26	7.25	0.74	4.10	7.25	2.64	3.74	7.79	7.50	3.20	0.44	0.00	0.00
27	28	0.68	7.25	7.79	2.36	3.38	8.95	7.00	3.06	0.32	0.00	0.00
28	19	0.68	5.75	6.00	2.50	2.92	5.50	7.25	2.92	0.20	0.00	0.00
29	10	0.68	4.82	5.00	2.78	3.06	4.46	7.50	2.64	0.18	–	0.00
30	8.95	1.20	6.75	4.46	3.38	4.82	3.56	7.25	2.50	0.14	–	0.00
31	–	0.90	–	7.25	3.56	–	3.56	–	1.94	0.80	–	0.00
Total	81.96	170.93	206.58	152.78	245.31	326.90	333.34	216.74	152.34	29.10	3.56	0.00
Mean	2.73	5.51	6.89	4.93	7.91	10.8	10.7	7.22	4.91	0.94	0.13	0.00
Max.	28	34	30	13	27	53	56	16	7.00	1.94	0.62	0.00
Min.	0.00	0.62	1.10	1.80	2.50	1.94	3.56	1.50	1.94	0.14	0.00	0.00
Runoff - MCM.	7.081	14.768	17.848	13.200	21.195	28.244	28.800	18.726	13.162	2.514	0.307	0.00

WATER YEAR 1968 : Max. 56 Min. 0.00 Mean 5.25 Annual Runoff 165.848 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Oct.19	06.00	318.96	21				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
PING RIVER BASIN

Mae Klang River at Mae Klang Bridge, Chiang Mai (P.24)

Location: Lat 18° – 23' – 15" N., Long 98° – 40' – 51" E., on left bank upstream side of Mae Klang Bridge, Amphoe Chom Thong, Chiang Mai.

Drainage Area: 616 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, 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 – 60, 1966 – 73
Rated by Float: –
Rated by Current Meter: 1955 – 60, 1966 – 73

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

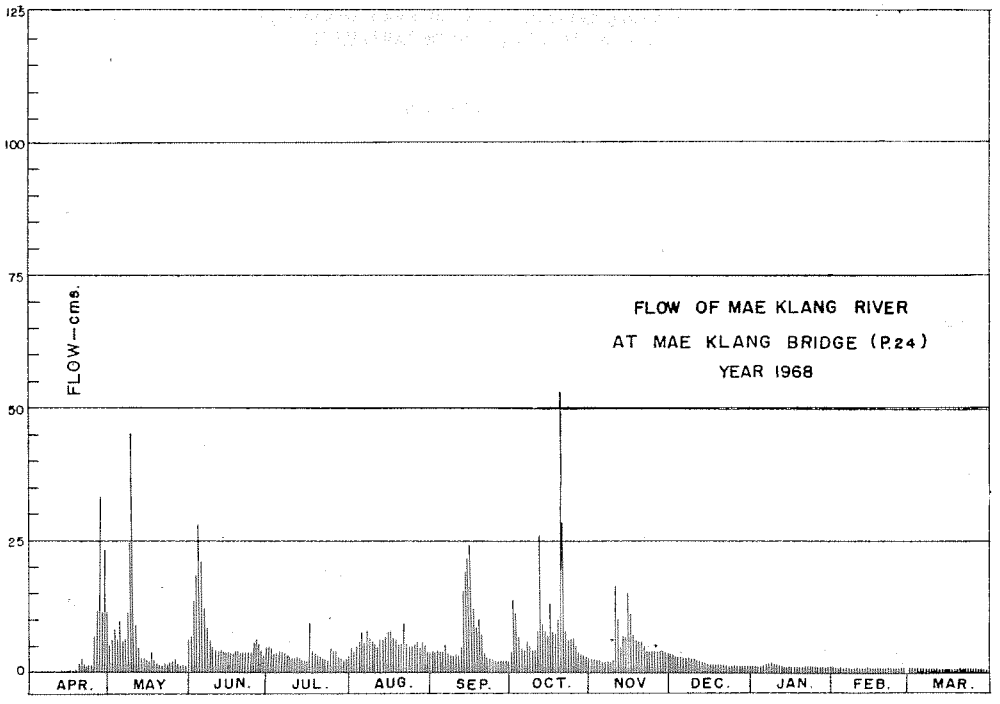
Overbank Flow Conditions: No overbank flow.

General Description: Record fair. Stage – discharge relationship used is defined by discharge measurements made during 1968. No upstream state diversions for irrigation except those built by local residents. No adjustment made for virgin flow.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.25	0.77	0.83	0.75	0.73	0.71	0.59	0.60	0.67	0.46	0.40	0.36
2	.27	.81	1.15	.69	.67	.69	1.12	.60	.66	.45	.40	.36
3	.27	.89	.30	.66	.75	.71	0.96	.59	.65	.45	.39	.36
4	.26	.75	.53	.72	.79	.70	.82	.57	.64	.45	.39	.36
5	.26	.95	.18	.70	.87	.69	.73	.55	.63	.46	.39	.35
6	0.26	0.77	0.99	0.70	0.73	0.77	0.66	0.55	0.62	0.52	0.38	0.35
7	.26	.82	.88	.66	.89	.66	.80	.56	.62	.54	.38	.35
8	.26	1.03	.79	.65	.82	.65	.76	.55	.61	.55	.39	.34
9	.26	.90	.74	.63	.79	.64	.70	.54	.61	.54	.39	.34
10	.25	.03	.71	.63	.77	.67	.72	1.17	.61	.51	.39	.34
11	0.25	0.86	0.71	0.64	0.73	0.65	1.89	0.76	0.59	0.49	0.39	0.34
12	.25	.71	.71	.62	.80	.66	.48	.69	.57	.47	.38	.34
13	.25	.61	.72	.60	.80	1.25	0.92	.84	.56	.45	.39	.34
14	.25	.62	.70	.58	.83	.34	.87	.77	.54	.43	.40	.34
15	.27	.60	.70	.57	.87	.55	.76	1.15	.52	.43	.39	.34
16	0.28	0.56	0.69	0.94	0.88	1.10	1.09	0.86	0.51	0.43	0.39	0.34
17	.30	.68	.67	.71	.81	0.93	0.77	.82	.51	.43	.39	.34
18	.30	.58	.71	.68	.81	.86	.86	.81	.51	.42	.39	.34
19	.55	.54	.71	.66	.76	.87	.95	.80	.51	.42	.39	.34
20	.62	.49	.67	.65	.77	.80	2.05	.79	.51	.42	.38	.34
21	0.54	0.50	0.70	0.63	0.94	0.65	0.95	0.74	0.50	0.46	0.38	0.34
22	.47	.55	.68	.61	.77	.63	.83	.70	.49	.45	.38	.34
23	.51	.50	.68	.59	.74	.61	.79	.71	.48	.44	.37	.33
24	.44	.56	.70	.74	.74	.60	.82	.70	.48	.43	.37	.33
25	.84	.56	.80	.71	.77	.59	.83	.70	.48	.42	.36	.33
26	1.03	0.63	0.81	0.72	0.79	0.58	0.72	0.70	0.48	0.41	0.36	0.33
27	.65	.54	.73	.64	.71	.58	.68	.69	.48	.40	.36	.33
28	0.74	.48	.67	.62	.79	.58	.65	.69	.48	.39	.36	.33
29	1.41	.50	.63	.60	.77	.58	.65	.69	.47	.39	–	.33
30	0.70	.49	.76	.61	.70	.58	.62	.68	.46	.44	–	.33
31	–	.80	–	.64	.69	–	.60	–	.46	.42	–	.33
Mean	0.47	0.71	0.81	0.66	0.79	0.76	0.89	0.72	0.54	0.45	0.35	0.34
Max.	1.65	1.90	1.53	0.94	0.94	1.55	2.05	1.17	0.67	0.55	0.40	0.36
Min.	0.25	0.48	0.63	0.57	0.67	0.58	0.59	0.54	0.46	0.39	0.36	0.33

WATER YEAR 1968 : Max. 2.05 m. Min. 0.25 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.25	5.40	6.75	5.00	4.60	4.20	2.40	2.50	3.55	1.30	1.00	0.80
2	0.35	6.25	15	3.65	3.55	3.85	14	2.50	3.40	1.25	1.00	0.80
3	0.35	8.25	19	3.40	5.00	4.20	10	2.40	3.25	1.25	0.95	0.80
4	0.30	5.00	28	4.40	5.80	4.00	6.50	2.20	3.10	1.25	0.95	0.80
5	0.30	9.75	16	4.00	7.75	3.85	4.60	2.00	2.95	1.30	0.95	0.75
6	0.30	5.40	11	4.00	4.60	5.40	3.40	2.00	2.80	1.70	0.90	0.75
7	0.30	6.50	8.00	3.40	8.25	3.40	6.00	2.10	2.80	1.90	0.90	0.75
8	0.30	12	5.80	3.25	6.50	3.25	5.20	2.00	2.65	2.00	0.95	0.70
9	0.30	45	4.80	2.95	5.80	3.10	4.00	1.90	2.65	1.90	0.95	0.70
10	0.25	12	4.20	2.95	5.40	3.55	4.40	16	2.65	1.60	0.95	0.70
11	0.25	7.50	4.20	3.10	4.60	3.25	4.45	5.20	2.40	1.45	0.95	0.70
12	0.25	4.20	4.20	2.80	6.00	3.40	26	3.85	2.20	1.35	0.90	0.70
13	0.25	2.65	4.40	2.50	6.00	18	9.00	7.00	2.10	1.25	0.95	0.70
14	0.25	2.80	4.00	2.30	6.75	21	7.75	5.40	1.90	1.15	1.00	0.70
15	0.35	2.50	4.00	2.20	7.75	29	5.20	15	1.70	1.15	0.95	0.70
16	0.40	2.10	3.85	9.50	8.00	13	13	7.50	1.60	1.15	0.95	0.70
17	0.50	3.70	3.55	4.20	6.25	10	5.40	6.50	1.60	1.15	0.95	0.70
18	0.50	2.30	4.20	3.70	6.25	7.50	7.50	6.25	1.60	1.10	0.95	0.70
19	2.00	1.90	4.20	3.40	5.20	7.75	9.75	6.00	1.60	1.10	0.95	0.70
20	2.80	1.45	3.55	3.25	5.40	6.00	53	5.80	1.60	1.10	0.90	0.70
21	1.90	1.50	4.00	2.95	9.50	3.25	9.75	4.80	1.50	1.30	0.90	0.70
22	1.35	2.00	3.70	2.65	5.40	2.95	6.75	4.00	1.45	1.25	0.90	0.70
23	1.60	1.50	3.70	2.40	4.80	2.65	5.80	4.20	1.40	1.20	0.85	0.65
24	1.20	2.10	4.00	4.80	4.80	2.50	6.50	4.00	1.40	1.15	0.85	0.65
25	7.00	2.10	6.00	4.20	5.40	2.40	6.75	4.00	1.40	1.10	0.80	0.65
26	12	2.95	6.25	4.40	5.80	2.30	4.40	4.00	1.40	1.05	0.80	0.65
27	33	1.90	4.60	3.10	4.20	2.30	3.70	3.85	1.40	1.00	0.80	0.65
28	4.80	1.40	3.55	2.80	5.80	2.30	3.25	3.85	1.40	0.95	0.80	0.65
29	23	1.50	2.95	2.50	5.40	2.30	3.25	3.85	1.35	0.95	–	0.65
30	4.00	1.45	5.20	2.65	4.00	2.30	2.80	3.70	1.30	1.20	–	0.65
31	–	6.00	–	3.10	3.85	–	2.50	–	1.30	1.10	–	0.65
Total	100.40	171.05	202.65	109.70	178.40	182.95	257	144.35	63.40	39.65	25.65	21.80
Mean	3.35	5.52	6.75	3.54	5.75	6.10	8.29	4.81	2.04	1.28	0.92	0.703
Max.	33	45	28	9.50	9.50	29	53	16	3.55	2.00	1.00	0.80
Min.	0.25	1.40	2.95	2.20	3.55	2.30	2.40	1.90	1.30	0.95	0.80	0.65
Runoff - mcm.	8.674	14.779	17.509	9.478	15.414	15.807	22.205	12.472	5.478	3.426	2.216	1.883

WATER YEAR 1968 : Max. 53 Min. 0.25 Mean 4.10 Annual Runoff 1,497.000 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Oct.20	06.00	2.28	67				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
PING RIVER BASIN

Mae Kuang River at Ban Pha Taek, Chiang Mai (P.25)

Location: Lat 18 – 55 – 04 N., Long 99 – 07 – 50 E., on left bank at upstream side of Mae Kuang Weir at Mae Kuang Irrigation Project, Amphoe Doi Saket, Chiang Mai.

Drainage Area: 572 sq.km.

Type of Gage: Staff gage.

Zero Gage at Bottom at: +336.00 m. (M.S.L.)

Bench Mark: B.M. – H.S.

Location: At pier of Mae Kuang Regulator.
Elevation: +339.00 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 – 68

Rating Operation:

Period of Rating: 1964 – 66
Rated by Float: –
Rated by Current Meter: 1964 – 66

Stability of Channel Regimes: Stable, using weir crest as a control section. No shifting adjustment for flow computation.

Overbank Flow Conditions: No overbank flow.

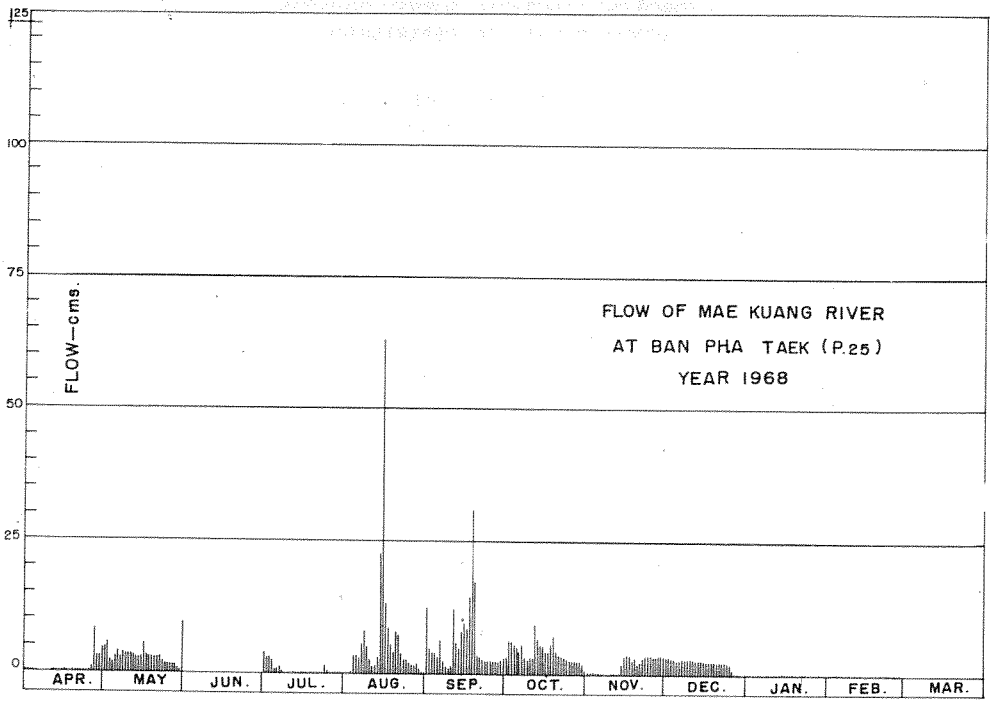
General Description: Records fair. Stage – discharge relationship used is defined by discharge measurements made during 1964 – 66 on Mae Kuang weir crest. Upstream diversions for irrigation of about 9,600 hectares. The present record included also diversions.

Remarks: No records for periods Apr.1 – 10, Jun. 1 – 30, and Mar. 1 – 31, discharge record for periods of no flow are omitted.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1968 TO MARCH 31,1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1		337.11		337.10	336.52	337.20	337.07	336.97	337.08	336.79	336.53	
2		.12		.07	.50	.08	.13	.99	.08	.76	.40	
3		.05		.08	.61	.10	.13	.99	.08	.74	.40	
4		.04		.05	337.09	.10	.12	.97	.07	.67	.52	
5		.07		336.96	.08	.07	.11	.90	.06	.52	.48	
6		337.10		337.01	337.04	337.13	337.10	336.89	337.07	336.52	336.47	
7		.06		.02	.11	.07	.12	.88	.07	.55	.46	
8		.10		336.83	.15	.03	.08	.85	.07	.55	.47	
9		.09		.70	.11	.01	.06	.85	.07	.58	.47	
10		.09		.62	.07	.03	.08	.86	.07	.57	.47	
11	336.30	337.09		336.51	337.03	337.20	337.07	336.89	337.07	336.57	336.45	
12	.30	.08		.45	.02	.11	.17	.89	.06	.55	.44	
13	.30	.07		.46	.07	.10	.13	.95	.06	.54	.45	
14	.49	.07		.46	.09	.15	.12	337.04	.06	.54	.44	
15	.70	.07		.40	.46	.17	.12	.08	.06	.48	.40	
16	336.51	337.12		336.52	337.21	337.15	337.10	337.09	337.06	336.50	336.40	
17	.69	.08		.52	.15	.17	.10	.09	.06	.50	.51	
18	.50	.07		.51	.11	.32	.12	.06	.06	.50	.52	
19	.51	.07		.54	.07	.10	.14	.07	.06	.49	.52	
20	.51	.07		.68	.15	.09	.10	.04	.05	.50	.54	
21	336.45	337.07		336.60	337.14	337.09	337.09	337.06	337.05	336.52	336.40	
22	.49	.08		.93	.09	.07	.08	.07	.05	.53	.42	
23	.45	.04		.88	.06	.06	.08	.09	.05	.50	.12	
24	.46	.03		337.03	.07	.06	.07	.09	.05	.48	.42	
25	.99	.03		336.81	.04	.06	.06	.09	.04	.47	.39	
26	337.02	337.03		336.67	337.03	337.06	337.06	337.09	337.00	336.45	336.37	
27	.16	.03		.70	.03	.06	.06	.08	336.60	.45	.38	
28	.05	.03		.64	.04	.05	.06	.09	.60	.45	.33	
29	.08	.00		.59	.00	.06	.05	.09	.75	.49	–	
30	.11	336.95		.54	336.89	.07	.04	.09	.73	.55	–	
31	–	337.17		.53	.85	–	336.99	–	.76	.68	–	
Mean		337.07		336.72	337.03	337.10	337.09	337.01	337.00	336.55	336.44	
Max.		337.17		337.10	337.46	337.32	337.17	337.09	337.08	336.79	336.54	
Min.		336.95		336.40	336.50	337.01	336.99	336.85	336.60	336.45	336.33	

WATER YEAR 1968 : Max. 337.46 m. Min. 336.30 m.



DISCHARGE; IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1		4.60		3.80	0.00	12	2.78	0.16	3.12			
2		5.40		2.78	0.00	3.12	6.20	0.32	3.12			
3		2.10		3.12	0.00	3.80	6.20	0.32	3.12			
4		1.76		2.10	3.46	3.80	5.40	0.16	2.78			
5		2.78		0.08	3.12	2.78	4.60	0.00	2.44			
6		3.80		0.74	1.76	6.20	3.80	0.00	2.78			
7		2.44		1.08	4.60	2.78	5.40	0.00	2.78			
8		3.80		0.00	7.80	1.42	3.12	0.00	2.78			
9		3.46		0.00	4.60	0.74	2.44	0.00	2.78			
10		3.46		0.00	2.78	1.42	3.12	0.00	2.78			
11	0.00	3.46		0.00	1.42	12	2.78	0.00	2.78			
12	0.00	3.12		0.00	1.08	4.60	9.40	0.00	2.44			
13	0.00	2.78		0.00	2.78	3.80	6.20	0.00	2.44			
14	0.00	2.78		0.00	3.46	7.80	5.40	1.76	2.44			
15	0.00	2.78		0.00	63	9.40	5.40	3.12	2.44			
16	0.00	5.40		0.00	13	7.80	3.80	3.46	2.44			
17	0.00	3.12		0.00	7.80	9.40	3.80	3.46	2.44			
18	0.00	2.78		0.00	4.60	31	5.40	2.44	2.44			
19	0.00	2.78		0.00	2.78	3.80	7.00	2.78	2.44			
20	0.00	2.78		0.00	7.80	3.46	3.80	1.76	2.10			
21	0.00	2.78		0.00	7.00	3.46	3.46	2.44	2.10			
22	0.00	3.12		0.00	3.46	2.78	3.12	2.78	2.10			
23	0.00	1.76		0.00	2.44	2.44	3.12	3.46	2.10			
24	0.00	1.42		1.42	2.78	2.44	2.78	3.46	2.10			
25	0.32	1.42		0.00	1.76	2.44	2.44	3.46	1.76			
26	1.08	1.42		0.00	1.42	2.44	2.44	3.46	0.40			
27	8.60	1.42		0.00	1.42	2.44	2.44	3.12	0.00			
28	2.10	1.42		0.00	1.76	2.10	2.44	3.46	0.00			
29	3.12	0.40		0.00	0.40	2.44	2.10	3.46	0.00			
30	4.60	0.00		0.00	0.00	2.78	1.76	3.46	0.00			
31	–	9.40		0.00	0.00	–	0.32	–	0.00			
Total	19.82	89.94	0.00	15.12	158.28	156.88	122.46	52.30	63.44	0.00	0.00	
Mean	0.66	2.90	0.00	0.49	5.10	5.23	3.95	1.74	2.05	0.00	0.00	
Max.	8.60	9.40	0.00	3.80	63	31	9.40	3.46	3.12	0.00	0.00	
Min.	0.00	0.00	0.00	0.00	0.00	0.74	0.32	0.00	0.00	0.00	0.00	
Runoff – mcm.	1.712	7.771	0.00	1.306	13.675	13.554	10.580	4.519	5.481	0.00	0.00	

WATER YEAR 1968 : Max. 63 Min. 0.00 Mean Annual Runoff mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Aug.15	12.00	337.59	108				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
PING RIVER BASIN

Mae Kuang River at Koh Matan Canal, Chiang Mai (P.25A)

Location: Lat 18° - 55' - 04" N., Long 99° - 07' - 50" E., on left bank of Koh Matan Canal about 20 meters downstream from Mae Kuang Regulator, Amphoe Doi Saket, Chiang Mai.

Drainage Area: -

Type of Gage: Staff gage.

Zero Gage at Bottom at: +335.644 m. (M.S.L.)

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

Location: At pier of Mae Kuang Regulator.
Elevation: +339.00 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 - 68

Rating Operation:

Period of Rating: 1964 - 66
Rated by Float: -
Rated by Current Meter: 1964 - 66

Stability of Channel Regimes: Stable, no shifting adjustment for flow computation for year without actual ratings.

Overbank Flow Conditions: No overbank flow.

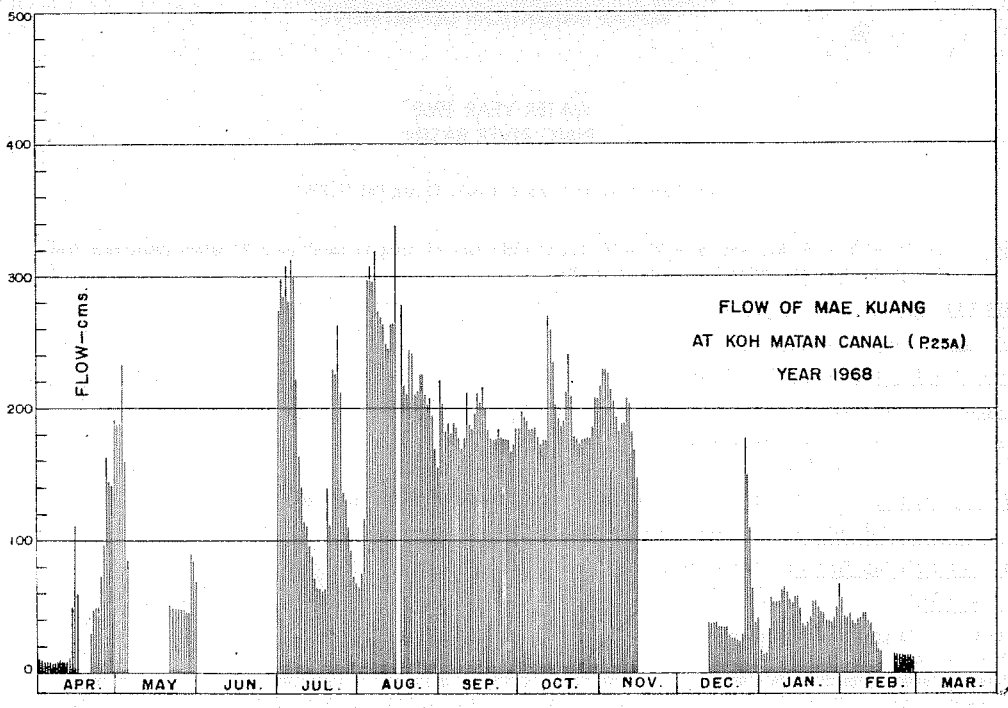
General Description: Records fair. Stage - discharge relationship used is defined by discharge measurements made during 1966. Flow regulated by Mae Kuang Regulator.

Remarks: Discharge record for period of regulator is closed are omitted.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	336.07	336.59		336.77	336.27	336.67	336.59	336.66		336.10	336.23	
2	.06	.60		.83	.30	.60	.62	.69		.09	.20	
3	.05	.70		.79	.37	.57	.61	.69		.08	.20	
4	.05	.38		.85	.83	.60	.60	.68	336.12	.15	.21	
5	.05	.33		.77	.85	.58	.58	.65	.11	.25	.18	
6	336.05			336.86	336.82	336.60	336.59	336.63		336.23	336.18	
7	.04			.83	.87	.59	.59	.61		.24	.20	
8	.05			.58	.78	.57	.57	.58		.24	.20	
9	.06			.52	.77	.55	.56	.60		.26	.21	
10	.05			.46	.76	.58	.57	.60		.27	.21	
11	336.05			336.41	336.73	336.65	336.57	336.64		336.26	336.18	
12	.05			.41	.72	.58	.77	.63	336.18	.24	.18	
13	.06			.36	.76	.59	.75	.56	.18	.23	.15	
14	.23			.33	.76	.62	.70	.55	.18	.25	.13	
15	.41			.28	.91	.65	.59	.49	.18	.25	.10	
16	336.21			336.27	-	336.63	336.61		336.17	336.21	336.10	
17				.27	336.79	.66	.59		.17	.19		
18				.26	.66	.60	.61		.17	.17		
19				.24	.64	.58	.65		.17	.19		
20				.48	.72	.57	.71		.14	.20		
21	336.14			336.36	336.71	336.57	336.59		336.14	336.24	336.09	
22	.18	336.23		.69	.64	.57	.57		.14	.24	.09	
23	.19	.22		.67	.64	.59	.57		.13	.22	.08	
24	.19	.22		.76	.68	.57	.56		.13	.21	.08	
25	.30	.22		.57	.68	.57	.57		.13	.21	.08	
26	336.38	330.22		336.43	336.63	336.57	336.57		336.57	336.19	336.08	
27	.54	.21		.46	.63	.57	.57		.44	.19	.08	
28	.47	.21		.38	.64	.54	.57		.34	.18	.07	
29	.49	.35		.35	.61	.57	.60		.19	.20	-	
30	.61	.33		.29	.54	.59	.64		.18	.23	-	
31	-	.28		.28	.51	-	.64		.20	.28	-	
Mean	336.19	336.34		336.51	336.67	336.59	336.61	336.62	336.21	336.21	336.15	
Max.	336.61	336.70		336.86	336.91	336.67	336.77	336.69	336.57	336.28	336.23	
Min.	336.04	336.21		336.24	336.27	336.54	336.56	336.49	336.13	336.08	336.07	

WATER YEAR 1968 : Max. 336.91 m. Min. 336.04 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.11	1.84		2.68	0.64	2.20	1.84	2.16	0.00	0.16	0.51	0.00
2	0.10	1.88		2.97	0.73	1.88	1.97	2.29	0.00	0.14	0.42	
3	0.08	2.34		2.77	0.97	1.76	1.92	2.29	0.00	0.13	0.42	
4	0.08	1.00		3.07	2.97	1.88	1.88	2.25	0.21	0.29	0.45	
5	0.08	0.83		2.68	3.07	1.80	1.80	2.11	0.19	0.57	0.37	
6	0.08	0.00		3.12	2.92	1.88	1.84	2.02	0.00	0.51	0.37	
7	0.06			2.97	3.17	1.84	1.84	1.92	0.00	0.54	0.42	
8	0.08			1.80	2.72	1.76	1.76	1.80	0.00	0.54	0.42	
9	0.10			1.55	2.68	1.67	1.72	1.88	0.00	0.61	0.45	
10	0.08			1.31	2.63	1.80	1.76	1.88	0.00	0.64	0.45	
11	0.08			1.11	2.48	2.11	1.76	2.07	0.00	0.61	0.37	
12	0.08			1.11	2.44	1.80	2.68	2.02	0.37	0.54	0.37	
13	0.10			0.93	2.63	1.84	2.58	1.72	0.37	0.51	0.29	
14	0.51			0.83	2.63	1.97	2.34	1.67	0.37	0.57	0.24	
15	1.11			0.67	3.37	2.11	1.84	1.43	0.37	0.57	0.16	
16	0.45			0.64	0.00	2.02	1.92	0.00	0.34	0.45	0.16	
17	0.00			0.64	2.77	2.16	1.84		0.34	0.39	0.00	
18	0.00			0.61	2.16	1.88	1.92		0.34	0.34		
19	0.00			0.54	2.07	1.80	2.11		0.34	0.39		
20	0.00			1.39	2.44	1.76	2.39		0.26	0.42	0.00	
21	0.26	0.00		0.93	2.39	1.76	1.84		0.26	0.54	0.14	
22	0.37	0.51		2.29	2.07	1.76	1.76		0.26	0.54	0.14	
23	0.39	0.48		2.20	2.07	1.84	1.76		0.24	0.48	0.13	
24	0.39	0.48		2.63	2.25	1.76	1.72		0.24	0.45	0.13	
25	0.73	0.48		1.76	2.25	1.76	1.76		0.24	0.45	0.13	
26	1.00	0.48		1.19	2.02	1.76	1.76		1.76	0.39	0.13	
27	1.63	0.45		1.31	2.02	1.76	1.76		1.23	0.39	0.13	
28	1.35	0.45		1.00	2.07	1.63	1.76		0.87	0.37	0.11	
29	1.43	0.90		0.90	1.92	1.76	1.88		0.39	0.42	–	
30	1.92	0.83		0.70	1.63	1.84	2.07	0.00	0.37	0.51	–	
31	–	0.67		0.67	1.51	–	2.07	–	0.42	0.67	–	0.00
Total	12.654	13.62	0.00	48.97	67.690	55.55	59.85	29.51	9.780	14.13	6.910	0.00
Mean	0.422	0.439	0.00	1.58	2.18	1.85	1.93	0.984	0.315	0.456	0.247	0.00
Max.	1.92	2.34	0.00	3.12	3.37	2.20	2.68	2.29	1.76	0.67	0.51	0.00
Min.	0.00	0.00	0.00	0.54	0.00	1.63	1.72	0.00	0.00	0.13	0.00	0.00
Runoff – MCM.	1.093	1.177	0.000	4.231	5.848	4.799	5.171	2.550	0.845	1.221	0.597	0.00

WATER YEAR 1968 : Max. 3.37 Min. 0.00 Mean 0.873 Annual Runoff 27.532 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Jul.6	12.00	337.01	3.90				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
PING RIVER BASIN

Mae Kuang River at Muang Wa Canal, Chiang Mai (P.25B)

Location: Lat 18° – 55' – 04" N., Long 99° – 07' – 50" E., on right bank of Muang Wa Canal about 20 meters downstream from Mae Kuang Regulator, Amphoe Doi Saket, Chiang Mai.

Drainage Area: –

Type of Gage: Staff gage.

Zero Gage at Bottom at: +335.643 m. (M.S.L.)

Bench Mark: B.M. – H.S.

Location: At pier of Mae Kuang Recgulator
Elevation: +339.00 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 – 68

Rating Operation:

Period of Rating: 1964 – 66
Rated by Float: –
Rated by Current Meter: 1964 – 66

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

Overbank Flow Conditions: No overbank flow.

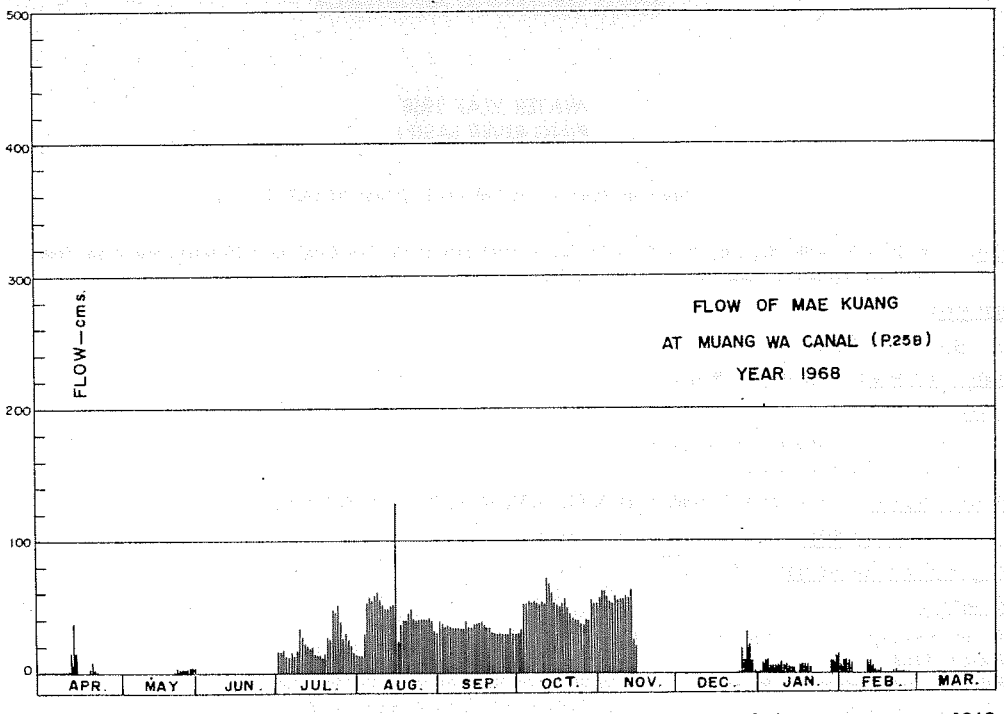
General Description: Records fair. Stage – discharge relationship used is defined by discharge measurements made during 1966. Flow regulated by Mae Kuang Regulator.

Remarks: Discharge record for period of regulator is closed are omitted.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	336.02			336.19	336.17	336.37	336.29	336.48		336.04	336.11	
2	.03			.19	.16	.34	.32	.51		.13	.15	
3	.00			.21	.23	.33	.45	.51		.14	.14	
4	.01			.16	.46	.34	.45	.48		.14	.14	
5	.01			.15	.48	.33	.46	.45		.11	.12	
6	336.01			336.19	336.46	336.33	336.45	336.45		336.11		
7	.00			.17	.49	.33	.46	.49		.11		
8	.01			.11	.51	.33	.44	.46		.11		
9	.03			.33	.47	.32	.44	.47		.13		
10	.02			.27	.45	.33	.46	.47		.11		
11	336.01			336.24	336.42	336.36	336.45	336.49		336.12	336.14	
12	.01			.24	.42	.33	.56	.47		.10	.14	
13	.01			.21	.44	.33	.53	.51		.10	.11	
14	.18			.22	.44	.35	.48	.26		.09	.09	
15	.35			.18	.87	.35	.44	.20		Closed	.05	
16	336.17			336.17	336.19	336.35	336.44			336.16	336.09	
17				.17	.35	.36	.43			.12		
18				.15	.37	.34	.45			.12		
19				.19	.37	.33	.47			.12		
20				.27	.40	.33	.41			.09		
21	336.08			336.24	336.42	336.30	336.38				336.07	
22	.14			.42	.37	.29	.37				.07	
23		336.07		.40	.36	.29	.37		336.01		.04	
24		.10		.45	.36	.29	.36		.01		.04	
25		.09		.36	.37	.29	.34		.21		.04	
26		336.09		336.25	336.37	336.29	336.34		336.09		336.04	
27		.09		.31	.37	.29	.37		.31		.05	
28		.09		.26	.38	.32	.37		.22	336.14	.04	
29		.10		.23	.36	.29	.47		.10	.14	–	
30		.10		.19	.31	.29	.46		.03	.17	–	
31		.10		.17	.30	–	.46		.03	.18	–	
Mean	336.05	336.09		336.23	336.39	336.32	336.42	336.45	336.11	336.12	336.09	
Max.	336.35	336.10		336.45	336.87	336.37	336.56	336.51	336.31	336.16	336.15	
Min.	336.01	336.07		336.11	336.16	336.29	336.29	336.20	336.03	336.04	336.04	

WATER YEAR 1968 : Max. 336.87 m. Min. 336.01 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.00			0.16	0.13	0.40	0.29	0.57		0.00	0.05	
2	0.00			0.16	0.12	0.36	0.33	0.62		0.08	0.10	
3	0.00			0.18	0.21	0.34	0.52	0.62		0.09	0.09	
4	0.00			0.12	0.54	0.36	0.52	0.57		0.09	0.09	
5	0.00			0.10	0.57	0.34	0.54	0.52		0.05	0.07	
6	0.00			0.16	0.54	0.34	0.52	0.52		0.05		
7	0.00			0.13	0.58	0.34	0.54	0.58		0.05		
8	0.00			0.05	0.62	0.34	0.51	0.54		0.05		
9	0.00			0.34	0.55	0.33	0.51	0.55		0.08		
10	0.00			0.26	0.52	0.34	0.54	0.55		0.05		
11	0.00			0.22	0.48	0.39	0.52	0.58		0.07	0.09	
12	0.00			0.22	0.48	0.34	0.71	0.55		0.04	0.09	
13	0.00			0.18	0.51	0.34	0.65	0.62		0.04	0.05	
14	0.14			0.20	0.51	0.37	0.57	0.25		0.03	0.03	
15	0.37			0.14	1.28	0.37	0.51	0.17		closed	0.00	
16	0.13			0.13	0.16	0.37	0.51			0.12	0.03	
17				0.13	0.37	0.39	0.49			0.07		
18				0.10	0.40	0.36	0.52			0.07		
19				0.16	0.40	0.34	0.55			0.07		
20				0.26	0.45	0.34	0.46			0.03		
21	0.02			0.22	0.48	0.30	0.42				0.01	
22	0.09			0.48	0.40	0.29	0.40				0.01	
23	0.02	0.02		0.45	0.39	0.29	0.40		0.00		0.00	
24	0.00	0.04		0.52	0.39	0.29	0.39		0.00		0.00	
25		0.03		0.39	0.40	0.29	0.36.		0.18		0.00	
26		0.03		0.23	0.40	0.29	0.36		0.03		0.00	
27		0.03		0.31	0.40	0.29	0.40		0.31		0.00	
28		0.03		0.25	0.42	0.33	0.40		0.20	0.09	0.00	
29		0.04		0.21	0.39	0.29	0.55		0.04	0.09	–	
30		0.04		0.16	0.31	0.29	0.52		0.00	0.13	–	
31		0.04		0.13	0.30	–	0.52		0.00	0.14	–	
Total	0.980	0.312	0.00	6.753	13.70	10.05	15.03	7.81	0.762	1.59	0.736	
Mean	0.033	0.010	0.00	0.22	0.44	0.33	0.48	0.26	0.024	0.051	0.026	
Max.	0.37	0.040	0.00	0.52	1.28	0.40	0.71	0.62	0.31	0.12	0.10	
Min.	0.00	0.020	0.00	0.053	0.12	0.29	0.29	0.17	0.00	0.00	0.00	
Runoff - MCM.	0.085	0.027	0.00	0.583	1.184	0.868	1.298	0.675	0.066	0.137	0.063	

WATER YEAR 1968 : Max. 1.28 Min. 0.00 Mean 0.158 Annual Runoff 4.987 mcm.

Momentary Peak Discharge

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

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
PING RIVER BASIN

Mae Kuang River at Pha Taek Canal, Chiang Mai (P.25 C)

Location: Lat 18° – 55' – 04" N., Long 99° – 07' – 50" E., on right bank of Pha Taek Canal about 20 meters downstream from Mae Kuang Regulator, Amphoe Doi Saket, Chiang Mai.

Drainage Area: –

Type of Gage: Staff gage.

Zero Gage at Bottom at: +335.640 m. (M.S.L.)

Bench Mark: B.M. – H.S.

Location: At peir of Mae Kuang Regulator.
Elevation: +339.00 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 – 68.

Rating Operation:

Period of Rating: 1964 – 66
Rated by Float: –
Rated by Current Meter: 1964 – 66

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

Overbank Flow Conditions: No overbank flow.

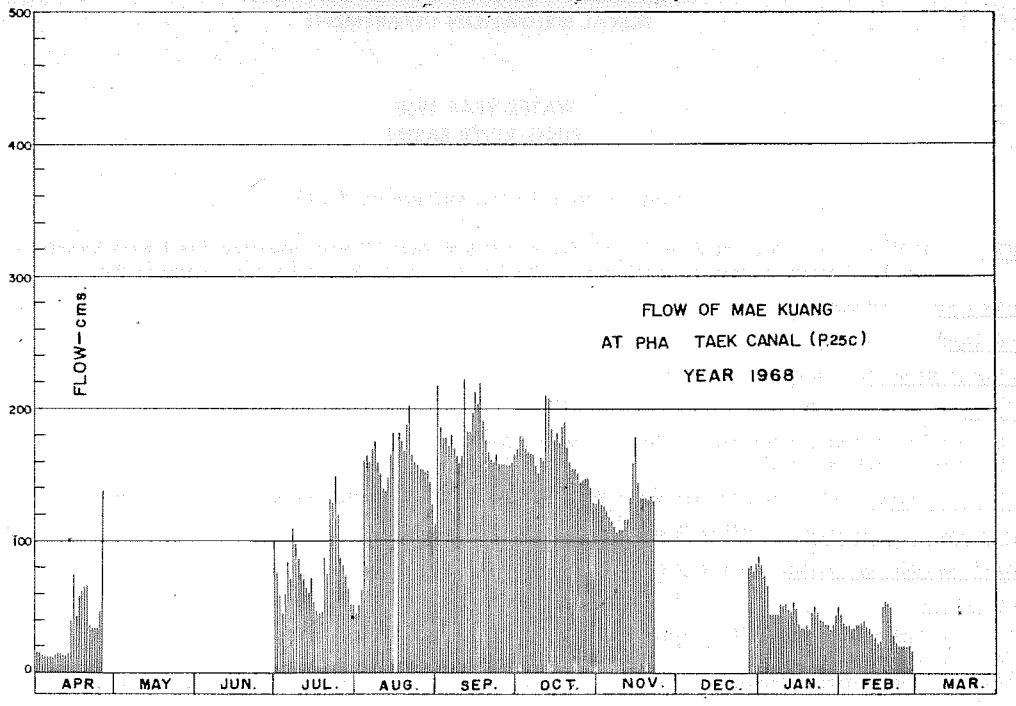
General Description: Records fair. Stage – discharge relationship used is defined by discharge measurements made during 1966. Flow regulated by Mae Kuang Regulator.

Remarks: Discharge record for periods of regula is closed are omitted.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	336.05			336.54	336.25	337.05	336.86	336.69		336.48	336.23	
2	.04			.39	.29	336.89	.90	.66		.45	.19	
3	.03			.33	.35	.89	.89	.66		.41	.19	
4	.03			.21	.82	.89	.86	.65		.36	.19	
5	.02			.35	.84	.85	.85	.62		.24	.17	
6	336.03			336.46	336.81	336.91	336.84	336.61		336.24	336.18	
7	.02			.36	.86	.86	.84	.59		.24	.20	
8	.03			.58	.88	.84	.79	.56		.25	.20	
9	.04			.51	.79	.81	.77	.58		.29	.21	
10	.04			.46	.78	.84	.83	.58		.28	.21	
11	336.03			336.40	336.73	337.07	336.81	336.62		336.29	336.18	
12	.03			.39	.72	336.90	337.02	.61		.26	.18	
13	.04			.35	.78	.90	.01	.69		.25	.15	
14	.22			.33	.84	.95	336.90	.82		.30	.13	
15	.41			.40	.91	337.03	.86	.89		.26	.10	
16	336.20			336.26	Closed	336.97	336.91	336.70		336.19	336.10	
17	.32			.26	336.91	337.06	.86	.69		.18	.29	
18	.34			.25	.88	336.92	.92	.69		.17	.30	
19	.36			.26	.84	.88	.94	.69		.20	.29	
20	.36			.47	.93	.85	.85	.68		.17	.27	
21	336.14			336.35	336.99	336.83	336.81	336.70		336.26	336.11	
22	.18			.69	.84	.81	.79	.68		.28	.09	
23	.18			.66	.81	.84	.79			.26	.08	
24	.18			.77	.81	.81	.78			.22	.08	
25	.29			.55	.79	.81	.74			.22	.08	
26	336.72			336.42	336.79	336.81	336.75			336.20	336.08	
27				.45	.78	.81	.76			.20	.08	
28				.40	.79	.80	.76		336.44	.16	.05	
29				.35	.74	.81	.71		.44	.19		
30				.29	.64	.84	.67		.41	.23		
31				.28	.58		.67		.46	.28		
Mean	336.17			336.41	336.76	336.88	336.83	336.67	336.44	336.26	336.16	
Max.	336.72			336.77	336.99	337.07	337.02	336.89	336.46	336.48	336.30	
Min.	336.02			336.21	336.25	336.80	336.67	336.56	336.41	336.16	336.05	

WATER YEAR 1968 : Max. 337.07 m. Min. 336.02 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.16			1.00	0.45	2.17	1.70	1.32		0.88	0.42	
2	0.15			0.70	0.52	1.78	1.80	1.26		0.82	0.36	
3	0.13			0.59	0.63	1.78	1.78	1.26		0.74	0.36	
4	0.13			0.39	1.61	1.78	1.70	1.23		0.65	0.36	
5	0.12			0.63	1.66	1.68	1.68	1.17		0.44	0.33	
6	0.13			0.84	1.58	1.82	1.66	1.15		0.44	0.33	
7	0.12			0.65	1.70	1.70	1.66	1.11		0.44	0.37	
8	0.13			1.09	1.75	1.66	1.54	1.05		0.45	0.37	
9	0.15			0.94	1.54	1.58	1.49	1.09		0.52	0.39	
10	0.15			0.84	1.52	1.66	1.63	1.09		0.51	0.39	
11	0.13			0.72	1.41	2.22	1.58	1.17		0.52	0.34	
12	0.13			0.70	1.38	1.80	2.10	1.15		0.47	0.34	
13	0.15			0.63	1.52	1.80	2.07	1.32		0.45	0.30	
14	0.40			0.59	1.66	1.92	1.80	1.61		0.54	0.27	
15	0.74			0.72	1.82	2.12	1.70	1.78		0.47	0.23	
16	0.37			0.47		1.97	1.82	1.34		0.36	0.23	
17	0.58			0.47	1.82	2.20	1.70	1.32		0.34	0.52	
18	0.61			0.45	1.75	1.85	1.85	1.32		0.33	0.54	
19	0.65			0.47	1.66	1.75	1.90	1.32		0.37	0.52	
20	0.65			0.86	1.87	1.68	1.68	1.30		0.33	0.49	
21	0.29			0.63	2.02	1.63	1.58	1.34		0.47	0.24	
22	0.34			1.32	1.66	1.58	1.54	1.30		0.51	0.22	
23	0.34			1.26	1.58	1.66	1.54			0.47	0.20	
24	0.34			1.49	1.58	1.58	1.52			0.40	0.20	
25	0.52			1.02	1.54	1.58	1.43			0.40	0.20	
26	1.38			0.76	1.54	1.58	1.45			0.37	0.20	
27				0.82	1.52	1.58	1.47			0.37	0.20	
28				0.72	1.54	1.56	1.47		0.80	0.31	0.16	
29				0.63	1.43	1.58	1.36		0.80	0.36	–	
30				0.52	1.21	1.66	1.28		0.74	0.42	–	
31				0.51	1.09	–	1.28	–	0.84	0.51	–	
Total	8.99			23.43	44.66	52.91	50.76	28.00	2.38	14.66	9.09	
Mean	0.30			0.75	1.49	1.76	1.64	0.93	0.077	0.47	0.32	
Max.	1.38			1.49	2.02	2.22	2.10	1.78	0.84	0.88	0.54	
Min.	0.12			0.39	0.45	1.56	1.28	1.05	0.74	0.31	0.16	
Runoff – MCM.	0.777			2.024	3.859	4.571	4.385	2.419	0.206	1.267	0.785	

WATER YEAR 1968 : Max. 2.22 Min. 0.00 Mean 0.64 Annual Runoff 20.294 mcm.

Momentary Peak Discharge

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

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
PING RIVER BASIN

Khlong Suan Mak at Ban Mai, Kamphaeng Phet (P.26)

Location: Lat 16° – 26' – 54" N., Long 99° – 25' – 57" E., on right bank about 200 meters downstream from Tha Kra Dan Weir and about 15 kilometers upstream from confluence with Mae Ping River at Ban Mai, Amphoe Muang, Kamphaeng Phet.

Drainage Area: 968 sq.km.

Type of Gage: Staff gage.

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

Bench Mark: B.M. – P.26

Location: At about 10 meters east of station office of P.26
Elevation: +6.965 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, 1967 to date
Rated by Float: –
Rated by Current Meter: 1964, 1967 to date

Stability of Channel Regimes: Stable, shifting adjustment is included for flow computation.

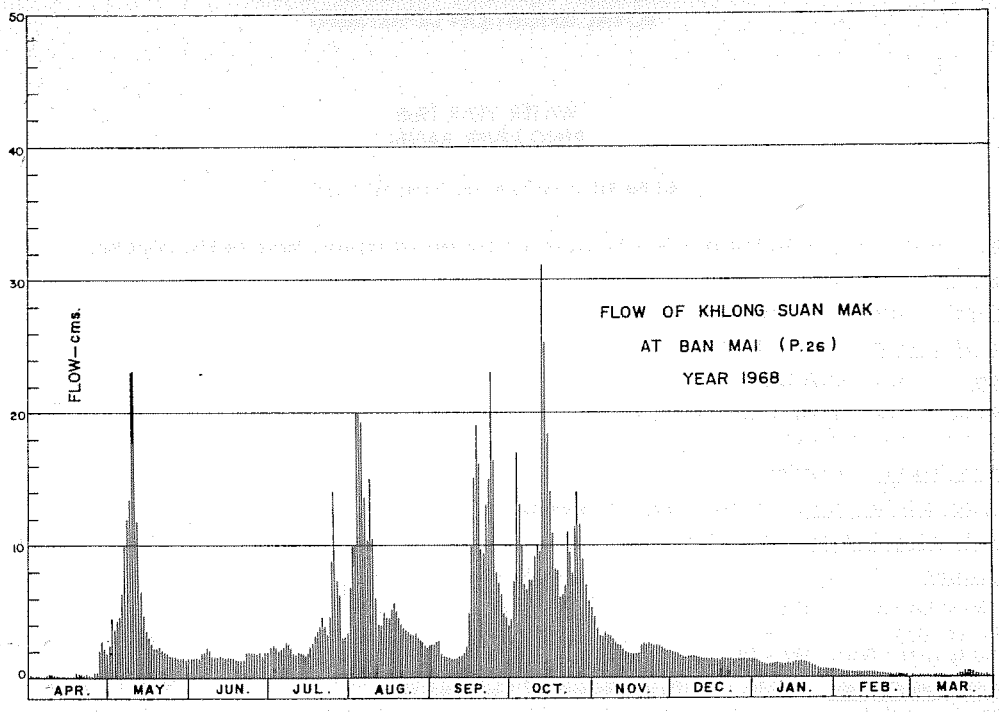
Overbank Flow Conditions: No overbank flow.

General Description: Records fair. Stage – discharge relationship used is defined by discharge measurements made during 1968. No upstream state diversions for irrigation except those built by local residents. No adjustment made for virgin flow.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	–0.15	0.08	0.00	0.03	0.48	0.01	0.21	0.21	0.02	–0.08	–0.11	–0.17
2	–0.16	.19	.00	.05	.34	.02	.42	.17	.01	–0.08	–0.11	–0.18
3	–0.16	.14	–0.01	.03	.90	.03	.74	.15	.00	–0.09	–0.12	–0.18
4	–0.16	.20	–0.03	.01	.90	.03	.49	.14	–0.01	–0.09	–0.12	–0.18
5	–0.16	.21	–0.07	.02	.85	.03	.38	.13	–0.02	–0.09	–0.12	–0.18
6	–0.16	0.36	0.04	0.07	0.56	0.02	0.32	0.12	–0.02	–0.09	–0.13	–0.18
7	–0.15	.52	.07	.10	.43	.01	.38	.11	–0.03	–0.09	–0.13	–0.18
8	–0.14	.54	.03	.08	.71	.00	.38	.10	–0.03	–0.08	–0.13	–0.18
9	–0.14	.96	.01	.05	.46	.00	.45	.09	–0.03	–0.08	–0.13	–0.18
10	–0.15	.97	.00	.02	.30	–0.01	.45	.08	–0.04	–0.08	–0.13	–0.18
11	–0.16	0.57	0.00	0.02	0.21	–0.02	0.50	0.07	–0.05	–0.09	–0.13	–0.18
12	–0.16	.42	.00	.03	.19	–0.02	.53	.08	–0.05	–0.09	–0.14	–0.18
13	–0.16	.28	.00	.03	.18	–0.01	1.30	.07	–0.05	–0.09	–0.14	–0.17
14	–0.16	.19	–0.01	.01	.16	.05	0.94	.07	–0.05	–0.09	–0.14	–0.19
15	–0.16	.15	–0.01	.00	.15	.28	.72	.06	–0.06	–0.09	–0.14	–0.19
16	–0.16	0.13	–0.01	0.02	0.18	0.51	0.58	0.07	–0.06	0.00	–0.14	–0.19
17	–0.15	.09	–0.02	.05	.21	.64	.44	.06	–0.06	.00	–0.15	–0.18
18	–0.12	.07	–0.03	.08	.18	.78	.44	.07	–0.06	.00	–0.15	–0.17
19	–0.13	.07	–0.03	.10	.15	.38	.33	.06	–0.06	.00	–0.15	–0.15
20	–0.14	.07	–0.03	.12	.13	.31	.36	.07	–0.06	.00	–0.16	–0.15
21	–0.15	0.05	–0.05	0.15	0.12	0.54	0.40	0.06	–0.07	–0.01	–0.16	–0.13
22	–0.14	.04	–0.09	.11	.11	.63	.49	.07	–0.07	–0.02	–0.16	–0.13
23	–0.15	.03	–0.10	.10	.10	.91	.36	.06	–0.07	–0.05	–0.16	–0.14
24	–0.16	.01	–0.10	.20	.09	.47	.34	.05	–0.07	–0.07	–0.17	–0.15
25	–0.12	.01	–0.10	.61	.10	.30	.64	0.05	–0.07	–0.09	–0.17	–0.16
26	–0.11	0.01	–0.11	0.30	0.09	0.27	0.58	0.05	–0.07	–0.09	–0.17	–0.17
27	0.07	.00	–0.09	.30	.08	.23	.46	.04	–0.08	–0.10	–0.17	–0.17
28	0.10	–0.01	–0.05	.17	.06	.21	.38	.03	–0.08	–0.10	–0.17	–0.17
29	0.07	–0.01	.00	.14	.05	.20	.36	.02	–0.08	–0.10	–	–0.17
30	0.03	–0.02	.00	.16	.03	.15	.27	.02	–0.08	–0.10	–	–0.18
31	–	–0.01	–	.18	.01	–	.25	–	–	–	–	–0.18
Mean	–0.12	0.02	–0.03	0.11	0.27	0.23	0.48	0.08	–0.05	–0.07	–0.14	–0.17
Max.	0.10	0.97	0.07	0.61	0.90	0.91	1.30	0.21	0.02	0.00	–0.11	–0.13
Min.	–0.16	–0.02	–0.11	0.00	0.01	–0.02	0.21	0.02	–0.08	–0.10	–0.17	–0.19

WATER YEAR 1968 : Max. 1.30 m. Min. -0.19 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.21	2.32	1.15	2.20	10	2.56	4.78	4.56	2.08	1.42	0.63	0.21
2	0.14	4.43	1.51	2.44	6.98	2.69	9.40	3.68	1.96	1.42	0.63	0.14
3	0.14	3.24	1.42	2.20	20	2.80	17	3.24	1.84	1.06	0.56	0.14
4	0.14	4.56	1.24	1.96	20	1.72	11	3.02	1.72	1.06	0.56	0.14
5	0.14	4.78	0.88	2.08	19	1.72	7.42	3.46	1.60	1.06	0.56	0.14
6	0.14	8.08	1.96	2.32	12	1.60	6.10	3.24	1.60	1.06	0.49	0.14
7	0.21	12	2.32	2.68	8.96	1.51	7.42	3.02	1.72	1.06	0.49	0.14
8	0.28	12	1.84	2.44	15	1.42	7.42	2.80	1.72	1.15	0.49	0.14
9	0.28	23	1.60	2.08	9.62	1.42	8.96	2.69	1.72	1.15	0.49	0.14
10	0.21	23	1.51	1.72	6.10	1.51	10	2.56	1.60	1.15	0.49	0.14
11	0.14	13	1.60	1.72	4.12	1.60	9.40	2.44	1.51	1.06	0.49	0.14
12	0.14	9.40	1.60	1.84	3.68	1.60	10	2.08	1.51	1.06	0.42	0.14
13	0.14	6.32	1.60	1.84	5.00	1.84	31	1.96	1.51	1.06	0.42	0.07
14	0.14	4.34	1.51	1.60	4.56	2.52	20	1.96	1.51	1.06	0.42	0.07
15	0.14	3.46	1.51	1.51	4.34	7.42	15	1.84	1.42	1.06	0.42	0.07
16	0.14	3.02	1.51	2.20	5.00	13	11	1.96	1.42	1.33	0.42	0.07
17	0.21	2.44	1.42	2.56	5.66	16	8.08	1.84	1.42	1.33	0.35	0.14
18	0.42	2.20	1.33	3.02	5.00	19	8.08	1.96	1.42	1.33	0.35	0.21
19	0.35	2.32	1.33	3.46	4.34	9.62	5.66	2.56	1.42	1.33	0.35	0.35
20	0.28	2.32	1.33	3.90	3.90	8.08	6.32	2.69	1.42	1.33	0.28	0.35
21	0.21	2.08	1.33	4.56	3.68	13	7.20	2.56	1.51	1.24	0.28	0.49
22	0.28	1.96	1.97	3.68	3.46	15	11	2.69	1.51	1.15	0.28	0.49
23	0.21	1.84	0.88	2.80	3.24	23	7.86	2.56	1.51	0.88	0.28	0.42
24	0.14	1.60	0.88	5.00	3.02	12	7.42	2.44	1.51	0.97	0.21	0.35
25	0.42	1.60	0.88	14	3.46	7.86	14	2.44	1.51	0.79	0.21	0.28
26	0.49	1.60	0.79	7.20	3.02	7.20	13	2.44	1.51	0.79	0.21	0.21
27	2.20	1.51	0.97	7.20	2.80	6.32	10	2.32	1.42	0.70	0.21	0.21
28	2.56	1.42	1.33	3.24	2.68	4.78	8.30	2.20	1.42	0.70	0.21	0.21
29	2.20	1.42	1.84	2.68	2.44	4.56	6.54	2.08	1.42	0.70	–	0.21
30	1.72	1.33	1.84	3.02	2.20	3.46	5.88	2.08	1.42	0.70	–	0.14
31	–	1.42	–	3.46	2.56	–	5.44	–	1.42	0.70	–	0.14
Total	14.42	164.01	43.24	102.61	205.82	196.81	310.68	77.37	48.28	32.86	11.20	6.23
Mean	0.46	5.29	1.44	3.31	6.64	6.56	10.0	2.58	1.56	1.06	0.400	0.201
Max.	2.56	23	2.32	14	20	23	31	4.56	2.08	1.42	0.63	0.49
Min.	0.14	1.33	0.79	1.51	2.20	1.42	4.78	1.84	1.42	0.70	0.21	0.07
Runoff - MCM.	1.246	14.170	3.735	8.865	17.782	17.004	26.842	6.684	4.171	2.839	0.968	0.538

WATER YEAR 1968 : Max. 31 Min. 0.07 Mean 3.32 Annual Runoff 104.849 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Oct.13	18.00	1.82	114				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
PING RIVER BASIN

Hui Mae Nai at Ban Pa Muang, Chiang Mai (P.27)

Location: Lat 18° - 54' - 23" N., Long 98° - 54' - 59" E., on left bank near Wat Amphawan, Amphoe Mae Rim, Chiang Mai.

Drainage Area: 24 sq.km.

Type of Gage: Water - stage recorder.

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

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

Location: Infront of the office of station P.27
Elevation: +4.45 m. (A.D.)

Gage Reading Frequency: Recording.

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

Period of Available Gage Records: 1965 - 70

Rating Operation:

Period of Rating: 1965 - 70
Rated by Float: -
Rated by Current Meter: 1965 - 70

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

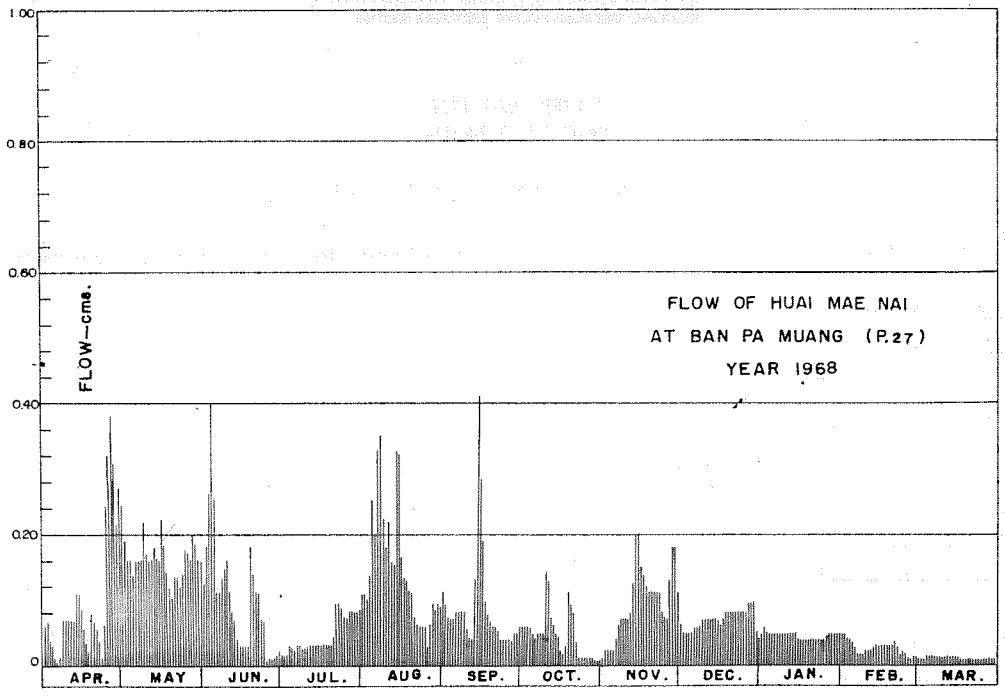
Overbank Flow Conditions: No overbank flow.

General Description: Records fair. Stage - discharge relationship used is defined by discharge measurements made during 1968. Flow regulated by a series of small diversion dam built by local residents. No adjustment made for virgin flow.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.15	0.27	0.21	0.12	0.21	0.21	0.17	0.11	0.16	0.16	0.16	0.11
2	.18	.24	.25	.12	.21	.19	.17	.13	.16	.17	.16	.11
3	.15	.24	.29	.12	.20	.18	.17	.13	.16	.16	.15	.11
4	.14	.24	.34	.14	.23	.18	.17	.13	.16	.16	.15	.12
5	.06	.22	.27	.13	.28	.18	.16	.13	.16	.16	.14	.12
6	0.07	0.24	0.21	0.13	0.24	0.19	0.15	0.13	0.17	0.16	0.13	0.12
7	.10	.24	.21	.14	.31	.19	.16	.17	.17	.16	.12	.12
8	.18	.24	.22	.14	.32	.19	.16	.18	.17	.16	.12	.12
9	.18	.27	.23	.13	.25	.19	.16	.18	.18	.16	.12	.12
10	.18	.24	.24	.14	.24	.16	.15	.18	.18	.16	.13	.11
11	0.18	0.24	0.20	0.14	0.27	0.15	0.23	0.18	0.18	0.16	0.13	0.12
12	.18	.24	.19	.14	.24	.15	.18	.19	.18	.16	.13	.12
13	.17	.25	.18	.14	.19	.22	.17	.22	.18	.16	.14	.12
14	.21	.24	.15	.14	.31	.19	.16	.26	.18	.16	.14	.12
15	.21	.24	.14	.14	.31	.34	.16	.26	.18	.15	.14	.12
16	0.17	0.27	0.14	0.14	0.23	0.21	0.12	0.23	0.17	0.15	0.14	0.12
17	.15	.24	.14	.14	.22	.19	.12	.22	.18	.15	.14	.11
18	.12	.22	.14	.14	.22	.18	.13	.21	.19	.15	.14	.11
19	.19	.21	.25	.14	.21	.17	.21	.21	.19	.15	.14	.11
20	.18	.20	.22	.14	.21	.17	.20	.21	.19	.15	.14	.11
21	0.17	0.23	0.21	0.15	0.18	0.17	0.19	0.21	0.19	0.15	0.15	0.11
22	.16	.22	.21	.20	.17	.16	.12	.21	.19	.15	.14	.11
23	.12	.21	.18	.20	.17	.15	.11	.21	.19	.15	.12	.11
24	.10	.23	.18	.19	.17	.15	.11	.19	.19	.15	.13	.11
25	.31	.25	.10	.18	.17	.15	.11	.18	.19	.15	.12	.11
26	0.28	0.24	0.11	0.18	0.11	0.15	0.11	0.18	0.19	0.16	0.11	0.11
27	.33	.24	.11	.19	.16	.14	.11	.22	.20	.16	.10	.11
28	.27	.26	.11	.19	.20	.16	.11	.25	.20	.16	.12	.11
29	.26	.24	.12	.19	.19	.16	.10	.25	.20	.16	-	.11
30	.29	.24	.13	.19	.20	.17	.10	.21	.16	.16	-	.11
31	-	.24	-	.19	.19	-	.10	-	.15	.16	-	.11
Mean	0.18	0.24	0.19	0.15	0.22	0.18	0.15	0.19	0.18	0.16	0.13	0.11
Max.	0.33	0.27	0.34	0.20	0.32	0.34	0.23	0.26	0.20	0.17	0.16	0.12
Min.	0.06	0.20	0.10	0.12	0.11	0.14	0.10	0.11	0.15	0.15	0.10	0.11

WATER YEAR 1968 : Max. 0.34 m. Min. 0.06 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.038	0.22	0.11	0.015	0.11	0.11	0.058	0.010	0.048	0.048	0.048	0.010
2	0.069	0.16	0.18	0.015	0.11	0.081	0.058	0.022	0.048	0.058	0.048	0.010
3	0.038	0.16	0.27	0.015	0.094	0.069	0.058	0.022	0.048	0.048	0.038	0.010
4	0.030	0.16	0.41	0.030	0.14	0.069	0.058	0.022	0.048	0.048	0.038	0.015
5	0.00	0.13	0.22	0.022	0.25	0.069	0.048	0.022	0.048	0.048	0.030	0.015
6	0.001	0.16	0.11	0.022	0.16	0.081	0.038	0.022	0.058	0.048	0.022	0.015
7	0.005	0.16	0.11	0.030	0.32	0.081	0.048	0.058	0.058	0.048	0.015	0.015
8	0.069	0.16	0.13	0.030	0.35	0.081	0.048	0.069	0.058	0.048	0.015	0.015
9	0.069	0.22	0.14	0.022	0.18	0.081	0.048	0.069	0.069	0.048	0.015	0.015
10	0.069	0.16	0.16	0.030	0.16	0.048	0.038	0.069	0.069	0.048	0.022	0.010
11	0.069	0.16	0.094	0.030	0.22	0.038	0.14	0.069	0.069	0.048	0.022	0.015
12	0.069	0.16	0.081	0.030	0.16	0.038	0.069	0.081	0.069	0.048	0.022	0.015
13	0.058	0.18	0.069	0.030	0.081	0.13	0.058	0.13	0.069	0.048	0.030	0.015
14	0.11	0.16	0.038	0.030	0.32	0.081	0.048	0.20	0.069	0.048	0.030	0.015
15	0.11	0.16	0.030	0.030	0.32	0.41	0.048	0.20	0.069	0.038	0.030	0.015
16	0.058	0.22	0.030	0.030	0.14	0.11	0.015	0.14	0.058	0.038	0.030	0.015
17	0.038	0.16	0.030	0.030	0.13	0.081	0.015	0.13	0.069	0.038	0.030	0.010
18	0.015	0.13	0.030	0.030	0.13	0.069	0.022	0.11	0.081	0.038	0.030	0.010
19	0.081	0.11	0.18	0.030	0.11	0.058	0.11	0.11	0.081	0.038	0.030	0.010
20	0.069	0.094	0.13	0.030	0.11	0.058	0.094	0.11	0.081	0.038	0.030	0.010
21	0.058	0.14	0.11	0.038	0.069	0.058	0.081	0.11	0.081	0.038	0.038	0.010
22	0.048	0.13	0.11	0.094	0.058	0.048	0.015	0.11	0.081	0.038	0.030	0.010
23	0.015	0.11	0.069	0.094	0.058	0.038	0.010	0.11	0.081	0.038	0.015	0.010
24	0.005	0.14	0.069	0.081	0.058	0.038	0.010	0.081	0.081	0.038	0.022	0.010
25	0.32	0.18	0.005	0.069	0.058	0.038	0.010	0.069	0.081	0.038	0.015	0.010
26	0.25	0.16	0.010	0.069	0.010	0.038	0.010	0.069	0.081	0.048	0.010	0.010
27	0.38	0.16	0.010	0.081	0.048	0.030	0.010	0.13	0.094	0.048	0.005	0.010
28	0.22	0.20	0.010	0.081	0.094	0.048	0.010	0.18	0.094	0.048	0.015	0.010
29	0.20	0.16	0.015	0.081	0.081	0.048	0.005	0.18	0.094	0.048	–	0.010
30	0.27	0.16	0.022	0.081	0.094	0.058	0.005	0.11	0.048	0.048	–	0.010
31	–	0.16	–	0.081	0.081	–	0.005	–	0.058	0.048	–	0.010
Total	2.831	4.924	2.982	1.381	4.304	2.285	1.290	2.814	2.121	1.388	0.725	0.037
Mean	0.094	0.16	0.099	0.044	0.14	0.076	0.042	0.094	0.068	0.045	0.025	0.012
Max.	0.38	0.22	0.41	0.094	0.35	0.41	0.11	0.20	0.094	0.058	0.048	0.015
Min.	0.00	0.094	0.005	0.015	0.010	0.030	0.005	0.010	0.038	0.038	0.005	0.010
Runoff – RCM.	0.244	0.425	0.258	0.119	0.372	0.197	0.111	0.243	0.183	0.120	0.063	0.032

WATER YEAR 1968 : Max. 0.41 Min. 0.005 Mean 0.075 Annual Runoff 2.368 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Aug.14	21.00	1.00	5.35				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
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 P.27, Amphoe Mae Rim, Chiang Mai.

Drainage Area: 18 sq.km.

Type of Gage: Staff gage.

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

Bench Mark: B.M. - H.S. P.27 A

Location: Near staff gage site.
Elevation: +3.263 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 to date
Rated by Float: -
Rated by Current Meter: 1967 to date

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

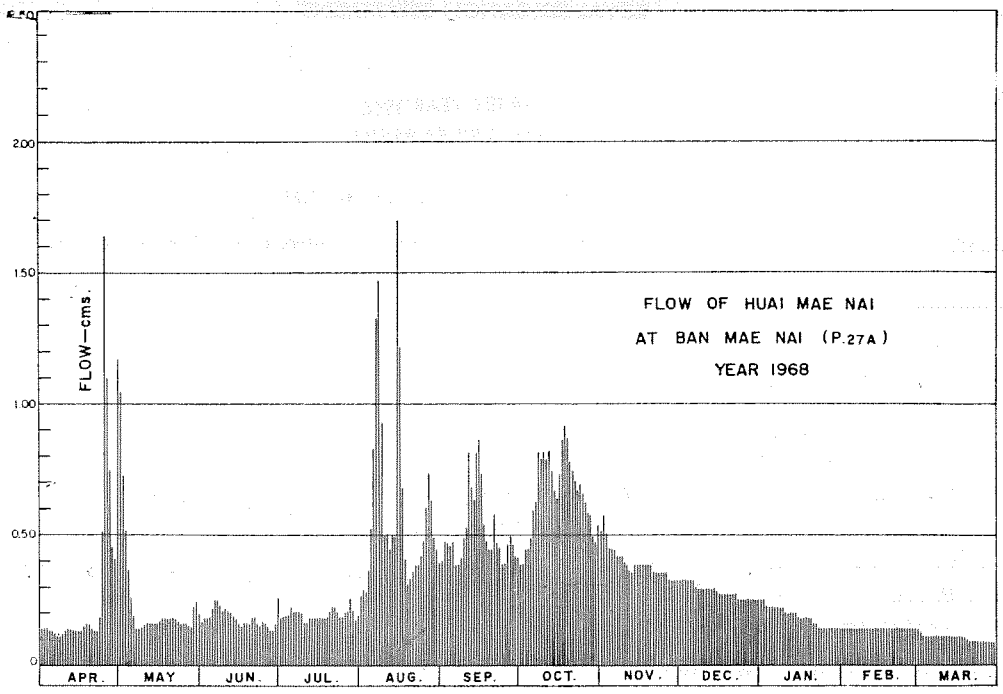
Overbank Flow Conditions: No overbank flow.

General Description: Records fair. Stage - discharge relationship used is defined by discharge measurements made during 1968. Flow regulated by a series of small diversion dams built by local residents. No adjustment is made for virgin flow.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.23	0.49	0.24	0.23	0.28	0.33	0.33	0.37	0.31	0.28	0.23	0.23
2	.23	.41	.25	.25	.30	.36	.33	.39	.31	.28	.23	.22
3	.23	.37	.25	.25	.28	.36	.35	.36	.31	.27	.23	.21
4	.22	.30	.25	.25	.32	.35	.35	.35	.31	.27	.23	.21
5	.22	.28	.27	.27	.38	.36	.36	.35	.31	.27	.23	.21
6	0.22	0.24	0.28	0.26	0.43	0.33	0.38	0.35	0.31	0.27	0.23	0.21
7	.21	.23	.28	.26	.58	.33	.40	.34	.30	.27	.23	.21
8	.21	.23	.27	.26	.54	.33	.45	.34	.30	.27	.23	.21
9	.21	.23	.26	.26	.44	.36	.44	.34	.30	.27	.23	.21
10	.22	.24	.27	.24	.36	.37	.45	.33	.30	.26	.23	.21
11	0.23	0.24	0.26	0.24	0.37	0.45	0.44	0.33	0.30	0.26	0.23	0.21
12	.23	.24	.26	.25	.34	.41	.45	.32	.30	.26	.23	.21
13	.22	.24	.25	.25	.37	.38	.43	.32	.30	.26	.23	.21
14	.22	.24	.25	.25	.34	.45	.41	.33	.30	.26	.23	.21
15	.22	.24	.24	.25	.63	.46	.40	.33	.29	.25	.23	.21
16	0.22	0.25	0.23	0.25	0.48	0.39	0.42	0.33	0.29	0.25	0.23	0.21
17	.23	.25	.24	.25	.38	.38	.46	.33	.29	.25	.23	.21
18	.24	.25	.24	.25	.35	.35	.47	.33	.29	.25	.23	.21
19	.24	.25	.23	.25	.30	.35	.46	.33	.29	.25	.23	.21
20	.23	.25	.25	.26	.31	.35	.44	.33	.29	.25	.23	.20
21	0.22	0.25	0.25	0.27	0.32	0.39	0.43	0.32	0.29	0.24	0.23	0.20
22	.22	.25	.24	.27	.33	.36	.42	.32	.29	.24	.23	.20
23	.22	.24	.23	.26	.33	.35	.41	.32	.28	.23	.23	.20
24	.35	.24	.24	.25	.34	.33	.42	.32	.28	.23	.23	.20
25	.62	.24	.24	.25	.36	.33	.41	.32	.28	.23	.23	.20
26	0.47	0.24	0.23	0.26	0.40	0.35	0.40	0.32	0.28	0.23	0.23	0.20
27	.40	.23	.22	.26	.43	.37	.39	.31	.28	.23	.23	.20
28	.29	.23	.22	.28	.40	.36	.39	.31	.28	.23	.23	.20
29	.25	.27	.22	.26	.36	.34	.35	.31	.28	.23		.20
30	.54	.28	.28	.24	.35	.34	.36	.31	.28	.23		.20
31		.26		.25	.33		.38		.28	.23		.20
Mean	0.27	0.26	0.25	0.25	0.38	0.36	0.40	0.33	0.29	0.25	0.23	0.21
Max.	0.62	0.49	0.28	0.28	0.63	0.46	0.47	0.39	0.31	0.28	0.23	0.23
Min.	0.21	0.23	0.22	0.23	0.28	0.33	0.33	0.31	0.28	0.23	0.23	0.20

WATER YEAR 1968 : Max. 0.63 m. Min. 0.20 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.14	1.00	0.16	0.14	0.25	0.38	0.38	0.50	0.32	0.25	0.14	0.14
2	0.14	0.66	0.18	0.18	0.29	0.47	0.38	0.57	0.32	0.25	0.14	0.13
3	0.14	0.51	0.18	0.18	0.25	0.47	0.44	0.47	0.32	0.22	0.14	0.11
4	0.13	0.30	0.18	0.18	0.35	0.44	0.44	0.44	0.32	0.22	0.14	0.11
5	0.13	0.25	0.22	0.22	0.54	0.47	0.47	0.44	0.32	0.22	0.14	0.11
6	0.13	0.16	0.25	0.20	0.81	0.38	0.58	0.44	0.32	0.22	0.14	0.11
7	0.11	0.14	0.25	0.20	1.47	0.38	0.61	0.41	0.29	0.22	0.14	0.11
8	0.11	0.14	0.22	0.20	1.23	0.38	0.81	0.41	0.29	0.22	0.14	0.11
9	0.11	0.14	0.20	0.20	0.77	0.47	0.77	0.41	0.29	0.22	0.14	0.11
10	0.13	0.16	0.22	0.16	0.47	0.50	0.81	0.38	0.29	0.20	0.14	0.11
11	0.14	0.16	0.20	0.16	0.50	0.81	0.77	0.38	0.29	0.20	0.14	0.11
12	0.14	0.16	0.20	0.18	0.41	0.65	0.81	0.35	0.29	0.20	0.14	0.11
13	0.13	0.16	0.18	0.18	0.50	0.53	0.73	0.35	0.29	0.20	0.14	0.11
14	0.13	0.16	0.18	0.18	0.49	0.81	0.65	0.38	0.29	0.20	0.14	0.11
15	0.13	0.16	0.16	0.18	1.69	0.86	0.61	0.38	0.27	0.18	0.14	0.11
16	0.13	0.18	0.14	0.18	0.69	0.57	0.69	0.38	0.27	0.18	0.14	0.11
17	0.14	0.18	0.16	0.18	0.54	0.53	0.86	0.38	0.27	0.18	0.14	0.11
18	0.16	0.18	0.16	0.18	0.44	0.44	0.91	0.38	0.27	0.18	0.14	0.11
19	0.16	0.18	0.14	0.18	0.29	0.44	0.86	0.38	0.27	0.18	0.14	0.11
20	0.14	0.18	0.18	0.20	0.32	0.44	0.77	0.38	0.27	0.18	0.14	0.09
21	0.13	0.18	0.18	0.22	0.35	0.57	0.73	0.35	0.27	0.16	0.14	0.09
22	0.13	0.18	0.16	0.22	0.38	0.47	0.69	0.35	0.27	0.16	0.14	0.09
23	0.13	0.16	0.14	0.20	0.38	0.44	0.65	0.35	0.25	0.14	0.14	0.09
24	0.57	0.16	0.16	0.18	0.41	0.38	0.69	0.35	0.25	0.14	0.14	0.09
25	1.64	0.16	0.16	0.18	0.47	0.38	0.65	0.35	0.25	0.14	0.14	0.09
26	0.94	0.16	0.14	0.20	0.61	0.44	0.61	0.35	0.25	0.14	0.14	0.09
27	0.58	0.14	0.13	0.20	0.73	0.50	0.57	0.32	0.25	0.14	0.14	0.09
28	0.27	0.14	0.13	0.25	0.61	0.47	0.57	0.32	0.25	0.14	0.14	0.09
29	0.18	0.22	0.13	0.20	0.47	0.41	0.44	0.32	0.25	0.14	–	0.09
30	1.17	0.25	0.25	0.16	0.44	0.41	0.47	0.32	0.25	0.14	–	0.09
31	–	0.20	–	0.18	0.38	–	0.53	–	0.25	0.14	–	0.09
Total	8.41	7.11	5.34	5.85	17.80	14.89	19.95	11.59	8.65	5.70	3.92	3.22
Mean	0.28	0.23	0.18	0.19	0.57	0.50	0.64	0.39	0.28	0.18	0.14	0.10
Max.	1.64	1.00	0.25	0.25	1.69	0.86	0.91	0.57	0.32	0.25	0.14	0.14
Min.	0.11	0.14	0.13	0.14	0.25	0.38	0.38	0.32	0.25	0.14	0.14	0.09
Runoff – MCM.	0.727	0.614	0.461	0.505	1.538	1.286	1.724	1.001	0.747	0.492	0.339	0.278

WATER YEAR 1968 : Max. 1.69 Min. 0.09 Mean 0.31 Annual Runoff 9.714 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Aug.15	06.00	0.72	2.50				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
PING RIVER BASIN.

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

Location: Lat 19° – 10' – 12" N., Long 99° – 03' – 06" 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: 0.00 m. (A.D.)

Bench Mark: B.M. – R.I.D.

Location: Near staff gage site at Kra Pee Tree.
Elevation: +6.692 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: Unstable, shifting adjustment is included for flow computation.

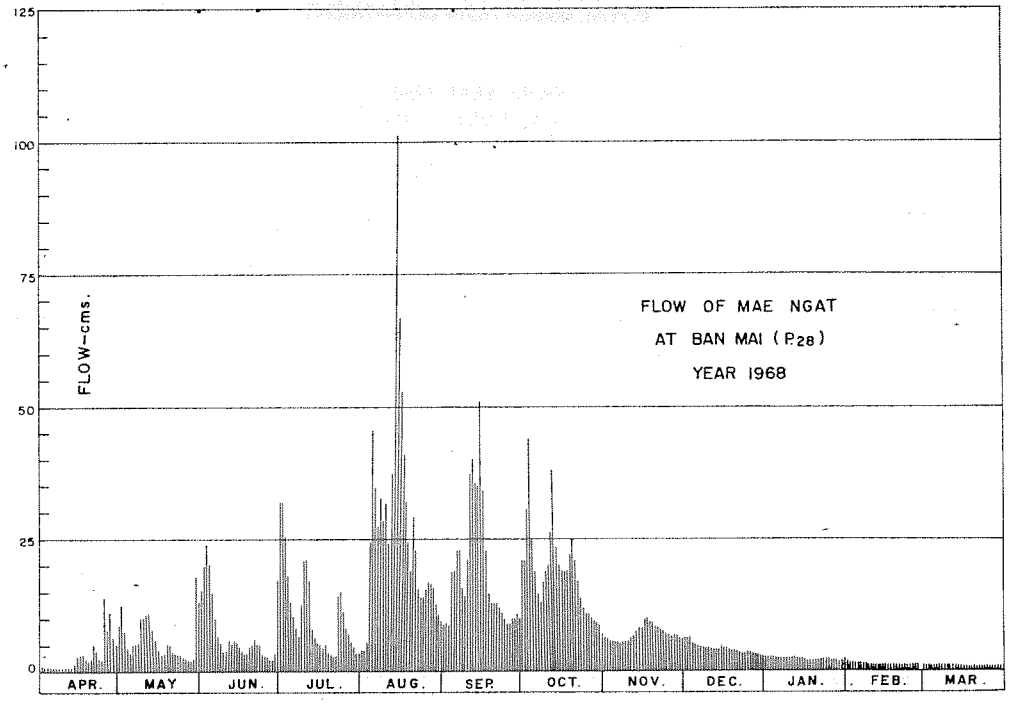
Overbank Flow Conditions: No overbank flow.

General Description: Records fair. Stage – discharge relationship used is defined by discharge measurements made during 1968. Flow regulated by upstream diversions which built by local residents. No adjustment made for virgin flow.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.61	1.18	1.32	1.59	0.87	1.03	1.40	1.05	1.03	0.88	0.86	0.77
2	.60	.08	.50	.59	.84	.06	.40	.04	.03	.88	.84	.77
3	.60	0.91	.52	.34	.90	.05	.85	.02	.03	.88	.83	0.77
4	.60	.84	.41	.24	1.37	.38	.52	.02	.02	.87	.82	.77
5	.59	.83	.27	.10	1.89	.35	.40	.02	.01	.87	.82	.77
6	0.59	0.90	1.12	1.02	1.63	1.48	1.25	1.01	1.01	0.86	0.82	0.77
7	.59	.91	1.02	.01	.45	.47	.23	.00	.00	.86	.81	.77
8	.59	.92	0.98	0.95	.63	.26	.19	.01	0.99	.86	.81	.76
9	.59	1.09	.90	1.23	.49	.18	.39	.01	.99	.86	.80	.76
10	.59	.05	.89	1.41	.62	.43	.38	.01	.99	.86	.80	.75
11	0.59	1.08	1.00	1.30	1.46	1.76	1.43	1.04	0.99	0.86	0.80	0.75
12	.59	.09	0.94	1.12	.42	.81	.78	.05	.98	.85	.80	.75
13	.59	0.99	.87	0.99	.73	.68	.55	.09	.98	.85	.80	.75
14	.70	.92	.87	.93	.78	.72	.45	.09	.98	.85	.80	.75
15	.75	.85	.84	.89	2.66	.99	.40	.10	.98	.85	.80	.74
16	0.76	0.80	0.80	0.90	2.13	1.68	1.39	1.16	0.96	0.85	0.80	0.74
17	.76	.78	.77	.86	1.75	.48	.38	.16	.96	.84	.80	.74
18	.68	.79	.75	.89	.54	.27	.38	.14	.95	.84	.80	.74
19	.67	.89	.83	.91	.37	.22	.48	.13	.94	.84	.79	.74
20	.71	.85	.85	.92	.22	.22	.53	.11	.94	.84	.79	.74
21	0.91	0.80	0.89	0.88	1.55	1.20	1.43	1.10	0.93	0.85	0.79	0.74
22	.79	.80	.84	1.09	.27	.18	.35	.09	.93	.86	.79	.74
23	.74	.79	.84	.33	.19	.15	.28	.07	.92	.86	.79	.74
24	.74	.77	.76	.35	.20	.10	.23	.06	.92	.86	.78	.74
25	1.22	.75	.75	.18	.21	.06	.19	.05	.93	.85	.78	.74
26	0.97	0.75	0.73	1.08	1.29	1.08	1.15	1.04	0.92	0.84	0.78	0.73
27	1.13	.73	.70	0.98	.29	.10	.11	.04	.92	.83	.78	.73
28	0.98	.70	.70	.91	.26	.11	.09	.04	.92	.83	.78	.73
29	.92	.71	.79	.88	.18	.14	.08	.03	.90	.82		.73
30	.85	1.30	1.13	.83	.10	.10	.07	.01	.89	.84		.73
31		1.12		.83	.05		.05		.88	.86		.73
Mean	0.73	0.90	0.95	1.08	1.43	1.32	1.35	1.06	0.96	0.85	0.80	0.75
Max.	1.22	1.30	1.52	1.59	2.66	1.99	1.85	1.16	1.03	0.88	0.86	0.77
Min.	0.59	0.70	0.70	0.83	0.84	1.03	1.05	1.00	0.88	0.82	0.78	0.73

WATER YEAR 1968 : Max. 2.66 m. Min. 0.59 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	1.04	13	16	32	4.38	8.60	21	6.74	6.74	2.90	2.15	1.04
2	0.92	9.80	23	32	3.72	9.20	21	6.48	6.74	2.90	1.88	1.04
3	0.92	5.26	24	21	5.04	8.60	44	5.96	6.74	2.90	1.76	1.04
4	0.92	3.72	19	17	20	19	27	5.96	5.26	2.75	1.64	1.04
5	0.80	3.50	14	12	46	18	21	5.96	5.04	2.75	1.64	1.04
6	0.80	5.04	9.50	9.80	33	23	16	5.70	5.04	2.60	1.64	1.04
7	0.80	5.26	6.74	7.78	24	23	14	5.48	4.82	2.60	1.52	1.04
8	0.80	5.48	5.70	6.22	33	15	13	5.70	4.60	2.75	1.52	1.16
9	0.80	10	3.94	14	26	12	19	5.70	4.60	2.75	1.40	1.16
10	0.80	9.80	3.72	21	32	21	19	5.96	4.60	2.75	1.40	1.04
11	0.80	11	6.22	21	25	37	21	6.74	4.60	2.75	1.40	1.04
12	0.80	11	4.82	14	23	40	38	7.00	4.38	2.60	1.40	1.04
13	0.80	8.04	5.70	7.52	38	33	26	8.04	4.38	2.60	1.40	1.04
14	2.15	6.22	5.70	6.48	41	35	22	8.04	4.38	2.60	1.40	1.04
15	3.05	4.60	5.04	5.04	101	51	20	8.30	5.04	2.60	1.40	0.92
16	3.20	3.50	4.16	5.26	63	33	19	10	4.60	2.45	1.40	0.92
17	3.20	3.20	3.50	4.38	41	23	19	10	4.60	2.30	1.40	0.92
18	2.00	3.35	3.20	5.04	29	15	19	9.50	4.38	2.30	1.40	0.92
19	1.88	5.48	4.82	3.20	22	13	23	9.20	4.16	2.30	1.28	0.92
20	2.45	4.60	5.26	3.35	16	13	25	8.60	4.16	2.30	1.28	0.92
21	5.26	3.50	6.22	2.75	29	13	19	8.30	3.94	2.45	1.28	0.92
22	2.90	3.50	5.04	7.26	17	12	16	8.04	3.94	2.60	1.28	0.92
23	2.15	3.35	5.04	14	14	11	13	7.52	3.72	2.60	1.28	0.92
24	2.15	3.05	3.35	15	14	9.80	12	7.26	3.72	2.60	1.16	0.92
25	14	2.75	3.20	9.80	15	8.60	11	7.00	3.94	2.45	1.16	0.92
26	6.74	2.75	2.90	7.00	17	9.20	11	6.74	3.72	2.30	1.16	0.80
27	11	2.45	2.45	7.00	17	10	10	7.00	3.50	2.15	1.16	0.80
28	7.00	2.00	2.45	5.26	16	10	9.50	7.00	3.59	2.15	1.16	0.80
29	5.48	2.15	3.94	4.60	13	11	9.20	6.74	3.20	2.00	–	0.80
30	3.94	18	13	3.50	11	10	8.90	6.22	3.05	2.30	–	0.80
31	–	12	–	3.50	9.50	–	6.74	–	2.90	2.60	–	0.80
Total	89.55	187.35	221.61	327.74	798.64	555.00	573.34	216.88	137.99	78.65	39.95	29.72
Mean	2.98	6.04	7.39	10.6	25.8	18.5	18.5	7.23	4.45	2.54	1.43	0.954
Max.	14	18	24	32	101	51	44	10	6.74	2.90	2.15	1.16
Min.	0.80	2.00	2.45	2.75	3.72	8.60	6.74	5.48	2.90	2.00	1.16	0.80
Runoff - mcm.	7.737	16.187	19.147	28.317	69.002	47.952	49.537	18.738	11.922	6.795	3.452	2.568

WATER YEAR 1968 : Max. 101 Min. 0.80 Mean 8.92 Annual Runoff 281.355 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
15	12.00	2.90	119				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
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: Staff gage.

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

Bench Mark: B.M. – H.S.

Location: Infront of Automatic building.
Elevation: +349.874 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 – 74
Rated by Float: –
Rated by Current Meter: 1967 – 74

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

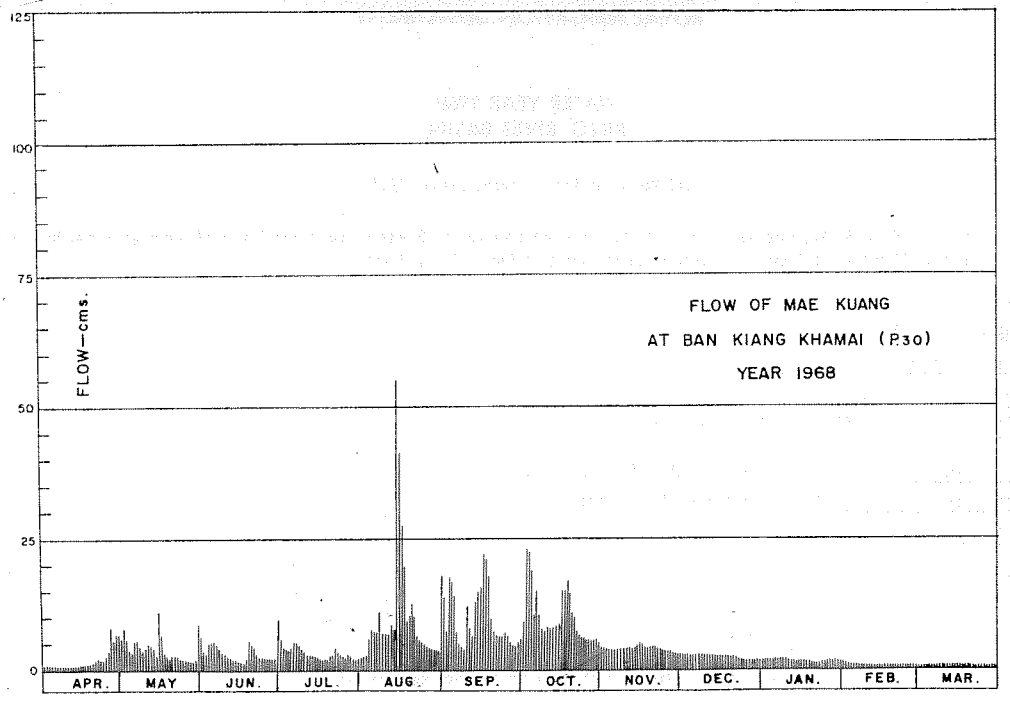
Overbank Flow Conditions: No overbank flow.

General Description: Records fair. Stage – discharge relationship used is defined by discharge measurements made during 1967–68. No upstream state diversions for irrigation except those built by local residents. No adjustment made for virgin flow.

GAGE HEIGHT IN METER (M.S.L), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	345.07	345.33	345.24	345.35	345.18	345.73	345.35	345.27	345.21	345.14	345.12	345.02
2	.07	.44	.23	.28	.18	.43	.37	.27	.21	.14	.10	.03
3	.07	.30	.20	.27	.20	.33	.87	.26	.21	.14	.09	.05
4	.05	.23	.33	.24	.36	.73	.85	.26	.21	.14	.08	.04
5	.05	.19	.32	.25	.43	.67	.84	.26	.20	.14	.07	.04
6	345.05	345.35	345.33	345.33	345.41	345.43	345.44	345.25	345.19	345.14	345.06	345.04
7	.04	.35	.29	.32	.41	.32	.64	.26	.21	.15	.06	.04
8	.04	.27	.25	.30	.53	.30	.48	.26	.22	.16	.06	.04
9	.04	.24	.22	.28	.38	.25	.42	.26	.22	.17	.06	.04
10	.03	.24	.19	.24	.40	.26	.42	.26	.22	.16	.06	.04
11	345.03	345.32	345.18	345.20	345.38	345.57	345.43	345.27	345.22	345.12	345.05	345.04
12	.03	.31	.15	.19	.41	.32	.42	.27	.22	.12	.05	.04
13	.03	.28	.14	.19	.46	.43	.42	.27	.22	.12	.04	.04
14	.05	.19	.13	.18	.40	.62	.44	.28	.22	.12	.04	.04
15	.09	.17	.12	.17	346.54	.65	.42	.32	.21	.11	.04	.04
16	345.08	345.54	345.11	345.15	346.19	345.69	345.52	345.31	345.21	345.12	345.04	345.04
17	.06	.25	.11	.14	345.91	.83	.64	.30	.20	.12	.04	.04
18	.06	.18	.10	.14	.64	.81	.66	.27	.20	.12	.04	.04
19	.08	.17	.35	.13	.34	.65	.71	.27	.20	.12	.04	.04
20	.10	.15	.30	.19	.57	.41	.54	.28	.19	.11	.04	.04
21	345.15	345.19	345.27	345.20	345.59	345.40	345.52	345.29	345.19	345.10	345.04	345.02
22	.14	.18	.19	.28	.40	.38	.41	.27	.19	.09	.04	.02
23	.12	.15	.17	.22	.34	.37	.36	.25	.18	.09	.04	.02
24	.11	.13	.17	.20	.33	.38	.35	.25	.18	.10	.04	.02
25	.19	.12	.16	.19	.31	.41	.34	.24	.18	.12	.04	.02
26	345.24	345.12	345.15	345.16	345.30	345.38	345.33	345.23	345.18	345.12	345.02	345.03
27	.44	.12	.15	.21	.28	.32	.32	.23	.18	.12	.01	.02
28	.29	.11	.14	.17	.27	.29	.33	.23	.15	.12	.02	.02
29	.39	.12	.14	.15	.25	.30	.35	.22	.13	.13	–	.02
30	.39	.12	.50	.13	.25	.30	.31	.21	.13	.13	–	.01
31	–	.46	–	.17	.25	–	.28	–	.13	.13	–	.01
Mean	345.12	345.24	345.21	345.21	345.49	345.46	345.47	345.26	345.19	345.12	345.05	345.03
Max.	345.44	345.54	345.50	345.35	346.54	345.83	345.87	345.32	345.22	345.17	345.12	345.05
Min.	345.03	345.11	345.10	345.13	345.18	345.25	345.28	345.21	345.13	345.09	345.01	345.01

WATER YEAR 1968 : Max. 345.87 m. Min. 345.01 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	1.10	5.49	3.66	5.95	2.60	18	5.95	4.23	3.09	2.00	1.70	0.60
2	1.10	8.22	3.47	4.42	2.60	7.94	6.41	4.23	3.09	2.00	1.40	0.70
3	1.10	4.80	2.90	4.23	2.90	5.49	23	4.04	3.09	2.00	1.30	0.90
4	0.90	3.47	5.49	3.66	6.18	18	23	4.04	3.09	2.00	1.20	0.80
5	0.90	2.75	5.26	3.85	7.94	16	22	4.04	2.90	2.00	1.10	0.80
6	0.90	5.95	5.49	5.49	7.38	7.94	8.22	3.85	2.75	2.00	1.00	0.80
7	0.80	5.95	4.61	5.26	7.38	5.26	15	4.04	3.09	2.15	1.00	0.80
8	0.80	4.23	3.85	4.80	11	4.80	9.34	4.04	3.28	2.30	1.00	0.80
9	0.80	3.66	3.28	4.42	6.64	3.85	7.66	4.04	3.28	2.45	1.00	0.80
10	0.70	3.66	2.75	3.66	7.10	4.04	7.66	4.04	3.28	2.30	1.00	0.80
11	0.70	5.26	2.60	2.90	6.64	12	7.94	4.23	3.28	1.70	0.90	0.80
12	0.70	5.03	2.15	2.75	7.38	5.26	7.66	4.23	3.28	1.70	0.90	0.80
13	0.70	4.42	2.00	2.75	8.78	7.94	7.66	4.23	3.28	1.70	0.80	0.80
14	0.90	2.75	1.85	2.60	7.10	14	8.22	4.42	3.28	1.70	0.80	0.80
15	1.30	2.45	1.70	2.45	55	15	7.66	5.26	3.09	1.55	0.80	0.80
16	1.20	11	1.55	2.15	37	16	10	5.03	3.09	1.70	0.80	0.80
17	1.00	3.85	1.55	2.00	25	22	15	4.80	2.90	1.70	0.80	0.80
18	1.00	2.60	1.40	2.00	15	21	15	4.23	2.90	1.70	0.80	0.80
19	1.20	2.45	5.95	1.85	5.72	15	17	4.23	2.90	1.70	0.80	0.80
20	1.40	2.15	4.80	2.75	12	7.38	11	4.42	2.75	1.55	0.80	0.80
21	2.15	2.75	4.23	2.90	13	7.10	10	4.61	2.75	1.40	0.80	0.60
22	2.00	2.60	2.75	4.42	7.10	6.64	7.38	4.23	2.75	1.26	0.80	0.60
23	1.70	2.15	2.45	3.28	5.72	6.41	6.18	3.85	2.60	1.26	0.80	0.60
24	1.55	1.85	2.45	2.90	5.49	6.64	5.95	3.85	2.60	1.40	0.80	0.60
25	2.75	1.70	2.30	2.75	5.03	7.38	5.72	3.66	2.60	1.70	0.80	0.60
26	3.66	1.70	2.15	2.30	4.80	6.64	5.49	3.47	2.60	1.70	0.60	0.70
27	8.22	1.70	2.15	3.09	4.42	5.26	5.26	3.47	2.60	1.70	0.50	0.60
28	4.61	1.55	2.00	2.45	4.23	4.61	5.49	3.47	2.15	1.70	0.60	0.60
29	6.87	1.70	2.00	2.15	3.85	4.80	5.95	3.28	1.85	1.85	–	0.60
30	6.87	1.70	9.90	1.85	3.85	5.49	5.03	3.09	1.85	1.85	–	0.50
31	–	8.78	–	2.45	3.85	–	4.42	–	1.85	1.85	–	0.50
Total	59.58	118.32	98.69	100.48	302.68	287.87	302.25	122.65	87.89	55.57	25.60	22.30
Mean	1.98	3.81	3.28	3.24	9.76	9.59	9.75	4.08	2.83	1.79	0.914	0.719
Max.	8.22	11	9.90	5.95	55	22	23	5.26	3.28	2.45	1.70	0.90
Min.	0.70	1.55	1.40	1.85	2.60	3.85	4.42	3.09	1.85	1.26	0.50	0.50
Runoff - MCM.	5.147	10.222	8.526	8.681	26.151	24.871	26.114	10.596	7.593	4.801	2.211	1.926

WATER YEAR 1968 : Max. 55 Min. 0.50 Mean 4.33 Annual Runoff 136.847 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Aug.15	12.00	346.54	55				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
PING RIVER BASIN

Huai Mae Ko at Ban Ko Thung, Lamphun (P.31)

Location: Lat 17° – 35' – 14" N., Long 98° – 48' – 36" E., on right bank about 70 meters downstream from confluence with Huai Mae Ko Noi and about 20 meters upstream from local residents weir, at Ban Ko Thung, Lamphun.

Drainage Area: 121 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: +4.963 m. (A.D.)

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

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

Period of Available Gage Records: 1968 – 69

Rating Operation:

Period of Rating: 1968 – 69
Rated by Float: –
Rated by Current Meter: 1968 – 69

Stability of Channel Regimes: Unstable, shifting adjustment is included for flow computation.

Overbank Flow Conditions: No overbank flow.

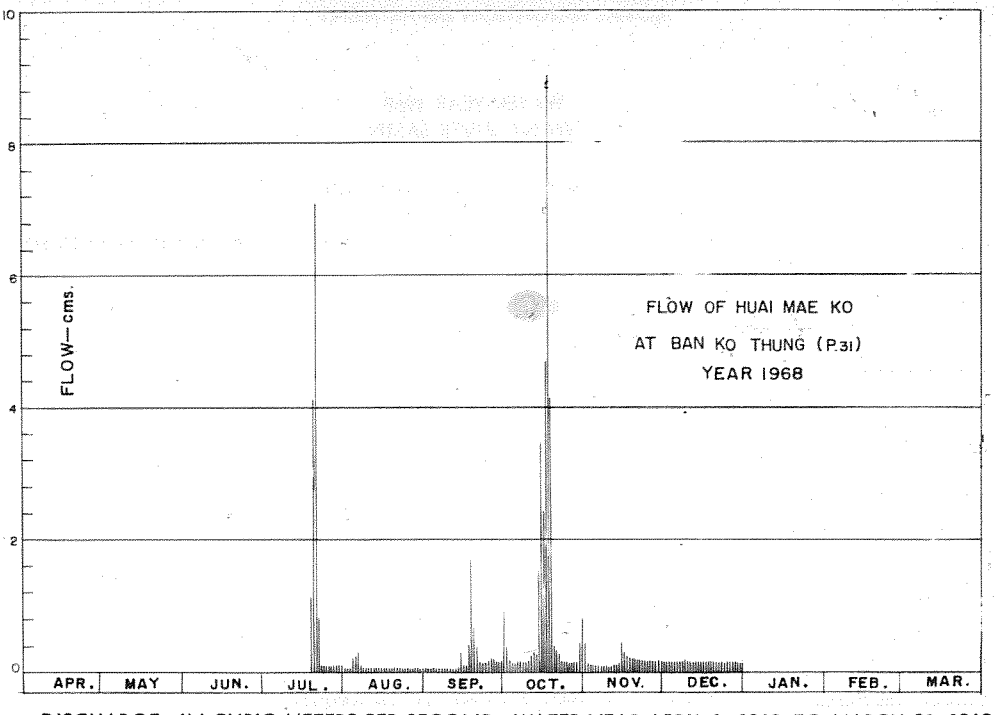
General Description: Records poor. Stage – discharge relationship used is defined by discharge measurements made during 1968. No upstream state diversions for irrigation except those built by local residents. No adjustment made for virgin flow.

Remarks: * Hourly gage height are used for flow computation for days of flashy floods. Stream gaging began on July 19,1968.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1					0.29	0.26	0.48	0.38	0.25	0.26	0.26	0.23
2					.29	.26	.38	.38	.25	.26	.26	.23
3					.28	.27	.28	.37	.25	.26	.25	.22
4					.37	.27	.23	.36	.25	.26	.25	.22
5					.38	.27	.23	.36	.25	.26	.25	.21
6					0.39	0.27	0.25	0.36	0.25	0.26	0.27	0.21
7					.33	.26	.28	.36	.25	.26	.28	.21
8					.31	.26	.24	.36	.25	.27	.28	.21
9					.31	.24	.24	.33	.29	.27	.27	.21
10					.31	.25	.27	.28	.32	.27	.26	.23
11					0.31	0.25	0.30	0.30	0.31	0.27	0.26	0.25
12					.30	.30	.33	.35	.31	.27	.26	.23
13					.30	.31	.28	.35	.30	.27	.26	.23
14					.30	.51	.35	.34	.30	.26	.26	.24
15					.29	.37	.61	.42	.30	.25	.26	.25
16					0.29	0.32	0.53	0.29	0.30	0.24	0.26	0.25
17					.29	.29	.51	.28	.30	.26	.26	.25
18					.28	.42	.60	.27	.30	.28	.25	.25
19				0.23	.28	.27	.18	.27	.30	.28	.25	.26
20				0.35	.29	.21	.14	.26	.29	.28	.25	.25
21				0.68	0.28	0.17	0.12	0.26	0.29	0.28	0.25	0.25
22				.24	.27	.16	.11	.26	.28	.28	.25	.25
23				.23	.26	.15	.10	.25	.28	.28	.25	.25
24				.23	.25	.15	.10	.25	.28	.27	.25	.25
25				.23	.25	.19	.10	.25	.28	.27	.24	.25
26				0.23	0.25	0.22	0.09	0.25	0.27	0.27	0.24	0.24
27				.23	.26	.22	.08	.25	.27	.26	.24	.24
28				.23	.27	.21	.08	.25	.27	.26	.23	.23
29				.23	.27	.21	.08	.25	.26	.26		.23
30				.23	.26	.32	.24	.25	.26	.26		.24
31				.26	.26		.38		.26	.26		.25
Mean					0.29	0.26	0.26	0.31	0.28	0.26	0.25	0.23
Max.					0.39	0.51	0.61	0.42	0.32	0.28	0.28	0.25
Min.					0.25	0.15	0.08	0.25	0.25	0.24	0.23	0.21

WATER YEAR 1968 : Max. m. Min. m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1					0.05	0.04	0.92	0.12	0.15	0.11	0.10	0.07
2					0.05	0.04	0.23	0.12	0.15	0.11	0.10	0.07
3					0.05	0.05	0.18	0.11	0.15	0.11	0.09	0.07
4					0.21	0.05	0.13	0.10	0.15	0.11	0.09	0.07
5					0.23	0.05	0.13	0.10	0.15	0.11	0.09	0.06
6					0.26	0.05	0.14	0.10	0.15	0.11	0.10	0.06
7					0.07	0.04	0.18	0.10	0.14	0.11	0.11	0.06
8					0.06	0.04	0.14	0.10	0.14	0.12	0.11	0.06
9					0.06	0.04	0.14	0.08	0.18	0.12	0.10	0.06
10					0.06	0.04	0.16	0.06	0.16	0.12	0.10	0.07
11	Stream gaging				0.06	0.04	0.23	0.07	0.14	0.12	0.10	0.08
12	began on July 19,68				0.06	0.06	0.30	0.10	0.14	0.12	0.10	0.07
13					0.06	0.06	0.18	0.10	0.15	0.12	0.10	0.07
14					0.06	0.30	0.35	0.09	0.15	0.11	0.10	0.08
15					0.06	0.10	3.51*	0.45	0.15	0.10	0.10	0.08
16					0.06	0.11	2.23*	0.26	0.15	0.10	0.10	0.08
17					0.06	0.09	4.98*	0.23	0.15	0.11	0.10	0.08
18					0.05	1.70	9.00*	0.21	0.15	0.13	0.09	0.08
19				0.10	0.05	0.72	0.54	0.21	0.16	0.13	0.09	0.08
20				2.39*	0.06	0.45	0.38	0.18	0.15	0.11	0.09	0.08
21				7.70*	0.05	0.15	0.33	0.18	0.15	0.11	0.09	0.08
22				0.11	0.05	0.14	0.30	0.18	0.14	0.11	0.09	0.08
23				0.10	0.04	0.14	0.15	0.16	0.14	0.11	0.09	0.08
24				0.10	0.04	0.14	0.15	0.16	0.14	0.10	0.09	0.08
25				0.10	0.04	0.18	0.15	0.16	0.14	0.10	0.08	0.08
26				0.10	0.04	0.21	0.14	0.16	0.14	0.10	0.08	0.08
27				0.10	0.04	0.15	0.14	0.16	0.14	0.10	0.08	0.08
28				0.10	0.05	0.13	0.14	0.16	0.14	0.10	0.08	0.07
29				0.10	0.05	0.11	0.14	0.16	0.13	0.10		0.07
30				0.10	0.04	0.21	0.54	0.16	0.13	0.10		0.08
31				0.12	0.04		0.94		0.13	0.10		0.08
Total					2.16	5.63	27.17	4.53	4.53	3.41	2.64	2.29
Mean					0.069	0.188	0.876	0.151	0.146	0.110	0.094	0.074
Max.					0.26	1.70	9.00	0.45	0.18	0.13	0.11	0.08
Min.					0.04	0.04	0.13	0.06	0.13	0.10	0.08	0.06
Runoff - mcm.					0.187	0.486	2.347	0.391	0.391	0.295	0.228	0.198

WATER YEAR 1968 : Max. Min. Mean Annual Runoff mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Oct.17	24.00	1.27	42				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
WANG RIVER BASIN

Mae Wang River at Muang Lampang (W.1A)

Location: Lat 18° – 17' – 24" N., Long 99° – 29' – 55" 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. – W.1A

Location: Near staff gage site.
Elevation: +234.247 m. (M.S.L.)

Gage Reading Frequency: Recording.

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

Period of Available Gage Records: 1966 to date.

Rating Operation:

Period of Rating: 1967 to date
Rated by Float: –
Rated by Current Meter: 1967 to date

Stability of Channel Regimes: Unstable, shifting adjustment is included for flow computation.

Overbank Flow Conditions: No overbank flow.

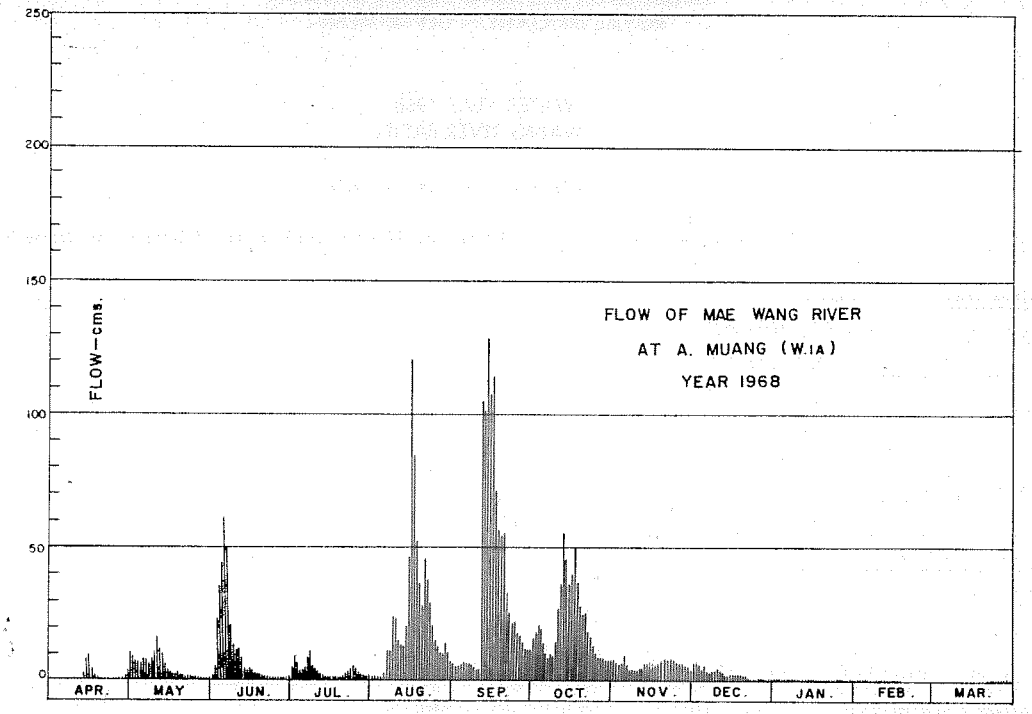
General Description: Records good. Stage – discharge relationship used is defined by discharge measurements made during 1968. No upstream state diversions except those built by local residents. No adjustment made for virgin flow.

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

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	227.91	228.57	228.17	228.36	228.10	228.39	228.71	228.37	228.40	227.95	227.90	227.84
2	.90	.49	.37	.52	.09	.33	.77	.33	.41	.94	.90	.84
3	.90	.43	229.08	.43	.08	.37	.79	.29	.34	.96	.90	.84
4	.90	.44	.12	.30	.08	.40	.84	.33	.24	.97	.91	.84
5	.90	.43	.45	.34	.08	.43	.67	.43	.31	.97	.90	.84
6	227.92	228.49	229.30	228.30	228.28	228.39	228.56	228.31	228.21	227.95	227.89	227.84
7	.93	.47	228.96	.49	.57	.41	.48	.20	.18	.94	.89	.84
8	.92	.39	.71	.57	.57	.37	.55	.21	.20	.94	.88	.84
9	.92	.49	.51	.37	.90	.30	.50	.20	.22	.94	.88	.84
10	.93	.58	.40	.32	.89	.26	.73	.21	.26	.93	.88	.84
11	227.93	228.76	228.44	228.26	228.67	228.38	229.03	228.25	228.24	227.93	227.87	227.80
12	.92	.62	.43	.21	.64	229.90	.14	.29	.15	.93	.86	.80
13	228.04	.57	.32	.18	.61	.84	.37	.38	.07	.93	.86	.80
14	.48	.42	.29	.16	.86	230.12	.24	.41	.07	.93	.86	.80
15	.55	.30	.33	.14	229.29	229.90	.09	.44	.13	.94	.86	.80
16	228.40	228.26	228.28	228.12	230.05	229.99	229.12	228.45	228.12	227.92	227.86	227.80
17	.26	.22	.23	.12	229.53	.51	.36	.43	.10	.92	.86	.80
18	.15	.19	.23	.12	.25	.39	.17	.42	.13	.92	.86	.80
19	.10	.27	.21	.11	.07	.36	.00	.45	.13	.92	.85	.80
20	.06	.18	.17	.12	228.89	.25	228.95	.47	.07	.92	.85	.82
21	228.04	228.14	228.16	228.17	229.24	229.16	228.97	228.46	228.02	227.92	227.85	227.83
22	.02	.13	.16	.28	.11	228.93	.83	.45	.00	.92	.85	.84
23	.02	.18	.15	.26	228.93	.84	.77	.47	227.99	.92	.84	.88
24	.01	.16	.13	.34	.81	.87	.66	.43	228.00	.92	.84	.87
25	.00	.09	.12	.37	.69	.77	.60	.39	.00	.93	.84	.85
26	227.99	228.08	228.11	228.29	228.62	228.75	228.53	228.37	228.02	227.95	227.84	227.84
27	.99	.09	.08	.20	.55	.70	.49	.38	.01	.93	.84	.84
28	228.00	.06	.07	.19	.55	.63	.46	.33	227.98	.92	.84	.83
29	.18	.07	.08	.17	.67	.60	.42	.32	.98	.91	–	.83
30	.30	.05	.18	.12	.51	.59	.39	.26	.98	.90	–	.83
31	–	.04	–	.11	.43	–	.38	–	.96	.90	–	.83
Mean	228.05	228.31	228.40	228.26	228.73	228.90	228.79	228.36	228.13	227.93	227.87	227.83
Max.	228.55	228.76	229.45	228.57	230.05	230.12	229.37	228.43	228.41	227.97	227.91	227.88
Min.	227.90	228.04	228.07	228.11	228.08	228.26	228.38	228.20	227.96	227.90	227.84	227.80

WATER YEAR 1968 : Max. 230.12 m. Min. 227.80 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.24	11	1.90	5.20	1.20	5.80	15	7.50	6.75	0.66	0.20	0.00
2	0.20	8.25	5.40	9.10	1.40	4.60	18	6.50	7.75	0.60	0.20	
3	0.20	6.75	34	6.75	1.08	5.40	19	5.60	6.00	0.72	0.20	
4	0.20	7.00	37	4.00	1.08	6.00	21	6.50	4.00	0.78	0.24	
5	0.20	6.75	61	4.80	1.08	6.75	14	9.10	5.40	0.78	0.20	
6	0.28	8.25	49	4.00	3.64	5.80	10	6.00	3.46	0.66	0.16	
7	0.32	7.75	27	8.25	11	6.25	8.00	3.82	2.92	0.60	0.16	
8	0.28	5.80	15	11	11	5.40	10	4.00	3.28	0.60	0.12	
9	0.28	8.25	8.80	5.40	24	4.00	8.50	3.64	3.64	0.60	0.12	
10	0.32	11	6.00	4.40	23	3.28	16	3.82	4.40	0.48	0.12	
11	0.32	17	7.00	3.28	14	5.60	31	4.60	4.00	0.48	0.08	
12	0.28	12	6.75	2.38	13	104	38	4.40	2.38	0.48	0.04	
13	0.84	10	4.40	2.00	12	98	55	6.25	2.00	0.48	0.04	
14	8.00	6.50	3.82	1.80	22	128	45	7.00	2.00	0.48	0.04	
15	10	4.00	4.60	1.60	48	104	35	7.75	2.92	0.52	0.04	
16	6.00	3.28	3.64	1.40	120	114	37	8.00	2.74	0.40	0.04	
17	3.28	2.56	2.74	1.40	67	66	50	7.50	2.38	0.40	0.04	
18	1.70	2.10	2.74	1.40	45	56	37	7.25	2.92	0.40	0.04	
19	1.20	3.46	2.38	1.30	34	54	27	8.00	2.92	0.40	0.00	
20	0.96	2.00	1.90	1.40	23	55	24	8.50	2.00	0.40		
21	0.84	1.60	1.80	1.90	45	39	25	7.50	1.50	0.40		
22	0.72	1.50	1.80	3.64	36	25	18	8.00	0.96	0.40		
23	0.72	2.00	1.70	3.28	25	21	16	8.50	0.90	0.40		0.12
24	0.66	1.80	1.50	4.80	19	22	12	7.50	0.96	0.40		0.08
25	0.60	1.14	1.40	5.40	15	18	10	6.50	0.96	0.44		0.00
26	0.56	1.08	1.30	3.82	12	17	8.50	6.00	1.08	0.52	0.00	0.00
27	0.56	1.14	1.08	2.20	10	15	8.25	6.25	1.02	0.44		0.00
28	0.60	0.96	1.02	2.10	10	12	8.25	5.20	0.84	0.40		0.00
29	2.00	1.02	1.08	1.90	14	11	7.75	5.00	0.84	0.36		0.00
30	4.00	0.90	2.00	1.40	8.80	11	7.75	3.82	0.84	0.32		0.00
31	–	0.84	–	1.30	6.75	–	7.75	–	0.72	0.32		0.00
Total	46.36	157.68	229.75	112.60	678.03	1,028.88	647.75	190	84.48	15.32	2.08	0.20
Mean	1.54	5.09	9.99	3.63	21.9	34.3	20.9	6.33	2.72	0.494	0.074	0.006
Max.	10	17	61	11	120	128	55	9.10	7.75	0.78	0.24	0.12
Min.	0.20	0.84	1.02	1.30	1.08	3.28	7.75	3.64	0.72	0.32	0.00	0.00
Runoff - mcm.	4.005	13.623	25.898	9.729	58.582	88.895	55.966	16.416	7.299	1.324	0.180	0.017

WATER YEAR 1968 : Max. 128 Min. 0.00 Mean 8.94 Annual Runoff 281.934 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sep.14	05.00	230.43	166				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
WANG RIVER BASIN

Mae Wang River at Thoen, 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: 0.00 m. (A.D.)

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

Location: Near bridge of Automatic building
Elevation: +6.540 m. (A.D.)

Gage Reading Frequency: Recording.

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

Period of Available Gage Records: 1967 to date.

Rating Operation:

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

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

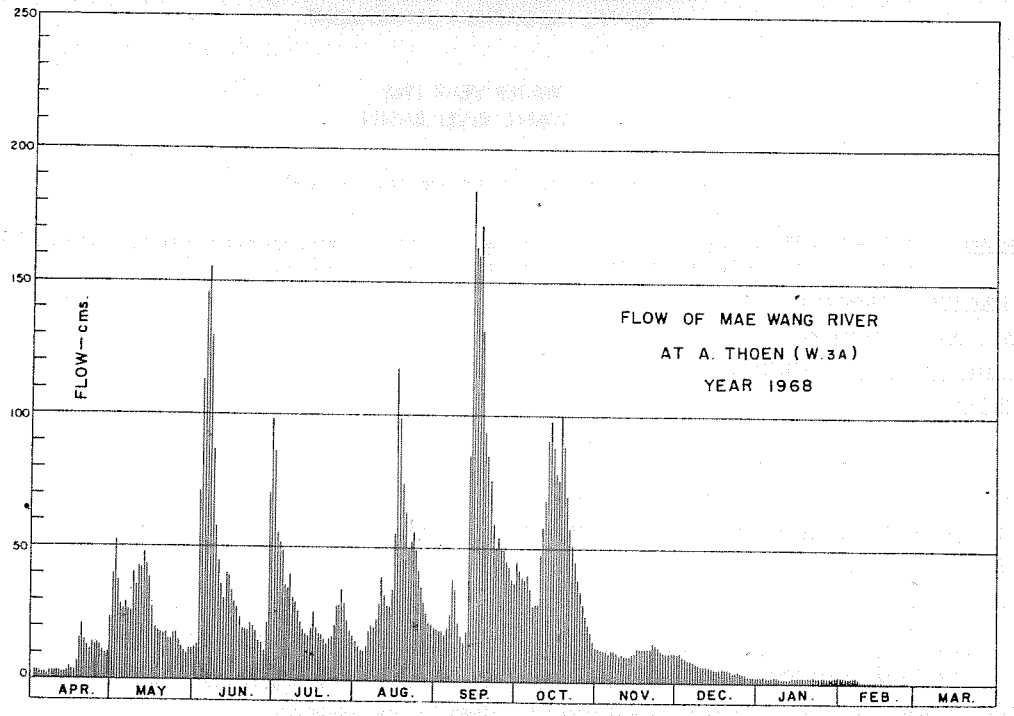
Overbank Flow Conditions: No overbank flow.

General Description: Records good. Stage - discharge relationship used is defined by discharge measurements made during 1967 - 68. No upstream state diversions for irrigation except those built by local residents. No adjustment made for virgin flow.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.99	1.51	1.22	1.92	1.25	1.31	1.55	1.21	1.18	0.96	0.95	0.69
2	.99	.61	.17	.68	.21	.30	.51	.20	.18	.95	.95	.67
3	.99	.42	.79	.61	.20	.30	.49	.20	.16	.94	.94	.66
4	.98	.39	2.04	.61	.19	.26	.48	.20	.16	.94	.94	.66
5	.98	.37	.20	.48	.19	.31	.50	.19	.14	.94	.93	.66
6	0.98	1.40	2.24	1.42	1.28	1.36	1.44	1.20	1.14	0.94	0.93	0.66
7	.99	.37	.07	.50	.32	.48	.39	.20	.13	.94	.93	.66
8	.99	.37	1.81	.42	.30	.43	.38	.19	.12	.94	.84	.66
9	.99	.50	.65	.41	.33	.29	.40	.17	.11	.92	.82	.66
10	.99	.44	.53	.38	.37	.27	.56	.18	.10	.92	.80	.65
11	0.99	1.53	1.43	1.33	1.49	1.24	1.66	1.16	1.10	0.92	0.80	0.65
12	.98	.52	.39	.30	.43	.23	.73	.17	.10	.92	.81	.65
13	.98	.57	.50	.28	.39	.66	.89	.17	.09	.92	.81	.65
14	1.04	.53	.49	.26	.38	2.06	.93	.19	.08	.93	.81	.65
15	.02	.46	.42	.30	.42	.38	.89	.19	.07	.93	.80	.65
16	1.02	1.37	1.40	1.37	1.53	2.22	1.78	1.21	1.06	0.93	0.80	0.62
17	.01	.31	.38	.30	2.04	.32	.75	.21	.07	.93	.80	.59
18	.21	.30	.33	.29	1.92	.08	.94	.22	.08	.93	.79	.59
19	.32	.29	.30	.27	.77	1.85	.83	.22	.07	.93	.78	.59
20	.24	.29	.30	.24	.71	.84	.70	.22	.07	.93	.77	.59
21	1.21	1.29	1.30	1.21	1.56	1.78	1.63	1.21	1.05	0.93	0.76	0.59
22	.18	.26	.33	.26	.60	.65	.60	.24	.03	.93	.76	.59
23	.23	.25	.31	.24	.64	.56	.54	.22	.04	.93	.76	.49
24	.21	.29	.28	.30	.57	.62	.48	.21	.04	.93	.74	.49
25	.23	.28	.25	.39	.51	.58	.44	.20	.03	.94	.74	.49
26	1.21	1.24	1.23	1.40	1.45	1.59	1.39	1.19	1.03	0.94	0.73	0.49
27	.18	.21	.20	.45	.40	.53	.35	.19	.00	.94	.72	.49
28	.17	.19	.19	.37	.36	.53	.32	.19	0.97	.94	.70	.49
29	.15	.17	.50	.33	.33	.47	.28	.18	.97	.95		.49
30	.35	.20	.93	.29	.32	.46	.24	.18	.96	.95		.49
31		.20		.27	.31		.22		.96	.95		.49
Mean	1.09	1.36	1.50	1.38	1.44	1.60	1.56	1.20	1.07	0.93	0.82	0.59
Max.	1.35	1.61	2.24	1.92	2.04	2.38	1.94	1.24	1.18	0.96	0.95	0.69
Min.	0.98	1.17	1.17	1.21	1.19	1.23	1.22	1.16	0.96	0.92	0.70	0.49

WATER YEAR 1968 : Max. 2.38 m. Min. 0.49 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	3.02	41	13	95	15	20	45	13	11	2.48	2.30	0.00
2	3.02	52	10	61	13	19	41	12	11	2.30	2.39	
3	3.02	31	77	52	12	19	39	12	9.44	2.16	2.16	
4	2.84	28	117	52	11	16	38	12	9.44	2.16	2.16	
5	2.84	26	147	38	11	20	40	11	8.32	2.16	2.02	
6	2.84	29	155	31	18	25	33	12	8.32	2.16	2.02	
7	3.02	26	123	40	21	38	28	12	7.84	2.16	2.02	
8	3.02	26	79	31	19	32	29	11	7.36	2.16	1.00	
9	3.02	40	57	30	22	18	29	10	6.88	1.88	0.80	
10	3.02	33	43	27	26	17	47	11	6.40	1.88	0.60	
11	3.02	43	32	22	39	15	59	9.44	6.40	1.88	0.60	
12	2.84	42	27	19	32	14	68	10	6.40	1.88	0.70	
13	2.84	48	40	18	28	59	91	10	6.02	1.88	0.70	
14	4.24	43	39	16	27	121	98	11	5.64	2.02	0.70	
15	3.72	36	31	19	31	184	91	11	5.26	2.02	0.60	
16	3.72	26	29	26	43	151	75	13	4.88	2.02	0.60	
17	3.46	20	27	19	117	171	71	13	5.26	2.02	0.60	
18	13	19	22	18	96	124	100	13	5.64	2.02	0.54	
19	21	18	19	17	74	85	82	13	5.26	2.02	0.48	
20	15	18	19	15	65	84	64	13	5.26	2.02	0.42	
21	13	18	19	13	47	75	55	13	4.50	2.02	0.36	
22	11	16	22	16	51	57	51	15	3.98	2.02	0.36	
23	14	15	20	15	56	47	44	13	4.24	2.02	0.36	
24	13	18	18	19	48	54	38	13	4.24	2.02	0.24	
25	14	18	15	28	41	49	33	12	3.98	2.16	0.24	
26	13	15	14	29	34	50	28	11	3.98	2.14	0.18	
27	11	13	12	34	29	43	24	11	3.20	2.14	0.12	
28	10	11	11	26	25	43	21	11	2.66	2.14	0.00	
29	8.80	10	40	22	22	37	18	11	2.66	2.30	–	
30	24	12	98	18	21	36	15	11	2.48	2.30	–	
31	–	12	–	17	20	–	13	–	2.48	2.30	–	0.00
Total	234.30	803	1,375	883	1,114	1,723	1,506	353.44	180.42	64.84	25.18	0.00
Mean	7.81	25.9	45.8	28.5	35.9	57.4	48.6	11.8	5.82	2.09	0.90	0.00
Max.	24	52	155	95	117	184	100	15	11	2.48	2.30	0.00
Min.	2.84	10	10	13	11	14	13	9.44	2.48	1.88	0.00	0.00
Runoff - MCM.	20.243	69.379	118.800	76.291	96.250	148.867	130.118	30.537	15.588	5.602	2.175	0.00

WATER YEAR 1968 : Max. 184 Min. 0.00 Mean 22.6 Annual Runoff 713.852 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sept.15	08.00	2.52	215				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
WANG RIVER BASIN

Mae Wang River at Bang Wang Khrai, Tak (W.4)

Location: Lat 17° – 12' – 58" N., Long 99° – 04' – 42" E., on right bank about 120 meters upstream from bridge, 8 kilometers from Amphoe Sam Ngao and 6 kilometers from Phahon Yothin Highway, Amphoe Sam Ngao, Tak.

Drainage Area: 10,442 sq.km.

Type of Gage: Staff gage.

Zero Gage at Bottom at: +131.316 m. (M.S.L.)

Bench Mark: B.M. – R.I.D.

Location: At the fence of camp of gaging station.
Elevation: +137.182 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: 1952 – 1971

Rating Operation:

Period of Rating: 1952 – 1970
Rated by Float: –
Rated by Current Meter: 1952 – 1970

Stability of Channel Regimes: Unstable, shifting adjustment is included for flow computation.

Overbank Flow Conditions: No overbank flow.

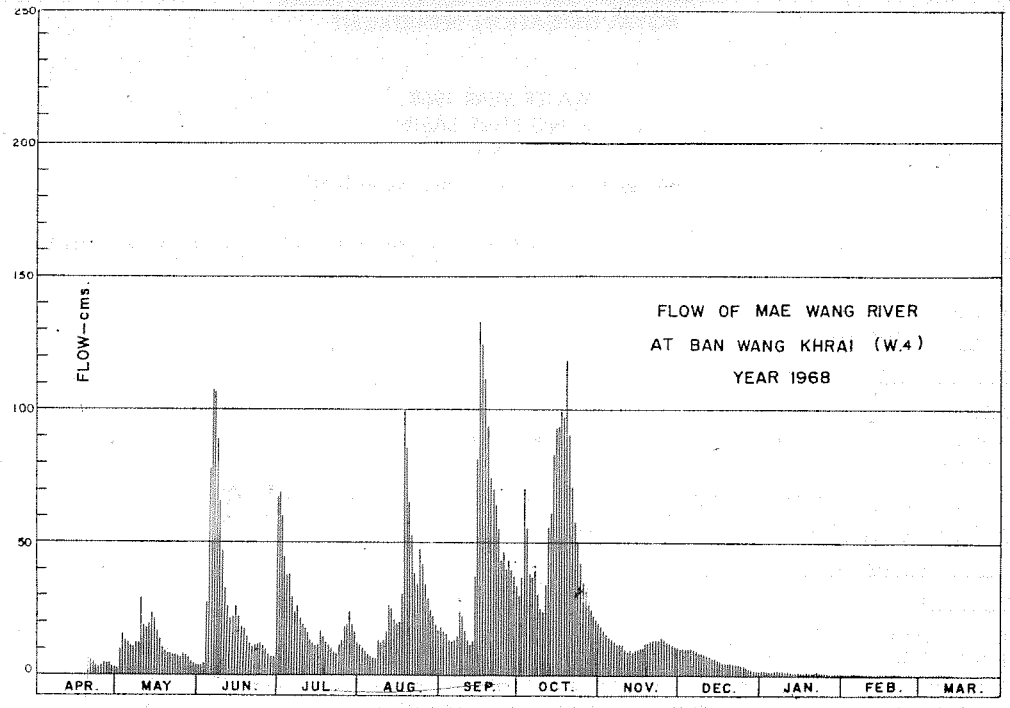
General Description: Records good. Stage – discharge relationship used is defined by discharge measurements made during 1968. Upstream state diversions for irrigation of about 12,320 hectares. No adjustment made for virgin flow.

Remarks: Drought for period Mar. 13 – 31.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	131.85	132.13	132.22	133.72	132.47	132.66	132.96	132.63	132.44	132.03	131.91	131.71
2	.84	.57	.22	.77	.44	.61	133.19	.59	.42	.02	.89	.71
3	.84	.67	.30	.30	.38	.56	.79	.54	.42	.01	.89	.70
4	.83	.57	133.40	.13	.35	.51	.31	.51	.42	.00	.88	.69
5	.83	.57	.96	.15	.32	.53	.12	.49	.42	131.99	.87	.67
6	131.83	132.52	134.48	132.95	132.28	132.50	133.12	132.46	132.40	131.98	131.87	131.65
7	.81	.51	.47	.79	.27	.52	.18	.45	.37	132.03	.86	.63
8	.82	.58	.08	.88	.55	.82	132.88	.48	.35	.01	.85	.61
9	.81	.58	133.56	.79	.52	.78	.81	.46	.35	131.99	.84	.61
10	.81	133.06	.23	.73	.54	.61	.82	.40	.33	.99	.84	.58
11	131.80	132.74	133.00	132.71	132.60	132.51	133.16	132.38	132.31	131.98	131.84	131.56
12	.79	.75	132.82	.62	.87	.45	.53	.42	.27	.96	.84	.55
13	.80	.77	.71	.55	.85	.42	.64	.36	.26	.95	.83	
14	.81	.87	.83	.52	.74	133.20	134.03	.40	.25	.95	.83	
15	.81	.82	.90	.47	.70	134.12	.17	.42	.24	.95	.81	
16	131.80	132.69	132.74	132.46	132.72	134.84	134.19	132.45	132.21	131.93	131.82	
17	.79	.62	.70	.68	.86	.56	.28	.45	.19	.94	.81	
18	.77	.51	.67	.59	134.27	.48	.15	.48	.17	.97	.80	
19	.80	.45	.59	.52	133.90	.03	.59	.49	.19	.96	.80	
20	132.07	.42	.52	.49	.55	133.81	.07	.50	.19	.95	.79	
21	132.26	132.41	132.48	132.43	133.42	133.79	133.69	132.50	132.16	131.95	131.78	
22	.21	.39	.49	.37	.12	.64	.47	.50	.15	.98	.77	
23	.20	.39	.51	.35	.07	.38	.36	.53	.15	.95	.77	
24	.16	.35	.53	.49	.34	.19	.23	.54	.13	.94	.76	
25	.23	.35	.49	.55	.14	.33	.09	.50	.12	.92	.75	
26	132.24	132.41	132.44	132.71	133.01	133.18	133.01	132.48	132.09	131.91	131.75	
27	.23	.38	.38	.70	132.91	.28	132.89	.47	.07	.91	.73	
28	.24	.31	.36	.85	.81	.13	.82	.46	.07	.90	.72	
29	.17	.26	.31	.71	.76	.14	.75	.45	.05	.90		
30	.16	.22	.39	.63	.66	.04	.70	.44	.04	.95		
31		.19		.53	.62		.67		.04	.93		
Mean	131.95	132.52	132.86	132.75	132.84	133.19	133.38	132.47	132.23	131.96	131.82	
Max.	132.26	133.06	134.48	133.77	134.27	134.84	134.59	132.63	132.44	132.03	131.91	131.71
Min.	131.77	132.13	132.22	132.35	132.27	132.42	132.67	132.36	132.04	131.90	131.72	131.55

WATER YEAR 1968 : Max. 134.84 m. Min. 131.55 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.10	2.25	4.00	67	11	18	29	18	10	1.80	0.80	0.00
2	0.05	12	4.00	69	10	16	39	16	10	1.65	0.60	0.00
3	0.05	15	5.60	45	8.50	15	70	15	10	1.50	0.60	0.00
4	0.00	12	45	37	7.75	13	46	14	10	1.40	0.60	0.00
5	0.00	12	75	38	7.00	13	37	13	10	1.20	0.60	0.00
6	0.00	10	107	29	6.20	13	37	12	9.50	1.10	0.50	0.00
7	0.00	10	106	22	6.00	13	39	11	8.75	1.65	0.45	0.00
8	0.00	12	83	26	13	24	26	12	8.25	1.40	0.40	0.00
9	0.00	12	55	22	12	22	24	11	8.25	1.20	0.35	0.00
10	0.00	29	38	20	13	16	24	9.25	7.75	1.20	0.35	0.00
11	0.00	18	28	18	14	13	38	8.75	7.25	1.10	0.30	0.00
12	0.00	18	22	15	26	11	56	9.75	6.40	0.90	0.30	0.00
13	0.00	19	18	13	25	10	62	8.25	6.20	0.80	0.25	"
14	0.00	23	23	12	20	40	84	9.25	6.00	0.80	0.25	
15	0.00	21	26	11	19	90	93	9.75	5.80	0.80	0.15	
16	0.00	16	19	10	20	132	94	10	5.20	0.60	0.20	NO FLOW
17	0.00	13	18	17	25	114	99	10	4.80	0.70	0.20	
18	0.00	10	17	14	99	109	92	12	4.40	1.00	0.15	
19	0.00	9.00	14	12	76	82	118	12	4.80	0.90	0.15	
20	2.10	8.25	11	11	56	69	87	13	4.80	0.90	0.10	"
21	5.60	8.00	10	9.75	50	70	66	13	4.20	0.90	0.15	0.00
22	3.60	7.50	11	8.25	35	62	54	13	4.00	1.20	0.10	
23	3.40	7.50	11	7.75	33	48	48	13	4.00	0.90	0.10	
24	2.70	6.60	12	11	47	39	42	14	3.60	0.80	0.05	
25	4.00	6.60	11	13	38	46	35	13	3.40	0.60	0.05	
26	4.20	8.00	9.50	18	32	38	32	12	2.85	0.50	0.00	0.00
27	4.00	7.25	7.50	18	28	43	27	12	2.25	0.50	0.00	
28	4.20	5.80	7.00	24	24	36	25	11	2.25	0.45	0.00	
29	2.85	4.80	6.00	18	22	37	22	11	1.95	0.45	–	
30	2.70	4.00	7.75	16	18	32	20	10	1.80	0.90	–	
31	–	3.40	–	12	16	–	19	–	1.80	0.70	–	0.00
Total	39.55	350.95	811.35	663.75	817.45	1,284	1,584	356	180.25	30.50	7.75	0.00
Mean	1.32	11.32	27.0	21.4	26.4	42.8	51.1	11.9	5.81	0.98	0.28	0.00
Max.	5.60	29	107	69	99	132	118	18	10	1.80	0.80	0.00
Min.	0.00	2.25	4.00	7.75	6.00	10	19	8.25	1.80	0.45	0.00	0.00
Runoff – mcm.	3.417	30.322	70.101	57.348	70.628	110.938	136.858	30.758	15.574	2.635	0.670	0.00

WATER YEAR 1968 : Max. 132 Min. 0.00 Mean 16.8 Annual Runoff 529.247 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sept.16	09.00	135.10	149				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
WANG RIVER BASIN

Mae Wang River at Ko Kha Bridge, Lampang (W.5A)

Location: Lat 18° – 11' – 21" N., Long 99° – 24' – 04" E., on left bank at abutment of Ko Kha Bridge at Ban Ko Kha, Amphoe Ko Kha, Lampang.

Drainage Area: 5,278 sq.km.

Type of Gage: Staff gage.

Zero Gage at Bottom at: +216.115 m. (M.S.L.)

Bench Mark: B.M. – H.S./R.I.D.

Location: About 300 meters from top gage near gage reader's house.
Elevation: 219.805 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: 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.

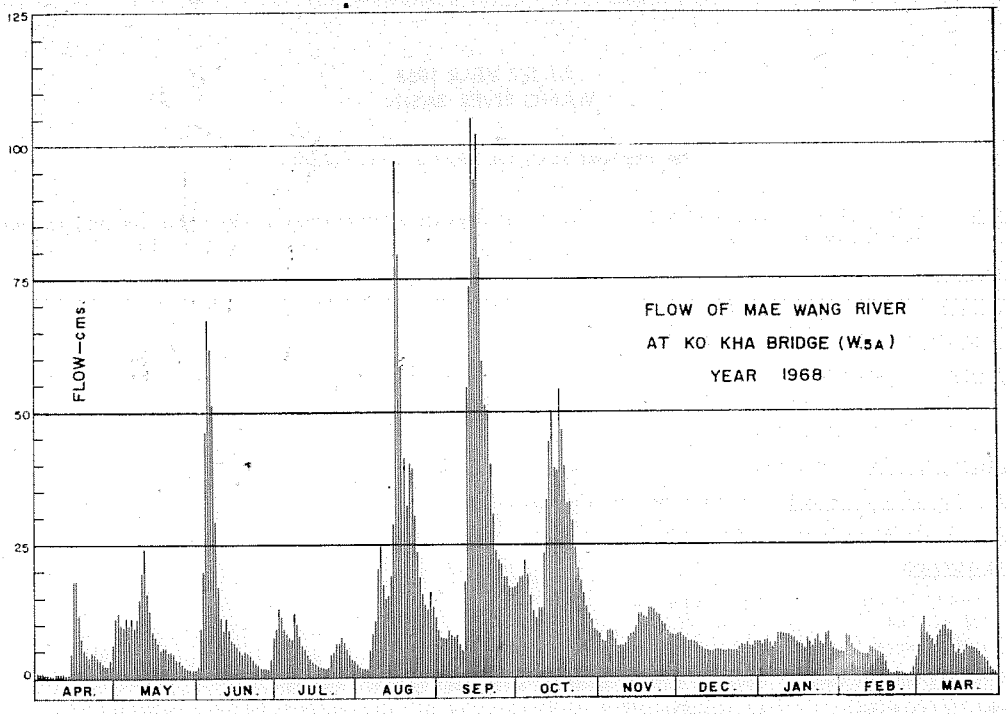
General Description: Records good. Stage – discharge relationship used is defined by discharge measurements made during 1968. No upstream state diversions for irrigation except those built by local residents. No adjustment made for virgin flow.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	215.82	216.34	215.96	216.30	216.02	216.27	216.50	216.28	216.28	216.22	216.13	216.20
2	.82	.37	216.15	.41	215.98	.25	.52	.23	.28	.20	.13	.32
3	.81	.31	.54	.35	.97	.25	.53	.22	.25	.23	.26	.34
4	.80	.31	.95	.29	.98	.24	.59	.30	.24	.24	.26	.25
5	.80	.34	217.17	.26	.98	.29	.50	.30	.23	.19	.19	.25
6	215.80	216.29	217.07	216.25	216.17	216.24	216.43	216.29	216.23	216.16	216.15	216.23
7	.79	.35	216.80	.22	.29	.25	.38	.21	.22	.23	.14	.15
8	.81	.28	.59	.37	.34	.26	.36	.20	.21	.27	.12	.25
9	.83	.34	.43	.30	.56	.20	.39	.20	.18	.27	.11	.29
10	.83	.46	.32	.23	.63	.16	.40	.20	.18	.27	.11	.31
11	215.79	216.55	216.27	216.18	216.48	216.16	216.65	216.23	216.16	216.26	216.13	216.31
12	.78	.62	.35	.15	.43	217.00	.79	.26	.16	.26	.18	.28
13	.79	.42	.25	.10	.44	.24	.90	.28	.15	.25	.17	.28
14	216.09	.37	.23	.06	.52	.54	.97	.29	.15	.24	.15	.15
15	.51	.27	.21	.04	.73	.34	.84	.33	.16	.20	.13	.12
16	216.50	216.25	216.18	216.02	217.47	217.52	216.84	216.37	216.16	216.21	216.12	216.15
17	.32	.21	.13	.00	.22	.14	217.03	.37	.16	.17	.10	.08
18	.20	.15	.11	215.99	216.93	.03	216.93	.36	.16	.16	.00	.14
19	.13	.18	.14	.98	.85	216.97	.80	.34	.16	.25	215.88	.18
20	.10	.16	.13	.97	.66	.97	.74	.39	.16	.16	.84	.16
21	216.07	216.12	216.10	216.00	216.85	216.80	216.76	216.40	216.15	216.21	215.85	216.17
22	.14	.14	.06	.12	.84	.66	.68	.37	.16	.24	.86	.16
23	.11	.10	.03	.14	.67	.59	.60	.37	.16	.20	.84	.13
24	.07	.05	.01	.21	.59	.59	.53	.34	.20	.19	.82	.10
25	.05	.06	215.98	.21	.50	.56	.51	.33	.21	.21	.79	.07
26	216.02	216.02	215.97	216.25	216.45	216.51	216.44	216.32	216.20	216.27	215.76	216.05
27	.01	215.99	.96	.21	.41	.53	.41	.28	.22	.28	.82	.01
28	.00	.95	.95	.14	.38	.46	.38	.28	.20	.18	.95	215.94
29	.06	.96	216.05	.12	.46	.48	.35	.27	.20	.17		.89
30	.21	.94	.24	.07	.41	.48	.30	.26	.22	.14		.81
31		.95		.05	.35		.29		.23	.13		.89
Mean	216.00	216.22	216.28	216.16	216.50	216.63	216.59	216.29	216.19	216.21	216.03	216.15
Max.	216.51	216.62	217.17	216.41	217.47	217.54	217.03	216.40	216.28	216.28	216.26	216.34
Min.	215.78	215.94	215.95	215.97	215.97	216.16	216.29	216.20	216.15	216.13	215.76	215.81

WATER YEAR 1968 : Max. 217.54 m. Min. 215.76 m.

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.60	11	1.60	9.00	2.40	8.10	18	8.40	8.40	6.60	4.60	6.00
2	0.60	12	5.00	13	1.80	7.50	19	6.90	8.40	6.00	4.60	9.80
3	0.55	9.40	20	11	1.70	7.50	19	6.60	7.50	6.90	7.80	11
4	0.50	9.40	48	8.70	1.80	7.20	22	9.00	7.20	7.20	7.80	7.50
5	0.50	11	67	7.80	1.80	8.70	18	9.00	6.90	5.80	5.80	7.50
6	0.50	8.70	58	7.50	5.40	7.20	14	8.70	6.90	5.20	5.00	6.90
7	0.45	11	36	6.60	8.70	7.50	12	6.30	6.60	6.90	4.80	5.00
8	0.55	8.40	22	12	11	7.80	11	6.00	6.30	8.10	4.40	7.50
9	0.65	11	14	9.00	21	6.00	13	6.00	5.60	8.10	4.20	8.70
10	0.65	16	9.80	6.90	25	5.20	13	6.00	5.60	8.10	4.20	9.40
11	0.45	20	8.10	5.60	17	5.20	26	6.90	5.20	7.80	4.60	9.40
12	0.40	24	11	5.00	14	52	35	7.80	5.20	7.80	5.60	8.40
13	0.45	14	7.50	4.00	15	74	44	8.40	5.00	7.50	5.40	8.40
14	3.80	12	6.90	3.20	19	105	50	8.70	5.00	7.20	5.00	5.00
15	18	8.10	6.30	2.80	31	84	39	10	5.20	6.00	4.60	4.40
16	18	7.50	5.60	2.40	97	102	39	12	5.20	6.30	4.40	5.00
17	9.80	6.30	4.60	2.00	72	64	54	12	5.20	5.40	4.00	3.60
18	6.00	5.00	4.20	1.90	46	54	46	11	5.20	5.20	2.00	4.80
19	4.60	5.60	4.80	1.80	40	50	36	11	5.20	7.50	0.90	5.60
20	4.00	5.20	4.60	1.70	27	50	32	13	5.20	5.20	0.70	5.20
21	3.40	4.40	4.00	2.00	40	36	33	13	5.00	6.30	0.75	5.40
22	4.80	4.80	3.20	4.40	39	27	28	12	5.20	7.20	0.80	5.20
23	4.20	4.00	2.60	4.80	27	22	23	12	5.20	6.00	0.70	4.60
24	3.40	3.00	2.20	6.30	22	22	19	11	6.00	5.80	0.60	4.00
25	3.00	3.20	1.80	6.30	18	21	18	10	6.30	6.30	0.45	3.40
26	2.40	2.40	1.70	7.50	15	18	15	9.80	6.00	8.10	0.30	3.00
27	2.20	1.90	1.60	6.30	13	19	13	8.40	6.60	8.40	0.60	2.20
28	2.00	1.50	1.50	4.80	12	16	12	8.40	6.00	5.60	1.50	1.40
29	3.20	1.60	3.00	4.40	16	17	11	8.10	6.00	5.40	–	0.95
30	6.30	1.40	7.20	3.40	13	17	9.00	7.80	6.60	4.80	–	0.55
31	–	1.50	–	3.00	11	–	8.70	–	6.90	4.60	–	0.95
Total	105.95	245.30	373.80	175.10	684.60	927.90	749.70	274.20	186.80	203.30	96.10	170.75
Mean	3.53	7.91	12.5	5.65	22.1	30.9	24.2	9.14	6.02	6.56	3.43	5.51
Max.	18	24	67	13	97	105.	54	13	8.40	8.40	7.80	11
Min.	0.40	1.40	1.50	1.70	1.70	5.20	8.70	6.00	5.00	4.60	0.30	0.55
Runoff – MCM.	9.154	21.194	32.296	15.129	59.147	80.170	64.774	23.691	16.139	17.565	8.303	14.753

WATER YEAR 1968 : Max. 105 Min. 0.30 Mean 11.5 Annual Runoff 362.318 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sept.14	11.00	217.68	123				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
WANG RIVER BASIN

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

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

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
Elevation: +265.511 m. (M.S.L.)

Gage Reading Frequency: Recording.

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

Period of Available Gage Records: 1966 to date.

Rating Operation:

Period of Rating: 1967 to date
Rated by Float: –
Rated by Current Meter: 1967 to date

Stability of Channel Regimes: Unstable, shifting adjustment is included for flow computation.

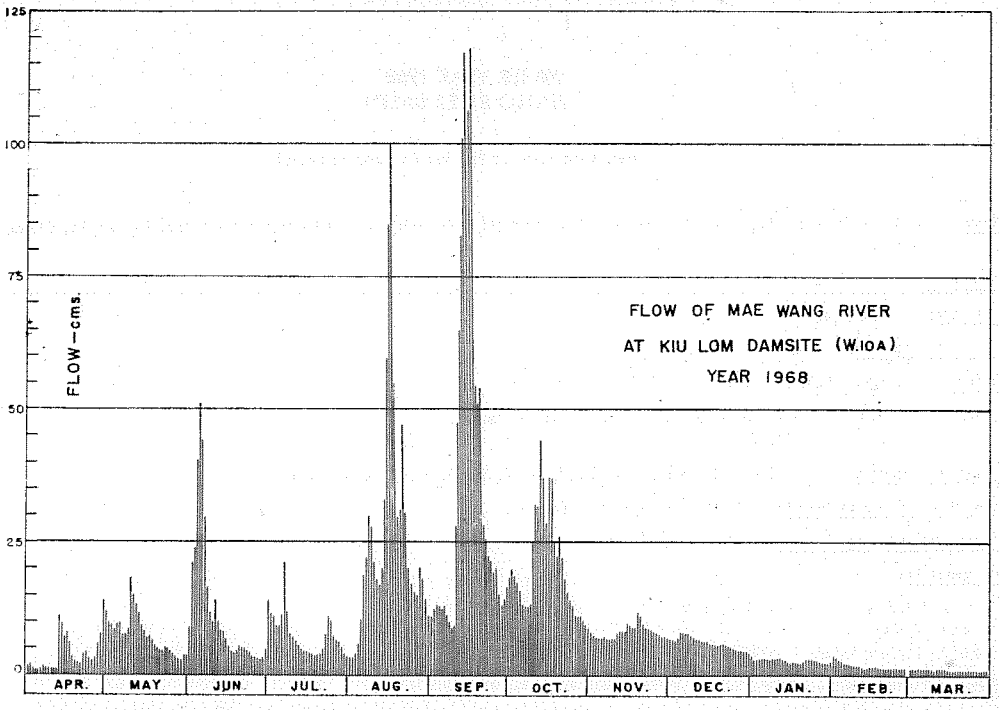
Overbank Flow Conditions: No overbank flow.

General Description: Records good. Stage – discharge relationship used is defined by discharge measurements made during 1968. Flow is under construction of Dam upstream. Data presented is from actual flow at gage site, no adjustment made for virgin flow.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	259.62	260.04	260.00	260.09	259.73	259.94	260.14	259.85	259.82	259.67	259.66	259.50
2	.63	259.99	.28	.03	.73	.98	.16	.84	.82	.65	.64	.50
3	.62	.99	.36	.01	.73	260.00	.13	.83	.81	.65	.63	.50
4	.60	.95	.67	259.98	.80	.02	.10	.83	.83	.66	.62	.50
5	.61	260.00	.82	.96	.91	259.98	.06	.82	.86	.66	.59	.50
6	259.64	260.01	260.58	260.04	260.15	260.01	260.00	259.82	259.86	259.66	259.58	259.49
7	.65	259.92	.28	.24	.12	259.97	.00	.81	.85	.65	.58	.49
8	.63	.94	.14	.04	.40	.93	.00	.81	.85	.66	.57	.49
9	.63	.98	.04	259.94	.40	.88	.02	.81	.84	.66	.57	.49
10	.62	260.20	259.98	.91	.24	.93	.30	.81	.82	.67	.56	.48
11	259.62	260.13	260.09	259.87	260.17	260.81	260.41	259.85	259.81	259.67	259.55	259.48
12	.63	.08	259.94	.83	.11	261.24	.48	.86	.80	.67	.54	.48
13	260.04	.03	.93	.80	.15	.54	.61	.86	.80	.65	.53	.48
14	259.98	259.95	.92	.78	.33	.28	.41	.87	.79	.65	.53	.48
15	.89	.93	.87	.78	261.08	.55	.40	.92	.79	.63	.53	.47
16	259.94	259.89	259.82	259.77	261.38	261.16	260.51	259.90	259.78	259.62	259.53	259.47
17	.83	.90	.79	.76	260.84	260.84	.51	.89	.78	.62	.53	.47
18	.78	.86	.78	.75	.68	.68	.28	.89	.77	.61	.52	.47
19	.74	.84	.79	.75	.38	.76	.21	.96	.77	.61	.52	.47
20	.72	.82	.82	.75	.39	.52	.32	.93	.77	.61	.52	.47
21	259.70	259.82	259.81	259.76	260.69	260.34	260.23	259.89	259.77	259.64	259.52	259.46
22	.79	.80	.79	.79	.39	.23	.13	.89	.76	.65	.52	.46
23	.80	.84	.78	.91	.22	.21	.07	.88	.75	.65	.52	.46
24	.75	.81	.76	.99	.13	.18	.02	.87	.74	.64	.51	.46
25	.73	.78	.74	.98	.10	.10	259.99	.86	.73	.63	.51	.46
26	259.75	259.76	259.73	259.88	260.06	260.16	259.96	259.85	259.71	259.63	259.51	259.46
27	.79	.74	.72	.86	.05	.05	.94	.84	.72	.62	.51	.46
28	.94	.73	.71	.85	.17	.02	.93	.83	.71	.61	.51	.46
29	.94	.73	.71	.79	.11	.03	.92	.83	.70	.60	–	.46
30	260.11	.76	.83	.75	.03	.10	.90	.82	.70	.60	–	.45
31	–	.95	–	.74	259.96	–	.88	–	.69	.66	–	.45
Mean	259.76	259.91	259.98	259.91	260.25	260.38	260.16	259.86	259.78	259.64	259.55	259.47
Max.	260.11	260.20	260.82	260.24	261.38	261.55	260.61	259.96	259.86	259.67	259.66	259.50
Min.	259.60	259.73	259.71	259.74	259.73	259.88	259.88	259.81	259.69	259.60	259.51	259.45

WATER YEAR 1968 : Max. 261.55 m. Min. 259.45 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	1.60	11	8.70	14	3.48	10	19	7.80	6.90	3.48	3.76	1.20
2	1.80	9.40	21	11	3.48	12	20	7.50	6.90	3.00	3.20	1.20
3	1.08	9.40	24	11	3.48	13	18	7.20	6.60	3.00	3.00	1.20
4	0.84	8.10	42	9.40	5.44	13	17	7.20	7.20	3.20	2.80	1.20
5	0.96	9.80	51	8.70	8.70	12	15	6.90	8.10	3.20	2.40	1.20
6	1.40	10	36	12	19	13	13	7.20	8.10	3.20	2.20	1.08
7	1.60	7.20	21	21	17	11	13	6.90	7.80	3.00	2.20	1.08
8	1.20	7.80	14	12	30	9.80	13	6.90	7.80	3.20	2.00	1.08
9	1.20	9.00	11	8.10	30	8.10	13	6.90	7.50	3.20	2.00	1.08
10	1.08	18	9.00	7.20	22	9.80	26	6.90	6.90	3.48	1.80	0.96
11	1.08	18	9.00	7.20	19	57	32	8.10	6.60	3.48	1.80	1.08
12	1.20	13	8.70	6.00	16	91	36	8.40	6.60	3.48	1.60	1.08
13	11	11	8.40	5.16	18	117	44	8.40	6.60	3.00	1.40	1.08
14	9.00	8.70	8.10	4.60	26	94	32	8.40	6.30	3.00	1.40	1.08
15	6.30	8.10	6.60	4.60	75	118	30	10	6.30	2.60	1.60	0.96
16	7.80	6.90	5.16	4.32	100	84	37	9.40	6.00	2.40	1.60	0.96
17	4.60	7.20	4.32	4.04	57	60	37	9.00	6.00	2.60	1.60	0.96
18	3.20	6.00	4.04	3.76	47	49	24	9.00	5.72	2.40	1.40	0.96
19	2.40	5.44	4.60	3.76	29	54	21	12	5.72	2.40	1.40	0.96
20	2.40	4.88	5.44	3.76	29	38	26	11	5.72	2.40	1.40	0.96
21	2.00	4.88	5.16	4.04	47	28	22	9.00	6.00	3.00	1.40	0.96
22	4.04	4.32	4.88	4.88	29	23	17	9.00	5.72	3.20	1.40	0.96
23	4.32	5.44	4.60	7.80	22	22	16	8.70	5.44	3.20	1.40	0.96
24	3.00	4.60	4.04	11	18	21	14	8.40	5.44	3.00	1.40	0.96
25	2.60	4.32	3.48	10	17	17	13	8.10	5.16	2.80	1.40	0.96
26	3.00	3.76	3.20	6.90	15	20	11	7.80	4.60	2.80	1.40	0.96
27	4.04	3.20	3.00	6.60	15	15	11	7.50	4.88	2.60	1.40	0.96
28	7.80	3.00	2.80	6.30	20	13	11	7.20	4.60	2.40	1.40	0.96
29	7.80	3.00	2.80	4.60	17	14	10	7.20	4.32	2.40	–	0.96
30	14	3.76	4.88	4.04	14	17	9.40	6.90	4.32	2.40	–	0.84
31	–	7.20	–	3.76	11	–	8.70	–	4.04	3.48	–	0.84
Total	114.34	233.40	345.90	231.52	783.58	1,063.70	629.10	244.90	189.88	91.00	51.76	31.68
Mean	3.81	4.30	11.5	7.47	25.3	35.5	20.3	8.16	6.12	2.93	1.85	1.02
Max.	14	18	51	21	100	118	44	12	8.10	3.48	3.76	1.20
Min.	0.84	3.00	2.80	3.76	3.48	8.10	8.70	6.90	4.04	2.40	1.40	0.84
Runoff – MCM.	9.879	20.166	29.886	20.003	67.701	91.903	54.354	21.159	16.406	7.862	4.472	2.737

WATER YEAR 1968 : Max. 118 Min. 0.84 Mean 11.0 Annual Runoff 346.530 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sept.13	20.00	261.96	157				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
WANG RIVER BASIN

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

Location: Lat 18° - 08' - 10" N., Long 99° - 34' - 55" 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: Staff gage.

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

Bench Mark: B.M. - R.I.D. No.011

Location: About 30 meters downstream from camp of gaging station.
Elevation: +251.616 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: 1968 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 relationship used is defined by discharge measurements made during 1970. No upstream state diversions for irrigation except those built by local residents. No adjustment made for virgin flow.

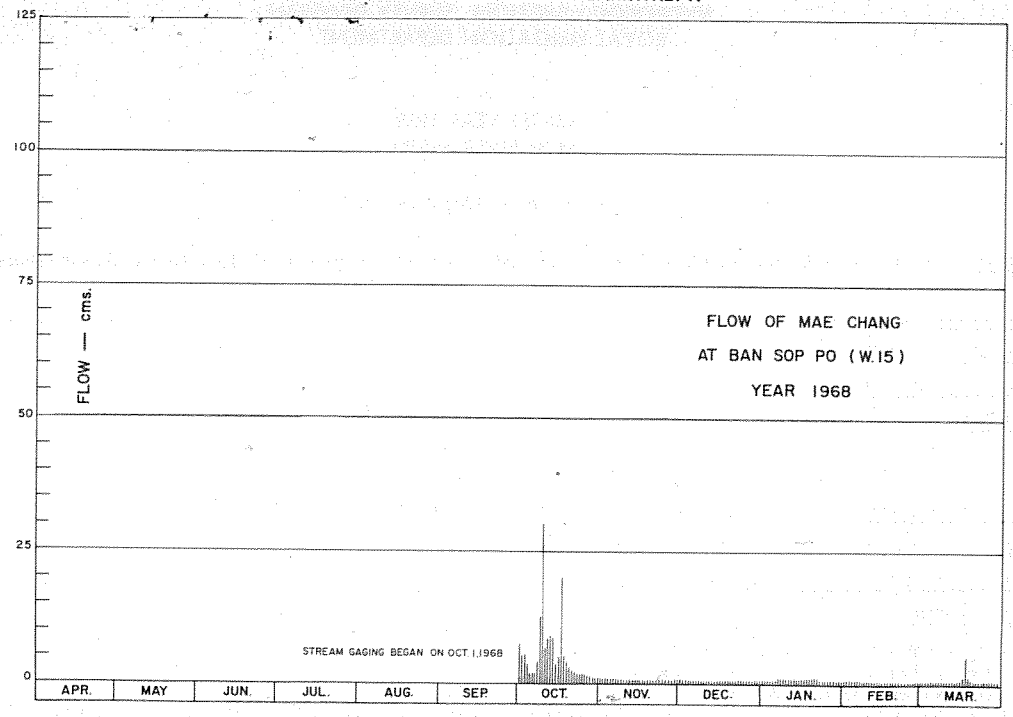
Remarks: Stream gaging began on Oct. 1, 1968.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1							241.44	240.88	240.82	240.82	240.87	240.82
2							.30	.88	.82	.82	.87	.82
3							.32	.88	.82	.82	.87	.82
4							.20	.86	.82	.82	.87	.82
5							.02	.86	.82	.82	.87	.82
6							241.02	240.86	240.82	240.82	240.87	240.82
7							.02	.86	.82	.89	.86	.82
8							.23	.86	.82	.89	.86	.81
9							.69	.85	.82	.89	.86	.81
10							242.22	.84	.82	.89	.86	.81
11							241.42	240.83	240.82	240.89	240.86	240.81
12							.50	.83	.82	.89	.86	.81
13							.53	.83	.82	.89	.86	.81
14							.50	.83	.82	.89	.86	.81
15							.19	.83	.82	.89	.85	.81
16							241.25	240.83	240.82	240.89	240.85	240.81
17							.96	.83	.82	.89	.85	.89
18							.29	.83	.82	.89	.85	241.29
19							.21	.83	.82	.89	.85	240.90
20							.12	.83	.82	.89	.84	.87
21							241.07	240.82	240.82	240.89	240.84	240.85
22							.03	.82	.82	.89	.83	.83
23							.02	.82	.82	.88	.83	.83
24							.00	.82	.82	.88	.83	.82
25							240.99	.82	.82	.88	.83	.82
26							240.97	240.82	240.82	240.88	240.83	240.82
27							.96	.82	.82	.87	.82	.81
28							.93	.82	.82	.87	.82	.80
29							.92	.82	.82	.87	-	.80
30							.92	.82	.82	.87	-	.80
31							.89	-	.82	.87	-	.79
Mean							241.23	240.84	240.82	240.87	240.85	240.84
Max.							242.22	240.88	240.82	240.89	240.87	241.29
Min.							240.89	240.82	240.82	240.82	240.82	240.79

WATER YEAR 1968 : Max. 242.22 m. Min. 240.82 m.

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1							7.46	0.96	0.60	0.60	0.90	0.60
2							5.24	0.96	0.60	0.60	0.90	0.60
3							5.50	0.96	0.60	0.60	0.90	0.60
4							3.96	0.84	0.60	0.60	0.90	0.60
5							2.00	0.84	0.60	0.60	0.90	0.60
6							2.00	0.84	0.60	0.60	0.90	0.60
7							2.00	0.84	0.60	1.02	0.84	0.60
8							4.33	0.84	0.60	1.02	0.84	0.56
9							13	0.78	0.60	1.02	0.84	0.56
10							30	0.72	0.60	1.02	0.84	0.56
11							7.10	0.66	0.60	1.02	0.84	0.56
12							8.54	0.66	0.60	1.02	0.84	0.56
13							9.12	0.66	0.60	1.02	0.84	0.56
14							8.54	0.66	0.60	1.02	0.84	0.56
15							3.84	0.66	0.60	1.02	0.78	0.56
16							4.59	0.66	0.60	1.02	0.78	0.56
17							20	0.66	0.60	1.02	0.78	1.02
18							5.11	0.66	0.60	1.02	0.78	5.11
19							4.08	0.66	0.60	1.02	0.78	1.08
20							3.00	0.66	0.60	1.02	0.72	0.90
21							2.50	0.60	0.60	1.02	0.72	0.78
22							2.10	0.60	0.60	1.02	0.66	0.66
23							2.00	0.60	0.60	0.96	0.66	0.66
24							1.84	0.60	0.60	0.96	0.66	0.60
25							1.76	0.60	0.60	0.96	0.66	0.60
26							1.60	0.60	0.60	0.96	0.66	0.60
27							1.52	0.60	0.60	0.90	0.60	0.56
28							1.28	0.60	0.60	0.90	0.60	0.52
29							1.20	0.60	0.60	0.90	–	0.52
30							1.20	0.60	0.60	0.90	–	0.52
31							1.02	–	0.60	0.90	–	0.48
Total							167.43	21.18	18.60	28.26	21.96	23.85
Mean							5.40	0.71	0.60	0.91	0.78	0.77
Max.							30	0.96	0.60	1.02	0.90	5.11
Min.							1.02	0.60	0.60	0.60	0.60	0.48
Runoff – mcm.							14.466	1.830	1.607	2.442	1.897	2.061

WATER YEAR 1968 : Max. 30 Min. Mean Annual Runoff mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Oct.10,68	9.00	242.32	34				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
YOM RIVER BASIN

Mae Yom River at Muang Phrae (Y.1)

Location: Lat 18° - 08' - 32" N., Long 100° - 08' - 07" E., on left bank infront of the district liquor factory near Wat Chetawan, Amphoe Muang, Phrae.

Drainage Area: 7,590 sq.km.

Type of Gage: Staff gage.

Zero Gage at Bottom at: +144.00 m. (M.S.L.)

Bench Mark: B.M. - R.I.D. No.1

Location: On left bank 23 meters downstream from gage site.
Elevation: +153.810 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 - 71

Rating Operation:

Period of Rating: 1954, 1956 - 60
Rated by Float: -
Rated by Current Meter: 1954, 1956 - 60

Stability of Channel Regimes: Stable, no shifting adjustment for flow computations for year without actual ratings.

Overbank Flow Conditions: No overbank flow.

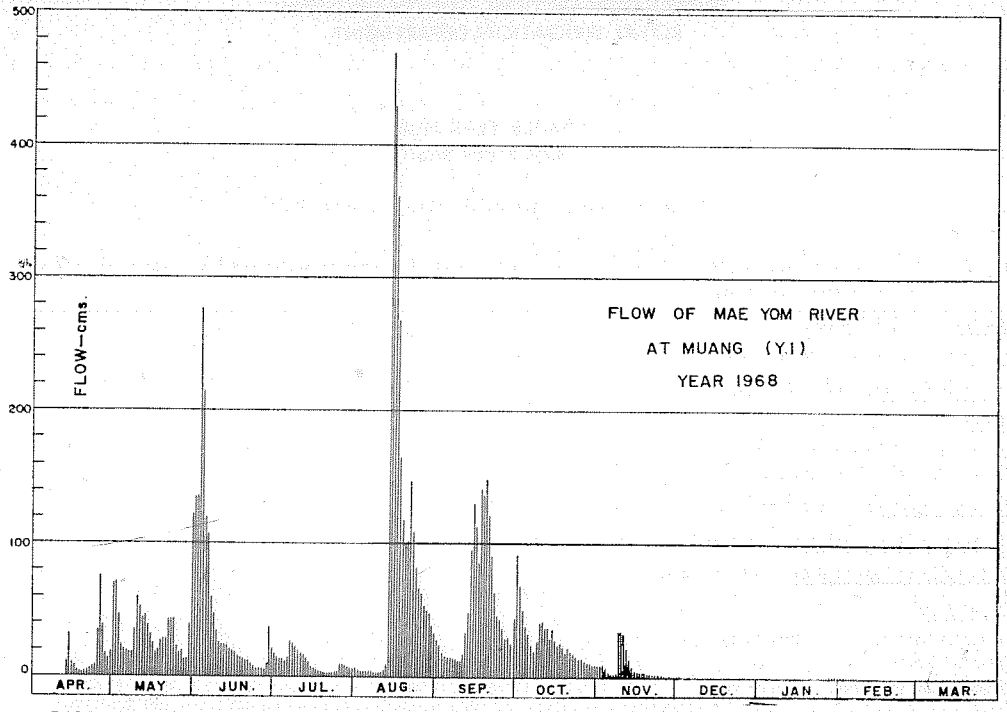
General Description: Records fair. Stage - discharge relationship used is defined by discharge measurements made during 1957-60. Upstream diversion for irrigation of about 24,000 hectares at Mae Yom Weir. No adjustment made for virgin flow.

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

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	144.61	146.27	146.93	145.47	145.15	145.72	146.12	145.29	144.90	144.78	144.90	144.73
2	.61	.29	.79	.43	.09	.64	.50	.30	.90	.78	.89	.73
3	.63	146.81	147.98	.41	.05	.49	.09	.30	.88	.77	.89	.74
4	.63	.59	.15	.40	.04	.43	145.96	.18	.87	.78	.88	.73
5	.64	.54	146.67	.36	.02	.42	.84	144.95	.87	.79	.88	.73
6	144.64	145.56	146.65	145.35	145.00	146.40	145.72	144.95	144.86	144.79	144.87	144.73
7	.65	.49	.11	.69	.00	.39	.57	.94	.85	.80	.86	.73
8	.65	.42	145.96	.65	144.98	.38	.50	.98	.85	.80	.86	.73
9	.65	.87	.71	.59	.97	.35	.62	145.82	.84	.81	.85	.72
10	.64	146.15	.65	.55	.97	.35	.90	.82	.84	.81	.84	.72
11	144.64	146.05	145.64	145.50	145.00	145.49	145.93	145.68	144.84	144.81	144.84	144.72
12	.65	145.91	.63	.48	.14	.85	.84	.50	.83	.81	.83	.72
13	.65	.97	.60	.39	.36	146.02	.87	.30	.83	.82	.82	.72
14	145.80	.88	.54	.33	146.64	.53	.69	.10	.82	.81	.81	.72
15	.29	.77	.52	.20	149.09	.88	.81	.06	.82	.79	.81	.72
16	145.21	145.61	145.49	145.16	148.69	146.74	145.67	145.05	144.81	144.78	144.80	144.72
17	.01	.47	.44	.09	.28	.50	.64	.03	.81	.76	.80	.71
18	144.99	.55	.39	.03	147.05	.99	.67	.02	.80	.75	.80	.74
19	.98	.69	.37	.00	146.75	.90	.60	.00	.80	.75	.79	.71
20	.99	.72	.36	144.97	.56	147.05	.50	144.98	.79	.83	.79	.69
21	145.06	145.68	145.35	144.96	146.60	146.64	145.59	144.97	144.79	144.84	144.79	144.68
22	.11	.94	.27	.96	147.04	.36	.53	.96	.80	.84	.78	.68
23	.13	.94	.17	.98	146.61	.03	.45	.94	.80	.85	.77	.68
24	.28	.94	.10	.99	.35	145.95	.43	.92	.81	.86	.77	.68
25	.88	.52	.10	145.00	.23	.93	.40	.90	.81	.86	.75	.68
26	146.32	145.44	145.13	145.28	146.18	145.76	145.39	144.87	144.81	144.87	144.74	144.68
27	145.66	.57	.08	.30	.08	.70	.34	.87	.80	.88	.74	.68
28	.44	.32	.08	.23	.03	.74	.32	.86	.80	.89	.73	.68
29	.37	.29	.85	.18	145.97	.65	.30	.85	.80	.89	-	.68
30	.44	.47	.51	.14	.89	.61	.28	.84	.78	.90	-	.67
31	-	146.78	-	.12	.74	-	.29	.83	.77	.90	-	.67
Mean	145.04	145.76	145.77	145.26	145.98	145.96	145.65	145.10	144.82	144.82	144.82	144.71
Max.	146.32	146.78	147.98	145.69	149.09	147.05	146.50	145.82	144.90	144.90	144.90	144.74
Min.	144.61	145.32	145.08	144.96	144.97	145.35	145.28	144.87	144.77	144.75	144.75	144.67

WATER YEAR 1968 : Max. 149.09 m. Min. 144.61 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1		70	135	17	7.00	27	58	9.80	2.00		2.00	0.00
2		71	121	15	5.80	24	92	10	2.00		1.80	
3		35	277	14	5.00	18	55	10	1.60		1.80	
4		22	160	14	4.80	15	45	7.60	1.40		1.60	
5		20	109	12	4.40	15	36	3.00	1.40		1.60	
6		20	107	12	4.00	14	29	3.00	1.40		1.40	
7		18	57	27	4.00	14	21	2.80	1.00	0.00	1.20	
8		15	45	25	3.60	13	18	3.60	1.00	0.00	1.20	
9		38	29	22	3.40	12	23	35	0.80	0.20	1.00	
10		60	25	20	3.40	12	40	35	0.80	0.20	0.80	
11		52	24	18	4.00	18	42	27	0.80	0.20	0.80	
12		41	24	17	6.80	37	36	18	0.60	0.20	0.60	
13	0.00	46	22	14	12	50	38	10	0.60	0.40	0.40	
14	34	39	20	11	106	95	27	6.00	0.40	0.20	0.20	
15	9.80	32	19	8.00	470	130	35	5.20	0.40	0.00	0.20	
16	8.20	23	18	7.20	398	116	26	5.00	0.20		0.00	
17	4.20	17	16	5.80	326	72	24	4.60	0.20			
18	3.80	20	14	4.60	148	141	26	4.40	0.00			
19	3.60	27	13	4.00	117	132	22	4.00				
20	3.80	29	12	3.40	98	148	18	3.60		0.60		
21	5.20	27	12	3.20	102	106	22	3.40		0.80		
22	6.20	43	9.40	3.20	147	78	19	3.20		0.80		
23	6.60	43	7.40	3.60	103	50	16	2.80	0.00	1.00		
24	9.60	43	6.00	3.80	77	44	15	2.40	0.20	1.20		
25	39	19	6.00	4.00	66	42	14	2.00	0.20	1.20		
26	74	16	6.60	9.60	62	33	14	1.40	0.20	1.40		
27	27	21	5.60	10	54	28	12	1.40	0.00	1.60		
28	16	11	5.60	8.60	50	30	11	1.20		1.80	0.00	
29	13	14	37	7.60	46	25	10	1.00		1.80		
30	16	17	18	6.80	39	23	9.60	0.80		2.00		
31	–	120	–	6.40	30	–	9.80	0.60		2.00		0.00
Total	280	1,069	1,360.60	337.80	2,507.20	1,562	863.40	227.80	17.20	17.60	16.60	0.00
Mean	9.33	34.5	45.3	10.9	80.9	52.1	27.8	7.35	0.55	0.57	0.59	0.00
Max.	74	120	277	27	470	148	92	35	2.00	2.00	2.00	0.00
Min.	0.00	11	5.60	3.20	3.40	12	9.60	0.60	0.00	0.00	0.00	0.00
Runoff – mcm.	24.192	92.362	117.556	29.186	216.622	134.957	74.598	19.682	1.486	1.521	1.434	0.00

WATER YEAR 1968 : Max. 470 Min. 0.00 Mean 22.6 Annual Runoff 713.595 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Aug.15	18.00	149.43	536				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
YOM RIVER BASIN

Mae Yom River at Sawankhalok Bridge, 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.
Elevation: +60.559 m. (M.S.L.)

Gage Reading Frequency: Recording

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

Period of Available Gage Records: 1967 to date.

Rating Operation:

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

Stability of Channel Regimes: Unstable, no shifting adjustment but mean hourly discharge are used for period of flashy flood.

Overbank Flow Conditions: No overbank flow.

General Description: Records good. Stage - discharge relationship used is defined by discharge measurements made during 1968. Upstream state diversions for irrigation of about 24,000 hectares. No adjustment made for virgin flow.

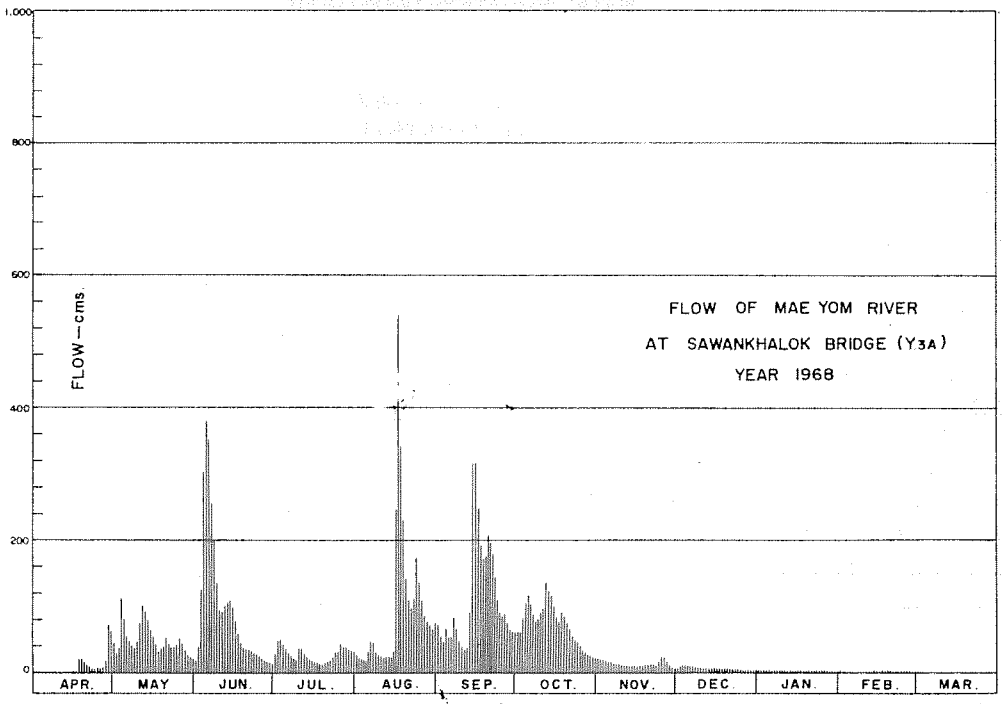
Remarks: * Mean hourly gage height and discharge for period Aug. 15 - 22.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	51.55	52.50	52.11	52.41	52.30	52.97	52.84	52.17	51.83	51.67	51.66	51.55
2	.53	.31	.57	.63	.19	.74	.82	.13	.94	.67	.66	.54
3	.52	.38	53.96	.68	.14	.58	53.03	.09	.95	.67	.65	.53
4	.52	53.47	55.51	.54	.12	.91	.32	.07	.95	.67	.65	.53
5	.52	.05	.86	.45	.11	.69	.54	.05	.94	.66	.64	.54
6	51.53	52.64	55.54	52.37	52.68	52.66	53.31	52.03	51.92	51.66	51.63	51.54
7	.62	.61	54.44	.24	.60	53.13	.11	.01	.90	.65	.62	.53
8	.57	.49	.30	.16	.33	52.90	52.98	51.99	.88	.70	.61	.53
9	.52	.40	53.85	.10	.30	.63	53.14	.97	.86	.72	.60	.52
10	.50	.63	.26	.48	.29	.49	.21	.97	.85	.73	.60	.52
11	51.50	53.01	53.18	52.47	52.21	52.41	53.30	51.97	51.86	51.74	51.62	51.51
12	.49	.36	.32	.28	.19	.40	.73	.96	.86	.76	.62	.51
13	.52	.19	.40	.20	.28	53.30	.58	.96	.84	.77	.64	.50
14	.55	52.99	.42	.14	.24	55.37	.51	.96	.84	.74	.65	.49
15	.62	.81	.26	.12	.27	.35	.33	.96	.83	.71	.66	.49
16	51.59	52.60	52.99	52.09	54.50	54.83	53.11	51.94	51.82	51.67	51.66	51.49
17	.65	.46	.67	.03	57.04	.27	52.98	.94	.81	.69	.64	.49
18	52.19	.37	.54	.00	55.41	.10	53.23	.94	.80	.70	.64	.58
19	.13	.43	.46	51.97	54.30	53.94	.14	.94	.79	.70	.63	.59
20	51.96	.53	.44	52.05	53.79	54.42	.01	.96	.77	.71	.62	.53
21	51.87	52.70	52.44	52.09	53.44	54.26	52.85	51.99	51.76	51.70	51.61	51.51
22	.81	.47	.36	.13	.24	.11	.72	.98	.74	.70	.59	.51
23	.77	.47	.35	.23	.48	53.55	.66	.96	.74	.69	.58	.50
24	.74	.50	.31	.36	54.11	.27	.62	52.16	.74	.68	.57	.50
25	.78	.50	.24	.40	53.73	.14	.48	.22	.72	.67	.57	.51
26	51.73	52.69	52.13	52.58	53.51	53.17	52.38	52.25	51.72	51.67	51.56	51.52
27	.87	.47	.11	.47	.10	.04	.31	.04	.70	.65	.56	.54
28	.96	.33	.04	.48	.04	52.90	.29	51.93	.70	.66	.56	.53
29	52.97	.22	.00	.45	52.96	.85	.25	.88	.69	.67		.52
30	.84	.16	.00	.39	.78	.80	.21	.84	.68	.66		.51
31		.12		.38	53.04		.18		.68	.67		.51
Mean	51.76	52.61	53.10	52.30	53.08	53.37	52.94	52.01	51.81	51.69	51.62	51.52
Max.	52.97	53.47	55.86	52.68	57.04	55.37	53.73	52.25	51.95	51.77	51.66	51.59
Min.	51.49	52.12	52.00	51.97	52.11	52.40	52.18	51.84	51.68	51.65	51.56	51.49

WATER YEAR 1968 : Max. 57.04 m. Min. 51.49 m.

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	1.90	39	18	34	28	72	63	21	8.30	4.07	3.86	1.90
2	1.62	28	44	48	22	56	61	19	12	4.07	3.86	1.76
3	1.48	32	159	51	20	44	77	18	12	4.07	3.65	1.62
4	1.48	112	334	42	19	68	100	17	12	4.07	3.65	1.62
5	1.48	78	380	36	18	52	119	16	12	3.86	3.44	1.76
6	1.62	49	338	32	51	50	99	15	11	3.86	3.23	1.76
7	3.02	46	210	25	46	84	83	14	10	3.65	3.02	1.62
8	2.18	39	195	21	29	67	73	14	9.80	4.70	2.81	1.62
9	1.48	33	148	18	28	48	85	13	9.20	5.24	2.60	1.48
10	1.20	48	95	38	27	39	91	13	8.90	5.51	2.60	1.48
11	1.20	75	88	38	23	34	98	13	9.20	5.78	3.02	1.34
12	1.12	103	100	27	22	33	136	12	9.20	6.32	3.02	1.34
13	1.48	89	106	23	27	98	122	12	8.60	6.59	3.44	1.20
14	1.90	74	109	20	25	317	116	12	8.60	5.78	3.65	1.12
15	3.02	61	95	19	*26	315	100	12	8.30	4.97	3.86	1.12
16	2.46	46	74	18	*253	253	83	12	8.00	4.07	3.86	1.12
17	3.65	37	51	15	*539	192	73	12	7.70	4.49	3.44	1.12
18	22	32	42	14	*326	173	92	12	7.40	4.70	3.44	2.32
19	19	35	37	13	*199	157	85	12	7.13	4.70	2.23	2.46
20	12	41	36	16	*142	208	75	12	6.59	4.97	3.02	1.62
21	9.50	53	36	18	*110	191	64	14	6.32	4.70	2.81	1.34
22	7.70	38	31	19	* 93	174	54	13	5.78	4.70	2.46	1.34
23	6.59	38	31	24	113	119	50	12	5.78	4.49	2.32	1.20
24	5.78	39	28	31	174	96	47	21	5.78	4.28	2.18	1.20
25	6.86	41	25	33	136	85	38	24	5.24	4.07	2.18	1.34
26	5.51	52	19	44	99	88	32	25	5.24	4.07	2.04	1.48
27	9.50	38	18	38	82	77	28	16	4.70	3.65	2.04	1.76
28	12	29	16	38	77	67	27	11	4.70	3.86	2.04	1.62
29	72	24	14	36	72	64	25	9.80	4.49	4.07		1.48
30	63	21	14	33	58	60	23	8.60	4.28	3.86		1.34
31	4.07	19		32	77		22		4.28			1.34
Total	283.73	1,489	2,890	894	2,961	3,381	2,168	435.40	242.51	141.29	84.77	46.82
Mean	9.46	48.0	96.3	28.8	95.5	113	69.9	14.5	7.82	4.56	3.03	1.51
Max.	72	112	380	51	539	317	136	25	12	6.59	3.86	2.46
Min.	1.12	19	14	13	18	33	22	8.60	4.28	3.65	2.04	1.12
Runoff - MCM.	24.514	128.650	249.696	77.242	255.830	292.118	187.315	37.618	20.953	12.207	7.324	4.045

WATER YEAR 1968 : Max. 539 Min. 1.12 Mean 41.1 Annual Runoff 1,297.514 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Aug.17	04.00	57.38	587				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
YOM RIVER BASIN

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

Location: Lat 17° – 00' – 18" N., Long 99° – 49' – 31" E., on left bank infront of the house of Governer, at Talat Thani, 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 gage.
Elevation: +47.579 m. (M.S.L.)

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: 1950 – 60, 1962 to date.

Rating Operation:

Period of Rating: 1954 – 56, 1967 – 70
Rated by Float: –
Rated by Current Meter: 1954 – 56, 1967 – 70

Stability of Channel Regimes: Stable, mean hourly discharge are used for flow computation.

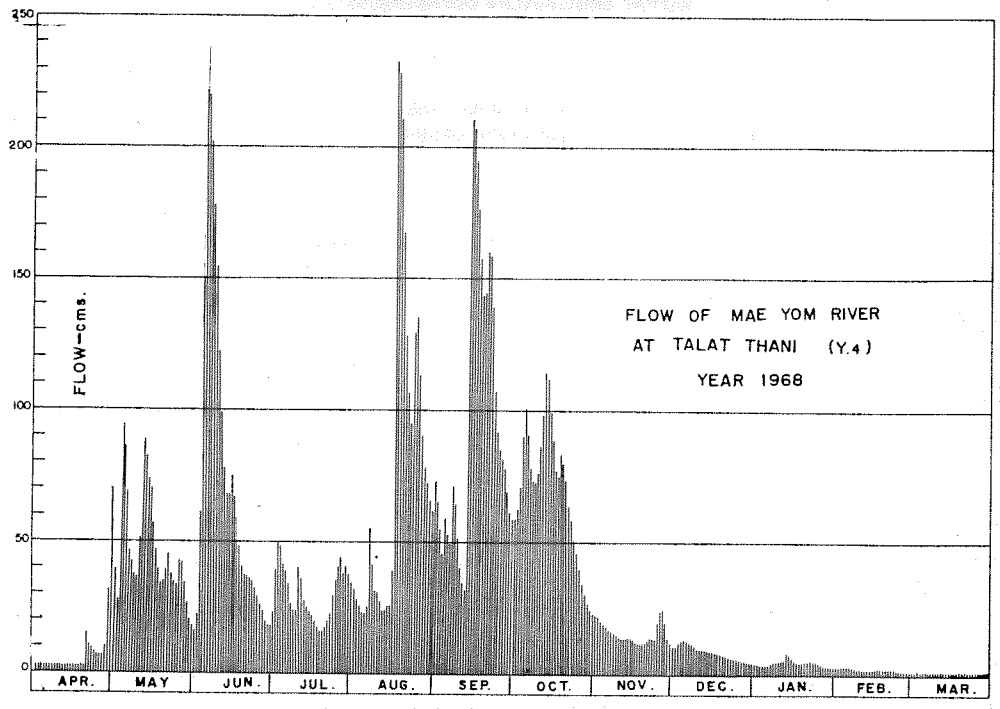
Overbank Flow Conditions: Overbank flow exists almost every year but hardly to be determined. Records are channel flow only.

General Description: Records fair. Stage – discharge relationship used is defined by discharge measurements made during 1968. Upstream state diversions for irrigation of about 24,000 hectares. No adjustment made for virgin flow.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	44.46	46.45	45.33	45.46	45.95	46.90	46.60	45.58	44.99	44.60	44.50	44.30
2	.46	45.79	.38	46.13	.82	.66	.64	.55	45.04	.61	.49	.50
3	.46	.73	47.00	.41	.69	.40	.78	.48	.14	.59	.48	.29
4	.45	46.47	48.19	.36	.60	.22	47.14	.43	.16	.58	.50	.29
5	.45	47.29	.70	.15	.58	.63	.40	.39	.16	.58	.51	.28
6	44.45	46.72	48.69	46.11	45.68	46.37	47.20	45.35	45.16	44.57	44.51	44.30
7	.45	.31	.38	45.93	46.52	.44	.00	.31	.14	.62	.51	.31
8	.45	.20	.19	.74	.15	.86	46.90	.30	.12	.66	.46	.30
9	.44	.06	.03	.62	45.86	.57	.88	.27	.08	.67	.42	.28
10	.44	.04	47.57	.56	.86	.23	47.00	.24	.01	.67	.40	.28
11	44.44	46.43	47.17	46.14	45.75	46.04	47.19	45.23	45.00	44.69	44.38	44.28
12	.43	.90	46.89	.04	.63	45.91	.40	.23	.00	.75	.37	.28
13	.42	47.19	.81	45.77	.63	.90	.59	.21	44.99	.92	.36	.28
14	.42	46.99	.81	.68	.72	47.41	.55	.20	.96	.86	.37	.28
15	.41	.86	.85	.58	.70	48.61	.36	.22	.94	.75	.43	.28
16	44.41	46.52	46.74	45.55	46.06	48.56	47.17	45.17	44.92	44.67	44.43	44.27
17	.41	.26	.52	.48	48.85	.27	46.95	.14	.91	.63	.42	.27
18	.40	.08	.35	.38	.73	.07	.94	.11	.89	.63	.42	.27
19	45.45	45.92	.16	.31	.40	47.94	47.10	.13	.86	.64	.42	.29
20	.45	46.05	.07	.32	47.93	48.00	46.97	.13	.83	.67	.42	.28
21	45.25	46.15	46.05	45.40	47.65	48.15	46.84	45.16	44.81	44.69	44.42	44.35
22	.06	.28	.03	.47	.34	.13	.64	.21	.78	.69	.39	.29
23	44.98	.00	.00	.61	.21	47.78	.48	.21	.76	.67	.37	.28
24	.87	.00	45.91	.79	.81	.31	.39	.19	.75	.67	.34	.28
25	.80	45.95	.81	.99	.89	.16	.26	.47	.74	.64	.33	.28
26	44.79	46.03	45.73	46.17	47.45	47.08	46.06	45.64	44.73	44.59	44.32	44.28
27	.75	.22	.62	.26	.15	.02	45.94	.63	.70	.56	.32	.28
28	.97	45.95	.48	.04	46.98	46.84	.81	.37	.69	.54	.30	.28
29	45.28	.77	.41	.19	.87	.68	.71	.17	.68	.52		.30
30	46.85	.50	.38	.05	.74	.63	.64	.05	.65	.50		.30
31		.40		.00	.62		.61		.62	.50		.29
Mean	44.74	46.25	46.64	45.83	46.67	47.09	46.75	45.25	44.91	44.64	44.41	44.29
Max.	46.85	47.29	48.70	46.41	48.85	48.61	47.59	45.61	45.16	44.92	44.51	44.35
Min.	44.40	45.40	45.33	45.31	45.58	45.90	45.61	45.05	44.62	44.50	44.30	44.27

WATER YEAR 1968 : Max. 48.85 m. Min. 44.27 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	2.84	52	16	20	33	72	58	23	9.84	4.30	3.20	1.50
2	2.84	29	18	39	29	61	60	22	11	4.42	3.11	1.50
3	2.84	27	78	50	26	48	67	20	12	4.19	3.02	1.44
4	2.75	53	163	48	23	46	86	19	13	4.08	3.20	1.44
5	2.75	94	221	40	23	59	101	18	13	4.08	3.31	1.38
6	2.75	64	219	39	25	48	89	17	13	3.97	3.31	1.50
7	2.75	46	183	33	55	51	78	16	12	4.54	3.31	1.58
8	2.75	42	163	27	40	71	73	16	12	5.02	2.84	1.50
9	2.66	37	149	24	31	57	72	15	11	5.14	2.48	1.38
10	2.66	36	113	22	31	43	78	14	10	5.14	2.30	1.38
11	2.66	51	87	40	27	36	88	14	10	5.38	2.14	1.38
12	2.57	73	72	36	24	32	101	14	10	6.20	2.06	1.38
13	2.48	88	68	28	24	32	114	14	9.84	8.72	1.98	1.38
14	2.48	77	68	25	26	102	111	14	9.36	7.80	2.06	1.38
15	2.39	71	75	23	26	210	99	14	9.04	6.20	2.57	1.38
16	2.39	55	65	22	52	204	87	13	8.72	5.14	2.57	1.32
17	2.39	44	55	20	232	172	75	12	8.56	4.66	2.48	1.32
18	2.30	38	48	18	223	152	75	12	8.25	4.66	2.48	1.32
19	2.75	32	40	16	185	141	83	12	7.80	4.78	2.48	1.44
20	2.75	37	37	16	146	146	76	12	7.35	5.14	2.48	1.38
21	15	40	37	18	118	160	70	13	7.05	5.38	2.48	1.90
22	11	45	36	20	97	158	60	14	6.62	5.38	2.22	1.44
23	9.68	35	35	23	92	128	53	14	6.34	5.14	2.06	1.38
24	7.95	35	32	29	129	96	49	13	6.20	5.14	1.82	1.38
25	6.90	33	29	35	135	87	44	20	6.06	4.78	1.74	1.38
26	6.76	43	27	41	105	82	37	24	5.92	4.19	1.66	1.38
27	6.20	42	24	44	86	79	33	24	5.50	3.86	1.66	1.38
28	9.52	33	20	36	76	70	29	17	5.38	3.64	1.50	1.38
29	15	28	18	41	71	62	26	13	5.26	3.42		1.50
30	70	21	18	37	64	59	24	11	4.90	3.20		1.50
31		18		35	60		23		4.54	3.20		1.44
Total	210.76	1,419	2,214	945	2,314	2,764	2,119	474	269.53	150.89	68.52	44.34
Mean	7.02	45.8	73.8	30.5	74.6	92.1	68.3	15.8	8.69	4.87	2.45	1.43
Max.	70	94	221	50	232	210	114	24	13	8.72	3.31	1.90
Min.	2.30	18	16	16	23	32	23	11	4.54	3.20	1.50	1.32
Runoff - MCM.	18.206	122.602	191.290	81.648	199.930	238.810	183.082	40.954	23.287	13.037	5.920	3.831

WATER YEAR 1968 : Max. 232 Min. 1.32 Mean 35.6 Annual Runoff 1,122.598 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Aug.17	18.00	48.85	240				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
YOM RIVER BASIN

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

Location: Lat 16° – 05' – 35" N., Long 100° – 15' – 48" E., on left bank infront of Amphoe Pho Thale Office, Phichit.

Drainage Area: 22,344 sq.km.

Type of Gage: Staff gage.

Zero Gage at Bottom at: +22.852 m. (M.S.L.)

Bench Mark: B.M. – R.I.D.

Location: At mango tree infront of Amphoe Pho Thale Office.
Elevation: +30.640 m. (M.S.L.)

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

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

Period of Available Gage Records: 1951 – 56, 1964 – 73

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 for year without actual ratings.

Overbank Flow Conditions: Overbank flow. Exists almost every year but hardly to be determines. Records are channel flow only.

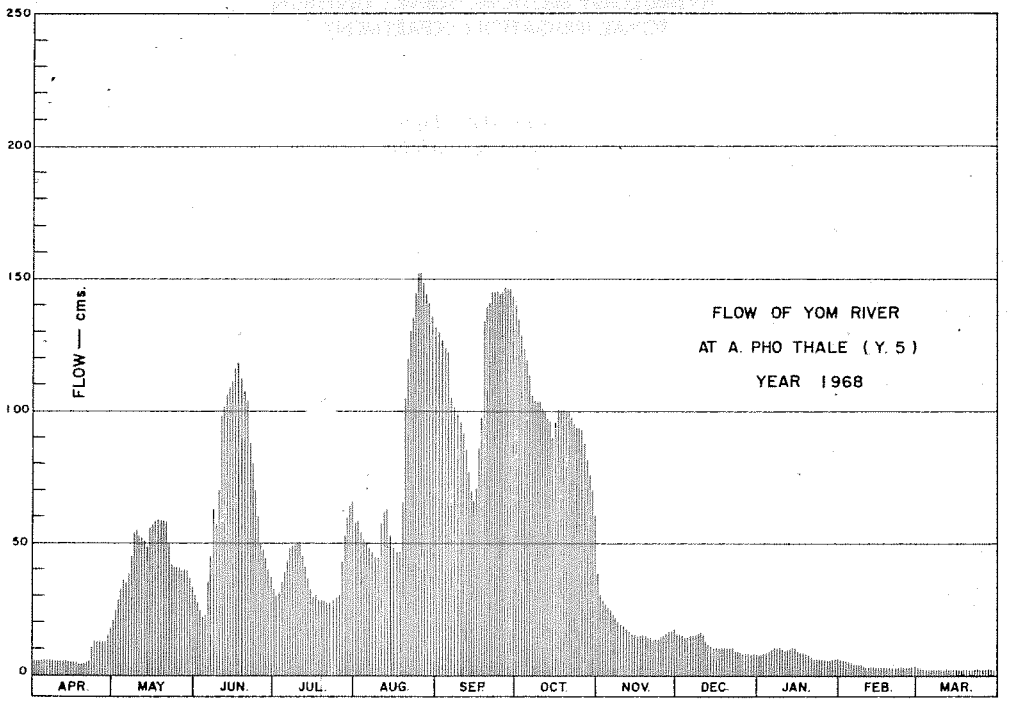
General Description: Records fair. Stage – discharge relationship used is defined by discharge measurements made during 1967. Upstream state diversions for irrigation of about 24,000 hectares. No adjustment made for virgin flow.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	23.17	23.87	24.30	24.35	25.11	26.72	26.90	24.56	23.69	23.30	23.23	22.96
2	.16	24.01	.19	.26	.14	.68	.79	.28	.69	.35	.23	.94
3	.16	.20	.01	.28	.03	.66	.68	.21	.69	.35	.19	.93
4	.17	.34	23.96	.43	24.94	.60	.57	.15	.65	.36	.16	.92
5	.17	.44	24.04	.55	.90	.54	.48	.10	.67	.40	.13	.91
6	23.17	24.42	24.31	24.68	24.86	26.31	26.41	24.07	23.70	23.45	23.10	22.90
7	.17	.50	.84	.81	.82	.18	.25	.02	.72	.46	.06	.90
8	.17	.80	25.22	.87	.77	.12	.19	23.94	.71	.46	.05	.90
9	.17	.98	.06	.88	.72	.06	.18	.88	.71	.46	.04	.90
10	.17	25.03	.49	.91	.74	.02	.17	.86	.73	.46	.01	.90
11	23.16	24.96	26.05	24.90	25.11	25.97	26.11	23.83	23.69	23.45	22.94	22.90
12	.15	.94	.16	.78	.21	.81	.07	.79	.57	.45	.98	.90
13	.15	.91	.24	.61	.24	.65	.04	.75	.54	.45	.99	.90
14	.13	.85	.28	.52	.10	.43	.00	.69	.49	.46	.99	.89
15	.12	25.05	.33	.35	24.86	.31	25.87	.71	.48	.46	.97	.90
16	23.11	25.08	26.43	24.26	24.83	25.38	25.98	23.69	23.47	23.37	22.99	22.90
17	.10	.13	.44	.27	.80	.83	26.11	.65	.49	.40	.97	.90
18	.09	.13	.40	.23	.80	26.01	.09	.72	.48	.35	23.00	.90
19	.05	.14	.30	.22	25.22	.79	.11	.70	.48	.33	22.99	.90
20	.06	.12	.22	.21	26.17	.88	.10	.65	.48	.34	.97	.89
21	23.10	25.11	26.19	24.18	26.60	26.92	26.09	23.64	23.47	23.30	22.96	22.90
22	.17	24.89	25.85	.19	.73	.98	.04	.61	.46	.23	.97	.91
23	.49	.63	.62	.17	.82	.98	25.98	.61	.42	.23	.97	.91
24	.55	.61	.43	.20	27.01	.98	.97	.60	.39	.23	.97	.90
25	.58	.60	.13	.26	.11	.97	.96	.64	.38	.23	.97	.91
26	23.57	24.60	24.86	24.27	27.11	26.99	25.94	23.68	23.35	23.22	22.98	22.92
27	.56	.58	.81	.71	.03	27.02	.83	.71	.35	.22	.99	.92
28	.59	.56	.66	.97	26.98	.01	.73	.73	.35	.23	.99	.92
29	.67	.57	.57	25.17	.93	.00	.60	.75	.35	.23		.92
30	.77	.51	.51	.27	.81	26.95	.43	.80	.35	.21		.91
31		.39		.31	.73		.20		.30	.23		.90
Mean	23.26	24.71	25.33	24.55	25.68	26.42	26.09	23.83	23.52	23.34	23.03	22.91
Max.	23.77	25.14	26.44	25.31	27.11	27.02	26.90	24.56	23.73	23.46	23.23	22.96
Min.	23.05	23.87	23.96	24.17	24.72	25.31	25.20	23.60	23.30	23.21	22.96	22.89

WATER YEAR 1968 : Max. 27.11 m. Min. 22.89 m.

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	5.98	20	32	33	58	131	140	39	16	8.00	6.88	3.16
2	5.84	24	28	30	59	129	134	31	16	8.80	6.88	2.94
3	5.84	29	24	31	55	128	129	29	16	8.80	6.26	2.83
4	5.98	33	22	35	52	125	123	27	15	8.96	5.84	2.72
5	5.98	36	24	39	51	122	119	26	15	9.60	5.42	2.61
6	5.98	35	32	43	50	110	115	25	16	10	5.00	2.50
7	5.98	38	49	48	48	104	107	24	16	11	4.44	2.50
8	5.98	47	63	50	46	101	104	22	16	11	4.30	2.50
9	5.98	54	57	50	45	99	104	20	16	11	4.16	2.50
10	5.98	55	73	51	45	97	104	20	17	11	3.74	2.50
11	5.84	53	98	51	58	94	101	19	16	10	3.38	2.50
12	5.70	52	103	47	62	87	99	18	13	10	3.38	2.50
13	5.70	51	107	41	63	80	98	17	12	10	3.49	2.50
14	5.42	49	109	38	58	71	96	16	11	11	3.49	2.42
15	5.28	56	111	33	50	66	90	16	11	11	3.27	2.50
16	5.14	57	116	30	48	69	95	16	11	9.12	3.49	2.50
17	5.00	59	117	31	47	88	101	15	11	9.00	3.27	2.50
18	4.86	59	115	29	47	96	100	16	11	8.80	3.60	2.50
19	4.30	59	110	29	63	134	101	16	11	8.48	3.49	2.50
20	4.44	59	106	29	104	139	100	15	11	8.64	3.27	2.42
21	5.00	58	104	28	125	141	100	15	11	8.00	3.16	2.50
22	5.98	51	89	28	131	145	98	14	11	6.88	3.27	2.61
23	11	42	79	28	136	145	95	14	9.98	6.88	3.27	2.61
24	13	41	71	29	146	145	94	14	9.44	6.88	3.27	2.50
25	13	41	59	30	152	144	94	15	9.28	6.88	3.27	2.61
26	13	41	50	31	152	145	93	15	8.80	6.72	3.38	2.72
27	13	40	48	44	147	147	88	16	8.80	6.72	3.49	2.72
28	13	40	43	53	145	146	84	17	8.80	6.88	3.49	2.72
29	15	40	40	61	142	146	78	17	8.80	6.88		2.72
30	18	38	38	65	135	143	71	18	8.80	6.56		2.61
31		34		66	131		62		8.00	6.88		2.50
Total	231.18	1,391	2,117	1,231	2,651	3,517	3,117	582	379.70	270.96	113.65	80.42
Mean	7.71	44.9	70.6	39.1	85.5	117	100	19.4	12.2	8.74	4.06	2.59
Max.	18	59	117	66	152	147	140	39	17	11	6.88	3.16
Min.	4.30	20	22	28	45	66	62	14	8.00	6.56	3.16	2.42
Runoff - mcm.	19.974	120.182	182.909	106.358	229.046	303.869	269.309	50.285	32.806	23.411	9.819	6.948

WATER YEAR 1968 : Max. 152 Min. 2.42 Mean 43.0 Annual Runoff 1,354.917 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Aug.26	01.00	27.20	157				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
YOM RIVER BASIN

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

Location: Lat 17° - 26' - 03" N., Long 99° - 47' - 32" E., on left bank bank about 150 meters upstream from Kaeng Luang, Amphoe Si Satchanalai, Sukhothai.

Drainage Area: 12,658 sq.km.

Type of Gage: Water - stage recorder.

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

Bench Mark: B.M. - H.S. No.1

Location: Near gage site.
Elevation: +69.132 m. (M.S.L.)

Gage Reading Frequency: Recording.

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

Period of Available Gage Records: 1952 to date.

Rating Operation:

Period of Rating: 1952 to date
Rated by Float: -
Rated by Current Meter: 1952 to date

Stability of Channel Regimes: Unstable, shifting adjustment is included for flow computation.

Overbank Flow Conditions: No overbank flow.

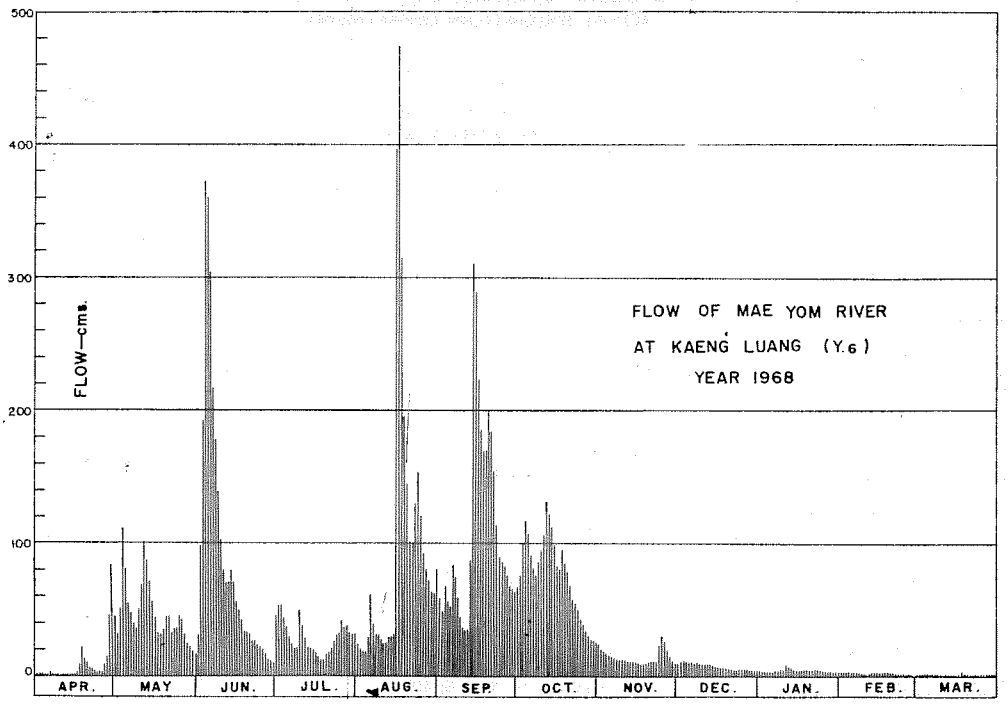
General Description: Records good. Stage - discharge relationship used is defined by discharge measurements made during 1968. upstream state diversion for irrigation of about 24,000 hectares. No adjustment made for virgin flow.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	59.63	60.45	60.12	60.64	60.34	60.91	60.89	60.28	60.03	59.77	59.73	59.56
2	.62	.30	61.22	.77	.26	.72	.95	.22	.06	.75	.73	.55
3	.61	.74	.92	.72	.22	.63	61.22	.20	.07	.75	.73	.55
4	.60	61.32	62.99	.56	.22	.96	.39	.18	.06	.75	.74	.55
5	.60	60.89	.91	.49	.23	.73	.30	.14	.06	.75	.72	.55
6	59.70	60.63	62.49	60.38	60.89	60.81	61.13	60.13	60.06	59.74	59.70	59.55
7	.62	.61	61.95	.28	.55	61.11	.06	.11	.04	.80	.68	.55
8	.56	.47	.87	.20	.39	60.87	60.99	.08	.02	.79	.65	.54
9	.56	.44	.49	.23	.41	.65	61.12	.07	59.98	.82	.64	.54
10	.54	.75	.19	.66	.35	.54	.20	.09	.98	.82	.62	.54
11	59.53	60.96	60.98	60.47	60.27	60.47	61.30	60.08	59.98	59.96	59.61	59.53
12	.55	61.24	.92	.35	.29	.47	.55	.06	.97	.91	.65	.53
13	.59	.08	.94	.23	.38	.77	.46	.08	.94	.85	.68	.52
14	.65	60.96	61.02	.22	.34	62.62	.35	.07	.94	.81	.67	.52
15	.65	.79	60.89	.20	.39	.62	.23	.05	.93	.77	.67	.52
16	59.68	60.62	60.74	60.14	62.94	62.17	61.06	60.03	59.92	59.76	59.68	59.52
17	.85	.48	.64	.08	63.38	61.86	.03	.02	.91	.80	.68	.58
18	60.28	.45	.52	.04	62.43	.78	.19	.03	.89	.80	.69	.67
19	.11	.48	.45	.07	61.83	.73	.09	.05	.88	.81	.68	.57
20	59.98	.65	.47	.16	.50	.99	60.99	.08	.86	.81	.65	.55
21	59.91	60.67	60.45	60.20	61.30	61.92	60.85	60.10	59.85	59.80	59.63	59.55
22	.86	.45	.35	.22	.19	.69	.75	.09	.83	.81	.61	.55
23	.82	.53	.37	.34	.52	.36	.71	.09	.83	.79	.60	.55
24	.80	.48	.28	.46	.73	.17	.64	.30	.83	.77	.60	.54
25	.81	.66	.26	.48	.44	.13	.55	.36	.83	.76	.59	.56
26	59.83	60.65	60.23	60.61	61.20	61.11	60.48	60.28	59.82	59.74	59.58	59.62
27	60.06	.45	.15	.52	.08	.01	.41	.11	.81	.74	.57	.62
28	.20	.32	.06	.56	.01	60.90	.36	.03	.79	.73	.57	.61
29	61.12	.22	.06	.49	60.91	.88	.33	59.97	.78	.73		.59
30	60.74	.15	.03	.45	.80	.84	.33	.94	.78	.73		.56
31		.11		.48	61.09		.30		.77	.73		.56
Mean	59.83	60.61	60.93	60.38	61.00	61.21	60.94	60.11	59.92	59.78	59.65	59.56
Max.	61.12	61.32	62.99	60.77	63.38	62.62	61.55	60.36	60.07	59.96	59.73	59.67
Min.	59.53	60.11	60.03	60.04	60.22	60.47	60.30	59.94	59.77	59.73	59.57	59.56

WATER YEAR 1968 : Max. 63.38 m. Min. 59.53 m.

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31,1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	1.70	36	14	45	25	64	66	23	10	4.30	3.80	1.30
2	1.60	26	95	54	21	50	75	19	11	3.80	3.80	1.20
3	1.50	56	181	54	19	43	99	18	12	3.80	3.80	1.20
4	1.40	111	372	43	19	68	117	17	11	3.80	4.00	1.20
5	1.40	68	356	38	19	50	107	15	11	3.80	3.80	1.20
6	2.80	48	272	30	62	56	90	15	11	3.60	3.40	1.20
7	1.60	47	185	25	42	83	81	14	10	4.60	3.00	1.20
8	1.00	37	174	21	31	60	74	12	11	4.30	2.40	1.10
9	1.00	35	125	22	32	45	87	12	9.40	5.20	2.20	1.10
10	0.85	57	92	50	28	37	95	13	9.40	5.20	1.90	1.10
11	0.77	75	70	36	24	34	105	12	9.40	9.40	1.80	1.00
12	0.92	101	70	28	25	36	132	11	9.10	7.90	2.40	1.00
13	1.30	83	71	22	30	58	122	12	8.20	6.10	3.00	0.92
14	1.90	69	80	22	29	310	110	12	8.20	4.90	2.80	0.92
15	1.90	54	67	21	33	310	98	11	7.90	4.30	2.80	0.92
16	2.40	43	55	18	378	226	81	10	7.60	4.00	3.00	0.92
17	6.70	33	48	14	474	181	78	9.10	7.30	5.20	3.00	1.70
18	22	31	40	12	276	169	94	9.40	6.70	5.20	3.00	3.60
19	13	33	32	12	179	162	84	10	6.40	5.50	3.00	1.70
20	8.20	45	33	16	133	199	77	11	5.80	5.50	2.40	1.40
21	6.10	46	32	18	102	179	65	12	5.50	5.20	2.00	1.40
22	4.60	31	26	19	91	147	57	12	4.90	5.50	1.80	1.30
23	3.60	36	27	25	125	108	54	12	4.90	4.90	1.70	1.20
24	3.20	33	23	31	153	89	50	24	4.90	4.30	1.70	1.10
25	3.40	45	22	33	117	85	43	31	4.90	4.00	1.60	1.20
26	3.80	45	20	42	92	83	38	26	5.20	4.00	1.50	1.60
27	11	33	16	36	80	77	33	18	5.20	4.00	1.40	1.40
28	18	24	12	38	72	67	30	14	4.90	3.80	1.40	1.30
29	84	22	12	33	64	65	27	11	4.60	3.80		1.10
30	56	19	10	31	55	62	27	9.70	4.60	3.80		0.85
31		17		33	81		25		4.30	3.80		0.85
Total	267.64	1,439	2,630	922	2,911	3,203	2,321	435.20	236.30	147.50	72.60	39.18
Mean	8.92	46.4	87.7	29.7	93.9	107	74.9	14.5	7.62	4.76	2.59	1.26
Max.	84	111	372	54	474	310	132	31	12	9.40	3.80	3.60
Min.	0.77	17	10	12	19	34	25	9.10	4.30	3.80	1.40	0.85
Runoff - mcm.	23.124	124.330	277.232	79.661	251.510	276.739	200.534	37.601	20.416	12.744	6.273	3.385

WATER YEAR 1968 : Max. 474 Min. 0.77 Mean 40.1 Annual Runoff 1,263.550 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Aug.16	20.00	63.84	596				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
YOM RIVER BASIN

Ngao Creek at Ngao Bridge, 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: Staff gage.

Zero Gage at Bottom at: +266.79 m. (M.S.L.)

Bench Mark: B.M. – R.I.D. No.14

Location: On left bank about 100 meters upstream from gage site.
Elevation: +277.896 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: 1957 to date.

Rating Operation:

Period of Rating: 1957 – 58, 1971 to date.
Rated by Float: –
Rated by Current Meter: 1957 – 58, 1971 to date.

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

Overbank Flow Conditions: No overbank flow.

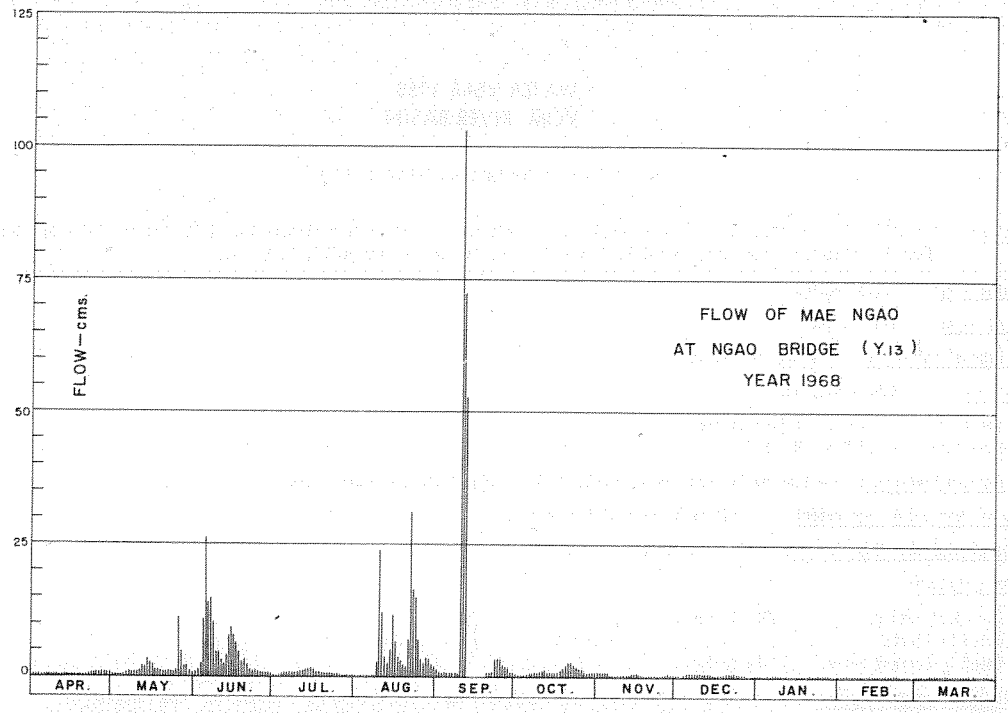
General Description: Records fair. Stage – discharge relationship used is defined by discharge measurements made during 1957–58. No upstream state diversions for irrigation except those built by local residents. No adjustment made for virgin flow.

Remarks: No records for period Sept. 13 – 19.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	266.95	266.99	267.08	266.98	266.97	267.14	267.01	267.11	266.99	266.99	266.96	266.93
2	.94	.97	.11	.98	.95	.09	266.99	.07	.98	267.00	.96	.93
3	.94	.95	.23	.99	.93	.09	.99	.07	.97	266.97	.97	.92
4	.93	.92	.22	267.03	.92	.10	.99	.05	267.03	.98	.97	.92
5	.93	.99	.80	.06	.92	.07	267.00	.05	.06	.98	.98	.92
6	266.94	267.04	267.58	267.07	266.91	267.05	267.04	266.97	267.06	266.97	266.98	266.93
7	.94	.09	.63	.09	.91	.05	.07	.98	.08	.96	.99	.93
8	.94	.09	.48	.09	.93	.04	.09	.97	.09	.96	.97	.93
9	.94	.10	.33	.09	267.01	.04	.09	.98	.08	.97	.97	.94
10	.95	.08	.33	.10	.77	.03	.11	.99	.06	.97	.97	.95
11	266.95	267.10	267.28	267.11	267.46	268.42	267.12	267.00	267.06	266.97	266.97	266.95
12	.95	.20	.18	.12	.26	267.93	.12	266.97	.06	.97	.98	.94
13	.97	.16	.29	.12	.24		.08	.97	.04	.97	.98	.94
14	.97	.28	.44	.15	.19		.08	267.04	.01	.96	.97	.98
15	.99	.24	.49	.16	.56		.07	.04	266.99	.96	.95	.95
16	266.99	267.20	267.42	267.14	267.42		267.07	267.04	266.98	266.95	266.94	266.94
17	.98	.10	.40	.09	.29		.10	.01	.99	.95	.94	.96
18	.93	.14	.32	.09	.28		.12	266.98	.99	.95	.94	.95
19	.92	.11	.22	.08	.21		.17	.96	267.01	.98	.95	.94
20	.97	.09	.27	.06	.18	267.09	.19	.96	.04	.98	.95	.95
21	266.98	267.07	267.19	267.04	267.19	267.08	267.22	266.94	267.06	266.99	266.95	266.97
22	267.00	.12	.13	.04	.86	.10	.21	.94	.06	.99	.96	.96
23	.04	.10	.09	.04	.63	.26	.19	.94	.04	267.00	.96	.96
24	.06	.09	.14	.01	.63	.29	.17	.98	.01	.00	.96	.98
25	.06	.12	.09	.01	.33	.21	.16	.97	.01	266.99	.99	.98
26	267.07	267.53	267.08	266.99	267.26	267.19	267.15	266.97	267.01	266.99	266.97	266.98
27	.09	.31	.07	.97	.19	.19	.08	267.01	.02	.97	.95	.96
28	.06	.15	.04	.97	.29	.16	.07	.02	266.99	.97	.94	.96
29	.04	.21	.02	.97	.28	.08	.09	.02	.99	.97		.95
30	.02	.10	266.99	.97	.20	.04	.10	266.99	.98	.96		.95
31		.07			.16		.09		.98	.96		.94
Mean	266.98	267.12	267.26	267.05	267.24		267.20	266.10	267.03	266.97	266.96	266.95
Max.	267.09	267.53	267.80	267.16	267.86		267.22	267.11	267.09	267.00	266.99	266.98
Min.	266.92	266.92	266.99	266.97	266.91		266.99	266.94	266.97	266.95	266.94	266.92

WATER YEAR 1968 : Max. 268.42 m. Min. 266.92 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.35	0.47	0.90	0.44	0.41	1.48	0.55	1.12	0.47	0.47	0.38	0.29
2	0.32	0.41	1.12	0.44	0.35	0.95	0.47	0.85	0.44	0.50	0.38	0.29
3	0.32	0.35	2.68	0.47	0.29	0.95	0.47	0.85	0.41	0.41	0.41	0.26
4	0.29	0.26	2.52	0.65	0.26	1.00	0.47	0.75	0.65	0.44	0.41	0.26
5	0.29	0.47	26	0.80	0.26	0.85	0.50	0.75	0.80	0.44	0.44	0.26
6	0.32	0.70	13	0.85	0.23	0.75	0.70	0.41	0.80	0.41	0.44	0.29
7	0.32	0.95	15	0.95	0.23	0.75	0.85	0.44	0.90	0.38	0.47	0.29
8	0.32	0.95	8.96	0.95	0.29	0.70	0.95	0.41	0.95	0.38	0.41	0.29
9	0.32	1.00	4.58	0.95	0.55	0.70	0.95	0.44	0.90	0.41	0.41	0.32
10	0.35	0.90	4.58	1.00	24	0.65	1.12	0.47	0.80	0.41	0.41	0.35
11	0.35	1.00	3.48	1.12	8.32	103	1.24	0.50	0.80	0.41	0.41	0.35
12	0.35	2.20	1.96	1.24	3.16	37	1.24	0.41	0.80	0.41	0.44	0.32
13	0.41	1.72	3.64	1.24	2.84		0.90	0.41	0.70	0.41	0.44	0.32
14	0.41	3.48	7.68	1.60	2.08		0.90	0.70	0.55	0.38	0.41	0.44
15	0.44	2.84	9.28	1.72	12		0.85	0.70	0.47	0.38	0.35	0.35
16	0.47	2.20	7.04	1.48	7.04		0.85	0.70	0.44	0.35	0.32	0.32
17	0.44	1.00	6.40	0.95	3.64		1.00	0.55	0.47	0.35	0.32	0.38
18	0.29	1.48	4.32	0.95	3.48		1.24	0.44	0.47	0.35	0.32	0.35
19	0.26	1.12	2.52	0.90	2.36		1.84	0.38	0.55	0.44	0.35	0.32
20	0.41	0.95	3.32	0.80	1.96	0.95	2.08	0.38	0.70	0.44	0.35	0.35
21	0.44	0.85	2.08	0.70	2.08	0.90	2.52	0.32	0.80	0.47	0.35	0.41
22	0.50	1.24	1.36	0.70	31	1.00	2.36	0.32	0.80	0.47	0.38	0.38
23	0.70	1.00	0.95	0.70	15	3.16	2.08	0.32	0.70	0.50	0.38	0.38
24	0.80	0.95	1.48	0.55	15	3.64	1.84	0.44	0.55	0.50	0.38	0.44
25	0.80	1.24	0.95	0.55	4.58	2.36	1.72	0.41	0.55	0.47	0.47	0.44
26	0.85	11	0.90	0.47	3.16	2.08	1.60	0.41	0.55	0.47	0.41	0.44
27	0.95	4.06	0.85	0.41	2.08	2.08	0.90	0.55	0.60	0.41	0.35	0.38
28	0.80	1.60	0.70	0.41	3.64	1.72	0.85	0.60	0.47	0.41	0.32	0.38
29	0.70	2.36	0.60	0.41	3.48	0.90	0.95	0.60	0.47	0.41		0.35
30	0.60	1.00	0.47	0.41	2.20	0.70	1.00	0.47	0.44	0.38		0.35
31		0.85		0.41	1.72		0.95		0.44	0.38		0.32
Total	14.17	50.60	139.32	25.22	157.69		35.94	16.10	19.44	13.04	10.91	10.67
Mean	0.47	1.63	4.64	0.84	5.09		1.16	0.54	0.63	0.42	0.39	0.34
Max.	0.95	11	26	1.72	31		2.52	1.12	0.95	0.50	0.47	0.44
Min.	0.26	0.26	0.47	0.41	0.23		0.47	0.32	0.41	0.35	0.32	0.26
Runoff – mcm.	1.224	4.372	12.037	2.179	13.624		3.105	1.391	1.680	1.127	0.943	0.922

WATER YEAR 1968 : Max. Min. 0.26 Mean Annual Runoff mcm.

Momentary Peak Discharge

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

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
YOM RIVER BASIN

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

Location: Lat 17° – 35' – 42" N., Long 99° – 43' – 08" E., on left bank 50 meters from highway No.101 (Si Satchanalai – Den Chai) about 44 kilometers from Si Satchanalai, Tambon Mae Sam, 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 station office of Y.14
Elevation: +77.575 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 to date.
Rated by Float: –
Rated by Current Meter: 1964 to date.

Stability of Channel Regimes: Unstable, shifting adjustment and mean hourly discharge are included for flow computation.

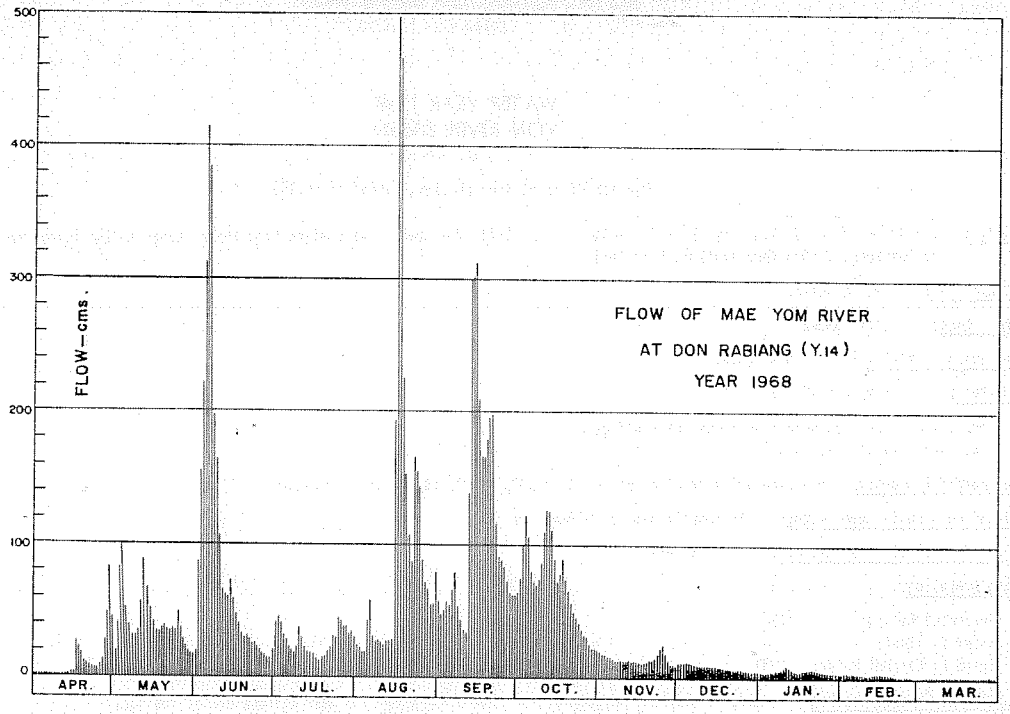
Overbank Flow Conditions: No overbank flow.

General Description: Records good. Stage – discharge relationship used is defined by discharge measurements made during 1968. Upstream state diversion for irrigation of about 24,000 hectares. No adjustment made for virgin flow.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	65.65	66.24	66.19	66.56	66.27	66.72	66.78	66.22	66.08	65.83	65.81	65.65
2	.65	.16	67.71	.65	.22	.57	.95	.19	.09	.83	.83	.65
3	.64	67.09	.89	.58	.17	.66	67.19	.17	.09	.83	.83	.65
4	.62	.24	69.64	.45	.20	.72	.41	.15	.09	.83	.82	.65
5	.66	66.70	.37	.39	.59	.59	.25	.13	.08	.83	.80	.65
6	65.64	66.56	68.64	66.30	66.75	66.80	66.99	66.12	66.07	65.83	65.78	65.65
7	.62	.49	.12	.22	.40	.95	.93	.10	.05	.86	.75	.65
8	.62	.39	67.94	.17	.32	.66	.90	.09	.04	.89	.73	.66
9	.61	.40	.38	.31	.36	.50	.96	.09	.04	.89	.71	.65
10	.60	.69	.03	.52	.29	.43	67.10	.10	.03	.95	.71	.65
11	65.62	66.83	66.80	66.35	66.24	66.39	67.36	66.09	66.02	66.01	65.72	65.64
12	.64	67.12	.82	.27	.31	.43	.50	.09	.00	65.95	.78	.64
13	.69	66.93	.79	.22	.32	68.86	.48	.08	65.99	.90	.77	.65
14	.69	.81	.96	.19	.32	.91	.24	.08	.99	.86	.76	.64
15	.77	.64	.71	.18	.40	.99	.10	.07	.98	.85	.77	.61
16	65.75	66.52	66.60	66.12	70.32	68.28	66.88	66.06	65.97	65.87	65.77	65.63
17	66.32	.43	.50	.09	69.82	67.95	.96	.05	.96	.88	.77	.63
18	.22	.45	.42	.07	68.54	.84	67.09	.06	.95	.88	.78	.64
19	.08	.48	.37	.15	67.83	.97	66.94	.07	.93	.89	.75	.66
20	.01	.51	.40	.17	.45	68.14	.81	.10	.93	.89	.73	.66
21	65.94	66.46	66.37	66.20	67.17	68.16	66.69	66.10	65.92	65.88	65.71	65.66
22	.92	.44	.29	.26	.11	67.63	.61	.09	.91	.89	.69	.65
23	.88	.48	.32	.38	.86	.24	.58	.18	.91	.86	.70	.65
24	.85	.39	.24	.34	.76	.04	.50	.26	.90	.85	.69	.67
25	.88	.67	.20	.58	.31	.05	.43	.35	.89	.83	.69	.70
26	66.01	66.49	66.14	66.52	67.02	66.97	66.37	66.19	65.88	65.83	65.68	65.69
27	.08	.35	.11	.46	66.93	.84	.33	.09	.87	.83	.67	.68
28	.56	.25	.07	.49	.87	.74	.29	.03	.86	.83	.65	.66
29	67.06	.19	.09	.40	.74	.74	.28	.00	.85	.83		.65
30	66.55	.15	.20	.42	.77	.75	.27	.03	.84	.83		.64
31		.13		.36	.98		.25		.85	.81		.64
Mean	65.89	66.54	66.94	66.32	67.02	67.25	66.85	66.11	65.97	65.86	65.74	65.65
Max.	67.06	67.24	69.64	66.65	70.32	68.99	67.50	66.22	66.09	66.01	65.83	65.70
Min.	65.60	66.13	66.07	66.07	66.17	66.39	66.25	66.00	65.84	65.81	65.65	65.64

WATER YEAR 1968 : Max. 70.32 m. Min. 65.60 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31,1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	1.00	22	* 20	41	24	57	65	19	12	4.30	3.60	1.20
2	1.00	18	*142	46	22	46	79	18	12	4.30	4.00	1.20
3	0.80	85	*199	42	19	52	100	17	12	4.30	4.00	1.20
4	0.40	99	*414	33	20	57	122	16	12	4.30	3.80	1.20
5	1.20	52	*382	29	44	49	103	15	12	4.30	3.40	1.20
6	0.80	42	*275	24	56	66	78	14	11	4.60	3.00	1.20
7	0.40	37	*201	20	31	79	72	13	10	5.50	3.00	1.20
8	0.40	30	*177	17	26	54	68	13	10	6.40	2.60	1.40
9	0.20	31	*115	24	29	43	73	13	10	6.40	2.20	1.20
10	0.00	31	* 80	38	26	38	86	13	9.70	8.20	2.20	1.20
11	0.40	62	* 61	27	23	33	111	13	10	10	2.40	1.00
12	0.80	88	62	22	27	34	126	13	9.40	8.20	3.60	1.00
13	1.80	71	59	20	27	300	124	12	9.10	6.70	3.40	1.20
14	1.80	61	73	18	27	303	99	12	9.10	5.50	3.20	1.00
15	3.40	48	53	18	*32	312	86	12	8.80	5.20	3.20	1.00
16	3.00	39	45	15	*497	214	67	11	8.50	5.80	3.20	0.80
17	26	33	38	12	*452	172	76	11	8.20	6.10	3.20	0.80
18	21	34	32	11	*256	159	89	11	7.90	6.10	3.40	1.00
19	14	37	29	15	*162	174	76	12	7.30	6.40	2.80	1.40
20	10	39	31	16	*117	195	65	13	7.30	6.40	2.40	1.40
21	8.20	35	29	19	* 90	198	55	13	7.00	6.10	2.00	1.40
22	7.60	34	24	23	* 84	137	49	13	6.70	6.40	1.60	1.20
23	6.40	37	26	31	165	100	46	17	6.70	5.80	1.80	1.20
24	5.50	30	22	29	153	85	41	21	6.40	5.20	1.60	1.60
25	6.40	50	20	45	103	89	37	26	6.10	4.60	1.60	1.80
26	10	37	17	41	76	81	32	18	5.80	4.00	1.40	1.60
27	14	28	15	37	68	70	30	13	5.50	4.00	1.20	1.40
28	42	22	13	39	63	62	23	10	5.20	4.00	1.20	1.00
29	82	19	14	32	53	62	22	9.10	4.90	4.00		0.80
30	41	17	20	34	55	62	22	9.70	4.60	4.00		0.60
31		16		30	79		21		4.90	3.60		0.60
Total	311.50	1,304	2,688	848	2,906	3,383	2,143	420.80	260.10	170.70	75.00	36.00
Mean	10.4	42.1	89.6	27.3	93.6	113	69.1	14.0	8.39	5.51	2.68	1.16
Max.	82	99	414	46	497	312	126	26	12	10	4.00	1.80
Min.	0.00	16	13	11	19	33	21	9.10	4.60	3.60	1.20	0.60
Runoff - MCM.	26.914	112.666	232.243	73.267	251.078	292.291	185.155	36.357	22.473	14.748	6.480	3.110

WATER YEAR 1968 : Max. 497 Min. 0.00 Mean 39.8 Annual Runoff 1,256.783 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Aug.16	16.00	70.65	595				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
YOM RIVER BASIN

Mae Yom River at Kong Krailat, Sukhothai (Y.15)

Location: Lat 16° – 55' – 47" N., Long 99° – 57' – 41" E., on left bank about 5 kilometers from Amphoe Kong Krailat along the road to Ban Kong, Amphoe Kong Krailat, Sukhothai.

Drainage Area: 19,936 sq.km.

Type of Gage: Staff gage.

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

Bench Mark: B.M. – Y.15

Location: About 30 meters southwest of staff gage.
Elevation: +6.387 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 for year without actual ratings.

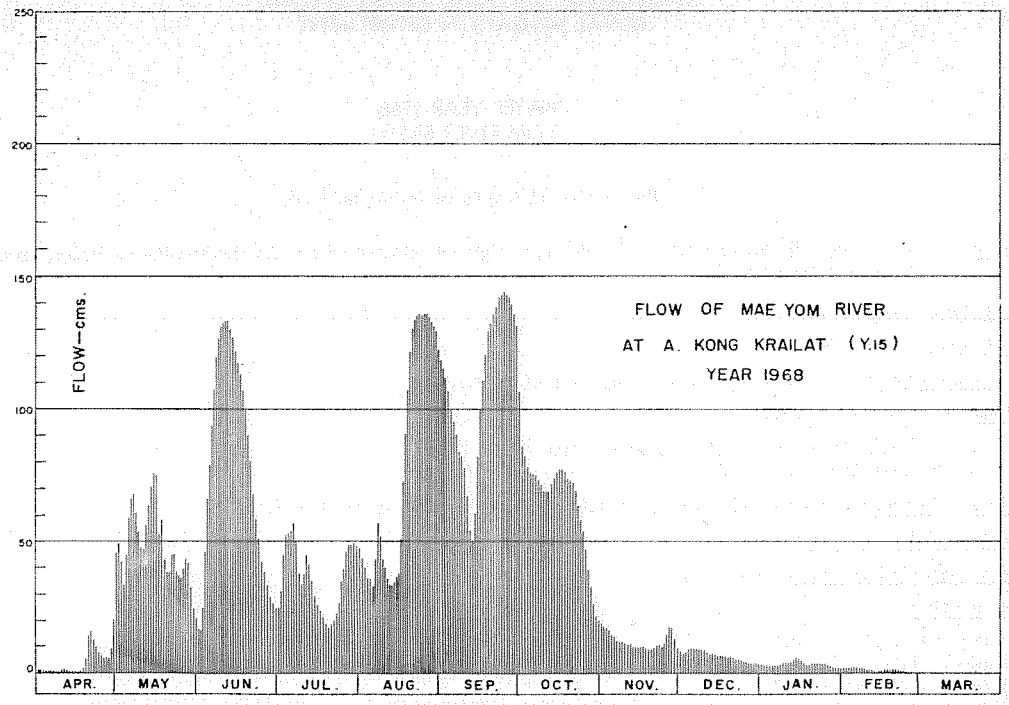
Overbank Flow Conditions: Overbank flow exists almost every year but hardly to be determined. Records are channel flow only.

General Description: Records fair. Stage – discharge relationship used is defined by discharge measurements made during 1967. Upstream state diversions for irrigation of about 24,000 hectares. No adjustment made for virgin flow.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.45	3.10	1.71	1.98	3.09	5.49	5.64	2.10	1.29	0.81	0.70	0.36
2	.44	.14	.62	2.30	2.97	.37	.48	.06	.23	.79	.68	.34
3	.42	2.71	.98	.94	.81	.24	.31	1.99	.31	.78	.67	.34
4	.39	.33	3.44	3.27	.65	.05	.17	.88	.39	.77	.65	.32
5	.37	3.14	4.07	.33	.62	4.92	.10	.81	.42	.76	.67	.30
6	0.38	3.72	4.60	3.30	2.42	4.77	5.09	1.75	1.42	0.76	0.68	0.28
7	.38	.85	5.10	.48	.86	.54	.07	.69	.42	.78	.68	.31
8	.37	.64	.52	.25	3.46	.37	.01	.63	.38	.83	.65	.36
9	.38	.40	.74	2.80	.36	.34	4.92	.58	.35	.37	.60	.34
10	.47	.10	.85	.52	2.92	.18	.82	.53	.31	.86	.56	.30
11	0.43	3.01	5.89	2.63	2.75	3.79	4.80	1.50	1.25	0.88	0.53	0.29
12	.37	.32	.88	.98	.60	.35	.81	.50	.23	.89	.49	.28
13	.32	.67	.81	.82	.49	.13	.94	.48	.23	1.04	.45	.28
14	.32	4.01	.72	.51	.56	.38	5.03	.46	.19	.12	.43	.28
15	.31	.14	.59	.29	.66	4.34	.10	.45	.17	.03	.48	.30
16	0.31	4.09	5.46	2.15	2.73	4.90	5.15	1.45	1.15	0.93	0.55	0.28
17	.37	3.88	.31	.07	3.40	5.28	.15	.40	.15	.86	.55	.29
18	.47	.51	.10	1.94	4.30	.58	.11	.36	.13	.83	.55	.32
19	.70	2.99	4.87	.81	.87	.77	.04	.35	.10	.83	.56	.29
20	1.50	.72	.57	.72	5.41	.89	4.99	.36	.07	.85	.56	.31
21	1.65	2.73	4.16	1.74	5.74	5.98	4.93	1.38	1.05	0.87	0.57	0.47
22	.43	3.01	3.78	.84	.88	6.05	.80	.44	.02	.89	.55	.45
23	.22	.00	.45	.95	.95	.12	.59	.49	0.97	.87	.50	.38
24	.08	2.71	.13	2.14	.96	.16	.32	.47	.94	.87	.44	.32
25	0.98	.67	2.94	.53	.95	.18	3.99	.53	.94	.85	.43	.29
26	0.93	2.63	2.75	2.77	5.96	6.16	3.65	1.83	0.92	0.80	0.40	0.28
27	.94	.91	.54	3.05	.96	.12	.22	2.06	.92	.76	.39	.27
28	.93	.88	.35	.17	.92	.04	2.78	1.97	.90	.72	.39	.27
29	1.20	.53	.25	.17	.87	5.95	.50	.63	.88	.71		.29
30	2.10	.14	.08	.21	.76	.80	.30	.41	.85	.69		.35
31		1.88		.13	.64		.17		.84	.68		.35
Mean	0.72	3.11	4.11	2.61	4.11	5.14	4.55	1.62	1.14	0.84	0.55	0.32
Max.	2.10	4.14	5.89	3.48	5.96	6.18	5.64	2.10	1.42	1.12	0.70	0.47
Min.	0.31	1.88	1.62	1.72	2.42	3.13	2.17	1.35	0.84	0.68	0.39	0.27

WATER YEAR 1968 : Max. 6.18 m. Min. 0.27 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	1.25	48	17	23	47	119	89	19	8.40	3.69	2.80	0.68
2	1.20	49	16	29	44	115	85	18	7.80	3.52	2.64	0.62
3	1.10	38	23	44	40	110	81	17	8.61	3.44	2.56	0.62
4	0.95	30	56	52	36	105	77	16	9.49	3.36	2.40	0.56
5	0.85	49	74	53	36	101	76	15	9.84	3.28	2.56	0.50
6	0.90	64	90	53	31	96	75	14	9.84	3.28	2.64	0.44
7	0.90	68	106	57	42	88	75	12	9.84	3.44	2.64	0.53
8	0.85	62	120	51	57	83	73	12	9.38	3.87	2.40	0.68
9	0.90	55	128	40	54	82	71	12	9.05	4.23	2.00	0.62
10	1.35	48	132	33	43	77	69	11	8.61	4.14	1.68	0.50
11	1.15	45	133	36	39	66	69	11	8.00	4.32	1.44	0.47
12	0.85	53	133	45	35	54	69	11	7.80	4.41	1.16	0.44
13	0.60	63	130	41	33	48	72	10	7.80	5.90	1.00	0.44
14	0.60	72	127	33	34	55	74	10	7.40	6.70	0.92	0.44
15	0.55	76	123	29	37	82	76	10	7.20	5.80	1.12	0.50
16	0.55	75	118	26	38	100	77	10	7.00	4.80	1.60	0.44
17	0.85	50	113	24	55	112	77	10	7.00	4.14	1.60	0.47
18	1.35	58	106	22	81	122	76	9.16	6.80	3.87	1.60	0.56
19	3.50	45	99	19	99	130	74	9.05	6.50	3.87	1.68	0.47
20	14	38	89	17	116	133	73	9.16	6.20	4.05	1.68	0.53
21	16	38	77	18	129	136	72	9.38	6.00	4.23	1.76	1.08
22	13	45	66	20	133	139	69	10	5.70	4.41	1.60	1.00
23	9.88	45	57	22	135	142	64	11	5.20	4.23	1.20	0.74
24	7.92	38	48	26	136	143	58	10	4.90	4.23	0.96	0.56
25	6.54	37	43	34	135	144	52	11	4.90	4.05	0.92	0.47
26	5.89	36	39	39	136	143	45	15	4.70	3.60	0.80	0.44
27	6.02	43	34	46	136	142	37	18	4.70	3.28	0.77	0.41
28	5.89	42	30	49	134	139	30	17	4.50	2.96	0.77	0.41
29	9.60	34	28	49	132	135	25	12	4.32	2.88		0.47
30	25	26	25	50	130	130	22	9.72	4.05	2.72		0.65
31		21		48	124		20		3.96	2.64		0.65
Total	139.99	1,491	2,380	1,128	2,457	3,271	2,002	368.47	215.49	123.34	46.96	17.39
Mean	4.67	48.10	79.3	36.4	79.3	109	64.6	12.3	6.95	3.93	1.67	0.56
Max.	25	76	133	57	136	144	89	19	9.84	6.70	2.80	1.08
Min.	0.55	21	16	17	31	48	20	9.05	3.96	2.64	0.77	0.41
Runoff - MCM.	12.095	128.822	205.632	97.459	212.285	282.614	172.972	31.836	18.618	10.656	4.052	1.502

WATER YEAR 1968 : Max. 144 Min. 0.41 Mean 37.4 Annual Runoff 1,178.546 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sep.25	12.00	6.18	144				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
YOM RIVER BASIN

Mae Yom River at Bang Rakam, Phitsanulok (Y.16)

Location: Lat 16° – 45' – 35" N., Long 100° – 07' – 40" E., on right bank about 700 meters upstream from Mae Yom Bridge, Amphoe Bang Rakam, Phitsanulok.

Drainage Area: 20,841 sq.km.

Type of Gage: Staff gage.

Zero Gage at Bottom at: 0.00 m. (A.D.) which equal to +31.920 m. (M.S.L.)

Bench Mark: B.M. – R.I.D. Y.16

Location: About 30 meters north of the sanitary office
Elevation: +41.553 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 for year without actual ratings.

Overbank Flow Conditions: Overbank flow exists almost every year but hardly to be determined. Records are channel flow only.

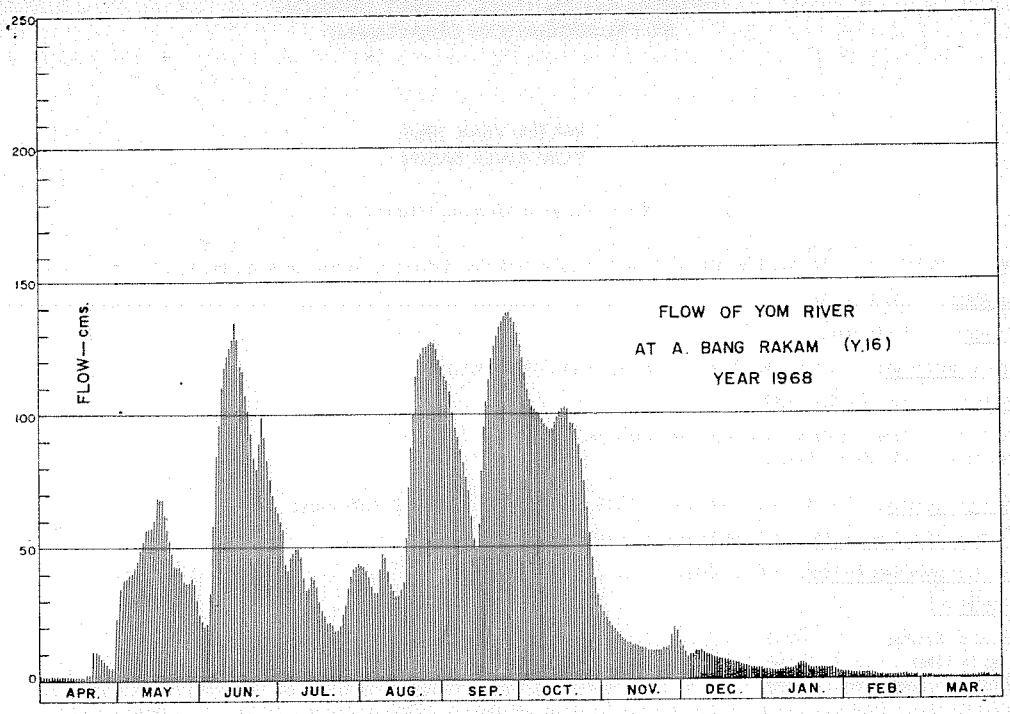
General Description: Records fair. Stage – discharge relationship used is defined by discharge measurements made during 1967. Upstream state diversion for irrigation of about 24,000 hectares. No adjustment made for virgin flow.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.56	2.12	1.71	2.81	2.37	4.06	4.20	1.82	1.26	0.76	0.65	0.44
2	.55	.21	.63	.74	.35	3.97	.08	.75	.16	.74	.64	.43
3	.55	.24	.56	.41	.33	.94	3.98	.71	.09	.73	.63	.44
4	.55	.27	.89	.29	.23	.83	.88	.66	.13	.73	.61	.43
5	.54	.30	2.48	.47	.15	.73	.79	.59	.11	.71	.61	.42
6	0.53	2.32	2.92	2.52	2.08	3.61	3.74	1.54	1.19	0.70	0.60	0.43
7	.52	.39	3.37	.56	.09	.51	.72	.50	.19	.75	.60	.42
8	.51	.44	.66	.57	.32	.36	.70	.45	.18	.75	.61	.40
9	.50	.54	.90	.45	.52	.27	.66	.41	.17	.77	.61	.42
10	.50	.62	4.06	.25	.47	.20	.63	.37	.15	.78	.59	.42
11	0.52	2.71	4.15	2.11	2.33	3.08	3.60	1.33	1.12	0.78	0.57	0.43
12	.54	.74	.20	.15	.20	2.84	.59	.31	.08	.78	.55	.42
13	.49	.75	.26	.28	.11	.63	.59	.30	.05	.82	.53	.40
14	.48	.80	.37	.23	.03	.53	.65	.28	.05	.87	.51	.40
15	.47	.95	.15	.06	.06	.75	.69	.26	.03	.92	.50	.41
16	0.49	3.03	4.07	1.93	2.10	3.20	3.73	1.25	1.01	0.95	0.48	0.41
17	.53	.02	.02	.83	.20	.55	.75	.24	.00	.87	.51	.41
18	.65	2.89	3.87	.75	.60	.80	.75	.22	.00	.83	.51	.41
19	.41	.77	.73	.66	3.06	.98	.73	.19	0.98	.78	.52	.42
20	.86	.63	.57	.67	.42	4.11	.62	.17	.97	.77	.53	.42
21	1.22	2.46	3.40	1.60	3.70	4.21	3.62	1.18	0.94	0.78	0.54	0.42
22	.22	.34	.17	.51	.98	.27	.57	.18	.92	.78	.53	.46
23	.14	.38	.46	.56	4.10	.32	.47	.21	.89	.79	.53	.50
24	.05	.36	.68	.67	.15	.37	.35	.24	.88	.78	.53	.48
25	0.99	.23	.51	.80	.19	.41	.17	.24	.86	.77	.48	.45
26	0.96	2.22	3.37	1.98	4.20	4.43	2.94	1.31	0.84	0.77	0.47	0.43
27	.83	.17	.23	2.13	.21	.43	.73	.48	.83	.78	.46	.41
28	.84	.23	.10	.28	.23	.40	.46	.60	.81	.70	.45	.41
29	1.08	.26	2.99	.36	.21	.36	.22	.56	.80	.68		.40
30	.72	.14	.92	.38	.18	.29	.04	.40	.79	.67		.40
31		1.86		.41	.02		1.90		.78	.66		.41
Mean	0.73	2.46	3.35	2.14	2.97	3.74	3.43	1.39	1.00	0.77	0.55	0.42
Max.	1.72	3.03	4.37	2.81	4.23	4.43	4.20	1.82	1.26	0.95	0.65	0.50
Min.	0.41	1.86	1.56	1.51	2.03	2.53	1.90	1.17	0.78	0.66	0.45	0.40

WATER YEAR 1968 : Max. 4.43 m. Min. 0.40 m.

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	1.91	34	23	60	43	118	125	25	12	3.96	2.77	1.01
2	1.82	37	20	57	42	113	119	24	10	3.74	2.67	0.94
3	1.82	38	19	44	41	112	114	22	8.92	3.63	2.56	1.01
4	1.82	39	27	40	38	106	107	21	9.67	3.63	2.35	0.94
5	1.74	40	47	46	35	101	104	19	9.29	3.41	2.35	0.94
6	1.65	41	64	48	33	95	102	18	11	3.30	2.25	0.94
7	1.57	43	84	50	33	91	101	17	11	3.85	2.25	0.88
8	1.48	45	98	50	41	84	100	16	11	3.85	2.35	0.75
9	1.40	49	110	45	48	79	98	15	10	4.07	2.35	0.88
10	1.40	52	118	38	46	76	96	14	10	4.18	2.16	0.88
11	1.57	56	123	34	41	71	95	14	9.48	4.18	1.99	0.94
12	1.74	57	125	35	37	61	94	13	8.74	4.18	1.82	0.88
13	1.33	57	129	39	34	52	94	13	8.20	4.66	1.65	0.75
14	1.27	59	135	38	32	48	97	13	8.20	5.31	1.48	0.75
15	1.20	65	123	32	32	57	99	12	7.84	6.02	1.40	0.81
16	1.33	69	118	29	34	76	101	12	7.84	6.50	1.27	0.81
17	1.65	68	116	26	37	96	102	12	7.30	5.31	1.48	0.81
18	2.77	63	108	24	51	105	102	11	7.30	4.79	1.48	0.81
19	0.81	58	101	21	70	114	101	11	6.98	4.18	1.57	0.88
20	5.18	52	93	22	86	120	96	10	6.82	4.07	1.65	0.88
21	11	46	85	20	100	126	96	11	6.34	4.18	1.74	0.88
22	11	42	75	18	114	129	93	11	6.02	4.18	1.65	1.14
23	9.86	43	88	19	120	132	89	11	5.57	4.29	1.65	1.40
24	8.20	42	99	22	123	135	83	12	5.44	4.18	1.65	1.27
25	7.14	38	91	25	125	137	75	12	5.18	4.07	1.27	1.07
26	6.66	37	84	30	125	138	65	13	4.92	4.07	1.20	0.94
27	4.79	36	78	35	126	138	56	17	4.79	4.18	1.14	0.81
28	4.92	38	72	39	127	136	46	20	4.53	3.30	1.07	0.81
29	8.74	39	67	42	126	134	37	19	4.40	3.09		0.75
30	23	35	64	43	124	130	32	15	4.29	2.98		0.75
31		27		44	116		28		4.18	2.88		0.81
Total	130.77	1,445	2,584	1,115	2,180	3,106	2,747	453	236.88	128.22	51.22	28.12
Mean	4.35	46.6	86.1	36.0	70.3	103	88.6	15.1	7.64	4.14	1.83	0.907
Max.	23	69	135	60	127	138	125	25	12	6.50	2.77	1.40
Min.	0.81	27	19	18	32	48	28	10	4.18	2.88	1.07	0.75
Runoff - MCM.	11.298	124.848	223.257	96.336	188.352	268.358	237.341	39.139	20.466	11.078	4.425	2.429

WATER YEAR 1968 : Max. 138 Min. 0.75 Mean 38.9 Annual Runoff 1,227.330 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sep.26	12.00	4.43	138.14				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
YOM RIVER BASIN

Mae 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: 0.00 m. (A.D.) which is equal to +31.490 m. (M.S.L.)

Bench Mark: B.M. – R.I.D. Y.17

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

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

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

Period of Available Gage Records: 1967 to date.

Rating Operation:

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

Stability of Channel Regimes: Stable, no shifting adjustment for flow computation for year without actual ratings.

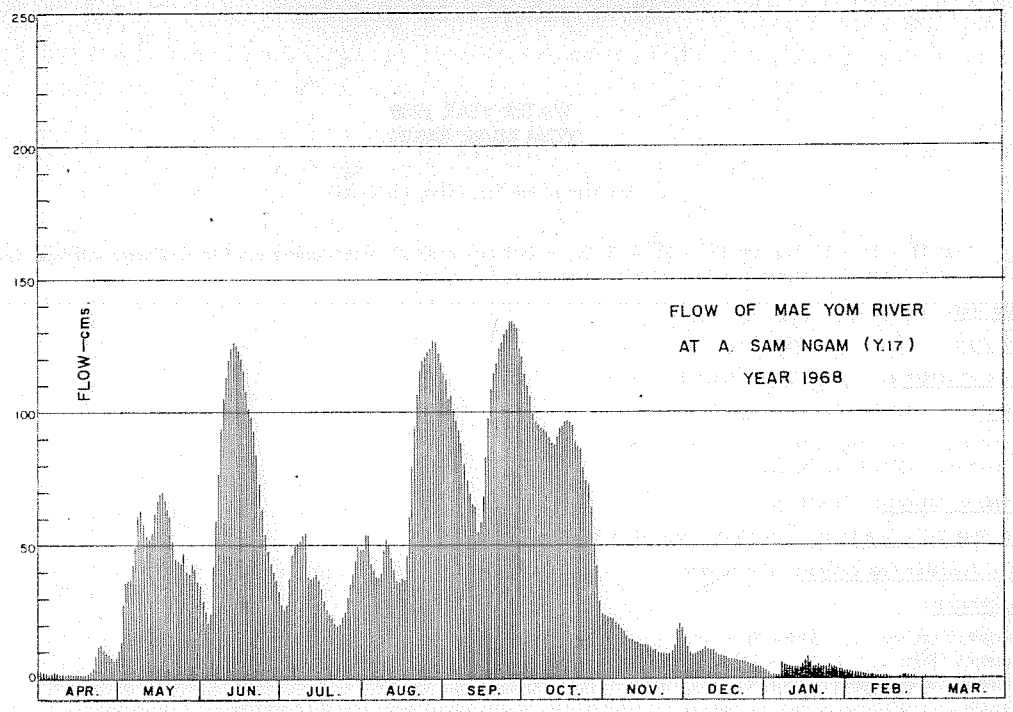
Overbank Flow Conditions: Overbank flow exists almost every year but hardly to be determined. Records are channel flow only.

General Description: Records fair. Stage – discharge relationship used is defined by discharge measurements made during 1967. Upstream state diversion for irrigation of about 24,000 hectares. No adjustment made for virgin flow.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.46	0.82	1.31	1.23	1.66	2.83	2.88	1.16	0.93	0.51	0.51	0.35
2	.45	.94	.21	.20	.62	.73	.78	.14	.86	.47	.50	.34
3	.45	1.42	.08	.26	.62	.61	.72	.14	.80	.43	.49	.34
4	.44	.45	.05	.48	.58	.69	.68	.13	.76	.41	.47	.35
5	.44	.42	.42	.64	.53	.58	.59	.10	.78	.40	.46	.35
6	0.45	1.56	1.84	1.71	1.47	2.53	2.54	1.07	0.79	0.41	0.46	0.34
7	.45	.70	2.11	.73	.45	.45	.52	.04	.83	.65	.45	.33
8	.44	.90	.35	.76	.49	.33	.50	.02	.83	.63	.43	.32
9	.44	.96	.64	.78	.67	.25	.49	0.97	.84	.62	.42	.32
10	.43	.89	.80	.81	.76	.17	.47	.95	.83	.60	.42	.31
11	0.43	1.80	2.91	1.47	1.71	2.07	2.44	0.93	0.83	0.60	0.41	0.31
12	.42	.76	.97	.45	.58	.00	.41	.92	.81	.59	.41	.30
13	.42	.74	.99	.47	.51	1.98	.39	.91	.77	.59	.40	.29
14	.42	.90	.98	.49	.44	.77	.46	.90	.75	.58	.40	.29
15	.41	2.00	.93	.46	.43	.86	.50	.89	.74	.63	.39	.30
16	0.41	2.08	2.88	1.38	1.47	2.05	2.52	0.88	0.73	0.69	0.39	0.30
17	.41	.09	.79	.29	.45	.32	.55	.88	.72	.74	.38	.30
18	.42	.03	.67	.22	.64	.53	.55	.85	.71	.65	.37	.29
19	.44	1.99	.60	.18	.94	.72	.54	.83	.71	.60	.36	.29
20	.47	.91	.52	.14	2.29	.83	.52	.81	.70	.63	.37	.28
21	0.51	1.72	2.41	1.10	2.53	2.88	2.41	0.80	0.70	0.62	0.38	0.29
22	.71	.61	.26	.06	.72	.96	.39	.79	.69	.59	.40	.30
23	.86	.60	.08	.06	.85	3.00	.37	.78	.68	.60	.40	.31
24	.87	.56	1.88	.14	.90	.03	.23	.77	.67	.59	.40	.31
25	.83	.65	.76	.19	.92	.06	.17	.76	.65	.61	.39	.30
26	0.79	1.51	1.64	1.29	2.95	3.10	2.14	0.79	0.64	0.59	0.39	0.31
27	.75	.47	.58	.41	.97	.10	1.93	.85	.61	.59	.37	.33
28	.71	.54	.52	.50	3.01	.09	.67	1.03	.60	.57	.35	.35
29	.68	.58	.44	.60	.00	.07	.56	.08	.59	.55	–	.35
30	.71	.45	.33	.71	2.94	2.96	.24	.05	.57	.53	–	.34
31		.40		.67	.88		.17		.54	.52	–	.32
Mean	0.54	1.66	2.13	1.41	2.06	2.58	2.33	0.94	0.73	0.57	0.41	0.31
Max.	0.87	2.09	2.99	1.81	3.01	3.10	2.88	1.16	0.93	0.74	0.51	0.35
Min.	0.41	0.82	1.05	1.06	1.43	1.77	1.17	0.76	0.54	0.40	0.35	0.28

WATER YEAR 1968 : Max. 3.10 m. Min. 0.28 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	2.22	11	30	27	47	115	118	24	15	3.10	3.10	0.60
2	2.05	15	26	25	54	108	112	23	12	2.39	2.90	0.48
3	2.05	35	21	28	54	101	108	23	10	1.71	2.73	0.48
4	1.88	37	19	38	43	106	105	23	9.30	1.37	2.39	0.60
5	1.88	35	35	46	41	99	99	21	9.90	1.20	2.22	0.60
6	2.05	42	56	50	38	96	96	20	10	1.37	2.22	0.48
7	2.05	49	71	51	37	91	95	19	11	6.20	2.05	0.36
8	1.88	60	85	52	39	84	94	18	11	5.68	1.71	0.24
9	1.88	63	103	53	48	79	93	16	12	5.42	1.54	0.24
10	1.71	59	113	55	52	74	92	15	11	4.90	1.54	0.12
11	1.71	54	120	38	50	69	90	15	11	4.90	1.37	0.12
12	1.54	52	124	37	43	65	88	14	11	4.70	1.37	0.00
13	1.54	51	126	38	40	64	87	14	9.60	4.70	1.20	0.00
14	1.54	60	125	39	36	53	91	13	9.00	4.50	1.20	0.00
15	1.37	65	122	37	36	58	94	13	8.70	5.68	1.08	0.00
16	1.37	69	118	34	38	68	95	13	8.40	7.24	1.08	0.12
17	1.37	70	112	29	37	83	97	13	8.10	8.70	0.96	0.00
18	1.54	67	104	26	46	96	97	12	7.80	6.20	0.84	0.00
19	1.88	64	100	25	62	108	96	11	7.80	4.90	0.72	0.00
20	2.33	60	95	23	81	115	95	11	7.50	5.68	0.84	0.00
21	3.10	50	88	21	96	118	88	10	7.50	5.42	0.96	0.00
22	7.80	45	79	20	108	124	87	10	7.24	4.70	1.20	0.00
23	12	44	69	20	116	126	86	9.90	6.98	4.90	1.20	0.12
24	13	42	59	23	120	129	78	9.60	6.72	4.70	1.20	0.12
25	11	47	52	25	121	131	74	9.30	6.20	5.61	1.08	0.00
26	10	40	46	29	123	134	73	10	5.94	4.70	1.08	0.12
27	9.00	38	43	35	124	134	61	12	5.16	4.70	0.84	0.36
28	7.80	41	40	39	127	133	48	19	4.90	4.30	0.60	0.60
29	6.98	43	36	44	126	131	42	21	4.70	3.90		0.60
30	7.80	37	31	50	122	124	27	19	4.30	3.50		0.48
31		35		48	118		24		3.70	3.30		0.24
Total	124.38	1,480	2,248	1,105	2,223	3,016	2,630	460.80	263.44	140.27	41.22	7.08
Mean	4.14	47.7	74.9	35.6	71.7	97.3	84.8	15.4	8.49	4.52	1.47	0.22
Max.	13	70	126	55	127	134	118	24	15	8.70	3.10	0.60
Min.	1.37	11	19	20	36	53	24	9.30	3.70	1.20	0.60	0.00
Runoff – mcm.	10.746	127.872	194.227	95.472	192.067	260.582	227.232	39.813	22.761	12.119	3.561	0.612

WATER YEAR 1968 : Max. 134 Min. 0.00 Mean 37.6 Annual Runoff 1,187.066 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sept.26	15.00	3.11	134				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
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 gage site.
Elevation: +350.401 m. (M.S.L.)

Gage Reading Frequency: Recording.

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

Period of Available Gage Records: 1968 to date

Rating Operation:

Period of Rating: 1968 – 71
Rated by Float: –
Rated by Current Meter: 1968 – 71

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

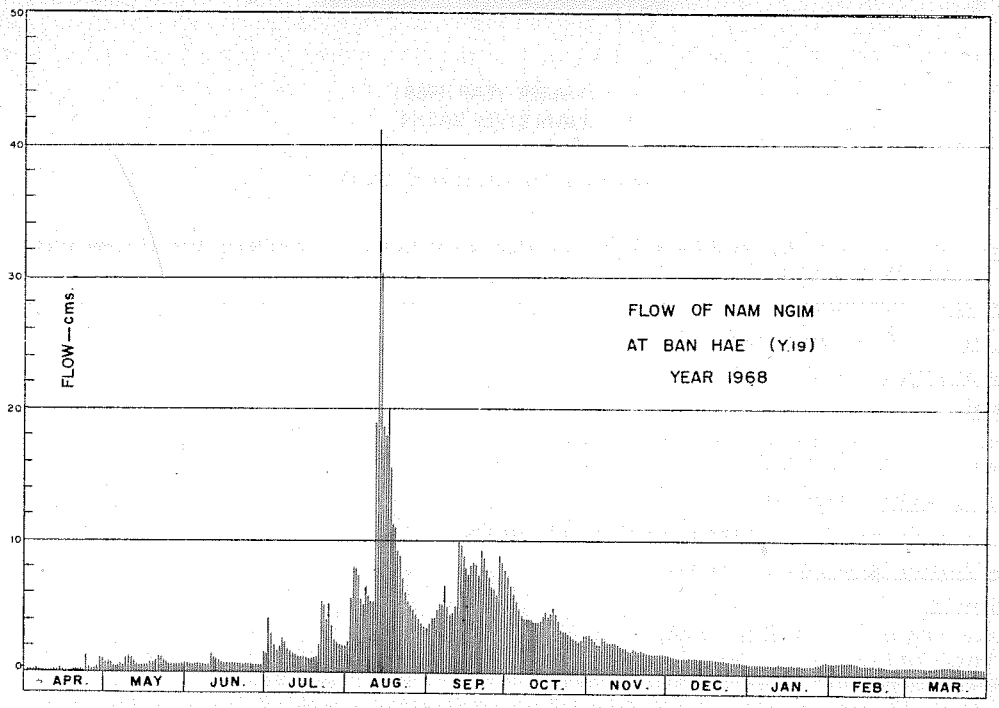
Overbank Flow Conditions: No overbank flow.

General Description: Records fair. Stage – discharge relationship used is defined by discharge measurements made during 1969. No upstream state diversions for irrigation except those built by local residents. No adjustment made for virgin flow.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	346.60	346.71	346.71	346.80	346.88	346.97	347.15	346.98	346.83	346.69	346.71	346.62
2	.60	.73	.71	347.00	.91	347.00	.13	.96	.83	.69	.71	.62
3	.59	.71	.70	346.88	347.17	.00	.10	.94	.82	.69	.71	.61
4	.59	.67	.70	.85	.19	.04	.08	.93	.81	.69	.72	.62
5	.62	.66	.71	.82	.16	.06	.06	.93	.81	.69	.72	.63
6	346.57	346.68	346.70	346.85	347.07	347.05	347.04	346.97	346.81	346.68	346.72	346.62
7	.56	.71	.70	.91	.04	.12	.03	.95	.80	.69	.72	.62
8	.56	.69	.69	.87	.12	.04	.03	.94	.80	.69	.72	.62
9	.56	.77	.69	.84	.08	.01	.03	.94	.80	.70	.73	.62
10	.58	.79	.82	.82	.06	.02	.03	.94	.80	.69	.74	.62
11	346.57	346.76	346.77	346.81	347.07	347.02	347.02	346.94	346.80	346.68	346.72	346.62
12	.57	.72	.75	.80	.21	.28	.02	.93	.80	.67	.69	.62
13	.61	.69	.73	.79	.92	.25	.05	.92	.80	.66	.68	.63
14	.65	.69	.72	.78	.64	.24	.03	.92	.80	.65	.68	.63
15	.58	.69	.71	.78	.51	.19	.05	.92	.79	.65	.68	.64
16	346.59	346.69	346.71	346.77	347.50	347.15	347.03	346.90	346.79	346.65	346.69	346.64
17	.59	.69	.71	.76	.55	.19	.04	.88	.78	.65	.69	.63
18	.58	.72	.71	.76	.29	.20	.06	.91	.78	.65	.66	.64
19	.61	.72	.71	.77	.29	.19	.04	.90	.78	.65	.66	.63
20	.62	.72	.71	.78	.23	.14	.02	.89	.78	.65	.65	.63
21	346.59	346.79	346.71	346.86	347.22	347.24	347.00	346.90	346.77	346.65	346.65	346.63
22	.57	.73	.71	347.07	.14	.20	346.99	.89	.77	.64	.65	.62
23	.57	.73	.70	.06	.10	.17	.99	.88	.77	.64	.63	.62
24	.80	.73	.70	346.97	.07	.14	.98	.87	.76	.63	.63	.62
25	.63	.70	.70	347.06	.05	.11	.97	.86	.74	.64	.63	.63
26	346.59	346.70	346.70	346.96	347.04	347.11	346.96	346.86	346.74	346.66	346.63	346.63
27	.62	.69	.69	.90	.01	.08	.95	.86	.72	.66	.63	.63
28	.66	.69	.69	.88	346.99	.22	.94	.86	.70	.69	.63	.62
29	.77	.70	.69	.87	.98	.20	.96	.85	.70	.72		.62
30	.76	.70	.83	.86	.96	.18	.98	.85	.70	.76		.61
31		.72		.85	.95		.98		.69	.73		.61
Mean	346.61	346.71	346.72	346.86	347.17	347.13	347.02	346.91	346.78	346.67	346.68	346.62
Max.	346.80	346.79	346.83	347.07	347.92	347.28	347.15	346.98	346.83	346.76	346.74	346.64
Min.	346.56	346.66	346.69	346.76	346.88	346.97	346.94	346.85	346.69	346.63	346.63	346.61

WATER YEAR 1968 : Max. 347.92 m. Min. 346.56 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.15	0.67	0.67	1.30	2.26	3.62	7.20	2.93	1.29	0.74	0.81	0.54
2	0.15	0.81	0.67	4.10	2.66	4.10	6.76	2.62	1.29	0.74	0.81	0.54
3	0.13	0.67	0.60	2.26	7.64	4.10	6.10	2.30	1.24	0.74	0.81	0.51
4	0.13	0.46	0.60	1.90	8.08	4.90	5.53	2.15	1.18	0.74	0.84	0.54
5	0.24	0.42	0.67	1.54	7.42	5.30	4.96	2.15	1.18	0.74	0.84	0.57
6	0.10	0.51	0.60	1.90	5.50	5.10	4.38	2.77	1.18	0.71	0.84	0.54
7	0.090	0.67	0.60	2.66	4.90	6.54	4.10	2.46	1.13	0.74	0.84	0.54
8	0.090	0.55	0.55	2.14	6.54	4.90	4.10	2.30	1.13	0.74	0.84	0.54
9	0.090	1.09	0.55	1.78	5.70	4.30	4.10	2.30	1.13	0.77	0.88	0.54
10	0.12	1.23	1.54	1.54	5.30	4.50	4.10	2.30	1.13	0.74	0.91	0.54
11	0.10	1.02	1.09	1.42	5.50	4.50	3.81	2.30	1.13	0.71	0.84	0.54
12	0.10	0.74	0.95	1.30	8.57	10	3.81	2.15	1.13	0.68	0.74	0.54
13	0.19	0.55	0.81	1.23	41	9.65	4.67	1.99	1.13	0.65	0.71	0.57
14	0.37	0.55	0.74	1.16	24	9.38	4.10	1.99	1.13	0.62	0.71	0.57
15	0.12	0.55	0.67	1.16	18	8.08	4.67	1.99	1.09	0.62	0.71	0.60
16	0.13	0.55	0.67	1.09	18	7.20	4.10	1.68	1.09	0.62	0.74	0.60
17	0.13	0.55	0.67	1.02	20	8.08	4.38	1.57	1.06	0.62	0.74	0.57
18	0.12	0.74	0.67	1.02	11	8.30	4.96	1.84	1.06	0.62	0.65	0.60
19	0.19	0.74	0.67	1.09	11	8.03	4.38	1.68	1.06	0.62	0.65	0.57
20	0.24	0.74	0.67	1.16	9.11	6.98	3.81	1.62	1.06	0.52	0.62	0.57
21	0.13	1.23	0.67	2.02	8.84	9.38	3.24	1.68	1.02	0.62	0.62	0.57
22	0.10	1.09	0.67	5.50	6.98	8.30	3.08	1.62	1.02	0.60	0.62	0.54
23	0.10	0.81	0.60	5.30	6.10	7.64	3.08	1.57	1.02	0.60	0.57	0.54
24	1.30	0.81	0.60	3.62	5.50	6.98	2.93	1.51	0.99	0.57	0.57	0.54
25	0.28	0.60	0.60	5.30	5.10	6.32	2.77	1.46	0.91	0.60	0.57	0.57
26	0.13	0.60	0.60	3.46	4.90	6.32	2.62	1.46	0.91	0.65	0.57	0.57
27	0.24	0.55	0.55	2.50	4.30	5.70	2.46	1.46	0.84	0.65	0.57	0.57
28	0.42	0.55	0.55	2.26	3.94	8.84	2.30	1.46	0.77	0.74	0.57	0.54
29	1.09	0.60	0.55	2.14	3.78	8.30	2.62	1.40	0.77	0.84		0.54
30	1.02	0.60	1.66	2.02	3.46	7.86	2.93	1.40	0.77	0.99		0.51
31		0.74		1.90	3.30		2.93		0.74	0.88		0.51
Total	7.79	21.99	21.71	68.79	278.38	203.25	124.98	58.11	32.58	21.52	20.19	17.16
Mean	0.260	0.709	0.724	2.22	8.98	6.77	4.03	1.94	1.05	0.694	0.721	0.553
Max.	1.30	1.23	1.66	5.50	41	10	7.20	2.93	1.29	0.99	0.91	0.60
Min.	0.090	0.42	0.55	1.02	2.26	3.62	2.30	1.40	0.74	0.57	0.57	0.51
Runoff - MCM.	0.673	1.900	1.876	5.943	24.052	17.561	10.798	5.021	2.815	1.859	1.744	1.483

WATER YEAR 1968 : Max. 41 Min. 0.090 Mean 2.40 Annual Runoff 75.725 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Aug.13	06.00	348.07	51				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
NAN RIVER BASIN

Nan River at Tha – It, Uttaradit (N.2A)

Location: Lat 17° – 37' – 13" N., Long 100° – 06' – 09" E., on right bank at downtown infront of Muang Uttaradit Kindergarten, Amphoe Muang, Uttaradit.

Drainage Area: 16,863 sq.km.

Type of Gage: Water – stage recorder.

Zero Gage at Bottom at: +53.00 m. (M.S.L.)

Bench Mark: B.M. – H.S.

Location: At Uttaradit Kindergarten, north of railway station.
Elevation: +62.154 m. (M.S.L.)

Gage Reading Frequency: Recordings.

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: 1963, 1965 to date
Rated by Float: –
Rated by Current Meter: 1963, 1965 to date

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

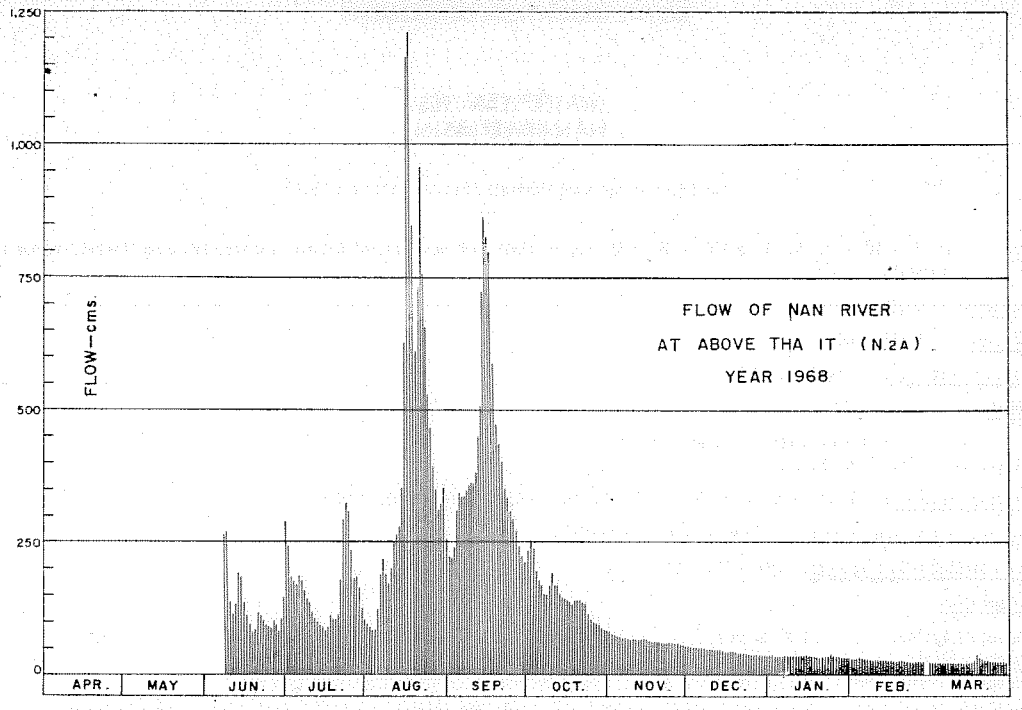
Overbank Flow Conditions: No overbank flow.

General Description: Records good. Stage – discharge relationship used is defined by discharge measurements made during 1968. No upstream state diversions for irrigation except those built by local residents. No adjustment made for virgin flow.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	53.01	53.82	54.07	55.32	54.04	54.96	55.00	53.89	53.60	53.37	53.28	53.17
2	.01	54.50	.12	54.92	53.98	.90	.13	.86	.59	.37	.28	.17
3	.00	55.25	.68	.66	.94	55.05	.03	.85	.58	.36	.29	.16
4	52.99	54.89	.76	.64	.94	.45	54.81	.83	.58	.35	.31	.16
5	53.02	.66	55.35	.52	54.15	.60	.67	.80	.57	.35	.29	.16
6	53.05	54.64	54.99	54.72	54.76	55.55	54.63	53.79	53.56	53.35	53.27	53.16
7	.10	.37	55.18	.65	.91	.58	.50	.78	.55	.39	.26	.15
8	.23	.15	.22	.49	.74	.66	.44	.77	.55	.39	.25	.15
9	.34	.31	54.67	.42	.63	.68	.58	.76	.54	.38	.25	.14
10	.30	.35	.30	.36	.60	.70	.77	.76	.53	.37	.25	.14
11	53.24	55.07	54.13	54.21	55.09	55.64	54.56	53.74	53.52	53.36	53.25	53.14
12	.19	54.81	.30	.13	.17	56.07	.60	.74	.51	.37	.25	.14
13	.16	.06	.76	.07	.26	.45	.49	.75	.51	.38	.24	.14
14	.15	53.92	.68	.04	.41	57.72	.43	.76	.49	.37	.24	.13
15	.13	.78	.30	53.99	56.70	.57	.40	.74	.48	.36	.23	.14
16	53.14	53.72	54.17	53.92	58.70	57.45	54.40	53.72	53.47	53.35	53.23	53.13
17	.30	.75	.05	54.00	.83	56.73	.36	.71	.47	.35	.23	.14
18	.37	.80	53.91	.19	57.43	.63	.31	.72	.46	.34	.22	.21
19	.36	.71	.85	.12	56.78	.13	.39	.71	.45	.33	.22	.38
20	.69	.66	54.15	.10	.63	.02	.39	.69	.45	.33	.21	.29
21	54.04	54.07	54.22	54.23	58.02	55.87	54.40	53.68	53.44	53.33	53.21	53.25
22	53.54	.19	.10	.83	57.22	.64	.36	.68	.43	.34	.20	.23
23	.65	.24	.05	55.39	56.89	.59	.34	.67	.42	.36	.20	.21
24	.62	.34	.02	.51	.32	.28	.15	.68	.42	.40	.19	.19
25	.58	.08	53.98	.40	.10	.42	.10	.67	.41	.38	.19	.18
26	53.56	53.84	53.96	54.82	55.82	55.31	54.07	53.65	53.40	53.35	53.19	53.16
27	.60	.79	54.10	.65	.51	.15	.06	.64	.39	.33	.18	.15
28	.62	.70	53.92	.72	.41	.02	.01	.64	.39	.31	.18	.15
29	.68	.64	.90	.56	.48	54.95	53.97	.62	.38	.30		.15
30	.73	.84	54.30	.27	.63	.87	.95	.61	.38	.29		.15
31		54.46		.12	.22		.92		.37	.29		.15
Mean	53.35	54.17	54.34	54.51	55.72	55.79	54.43	53.73	53.48	53.35	53.23	53.17
Max.	54.04	55.25	55.35	55.51	58.83	57.72	55.13	53.89	53.60	53.40	53.31	53.38
Min.	52.99	53.64	53.85	53.92	53.94	54.87	53.92	53.61	53.37	53.29	53.18	53.13

WATER YEAR 1968 : Max. 58.83 m. Min. 52.99 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	10	72	98	288	95	225	232	79	53	36	30	24
2	10	154	105	218	88	215	254	76	52	36	30	24
3	10	275	180	177	84	240	237	75	51	35	31	23
4	10	213	193	174	84	313	201	73	51	34	32	23
5	11	177	293	157	108	343	178	70	51	34	31	23
6	12	174	230	189	193	333	172	69	50	34	29	23
7	15	137	263	175	217	339	154	69	49	37	29	23
8	23	108	270	153	189	355	146	68	49	37	28	23
9	31	129	178	144	172	359	165	67	48	36	28	22
10	28	134	128	136	168	363	194	67	47	36	28	22
11	24	244	106	116	247	351	162	65	47	35	28	22
12	20	201	128	106	261	442	168	65	46	36	28	22
13	19	97	193	98	277	531	153	66	46	36	28	22
14	18	82	180	95	305	869	145	67	44	36	28	22
15	17	68	128	89	592	825	141	65	44	35	27	22
16	17	62	111	82	1,166	791	141	63	43	35	27	22
17	28	65	96	90	1,208	600	136	62	43	35	27	22
18	33	70	81	114	785	574	129	63	42	34	27	26
19	32	61	75	105	613	456	140	62	41	33	27	36
20	59	56	108	102	574	431	140	61	41	33	26	31
21	95	98	118	119	956	399	141	60	41	33	26	28
22	45	114	102	204	728	351	136	60	40	34	25	27
23	55	120	96	301	641	341	133	59	39	35	25	26
24	52	133	92	325	500	280	108	60	39	38	25	25
25	48	100	88	303	449	307	102	59	38	36	25	24
26	47	74	86	202	388	286	98	57	38	34	25	23
27	50	69	102	175	325	256	97	57	37	33	24	23
28	52	60	82	186	305	235	91	57	37	32	24	23
29	58	54	80	162	319	223	87	55	36	31		23
30	63	74	128	124	349	210	85	54	36	31		23
31		149		105	270		82		36	31		23
Total	992	3,624	4,118	5,014	12,656	11,844	4,548	1,930	1,355	1,071	768	745
Mean	33.1	117	137	162	408	395	147	64.3	43.7	34.5	27.4	24.0
Max.	95	275	293	325	1,208	869	254	79	53	38	32	36
Min.	10	54	75	82	84	210	82	54	36	31	24	22
Runoff - MCM.	85.709	313.114	355.795	433.210	1,093.478	1,023.322	392.947	166.752	117.072	92.534	66.355	64.368

WATER YEAR 1968 : Max. 1,208 Min. 10 Mean 133 Annual Runoff 4,204.656 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Aug.16	24.00	59.17	1,320				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
NAN RIVER BASIN

Nan River at Ban Wang Phaniat, Phichai, Uttaradit (N.4)

Location: Lat 17° - 16' - 20" N., Long 100° - 04' - 52" E., on right bank near Phichai Railway Station, Ban Wang Phaniat, Amphoe Phichai, Uttaradit.

Drainage Area: 19,384 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: On right bank north of railway station.
Elevation: +53.327 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: 1946 - 47, 1951 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.

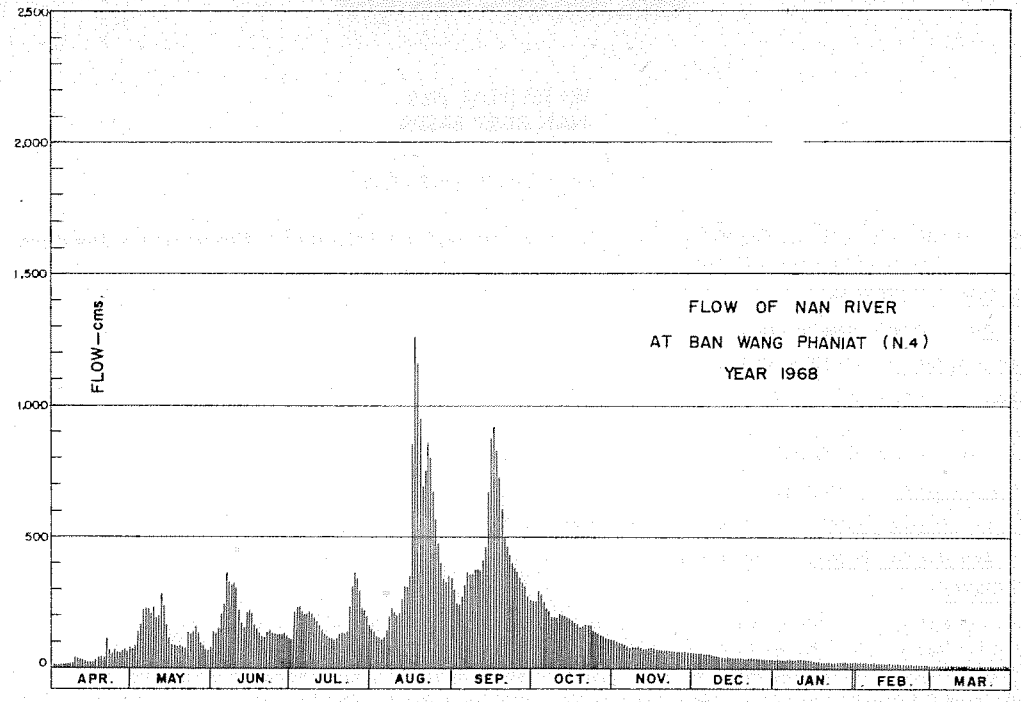
Overbank Flow Conditions: No overbank flow.

General Description: Records good. Stage - discharge relation used is defined by discharge measurements made during 1968. No upstream state diversions for irrigation except those built by local residents. No adjustment made for virgin flow.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	45.12	45.77	46.30	46.18	46.25	47.18	46.99	46.00	45.66	45.38	45.28	45.12
2	.12	.90	.23	.80	.20	46.98	47.00	45.98	.65	.37	.28	.12
3	.12	46.33	.50	.92	.09	.95	.22	.96	.64	.37	.26	.12
4	.11	.48	.83	.76	.04	47.10	.11	.94	.64	.36	.26	.11
5	.11	.85	47.05	.73	.05	.41	46.94	.91	.62	.36	.26	.11
6	45.15	46.86	47.58	46.70	46.27	47.61	46.84	45.85	45.61	45.36	45.25	45.10
7	.19	.84	.31	.79	.60	.55	.78	.87	.60	.36	.24	.10
8	.24	.70	.38	.73	.91	.56	.58	.85	.58	.36	.23	.09
9	.47	.88	.35	.64	.79	.65	.65	.84	.57	.37	.22	.09
10	.38	.63	46.87	.54	.67	.66	.61	.84	.56	.38	.22	.08
11	45.36	46.70	46.55	46.48	46.64	47.57	46.74	45.84	45.56	45.37	45.22	45.08
12	.32	47.17	.39	.33	47.07	.84	.73	.81	.55	.36	.22	.07
13	.28	46.82	.50	.24	.36	48.06	.72	.80	.50	.34	.22	.06
14	.23	.34	.85	.15	.25	.97	.63	.82	.50	.34	.21	.06
15	.21	.13	.77	.12	.52	49.84	.60	.84	.50	.34	.21	.06
16	45.18	45.97	46.50	46.09	49.31	50.01	46.55	45.82	45.50	45.34	45.21	45.06
17	.38	.87	.39	.02	51.29	49.66	.49	.79	.49	.33	.21	.06
18	.49	.85	.25	.12	50.87	.10	.49	.78	.48	.32	.21	.06
19	.44	.87	.17	.27	49.82	48.59	.44	.79	.48	.32	.20	.05
20	.42	.82	.11	.27	48.99	.21	.48	.78	.47	.31	.20	.05
21	46.09	45.67	46.27	46.23	49.28	48.10	46.50	45.76	45.47	45.30	45.19	45.05
22	45.70	46.31	.35	.30	.84	47.86	.49	.75	.46	.30	.18	.05
23	.62	.23	.29	.83	.47	.72	.46	.75	.46	.30	.17	.05
24	.78	.31	.25	47.36	48.89	.63	.34	.74	.45	.30	.16	.06
25	.67	.39	.25	.58	.48	.53	.17	.74	.45	.30	.16	.06
26	45.63	46.20	46.24	47.47	48.10	47.46	46.21	45.73	45.44	45.29	45.15	45.06
27	.74	45.97	.22	.05	47.72	.32	.19	.72	.43	.29	.14	.05
28	.80	.86	.28	46.81	.47	.29	.18	.70	.42	.29	.14	.05
29	.66	.74	.13	.79	.38	.08	.11	.69	.41	.29		.06
30	.86	.72	.05	.59	.53	.02	.10	.68	.40	.29		.07
31		.86		.41	.46		.08		.39	.29		.07
Mean	45.43	46.26	46.54	46.59	47.79	47.88	46.56	45.81	45.51	45.33	45.21	45.07
Max.	46.09	47.17	47.58	47.58	51.29	50.01	47.22	46.00	45.66	45.38	45.28	45.12
Min.	45.11	45.67	46.05	46.02	46.04	46.95	46.08	45.68	45.39	45.29	45.14	45.05

WATER YEAR 1968 : Max. 51.29 m. Min. 45.05 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	15	72	138	122	131	284	250	100	60	34	26	15
2	15	88	128	216	124	248	252	98	59	33	26	15
3	15	142	168	238	111	243	292	95	58	33	24	15
4	15	165	221	210	105	270	272	93	58	32	24	15
5	15	225	261	205	106	328	241	89	56	32	24	15
6	17	227	362	200	134	368	223	82	55	32	23	14
7	19	223	308	214	184	356	213	84	54	32	23	14
8	23	200	322	205	236	358	181	82	52	32	22	13
9	42	230	316	190	214	376	192	81	51	33	21	13
10	34	189	229	174	195	378	186	81	50	34	21	13
11	32	200	176	165	190	360	206	81	50	33	21	13
12	29	283	151	142	265	414	205	77	49	32	21	12
13	26	220	168	130	318	459	203	76	45	31	21	12
14	22	144	225	118	297	659	189	78	45	31	21	12
15	21	116	211	114	350	870	184	81	45	31	21	12
16	19	96	168	111	740	915	176	78	45	31	21	12
17	34	84	151	102	1,261	824	166	75	44	30	21	12
18	44	82	131	114	1,142	690	166	74	43	29	21	12
19	40	84	120	134	865	576	158	75	43	29	20	11
20	38	78	113	134	664	492	165	74	42	28	20	11
21	111	61	134	128	733	468	168	71	42	27	19	11
22	64	139	145	138	870	418	166	70	41	27	19	11
23	56	128	137	221	779	390	162	70	41	27	18	11
24	74	139	131	318	642	372	144	69	40	27	18	12
25	61	151	131	362	552	352	134	69	40	27	18	12
26	57	124	130	340	468	340	125	68	40	26	17	12
27	69	96	127	261	390	310	123	66	39	26	16	11
28	76	83	135	218	340	304	122	64	38	26	16	11
29	60	69	116	214	322	266	113	63	37	26		12
30	83	66	106	182	352	256	112	62	36	26		12
31		83		154	338		110		35	26		12
Total	1,226	4,287	5,359	5,774	13,418	12,944	5,599	2,326	1,433	923	583	388
Mean	40.9	138	179	186	433	431	181	77.5	46.2	29.8	20.8	12.5
Max.	111	283	362	362	1,261	915	292	100	60	34	26	15
Min.	15	61	106	102	105	243	110	62	35	26	16	11
Runoff - MCM.	105.926	370.397	463.018	498.874	1,159.315	1,118.362	483.754	200.966	123.811	79.747	50.371	33.523

WATER YEAR 1968 : Max. 1,261 Min. 11 Mean 149 Annual Runoff 4,688.064 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Aug.17	18.00	51.69	1,381				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
NAN RIVER BASIN

Nan River at Muang Phitsanulok (N.5A)

Location: Lat 16° – 49' – 15" N., Long 100° – 15' – 49" E., on left bank near post office about 1 kilometer upstream from gaging station N.5, Amphoe Muang, Phitsanulok.

Drainage Area: 25,286 sq.km.

Type of Gage: Water – stage recorder.

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

Bench Mark: B.M. – H.S.

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

Gage Reading Frequency: Recording.

Basis of Mean Daily Gage Height: Arithmetic mean of 25 readings.

Period of Available Gage Records: 1963 to date

Rating Operation:

Period of Rating: 1966 to date
Rated by Float: –
Rated by Current Meter: 1966 to date

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

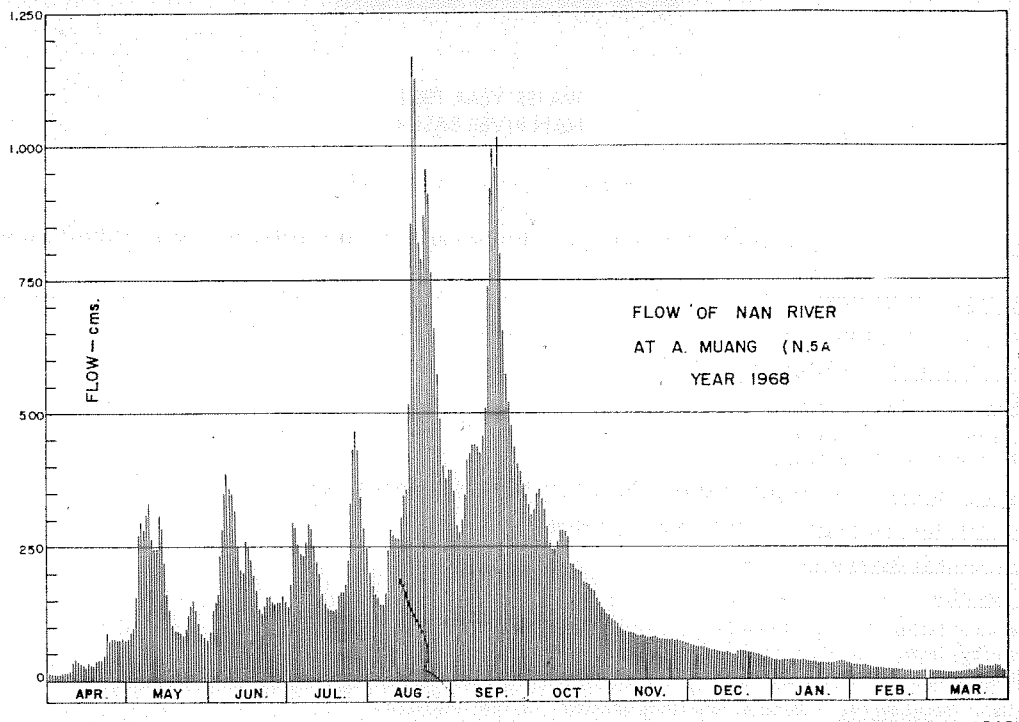
Overbank Flow Conditions: No overbank flow.

General Description: Records good. Stage – discharge relationship used is defined by discharge measurements made during 1968. No upstream state diversions for irrigation except those built by local residents. No adjustment made for virgin flow.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	34.60	35.58	35.65	36.24	36.92	38.45	37.80	36.06	35.44	35.00	34.80	34.49
2	.60	.72	36.17	.75	.66	.08	.79	.01	.44	34.99	.78	.48
3	.59	.75	.35	37.68	.50	37.63	38.09	35.97	.46	.98	.77	.47
4	.59	36.42	.50	.50	.48	.47	.20	.87	.38	.97	.76	.46
5	.59	37.45	37.34	.24	.36	.71	.07	.84	.36	.96	.74	.44
6	34.64	37.71	37.74	37.20	36.33	38.10	37.82	35.82	35.35	34.96	34.72	34.43
7	.63	.52	38.41	.12	.59	.58	.59	.79	.34	.97	.69	.41
8	.63	.84	.23	.42	37.31	.67	.39	.96	.32	.97	.67	.40
9	.68	38.01	.17	.68	.59	.79	.29	.73	.29	.99	.65	.41
10	.99	37.44	.04	.51	.48	.79	.29	.70	.29	.97	.64	.42
11	35.08	37.26	37.48	37.16	37.44	38.77	37.31	35.69	35.27	34.97	34.62	34.43
12	34.99	.30	.18	.01	.43	.64	.57	.69	.24	.97	.62	.45
13	.92	.80	36.78	36.78	.80	.77	.57	.68	.22	.95	.62	.45
14	.89	.43	.94	.50	38.14	39.29	.55	.65	.21	.95	.62	.47
15	.83	36.84	37.42	.35	.16	40.72	.44	.65	.20	.93	.61	.49
16	34.98	36.41	37.33	36.28	38.76	41.64	37.00	35.66	35.20	34.92	34.60	34.50
17	.90	.14	.02	.24	41.27	42.04	.06	.66	.15	.91	.58	.53
18	.82	35.92	36.72	.23	42.88	41.71	36.98	.64	.14	.90	.57	.54
19	35.03	.81	.48	.23	.64	42.12	.95	.60	.25	.88	.56	.58
20	.07	.80	.26	.52	40.99	40.48	.94	.59	.25	.87	.55	.74
21	35.04	35.73	36.14	36.59	40.84	39.81	36.76	35.59	35.30	34.85	34.54	34.72
22	.21	.61	.30	.57	41.43	.53	.74	.58	.26	.85	.54	.68
23	.75	.84	.50	.74	41.82	.22	.71	.58	.25	.84	.54	.68
24	.52	36.20	.49	37.31	41.32	38.92	.64	.57	.22	.83	.53	.67
25	.63	.32	.40	38.40	40.56	.76	.58	.56	.20	.85	.53	.65
26	35.62	36.43	36.35	38.98	39.86	38.52	36.45	35.56	35.16	34.88	34.52	34.73
27	.51	.23	.38	.95	.41	.46	.35	.54	.15	.92	.52	.70
28	.56	35.93	.38	.38	38.91	.28	.28	.51	.13	.94	.51	.67
29	.63	.68	.50	37.81	.45	.15	.25	.49	.06	.90		.47
30	.55	.65	.38	.52	.30	37.99	.17	.47	.05	.86		.45
31		.53		.24	.46		.10		.05	.82		.44
Mean	35.03	36.49	36.87	37.16	38.81	39.14	37.12	35.68	35.24	34.92	34.62	34.55
Max.	35.75	38.01	38.41	38.98	42.88	42.12	38.20	36.06	35.44	35.00	34.80	34.74
Min.	34.59	35.53	35.65	36.23	36.33	37.47	36.10	35.47	35.05	34.82	34.51	34.40

WATER YEAR 1968 : Max. 42.88 m. Min. 34.40 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	12	76	81	132	203	393	308	115	68	41	30	18
2	12	87	125	184	175	344	307	111	68	40	30	17
3	11	89	143	294	158	288	346	107	65	40	29	17
4	11	150	150	272	156	268	360	99	64	39	29	17
5	11	266	253	241	144	297	343	96	63	39	28	16
6	14	297	301	236	141	347	311	95	62	39	27	15
7	14	274	387	226	167	411	283	92	61	39	25	15
8	14	313	364	262	249	424	259	90	60	39	25	14
9	16	335	356	294	283	441	247	88	58	40	24	15
10	35	265	339	273	270	441	247	86	58	39	23	15
11	41	243	270	231	265	438	249	85	57	39	23	15
12	35	248	234	213	264	420	280	85	55	39	23	16
13	31	308	188	188	308	438	280	84	54	38	23	16
14	29	264	205	158	352	515	278	82	53	38	23	17
15	25	194	262	143	355	754	265	82	52	37	22	18
16	34	149	252	136	436	921	212	83	52	36	22	18
17	30	123	214	132	853	1,000	219	83	49	36	21	19
18	25	103	181	131	1,170	936	210	81	49	35	21	19
19	38	94	156	131	1,120	1,016	206	79	55	34	20	21
20	40	93	134	160	802	713	205	78	55	34	20	28
21	38	87	123	167	775	599	186	78	59	33	19	27
22	50	78	138	165	881	554	183	77	56	33	19	25
23	89	96	158	183	956	505	180	77	55	32	19	25
24	71	128	157	249	862	460	172	76	54	32	19	25
25	79	140	148	386	726	436	166	76	52	33	19	24
26	79	151	143	469	607	403	153	76	50	34	19	27
27	71	131	146	464	535	394	143	74	49	36	19	26
28	74	104	146	383	458	370	136	72	48	37	18	25
29	79	83	158	309	393	353	133	71	44	35		17
30	73	81	146	274	373	333	125	70	44	33		16
31		72		241	394		119		44	31		16
Total	1,181	5,122	6,058	7,327	14,831	15,212	7,111	2,548	1,713	1,130	639	599
Mean	39.4	165	202	236	478	507	229	84.9	55.2	36.4	22.8	19.3
Max.	89	335	387	469	1,170	1,016	360	115	68	41	30	28
Min.	11	72	81	131	141	268	119	70	44	31	18	14
Runoff - MCM.	102.033	442.541	523.411	633.053	1,281.398	1,314.317	614.390	220.147	148.003	97.632	55.210	51.754

WATER YEAR 1968 : Max. 1,170 Min. 11 Mean 174 Annual Runoff 5,483.894 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Aug.18	13.00	43.01	1,199				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
NAN RIVER BASIN

Nan River at Tha Pla, Uttaradit (N.6A)

Location: Lat 17° - 47' - 50" N., Long 100° - 31' - 56" E., on right bank about 600 meters upstream from district office of Amphoe Tha Pla, Uttaradit.

Drainage Area: 13,173 sq.km.

Type of Gage: Staff gage.

Zero Gage at Bottom at: +73.00 m. (M.S.L.)

Bench Mark: B.M. - R.I.D. No.1

Location: On right bank near gage site.
Elevation: +90.517 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 - 70

Rating Operation:

Period of Rating: 1954 - 70
Rated by Float: -
Rated by Current Meter: 1954 - 70

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

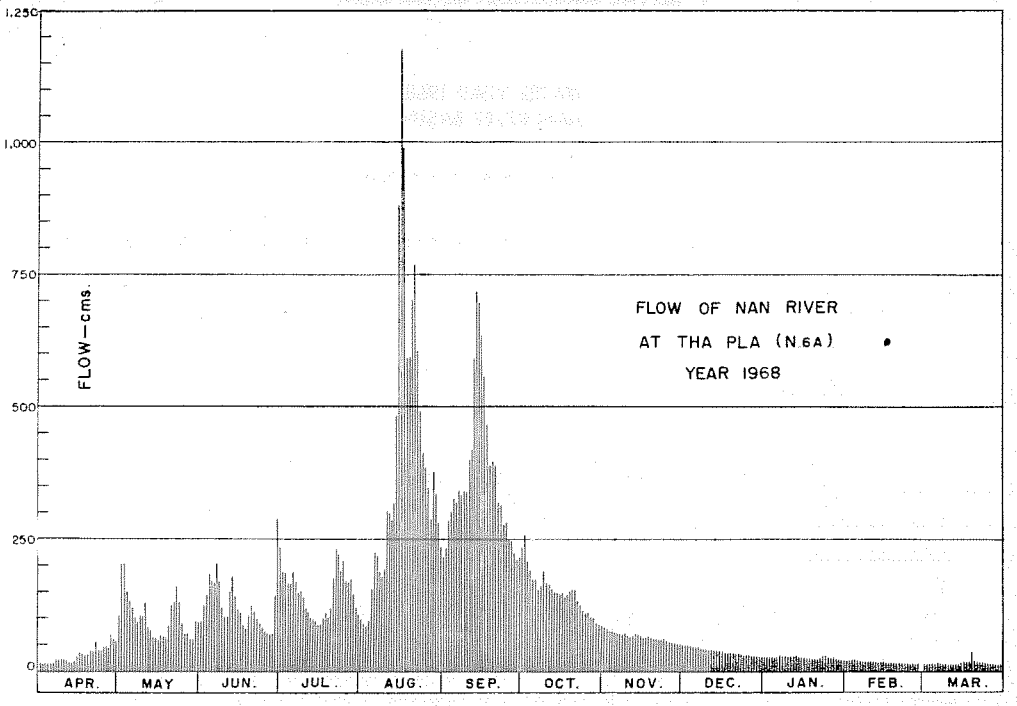
Overbank Flow Conditions: No overbank flow.

General Description: Records fair. Stage - discharge relationship used is defined by discharge measurements made during 1968. No upstream state diversions for irrigation except those built by local residents. No adjustment made for virgin flow.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1968 TO MARCH 31,1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	74.48	75.70	75.51	76.90	75.66	76.76	76.97	75.54	75.09	74.77	74.67	74.53
2	.48	76.63	76.24	.55	.60	.78	77.09	.51	.08	.77	.67	.53
3	.48	.64	.14	.48	.58	77.29	76.70	.47	.07	.77	.70	.53
4	.48	.18	.51	.33	.77	.41	.52	.45	.06	.76	.68	.52
5	.50	.05	.40	.33	76.33	.59	.38	.42	.05	.75	.66	.52
6	74.53	75.94	76.26	76.54	76.83	77.47	76.39	75.44	75.04	74.75	74.64	74.52
7	.66	.74	.66	.38	.76	.69	.23	.38	.02	.81	.63	.52
8	.64	.62	.36	.18	.48	.63	.27	.37	.00	.80	.62	.51
9	.72	.80	75.97	.21	.42	.73	.54	.38	74.99	.80	.62	.51
10	.65	.68	.76	.06	.65	.61	.34	.34	.98	.78	.62	.51
11	74.60	76.02	75.70	75.90	77.47	78.12	76.34	75.32	74.97	74.78	74.62	74.51
12	.55	75.58	76.17	.82	.36	.20	.28	.34	.97	.80	.61	.51
13	.53	.45	.46	.71	.24	79.82	.18	.38	.96	.80	.61	.50
14	.60	.30	.13	.70	78.04	.80	.20	.37	.94	.78	.60	.52
15	.74	.23	75.91	.58	80.08	.60	.13	.32	.93	.76	.60	.59
16	74.89	75.19	75.83	75.56	81.86	79.22	76.20	75.28	74.92	74.75	74.60	74.59
17	.86	.37	.58	.63	80.72	78.21	.10	.31	.91	.73	.59	.58
18	.78	.32	.45	.84	79.23	.24	.15	.31	.90	.73	.58	.62
19	.80	.17	.72	.69	78.78	77.95	.20	.28	.89	.72	.56	.92
20	.93	.51	.99	.83	79.67	78.04	.24	.26	.88	.72	.56	.63
21	74.82	75.95	75.89	76.12	80.05	77.64	76.24	75.25	74.87	74.72	74.55	74.59
22	75.14	76.04	.70	.67	79.33	.50	.09	.23	.86	.74	.55	.59
23	74.95	.29	.63	.87	78.66	.49	75.96	.24	.85	.82	.55	.58
24	.88	75.88	.56	.92	.19	.21	.88	.23	.83	.81	.55	.55
25	75.01	.54	.46	.69	.08	.27	.81	.21	.82	.75	.54	.53
26	75.07	75.38	75.39	76.35	77.75	77.02	75.84	75.18	74.81	74.72	74.54	74.52
27	74.95	.40	.38	.37	.36	.00	.76	.16	.80	.76	.53	.51
28	75.37	.17	.37	.39	.26	76.83	.73	.14	.79	.70	.53	.51
29	.23	.25	.61	.11	.90	.71	.65	.12	.79	.67		.51
30	.09	.67	77.32	75.88	.33	.79	.60	.11	.79	.67		.51
31		.69		.75	76.96		.56		.78	.66		.51
Mean	74.78	75.62	75.93	76.17	77.85	77.84	76.32	75.31	74.92	74.75	74.60	74.55
Max.	75.37	76.64	77.32	76.92	81.86	79.82	77.09	75.54	75.09	74.81	74.70	74.92
Min.	74.48	75.19	75.37	75.56	75.58	76.71	75.56	75.11	74.78	74.66	74.53	74.51

WATER YEAR 1968 : Max. 81.86 m. Min. 74.48 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	13	98	81	233	94	216	242	83	50	28	22	15
2	13	201	154	191	88	219	258	81	50	28	22	15
3	13	202	143	183	86	285	209	78	49	28	24	15
4	13	148	186	165	105	301	187	76	48	28	23	15
5	14	133	173	165	165	327	171	74	47	27	22	15
6	15	122	157	190	225	310	172	73	47	27	21	15
7	22	102	204	171	216	342	153	71	45	31	20	15
8	21	90	168	148	183	333	158	70	44	30	20	14
9	25	108	125	151	175	348	190	71	43	30	20	14
10	21	96	104	135	203	330	166	68	43	29	20	14
11	19	130	98	118	310	409	166	66	42	29	20	14
12	16	86	147	110	294	422	159	68	42	30	19	14
13	15	76	180	99	278	721	148	71	41	30	19	14
14	19	65	142	98	396	717	150	70	40	29	19	15
15	26	60	119	86	776	675	142	66	39	28	19	18
16	36	57	111	85	1,179	600	150	64	38	27	19	18
17	34	70	86	91	916	507	139	66	38	26	18	18
18	29	66	76	112	602	428	144	66	37	26	18	20
19	30	60	100	97	519	382	150	64	36	25	17	38
20	39	81	127	111	690	396	154	62	36	25	17	20
21	31	123	117	141	769	335	154	61	35	25	16	18
22	54	132	98	205	621	314	138	60	34	26	16	18
23	40	160	91	229	498	313	124	61	33	31	16	18
24	36	116	85	236	420	273	116	60	32	31	16	16
25	45	83	77	209	404	282	109	59	31	27	16	15
26	49	71	71	167	351	249	112	57	31	25	16	15
27	40	72	71	169	294	246	104	55	30	28	15	14
28	70	60	70	172	280	225	101	54	29	24	15	14
29	60	61	89	140	374	210	93	52	29	22		14
30	50	95	289	116	290	220	88	52	29	22		14
31		97		103	241		85		29	22		14
Total	908	3,121	3,739	4,626	12,042	10,935	4,632	1,979	1,197	844	525	506
Mean	30.3	101	125	149	388	365	149	65.9	38.6	27.2	18.7	16.3
Max.	70	202	289	236	1,179	721	258	83	50	31	24	38
Min.	13	57	70	85	86	210	85	52	29	22	15	14
Runoff - mcm.	78.451	269.654	323.049	339.686	1,040.428	944.784	400.204	170.985	103.421	72.922	45.360	43.718

WATER YEAR 1968 : Max. 1,179 Min. 13 Mean 123 Annual Runoff 3,892.666 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Aug.16	15.00	82.02	1,219				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
NAN RIVER BASIN

Nan River at Muang Phichit (N.7)

Location: Lat 16° - 26' - 31" N., Long 100° - 21' - 11" E., on right bank infront of Phichit 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: 5 - time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.

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

Period of Available Gage Records: 1934 to date

Rating Operation:

Period of Rating: 1965 - 68, 1973 to date
Rated by Float: -
Rated by Current Meter: 1965 - 68, 1973 to date

Stability of Channel Regimes: Stable, no shifting adjustment for flow computation for year without actual rating.

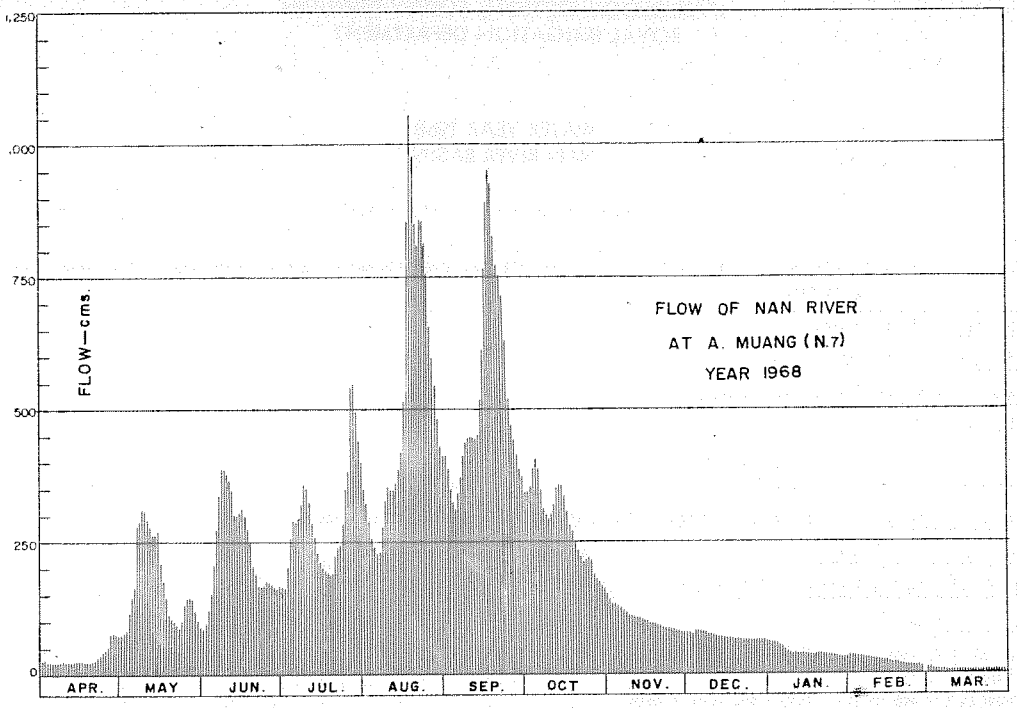
Overbank Flow Conditions: No overbank flow.

General Description: Records good. Stage - discharge relationship used is defined by discharge measurements made during 1965 - 67. No upstream state diversions for irrigation except those built by local residents. No adjustment made for virgin flow.

GAGE HEIGHT IN METER (M.S.L), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	26.57	27.46	27.61	28.66	30.44	31.06	30.43	28.50	27.55	27.28	26.78	26.22
2	.54	.50	.70	.61	.24	30.93	.46	.30	.54	.27	.79	.16
3	.51	.52	28.04	29.05	29.83	.57	.55	.29	.52	.26	.78	.10
4	.50	.80	.35	.61	.60	.22	.86	.28	.58	.24	.77	.08
5	.49	28.40	29.08	.99	.48	.15	.99	.23	.59	.19	.74	.05
6	26.47	28.52	29.76	29.95	29.39	30.43	30.84	28.18	27.60	27.10	26.70	26.05
7	.49	29.89	30.25	30.04	.31	.87	.50	.13	.57	.00	.69	.04
8	.52	.87	.84	.28	.60	31.18	.19	.05	.55	26.94	.66	.03
9	.53	30.17	.84	.59	30.24	.30	.10	.02	.52	.90	.64	.03
10	.52	.12	.75	.54	.56	.35	.01	.00	.49	.89	.63	.02
11	26.51	30.00	30.64	30.38	30.50	31.34	30.11	27.97	27.45	26.87	26.62	26.00
12	.50	29.87	.44	29.97	.49	.32	.28	.95	.43	.88	.60	.00
13	.52	.70	.02	.74	.52	.31	.55	.93	.42	.90	.59	.00
14	.55	.71	.02	.45	.75	.50	.60	.90	.42	.89	.57	.00
15	.56	.78	.11	.23	31.01	32.26	.51	.88	.40	.87	.55	.00
16	26.55	29.27	30.19	29.13	31.33	33.62	30.30	27.86	27.40	26.86	26.50	26.00
17	.53	28.80	.04	.01	32.53	34.64	.01	.82	.39	.85	.48	.00
18	.50	.43	29.84	28.98	34.57	.84	29.87	.81	.37	.84	.45	.00
19	.50	.08	.54	.95	35.36	.48	.78	.79	.37	.85	.43	.00
20	.53	27.91	.08	.98	34.99	33.90	.59	.73	.36	.87	.40	.00
21	26.62	27.84	28.95	29.33	34.32	33.71	29.40	27.70	27.35	26.86	26.38	26.00
22	.73	.75	.71	.49	33.94	.62	.31	.69	.34	.84	.35	.00
23	.81	.62	.69	.56	34.34	.33	.21	.68	.33	.83	.34	.02
24	.88	.79	.72	.89	.32	32.65	.27	.66	.31	.81	.33	.03
25	.97	28.23	.80	30.52	33.92	31.89	.29	.65	.31	.80	.32	.04
26	27.09	28.39	28.79	31.53	33.36	31.57	29.23	27.64	27.30	26.79	26.30	26.05
27	.47	.43	.72	32.09	32.67	.34	28.97	.60	.32	.77	.29	.04
28	.50	.40	.68	.14	.17	.19	.84	.60	.33	.75	.26	.02
29	.48	.05	.62	31.74	31.67	30.95	.79	.57	.34	.75		.02
30	.45	27.85	.69	.25	.19	.67	.73	.55	.32	.76		.03
31		.69		30.93	.05		.62		.30	.77		.00
Mean	26.71	28.61	29.35	29.99	31.73	31.94	29.88	27.90	27.42	26.92	26.53	26.03
Max.	27.50	30.17	30.84	32.14	35.36	34.84	30.99	28.50	27.60	27.28	26.79	26.22
Min.	26.47	27.46	27.61	28.61	29.31	30.15	28.62	27.55	27.30	26.75	26.26	26.00

WATER YEAR 1968 : Max. 35.36 m. Min. 26.00 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	27	75	85	165	343	415	341	152	81	64	36	13
2	26	78	91	161	320	400	345	136	81	63	36	11
3	24	79	116	198	275	357	355	135	79	63	36	9.50
4	24	98	140	258	252	318	391	134	83	61	35	9.00
5	24	144	201	292	240	310	407	130	84	58	34	8.25
6	23	154	268	288	231	341	389	126	84	53	32	8.25
7	24	281	321	298	223	392	349	123	82	47	32	8.00
8	25	279	389	324	252	430	314	117	81	44	30	7.75
9	25	312	389	360	320	444	304	114	79	42	30	7.75
10	25	307	378	354	356	450	294	113	77	41	29	7.50
11	24	293	366	336	349	449	306	111	75	40	29	7.00
12	24	279	343	290	348	446	324	109	73	41	28	7.00
13	25	262	296	266	352	445	355	108	73	42	28	7.00
14	26	263	298	237	378	468	361	105	73	41	27	7.00
15	26	270	306	215	409	565	351	104	71	40	26	7.00
16	26	219	314	206	448	750	326	102	71	40	24	7.00
17	25	176	298	195	600	911	295	99	71	39	23	7.00
18	24	146	276	192	899	949	279	99	69	39	22	7.00
19	24	119	246	189	1,054	882	270	97	69	39	21	7.00
20	25	106	201	192	978	792	251	93	69	40	20	7.00
21	29	101	189	225	856	763	232	91	68	40	19	7.00
22	33	94	169	241	798	750	223	90	68	39	18	7.00
23	37	86	167	248	859	709	213	90	67	38	18	7.50
24	41	97	170	281	856	617	219	88	66	37	17	7.75
25	46	130	176	352	795	517	221	88	66	37	17	8.00
26	52	143	175	353	713	476	215	87	65	36	16	8.25
27	76	146	170	543	619	449	191	84	67	35	16	8.00
28	78	144	166	549	553	431	180	84	67	34	15	7.50
29	77	117	162	497	488	402	175	82	68	34		7.50
30	74	102	167	438	431	369	170	81	67	35		7.75
31		90		400	414		162		65	35		7.00
Total	1,039	5,190	7,033	9,138	16,009	15,997	8,809	3,172	2,259	1,337	714	243.25
Mean	34.6	167	234	295	516	533	284	106	72.9	43.1	25.5	7.85
Max.	78	312	389	549	1,054	949	407	152	84	64	36	13
Min.	23	75	85	161	223	310	162	81	65	34	15	7.00
Runoff - mcm.	89,770	448,416	607,651	789,523	1,383,178	1,382,141	761,098	274,061	195,178	115,517	61,690	21,017

WATER YEAR 1968 : Max. 1,054 Min. 7.00 Mean 194 Annual Runoff 6,129.238 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Aug.19	12.00	35.44	1,072				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
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: +19.80 m. (M.S.L.)

Bench Mark: B.M. – H.S. N.8

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

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

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

Period of Available Gage Records: 1951 to date

Rating Operation:

Period of Rating: 1965 – 68, 1973 to date
Rated by Float: –
Rated by Current Meter: 1965 – 68, 1973 to date

Stability of Channel Regimes: Stable, no shifting adjustment for flow computation for year without actual ratings.

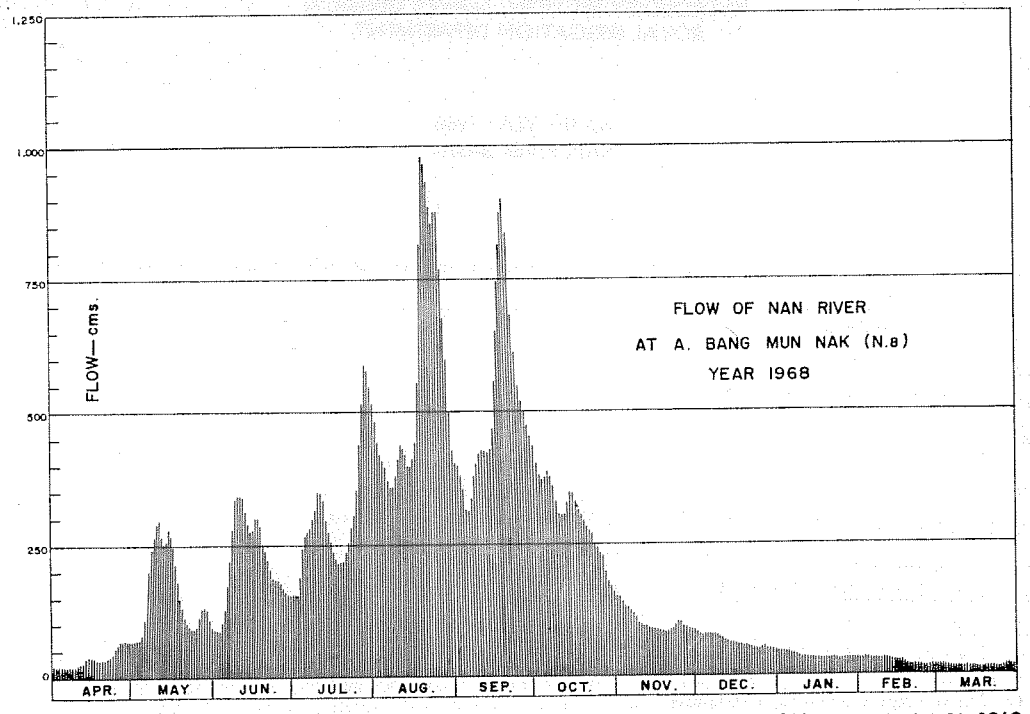
Overbank Flow Conditions: No overbank flow.

General Description: Records fair. Stage – discharge relationship used is defined by discharge measurements made during 1965–67. No upstream state diversions for irrigation except those built by local residents. No adjustment made for virgin flow.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	20.77	21.70	21.94	22.83	25.89	25.12	25.22	22.74	21.86	21.28	21.02	20.70
2	.75	.68	.92	.82	.52	.11	.02	.75	.83	.26	.02	.69
3	.73	.68	.90	.80	.31	24.95	24.93	.68	.81	.25	.01	.68
4	.72	.75	22.20	23.31	.19	.68	.87	.54	.81	.24	.01	.67
5	.73	.89	.60	.90	.10	.45	.91	.50	.81	.21	.00	.66
6	20.74	22.44	23.05	24.04	24.92	24.36	25.01	22.44	21.81	21.19	21.00	20.65
7	.76	23.24	.60	.04	.78	.57	24.89	.34	.81	.16	20.99	.64
8	.76	.63	24.17	.18	.71	.90	.68	.24	.81	.14	.99	.63
9	.74	.83	.57	.34	.86	25.13	.53	.14	.78	.12	.98	.62
10	.79	24.15	.64	.55	25.20	.27	.37	.07	.74	.10	.98	.61
11	20.85	24.24	24.65	24.72	25.41	25.33	24.30	22.02	21.70	21.08	20.97	20.60
12	.84	.02	.61	.63	.35	.32	.31	.02	.64	.06	.96	.59
13	21.10	23.82	.38	.38	.24	.29	.47	21.97	.60	.05	.95	.58
14	.17	.88	.16	.16	.07	.26	.65	.92	.57	.05	.94	.57
15	.13	24.07	.03	23.94	.10	.48	.68	.90	.54	.04	.93	.56
16	21.08	23.94	24.11	23.72	25.26	26.27	24.62	21.90	21.51	21.04	20.92	20.55
17	.03	.50	.28	.55	.49	27.31	.46	.89	.49	.03	.90	.54
18	.03	.06	.26	.46	26.55	28.00	.33	.88	.46	.04	.78	.53
19	.05	22.72	.00	.48	27.88	.18	.22	.86	.44	.04	.76	.59
20	.03	.42	23.75	.48	28.52	.00	.14	.85	.42	.05	.74	.64
21	21.02	22.22	23.56	23.60	28.41	27.64	24.07	21.88	21.40	21.05	20.73	20.63
22	.10	.13	.37	.86	.05	.16	.02	.96	.38	.04	.72	.61
23	.21	.03	.18	24.07	27.90	26.71	23.91	22.06	.36	.04	.71	.59
24	.30	21.94	.13	.24	28.06	.40	.77	.16	.36	.03	.70	.56
25	.54	22.02	.15	.54	.07	.17	.67	.14	.35	.03	.70	.58
26	21.65	22.28	23.09	25.15	27.76	26.01	23.61	22.05	21.34	21.02	20.70	20.63
27	.64	.49	22.96	.87	.27	25.90	.42	.00	.34	.00	.70	.69
28	.68	.57	.87	26.35	26.78	.74	.19	21.97	.33	.01	.70	.72
29	.67	.50	.83	.45	.33	.56	.06	.93	.33	.02	–	.68
30	.67	.29	.82	.31	25.80	.47	22.95	.89	.32	.03	–	.64
31	–	.04	–	.07	.32	–	.85	–	.30	.03	–	.61
Mean	21.08	22.78	23.46	24.28	26.16	25.86	24.23	22.12	21.56	21.09	20.87	20.62
Max.	21.68	24.24	24.65	26.45	28.52	28.18	25.22	22.75	21.86	21.28	21.02	20.72
Min.	20.72	21.68	21.90	22.80	24.71	24.36	22.85	21.85	21.30	21.00	20.70	20.53

WATER YEAR 1968 : Max. 28.52 m. Min. 20.53 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	23	72	90	156	499	400	414	149	84	47	34	20
2	22	71	89	156	454	399	388	150	81	46	34	20
3	21	71	88	154	425	380	378	141	79	46	35	19
4	21	75	104	201	409	348	371	133	79	46	35	19
5	21	87	136	260	398	319	375	130	79	44	33	18
6	22	125	176	274	376	309	387	125	79	43	33	18
7	22	194	230	274	359	334	374	117	79	42	32	18
8	22	233	288	289	351	374	348	108	79	40	32	17
9	22	253	334	308	370	402	330	101	77	39	32	17
10	24	286	343	332	411	420	310	97	74	33	32	16
11	26	296	344	352	438	428	304	93	72	37	32	16
12	26	272	339	342	430	426	304	93	68	36	31	16
13	38	252	311	311	416	423	322	91	66	35	31	15
14	42	257	287	287	394	419	344	89	64	35	30	15
15	40	277	273	264	398	448	348	88	62	35	30	15
16	37	264	281	242	419	559	340	88	61	35	29	14
17	34	220	301	225	449	732	321	87	59	34	28	14
18	34	177	299	216	603	863	307	86	58	35	23	14
19	35	148	270	218	840	902	296	84	57	35	22	16
20	34	123	245	218	978	863	284	83	56	35	22	18
21	34	106	226	230	952	801	277	86	55	35	21	17
22	38	100	207	255	873	707	272	90	54	35	21	16
23	44	94	188	277	844	630	261	96	52	35	20	16
24	48	90	183	296	875	580	247	102	52	34	20	15
25	62	93	185	331	877	546	237	101	51	34	20	15
26	69	112	180	404	817	522	231	95	54	34	20	17
27	68	129	168	498	725	500	212	92	54	33	20	20
28	71	134	160	572	646	482	189	91	50	33	20	21
29	70	130	156	588	569	459	177	89	50	34	–	19
30	70	113	156	566	491	447	167	87	49	34	–	18
31	–	95	–	534	426	–	158	–	48	34	–	16
Total	1,140	4,949	6,637	9,630	17,512	15,422	9,273	3,062	1,982	1,158	774	525
Mean	38.0	160	221	311	565	514	299	102	63.9	37.3	27.6	16.9
Max.	70	296	344	588	978	902	414	150	84	47	35	21
Min.	21	71	88	154	351	309	158	83	48	33	20	14
Runoff – MCM.	98.496	427.594	573.437	832.032	1,513.037	1,332.461	801.187	264.557	171.245	100.051	66.874	45.360

WATER YEAR 1968 : Max. 978 Min. 14 Mean 197 Annual Runoff 6,226.330 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Aug.20,68	21.00	28.61	998.40				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
NAN RIVER BASIN

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

Location: Lat 16° – 13' – 03" N., Long 100° – 25' – 26" E., on right bank 1 kilometer downstream from Wat Thao Prasat, Tambon Huai Ket, Amphoe Taphan Hin, Phichit.

Drainage Area: 30,760 sq.km.

Type of Gage: Staff gage.

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

Bench Mark: B.M. – H.S. No.1

Location: On right bank along the gage line.
Elevation: +33.173 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: 1965 – 68, 1973 to date
Rated by Float: –
Rated by Current Meter: 1965 – 68, 1973 to date

Stability of Channel Regimes: Stable, no shifting adjustment for flow computation for year without actual ratings

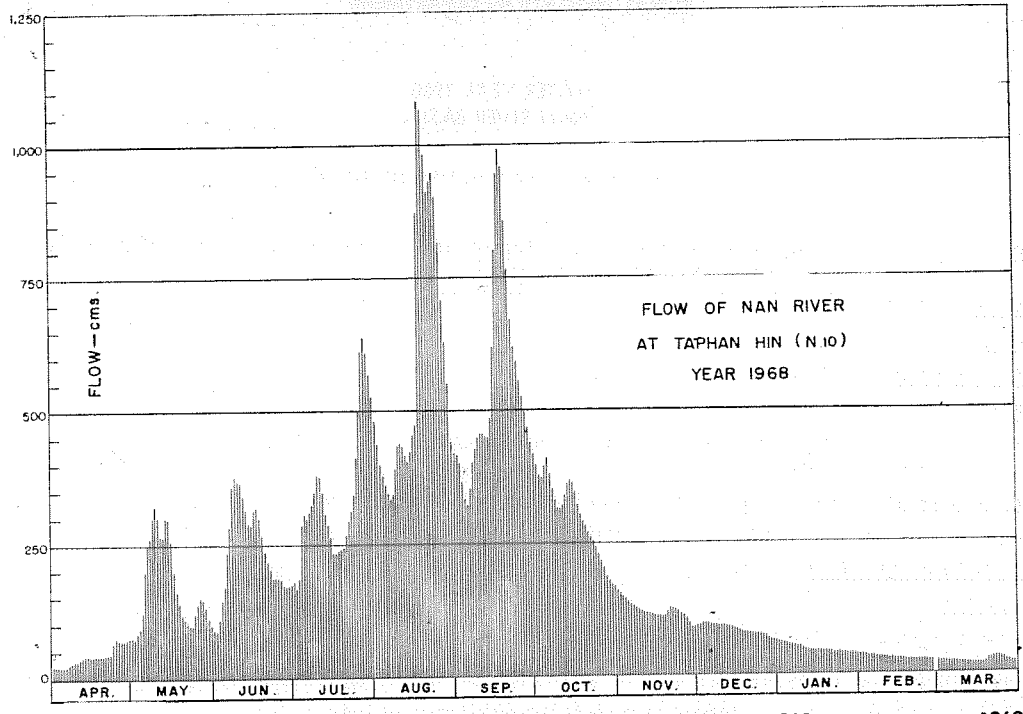
Overbank Flow Conditions: No overbank flow.

General Description: Records good. Stage – discharge relationship used is defined by discharge measurements made during 1965–67. No upstream state diversions for irrigation except those built by local residents. No adjustment made for virgin flow.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	23.17	24.09	24.25	25.36	28.00	27.50	27.36	25.15	24.32	23.91	23.48	23.20
2	.15	.04	.24	.19	27.64	.45	.19	.07	.37	.90	.47	.19
3	.13	.14	.55	.35	.31	.16	.06	.00	.39	.86	.45	.18
4	.14	.23	25.00	26.38	.17	26.86	.25	24.97	.39	.84	.43	.17
5	.15	.64	.38	.58	.05	.65	.42	.90	.37	.81	.41	.16
6	23.20	25.59	25.99	26.50	26.92	26.88	27.27	24.85	24.36	23.79	23.40	23.15
7	.25	26.07	26.53	.64	.82	27.31	.05	.80	.36	.77	.38	.15
8	.33	.17	27.06	.78	.89	.56	26.83	.78	.35	.76	.37	.14
9	.38	.56	.16	.98	27.32	.69	.68	.72	.34	.73	.36	.13
10	.41	.74	.06	27.21	.64	.78	.65	.69	.34	.68	.35	.13
11	23.45	26.46	27.07	27.17	27.66	27.77	26.70	24.67	24.33	23.65	23.34	23.12
12	.49	.20	26.84	26.88	.58	.74	.86	.66	.32	.64	.33	.11
13	.55	.19	.54	.60	.43	.70	27.05	.65	.31	.62	.32	.10
14	.57	.53	.40	.45	.38	.80	.10	.63	.29	.62	.31	.09
15	.52	.49	.41	.18	.62	28.31	.03	.58	.27	.61	.30	.08
16	23.54	25.98	26.66	25.90	27.78	29.61	26.86	24.57	24.25	23.60	23.29	23.07
17	.55	.50	.70	.92	28.40	30.56	.65	.57	.22	.60	.28	.06
18	.56	.17	.48	.94	30.33	.91	.53	.56	.18	.59	.27	.09
19	.55	24.86	.18	.97	31.31	.74	.42	.59	.16	.59	.26	.14
20	.54	.64	25.94	.99	.22	.26	.35	.70	.15	.58	.25	.32
21	23.56	24.53	25.76	26.23	30.75	29.74	26.23	24.79	24.14	23.57	23.25	23.28
22	.58	.45	.58	.50	.47	.25	.14	.77	.12	.56	.24	.32
23	.62	.34	.42	.64	.61	28.85	.08	.73	.11	.55	.24	.36
24	24.00	.38	.43	.91	.69	.54	25.96	.67	.10	.54	.24	.36
25	.06	.71	.43	27.36	.43	.32	.87	.62	.09	.54	.23	.33
26	23.99	24.90	25.39	28.26	29.94	28.29	25.69	24.61	24.08	23.53	23.22	23.27
27	.98	25.02	.29	.83	.35	.12	.57	.54	.04	.53	.21	.22
28	24.01	24.98	.26	29.01	28.82	27.91	.43	.37	.00	.52	.20	.15
29	.05	.76	.26	28.85	.34	.67	.34	.29	23.95	.51		.12
30	.09	.55	.28	.55	27.77	.51	.26	.29	.93	.50		.11
31		.38		.28	.56		.18		.92	.49		.10
Mean	23.55	25.20	25.88	26.82	28.52	28.28	26.48	24.76	24.21	23.64	23.32	23.29
Max.	24.09	26.74	27.16	29.01	31.31	30.91	27.42	25.15	24.39	23.91	23.48	23.36
Min.	23.13	24.04	24.24	25.19	26.82	26.65	25.18	24.29	23.92	23.49	23.20	23.06

WATER YEAR 1968 : Max. 31.31 m. Min. 23.06 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	23	77	88	181	487	419	401	161	93	65	38	24
2	22	74	88	165	438	413	380	154	97	64	37	23
3	21	81	110	180	394	376	364	148	98	61	36	23
4	21	87	148	284	377	340	387	145	98	60	35	23
5	22	117	183	307	362	315	409	139	97	58	34	22
6	24	202	243	297	347	342	390	134	96	56	34	22
7	26	251	301	313	335	395	362	130	96	55	33	22
8	30	262	364	330	343	427	336	128	95	55	32	21
9	33	304	376	354	396	444	318	124	95	53	32	21
10	34	325	364	382	437	456	315	121	95	50	31	21
11	36	293	366	377	440	455	320	120	94	48	31	20
12	38	265	337	342	430	451	340	119	93	47	30	20
13	42	264	302	309	410	445	362	118	93	46	30	19
14	43	301	286	292	404	459	368	116	91	46	29	19
15	40	296	288	263	435	531	360	112	90	46	29	19
16	41	242	316	233	456	741	340	112	88	45	28	18
17	42	194	320	236	545	921	315	112	86	45	28	18
18	43	163	295	238	875	993	301	111	84	44	27	19
19	42	135	265	241	1,082	957	289	113	82	44	27	21
20	41	117	238	243	1,062	861	281	122	81	44	26	30
21	43	108	219	268	959	764	268	129	81	43	26	28
22	44	102	202	297	905	678	258	128	79	43	26	30
23	46	95	186	314	931	614	252	124	79	42	26	32
24	71	98	187	346	947	566	240	120	78	41	26	32
25	75	123	187	401	895	533	230	116	77	41	25	30
26	70	139	183	524	800	528	212	115	77	41	25	27
27	70	150	174	611	695	504	201	109	74	41	24	25
28	72	146	171	640	609	474	187	97	71	40	24	22
29	74	127	171	614	536	442	179	91	67	40		20
30	77	110	173	567	455	421	171	91	66	39		20
31		98		527	427		164		65	38		19
Total	1,306	5,346	7,169	10,676	18,212	16,265	9,300	3,659	2,656	1,481	829	710
Mean	43.6	172	239	344	587	542	300	122	85.6	47.8	29.6	22.9
Max.	77	325	376	640	1,082	993	409	161	98	65	38	32
Min.	21	74	88	165	335	315	164	91	65	38	24	18
Runoff - mcm.	112.838	461.894	619.402	922.406	1,573.517	1,405.296	803.520	316.138	229.478	127.958	71.626	61.344

WATER YEAR 1968 : Max. 1,082 Min. 18 Mean 213 Annual Runoff 6,705.418 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Aug.19	18.00	31.41	1,105				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
NAN RIVER BASIN

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

Location: Lat 17° - 44' - 10" N., Long 100° - 32' - 28" E., on right bank about 4 kilometers downstream from Sirikit Dam Site along Phasom - Silaat Road 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. of Survey Division.

Location: On right bank infront of the office of gaging station N.12A
Elevation: +84.00 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: Unstable, shifting adjustment is included for flow computation.

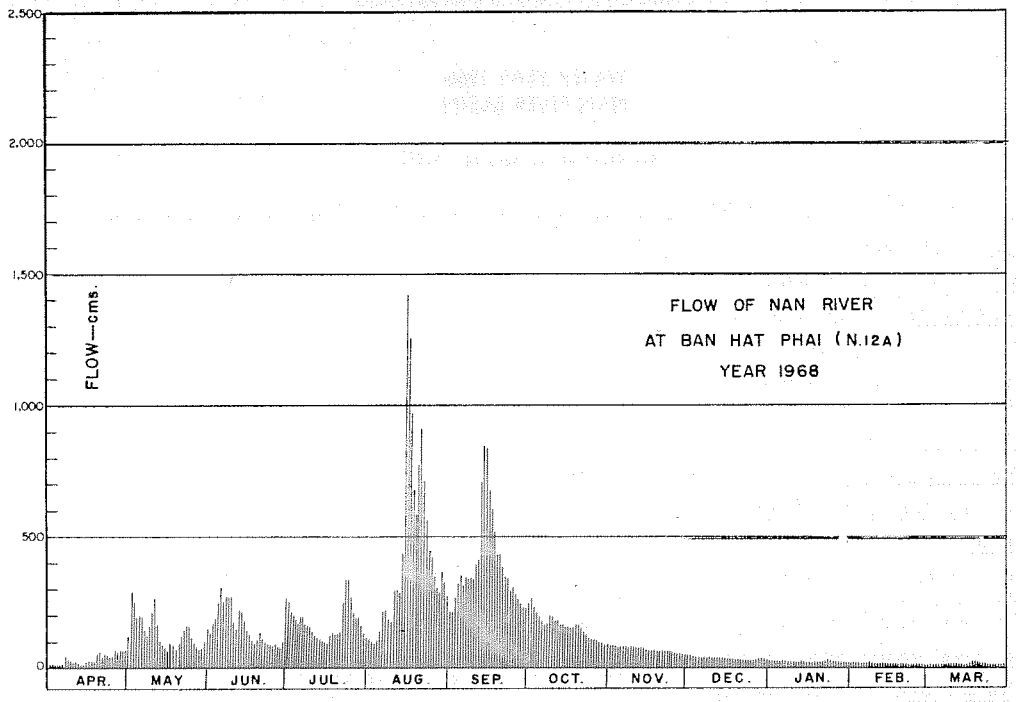
Overbank Flow Conditions: No overbank flow.

General Description: Records good. Stage - discharge relationship used is defined by discharge measurements made during 1968. No upstream state diversions for irrigation except those built by local residents. No adjustment made for virgin flow.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	69.89	71.17	71.09	72.41	71.11	72.14	72.33	70.93	70.52	70.20	70.09	69.99
2	.88	72.06	.65	71.98	.01	.16	.50	.91	.50	.20	.10	.99
3	.88	.51	.78	.89	70.99	.59	.18	.88	.50	.19	.12	.98
4	.87	71.78	72.12	.75	71.12	.92	71.96	.85	.49	.19	.14	.98
5	.89	.89	.67	.65	.54	73.11	.89	.82	.47	.18	.11	.97
6	69.96	71.82	72.18	71.90	72.14	72.85	71.85	70.81	70.46	70.19	70.11	69.97
7	70.40	.35	.41	.76	.15	73.04	.64	.79	.45	.24	.10	.96
8	.18	.17	.39	.55	71.86	72.98	.68	.77	.44	.21	.12	.96
9	.18	.55	.31	.59	.82	73.06	.96	.79	.43	.20	.12	.95
10	.13	.79	71.60	.46	.91	.01	.91	.75	.41	.19	.11	.95
11	70.15	72.30	71.33	71.28	72.71	73.32	71.77	70.73	70.40	70.20	70.11	69.95
12	.00	71.36	.72	.22	.70	.43	.79	.75	.39	.21	.10	.95
13	69.98	.03	72.03	.11	.55	74.76	.67	.79	.38	.22	.10	.97
14	.94	70.85	71.67	.07	73.10	75.13	.67	.78	.37	.21	.09	.98
15	70.22	.73	.40	.00	74.84	.09	.56	.72	.36	.20	.09	.97
16	70.34	70.63	71.21	70.94	76.56	74.69	71.63	70.69	70.35	70.18	70.09	69.96
17	.29	.89	.05	71.30	75.93	.23	.53	.71	.34	.17	.08	.98
18	.24	.76	70.90	.39	74.55	73.84	.55	.73	.33	.18	.07	70.22
19	.72	.62	71.01	.26	.11	.47	.61	.69	.32	.16	.06	.25
20	.85	.83	.35	.32	.84	.52	.63	.66	.31	.16	.05	.15
21	70.40	71.23	71.31	71.44	75.21	73.14	71.62	70.66	70.30	70.18	70.04	70.12
22	.75	.39	.13	72.39	74.59	72.98	.51	.65	.29	.20	.03	.11
23	.54	.50	.07	.92	.09	.96	.36	.66	.28	.25	.03	.08
24	.37	.49	.10	.92	73.66	.64	.28	.65	.27	.25	.02	.05
25	.51	70.97	.01	.49	.50	.78	.21	.63	.26	.20	.02	.03
26	70.77	70.76	71.12	71.98	73.01	72.49	71.23	70.60	70.24	70.17	70.02	70.01
27	.49	.75	.06	.82	72.74	.41	.17	.58	.24	.16	.01	.00
28	.68	.57	70.93	.88	.64	.27	.08	.57	.25	.13	.00	.00
29	.60	.71	71.02	.56	73.18	.16	.05	.54	.27	.11		.00
30	.70	.91	72.37	.33	72.72	.20	.02	.54	.24	.10		.00
31		71.49		.19	.33		70.98		.21	.08		.00
Mean	70.29	71.25	71.51	71.67	72.98	73.18	71.98	70.72	70.36	70.18	70.08	70.01
Max.	70.77	72.51	72.67	72.92	76.56	75.13	72.50	70.93	70.52	70.25	70.14	70.25
Min.	69.87	70.57	70.90	70.94	70.99	72.14	70.98	70.54	70.21	70.08	70.00	69.95

WATER YEAR 1968 : Max. 76.56 m. Min. 69.87 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	12	120	112	270	107	215	250	94	50	33	22	16
2	12	226	174	210	97	218	274	92	48	33	23	16
3	12	289	190	198	95	278	229	89	48	33	24	16
4	11	190	235	181	108	326	200	87	47	33	25	16
5	12	204	312	169	145	356	191	84	46	33	22	15
6	15	195	243	200	218	315	186	83	45	33	22	15
7	14	139	275	182	219	345	164	81	45	31	22	15
8	26	120	273	157	182	335	169	79	44	29	23	15
9	26	162	261	162	178	348	204	81	43	29	23	15
10	23	191	168	147	188	340	197	78	42	28	22	15
11	24	260	137	127	298	400	180	76	41	29	22	15
12	17	141	182	121	296	411	182	78	40	29	22	15
13	16	106	222	110	275	730	168	81	40	30	22	15
14	14	88	176	106	372	846	168	78	39	29	21	16
15	29	78	145	99	789	834	157	73	38	29	21	15
16	31	69	124	93	1,416	709	163	70	38	27	21	15
17	28	92	108	130	1,170	598	152	72	37	27	21	16
18	25	80	93	139	700	503	154	73	36	27	20	26
19	57	69	104	125	580	429	161	70	37	26	20	28
20	68	87	139	128	789	438	163	68	36	26	19	22
21	35	126	114	142	910	370	152	68	36	27	19	21
22	60	144	96	263	712	345	139	67	35	29	18	20
23	44	156	90	340	574	342	123	66	35	32	18	19
24	42	155	93	340	452	294	115	65	34	32	18	17
25	52	100	85	277	423	313	108	64	33	29	18	16
26	73	80	95	206	340	273	110	61	32	27	18	15
27	58	79	89	186	299	261	104	60	36	26	17	15
28	73	65	78	193	285	242	95	59	36	24	17	15
29	67	76	101	155	367	226	92	51	38	23		15
30	75	94	264	130	303	232	89	51	36	23		15
31		155		115	242		99		34	22		15
Total	1,077	4,136	4,778	5,401	13,129	11,872	4,938	2,199	1,225	887	580	520
Mean	35.9	133	159	174	423	396	159	73.3	39.5	28.6	20.7	16.8
Max.	75	289	312	340	1,416	846	274	94	50	33	25	28
Min.	11	65	78	93	95	215	89	51	34	22	17	15
Runoff - mcm.	93.053	357.350	412.819	466.646	1,134.346	1,025.741	426.643	189.994	105.840	76.637	50.112	44.928

WATER YEAR 1968 : Max. 1,416 Min. 11 Mean 139 Annual Runoff 4,384.109 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Aug.16	18.00	76.76	1,476				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
NAN RIVER BASIN

Nan River at Ban San, Nan (N.13)

Location: Lat 18° – 32' – 06" N., Long 100° – 46' – 06" E., on right bank infront of Wat Phranet, Ban San, Amphoe Sa, Nan.

Drainage Area: 8,993 sq.km.

Type of Gage: Water – stage recorder.

Zero Gage at Bottom at: +176.65 m. (M.S.L.)

Bench Mark: B.M. – H.S./R.I.D.

Location: At the foot of big tree near gage site.
Elevation: +186.634 m. (M.S.L.)

Gage Reading Frequency: Recording.

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

Period of Available Gage Records: 1959 to date

Rating Operation:

Period of Rating: 1959 – 66
Rated by Float: –
Rated by Current Meter: 1959 – 66

Stability of Channel Regimes: Rather unstable. Silting of about 0.50 m. during December until March.

Overbank Flow Conditions: No overbank flow.

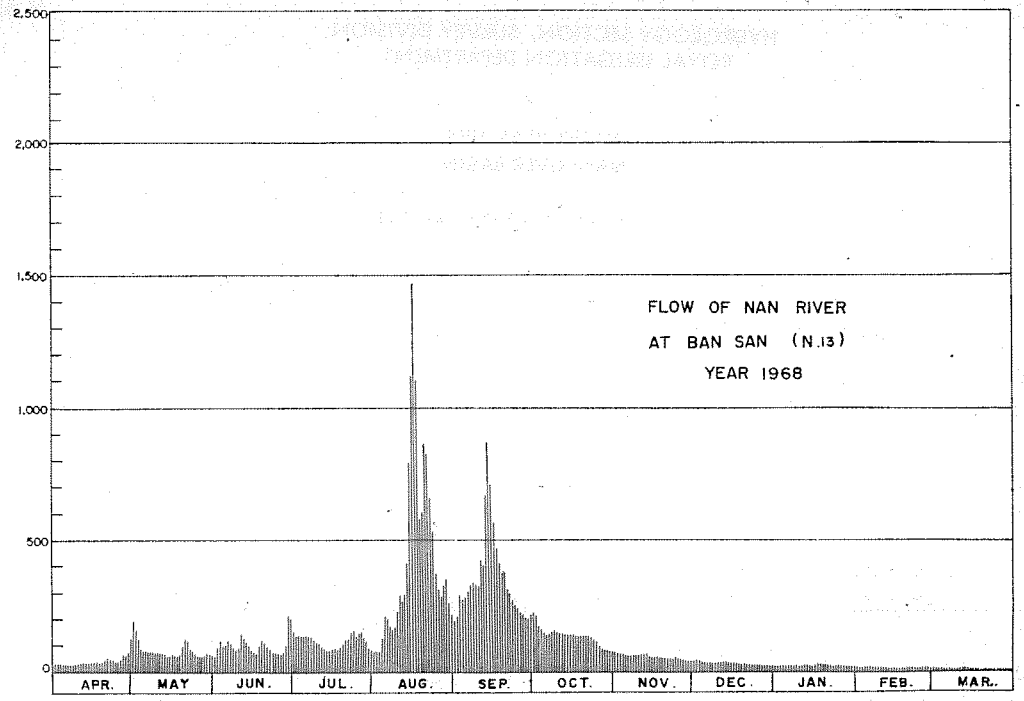
General Description: Records fair. Stage – discharge relationship defined by discharge measurements made during 1959 – 1966 applicable only for period April 8 – October 25. Gage height record during October 26 to March 31 increasingly affected by silting of river bed, the flow for this period being estimated from the flow at station N.35 about 24 kilometers downstream.

Remarks: No stage record for periods Apr. 1 – 7, May 26 – 31 and Aug. 3 – 5. *Discharge record estimated.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1		178.22	177.21	177.99	177.49	178.29	178.48	177.73	177.59	177.50	177.36	177.41
2		177.98	.55	.90	.49	.42	.37	.73	.59	.50	.35	.41
3		.77	.81	.91		.82	.14	.72	.57	.49	.34	.41
4		.45	.61	.91		.73	.05	.72	.55	.49	.34	.44
5		.43	.71	.90		.84	177.96	.71	.54	.47	.34	.44
6		177.49	177.80	177.91	178.34	178.89	177.90	177.70	177.53	177.47	177.34	177.44
7		.47	.68	.91	.15	179.05	.93	.69	.52	.50	.34	.44
8	176.96	.49	.63	.88	.04	.04	.96	.70	.51	.50	.34	.43
9	.98	.45	.54	.78	.07	.01	178.03	.71	.51	.50	.34	.43
10	177.00	.42	.60	.74	.55	178.86	.01	.68	.57	.50	.34	.43
11	177.02	177.42	177.95	177.69	178.82	179.46	177.98	177.71	177.57	177.49	177.39	177.41
12	.03	.41	.86	.62	.64	.27	.95	.72	.57	.49	.39	.41
13	.05	.30	.77	.59	.93	181.23	.95	.70	.57	.47	.39	.41
14	.05	.27	.67	.53	179.65	180.81	.95	.67	.57	.48	.39	.39
15	.05	.31	.54	.51	181.57	.50	.93	.65	.55	.49	.39	.39
16	177.05	177.35	177.41	177.53	183.17	180.11	177.93	177.63	177.50	177.49	177.39	177.38
17	.05	.33	.40	.60	181.60	179.61	.92	.65	.47	.50	.39	.37
18	.06	.25	.73	.54	180.35	.33	.91	.64	.47	.49	.37	.37
19	.05	.56	.80	.65	179.82	.18	.91	.65	.48	.47	.37	.36
20	.15	.75	.70	.71	181.20	.19	.91	.64	.49	.46	.37	.35
21	177.21	177.86	*177.60	177.85	181.08	178.82	177.90	177.62	177.50	*177.43	177.37	177.35
22	.16	.70	.54	.83	180.49	.82	.91	.60	.50	.40	.37	.33
23	.17	.46	.46	178.01	.13	.68	.85	.60	.50	.40	.37	.32
24	.10	.41	.45	.05	179.38	.63	.80	.59	.48	.40	.37	.32
25	.10	.32	.41	177.90	.20	.53	.77	.57	.49	.40	.41	.30
26	177.18		177.39	177.99	178.82	178.47	177.76	177.63	177.49	177.40	177.41	177.29
27	.42		.45	178.02	.77	.38	.75	.61	.49	.40	.41	.29
28	.29		.54	177.82	.99	.34	.74	.60	.50	.38	.41	.27
29	.37		178.55	.69	179.12	.27	.79	.59	.50	.38		.25
30	.97		.31	.59	178.64	.37	.78	.59	.50	.38		.25
31				.55	.37		.75		.50	.36		.23
Mean	177.15	177.54	177.66	177.78	179.38	179.06	177.93	177.62	177.52	177.45	177.37	177.37
Max.	177.97	177.86	178.55	178.02	183.17	181.23	178.48	177.73	177.59	177.50	177.41	177.44
Min.	176.95	177.23	177.21	177.51	177.49	178.27	177.74	177.57	177.47	177.36	177.34	177.23

WATER YEAR 1968 : Max. 183.17 m. Min. 176.95 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	30*	187	51	150	79	198	229	74	46	26	21	14
2	30*	149	85	136	79	219	211	72	46	26	23	14
3	29*	115	122	138	79*	294	174	71	46	26	21	14
4	28*	75	91	138	90*	276	160	68	40	25	20	14
5	27*	73	106	136	218*	298	146	67	39	25	20	14
6	26*	79	120	138	206	308	136	65	39	25	20	14
7	25*	77	101	138	176	343	141	65	38	26	19	15
8	26	79	94	133	158	340	146	65	36	25	19	15
9	28	75	84	117	163	334	157	63	36	25	19	15
10	30	72	90	110	241	302	154	62	36	26	19	15
11	32	72	144	103	294	433	149	64	36	27	19	14
12	33	71	130	93	258	391	144	67	35	26	18	14
13	35	60	115	89	317	870	144	65	35	25	18	14
14	35	57	100	83	475	761	144	62	34	24	18	14
15	35	61	84	81	966	680	141	59	33	24	17	14
16	35	65	71	83	1,469	584	141	62	33	24	17	14
17	35	63	70	90	974	466	139	60	31	24	16	16
18	36	55	109	84	642	405	138	59	30	24	16	18
19	35	86	120	97	515	372	138	56	30	24	16	19
20	45	112	104	106	862	374	138	56	30	24	16	18
21	51	130	90	128	831	294	136	57	29	26	16	17
22	46	90	84	125	677	294	138	56	29	29	16	16
23	47	76	76	154	589	266	138	56	29	26	16	15
24	40	71	75	160	416	256	120	57	29	24	16	14
25	40	62	71	136	376	237	115	53	28	24	15	13
26	48	55*	69	150	294	227	96	50	28	23	15	14
27	72	53*	75	155	284	213	87	50	27	23	15	14
28	59	57*	84	123	330	206	86	49	27	23	15	14
29	67	74*	241	103	358	195	82	49	27	22	–	14
30	147	65*	202	89	258	211	79	47	26	22	–	13
31		57*		85	221		78		26	21	–	13
Total	1,252	2,473	3,058	3,651	12,860	10,647	4,215	1,806	1,034	764	496	456
Mean	41.7	79.8	102	118	415	355	136	60.2	33.3	24.6	17.7	14.7
Max.	147	189	241	155	1,469	870	229	74	46	26	23	15
Min.	*25	53	51	81	79	195	78	47	26	21	15	13
Runoff - mcm.	108.173	213.667	264.211	315.446	1,111.104	919.901	364.176	156.038	89.337	66.009	42.854	39.398

WATER YEAR 1968 : Max. 1,469 Min. 25 Mean 117 Annual Runoff 3,690.316 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Aug.16	12.00	183.37	1,541				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
NAN RIVER BASIN

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

Location: Lat 15° - 53' - 41" N., Long 100° - 18' - 44" E., on right bank infront of the previous office of Amphoe Chum Saeng, Tambon Phikul, Nakhon Sawan.

Drainage Area: 33,197 sq.km.

Type of Gage: Staff gage.

Zero Gage at Bottom at: +18.00 m. (M.S.L.)

Bench Mark: B.M. - R.I.D. No.2

Location: 45 meters from the fence of Amphoe Chum Saeng.
Elevation: +27.589 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: 1965 - 68
Rated by Float: -
Rated by Current Meter: 1965 - 68

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

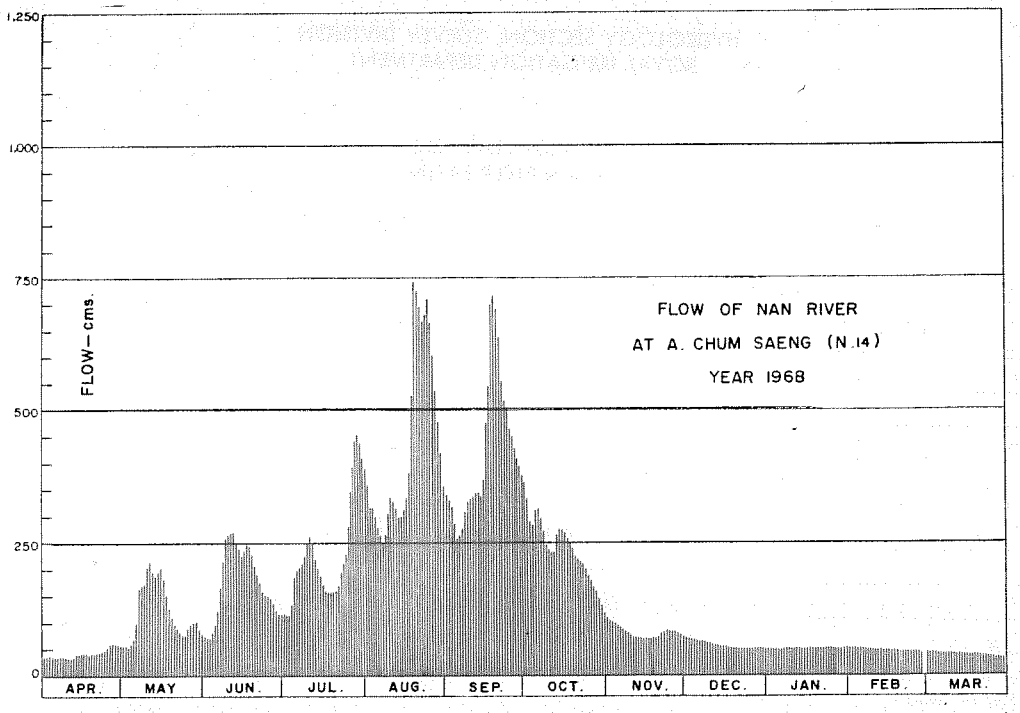
Overbank Flow Conditions: Overbank flow was observed at elevation +25.00 m. (M.S.L.) but not included for flow computation.

General Description: Records fair. Stage - discharge relationship used is defined by discharge measurements made during 1965-68. No upstream state diversions forirrigation except those built by local residents. No adjustment made for virgin flow.

GAGE HEIGHT IN METER (M.S.L), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	19.09	19.64	19.98	20.70	23.30	22.90	23.02	20.61	19.97	19.49	19.53	19.32
2	.12	.60	.92	.65	.04	.87	22.76	.55	.94	.49	.53	.30
3	.13	.57	.87	.64	22.76	.80	.31	.47	.92	.48	.52	.30
4	.11	.75	20.13	.80	.74	.47	.57	.40	.89	.48	.51	.29
5	.08	.93	.44	21.58	.60	.24	.74	.35	.87	.48	.50	.29
6	19.12	20.44	20.81	21.68	22.44	22.30	22.70	20.29	19.85	19.48	19.49	19.28
7	.12	21.26	21.34	.75	.33	.42	.51	.23	.83	.48	.48	.28
8	.11	.37	.85	.84	.17	.65	.32	.19	.82	.49	.48	.27
9	.09	.40	22.27	.98	.23	.82	.13	.11	.79	.49	.47	.27
10	.04	.75	.32	22.18	.74	.88	.04	.03	.76	.49	.46	.26
11	19.04	21.82	22.35	22.29	22.89	22.90	22.00	19.97	19.73	19.50	19.45	19.25
12	.09	.67	.36	.18	.82	.94	.05	.94	.68	.50	.44	.25
13	.25	.56	.19	21.94	.72	.96	.33	.94	.66	.50	.44	.24
14	.27	.60	.05	.77	.58	.90	.41	.93	.64	.50	.43	.24
15	.28	.73	21.93	.60	.62	23.07	.38	.93	.62	.50	.43	.23
16	19.27	21.56	22.07	21.43	22.73	23.87	22.32	19.94	19.61	19.50	19.42	19.22
17	.25	.28	.18	.28	.92	24.15	.23	.94	.58	.51	.41	.21
18	.17	20.95	.11	.20	23.25	25.10	.17	.93	.56	.51	.40	.20
19	.18	.67	21.91	.21	24.13	.20	.08	.93	.54	.51	.40	.19
20	.20	.49	.69	.22	25.33	.09	21.94	.94	.54	.51	.39	.18
21	19.23	20.30	21.53	21.27	25.24	24.81	21.89	20.00	19.53	19.52	19.39	19.17
22	.30	.21	.38	.30	.06	.41	.85	.14	.52	.52	.38	.15
23	.35	.09	.20	.65	24.94	.14	.80	.18	.52	.52	.37	.14
24	.42	.00	.13	.85	25.04	.04	.71	.18	.51	.52	.36	.12
25	.59	.09	.12	22.04	.17	23.80	.57	.14	.51	.52	.35	.10
26	19.66	20.31	21.09	22.67	24.90	23.71	21.42	20.17	19.51	19.53	19.34	19.08
27	.69	.42	20.95	23.25	.92	.53	.31	.17	.50	.53	.33	.06
28	.69	.45	.77	.62	.10	.37	.21	.09	.50	.53	.32	.04
29	.64	.44	.71	.72	23.79	.26	.01	.05	.50	.53		.02
30	.65	.21	.69	.60	.74	.18	20.93	.01	.50	.53		18.99
31		.04		.42	22.99		.69		.49	.54		.97
Mean	19.26	20.66	21.34	21.88	23.46	23.43	22.01	20.12	19.66	19.50	19.43	19.19
Max.	19.69	21.82	22.36	23.72	25.73	25.20	23.02	20.61	19.97	19.54	19.53	19.32
Min.	19.04	19.57	19.87	20.64	22.17	22.24	20.69	19.93	19.49	19.48	19.32	18.97

WATER YEAR 1968 : Max. 25.33 m. Min. 18.97 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	35	57	74	118	394	338	355	112	73	51	52	44
2	36	55	71	114	358	334	319	107	72	51	52	43
3	36	54	68	114	319	324	265	102	71	50	52	43
4	35	62	82	132	317	284	296	98	69	50	51	43
5	34	71	100	189	300	257	317	95	68	50	51	43
6	36	100	126	199	281	264	312	91	67	50	51	42
7	36	161	168	206	268	278	289	88	66	50	50	42
8	35	170	216	215	250	306	266	85	66	51	50	42
9	35	173	261	229	256	327	245	81	64	51	50	42
10	35	206	266	251	317	335	235	76	63	51	49	41
11	33	213	270	263	337	338	231	73	61	51	49	41
12	35	198	271	251	327	344	236	72	59	51	49	41
13	41	187	252	225	313	346	268	72	58	51	49	41
14	42	191	236	208	298	338	277	71	57	51	48	41
15	42	204	224	191	302	362	274	71	56	51	48	40
16	42	187	239	176	316	479	266	72	55	51	48	40
17	41	162	251	162	341	524	256	72	54	51	47	39
18	38	136	243	156	387	696	250	71	53	51	47	39
19	38	116	222	157	521	716	240	71	53	51	47	39
20	39	103	200	158	742	694	225	72	53	51	47	38
21	40	92	185	162	724	640	220	75	52	52	47	38
22	43	87	171	164	688	568	216	82	52	52	46	37
23	45	79	156	196	664	522	211	85	52	52	46	37
24	48	75	150	216	684	506	202	85	51	52	45	36
25	55	79	150	235	710	468	188	82	51	52	45	35
26	58	93	147	308	656	454	175	84	51	52	45	34
27	59	99	136	387	588	426	165	84	51	52	44	33
28	59	101	123	439	516	404	157	79	51	52	44	33
29	57	100	119	455	466	388	141	77	51	52		32
30	57	87	117	436	400	377	134	75	51	52		31
31		77		411	351		117		51	53		30
Total	1,263	3,775	5,294	7,123	13,391	12,637	7,348	2,460	1,802	1,588	1,349	1,200
Mean	42.1	122	176	230	432	421	237	82.0	58.1	51.2	48.2	38.7
Max.	59	213	271	455	742	716	355	112	73	53	52	44
Min.	33	54	68	114	250	257	117	71	51	50	44	30
Runoff - MCM.	109.123	326.160	457.402	615.427	1,156.982	1,091.837	634.867	212.544	155.693	137.203	116.554	103.680

WATER YEAR 1968 : Max. 742 Min. 30 Mean 162 Annual Runoff 5,118.336 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Aug.20	15.00	25.40	756				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
NAN RIVER BASIN

Nam Pat-at Ban Fai, Uttaradit (N.16)

Location: Lat 17° - 44' - 24" N., Long 100° - 42' - 00" E., on left bank about 3 kilometers upstream from Amphoe Nam Pat, Tambon Ban Fai, Uttaradit.

Drainage Area: 2,088 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 20 meters from upper gage.
Elevation: +6.310 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: 1957 - 58, 1962 to date.

Rating Operation:

Period of Rating: 1963 - 65
Rated by Float: -
Rated by Current Meter: 1963 - 65

Stability of Channel Regimes: Stable, no shifting adjustment for flow computation for year without actual ratings.

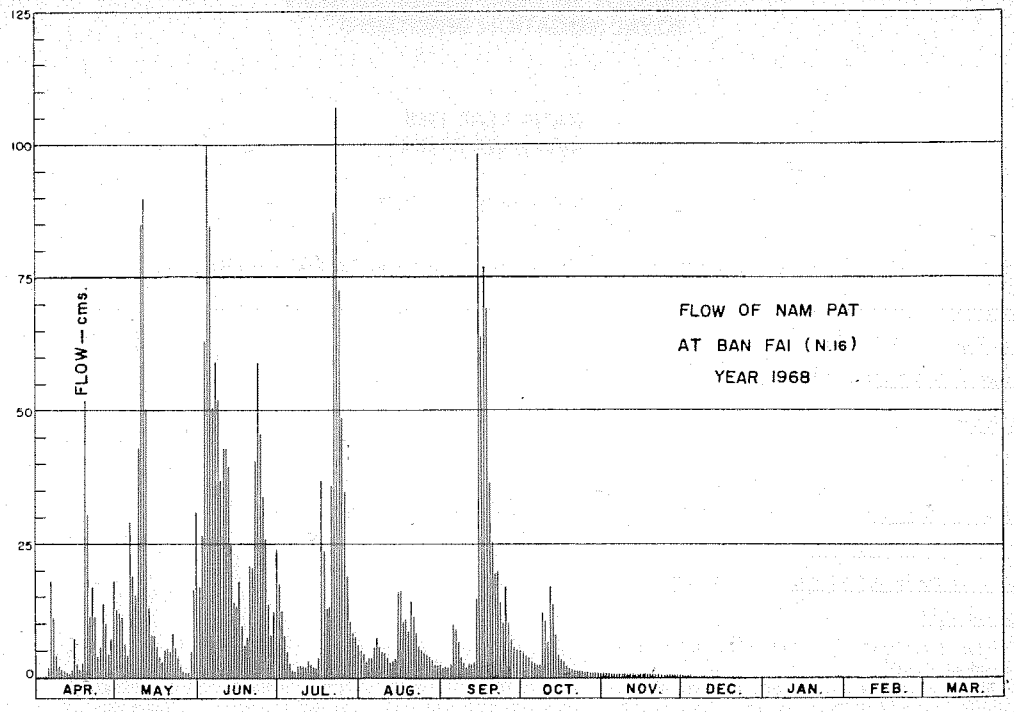
Overbank Flow Conditions: No overbank flow.

General Description: Records fair. Stage - discharge relationship used is defined by discharge measurements made during 1963-65. No upstream state diversions for irrigation except those built by local residents. No adjustment made for virgin flow.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.30	1.00	1.04	1.14	0.75	0.53	0.73	0.40	0.36	0.30	0.29	0.23
2	.30	.00	.34	.02	.70	.56	.71	.39	.36	.29	.29	.24
3	.32	0.95	.79	0.82	.62	.54	.68	.40	.36	.29	.28	.24
4	.35	.73	2.30	.72	.66	.53	.65	.39	.36	.29	.28	.24
5	.36	.61	.07	.61	.67	.94	.62	.39	.36	.29	.27	.23
6	1.14	1.39	1.69	0.46	0.77	0.90	0.60	0.39	0.35	0.28	0.27	0.23
7	0.92	.10	.84	.45	.84	.78	.58	.38	.35	.28	.27	.23
8	.64	0.96	.77	.56	.73	.66	.61	.38	.35	.28	.27	.23
9	.55	1.49	.47	.58	.72	.58	.99	.38	.34	.28	.26	.23
10	.50	2.14	.62	.56	.71	.51	.92	.37	.34	.28	.26	.22
11	0.45	2.20	1.62	0.53	0.67	0.61	0.75	0.37	0.34	0.29	0.26	0.22
12	.42	1.42	.56	.63	.62	.59	1.12	.37	.33	.29	.26	.22
13	.39	.00	.25	.58	.63	.62	0.97	.36	.33	.30	.25	.22
14	.52	0.85	.04	.57	.67	1.08	.79	.36	.33	.30	.25	.23
15	.83	.85	.02	.52	1.09	2.28	.69	.37	.32	.29	.25	.22
16	0.58	0.75	1.15	0.63	1.10	1.66	0.65	0.38	0.32	0.29	0.25	0.22
17	.48	.65	0.93	1.52	0.93	2.06	.62	.38	.32	.29	.25	.22
18	.60	.59	.76	.29	.95	1.63	.57	.38	.31	.29	.24	.21
19	1.75	.73	.79	.03	.85	.43	.54	.38	.31	.30	.24	.21
20	.24	.75	1.21	0.92	1.04	.25	.51	.37	.31	.30	.24	.21
21	0.92	0.71	1.15	1.41	0.97	1.17	0.50	0.37	0.31	0.31	0.24	0.21
22	1.12	.87	.53	2.14	.83	.19	.48	.37	.30	.32	.24	.21
23	0.83	.71	.85	.37	.76	.03	.47	.36	.30	.32	.25	.20
24	.58	.66	.64	.01	.73	0.91	.46	.36	.30	.31	.25	.20
25	.83	.54	.45	1.69	.71	1.13	.46	.36	.30	.31	.25	.20
26	1.06	0.46	1.30	1.46	0.69	0.94	0.45	0.37	0.30	0.31	0.24	0.21
27	0.85	.41	.03	.08	.67	.83	.43	.37	.30	.30	.24	.22
28	.62	.42	0.83	0.98	.63	.77	.41	.37	.29	.30	.24	.22
29	.88	.65	.96	.87	.59	.73	.41	.37	.29	.30		.22
30	1.15	1.10	1.28	.84	.57	.73	.40	.37	.29	.30		.22
31		.42		.79	.56		.40		.30	.29		.21
Mean	0.73	0.94	1.38	0.99	0.75	0.97	0.62	0.37	0.32	0.29	0.26	0.22
Max.	1.75	2.20	2.30	2.37	1.10	2.28	1.12	0.40	0.36	0.32	0.29	0.24
Min.	0.30	0.41	0.26	0.45	0.56	0.51	0.40	0.36	0.29	0.28	0.24	0.20

WATER YEAR 1968 : Max. 2.37 m. Min. 0.20 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.20	12	14	18	5.45	1.83	5.03	0.70	0.50	0.20	0.18	0.060
2	0.20	12	27	13	4.40	2.16	4.61	0.65	0.50	0.18	0.18	0.080
3	0.30	11	55	7.00	2.96	1.94	4.04	0.70	0.50	0.18	0.16	0.080
4	0.45	5.03	100	4.82	3.68	1.83	3.50	0.65	0.50	0.18	0.16	0.080
5	0.50	2.78	78	2.78	3.86	10	2.96	0.65	0.50	0.18	0.14	0.060
6	18	29	47	1.18	5.87	9.00	2.60	0.65	0.45	0.16	0.14	0.060
7	9.64	16	59	1.10	7.50	6.08	2.38	0.60	0.45	0.16	0.14	0.060
8	3.32	11	53	2.16	5.03	3.68	2.78	0.60	0.45	0.16	0.14	0.060
9	2.05	35	34	2.38	4.82	2.38	12	0.60	0.40	0.16	0.12	0.060
10	1.50	85	43	2.16	4.61	1.61	9.64	0.55	0.40	0.16	0.12	0.040
11	1.10	90	43	1.83	3.86	2.78	5.45	0.55	0.40	0.18	0.12	0.040
12	0.86	31	39	3.14	2.96	2.49	17	0.55	0.35	0.18	0.12	0.040
13	0.65	12	23	2.38	3.14	2.96	11	0.50	0.35	0.20	0.10	0.040
14	1.72	7.75	14	2.27	3.86	15	6.29	0.50	0.35	0.20	0.10	0.060
15	7.25	7.75	13	1.72	16	98	4.22	0.55	0.30	0.18	0.10	0.040
16	2.38	5.45	18	3.14	16	45	3.50	0.60	0.30	0.18	0.10	0.040
17	1.34	3.50	9.96	37	9.96	77	2.96	0.60	0.30	0.18	0.10	0.040
18	2.60	2.49	5.66	24	11	43	2.27	0.60	0.25	0.18	0.080	0.020
19	52	5.03	6.29	13	7.75	32	1.94	0.60	0.25	0.20	0.080	0.020
20	22	5.45	21	9.64	14	23	1.61	0.55	0.25	0.20	0.080	0.020
21	9.64	4.61	18	30	11	19	1.50	0.55	0.25	0.25	0.080	0.020
22	17	8.25	37	85	7.25	20	1.34	0.55	0.20	0.30	0.080	0.020
23	7.25	4.61	59	107	5.66	13	1.26	0.50	0.20	0.30	0.10	0.000
24	2.38	3.68	44	73	5.03	9.32	1.18	0.50	0.20	0.25	0.10	0.000
25	7.25	1.94	33	47	4.61	17	1.18	0.50	0.20	0.25	0.10	0.000
26	14	1.18	25	33	4.22	10	1.10	0.55	0.20	0.25	0.080	0.020
27	7.75	0.78	13	15	3.86	7.25	0.94	0.55	0.20	0.20	0.080	0.040
28	2.96	0.86	7.25	10	3.14	5.87	0.78	0.55	0.18	0.20	0.080	0.040
29	8.50	3.50	11	8.25	2.49	5.03	0.78	0.55	0.18	0.20		0.040
30	18	16	24	7.50	2.27	5.03	0.70	0.55	0.18	0.20		0.040
31		31		6.29	2.16		0.70		0.20	0.18		0.020
Total	222.79	465.64	974.16	574.74	188.40	493.24	117.24	17.30	9.97	6.18	3.16	1.240
Mean	7.43	15.0	32.4	18.5	6.08	16.4	3.78	0.577	0.322	0.199	0.113	0.040
Max.	52	90	100	107	16	98	17	0.70	0.50	0.30	0.18	0.080
Min.	0.20	0.78	5.66	1.10	2.16	1.61	0.70	0.50	0.18	0.16	0.080	0.000
Runoff - mcm.	19.249	40.232	84.167	49.657	16.278	42.616	10.129	1.495	0.861	0.534	0.273	0.107

WATER YEAR 1968 : Max. 107 Min. 0.00 Mean 8.42 Annual Runoff 265.599 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Jul.23	05.00	2.86	164				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
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:

Location:
Elevation:

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 - 71, 1973 to date
Rated by Float: -
Rated by Current Meter: 1969 - 71, 1973 to date

Stability of Channel Regimes: Stable, no shifting adjustment for flow computation for year without actual ratings.

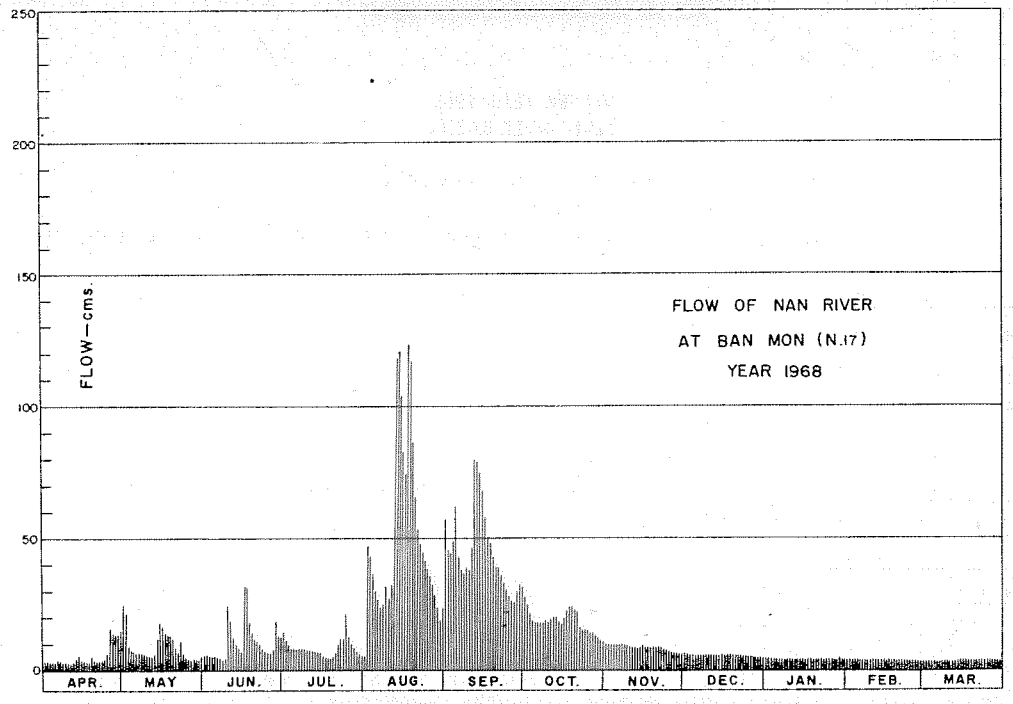
Overbank Flow Conditions: No overbank flow.

General Description: Records fair. Stage - discharge relationship used is defined by discharge measurements made during 1969. No upstream state diversions for irrigation except those built by local residents. No adjustment made for virgin flow.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.25	1.00	0.47	0.76	0.47	1.58	1.08	0.64	0.49	0.41	0.34	0.25
2	.25	0.91	.48	.68	.76	.40	.03	.63	.48	.40	.34	.25
3	.24	.61	.45	.63	1.41	.37	0.93	.62	.47	.40	.34	.25
4	.24	.55	.42	.58	.26	.44	.87	.62	.46	.39	.33	.25
5	.23	.53	.46	.58	.13	.66	.85	.62	.46	.39	.33	.25
6	0.35	0.51	0.42	0.58	1.05	1.37	0.84	0.63	0.46	0.38	0.33	0.25
7	.31	.50	.39	.57	0.99	.28	.83	.63	.46	.38	.33	.25
8	.23	.50	.34	.57	.95	.22	.85	.62	.45	.37	.33	.25
9	.23	.47	.40	.56	1.14	.28	.86	.62	.45	.37	.32	.25
10	.23	.46	1.01	.56	.04	.27	.84	.60	.45	.37	.32	.25
11	0.23	0.45	0.90	0.55	1.06	1.30	0.86	0.60	0.45	0.37	0.32	0.25
12	.23	.44	.68	.54	.27	.91	.90	.59	.45	.36	.32	.25
13	.35	.43	.63	.53	2.05	.89	.90	.58	.45	.36	.32	.25
14	.45	.65	.58	.54	.38	.84	.87	.57	.45	.36	.31	.27
15	.33	.83	.53	.51	.41	.74	.82	.62	.44	.36	.31	.33
16	0.31	0.78	0.51	0.46	1.93	1.58	0.90	0.58	0.44	0.36	0.31	0.32
17	.27	.73	1.15	.42	.73	.49	.93	.59	.44	.36	.30	.32
18	.24	.70	0.88	.40	2.43	.43	.98	.59	.44	.36	.30	.31
19	.43	.70	.73	.40	.37	.36	.98	.58	.44	.35	.29	.31
20	.29	.66	.69	.44	1.83	.29	.96	.58	.44	.35	.29	.30
21	0.29	0.57	0.65	0.52	1.60	1.28	0.93	0.57	0.44	0.35	0.28	0.29
22	.29	.48	.60	.63	.47	.23	.78	.57	.43	.35	.28	.28
23	.29	.66	.55	.68	.41	.18	.77	.57	.43	.35	.27	.27
24	.32	.46	.52	.67	.35	.13	.76	.54	.43	.35	.27	.27
25	.49	.37	.50	.93	.29	.08	.75	.53	.43	.34	.26	.26
26	0.80	0.33	0.50	0.68	1.23	1.04	0.74	0.52	0.42	0.34	0.26	0.26
27	.74	.31	.51	.63	.16	.01	.73	.51	.42	.34	.25	.26
28	.72	.37	.86	.58	.07	.07	.71	.50	.42	.34	.25	.26
29	.72	.37	.70	.53	0.95	.17	.68	.49	.42	.40		.26
30	.76	.35	.70	.48	.83	.14	.66	.48	.41	.34		.26
31		.43		.44	1.01		.65		.41	.34		.26
Mean	0.37	0.55	0.61	0.57	1.39	1.37	0.85	0.58	0.44	0.36	0.30	0.27
Max.	0.80	1.00	1.15	0.93	2.43	1.91	1.08	0.64	0.49	0.41	0.34	0.33
Min.	0.23	0.31	0.34	0.40	0.47	1.01	0.65	0.48	0.41	0.34	0.25	0.25

WATER YEAR 1968 : Max. 2.43 m. Min. 0.23 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	3.14	25	5.97	15	5.97	57	29	10	6.32	4.92	4.03	3.14
2	3.14	21	6.15	12	15	46	26	10	6.15	4.74	4.03	3.14
3	3.06	9.52	5.62	10	47	44	22	9.86	5.97	4.74	4.03	3.14
4	3.06	7.84	5.09	8.64	38	48	19	9.86	5.80	4.62	3.91	3.14
5	2.97	7.30	5.80	8.64	31	62	18	9.86	5.80	4.62	3.91	3.14
6	4.15	6.77	5.09	8.64	27	44	18	10	5.80	4.50	3.91	3.14
7	3.68	6.50	4.62	8.38	24	39	18	10	5.80	4.50	3.91	3.14
8	2.97	6.50	4.03	8.38	23	36	18	9.86	5.62	4.39	3.91	3.14
9	2.97	5.97	4.74	8.11	32	39	19	9.86	5.62	4.39	3.80	3.14
10	2.97	5.80	25	8.11	27	38	18	9.18	5.62	4.39	3.80	3.14
11	2.97	5.62	20	7.84	28	40	19	9.18	5.62	4.39	3.80	3.14
12	2.97	5.44	12	7.57	38	80	20	8.91	5.62	4.27	3.80	3.14
13	4.15	5.27	10	7.30	91	79	20	8.64	5.62	4.27	3.80	3.14
14	5.62	11	8.64	7.57	118	75	19	8.38	5.62	4.27	3.68	3.31
15	3.91	18	7.30	6.77	121	68	17	9.86	5.44	4.27	3.68	3.91
16	3.68	16	6.77	5.80	82	57	20	8.64	5.44	4.27	3.68	3.80
17	3.31	14	32	5.09	67	51	22	8.91	5.44	4.27	3.56	3.80
18	3.06	13	20	4.74	123	48	24	8.91	5.44	4.27	3.56	3.68
19	5.27	13	14	4.74	117	44	24	8.64	5.44	4.15	3.48	3.68
20	3.48	11	12	5.44	74	39	23	8.64	5.44	4.15	3.48	3.56
21	3.48	8.38	11	7.04	59	39	22	8.38	5.44	4.15	3.39	3.48
22	3.48	6.15	9.18	10	50	36	16	8.38	5.27	4.15	3.39	3.39
23	3.48	11	7.84	12	47	34	15	8.38	5.27	4.15	3.31	3.31
24	3.80	5.80	7.04	11	43	31	15	7.57	5.27	4.15	3.31	3.31
25	6.32	4.39	6.50	22	39	29	15	7.30	5.27	4.03	3.22	3.22
26	16	3.91	6.50	12	36	27	14	7.04	5.09	4.03	3.22	3.22
27	14	3.68	6.77	10	33	25	14	6.77	5.09	4.03	3.14	3.22
28	13	4.39	19	8.64	28	28	13	6.50	5.09	4.03	3.14	3.22
29	13	4.39	13	7.30	23	33	12	6.32	5.09	4.74		3.22
30	15	4.15	13	6.15	18	32	11	6.15	4.92	4.03		3.22
31		5.27		5.44	25		11		4.92	4.03		3.22
Total	162.09	276.04	314.65	270.33	1,529.97	1,348	571	259.98	170.34	133.91	101.88	102.59
Mean	5.40	8.90	10.5	8.72	49.3	44.9	18.4	8.39	5.49	4.32	3.64	3.31
Max.	16	25	32	22	123	80	29	10	6.32	4.92	4.03	3.91
Min.	2.97	3.68	4.03	4.74	5.97	25	11	6.15	4.92	4.03	3.14	3.14
Runoff — mcm.	14.004	23.850	27.186	23.356	132.189	116.467	49.334	22.462	14.717	11.570	8.802	8.864

WATER YEAR 1968 : Max. 123 Min. 2.97 Mean 14.3 Annual Runoff 452.803 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Aug.18	06.00	250	129				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
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, Phitsanulok.

Drainage Area: 4,761 sq.km.

Type of Gage: Staff gage.

Zero Gage at Bottom at: +43.037 m. (M.S.L.)

Bench Mark: B.M. – N.22

Location: Near staff gage.
Elevation: +51.143 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 to date
Rated by Float: –
Rated by Current Meter: 1963 to date

Stability of Channel Regimes: Unstable, shifting adjustment is included for flow computation.

Overbank Flow Conditions: No overbank flow.

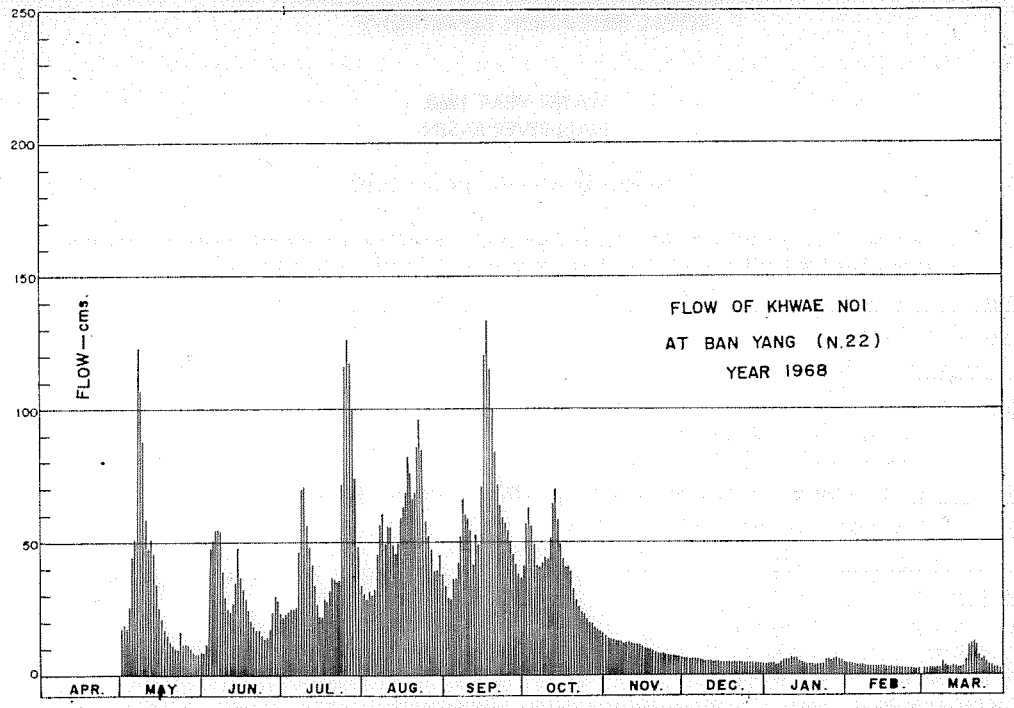
General Description: Records fair. Stage – discharge relationship used is defined by discharge measurements made during 1968. No upstream state diversions for irrigation except those built by local residents. No adjustment made for virgin flow.

Remarks: No records for periods Apr. 1 – 30.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1		1.05	0.73	1.25	1.51	1.55	1.71	0.99	0.67	0.51	0.48	0.35
2		.11	.88	.30	.42	.42	2.01	.97	.66	.51	.47	.34
3		.03	1.18	.31	.52	.40	.10	.95	.66	.50	.46	.34
4		.20	.85	.35	.49	.51	1.94	.94	.65	.50	.45	.34
5		.75	.96	.34	.43	.50	.76	.91	.65	.49	.44	.34
6		1.71	1.98	1.36	1.51	1.66	1.64	0.91	0.64	0.49	0.43	0.34
7		2.51	.96	.78	.81	.85	.13	.90	.63	.57	.43	.34
8		3.17	.65	2.34	.91	2.14	.65	.89	.63	.59	.42	.49
9		2.50	.44	.36	.76	1.97	.71	.87	.62	.57	.41	.40
10		.05	.28	1.98	.98	2.04	.67	.93	.62	.60	.41	.37
11		1.79	1.24	1.83	1.98	1.89	1.81	0.88	0.61	0.59	0.41	0.38
12		.88	.36	.68	.85	.60	2.08	.91	.61	.59	.40	.39
13		.79	.55	.51	.72	.97	.17	.89	.60	.57	.40	.38
14		.51	.82	.30	.79	.83	1.93	.86	.59	.53	.40	.37
15		.27	.56	.25	2.02	2.41	.73	.84	.59	.51	.40	.38
16		1.16	1.45	1.26	2.26	3.17	1.62	0.83	0.58	0.50	0.39	0.45
17		.04	.38	.45	.37	.36	.54	.81	.57	.50	.39	.58
18		0.95	.20	.39	.59	2.99	.57	.79	.56	.50	.38	.78
19		.88	.09	.45	.41	.78	.50	.78	.56	.49	.38	.83
20		.83	.04	.55	.15	.46	.44	.76	.55	.48	.38	.82
21		0.79	1.02	1.51	2.54	2.20	1.38	0.75	0.55	0.49	0.37	0.77
22		.77	.04	.69	.73	.08	.31	.75	.55	.51	.37	.60
23		.84	0.95	.70	.44	.02	.28	.75	.55	.50	.37	.49
24		.79	.93	2.36	.07	1.97	.23	.73	.54	.59	.36	.58
25		.86	.95	.98	1.99	.89	.20	.72	.54	.58	.36	.46
26		0.82	1.06	3.12	1.89	1.82	1.16	0.71	0.53	0.57	0.36	0.43
27		.74	.24	2.98	.74	.68	.13	.71	.52	.60	.36	.40
28		.70	.40	.49	.63	.64	.10	.70	.52	.63	.36	.38
29		.68	.35	.06	.69	.55	.07	.69	.52	.57	–	.37
30		.71	.22	1.76	.80	.55	.05	.68	.51	.55	–	.35
31		.74	–	.59	.64	–	.03	–	.51	.51	–	.35
Mean		1.28	1.32	1.78	1.92	2.00	1.55	0.83	0.58	0.54	0.40	0.46
Max.		3.17	1.98	3.12	2.73	3.36	2.17	0.99	0.67	0.63	0.48	0.83
Min.		0.68	0.73	1.25	1.42	1.40	1.03	0.68	0.51	0.48	0.36	0.34

WATER YEAR 1968 : Max. 3.36 m. Min. 0.35 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1		18	8.92	22	31	34	45	15	6.66	4.40	4.60	2.47
2		19	13	23	28	29	59	14	6.44	4.40	4.40	2.30
3		17	22	24	32	28	63	14	6.44	4.20	4.20	2.30
4		22	49	25	31	36	55	13	6.22	4.20	4.00	2.30
5		45	54	25	28	36	47	13	6.22	4.00	3.83	2.30
6		43	55	26	42	43	41	13	6.00	4.00	3.66	2.30
7		83	54	43	56	52	41	12	5.80	5.60	3.66	2.30
8		123	40	70	61	66	42	12	5.80	6.00	3.49	5.00
9		83	31	71	45	57	45	12	5.60	5.60	3.32	3.32
10		59	25	56	56	59	43	13	5.60	6.22	3.32	2.81
11		46	24	49	56	51	49	12	5.40	6.22	3.32	2.98
12		51	28	42	50	37	65	12	5.40	6.22	3.15	3.15
13		46	36	35	45	53	70	12	5.20	5.60	3.15	2.98
14		34	48	27	48	47	58	11	5.00	4.80	3.15	2.81
15		25	36	22	59	76	48	11	5.40	4.40	3.15	2.98
16		21	32	22	64	121	43	10	5.20	4.20	2.98	3.49
17		17	29	29	70	133	40	10	5.00	4.20	2.98	6.00
18		15	22	28	82	115	41	9.40	4.80	4.20	2.81	11
19		13	19	31	72	101	38	9.16	4.80	4.00	2.81	12
20		11	17	37	59	83	30	8.68	4.60	3.83	2.81	12
21		10	17	36	85	69	28	8.44	4.60	4.00	2.64	10
22		9.88	17	45	96	62	25	8.44	4.60	4.40	2.64	6.44
23		17	15	47	79	59	24	8.44	4.60	4.20	2.64	4.20
24		10	14	80	60	57	22	7.98	4.40	6.00	2.47	6.00
25		12	15	117	56	53	21	7.76	4.40	5.80	2.47	3.66
26		11	18	126	51	50	20	7.54	4.20	5.60	2.47	3.15
27		9.16	24	117	44	43	19	7.54	4.40	6.22	2.47	2.64
28		8.20	30	94	37	41	18	7.32	4.40	6.88	2.47	2.30
29		7.76	28	70	40	37	17	7.10	4.40	5.60	–	2.17
30		8.44	23	42	45	37	17	6.88	4.20	5.20	–	1.91
31		9.16	–	35	38	–	16	–	4.20	4.40	–	1.91
Total		903.60	843.92	1,516	1,646	1,765	1,190	313.68	159.98	154.59	89.06	131.17
Mean		29.1	28.1	48.9	53.1	58.8	38.4	10.4	5.16	4.99	3.18	4.23
Max.		123	55	126	96	133	70	15	6.66	6.88	4.60	12
Min.		7.76	8.92	22	28	28	16	6.88	4.20	3.83	2.47	1.91
Runoff – mcm.		78.071	72.915	130.982	142.214	152.496	102.816	27.102	13.822	13.356	7.695	11.333

WATER YEAR 1968 : Max. 133 Min. Mean Annual Runoff mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sep.17	07.00	3.43	137				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
NAN RIVER BASIN

Nan River at 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, about 1.5 kilometers away from Phra Fang – Ngiu Ngarm Road, Tambon Pha Chuk, Amphoe Muang, Uttaradit.

Drainage Area: 16,366 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 upper 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 to date
Rated by Float: –
Rated by Current Meter: 1963 to date

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

Overbank Flow Conditions: No overbank flow.

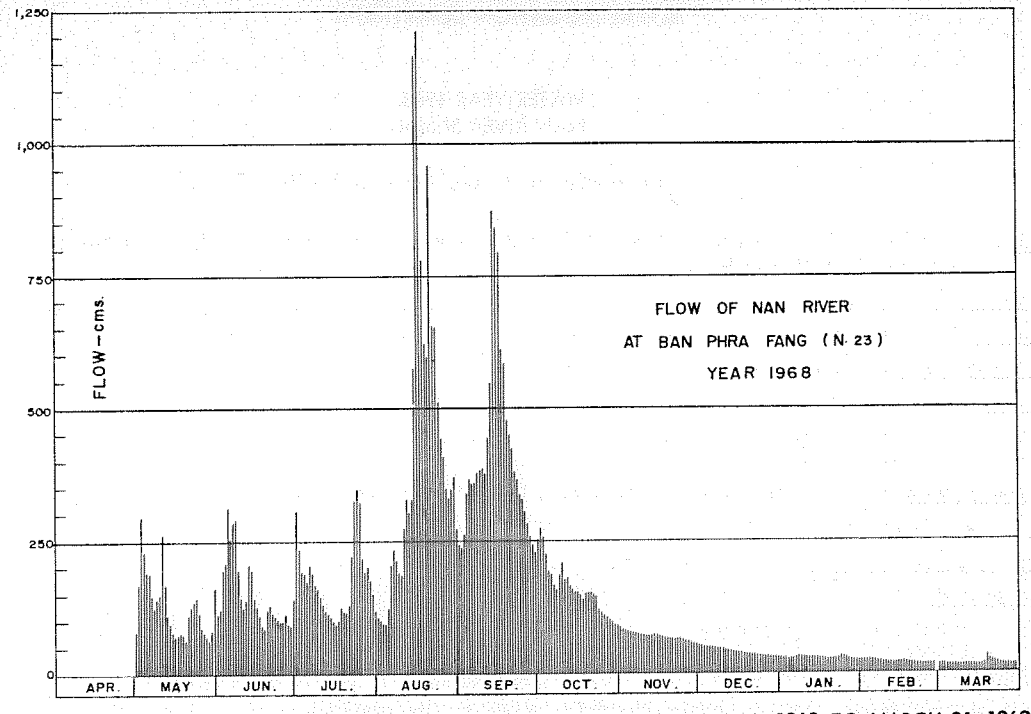
General Description: Records fair. Stage – discharge relationship used is defined by discharge measurements made during 1968. No upstream state diversions for irrigation except those built by local residents. No adjustment made for virgin flow.

Remarks: No record for period Apr. 1 – 30.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1		57.78	58.03	59.32	58.00	58.95	59.00	57.85	57.55	57.32	57.23	57.11
2		58.47	.08	58.91	57.94	.89	.13	.82	.54	.32	.23	.11
3		59.25	.66	.64	.90	59.05	.03	.81	.53	.31	.24	.10
4		58.88	.74	.62	.90	.46	58.79	.79	.53	.30	.26	.10
5		.64	59.35	.49	58.12	.61	.65	.76	.52	.30	.24	.10
6		58.62	58.98	58.72	58.74	59.56	58.61	57.75	57.51	57.30	57.22	57.10
7		.34	59.18	.63	.90	.59	.47	.74	.50	.34	.21	.09
8		.12	.21	.46	.72	.67	.41	.73	.50	.34	.20	.09
9		.28	58.65	.39	.61	.69	.56	.72	.49	.33	.20	.08
10		.32	.27	.33	.58	.71	.75	.72	.48	.32	.19	.08
11		59.07	58.10	58.18	59.09	59.65	58.54	57.70	57.47	57.31	57.19	57.08
12		58.79	.27	.09	.43	60.09	.58	.70	.46	.32	.19	.08
13		.92	.74	.03	.26	.48	.46	.71	.46	.33	.18	.08
14		57.88	.66	.00	.42	61.77	.40	.72	.44	.32	.18	.07
15		.74	.27	57.95	60.73	.62	.37	.70	.43	.31	.17	.08
16		57.68	58.14	57.88	62.77	61.49	58.32	57.68	57.43	57.30	57.17	57.07
17		.71	.01	.96	.93	60.76	.33	.67	.42	.30	.17	.08
18		.76	57.87	58.16	61.47	.66	.28	.68	.41	.29	.16	.15
19		.67	.81	.08	60.81	.15	.36	.67	.40	.28	.16	.33
20		.62	58.12	.06	.66	.04	.36	.65	.40	.28	.15	.24
21		58.03	58.19	58.20	62.07	59.89	58.37	57.64	57.39	57.28	57.15	57.20
22		.16	.06	.82	60.93	.65	.35	.64	.38	.29	.14	.17
23		.21	.01	59.40	.92	.60	.31	.63	.37	.31	.14	.15
24		.31	57.98	.52	.34	.46	.12	.64	.37	.35	.13	.13
25		.04	.94	.41	.12	.43	.06	.63	.36	.33	.13	.12
26		57.80	57.92	58.81	59.82	59.31	58.03	57.61	57.35	57.30	57.13	57.10
27		.75	58.06	.63	.52	.15	.02	.60	.34	.28	.12	.09
28		.66	57.88	.70	.42	.02	57.97	.59	.34	.26	.12	.09
29		.59	.86	.54	.49	58.94	.93	.57	.33	.25		.09
30		.80	58.27	.24	.64	.86	.91	.56	.33	.24		.09
31		58.43		.08	.22		.88		.32	.24		.09
Mean		58.14	58.31	58.49	58.72	59.79	58.40	57.69	57.43	57.30	57.18	57.11
Max.		59.25	59.35	59.52	62.93	61.77	59.13	57.85	57.55	57.35	57.26	57.33
Min.		57.59	57.81	57.88	57.90	58.86	57.88	57.56	57.32	57.24	57.12	57.07

WATER YEAR 1968 : Max. 62.93 m. Min. 57.07 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1		80	110	308	106	243	251	88	54	31	24	16
2		167	116	236	99	233	274	85	53	31	24	16
3		295	195	191	94	260	257	84	52	30	25	16
4		231	205	188	94	335	216	81	52	29	26	16
5		191	314	170	120	365	193	78	51	29	25	16
6		188	248	204	207	355	187	77	50	29	23	16
7		146	282	190	234	361	167	76	49	33	23	15
8		120	290	165	204	377	158	75	49	33	22	15
9		141	193	156	187	381	179	74	48	32	21	15
10		146	140	147	182	385	209	74	46	31	21	15
11		263	118	128	267	373	177	72	45	30	21	15
12		216	140	117	329	461	182	72	44	31	21	15
13		108	207	110	297	547	165	73	44	32	21	15
14		92	195	106	327	872	157	74	42	31	21	14
15		76	140	100	605	830	153	72	41	30	20	15
16		70	123	92	1,163	796	153	70	41	29	20	14
17		73	107	101	1,211	612	147	69	40	29	20	15
18		78	90	125	789	588	141	70	39	29	19	18
19		69	84	116	624	474	151	69	38	28	19	32
20		64	120	113	588	451	151	67	38	28	18	25
21		110	129	130	956	421	153	66	37	28	18	22
22		125	113	221	654	373	147	66	36	29	18	20
23		132	107	323	651	363	145	64	35	30	18	18
24		145	104	347	515	335	120	66	35	33	17	17
25		111	99	325	468	329	113	64	34	32	17	17
26		82	96	219	409	306	110	62	33	29	17	16
27		77	113	190	347	277	108	61	33	28	17	15
28		68	92	201	327	255	102	59	33	26	17	15
29		61	89	177	341	241	98	57	32	25		15
30		82	140	136	371	228	95	56	32	25		15
31		161		116	290		92		31	25		15
Total		3,968	4,499	5,448	13,056	12,427	4,951	2,121	1,287	915	574	519
Mean		128	150	176	421	414	160	70.7	41.5	29.5	20.5	16.7
Max.		295	314	347	1,211	872	274	88	54	33	26	32
Min.		61	84	92	94	228	92	56	31	25	17	14
Runoff - MCM.		342.835	388.714	470.707	1,128.038	1,073.693	427.766	183.254	111.197	79.056	49.594	44.842

WATER YEAR 1968 : Max. 1,211 Min. 14 Mean Annual Runoff mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Aug.16	24.00	63.26	1,312				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
NAN RIVER BASIN

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

Location: Lat 16° - 50' - 35" N., Leng 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: Staff gage.

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

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

Location: Near gage site.
Elevation: +12.845 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: 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: Unstable, shifting adjustment is included for flow computation.

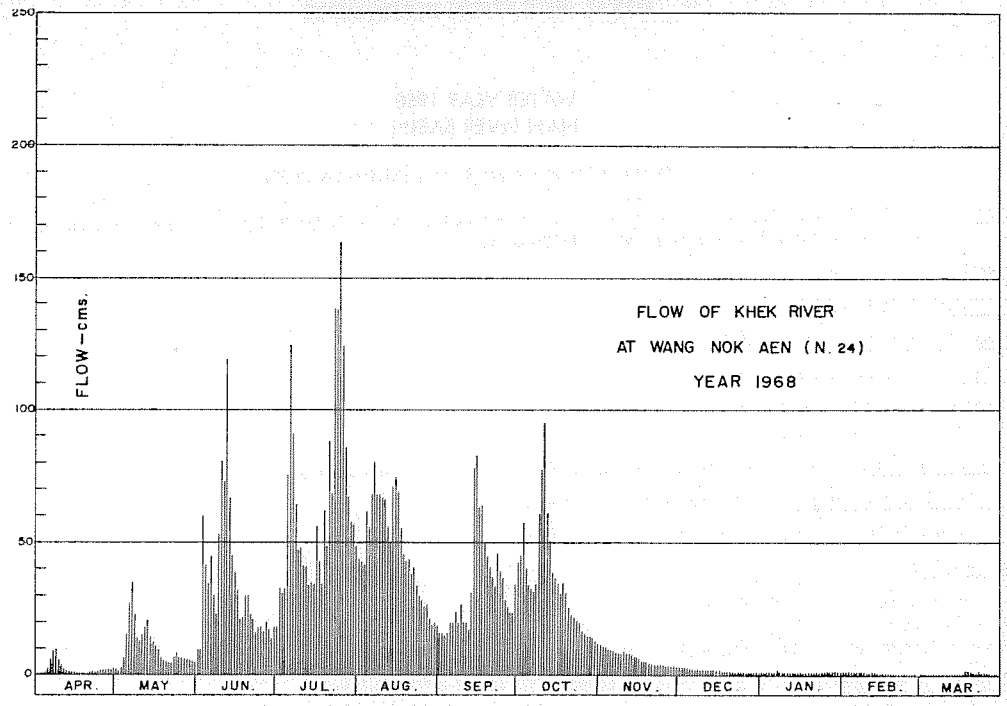
Overbank Flow Conditions: No overbank flow.

General Description: Records fair. Stage - discharge relationship used is defined by discharge measurements made during 1968. No upstream state diversions for irrigation except those built by local residents. No adjustment made for virgin flow.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1968 TO MARCH 31,1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.55	0.86	1.43	1.97	2.75	1.81	2.78	1.57	1.02	0.78	0.79	0.58
2	.56	.82	.45	2.57	.71	.81	.86	.54	.01	.77	.78	.57
3	.63	.99	3.36	.49	.66	.77	3.26	.51	0.99	.77	.79	.57
4	.71	1.28	2.79	.54	3.29	.82	2.77	.48	.98	.76	.75	.57
5	.95	.73	.58	4.06	.08	.94	.50	.46	.97	.76	.73	.56
6	1.22	2.29	2.95	5.29	3.73	1.92	2.47	1.44	0.96	0.78	0.72	0.56
7	.42	.57	.45	4.49	.99	2.10	.41	.41	.95	.85	.70	.56
8	.49	.13	.08	3.97	.65	.02	.55	.39	.94	.82	.69	.55
9	.21	1.69	3.06	2.83	.65	.36	3.10	.39	.93	.81	.69	.56
10	.05	.67	.92	.86	.56	.08	.57	.42	.92	.79	.66	.56
11	0.85	1.79	3.72	2.65	3.43	1.97	4.09	1.40	0.91	0.79	0.64	0.57
12	.76	.96	5.03	.66	.17	.85	3.52	.38	.90	.79	.67	.56
13	.70	2.04	3.69	.43	2.97	2.29	.20	.35	.90	.78	.67	.55
14	.70	1.72	.03	.45	3.58	3.74	2.85	.31	.89	.77	.65	.55
15	.69	.59	2.75	.55	.79	.97	.67	.29	.88	.77	.64	.56
16	0.67	1.57	2.51	3.23	3.63	3.32	2.50	1.26	0.87	0.76	0.63	0.56
17	.67	.46	.05	2.85	.26	.34	.37	.24	.86	.75	.64	.56
18	.65	.26	.09	.58	2.95	2.92	.50	.22	.85	.74	.63	.72
19	.62	.18	.42	3.55	.74	.68	.34	.19	.84	.75	.62	.72
20	.60	.12	.42	.12	.78	.72	.15	.17	.84	.76	.63	.73
21	0.65	1.09	2.14	4.26	2.59	2.47	2.06	1.15	0.83	0.75	0.62	0.67
22	.70	.10	1.99	3.72	.65	.34	.01	.14	.83	.75	.61	.65
23	.69	.20	.84	5.47	.44	.93	1.95	.12	.82	.75	.60	.72
24	.71	.36	.93	.49	.31	.70	.90	.11	.82	.74	.60	.67
25	.80	.26	.93	6.22	.22	.63	.85	.10	.81	.75	.60	.67
26	0.82	1.27	1.80	5.56	2.14	2.36	1.80	1.08	0.79	0.79	0.59	0.65
27	.78	.25	2.00	4.75	.19	.22	.76	.08	.79	.79	.59	.63
28	.83	.22	1.87	3.89	.06	.14	.72	.06	.79	.77	.58	.62
29	.82	.19	.74	.63	1.94	.11	.68	.05	.79	.80		.60
30	.85	.20	.99	.22	.97	.53	.64	.04	.79	.81		.60
31		.09		2.98	.93		.61		.78	.79		.58
Mean	0.81	1.45	2.50	3.56	2.90	2.43	2.46	1.28	0.88	0.77	0.66	0.60
Max.	1.49	2.57	5.03	6.22	3.99	3.97	4.09	1.57	1.02	0.85	0.79	0.73
Min.	0.55	0.82	1.43	1.97	1.93	1.77	1.61	1.04	0.78	0.74	0.58	0.55

WATER YEAR 1968 : Max. 6.22 m. Min. 0.55 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.32	2.41	9.27	18	44	16	43	12	3.76	1.44	1.78	0.44
2	0.32	1.52	9.61	33	43	16	45	11	3.40	1.36	1.69	0.38
3	0.80	3.10	60	31	41	15	58	11	3.20	1.44	1.78	0.38
4	1.44	6.90	40	32	62	16	42	10	3.10	1.36	1.44	0.38
5	2.70	15	34	75	55	20	34	9.78	3.00	1.36	1.28	0.32
6	6.06	27	45	124	70	20	33	9.44	2.90	1.52	1.20	0.32
7	9.78	35	32	91	80	24	32	8.95	2.80	2.14	1.28	0.32
8	10	23	23	72	68	19	36	8.65	2.70	1.87	1.20	0.26
9	5.92	14	51	47	68	27	59	8.65	2.60	1.78	1.20	0.32
10	3.76	13	81	48	67	20	76	9.10	2.50	1.60	0.96	0.32
11	2.32	16	73	41	66	20	95	8.80	2.41	1.60	0.80	0.38
12	1.52	19	119	41	57	17	61	8.50	2.32	1.60	1.04	0.32
13	1.04	21	67	34	50	31	51	8.05	2.32	1.52	1.04	0.26
14	1.04	14	45	35	71	78	39	7.46	2.23	1.44	0.88	0.26
15	0.96	12	39	34	75	83	37	7.18	2.14	1.44	0.80	0.32
16	0.80	11	32	56	69	63	35	6.20	2.05	1.52	0.74	0.32
17	0.80	9.61	21	45	57	64	31	5.92	1.96	1.44	0.80	0.32
18	0.68	6.62	22	35	46	50	35	5.64	1.87	1.36	0.74	1.28
19	0.50	5.50	30	62	43	42	31	5.22	1.96	1.44	0.68	1.28
20	0.38	5.08	30	48	44	43	26	4.94	1.96	1.52	0.74	1.36
21	0.68	4.67	23	88	38	36	23	4.67	1.87	1.44	0.68	0.88
22	1.04	4.80	20	68	41	32	22	4.54	1.87	1.44	0.62	0.74
23	0.96	6.20	16	138	34	46	21	4.28	1.78	1.44	0.56	1.28
24	1.12	8.20	18	138	30	39	20	4.15	1.78	1.36	0.56	0.88
25	1.87	6.76	18	163	28	37	17	4.02	1.69	1.44	0.56	0.88
26	2.05	6.90	16	133	26	29	16	3.76	1.52	1.78	0.50	0.74
27	1.69	6.62	20	100	27	26	15	3.76	1.52	1.78	0.50	0.62
28	2.14	6.20	17	67	22	24	15	3.50	1.52	1.60	0.44	0.56
29	2.05	5.78	14	58	19	24	14	3.89	1.52	1.87		0.44
30	2.32	5.92	18	57	20	35	13	3.76	1.52	1.96		0.44
31		4.41		49	19		12		1.44	1.78		0.32
Total	67.06	327.20	1,042.88	2,059	1,480	1,012	1,087	206.81	69.21	48.64	26.49	17.32
Mean	2.23	10.5	34.8	66.4	47.7	33.7	35.1	6.89	2.23	1.57	0.946	0.559
Max.	10	35	119	163	80	83	95	12	3.76	2.14	1.78	1.36
Min.	0.32	1.52	9.27	18	19	15	12	3.50	1.44	1.36	0.44	0.26
Runoff - mcm.	5.794	28.270	90.105	177.898	127.872	87.437	93.917	17.868	5.980	4.202	2.289	1.496

WATER YEAR 1968 : Max. 163 Min. 0.26 Mean 20.4 Annual Runoff 643.128 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Jul.25	03.00	6.50	192				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
NAN RIVER BASIN

Khlong Ta Yom at Ban Wat Ta Yom, Phitsanulok (N.25)

Location: Lat 16° - 36' - 10" N., Long 100° - 26' - 49" E., on left bank at Ban Wat Ta Yom Market, at bridge on highway No.112 (Wang Thong - Phichit), Amphoe Bang Krathum, Phitsanulok.

Drainage Area: 875 sq.km.

Type of Gage: Staff gage.

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

Bench Mark: B.M. - H.S./R.I.D. No.1

Location: On left bank along the gage line.
Elevation: +5.554 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: 1965 to date.

Rating Operation:

Period of Rating: 1965, 1967 - 71
Rated by Float: -
Rated by Current Meter: 1965, 1967 - 71

Stability of Channel Regimes: Unstable, shifting adjustment is included for flow computation.

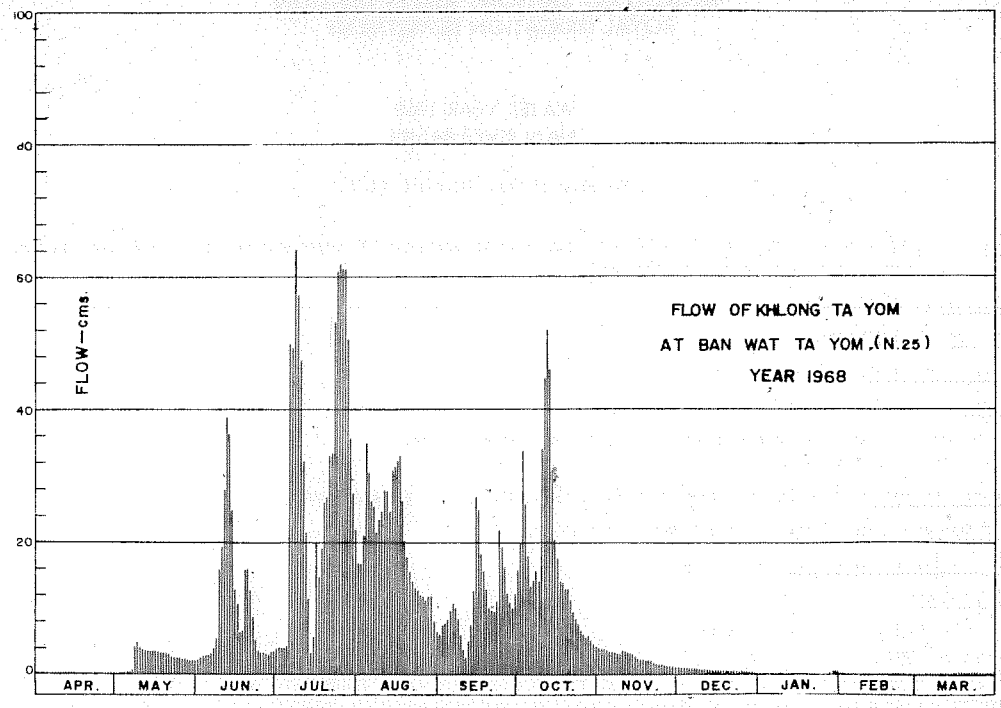
Overbank Flow Conditions: No overbank flow.

General Description: Records fair. Stage - discharge relationship used is defined by discharge measurements made during 1968. No upstream state diversions for irrigation except those built by local residents. No adjustment made for virgin flow.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.66	0.70	1.21	1.44	2.66	1.60	2.68	1.42	1.01	0.81	0.83	0.72
2	.66	.71	.23	.44	.47	.26	3.01	.38	.01	.81	.83	.72
3	.66	.71	.25	.43	.72	.78	.28	.37	.00	.81	.78	.72
4	.67	.72	.27	.44	3.85	.82	.09	.36	0.99	.81	.77	.72
5	.67	.72	.29	2.46	.59	.98	2.61	.36	.98	.81	.77	.72
6	0.67	0.73	1.33	4.72	3.35	2.07	2.36	1.34	0.97	0.81	0.77	0.72
7	.68	.75	.40	4.68	.30	1.98	.48	.32	.96	.81	.77	.71
8	.68	1.47	.58	5.35	2.90	.79	.53	.29	.94	.81	.76	.71
9	.68	.53	2.15	.03	3.07	.67	.34	.28	.93	.81	.76	.71
10	.69	.41	.83	4.77	.10	.37	3.73	.36	.92	.81	.76	.71
11	0.69	1.39	3.17	3.61	3.41	1.22	4.51	1.33	0.91	0.81	0.76	0.71
12	.69	.38	4.15	2.77	.49	.60	.97	.29	.91	.81	.76	.71
13	.69	.38	3.84	1.98	.09	.81	.49	.26	.91	.81	.76	.70
14	.70	.36	2.75	.20	.66	2.36	3.41	.26	.90	.81	.75	.70
15	.70	.36	2.25	.56	.69	3.29	2.92	.23	.90	.81	.75	.70
16	0.70	1.36	2.08	2.84	3.74	3.01	2.70	1.21	0.89	0.80	0.75	0.70
17	.70	.35	1.65	.36	.74	2.47	.54	.19	.89	.79	.75	.71
18	.70	.35	1.74	.76	.17	.41	.43	.16	.87	.79	.75	.72
19	.70	.30	2.50	3.29	2.76	.19	.34	.15	.87	.79	.74	.73
20	.70	.30	2.50	.31	.61	1.97	.21	.14	.86	.79	.74	.73
21	0.70	1.29	2.10	3.74	2.44	1.92	2.05	1.13	0.86	0.79	0.74	0.72
22	.70	.20	1.74	.74	.33	.92	1.96	.09	.86	.79	.73	.72
23	.70	.20	.44	4.88	.25	2.02	.89	.09	.85	.79	.73	.71
24	.70	.20	.35	5.09	.12	3.07	.79	.07	.85	.79	.72	.70
25	.70	.20	.33	.14	.11	2.88	.73	.05	.84	.79	.72	.70
26	0.70	1.19	1.31	5.12	2.10	2.52	1.67	1.05	0.84	0.80	0.72	0.69
27	.70	.18	.30	.10	.00	.30	.62	.04	.84	.81	.78	.69
28	.70	.16	.23	4.59	.06	.10	.65	.03	.83	.86	.72	.69
29	.70	.16	.25	3.88	.11	.00	.52	.03	.83	.96		.69
30	.70	.15	.25	.52	1.82	.27	.40	.02	.82	.92		.69
31		.15		.03	.66		.45		.82	.86		.69
Mean	0.69	1.17	1.88	3.43	2.88	2.12	2.56	1.21	0.90	0.82	0.75	0.71
Max.	0.70	1.53	4.15	5.35	3.85	3.29	4.97	1.42	1.01	0.96	0.83	0.73
Min.	0.66	0.70	1.21	1.20	1.66	1.22	1.45	1.02	0.82	0.79	0.72	0.69

WATER YEAR 1968 : Max. 5.35 m. Min. 0.66 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.030	0.15	2.67	4.39	17	6.02	17	4.05	1.18	0.43	0.43	0.22
2	0.030	0.18	2.81	4.39	16	7.59	21	4.13	1.29	0.43	0.43	0.22
3	0.030	0.18	2.95	4.30	19	7.81	34	4.05	1.23	0.43	0.32	0.22
4	0.060	0.22	3.09	4.39	35	8.25	22	3.75	1.18	0.43	0.29	0.22
5	0.060	0.22	3.23	4.56	30	10	16	3.75	1.12	0.43	0.29	0.22
6	0.060	0.25	3.52	50	26	11	13	3.60	1.12	0.43	0.29	0.22
7	0.090	0.39	4.05	49	26	10	15	3.45	1.07	0.39	0.29	0.18
8	0.090	4.64	558	64	21	7.92	16	3.23	0.96	0.39	0.18	0.18
9	0.090	5.15	16	56	24	6.29	14	3.16	0.90	0.39	0.18	0.18
10	0.12	4.13	20	51	24	3.75	33	3.97	0.85	0.39	0.18	0.18
11	0.12	3.97	33	31	28	2.67	44	3.75	0.78	0.39	0.18	0.18
12	0.12	3.90	39	19	28	5.66	52	3.45	0.78	0.39	0.18	0.18
13	0.12	3.90	35	9.68	23	8.58	43	3.23	0.78	0.39	0.18	0.15
14	0.15	3.75	19	2.60	31	15	27	3.23	0.74	0.39	0.15	0.15
15	0.15	3.75	13	5.41	31	27	20	2.81	0.74	0.39	0.15	0.15
16	0.15	3.75	11	20	32	24	17	2.67	0.71	0.36	0.15	0.15
17	0.15	3.67	6.20	14	33	16	14	2.53	0.71	0.32	0.15	0.18
18	0.15	3.67	7.07	19	25	15	14	2.34	0.64	0.32	0.15	0.22
19	0.15	3.30	16	26	19	13	13	2.21	0.64	0.32	0.12	0.25
20	0.15	3.30	16	27	17	10	13	2.14	0.60	0.29	0.12	0.25
21	0.15	3.23	11	33	15	9.79	11	2.08	0.60	0.29	0.29	0.22
22	0.15	2.74	7.07	33	14	9.79	9.79	1.84	0.60	0.29	0.25	0.22
23	0.15	2.60	4.39	53	13	11	8.47	1.84	0.57	0.29	0.25	0.18
24	0.15	2.60	3.67	61	13	22	7.38	1.73	0.57	0.29	0.22	0.15
25	0.15	2.60	3.52	62	12	19	6.75	1.62	0.53	0.29	0.22	0.15
26	0.15	2.53	3.37	61	12	15	6.20	1.40	0.53	0.32	0.22	0.12
27	0.15	2.47	3.30	61	11	12	5.75	1.34	0.53	0.36	0.22	0.12
28	0.15	2.34	2.81	50	12	11	6.02	1.29	0.50	0.53	0.22	0.12
29	0.15	2.34	2.95	34	12	9.90	4.90	1.29	0.50	0.90		0.12
30	0.15	2.27	2.95	28	8.36	13	4.64	1.23	0.46	0.74		0.12
31		2.27		22	6.56		4.30		0.46	0.67		0.12
Total	3.57	80.46	304.20	965.72	633.92	348.02	533.20	81.16	23.87	12.67	6.30	5.54
Mean	0.12	2.59	10.1	31.1	21.4	11.6	17.20	2.70	0.77	0.41	0.22	0.18
Max.	0.15	5.15	39	64	35	27	52	4.13	1.29	0.90	0.43	0.25
Min.	0.03	0.15	2.67	2.60	6.56	2.67	4.30	1.23	0.46	0.29	0.12	0.12
Runoff - mcm.	0.300	6.952	26.283	83.265	54.771	30.069	46.068	7.012	2.062	1.095	0.544	0.478

WATER YEAR 1968 : Max. 64 Min. 0.030 Mean 8.21 Annual Runoff 258.909 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Jul.8	07.00	5.50	70				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
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: 0.00 m. (A.D.)

Bench Mark: B.M. - H.S. No.1

Location: At mango tree at the corner of fence of gage observer's house.
Elevation: +9.594 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: 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.

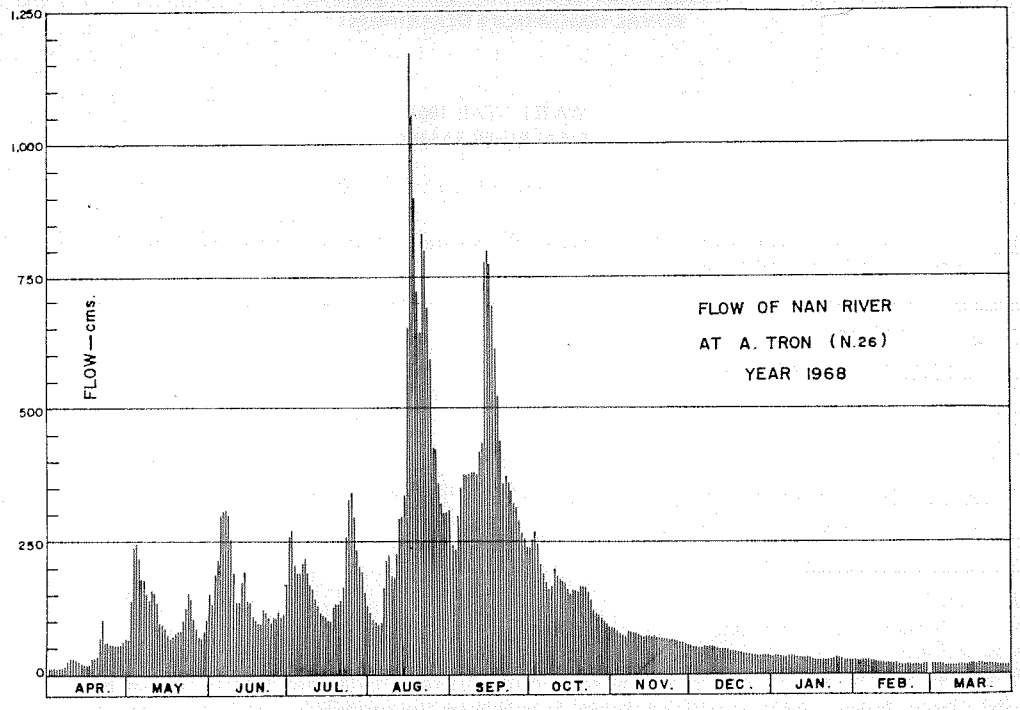
Overbank Flow Conditions: No overbank flow.

General Description: Records fair. Stage - discharge relationship used is defined by discharge measurements made during 1968. No upstream state diversions for irrigation except those built by local residents. No adjustment made for virgin flow.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.35	1.07	1.81	2.44	1.52	2.48	2.39	1.33	0.91	0.63	0.50	0.35
2	.34	.76	.51	.54	.46	.29	.50	.30	.90	.62	.50	.35
3	.33	2.37	2.10	.18	.39	.31	.57	.27	.88	.61	.51	.35
4	.32	.41	.28	.06	.33	.71	.37	.22	.88	.60	.51	.35
5	.36	.11	.72	.01	.44	.95	.19	.20	.86	.59	.52	.33
6	0.39	2.03	2.77	2.10	1.86	3.08	2.13	1.18	0.86	0.58	0.51	0.30
7	.44	1.99	.76	.25	2.23	.04	.04	.16	.85	.62	.50	.30
8	.57	.78	.63	.07	.29	.06	1.93	.14	.84	.64	.49	.31
9	.69	.71	.38	1.90	.07	.09	.08	.13	.83	.62	.48	.31
10	.64	.86	1.94	.85	.02	.09	2.21	.12	.82	.60	.46	.32
11	0.58	1.81	1.68	1.71	2.22	3.01	2.09	1.09	0.81	0.60	0.46	0.33
12	.53	.66	.67	.62	.70	.36	.03	.08	.80	.60	.45	.34
13	.50	.26	.96	.51	.72	.47	.02	.07	.79	.59	.46	.33
14	.49	.35	2.10	.46	.79	5.06	.01	.11	.78	.61	.45	.32
15	.47	.23	1.71	.44	3.57	.17	1.92	.10	.77	.59	.45	.34
16	0.48	1.13	1.71	1.37	5.44	5.01	1.85	1.08	0.75	0.58	0.44	0.35
17	.64	.06	.51	.36	6.61	4.62	.85	.02	.74	.57	.44	.37
18	.72	.15	.42	.57	5.89	.23	.79	.05	.73	.57	.43	.37
19	.71	.19	.39	.64	4.59	3.79	.78	.05	.72	.56	.42	.39
20	1.06	.22	.34	.61	.09	.43	.85	.04	.71	.56	.40	.38
21	1.42	1.25	1.59	1.71	5.22	3.04	1.84	1.04	0.70	0.55	0.39	0.38
22	0.90	.46	.54	.94	.07	.14	.82	.03	.70	.55	.39	.37
23	1.01	.66	.49	2.56	4.56	.06	.75	.03	.69	.57	.39	.36
24	0.98	.82	.34	.86	.17	2.99	.66	.02	.67	.61	.38	.35
25	.94	.62	.48	.92	3.31	.80	.58	.01	.66	.63	.38	.34
26	0.92	1.38	1.44	2.66	3.35	2.83	1.57	0.99	0.66	0.62	0.37	0.33
27	.86	.24	.51	.25	.01	.62	.53	.98	.64	.58	.36	.33
28	.98	.12	.43	.12	2.88	.54	.48	.96	.64	.56	.36	.31
29	1.05	.10	.49	.09	.28	.43	.42	.94	.63	.54	-	.31
30	.10	.29	.81	1.84	.79	.37	.38	.93	.62	.52	-	.30
31	-	.53	-	.64	.81	-	.35	-	-	.51	-	.30
Mean	0.70	1.54	1.82	1.98	3.17	3.23	1.90	1.09	0.76	0.58	0.44	0.34
Max.	1.42	2.41	2.77	2.92	6.61	5.17	2.57	1.33	0.91	0.64	0.52	0.39
Min.	0.32	1.06	1.34	1.36	1.33	2.29	1.35	0.93	0.62	0.51	0.36	0.30

WATER YEAR 1968 : Max. 6.61 m. Min. 0.32 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31,1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	12	67	153	257	114	259	240	88	55	36	26	19
2	12	147	115	274	107	231	259	84	54	36	26	19
3	11	240	196	214	99	242	270	81	52	36	27	19
4	11	247	225	194	92	311	236	76	52	34	27	19
5	13	198	301	187	104	355	198	74	50	33	28	18
6	14	185	310	201	158	379	188	72	55	33	27	16
7	17	179	308	225	214	372	175	81	54	36	26	16
8	25	149	284	196	223	376	159	79	53	37	26	16
9	33	140	242	170	188	381	166	78	52	36	25	16
10	30	160	172	163	181	381	201	77	51	34	24	17
11	26	153	136	144	212	362	187	74	50	34	24	17
12	23	134	136	132	293	427	178	73	49	34	23	18
13	21	87	175	119	297	443	176	70	48	33	24	17
14	20	96	196	113	310	778	175	74	47	35	23	17
15	19	83	140	110	459	796	162	73	46	33	22	18
16	20	73	140	102	872	759	152	71	45	30	21	19
17	30	66	115	101	1,169	669	159	73	44	30	21	20
18	36	75	104	126	982	585	158	68	43	30	20	20
19	35	79	101	135	674	493	156	68	42	29	20	21
20	66	82	95	131	576	421	166	67	41	29	19	20
21	104	85	125	144	831	346	165	67	40	28	18	20
22	51	109	119	176	796	374	162	66	40	28	19	20
23	61	134	113	277	679	359	152	66	40	30	19	19
24	58	155	95	331	593	346	126	65	40	33	19	19
25	55	129	112	342	417	311	116	64	39	34	19	18
26	53	99	110	295	425	317	115	62	39	33	18	17
27	56	84	119	225	359	279	110	61	37	30	20	17
28	58	72	109	204	322	265	104	59	37	29	20	16
29	65	70	116	191	304	247	98	57	37	28	–	16
30	70	90	158	155	306	236	93	56	36	26	–	16
31	–	118		129	310	–	90	–	36	26	–	16
Total	1,105	3,785	4,818	5,763	12,666	12,100	5,082	2,124	1,404	993	631	556
Mean	36.8	122	161	186	408	403	164	70.8	45.3	32.0	22.5	17.9
Max.	104	247	310	342	1,169	796	270	88	55	37	28	21
Min.	11	66	95	101	92	231	90	56	36	26	18	16
Runoff - MCM.	95.472	327.024	416.275	497.932	1,094.342	1,045.440	439.085	183.514	121.306	85.795	54.518	48.038

WATER YEAR 1968 : Max. 1,169 Min. 11 Mean 140 Annual Runoff 4,408.733 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Aug.17	06.00	6.63	1,180				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
NAN RIVER BASIN

Nan River at Phrone 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:

Location:
Elevation:

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 to date
Rated by Float: -
Rated by Current Meter: 1965 to date

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

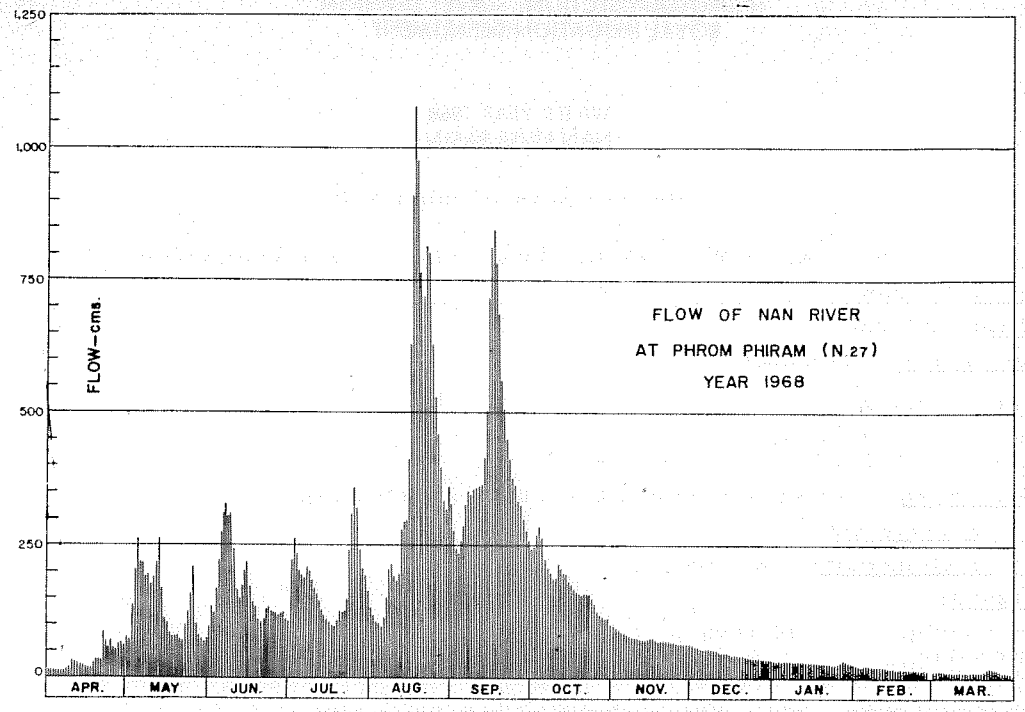
Overbank Flow Conditions: No overbank flow.

General Description: Records good. Stage - discharge relationship used is defined by discharge measurements made during 1968. No upstream state diversions for irrigation except those built by local resident. No adjustment made for virgin flow.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1968 TO MARCH 31,1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	38.56	39.63	39.79	40.00	40.29	41.89	41.28	39.90	39.41	38.99	38.78	38.55
2	.55	.53	40.30	41.14	.11	.45	.27	.86	.39	.98	.78	.55
3	.54	.86	.12	.47	.00	.22	.51	.81	.37	.97	.77	.54
4	.54	40.85	.65	.05	39.96	.24	.65	.77	.36	.96	.77	.52
5	.53	41.44	41.03	40.90	.88	.68	.41	.74	.35	.96	.76	.49
6	38.55	41.09	41.68	40.85	39.96	42.04	41.11	39.70	39.35	38.96	38.76	38.50
7	.56	.08	.99	.79	40.38	.19	40.99	.67	.34	.96	.78	.49
8	.61	40.83	.77	41.01	.96	.10	.91	.66	.32	.96	.75	.48
9	.70	.88	.84	40.89	41.05	.22	.80	.63	.31	.98	.74	.48
10	.95	.65	.56	.66	40.85	.21	.70	.60	.30	.97	.73	.47
11	38.91	40.82	40.89	40.57	40.75	42.25	41.06	39.60	39.27	38.96	38.71	38.47
12	.87	.89	.51	.43	.92	.18	.00	.59	.25	.95	.69	.46
13	.83	41.45	.43	.24	41.64	.64	40.89	.58	.24	.94	.67	.45
14	.78	40.77	.79	.11	.73	43.16	.88	.61	.23	.94	.66	.45
15	.73	.05	41.08	.02	.75	44.71	.75	.66	.21	.94	.65	.49
16	38.68	39.99	40.75	40.00	43.02	45.21	40.70	39.60	39.19	38.94	38.65	38.47
17	.64	.82	.54	39.93	45.69	.32	.61	.57	.18	.95	.64	.48
18	.84	.67	.33	.85	46.54	44.72	.59	.54	.17	.93	.63	.49
19	39.01	.67	.16	.99	45.72	.09	.53	.55	.16	.92	.62	.49
20	38.99	.69	39.98	40.22	44.71	43.41	.52	.57	.13	.90	.61	.51
21	38.99	39.57	39.96	40.18	44.05	42.99	40.55	39.56	39.13	38.89	38.61	38.62
22	39.78	.66	40.25	.22	45.17	.82	.55	.55	.12	.89	.59	.71
23	.49	.90	.29	.44	.09	.46	.53	.52	.10	.88	.59	.63
24	.38	40.20	.21	41.34	44.49	.29	.43	.51	.09	.88	.58	.59
25	.57	.30	.17	.95	43.67	.16	.29	.50	.07	.91	.58	.58
26	39.37	41.01	40.18	42.21	43.09	41.97	40.19	39.49	39.06	38.99	38.57	38.55
27	.32	40.00	.12	41.81	42.75	.96	.13	.49	.05	39.01	.56	.52
28	.49	39.76	.16	.26	.26	.69	.10	.48	.03	38.96	.56	.48
29	.51	.66	.18	40.97	41.97	.57	.06	.46	.02	.93		.45
30	.41	.52	39.99	.86	.86	.40	39.98	.45	.01	.91		.40
31		.51		.55	42.22		.93		.00	.86		.42
Mean	38.96	40.25	40.58	40.71	42.34	42.57	40.71	39.61	39.20	38.94	38.67	38.51
Max.	39.78	41.45	41.99	42.21	46.54	45.32	41.65	39.90	39.41	39.01	38.78	38.71
Min.	38.53	39.51	39.96	39.85	39.88	41.22	39.83	39.45	39.00	38.86	38.56	38.42

WATER YEAR 1968 : Max. 46.54 m. Min. 38.42 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1,1968 TO MARCH 31,1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	14	76	89	106	134	316	242	98	60	33	23	14
2	14	69	135	225	116	262	240	95	58	33	23	14
3	14	95	117	265	106	234	269	90	57	32	23	14
4	14	192	171	215	103	237	286	87	56	32	23	13
5	13	261	212	198	96	290	257	85	56	32	22	12
6	14	219	290	192	103	336	222	81	56	32	22	12
7	14	218	329	186	143	355	208	79	55	32	23	12
8	16	190	301	210	205	343	199	78	54	32	22	11
9	20	196	310	197	215	359	187	76	53	33	22	11
10	32	171	275	172	192	358	176	74	52	32	21	11
11	30	189	197	162	181	363	216	74	50	32	20	11
12	27	197	156	148	200	354	209	73	49	31	20	11
13	25	262	148	129	285	417	197	72	49	30	19	10
14	23	184	186	116	296	491	195	75	48	30	18	10
15	21	111	218	108	299	736	181	78	47	30	18	12
16	19	106	181	106	470	824	176	74	45	30	18	11
17	18	91	159	100	910	844	166	72	45	30	18	11
18	26	79	138	94	1,073	737	164	69	44	30	17	12
19	35	79	121	106	925	634	158	70	44	29	17	12
20	34	81	105	127	736	527	157	72	42	28	16	12
21	*34	72	103	123	628	466	160	71	42	27	16	17
22	88	71	130	127	817	442	160	70	41	27	16	20
23	66	98	134	149	802	392	158	68	40	27	16	17
24	58	125	126	249	698	369	148	67	39	27	15	16
25	72	135	122	324	567	351	134	66	38	29	15	15
26	57	210	123	358	480	327	124	66	38	33	15	14
27	54	106	117	306	432	325	118	66	37	35	14	13
28	66	86	121	239	365	291	115	65	36	32	14	11
29	67	78	123	206	327	276	112	63	35	30		10
30	60	68	106	194	312	256	105	63	35	29		9.60
31		67		160	359		100		34	26		9.60
Total	1,045	4,182	5,043	5,596	12,575	12,512	5,540	2,237	1,435	945	526	388.20
Mean	34.8	135	168	180	406	417	179	74.6	46.3	30.5	18.8	12.5
Max.	88	262	329	358	1,073	844	286	98	60	35	23	20
Min.	13	67	103	94	96	234	100	63	34	26	14	9.60
Runoff - mcm.	90.288	361.325	435.715	483.494	1,086.480	1,081.037	478.656	193.277	123.984	81.648	45.446	33.540

WATER YEAR 1968 : Max. 1,073 Min. 9.60 Mean 142 Annual Runoff 4,494.891 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Aug.18	15.00	46.54	1,073				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
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:

Period of Available Gage Records: 1967 to date

Rating Operation:

Period of Rating: 1969 to date
Rated by Float: -
Rated by Current Meter: 1969 to date

Stability of Channel Regimes: Unstable, shifting adjustment is included for flow computation.

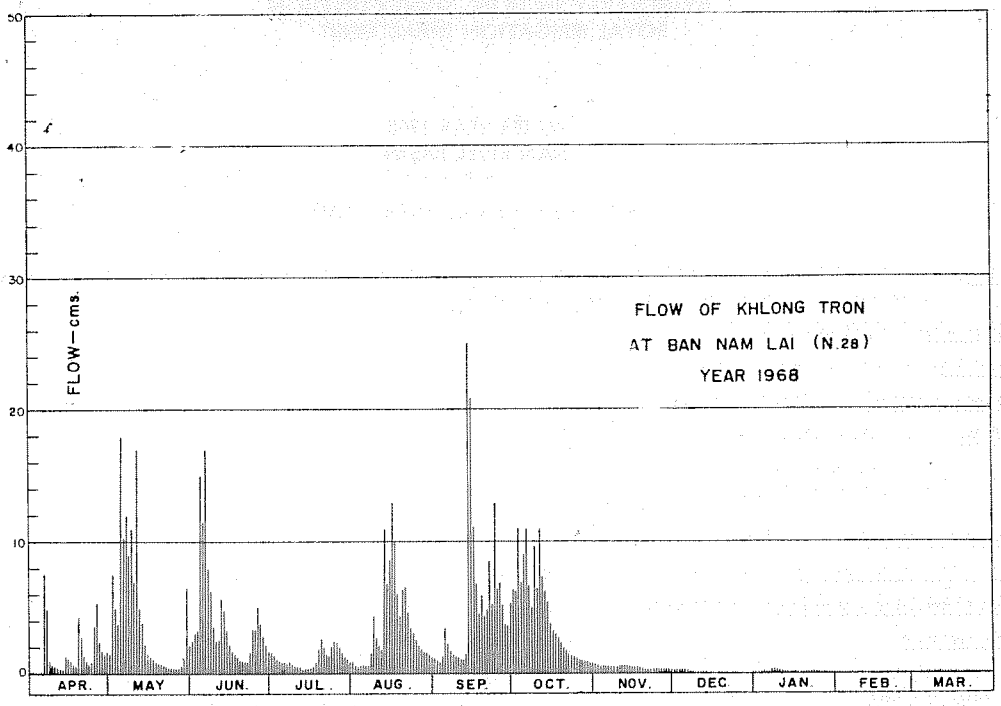
Overbank Flow Conditions: No overbank flow.

General Description: Records fair. Stage - discharge relationship used is defined by discharge measurements made during 1968. No upstream state diversions for irrigation except those built by local residents. No adjustment made for virgin flow.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.34	0.67	0.92	0.76	0.68	0.68	1.30	0.62	0.50	0.43	0.42	0.37
2	.33	1.41	.98	.72	.62	.66	.22	.60	.50	.43	.41	.37
3	.33	.05	.99	.68	.60	.65	.62	.55	.50	.43	.41	.37
4	.33	.04	1.92	.65	.64	.75	.29	.57	.50	.42	.40	.37
5	.44	2.04	.61	.62	.64	1.04	.54	.57	.49	.42	.40	.36
6	1.36	1.62	2.03	0.63	0.63	0.83	1.59	0.56	0.48	0.43	0.40	0.36
7	0.72	.74	1.42	.62	.65	.76	.24	.56	.47	.50	.40	.36
8	.56	.46	.30	.65	.83	.73	.10	.55	.47	.47	.40	.36
9	.50	.69	.04	.60	1.19	.73	.53	.55	.47	.46	.39	.36
10	.47	.22	0.91	.59	.01	.67	.23	.56	.47	.46	.39	.36
11	0.45	2.01	0.88	0.58	0.89	0.65	1.65	0.58	0.47	0.45	0.39	0.41
12	.44	1.19	1.26	.57	.84	.64	.32	.58	.47	.45	.39	.41
13	.40	.00	.17	.51	1.72	.72	.15	.56	.47	.44	.39	.41
14	.65	0.81	.00	.53	.39	2.34	.08	.56	.46	.44	.39	.39
15	.58	.70	0.86	.53	.47	.10	.03	.55	.46	.44	.39	.37
16	0.55	0.68	0.78	0.53	1.87	1.54	0.97	0.55	0.46	0.44	0.39	0.37
17	.50	.66	.73	.57	.60	.25	.95	.54	.46	.44	.39	.38
18	.46	.63	.70	.65	.27	.10	.93	.54	.46	.44	.39	.40
19	1.05	.61	.65	.81	.12	.26	.87	.51	.46	.44	.39	.40
20	0.85	.59	.64	.93	.38	.09	.81	.53	.46	.44	.39	.40
21	0.64	0.57	0.63	0.80	1.37	1.15	0.76	0.53	0.46	0.45	0.39	0.40
22	.57	.55	.62	.74	.15	.48	.73	.53	.45	.45	.39	.40
23	.53	.54	.77	.71	.04	.13	.72	.53	.45	.45	.38	.39
24	.50	.53	1.03	.89	.00	.78	.71	.53	.44	.45	.38	.39
25	0.97	.52	0.99	.90	0.93	.29	.70	.53	.44	.45	.38	.38
26	1.16	0.51	1.20	0.89	0.86	1.35	0.68	0.53	0.44	0.45	0.38	0.38
27	0.75	.50	.06	.80	.81	.14	.67	.53	.43	.45	.38	.38
28	.71	.57	0.94	.74	.76	.02	.66	.52	.43	.45	.38	.37
29	.65	.67	.84	.69	.78	0.99	.65	.52	.43	.44		.35
30	.75	1.32	.77	.66	.74	1.20	.64	.50	.43	.42		.35
31		0.78		.63	.70		.63		.43	.42		.35
Mean	0.62	0.96	1.02	0.68	1.01	1.09	1.03	0.55	0.46	0.44	0.39	0.38
Max.	1.36	2.04	2.03	0.93	1.87	2.34	1.65	0.62	0.50	0.50	0.42	0.41
Min.	0.33	0.50	0.62	0.51	0.60	0.64	0.63	0.50	0.43	0.42	0.38	0.35

WATER YEAR 1968 : Max. 2.34 m. Min. 0.35 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.12	1.24	2.65	1.66	0.88	1.12	6.43	0.76	0.32	0.12	0.08	0.03
2	0.10	7.59	3.10	1.42	0.59	7.00	5.90	0.82	0.32	0.12	0.07	0.03
3	0.10	3.84	3.17	1.18	0.52	0.94	11	0.59	0.32	0.12	0.07	0.03
4	0.10	3.76	15	1.00	0.66	1.54	6.68	0.66	0.32	0.10	0.04	0.03
5	0.12	18	9.95	0.82	0.66	3.50	9.80	0.66	0.30	0.10	0.04	0.02
6	7.59	10	17	0.88	0.63	2.02	11	0.63	0.27	0.12	0.04	0.02
7	1.84	12	7.46	0.82	0.70	1.60	6.10	0.63	0.25	0.30	0.04	0.02
8	0.88	8.24	6.10	1.00	1.78	1.42	4.70	0.59	0.12	0.25	0.04	0.02
9	0.59	11	3.59	0.70	4.50	1.42	9.67	0.59	0.12	0.20	0.03	0.02
10	0.49	5.50	2.57	0.66	2.95	1.30	6.00	0.63	0.12	0.20	0.03	0.02
11	0.42	17	2.38	0.63	2.14	1.18	11	0.70	0.12	0.17	0.03	0.07
12	0.38	5.20	5.70	0.59	1.84	1.12	6.98	0.70	0.12	0.17	0.03	0.07
13	0.27	3.42	4.80	0.38	11	1.60	5.20	0.63	0.12	0.15	0.03	0.07
14	1.42	2.08	3.25	0.45	6.54	25	4.10	0.63	0.10	0.15	0.03	0.05
15	1.00	1.42	2.26	0.45	7.46	19	3.67	0.59	0.10	0.15	0.03	0.03
16	0.82	1.30	1.78	0.45	13	9.41	3.17	0.59	0.10	0.15	0.03	0.03
17	0.59	1.18	1.48	0.59	9.15	5.90	3.02	0.56	0.10	0.15	0.03	0.04
18	0.45	1.00	1.30	1.00	5.60	4.40	2.87	0.45	0.10	0.15	0.03	0.06
19	4.30	0.88	1.00	1.96	3.84	6.00	2.44	0.35	0.10	0.15	0.03	0.06
20	2.65	0.76	0.94	2.72	6.43	4.30	2.08	0.42	0.10	0.15	0.03	0.06
21	1.36	0.66	0.88	1.90	6.76	4.90	1.78	0.42	0.10	0.17	0.03	0.06
22	0.94	0.59	0.82	1.54	4.50	8.63	1.60	0.42	0.09	0.17	0.03	0.06
23	0.70	0.56	1.72	1.36	3.50	4.70	1.36	0.42	0.09	0.17	0.02	0.05
24	0.59	0.52	3.50	2.44	3.17	13	1.30	0.42	0.08	0.17	0.02	0.05
25	3.59	0.49	3.17	2.50	2.65	6.32	1.24	0.42	0.08	0.17	0.02	0.04
26	5.40	0.45	5.10	2.44	2.20	6.98	1.12	0.42	0.08	0.17	0.02	0.04
27	2.02	0.42	3.76	1.90	1.90	4.80	1.06	0.42	0.07	0.17	0.02	0.04
28	1.78	0.66	2.80	1.54	1.60	3.67	1.00	0.38	0.07	0.17	0.02	0.03
29	1.42	1.24	2.14	1.24	1.72	3.42	0.94	0.38	0.07	0.15		0.01
30	1.72	6.54	1.72	1.06	1.48	5.40	0.88	0.32	0.07	0.10		0.01
31		1.90		0.88	1.24		0.82		0.07	0.10		0.01
Total	43.75	129.44	121.09	38.16	111.59	155.59	134.88	16.20	4.39	4.88	0.96	1.18
Mean	1.46	4.17	4.04	1.23	3.60	5.19	4.37	0.540	0.142	0.157	0.034	0.038
Max.	7.59	18	17	2.72	13	25	11	0.82	0.32	0.30	0.08	0.07
Min.	0.10	0.42	0.82	0.38	0.63	0.94	0.82	0.32	0.07	0.10	0.02	0.01
Runoff - mcm.	3.780	11.184	10.462	3.297	9.641	13.443	11.654	1.400	0.379	0.422	0.082	0.102

WATER YEAR 1968 : Max. 25 Min. 0.01 Mean 2.09 Annual Runoff 65.846 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sep.14	12.00	2.68	33				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
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 from confluence with Nan River at 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. – R.I.D.

Location: Near gage site.
Elevation: +89.442 m. (M.S.L.)

Gage Reading Frequency: Recording.

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

Period of Available Gage Records: 1966 to date.

Rating Operation:

Period of Rating: 1966 to date
Rated by Float: –
Rated by Current Meter: 1966 to date

Stability of Channel Regimes: Unstable, shifting adjustment is included for flow computation.

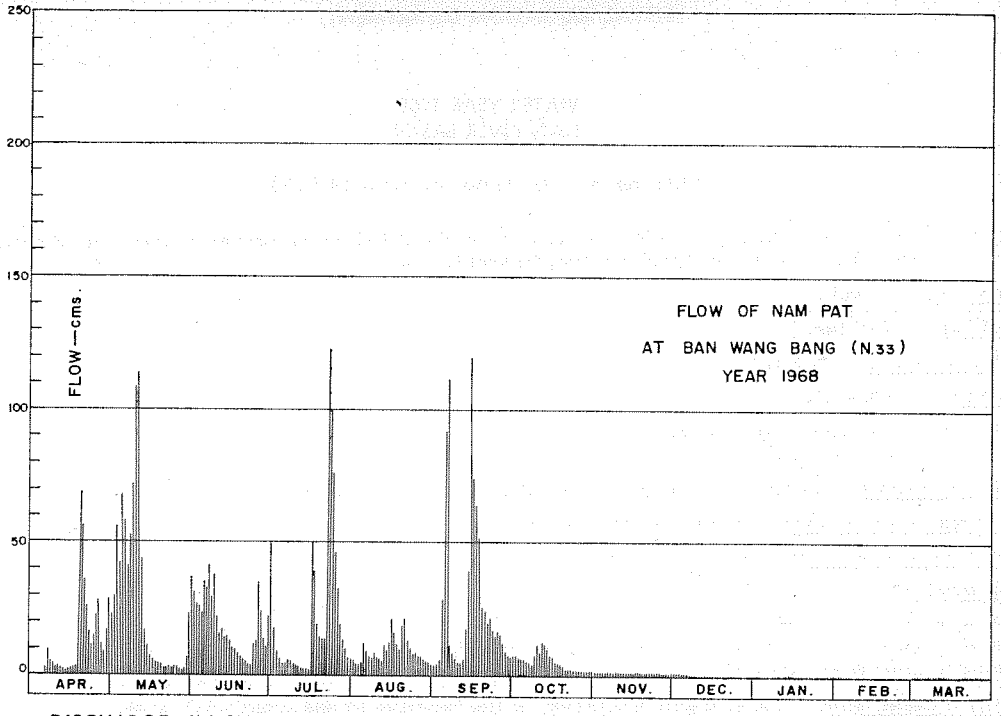
Overbank Flow Conditions: No overbank flow.

General Description: Records fair. Stage – discharge relationship used is defined by discharge measurements made during 1968. No upstream state diversions for irrigation except those built by local residents. No adjustment made for virgin flow.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	79.34	80.82	81.02	81.40	80.06	79.86	80.16	79.65	79.58	79.45	79.42	79.31
2	.34	.73	80.95	80.47	79.96	.87	.12	.63	.56	.44	.40	.32
3	.34	81.46	.92	.25	.94	.87	.09	.63	.56	.42	.39	.31
4	.34	80.87	.75	.04	80.01	80.63	.05	.63	.55	.42	.37	.28
5	.38	81.65	81.14	79.93	.47	81.85	.05	.60	.54	.43	.38	.30
6	79.50	81.49	81.02	79.93	80.28	80.48	80.04	79.62	79.52	79.44	79.37	79.31
7	80.26	80.98	.25	80.05	.20	.34	.00	.58	.52	.46	.36	.29
8	79.93	.78	80.93	.00	.11	.15	79.93	.59	.53	.41	.35	.29
9	.81	81.59	81.19	79.93	.30	.02	80.21	.60	.51	.42	.36	.29
10	.74	82.17	80.72	.89	.18	79.93	.50	.59	.50	.41	.37	.29
11	79.80	82.24	80.58	79.82	80.13	79.92	80.22	79.58	79.47	79.40	79.37	79.30
12	.71	81.41	.64	.76	.04	80.00	.54	.58	.47	.43	.35	.29
13	.67	80.74	.52	.75	.46	.37	.43	.57	.46	.40	.34	.34
14	.61	.45	.57	.80	.23	81.04	.29	.58	.45	.40	.34	.33
15	.69	.31	.44	.75	.56	42.32	.15	.58	.46	.38	.36	.31
16	79.72	80.06	80.39	79.74	80.77	81.51	80.07	79.59	79.45	79.37	79.35	79.30
17	.73	.01	.31	81.40	.54	.69	.00	.60	.44	.40	.33	.30
18	.78	79.89	.21	80.74	.38	.29	79.95	.59	.44	.38	.33	.35
19	81.54	.92	.10	.55	.29	80.93	.88	.58	.42	.38	.32	.37
20	.67	.77	.02	.58	.82	.90	.80	.59	.43	.39	.32	.35
21	80.97	79.75	79.97	80.38	80.52	80.73	79.79	79.61	79.44	79.42	79.34	79.35
22	.83	.78	.89	81.90	.36	.85	.78	.60	.44	.39	.31	.32
23	.28	.81	.86	82.43	.25	.65	.76	.58	.44	.43	.30	.31
24	.37	.75	80.45	.07	.15	.59	.75	.62	.45	.39	.31	.29
25	.69	.84	.45	81.43	.21	.59	.74	.60	.42	.44	.31	.29
26	80.90	79.78	81.11	81.02	80.12	80.50	79.72	79.60	79.45	79.43	79.33	79.30
27	.42	.70	80.82	80.72	.07	.33	.70	.60	.45	.42	.29	.30
28	.06	.64	.45	.49	.01	.21	.69	.59	.42	.42	.28	.28
29	.36	.85	.27	.31	79.96	.15	.68	.58	.45	.41	–	.28
30	.92	80.20	.97	.15	.92	.06	.67	.59	.40	.41	–	.34
31	–	81.14	–	.14	.90	–	.66	–	.43	.42	–	.31
Mean	80.09	80.53	80.60	80.48	80.23	80.59	79.98	79.60	79.47	79.41	79.34	79.31
Max.	81.67	82.24	81.25	82.43	80.82	82.32	80.54	79.65	79.58	79.46	79.42	79.37
Min.	79.34	79.64	79.86	79.74	79.90	79.86	79.66	79.57	79.40	79.37	79.28	79.28

WATER YEAR 1968 : Max. 82.43 m. Min. 79.28 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.13	24	30	50	5.48	3.92	7.88	1.80	1.32	0.58	0.34	0.10
2	0.13	22	27	13	4.28	4.04	7.28	1.64	1.24	0.52	0.28	0.13
3	0.13	56	26	8.52	4.04	4.04	6.92	1.64	1.24	0.40	0.25	0.10
4	0.13	27	20	5.72	4.88	18	6.44	1.64	1.16	0.40	0.19	0.07
5	0.25	68	35	4.40	12	80	5.36	1.40	1.08	0.46	0.22	0.09
6	0.82	58	30	4.40	8.36	13	5.24	1.56	0.94	0.52	0.28	0.10
7	9.51	31	41	5.84	7.16	10	4.76	1.24	0.94	0.64	0.25	0.08
8	5.00	23	26	5.24	6.08	7.40	3.92	1.32	1.00	0.37	0.22	0.08
9	3.60	64	38	4.40	8.68	5.24	7.28	1.40	0.88	0.40	0.25	0.08
10	2.90	108	19	3.92	6.92	4.76	12	1.32	0.82	0.37	0.28	0.08
11	3.50	114	15	3.20	6.32	4.64	7.40	1.24	0.64	0.34	0.28	0.09
12	2.60	54	17	2.60	5.24	5.60	13	1.24	0.64	0.46	0.22	0.09
13	2.20	22	13	2.50	12	11	11	1.16	0.58	0.34	0.19	0.19
14	1.64	13	15	3.00	7.88	33	8.52	1.24	0.52	0.34	0.19	0.16
15	2.40	9.85	12	2.50	14	120	6.56	1.24	0.58	0.28	0.25	0.10
16	2.70	6.20	10	2.40	21	58	5.60	1.32	0.52	0.25	0.22	0.10
17	2.80	5.60	9.68	50	14	64	4.76	1.40	0.46	0.34	0.16	0.10
18	3.30	4.16	8.04	19	10	41	4.16	1.32	0.46	0.28	0.16	0.25
19	61	4.52	6.56	14	8.84	25	3.40	1.16	0.37	0.28	0.13	0.31
20	69	2.90	5.60	14	22	24	2.60	1.24	0.40	0.31	0.13	0.25
21	31	2.70	5.00	10	15	18	2.50	1.40	0.46	0.40	0.19	0.25
22	25	3.00	4.04	79	11	22	2.40	1.32	0.46	0.31	0.10	0.16
23	9.85	3.30	3.70	123	9.00	16	2.20	1.16	0.46	0.46	0.09	0.13
24	12	2.70	12	92	7.40	14	2.10	1.48	0.52	0.31	0.10	0.09
25	22	3.60	12	50	8.36	17	2.00	1.32	0.37	0.52	0.10	0.09
26	28	3.00	35	29	7.04	15	1.80	1.32	0.52	0.37	0.16	0.10
27	13	2.20	23	18	6.44	11	1.64	1.32	0.52	0.34	0.08	0.10
28	6.56	1.32	12	12	5.72	8.68	1.56	1.24	0.37	0.34	0.07	0.08
29	11	3.70	8.84	8.84	5.12	7.72	1.48	1.16	0.52	0.31	–	0.08
30	29	8.04	29	6.56	4.64	6.56	2.00	1.24	0.31	0.31	–	0.22
31	–	37	–	6.44	4.04	–	1.90	–	0.40	0.34	–	0.13
Total	361.15	787.79	548.46	653.48	272.92	673.20	155.66	40.48	20.70	11.89	5.38	3.98
Mean	12.0	25.4	18.3	21.1	8.80	22.4	5.02	1.35	0.667	0.383	0.192	0.128
Max.	69	114	41	123	22	120	13	1.80	1.32	0.64	0.34	0.31
Min.	0.13	1.32	3.70	240	4.04	3.92	1.48	1.16	0.31	0.25	0.07	0.07
Runoff - MCM.	31.203	68.065	47.387	56.461	23.580	58.164	13.449	3.497	1.788	1.027	0.465	0.344

WATER YEAR 1968 : Max. 123 Min. 0.07 Mean 9.68 Annual Runoff 305.432 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
July.25	12.00	6.10	69				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
NAN RIVER BASIN

Khlong Chom Phu at Ban Tha Mun Ram, Phitsanulok (N.34)

Location: Lat 16° - 40' - 24" N., Long 100° - 30' - 54" E., on left bank about 4 kilometers downstream from confluence with Khlong Ta Krut Duan, Ban Tha Mun Ram, Amphoe Wang Thong, Phitsanulok.

Drainage Area: 712 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 house of gage observer.
Elevation: +6.415 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 - 70

Rating Operation:

Period of Rating: 1966 - 67
Rated by Float: -
Rated by Current Meter: 1966 - 67

Stability of Channel Regimes: Stable, no shifting adjustment for flow computation for year without actual ratings.

Overbank Flow Conditions: No overbank flow.

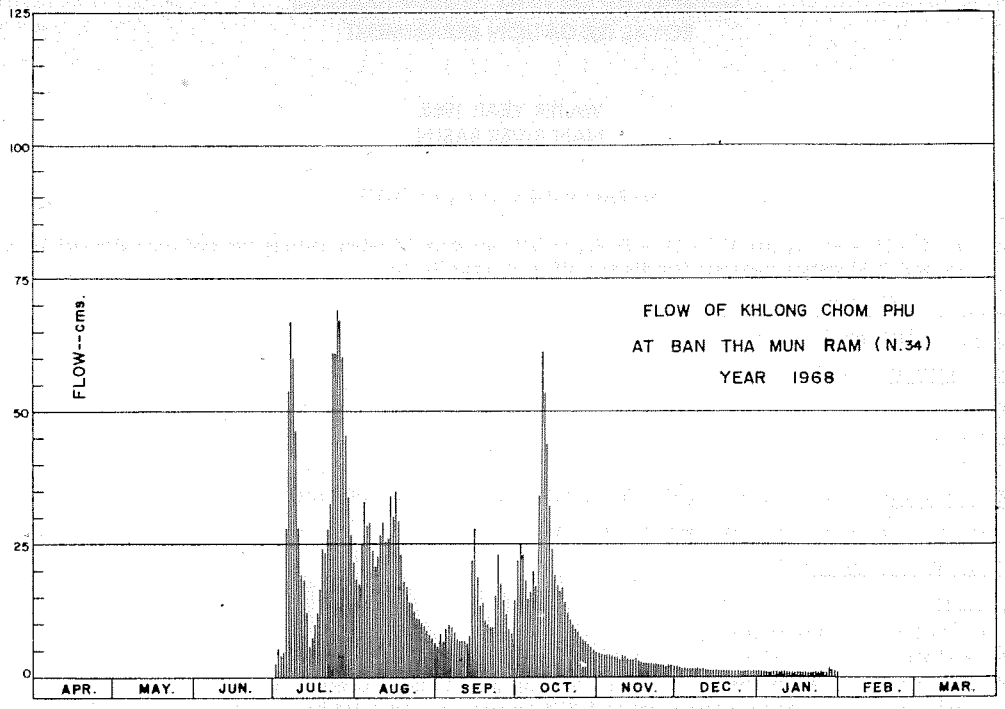
General Description: Records fair. Stage - discharge relationship used is defined by discharge measurements made during 1967. No upstream state diversions for irrigation except those built by local resident. No adjustment made for virgin flow.

Remarks: No records for periods Apr. 1 - Jun. 30 and Feb. 1 - Mar. 31.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1				1.00	2.78	1.51	3.17	1.30	0.88	0.74		
2				.42	2.69	.81	.11	.30	.88	.73		
3				.19	3.53	.55	.47	.28	.87	.73		
4				.38	4.13	.94	2.91	.27	.87	.73		
5				4.05	3.61	2.04	2.48	.25	.86	.72		
6				5.68	3.80	1.96	2.43	1.23	0.85	0.72		
7				6.04	.32	.85	.99	.21	.84	.72		
8				5.78	.05	.62	.48	.18	.83	.72		
9				4.25	.29	.58	3.01	.16	.83	.72		
10				3.07	.68	.63	4.87	.26	.82	.72		
11				2.77	3.82	1.62	5.84	1.19	0.82	0.72		
12				.79	.46	1.52	5.36	.15	.81	.72		
13				.21	.55	1.77	4.14	.13	.81	.70		
14				1.31	4.29	3.40	3.37	.13	.80	.70		
15				1.70	3.81	3.71	3.04	.19	.79	.70		
16				2.01	4.30	2.83	2.81	1.09	0.79	0.70		
17				.26	3.75	.33	.64	.07	.78	.70		
18				.84	3.17	.44	.69	.05	.78	.70		
19				3.41	2.86	.06	.47	.04	.77	.70		
20				3.28	2.69	2.00	.25	.02	.77	.70		
21				3.79	2.47	1.94	2.11	1.02	0.76	0.70		
22				4.15	.45	1.92	1.98	.01	.76	.70		
23				5.84	.26	2.54	1.89	.00	.75	.70		
24				5.84	.13	3.32	1.83	0.99	.75	.69		
25				6.10	.09	2.70	1.74	.98	.74	.70		
26				6.06	2.00	2.44	1.64	0.96	0.74	0.71		
27				5.75	1.96	.17	.59	.94	.73	.72		
28				4.61	.82	1.85	.53	.93	.73	.82		
29				4.08	.75	.68	.47	.92	.72	.78		
30				3.59	.67	2.30	.47	.90	.73	.75		
31				3.10	.57	-	.37	-	.74	.71		
Mean				3.59	2.95	2.13	2.71	1.10	0.79	0.71		
Max.				6.10	4.30	3.71	5.84	1.30	0.88	0.82		
Min.				1.00	1.57	1.51	1.37	0.90	0.72	0.69		

WATER YEAR 1968 : Max. 6.10 m. Min. 0.69 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1				2.50	18	5.98	22	4.45	1.82	1.11		
2				5.30	17	8.38	21	4.45	1.82	1.06		
3				3.68	26	6.30	25	4.31	1.77	1.06		
4				5.01	33	9.42	19	4.24	1.77	1.06		
5				32	27	10	15	4.10	1.72	1.02		
6				57	29	9.58	14	3.96	1.66	1.02		
7				67	23	8.70	20	3.82	1.61	1.02		
8				59	20	6.86	15	3.62	1.56	1.02		
9				34	23	6.54	20	3.49	1.56	1.02		
10				21	27	6.94	43	4.17	1.51	1.02		
11				17	29	6.86	61	3.68	1.51	1.02		
12				18	25	6.06	51	3.42	1.45	1.02		
13				12	26	8.06	33	3.29	1.45	0.92		
14				4.52	34	24	24	3.29	1.40	0.92		
15				7.60	29	28	20	3.68	1.35	0.92		
16				9.99	35	18	18	3.04	1.35	0.92		
17				12	28	13	16	2.92	1.30	0.92		
18				18	22	14	17	2.80	1.30	0.92		
19				24	18	10	14	2.74	1.26	0.92		
20				23	17	9.90	12	2.62	1.26	0.92		
21				29	14	9.42	11	2.62	1.21	0.92		
22				33	14	9.26	9.74	2.56	1.21	0.92		
23				61	12	15	9.02	2.50	1.16	0.92		
24				61	11	23	8.54	2.44	1.16	0.88		
25				69	11	17	7.82	2.39	1.11	0.92		
26				67	9.90	14	7.02	2.27	1.11	0.97		
27				58	9.58	11	6.62	2.16	1.06	1.02		
28				39	8.46	8.70	6.14	2.10	1.06	1.51		
29				32	7.90	7.34	5.67	2.04	1.02	1.30		
30				26	7.26	13	5.22	1.93	1.06	1.16		
31				21	6.46	–	4.94	–	1.11	0.97		
Total				928.60	617.56	344.30	561.73	94.83	42.70	31.30		
Mean				29.9	19.9	11.4	18.1	3.16	1.42	1.00		
Max.				69	35	28	61	4.45	1.82	1.51		
Min.				2.50	6.46	5.98	4.94	1.93	1.02	0.88		
Runoff – mcm.				80.231	53.357	29.747	48.533	8.193	3.689	2.704		

WATER YEAR 1968 : Max. 69 Min. 0.88 Mean Annual Runoff mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
	July.25	12.00	6.10	69			

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
NAN RIVER BASIN

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

Location: Lat 18° - 23' - 46" N., Long 100° - 51' - 05" E., on left bank about 500 meters upstream from confluence with Huai Sarang and about 29 kilometers downstream from district office of 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:

Location:
Elevation:

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: Unstable, shifting adjustment is included for flow computation.

Overbank Flow Conditions: No overbank flow.

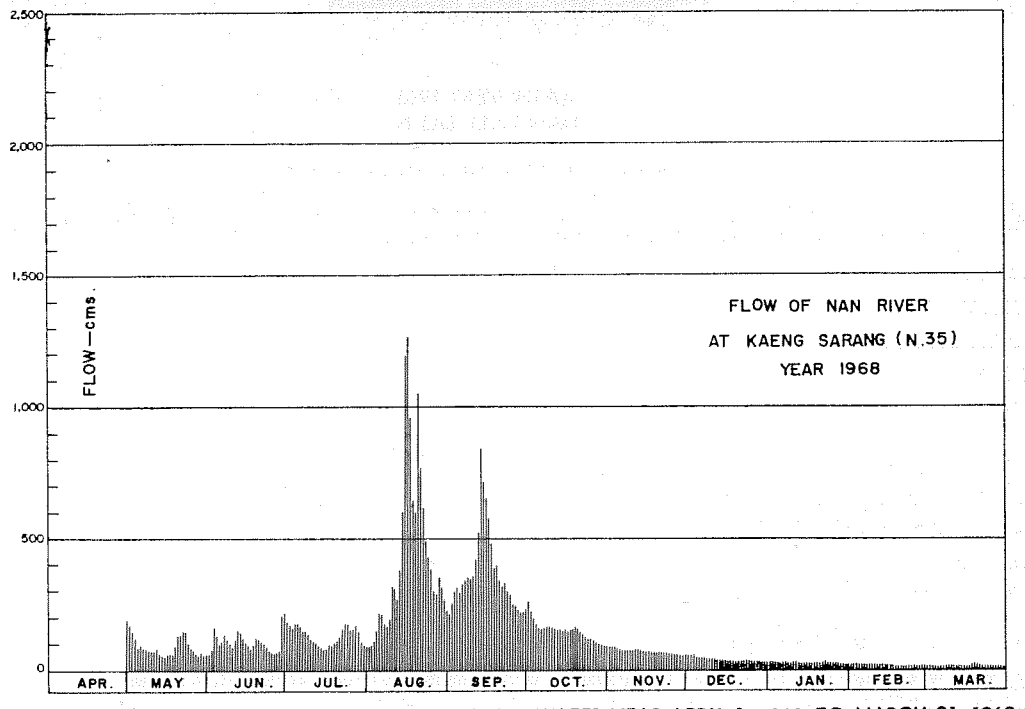
General Description: Records good. Stage - discharge relationship used is defined by discharge measurements made during 1968. No upstream state diversions for irrigation except those built by local residents. No adjustment made for virgin flow.

Remarks: No record for period Apr. 1 - 30.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1		1.70	0.86	1.55	1.07	1.79	2.03	1.05	0.83	0.68	0.63	0.52
2		.53	1.03	.60	.06	2.02	1.78	.04	.83	.68	.65	.51
3		.40	1.50	.47	.19	.30	.63	.03	.83	.68	.63	.51
4		.08	.29	.57	.47	.35	.55	.01	.82	.67	.62	.51
5		.08	.11	.60	.83	.24	.47	.00	.81	.67	.62	.51
6		1.11	1.20	1.53	1.81	2.42	1.45	0.99	0.81	0.67	0.62	0.51
7		.04	.40	.41	.61	.44	.48	.99	.80	.68	.60	.50
8		.03	.23	.45	.56	.54	.51	.99	.79	.67	.60	.50
9		.01	.15	.35	.63	.46	.49	.97	.79	.67	.60	.50
10		.00	.07	.26	2.31	.56	.49	.96	.79	.68	.60	.50
11		0.99	1.29	1.21	2.26	2.84	1.45	0.98	0.78	0.69	0.60	0.49
12		1.05	.46	.15	.08	3.43	.42	1.00	.77	.68	.58	.49
13		0.91	.41	.12	.55	4.46	.44	0.99	.77	.67	.58	.49
14		.87	.24	.07	3.59	3.88	.39	.96	.76	.66	.58	.49
15		.86	.18	.03	5.47	.75	.46	.94	.75	.66	.57	.49
16		0.91	1.07	1.05	5.76	3.32	1.40	0.96	0.75	0.65	0.57	0.49
17		.93	0.98	.17	4.04	2.98	.41	.95	.74	.65	.56	.51
18		.83	1.14	.12	3.57	.64	.46	.94	.73	.65	.55	.55
19		1.12	.30	.22	.37	.75	.49	.92	.73	.65	.55	.56
20		.32	.26	.28	5.13	.44	.48	.92	.73	.65	.55	.55
21		1.35	1.17	1.33	3.85	2.22	1.40	0.91	0.72	0.67	0.54	0.54
22		.44	.10	.53	.54	.34	.31	.92	.71	.71	.54	.52
23		.32	.06	.60	2.92	.16	.27	.92	.71	.67	.54	.51
24		.06	.00	.59	.86	.12	.23	.91	.71	.65	.54	.50
25		.00	0.95	.44	.46	1.95	.25	.89	.70	.65	.53	.49
26		0.95	0.95	1.45	2.22	1.95	1.21	0.87	0.70	0.64	0.53	0.50
27		.84	.97	.55	.16	.84	.16	.87	.69	.63	.52	.50
28		.80	1.06	.36	.57	.79	.14	.86	.69	.63	.52	.50
29		.93	.78	.23	.30	.81	.11	.85	.69	.62	-	.50
30		.81	.87	.15	1.97	.87	.09	.84	.68	.62	-	.49
31		.84	-	.12	.77	-	.08	-	.68	.62	-	.48
Mean		1.07	1.20	1.34	2.64	2.52	1.40	0.95	0.75	0.66	0.57	0.51
Max.		1.70	1.87	1.60	5.76	4.46	2.03	1.05	0.83	0.71	0.65	0.56
Min.		0.80	0.86	1.03	1.06	1.79	1.08	0.84	0.68	0.62	0.52	0.48

WATER YEAR 1968 : Max. 5.76 m. Min. 0.48 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1		190	58	168	85	206	266	85	53	30	24	16
2		159	83	177	83	252	216	83	53	30	26	16
3		136	161	149	104	305	186	82	53	30	24	16
4		85	122	176	150	312	172	78	46	29	23	16
5		85	93	177	218	288	158	77	45	29	23	16
6		90	107	165	214	327	154	75	45	29	23	16
7		78	140	143	176	332	159	75	44	30	22	17
8		77	112	150	167	354	165	75	42	29	22	17
9		74	99	133	179	336	161	72	42	29	22	17
10		72	86	118	318	358	161	71	42	30	22	17
11		71	122	110	307	420	154	74	41	31	22	16
12		80	150	101	260	559	149	77	40	30	21	16
13		59	141	96	362	836	152	75	40	29	21	16
14		54	114	83	606	673	143	71	39	28	21	16
15		53	104	77	1,170	639	156	68	38	28	20	16
16		59	86	80	1,268	532	145	71	38	28	20	16
17		62	72	99	723	451	147	69	36	28	19	18
18		50	98	91	591	376	156	68	35	28	18	21
19		91	123	107	542	400	161	65	35	28	18	22
20		130	117	117	1,045	332	159	65	35	28	18	21
21		134	102	125	663	307	145	64	34	30	18	20
22		150	91	159	583	334	130	65	33	34	18	18
23		130	85	179	435	294	120	65	33	30	18	17
24		88	75	177	422	285	114	64	33	28	18	16
25		78	68	150	334	250	117	61	32	28	17	15
26		71	68	152	281	250	110	58	32	27	17	16
27		56	66	170	272	228	102	58	31	26	17	16
28		51	80	136	358	218	99	57	31	26	17	16
29		68	204	110	299	222	94	56	31	25	–	16
30		52	222	98	242	234	91	54	30	25	–	15
31		56	–	93	202	–	90	–	30	24	–	15
Total		2,689	3,249	4,066	12,659	10,910	4,532	2,078	1,192	884	569	552
Mean		86.7	108	131	408	364	146	69.3	38.4	28.5	20.3	16.8
Max.		190	222	179	1,268	836	266	85	53	34	26	22
Min.		51	58	77	83	206	90	54	30	24	17	15
Runoff – MCM.		232.330	280.714	351.302	1,093.738	942.624	391.565	179.539	102.989	76.378	49.162	45.101

WATER YEAR 1968 : Max. 1,268 Min. Mean Annual Runoff mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Aug.9	03.00	6.18	1,418				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
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 Lom Sak – Nakhon Thai Road, Tambon Nong Krathao, Amphoe Nakhon Thai, Phitsanulok.

Drainage Area: 1,663 sq.km.

Type of Gage: Water – stage recorder.

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

Bench Mark:

Location:
Elevation:

Gage Reading Frequency: Recording.

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

Period of Available Gage Records: 1967 to date

Rating Operation:

Period of Rating: 1971 to date
Rated by Float: –
Rated by Current Meter: 1971 to date

Stability of Channel Regimes: Stable, no shifting adjustment for flow computation for year without actual ratings.

Overbank Flow Conditions: No overbank flow.

General Description: Records fair, except those for period of no record which are poor. Stage – discharge relationship used is defined by discharge measurements made during 1971 – 73. No upstream state diversions for irrigation except those built by local residents. No adjustment made for virgin flow.

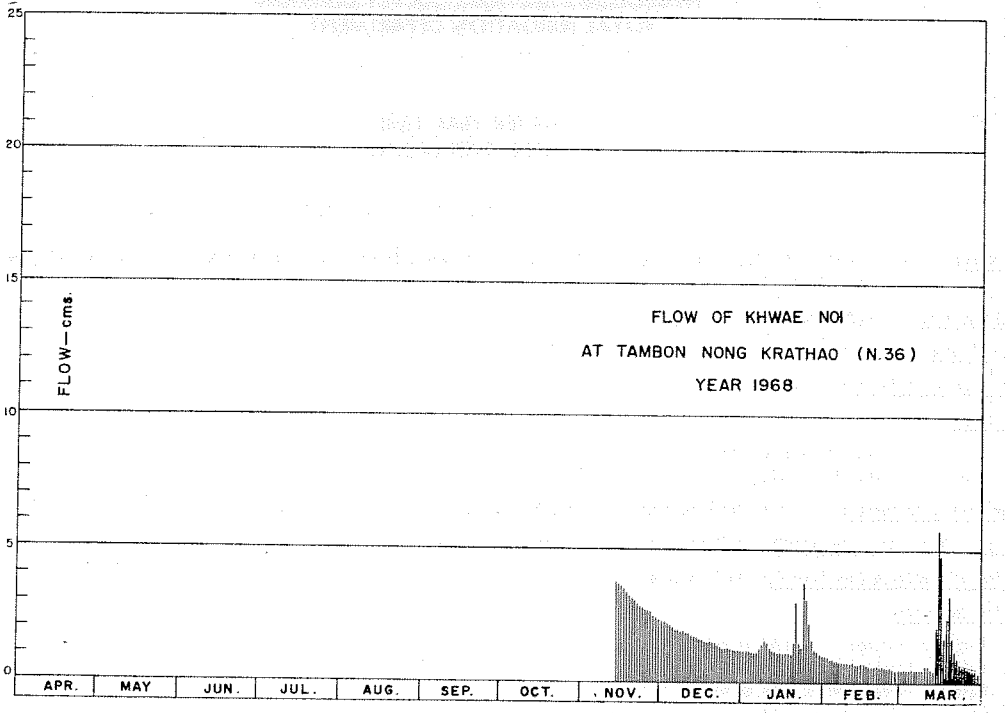
Remarks: No records for period Apr. 1 – Nov. 13.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1									0.74	0.58	0.54	0.44
2									.74	.58	.53	.44
3									.73	.58	.52	.44
4									.72	.57	.52	.44
5									.72	.57	.51	.44
6									0.70	0.57	0.51	0.44
7									.70	.60	.50	.44
8									.69	.64	.50	.43
9									.69	.65	.50	.44
10									.68	.63	.50	.47
11									0.68	0.60	0.50	0.46
12									.67	.58	.50	.44
13									.66	.58	.49	.43
14								0.92	.66	.57	.49	.43
15								.91	.65	.57	.49	1.31
16								0.90	0.65	0.56	0.49	1.03
17								.88	.64	.57	.48	0.67
18								.87	.64	.56	.47	.73
19								.85	.64	.55	.47	.86
20								.84	.63	.56	.47	.67
21								0.83	0.63	0.83	0.47	0.57
22								.82	.62	.64	.46	.52
23								.81	.61	.59	.46	.48
24								.80	.60	.92	.45	.46
25								.79	.60	.84	.45	.46
26								0.79	0.60	0.73	0.45	0.45
27								.77	.60	.65	.44	.44
28								.76	.59	.59	.44	.43
29								.75	.59	.58	–	.43
30								.74	.58	.56	–	.40
31								–	.58	.55	–	.43
Mean									0.65	0.62	0.48	0.53
Max.									0.74	0.92	0.54	1.13
Min.									0.58	0.55	0.44	0.40

WATER YEAR 1968 : Max. m. Min. m.

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1									2.32	1.20	1.00	0.50
2									2.32	1.20	0.95	0.50
3									2.24	1.20	0.90	0.50
4									2.16	1.15	0.90	0.50
5									2.08	1.15	0.85	0.50
6									2.00	1.15	0.85	0.50
7									2.00	1.30	0.80	0.50
8									1.93	1.58	0.80	0.45
9									1.93	1.65	0.80	0.50
10									1.86	1.51	0.80	0.65
11									1.86	1.30	0.80	0.60
12									1.79	1.20	0.80	0.50
13									1.72	1.20	0.75	0.45
14								3.78	1.72	1.15	0.75	0.45
15								3.69	1.65	1.15	0.75	5.70
16								3.60	1.65	1.10	0.75	4.77
17								3.44	1.58	1.15	0.70	1.79
18								3.36	1.58	1.10	0.65	2.24
19								3.20	1.58	1.05	0.65	3.28
20								3.12	1.51	1.10	0.65	1.79
21								3.04	1.51	3.04	0.65	1.15
22								2.96	1.44	1.58	0.60	0.92
23								2.88	1.37	1.25	0.60	0.70
24								2.80	1.30	3.78	0.55	0.60
25								2.72	1.30	3.12	0.55	0.60
26								2.72	1.30	2.24	0.55	0.55
27								2.56	1.30	1.65	0.50	0.50
28								2.48	1.25	1.25	0.50	0.45
29								2.40	1.25	1.20	–	0.45
30								2.32	1.20	1.10	–	0.30
31								–	1.20	1.05	–	0.45
Total								51.07	51.90	45.85	20.40	33.34
Mean								3.00	1.67	1.48	0.73	1.07
Max.								3.78	2.32	3.78	1.00	5.70
Min.								2.32	1.20	1.05	0.50	0.30
Runoff – mcm.								4.412	4.484	3.961	1.762	2.880

WATER YEAR 1968 : Max. Min. Mean Annual Runoff mcm.

Momentary Peak Discharge

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

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
NAN RIVER BASIN

Nan River at 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 Klang, Tambon Tap 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. – R.I.D.

Location: Near staff gage site.
Elevation: +6.928 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 to date
Rated by Float: –
Rated by Current Meter: 1967 to date

Stability of Channel Regimes: Unstable, shifting adjustment is included for flow computation.

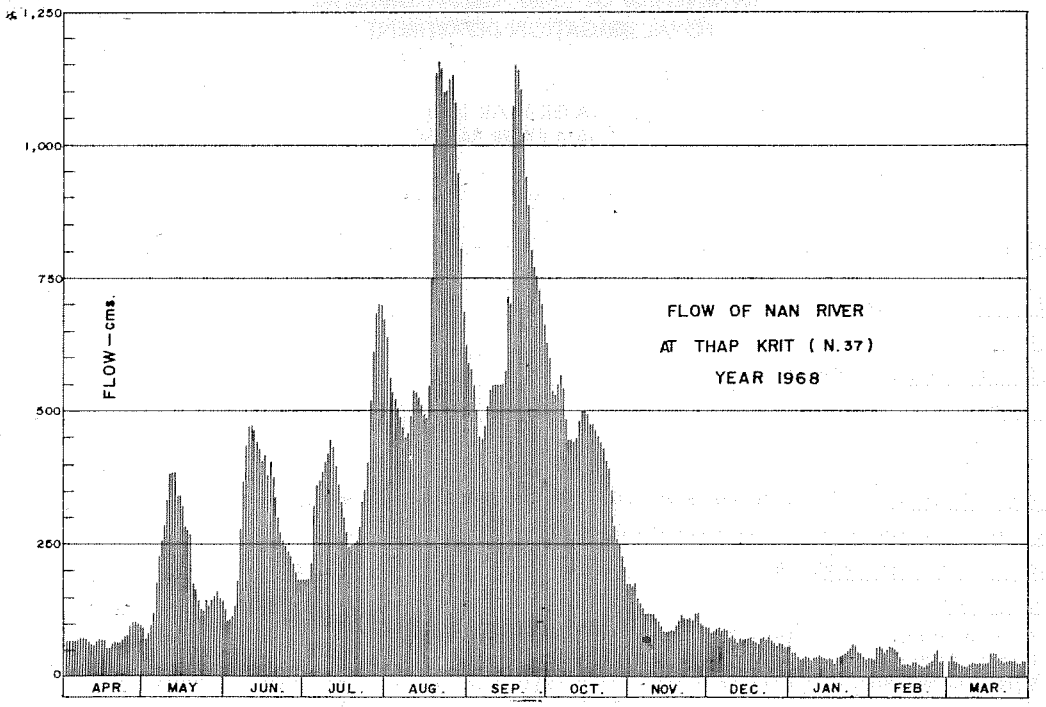
Overbank Flow Conditions: No overbank flow.

General Description: Records good. Stage – discharge relationship used is defined by discharge measurements made during 1968. No upstream state diversions for irrigation except those built by local residents. No adjustment made for virgin flow.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1968 TO MARCH 31,1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.61	0.86	1.08	1.38	3.19	3.02	3.12	1.33	0.87	0.65	0.44	0.39
2	.61	.73	0.97	.37	.00	2.97	.05	.30	.82	.53	.41	.48
3	.60	.78	.99	.37	2.82	.88	2.84	.34	.84	.54	.62	.37
4	.60	.93	1.03	.58	.78	.68	.80	.19	.86	.47	.63	.37
5	.60	.99	.15	2.01	.70	.51	.87	.14	.88	.41	.59	.32
6	0.63	1.30	1.37	2.16	2.65	2.49	2.94	1.10	0.85	0.47	0.55	0.29
7	.64	.58	.84	.18	.55	.58	.86	.03	.87	.49	.60	.28
8	.64	.72	2.19	.25	.50	.71	.70	.04	.84	.47	.63	.26
9	.62	.85	.43	.32	.54	.84	.48	.03	.75	.42	.61	.33
10	.60	2.06	.59	.39	.67	.87	.49	.03	.79	.49	.58	.35
11	0.55	2.24	2.60	2.49	2.84	2.88	2.47	0.98	0.74	0.48	0.54	0.34
12	.54	.25	.55	.44	.82	.87	.49	.93	.70	.50	.45	.32
13	.70	.25	.49	.30	.78	.88	.64	.86	.75	.46	.32	.35
14	.72	.06	.39	.15	.73	.87	.70	.80	.73	.46	.32	.33
15	.72	.08	.33	.03	.68	.96	.70	.83	.75	.43	.34	.34
16	0.70	1.98	2.38	1.90	2.64	3.44	2.67	0.83	0.74	0.45	0.32	0.38
17	.60	.81	.22	.75	.85	4.11	.60	.85	.76	.42	.36	.52
18	.60	.82	.34	.66	3.54	.49	.60	.83	.71	.35	.34	.53
19	.68	.70	.30	.68	4.34	.71	.55	.91	.69	.47	.31	.51
20	.70	.34	.07	.69	.66	.69	.49	.98	.67	.49	.23	.44
21	0.68	1.24	1.93	1.72	4.72	4.58	2.45	1.02	0.75	0.50	0.22	0.40
22	.67	.14	.78	.84	.69	.36	.42	0.98	.76	.55	.34	.35
23	.73	.09	.71	2.04	.57	.13	.33	.97	.72	.56	.36	.37
24	.78	.07	.67	.11	.59	3.90	.28	.99	.77	.62	.40	.38
25	.80	.19	.63	.25	.64	.73	.13	.93	.69	.68	.53	.40
26	0.92	1.12	1.59	2.60	4.66	3.62	1.84	1.04	0.67	0.65	0.57	0.38
27	.95	.19	.47	3.00	.52	.54	.72	.05	.65	.54	.36	.33
28	.94	.23	.43	.29	.13	.48	.69	0.92	.68	.52	.38	.34
29	.91	.28	.38	.40	3.72	.38	.58	.89	.66	.46		.40
30	.90	.20	.37	.39	.42	.26	.48	.89	.63	.43		.39
31		.19		.29	.16		.33		.63	.48		.38
Mean	0.70	1.46	1.84	2.19	3.42	3.38	2.43	1.00	0.75	0.50	0.44	0.37
Max.	0.95	2.25	2.60	3.40	4.72	4.71	3.12	1.34	0.88	0.68	0.63	0.53
Min.	0.54	0.73	0.97	1.37	2.50	2.49	1.33	0.80	0.63	0.35	0.22	0.26

WATER YEAR 1968 : Max. 4.72 m. Min. 0.26 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	67	90	126	184	639	590	619	174	91	59	34	28
2	67	70	107	182	584	576	599	168	84	44	31	38
3	66	78	110	182	534	550	539	176	87	45	55	27
4	66	101	117	226	522	495	528	146	90	37	56	27
5	66	110	138	325	500	451	548	137	93	31	51	22
6	70	168	182	362	487	446	567	129	88	37	46	19
7	72	226	284	367	461	469	545	117	91	39	52	18
8	72	257	369	385	448	503	500	119	87	37	56	17
9	69	287	431	403	459	539	443	117	73	32	54	23
10	66	337	471	420	492	548	446	117	79	39	50	25
11	59	382	474	446	539	550	441	109	72	38	45	24
12	58	385	461	433	534	548	446	101	66	40	35	22
13	66	385	446	397	522	550	484	90	73	36	22	25
14	69	337	420	359	508	548	500	80	70	36	22	23
15	69	342	405	330	495	573	500	85	73	33	24	24
16	66	318	418	298	484	714	492	85	72	35	22	28
17	52	277	377	264	542	939	474	88	75	32	26	43
18	52	280	408	243	743	1,068	474	85	67	25	24	44
19	63	252	397	248	1,013	1,150	461	98	65	37	21	42
20	66	176	339	250	1,131	1,143	446	109	62	39	14	34
21	63	156	306	257	1,154	1,101	436	115	73	40	14	29
22	62	137	270	284	1,143	1,020	428	109	75	46	24	25
23	70	127	255	332	1,097	939	405	107	69	48	26	27
24	78	124	246	349	1,105	860	392	110	76	55	29	28
25	80	146	237	385	1,124	804	354	101	65	63	44	29
26	99	133	228	474	1,131	770	284	119	62	59	49	28
27	104	146	203	584	1,079	745	257	120	59	45	26	23
28	102	154	195	669	939	726	250	99	63	43	28	24
29	98	164	184	702	804	696	226	94	61	36		29
30	96	148	182	699	708	660	205	94	56	33		28
31		146		699	631		174		56	38		28
Total	2,153	6,439	8,786	11,708	22,554	21,264	13,463	3,398	2,273	1,257	980	851
Mean	71.8	208	293	378	727	709	434	113	73.3	40.5	35.0	27.4
Max.	104	385	474	702	1,154	1,150	619	176	93	63	56	44
Min.	52	70	107	182	448	446	174	80	56	25	14	17
Runoff - MCM.	186.019	556.330	759.110	1,011.571	1,948.666	1,837.210	1,163.203	293.587	196.387	108.605	84.672	73.526

WATER YEAR 1968 : Max. 1,154 Min. 14 Mean 261 Annual Runoff 8,218.886 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Aug.21	06.00	4.73	1,158				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
NAN RIVER BASIN

Nam Khan at Ban Pa Khai, Phitsanulok (N.38)

Location: Lat 16° – 58' – 22" N., Long 100° – 50' – 55" E., about 8 kilometers from Phitsanulok – Nakhon Thai Road, at Ban Pa Khai, Amphoe Nakhon Thai, Phitsanulok.

Drainage Area: 243 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, 15.00 and 18.00 hours.

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

Period of Available Gage Records: 1967 – 72

Rating Operation:

Period of Rating: 1967 – 70
Rated by Float: –
Rated by Current Meter: 1967 – 70

Stability of Channel Regimes: Unstable, shifting adjustment is included for flow computation.

Overbank Flow Conditions: No overbank flow.

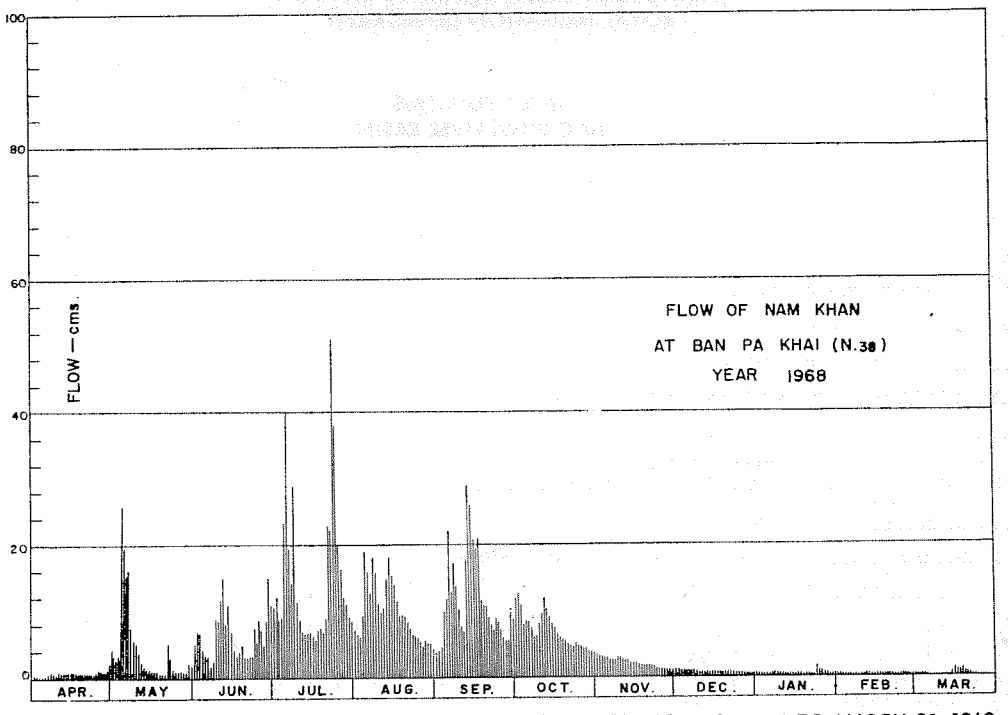
General Description: Records fair. Stage – discharge relationship used is defined by discharge measurements made during 1968. No upstream state diversions for irrigation except those built by local residents. No adjustment made for virgin flow.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.46	1.04	1.11	1.62	1.36	1.03	1.79	0.94	0.66	0.56	0.52	0.49
2	.46	0.79	.33	.96	.30	.06	.81	.92	.66	.55	.51	.48
3	.45	.96	.31	.47	.27	.02	.69	.91	.66	.55	.51	.48
4	.44	.90	.01	.39	.50	.67	.41	.90	.65	.55	.51	.47
5	.44	2.79	0.96	2.32	2.34	.78	.53	.89	.64	.55	.51	.46
6	0.49	1.99	0.93	3.67	2.04	2.60	1.55	0.87	0.64	0.55	0.51	0.45
7	.55	2.09	.75	2.08	1.75	1.78	.42	.86	.63	.58	.51	.45
8	.55	1.18	.75	1.80	2.26	2.23	.29	.85	.63	.61	.51	.45
9	.52	.19	1.52	2.99	.06	1.77	.26	.90	.63	.59	.50	.45
10	.57	.12	.39	1.77	1.80	.60	.50	.88	.63	.57	.50	.45
11	0.56	0.93	1.79	1.47	1.62	1.42	1.63	0.85	0.62	0.56	0.50	0.45
12	.53	.80	2.00	.34	.67	.33	.83	.84	.62	.55	.50	.45
13	.56	.71	1.29	.29	2.07	2.90	.66	.81	.61	.55	.50	.44
14	.57	.66	.66	.29	.34	.67	.55	.80	.61	.55	.50	.44
15	.58	.63	.28	.32	.18	.41	.48	.79	.60	.55	.50	.55
16	0.57	0.62	1.04	1.26	2.04	2.16	1.43	0.78	0.60	0.55	0.50	0.68
17	.54	.61	0.93	.16	1.69	.34	.36	.77	.59	.55	.50	.58
18	.56	.59	.96	.33	.55	1.76	.29	.75	.59	.54	.50	.62
19	.52	.57	1.11	.39	.61	.65	.27	.74	.58	.54	.49	.67
20	.55	.57	0.95	.32	.58	.68	.24	.73	.58	.54	.49	.58
21	0.54	0.55	0.88	1.18	1.49	1.51	1.20	0.73	0.58	0.54	0.49	0.53
22	.52	1.18	.94	2.60	.41	.43	.18	.72	.58	.54	.49	.51
23	.54	0.78	.85	.35	.35	.33	.14	.71	.57	.54	.49	.48
24	.56	.66	1.37	4.32	.31	.50	.12	.71	.57	.71	.49	.47
25	.72	.61	.01	2.47	.28	.41	.07	.70	.57	.61	.49	.47
26	0.64	0.59	1.49	2.29	1.20	1.25	1.05	0.69	0.56	0.56	0.49	0.46
27	.61	.58	.15	1.99	.14	.18	.03	.69	.56	.56	.49	.46
28	.59	.55	.04	.72	.25	.18	.00	.68	.56	.55	.49	.46
29	.65	.54	.98	.66	.17	.57	0.99	.67	.56	.54	–	.46
30	.82	.80	.72	.51	.21	.36	.97	.66	.56	.53	–	.46
31	–	.64	–	.48	.07	–	.95	–	.55	.52	–	.45
Mean	0.55	0.88	1.22	1.86	1.61	1.69	1.34	0.79	0.60	0.56	0.50	0.49
Max.	0.82	2.79	2.00	4.32	2.34	2.90	1.83	0.94	0.66	0.71	0.52	0.68
Min.	0.44	0.54	0.75	1.16	1.07	1.02	0.95	0.66	0.55	0.52	0.49	0.44

WATER YEAR 1968 : Max. 4.32 m. Min. 0.44 m.

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.40	4.26	4.89	10	6.92	3.72	12	3.36	1.26	0.70	0.60	0.36
2	0.40	2.13	7.03	14	6.30	3.99	13	3.18	1.26	0.65	0.55	0.32
3	0.36	3.54	6.81	8.57	6.00	3.18	11	3.09	1.26	0.65	0.55	0.32
4	0.32	3.00	3.99	7.69	8.46	9.67	7.25	3.00	1.20	0.65	0.55	0.28
5	0.32	26	3.54	19	19	11	8.57	2.92	1.14	0.65	0.55	0.24
6	0.55	15	3.27	40	15	22	8.79	2.76	1.14	0.65	0.55	0.20
7	0.85	16	1.85	16	11	11	7.36	2.68	1.08	0.80	0.55	0.20
8	0.85	5.52	1.85	12	18	17	6.00	2.60	1.08	0.96	0.55	0.20
9	0.75	5.61	9.12	29	15	11	5.70	3.00	1.08	0.85	0.50	0.20
10	0.96	4.98	7.69	12	11	9.45	8.24	2.84	1.08	0.75	0.50	0.20
11	0.90	3.27	12	8.57	9.89	7.47	9.67	2.60	1.02	0.70	0.50	0.20
12	0.75	2.20	15	7.14	9.34	6.50	12	2.52	1.02	0.55	0.50	0.20
13	0.90	1.57	6.60	6.60	14	29	10	2.28	0.96	0.55	0.50	0.16
14	0.96	1.26	11	6.60	18	25	8.79	2.20	0.96	0.55	0.50	0.16
15	1.02	1.08	6.50	6.92	15	22	8.02	2.13	0.90	0.55	0.50	0.65
16	0.96	1.02	4.26	6.30	14	18	7.47	2.06	0.90	0.55	0.50	1.38
17	0.80	0.96	3.27	5.34	10	21	6.70	1.99	0.85	0.55	0.50	0.80
18	0.90	0.85	3.54	7.03	9.01	12	6.00	1.85	0.85	0.50	0.50	1.02
19	0.70	0.75	4.89	7.69	9.56	11	5.80	1.78	0.80	0.50	0.45	1.32
20	0.85	0.75	3.45	6.92	9.23	11	5.52	1.71	0.80	0.50	0.45	0.80
21	0.80	0.65	2.84	5.52	8.24	9.12	5.16	1.71	0.80	0.50	0.45	0.55
22	0.70	5.52	3.36	23	7.36	8.24	4.98	1.64	0.80	0.50	0.45	0.45
23	0.80	2.06	2.60	19	6.70	7.14	4.62	1.57	0.75	0.50	0.45	0.32
24	0.70	1.26	7.47	51	6.30	9.01	5.25	1.57	0.75	1.71	0.45	0.28
25	1.64	0.96	3.99	21	6.00	8.02	4.80	1.50	0.75	1.08	0.45	0.28
26	1.14	0.85	8.79	19	5.25	6.30	4.62	1.44	0.70	0.80	0.45	0.24
27	0.96	0.80	5.25	15	4.71	5.61	4.44	1.44	0.70	0.80	0.45	0.24
28	0.85	0.65	4.26	11	5.70	5.61	4.17	1.38	0.70	0.75	0.45	0.24
29	1.20	0.60	15	11	4.98	9.78	4.08	1.32	0.70	0.70	–	0.24
30	2.36	2.20	11	9.01	5.34	7.47	3.90	1.26	0.70	0.65	–	0.24
31	–	1.14	–	8.24	4.08	–	3.72	–	0.65	0.60	–	0.20
Total	25.65	116.44	185.11	430.14	299.37	341.28	217.62	65.38	28.64	21.40	13.95	12.49
Mean	0.85	3.76	6.17	13.9	9.66	11.4	7.02	2.18	0.92	0.69	0.50	0.40
Max.	2.36	26	15	51	19	29	13	3.36	1.26	1.71	0.60	1.38
Min.	0.32	0.60	1.85	5.34	4.08	3.18	3.72	1.26	0.65	0.50	0.45	0.16
Runoff - MCM.	2.216	10.060	15.993	37.164	25.865	29.486	18.802	5.649	2.474	1.849	1.205	1.079

WATER YEAR 1968 : Max. 51 Min. 0.16 Mean 4.81 Annual Runoff 151.845 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Jul.24,68	10.00	5.18	67				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
CHAO PHYA RIVER BASIN

Chao Phya River at Muang Nakhon Sawan (C.2)

Location: Lat 15° - 40' - 15" N., Long 100° - 06' - 45" E., on left bank about 3 kilometers downstream side of Dechatiwong Bridge, Amphoe Muang, Nakhon Sawan.

Drainage Area: 110,569 sq.km.

Type of Gage: Water - stage recorder.

Zero Gage at Bottom at: Gage readings are already m. (M.S.L.)

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

Location: On left bank 20 meters west of gage site.
Elevation: B.M.1 +26.258 m. (M.S.L.) and B.M.2 +26.091 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: 1956 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.

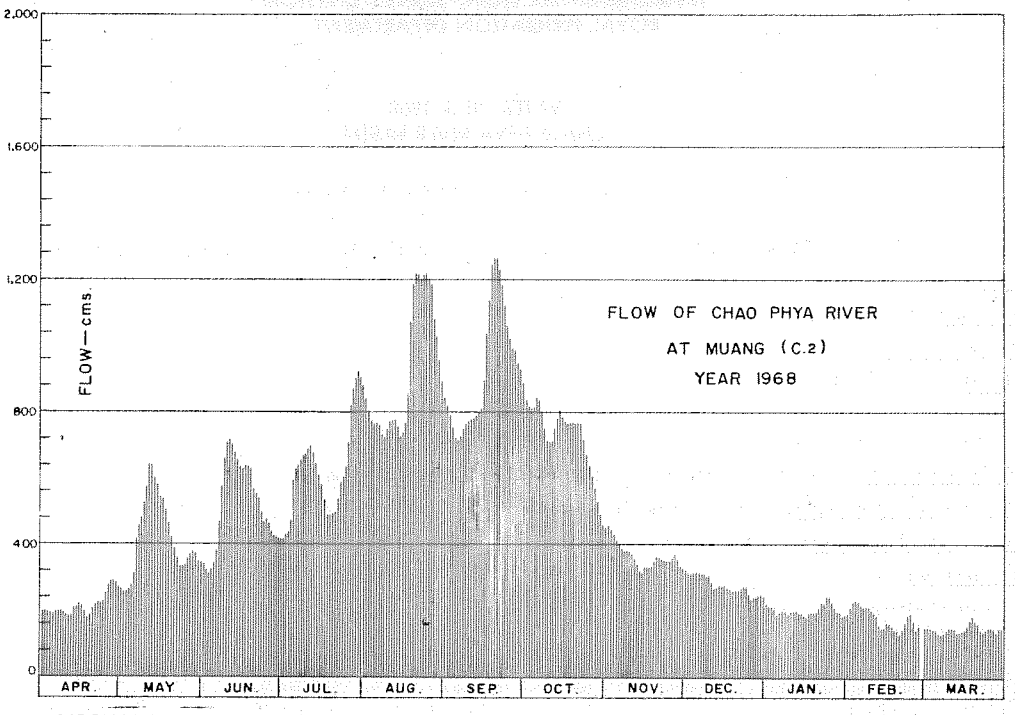
General Description: Records good. Stage - discharge relationship used is defined by discharge measurements made during 1968. Upstream state diversions for irrigation of about 91,000 hectares. No adjustment made for virgin flow.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	18.14	18.46	18.79	19.06	20.48	20.37	20.47	19.19	18.72	18.30	18.13	17.89
2	.15	.40	.73	.11	.36	.31	.37	.20	.68	.22	.22	.89
3	.13	.42	.66	.12	.24	.26	.31	.17	.66	.23	.30	.87
4	.10	.48	.69	.21	.19	.15	.29	.11	.67	.16	.31	.85
5	.10	.54	.78	.59	.17	.04	.30	.06	.68	.08	.24	.81
6	18.13	18.75	18.88	19.76	20.17	20.02	20.38	19.01	18.67	18.14	18.24	17.76
7	.15	19.07	19.15	.79	.14	.04	.36	18.95	.67	.16	.21	.76
8	.16	.24	.53	.84	.07	.11	.23	.94	.66	.16	.22	.79
9	.13	.30	.83	.89	.04	.17	.09	.93	.61	.09	.20	.83
10	.07	.49	.99	.90	.11	.19	.01	.92	.64	.16	.15	.86
11	18.04	19.69	20.03	19.96	20.18	20.20	20.01	18.89	18.55	18.14	18.11	17.87
12	.07	.80	19.98	.97	.19	.20	.03	.83	.46	.17	.07	.86
13	.17	.79	.90	.86	.19	.24	.16	.75	.50	.14	17.91	.77
14	.23	.63	.83	.77	.13	.26	.24	.67	.51	.13	.86	.78
15	.26	.58	.77	.69	.04	.31	.28	.71	.51	.10	.89	.82
16	18.23	19.47	19.75	19.59	20.06	20.55	20.21	18.75	18.51	18.05	17.96	17.83
17	.13	.46	.79	.46	.18	.95	.16	.75	.48	.13	.94	.89
18	.04	.34	.78	.29	.52	21.27	.17	.75	.46	.14	.92	18.01
19	.08	.20	.75	.31	21.03	.48	.17	.79	.45	.13	.85	.06
20	.17	.08	.57	.33	.30	.52	.17	.87	.44	.14	.85	17.98
21	18.24	18.97	19.53	19.33	21.40	21.52	20.17	18.87	18.44	18.21	17.75	17.89
22	.28	.87	.47	.40	.39	.41	.17	.85	.48	.29	.86	.83
23	.26	.75	.33	.59	.35	.28	.09	.81	.49	.27	.99	.80
24	.29	.74	.23	.67	.39	.12	19.95	.81	.49	.37	18.09	.85
25	.38	.75	.26	.70	.41	20.95	.88	.81	.42	.35	.08	.88
26	18.50	18.81	19.21	19.93	21.37	20.85	19.76	18.84	18.33	18.26	17.93	17.86
27	.56	.88	.11	20.29	.30	.79	.66	.90	.36	.17	.82	.79
28	.57	.92	.10	.45	.06	.78	.54	.84	.37	.15	.89	.81
29	.54	.90	.07	.54	20.86	.67	.43	.75	.37	.12	-	.86
30	.48	.81	.06	.61	.69	.62	.30	.73	.38	.05	-	.86
31	-	.80	-	.55	.50	-	.19	-	.35	.08	-	.86
Mean	18.23	19.04	19.38	19.73	20.60	20.62	20.05	18.88	18.52	18.17	18.03	17.85
Max.	18.57	19.80	20.03	20.61	21.41	21.52	20.47	19.20	18.72	18.37	18.31	18.06
Min.	18.04	18.40	18.66	19.06	20.04	20.02	19.19	18.67	18.33	18.05	17.75	17.76

WATER YEAR 1968 : Max. 20.61 m. Min. 17.75 m.

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	198	266	344	417	876	837	472	454	327	230	196	150
2	199	252	329	431	834	816	837	457	317	213	213	150
3	196	257	312	434	792	799	816	448	312	215	230	147
4	190	270	320	460	774	760	809	431	315	201	232	143
5	190	284	342	576	767	722	813	417	317	186	217	136
6	196	334	368	629	767	715	841	403	315	198	217	127
7	199	420	442	639	757	722	834	386	315	201	211	127
8	201	469	557	655	732	746	788	384	312	201	213	132
9	196	487	652	672	722	767	739	381	300	188	209	139
10	184	545	705	675	746	774	711	378	308	201	199	145
11	179	607	718	695	771	778	711	370	286	198	192	147
12	184	642	701	698	774	778	718	355	266	203	184	145
13	203	639	675	662	774	792	764	334	275	198	154	129
14	215	588	652	632	753	799	792	315	277	196	145	131
15	222	573	632	607	722	816	806	324	277	190	150	138
16	215	539	626	576	729	900	781	334	277	180	163	139
17	196	536	639	536	771	1,046	764	334	270	196	160	150
18	179	499	636	484	890	1,167	767	334	266	198	156	173
19	186	457	626	490	1,076	1,247	767	344	263	196	143	182
20	203	422	570	496	1,179	1,263	767	365	261	198	143	167
21	217	392	557	496	1,217	1,263	767	365	261	211	125	150
22	226	365	539	517	1,213	1,221	767	360	270	228	145	139
23	222	334	496	576	1,198	1,171	739	350	273	224	169	134
24	228	332	466	601	1,213	1,111	691	350	273	245	188	143
25	248	334	475	610	1,221	1,046	668	350	257	241	186	148
26	275	350	460	685	1,206	1,009	629	357	237	222	158	145
27	289	368	431	809	1,179	987	598	373	243	205	138	132
28	291	378	428	865	1,088	784	560	357	245	199	150	136
29	284	373	420	897	1,013	943	526	334	245	194	–	145
30	270	350	417	922	950	925	487	329	248	180	–	145
31	–	347	–	900	883	–	454	–	241	186	–	145
Total	6,481	13,009	15,535	19,342	28,587	27,904	22,583	11,073	8,649	6,320	4,986	4,459
Mean	216	420	518	624	922	930	728	369	279	204	178	144
Max.	291	642	718	922	1,221	1,263	872	457	327	245	232	182
Min.	179	252	312	417	722	715	454	315	237	180	125	127
Runoff – MCM.	559.958	1,123.978	1,342.224	1,671.149	2,469.917	2,410.906	1,951.171	956.707	747.273	546.048	430.790	385.258

WATER YEAR 1968 : Max. 1,263 Min. 125 Mean 463 Annual Runoff 14,595.379 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sept.21	11.00	21.54	1,271				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
CHAO PHYA RIVER BASIN

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

Location: Lat 14° - 35' - 05" N., Long 100° - 27' - 12" E., on left bank infront of Police Station, Amphoe Muang, Ang Thong.

Drainage Area: Flood Plain.

Type of Gage: Staff gage.

Zero Gage at Bottom at: +0.900 m. (M.S.L.)

Bench Mark: B.M. - R.I.D. No.8

Location: Near the gage site
Elevation: +6.496 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: 1955 - 56
Rated by Float: -
Rated by Current Meter: 1955 - 56

Stability of Channel Regimes: Stable, no shifting adjustment for flow computation for year without actual ratings.

Overbank Flow Conditions: No overbank flow.

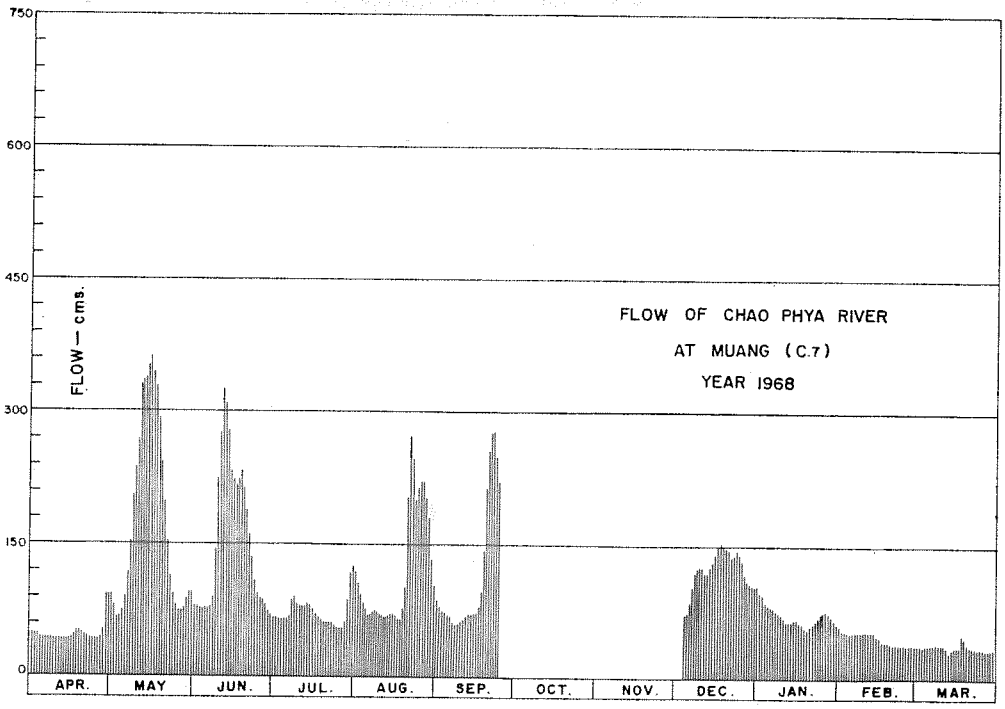
General Description: Records fair. Stage - discharge relationship used is defined by discharge measurements made during 1955. Flow regulated by Chao Phya Diversion Dam. No adjustment made for virgin flow.

Remarks: No record for period Sept. 26 - Nov. 30

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	1.41	1.98	1.83	1.68	2.28	1.95			-	2.09	1.55	1.27
2	.41	.85	.82	.67	.16	.82			-	.01	.50	.27
3	.41	.69	80	.65	.04	.77			-	1.98	.49	.27
4	.39	.62	.80	.65	1.90	.74			1.72	.88	.48	.27
5	.34	.76	.82	.65	.83	.71			.73	.85	.46	.27
6	1.34	1.96	1.80	1.65	1.79	1.68			1.84	1.85	1.48	1.27
7	.34	2.17	.79	.69	.74	.61			2.06	.82	.48	.28
8	.33	.40	.90	.91	.76	.57			.23	.80	.49	.28
9	.33	.93	2.40	.95	.79	.58			.28	.77	.48	.28
10	.33	3.12	3.09	.85	.72	.61			.28	.72	.48	.28
11	1.33	3.37	3.49	1.82	1.70	1.64			2.27	1.68	1.48	1.27
12	.33	.70	.66	.82	.70	.69			.22	.64	.48	.22
13	.34	.74	.56	.82	.69	.72			.24	.64	.48	.13
14	.35	.74	.34	.87	.71	.72			.30	.63	.48	.20
15	.35	.87	.10	.84	.73	.72			.37	.67	.43	.23
16	1.36	3.80	3.04	1.78	1.72	1.73			2.41	1.65	1.38	1.23
17	.42	.76	2.98	.72	.68	.77			.50	.62	.34	.25
18	.47	.64	3.04	.66	.63	.91			.52	.59	.34	.45
19	.47	.42	.10	.62	.72	2.33			.50	.45	.34	.39
20	.43	.06	2.98	.60	2.00	.97			.47	.52	.32	.26
21	1.40	2.78	2.78	1.60	2.83	3.25			2.45	1.57	1.32	1.23
22	.37	.51	.55	.60	3.35	.38			.38	.60	.32	.22
23	.34	.16	.33	.60	.20	.39			.41	.64	.31	.20
24	.32	.00	.14	.56	2.85	.17			.46	.69	.29	.20
25	.33	1.84	1.99	.52	.95	2.98			.42	.75	.29	.20
26	1.34	1.78	1.93	1.52	3.02				2.35	1.76	1.28	1.19
27	.37	.78	.90	.52	.03				.21	.78	.28	.18
28	.42	.79	.83	.58	2.93				.14	.74	.28	.18
29	.98	.87	.76	.88	.73				.11	.68	-	.18
30	.96	2.01	.72	2.19	.42				.09	.62	-	.18
31	-	.01	-	.28	.12				.09	.60	-	.18
Mean	1.41	2.56	2.44	1.73	2.19					1.72	1.40	1.24
Max.	1.98	3.87	3.66	2.28	3.35					2.09	1.55	1.45
Min.	1.32	1.62	1.72	1.52	1.63					1.45	1.28	1.13

WATER YEAR 1968 : Max. 3.87 m. Min. 1.48 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	48	94	81	68	125	91			–	105	58	38
2	48	82	80	68	112	80			–	97	54	38
3	48	69	78	66	100	76			–	94	53	38
4	46	64	78	66	87	73			72	85	53	38
5	43	75	80	66	81	71			72	82	51	38
6	43	92	78	66	71	68			82	82	53	38
7	43	113	77	69	73	63			102	80	53	39
8	42	139	87	88	75	60			119	78	53	39
9	42	207	139	91	77	60			125	76	53	39
10	42	236	231	82	72	63			125	72	53	39
11	42	275	295	80	70	65			124	68	53	38
12	42	332	325	80	70	69			118	65	53	35
13	43	339	307	80	69	72			120	65	53	30
14	43	339	270	84	71	72			127	64	53	34
15	43	363	233	82	72	72			135	68	49	36
16	44	350	224	76	72	72			140	66	46	36
17	48	343	215	72	68	76			151	64	43	37
18	52	321	224	67	64	88			153	61	43	50
19	52	283	233	64	72	131			151	50	43	46
20	49	227	215	62	96	213			147	56	41	38
21	47	186	186	62	193	256			145	60	41	36
22	45	152	157	62	272	277			137	62	41	35
23	43	112	131	62	248	278			140	65	41	34
24	41	96	110	59	196	243			146	69	39	34
25	42	82	95	56	210	215			141	74	39	34
26	43	76	90	56	221				133	75	39	33
27	45	76	87	56	222				117	76	39	33
28	48	77	81	60	207				110	73	39	33
29	94	84	75	85	180				107	68	–	33
30	92	97	72	115	141				105	64	–	33
31	–	97	–	125	108				105	62	–	33
Total	1,443	5,378	4,634	2,275	3,809					2,226	1,329	1,135
Mean	48.1	173	154	73.4	123					71.8	47.5	36.6
Max.	94	363	325	125	272					105	58	50
Min.	41	64	72	56	64					50	39	30
Runoff – mcm.	124.675	464.659	400.378	196.560	329.098					192.326	114.826	98.064

WATER YEAR 1968 : Max. Min. Mean Annual Runoff mcm.

Momentary Peak Discharge

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

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
CHAO PHYA RIVER BASIN

Chao Phya River at Wat Pho Ngam, 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: +6.50 m. (M.S.L.)

Bench Mark: B.M. - C.13

Location: On left bank 5 meters from B.M. - H.S./R.I.D. No.1
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 - 70

Rating Operation:

Period of Rating: 1947 - 49, 1951 - 59, 1961 - 62
Rated by Float: -
Rated by Current Meter: 1947 - 49, 1951 - 59, 1961 - 62

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

Overbank Flow Conditions: No overbank flow.

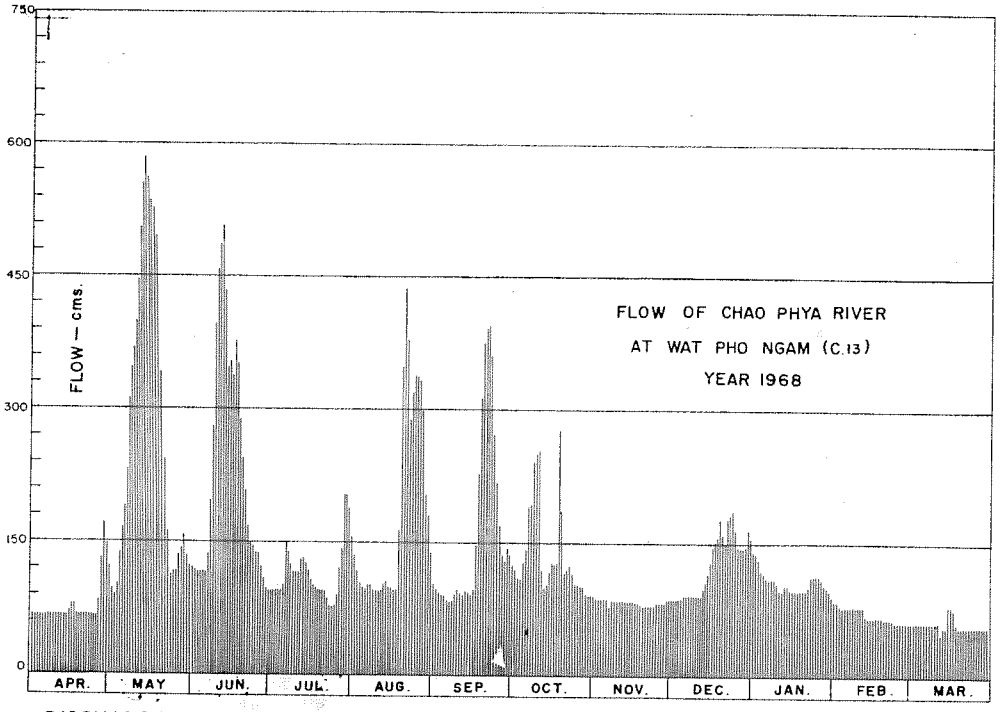
General Description: Records fair. Stage - discharge relationship used is defined by discharge measurements made during 1968. Flow regulated by Chao Phya Diversion Dam at above gage site which diverted for irrigation of about 979,000 hectares. No adjustment made for virgin flow.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	7.00	7.40	7.43	7.25	7.63	7.28	7.45	7.18	7.17	7.55	7.15	6.95
2	.00	.20	.40	.25	.50	.25	.42	.17	.17	.55	.15	.95
3	.00	.20	.40	.25	.40	.22	.35	.17	.17	.48	.10	.95
4	.00	.35	.40	.25	.31	.20	.35	.17	.17	.40	.10	.95
5	.00	.70	.40	.25	.28	.20	.47	.17	.20	.40	.10	.95
6	7.00	7.83	7.40	7.36	7.25	7.15	7.61	7.17	7.20	7.35	7.10	6.95
7	.00	8.18	.49	.64	.30	.15	.88	.08	.20	.35	.10	.95
8	.00	.67	8.27	.49	.30	.15	.90	.15	.20	.35	.10	.95
9	.00	.75	.92	.40	.24	.20	8.16	.15	.20	.35	.10	.95
10	.00	9.00	9.21	.40	.24	.25	.20	.15	.20	.25	.10	.95
11	7.00	9.33	9.39	7.40	7.24	7.22	8.22	7.15	7.20	7.25	7.10	6.95
12	.00	.58	.23	.40	.24	.20	7.42	.15	.20	.25	.10	.78
13	.00	.69	8.99	.50	.30	.23	.27	.15	.30	.30	.00	.90
14	.00	.54	.65	.48	.33	.23	.26	.15	.37	.30	.00	.90
15	.00	.50	.73	.40	.28	.20	.39	.15	.43	.25	.00	7.10
16	7.10	9.46	8.61	7.33	7.26	7.21	7.48	7.15	7.60	7.25	7.00	7.10
17	.10	.34	.73	.28	.25	.40	.46	.13	.65	.25	.00	.07
18	.00	.12	.84	.25	.26	8.01	.48	.13	.68	.25	.00	6.90
19	.00	8.72	.67	.25	.81	.59	8.36	.12	.80	.25	.00	.90
20	.00	.48	.37	.24	8.69	.83	7.35	.10	.70	.25	6.97	.90
21	7.00	8.13	8.15	7.23	9.11	8.92	7.40	7.10	7.60	7.25	6.97	6.90
22	.00	7.73	7.91	.20	8.82	.92	.43	.10	.80	.30	.97	.90
23	.00	.55	.72	.09	.31	.60	.45	.10	.85	.37	.95	.90
24	.00	.36	.62	.08	.58	.21	.37	.10	.85	.37	.95	.90
25	6.98	.40	.60	.10	.67	7.97	.30	.13	.73	.37	.95	.90
26	7.00	7.40	7.55	7.16	8.65	7.69	7.30	7.13	7.60	7.37	6.95	6.90
27	.38	.54	.44	.39	.63	.50	.28	.13	.60	.33	.95	.90
28	.77	.64	.33	.58	.33	.50	.28	.13	.60	.28	.95	.90
29	.64	.69	.25	.96	7.86	.60	.20	.17	.60	.28	-	.90
30	.60	.44	.25	.96	.81	.52	.20	.17	.73	.25	-	.90
31	-	.45	-	.83	.36	-	.20	-	.65	.17	-	.90
Mean	7.08	8.24	8.08	7.37	7.76	7.62	7.51	7.14	7.46	7.32	7.03	6.93
Max.	7.77	9.69	9.39	7.96	9.11	8.92	8.36	7.18	7.85	7.55	7.15	7.10
Min.	6.98	7.20	7.25	7.08	7.24	7.15	7.20	7.08	7.17	7.17	6.95	6.78

WATER YEAR 1968 : Max. 9.69 m. Min. 7.10 m.

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	67	111	121	97	149	101	124	89	87	138	85	61
2	67	91	117	97	131	97	120	87	87	135	85	61
3	67	91	117	97	117	93	110	87	87	128	79	61
4	67	110	117	97	104	91	110	87	87	117	79	61
5	67	160	117	97	101	91	127	87	91	117	79	61
6	67	182	117	111	97	85	146	87	91	110	79	61
7	67	244	130	151	103	85	191	77	91	110	79	61
8	67	340	261	130	103	85	194	85	91	110	79	61
9	67	357	394	117	96	91	241	85	91	110	79	61
10	67	412	461	117	96	97	248	85	91	97	79	61
11	67	492	507	117	96	93	252	85	91	97	79	61
12	67	557	466	117	96	91	123	85	91	97	79	44
13	67	585	410	151	103	93	99	85	103	103	67	56
14	67	546	335	128	107	95	98	85	113	103	67	56
15	67	536	353	117	101	91	116	85	121	97	67	79
16	79	526	327	107	98	92	128	85	145	97	67	79
17	79	494	377	101	97	117	125	83	152	97	67	75
18	67	440	340	97	98	214	128	85	157	97	67	56
19	67	350	279	97	179	323	277	81	177	97	67	56
20	67	301	259	96	344	375	110	79	169	97	64	56
21	67	235	196	95	437	394	117	79	145	97	64	56
22	67	165	163	91	372	394	121	79	177	103	64	56
23	67	138	148	78	268	325	124	79	182	113	61	56
24	67	111	145	77	321	250	113	79	185	113	61	56
25	65	117	138	79	340	207	103	83	165	113	61	56
26	67	117	138	86	335	158	103	83	145	113	61	56
27	114	137	123	116	331	131	101	83	145	107	61	56
28	172	148	107	142	272	131	101	83	145	101	61	56
29	151	158	97	205	187	145	91	87	145	101	–	56
30	145	123	97	205	179	134	91	87	165	97	–	56
31	–	124	–	182	111	–	91	–	152	87	–	56
Total	2,346	8,504	7,152	5,575	5,569	4,771	4,220	2,514	3,955	3,302	1,987	1,844
Mean	78.2	274	238	116	180	159	136	83.8	128	107	71.0	59.5
Max.	172	585	507	205	457	394	277	89	185	138	85	79
Min.	65	91	97	77	96	85	91	77	87	87	61	44
Runoff - mcm.	202.694	734.745	617.933	308.889	481.162	412.214	364.604	217.210	341.712	285.293	171.677	159.322

WATER YEAR 1968 : Max. 585 Min. 44 Mean 136 Annual Runoff 4,297.450 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
May.13	12.00	9.70	588				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
CHAO PHYA RIVER BASIN

Chao Phya River at In Buri, Sing Buri (C.14)

Location: Lat 15° - 00' - 30" N., Long 100° - 19' - 50" E., on right bank 200 meters north of district office of Amphoe In Buri, Sing Buri.

Drainage Area: Flood Plain.

Type of Gage: Staff gage.

Zero Gage at Bottom at: +4.50 m. (M.S.L.)

Bench Mark: B.M. - C.14

Location: On right bank infront of Thai Government Saving Bank.
Elevation: +12.694 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 - 69

Rating Operation:

Period of Rating: 1955
Rated by Float: -
Rated by Current Meter: 1955

Stability of Channel Regimes: Stable, no shifting adjustment for flow computation for year without actual ratings.

Overbank Flow Conditions: No overbank flow.

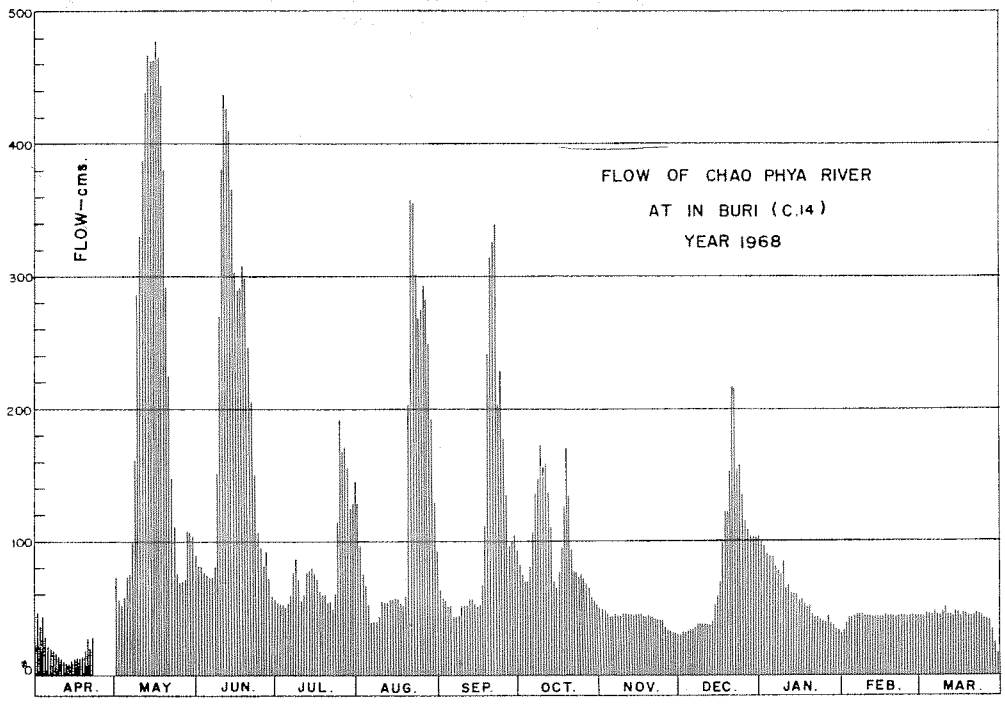
General Description: Records fair. Stage - discharge relationship used is defined by discharge measurements made during 1955. Flow regulated by Chao Phya Diversions at Chai Nat. No adjustment made for virgin flow.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	5.46	5.67	5.73	5.52	5.93	5.59	5.76	5.47	5.31	5.86	5.33	5.44
2	.34	.53	.73	.52	.71	.55	.71	.48	.33	.84	.40	.44
3	.43	.49	.70	.51	.67	.53	.67	.47	.32	.81	.40	.46
4	.21	.54	.68	.48	.59	.49	.62	.43	.34	.79	.43	.45
5	.19	.67	.67	.52	.38	.50	.69	.43	.35	.78	.44	.45
6	5.16	5.68	5.68	5.57	5.40	5.43	5.83	5.45	5.35	5.74	5.45	5.47
7	.14	.76	.67	.70	.40	.43	6.07	.44	.36	.71	.45	.45
8	.10	6.39	6.05	.77	.41	.41	.15	.43	.38	.70	.45	.44
9	.08	.98	.94	.64	.45	.50	.30	.44	.38	.76	.43	.46
10	.04	7.08	7.33	.52	.53	.51	.19	.45	.38	.61	.44	.50
11	5.02	7.33	7.51	5.54	5.52	5.49	6.22	5.45	5.37	5.63	5.44	5.45
12	.00	.53	.43	.69	.52	.54	.10	.45	.37	.58	.45	.45
13	.01	.63	.37	.71	.54	.54	5.90	.45	.40	.58	.43	.44
14	.05	.61	.10	.72	.54	.52	.61	.45	.49	.58	.43	.47
15	.06	.61	6.92	.69	.55	.50	.60	.44	.57	.54	.43	.47
16	5.05	7.67	6.88	5.65	5.53	5.50	5.66	5.45	5.63	5.55	5.43	5.43
17	.06	.62	.90	.58	.51	.61	.79	.44	.82	.53	.45	.46
18	.09	.53	.97	.57	.51	.95	.99	.43	6.01	.51	.44	.46
19	.13	.19	.91	.57	.54	6.71	6.29	.43	.00	.51	.45	.44
20	.28	6.76	.66	.52	6.65	.99	5.94	.43	.20	.46	.44	.44
21	5.13	6.40	6.44	5.52	7.18	7.05	5.73	5.43	6.53	5.43	5.44	5.46
22	.28	.10	.30	.49	.17	.10	.71	.42	.44	.44	.44	.46
23		5.90	.03	.46	6.72	6.39	.67	.42	.17	.42	.45	.45
24		.71	5.87	.90	.80	.59	.69	.42	.22	.42	.44	.44
25		.62	.82	6.41	.83	.35	.66	.38	5.99	.40	.44	.42
26		5.65	5.70	6.25	6.90	6.67	5.64	5.35	5.95	5.44	5.44	5.42
27		.64	.81	.29	.78	5.83	.62	.34	.90	.39	.45	.41
28		.91	.65	.11	.56	.84	.57	.33	.88	.37	.44	.32
29		.90	.57	5.96	.29	.89	.54	.32	.89	.35	-	.19
30		.88	.54	6.09	5.93	.84	.52	.31	.89	.34	-	.12
31		.76	-	.14	.76	-	.50	-	.89	.32	-	.10
Mean		6.41	6.32	5.73	5.96	5.87	5.80	5.42	5.71	5.56	5.43	5.41
Max.	5.46	7.67	7.51	6.41	7.18	7.10	6.30	5.48	6.53	5.86	5.45	5.50
Min.	5.00	5.49	5.54	5.46	5.39	5.41	5.50	5.31	5.31	5.32	5.33	5.10

WATER YEAR 1968 : Max. 7.67 m. Min. 5.00 m.

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	47	73	81	54	111	63	86	48	31	101	33	45
2	34	56	81	54	78	58	78	50	33	98	40	45
3	44	51	77	53	73	56	73	48	32	93	44	47
4	23	57	74	50	63	51	67	44	34	90	44	46
5	21	73	73	54	39	52	76	44	35	89	45	46
6	19	74	74	60	40	44	96	46	35	83	46	48
7	18	86	73	77	40	44	133	45	37	78	46	46
8	15	188	130	87	41	41	146	44	39	77	46	45
9	14	310	301	69	46	52	172	45	39	86	44	47
10	11	333	392	54	56	53	153	46	39	65	45	52
11	9.40	392	437	57	54	51	158	46	38	68	45	46
12	8.00	442	417	76	54	57	138	46	38	62	44	46
13	8.70	467	402	78	57	57	107	46	40	62	44	45
14	11	462	338	80	57	54	65	46	51	62	44	48
15	12	462	297	76	58	52	64	45	60	57	44	48
16	12	477	288	70	56	52	72	46	68	58	44	44
17	12	465	292	62	53	65	90	45	95	56	46	47
18	14	442	308	60	53	114	120	44	124	53	45	47
19	17	359	294	60	57	252	170	45	122	53	46	45
20	28	262	242	54	240	313	113	44	155	47	45	45
21	17	190	198	54	356	326	81	44	216	44	45	47
22	28	138	172	51	354	338	78	42	198	45	45	47
23		107	127	47	254	188	73	42	150	42	45	46
24		78	102	107	270	228	76	42	158	42	45	45
25		67	95	192	277	181	72	39	120	40	45	42
26		70	77	163	292	133	69	35	114	45	45	42
27		69	93	170	266	96	67	34	107	40	46	41
28		108	70	140	222	98	60	33	104	38	45	32
29		107	60	116	170	105	57	32	105	35	–	21
30		104	57	134	111	98	54	31	105	34	–	16
31		86	–	145	86	–	52	–	105	32	–	15
Total		6,655	5,722	2,604	3,984	3,372	2,826	1,287	2,627	1,875	1,242	1,322
Mean		215	191	84.0	128	112	91.2	42.9	84.7	60.5	44.3	42.6
Max.		477	437	192	356	338	172	50	216	101	46	52
Min.		51	57	47	39	41	52	31	31	32	33	15
Runoff – mcm.		547.992	494.381	224.986	344.218	291.341	224.166	111.197	226.973	162.000	107.309	114.221

WATER YEAR 1968 : Max. 477 Min. 8.00 Mean Annual Runoff mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
May.16,68	15.00	7.69	482				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
CHAO PHYA RIVER BASIN

Chao Phya River at Wat Chula Mani, Ayutthaya (C.15)

Location: Lat $14^{0} - 25^{'} - 35^{''}$ N., Long $100^{0} - 29^{'} - 11^{''}$ E., on left bank infront of Wat Chula Mani, 100 meters upstream from confluence with Khlong Bang Ban, Amphoe Bang Ban, Ayutthaya.

Drainage Area: Flood plain.

Type of Gage: Staff gage.

Zero Gage at Bottom at: -0.20 m. (M.S.L.)

Bench Mark: B.M. - C.15 about 15 meters from B.M. - H.S./R.I.D. No.9

Location: On left bank north of Wat Chula Mani.
Elevation: +4.301 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: 1955
Rated by Float: -
Rated by Current Meter: 1955

Stability of Channel Regimes: Stable, no shifting adjustment for flow computation year without actual ratings.

Overbank Flow Conditions: No overbank flow.

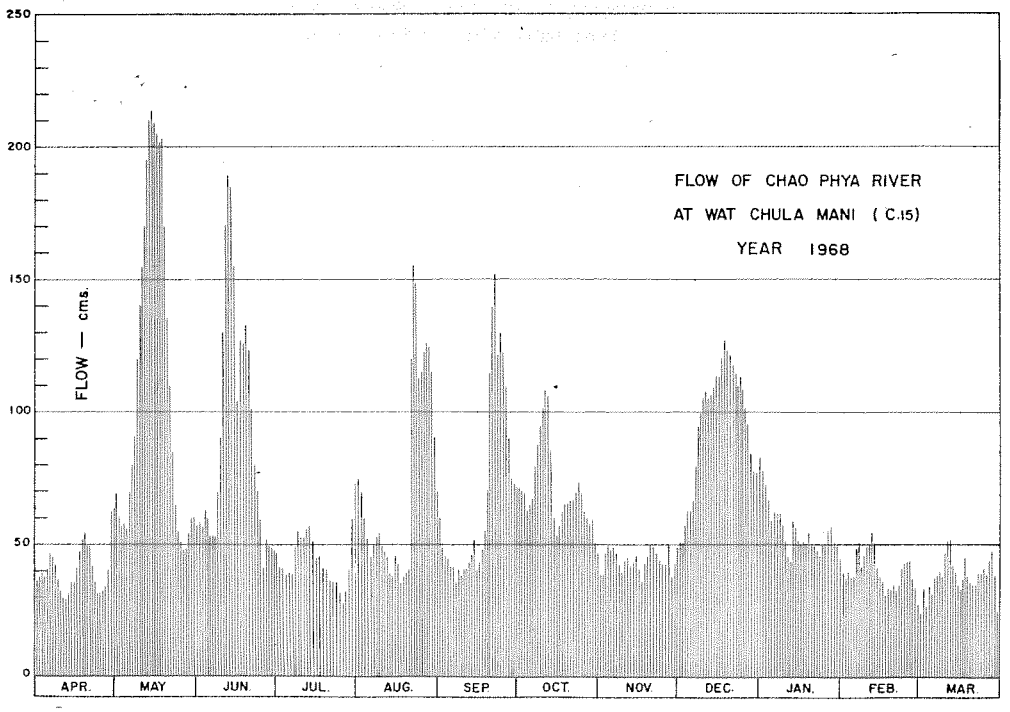
General Description: Records fair. Stage - discharge relationship used is defined by discharge measurements made during 1955. Flow regulated by Chao Phya Diversion at Chai Nat. No adjustment made for virgin flow.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.53	1.01	0.83	0.68	1.08	0.85	1.04	0.59	0.76	1.17	0.60	0.33
2	.57	0.91	.86	.61	.01	.71	.03	.59	.76	.07	.55	.49
3	.60	.84	.85	.61	0.88	.69	.01	.70	.84	.04	.60	.39
4	.56	.86	.92	.56	.78	.67	0.92	.74	.92	0.97	.57	.50
5	.60	.83	.86	.59	.71	.63	.95	.72	.93	.87	.57	.47
6	0.70	1.01	0.79	0.60	0.68	0.63	0.98	0.73	0.98	0.91	0.72	0.55
7	.69	.16	.78	.58	.76	.53	1.07	.72	1.13	.91	.76	.56
8	.64	.28	.79	.70	.78	.60	.21	.66	.33	.91	.63	.60
9	.55	.66	1.10	.83	.80	.57	.29	.60	.41	.87	.65	.57
10	.48	.83	.69	.79	.75	.62	.40	.66	.46	.80	.75	.66
11	0.43	2.03	2.12	0.78	0.72	0.62	1.48	0.67	1.48	0.70	0.75	0.76
12	.43	.28	.30	.83	.69	.65	.46	.65	.45	.66	.81	.77
13	.45	.46	.26	.84	.60	.69	.17	.63	.47	.77	.76	.64
14	.54	.52	.10	.79	.56	.77	0.91	.67	.51	.84	.63	.61
15	.54	.49	1.86	.74	.68	.62	.79	.69	.54	.77	.56	.54
16	0.62	2.45	1.43	0.67	0.64	0.64	0.81	0.60	1.54	0.74	0.55	0.49
17	.70	.42	.69	.68	.54	.68	.89	.53	.65	.76	.46	.54
18	.77	.43	.67	.64	.56	.78	.95	.65	.67	.76	.50	.68
19	.80	.14	.75	.61	.58	.98	.96	.66	.63	.81	.48	.54
20	.74	1.85	.65	.61	.76	1.55	.96	.75	.62	.76	.52	.53
21	0.74	1.57	1.45	0.55	1.44	1.79	0.97	0.74	1.60	0.75	0.49	0.51
22	.64	.34	.24	.54	.97	.94	.97	.71	.57	.73	.52	.52
23	.57	.03	.12	.54	.91	.63	1.01	.69	.50	.69	.62	.59
24	.47	0.91	0.99	.53	.53	.72	.06	.65	.53	.75	.65	.58
25	.46	.77	.85	.47	.56	.66	.00	.64	.47	.75	.65	.61
26	0.49	0.73	0.62	0.40	1.63	1.51	0.92	0.64	1.40	0.80	0.66	0.58
27	.50	.71	.77	.44	.67	.33	.89	.74	.28	.83	.57	.64
28	.63	.73	.75	.56	.65	.13	.86	.57	.18	.84	.51	.71
29	.93	.85	.73	.70	.49	.07	.89	.60	.11	.76	-	.57
30	.94	.89	.71	.94	.23	.05	.76	.73	.10	.74	-	.36
31	-	.89	-	1.06	0.09	-	.72	-	.12	.70	-	.30
Mean	0.61	1.45	1.22	0.66	1.02	0.98	1.01	0.66	1.32	0.82	0.61	0.55
Max.	0.94	2.52	2.30	0.84	1.97	1.94	1.48	0.74	1.67	1.17	0.76	0.77
Min.	0.43	0.71	0.62	0.40	0.54	0.53	0.72	0.53	0.76	0.66	0.46	0.30

WATER YEAR 1968 : Max. 2.52 m. Min. 0.30 m.

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	36	70	56	46	75	57	72	39	51	83	40	24
2	38	62	58	41	70	48	71	39	51	75	37	33
3	40	57	57	41	60	46	70	47	57	72	40	27
4	38	58	63	38	53	45	65	50	63	67	38	34
5	40	56	58	39	48	42	66	43	63	59	38	32
6	47	70	53	40	46	42	67	49	67	62	43	37
7	46	82	55	39	51	36	75	48	79	62	51	38
8	43	91	53	47	53	40	86	44	95	62	42	40
9	37	125	77	56	54	38	92	40	102	59	43	38
10	33	141	127	53	50	41	101	44	106	54	58	44
11	30	161	171	53	48	41	108	45	108	47	50	51
12	30	187	189	56	46	43	109	43	105	44	55	52
13	31	207	185	57	40	46	83	42	107	59	61	43
14	36	213	168	53	38	52	62	45	111	57	42	41
15	36	210	144	50	46	41	55	46	114	52	38	36
16	41	205	104	45	43	43	55	40	114	50	37	33
17	47	202	127	46	36	46	60	36	124	51	31	36
18	52	203	126	43	38	53	65	45	126	51	34	46
19	54	173	133	41	39	67	66	44	122	55	33	36
20	50	143	124	43	51	114	66	50	121	51	35	36
21	50	116	105	37	105	137	67	50	119	50	33	35
22	43	96	88	36	155	152	67	48	116	49	35	35
23	38	71	78	35	149	122	70	46	110	46	41	39
24	32	62	68	35	113	130	74	43	115	50	43	39
25	32	52	57	32	115	125	69	43	107	50	43	41
26	33	49	41	28	122	111	63	43	101	54	44	39
27	34	48	52	30	126	95	60	50	91	56	38	43
28	42	49	50	38	124	79	58	36	85	57	35	48
29	63	57	49	47	109	74	60	40	78	51	–	38
30	64	60	48	64	87	73	51	49	77	50	–	26
31	–	60	–	74	68	–	48	–	78	47	–	22
Total	1,236	3,436	2,762	1,383	2,258	2,079	2,173	1,332	2,959	1,732	1,145	1,162
Mean	41.2	111	92.1	44.6	72.8	69.3	70.1	44.4	95.4	55.9	40.9	37.5
Max.	64	213	189	74	155	152	108	50	126	83	58	52
Min.	30	48	41	28	36	36	48	36	51	44	31	22
Runoff – mcm.	106.790	296.870	238.637	119.491	195.091	179.626	187.747	115.084	225.658	149.645	98.928	100.397

WATER YEAR 1968 : Max. 213 Min. 22 Mean 65.1 Annual Runoff 2,052.604 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
May.14,68	12.00	2.53	214				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
CHAO PHYA RIVER BASIN

Khlong Wang Kra Thum at highway bridge, Lop Buri (C.24)

Location: Lat 15° – 06' – 07" N., Long 100° – 42' – 58" E., on left bank at bridge on Phahon Yothin Highway, 2.5 kilometers from Amphoe Khok Samrong, Lop Buri.

Drainage Area: 1,281 sq.km.

Type of Gage: Staff gage.

Zero Gage at Bottom at: +20.30 m. (M.S.L.)

Bench Mark: B.M. – H.S.

Location: Near left abutment of Wang Kra Thum Bridge.
Elevation: +26.380 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 – 67
Rated by Float: –
Rated by Current Meter: 1966 – 67

Stability of Channel Regimes: Stable, no shifting adjustment for flow computation for year without actual ratings.

Overbank Flow Conditions: No overbank flow.

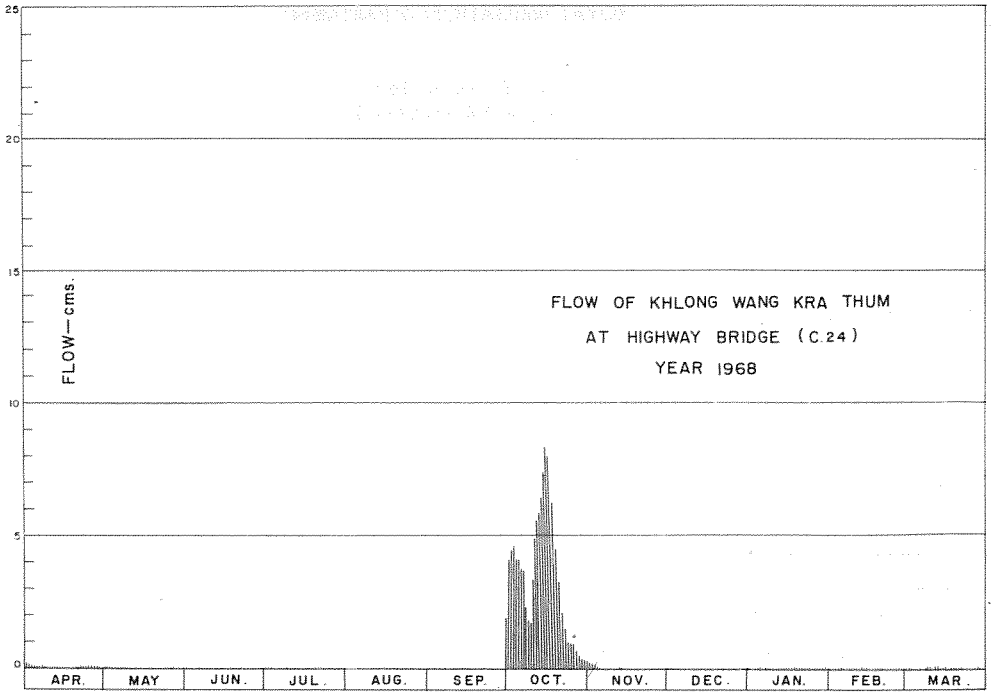
General Description: Records fair. Stage – discharge relationship used is defined by discharge measurements made during 1967. No upstream state diversions for irrigation except those built by local residents. No adjustment amde for virgin flow.

Remarks: Records for period of no flow are omitted.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	20.82	20.64					22.27	20.82	19.91	19.72	19.72	19.72
2	.77	.64					.37	.76	.88	.72	.72	.72
3	.73	.63					.40	.70	.87	.72	.72	.72
4	.72	.64					.31	.65	.87	.72	.72	.72
5	.69	.66					.32	.61	.86	.72	.72	.72
6	20.71	20.65					22.25	20.57	19.85	19.72	19.72	19.72
7	.72	.65					.05	.53	.85	.72	.72	.72
8	.69	.63					21.89	.51	.85	.72	.72	.72
9	.68	.61					.72	.50	.84	.72	.72	.72
10	.67	.59					.72	.45	.83	.72	.72	.72
11	20.64	20.59					22.48	20.41	19.83	19.72	19.72	19.72
12	.62	.57					.58	.37	.83	.72	.72	.72
13	.62	.57					.59	.33	.81	.72	.72	.72
14	.62	.55					.71	.29	.80	.72	.72	.72
15	.62	.53					.83	.25	.80	.72	.72	.72
16	20.61	20.48					22.78	20.18	19.79	19.72	19.72	19.72
17	.61	.47					.64	.16	.78	.72	.72	.72
18	.61	.45					.49	.13	.77	.72	.72	.72
19	.60	.42					.33	.12	.77	.72	.72	.72
20	.69	.38					.12	.11	.77	.72	.72	.72
21	20.68	20.35					21.93	20.08	19.76	19.72	19.72	19.72
22	.68						.72	.06	.75	.72	.72	.72
23	.66						.50	.04	.75	.72	.72	.72
24	.65						.31	.03	.74	.72	.72	.72
25	.64						.35	.01	.73	.72	.72	.72
26	20.63						21.22	19.97	19.72	19.72	19.72	19.72
27	.65						.18	.94	.72	.72	.72	.72
28	.64						.05	.97	.72	.72	.72	.72
29	.63						20.98	.96	.72	.72	–	.72
30	.63						.93	.92	.72	.72	–	.72
31	–						.89	–	.72	.72	–	.72
Mean	20.66						21.96	20.28	19.77	19.72	19.72	19.72
Max.	20.82	20.66					22.83	20.82	19.91	19.72	19.72	19.72
Min.	20.60	20.35					20.89	19.92	19.72	19.72	19.72	19.72

WATER YEAR 1968 : Max. 22.83 m. Min. 19.72 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.22	0.04					3.82	0.22	0.00			
2	0.17	0.04					4.42	0.16	0.00			
3	0.13	0.03					4.60	0.10	0.00			
4	0.12	0.04					4.06	0.05	0.00			
5	0.09	0.06					4.12	0.01	0.00			
6	0.11	0.05					3.70	0.00	0.00			
7	0.12	0.05					3.70	0.00	0.00			
8	0.09	0.03					2.17	0.00	0.00			
9	0.08	0.01					1.74	0.00	0.00			
10	0.07	0.00					1.74	0.00	0.00			
11	0.04	0.00					5.08	0.00	0.00			
12	0.02	0.00					5.84	0.00	0.00			
13	0.02	0.00					5.92	0.00	0.00			
14	0.02	0.00					7.01	0.00	0.00			
15	0.02	0.00					8.36	0.00	0.00			
16	0.01	0.00					7.78	0.00	0.00			
17	0.01	0.00					6.36	0.00	0.00			
18	0.01	0.00					5.14	0.00	0.00			
19	0.00	0.00					4.18	0.00	0.00			
20	0.09	0.00					3.08	0.00	0.00			
21	0.08	0.00					2.32	0.00	0.00			
22	0.08						1.74	0.00	0.00			
23	0.06						1.30	0.00	0.00			
24	0.05						0.92	0.00	0.00			
25	0.04						1.00	0.00	0.00			
26	0.03						0.74	0.00	0.00			
27	0.05						0.66	0.00	0.00			
28	0.04						0.45	0.00	0.00			
29	0.03						0.35	0.00	0.00			
30	0.03						0.33	0.00	0.00			
31	–						0.29	–	0.00			
Total	1.93	0.35					102.95	0.54				
Mean	0.06	0.01					3.32	0.02				
Max.	0.22	0.06					8.36	0.22				
Min.	0.00	0.00					0.29	0.00				
Runoff – mcm.	0.167	0.030					8.895	0.047				

WATER YEAR 1968 : Max. 8.36 Min. 0.00 Mean 0.29 Annual Runoff 9.138 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Oct.15,68	15.00	22.84	8.48				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
CHAO PHYA RIVER BASIN

Huai Yai at Khok Samrong, Lop Buri (C.25)

Location: Lat 15° – 15' – 12" N., Long 100° – 51' – 45" E., on right bank about 2.5 kilometers North – East of Amphoe Khok Samrong at Ban Maha Phot, Khao Tayom, Lop Buri.

Drainage Area: 68 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 camp of station C.25
Elevation: +5.20 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 – 72

Rating Operation:

Period of Rating: 1966 – 72
Rated by Float: –
Rated by Current Meter: 1966 – 72

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

Overbank Flow Conditions: No overbank flow.

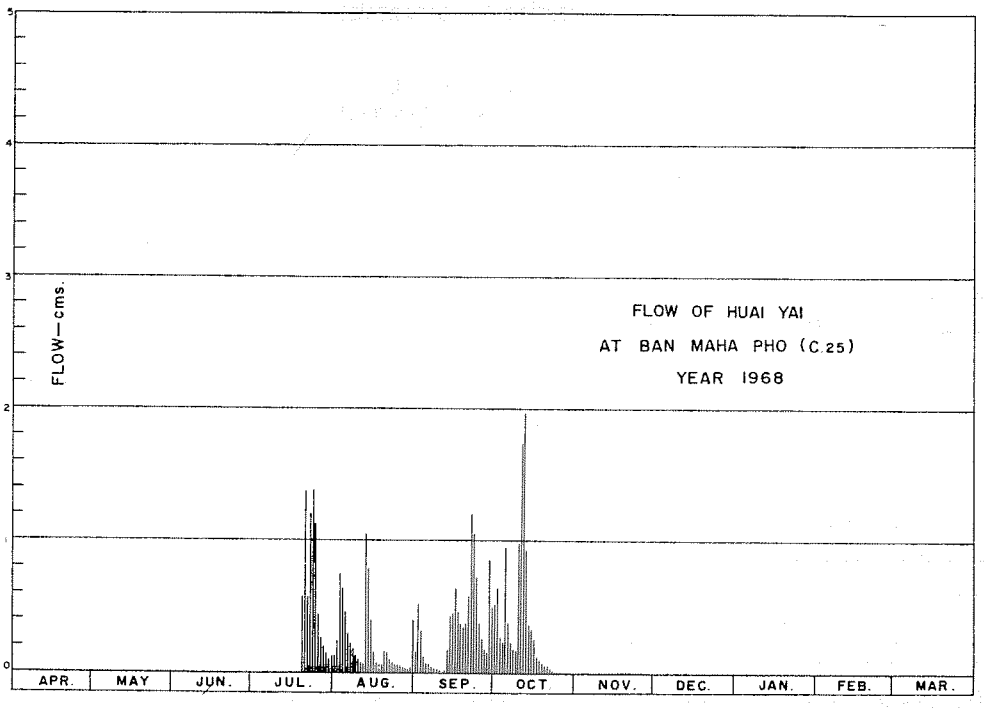
General Description: Records fair. Stage – discharge relationship used is defined by discharge measurements made during 1968. No upstream state diversions for irrigation except those built by local residents. No adjustment made for virgin flow.

Remarks: Records for period of no flow are omitted.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1			0.24	0.01	0.51	0.49	0.64	0.28				
2			.21	.01	.51	.64	.68	.26				
3			.20		.71	.54	.55	.25				
4			.18		.67	.45	.53	.23				
5			.19		.61	.47	.75	.21				
6			0.19		0.57	0.46	0.55	0.19				
7			.18		.54	.44	.54	.19				
8			.17		.53	.43	.52	.17				
9			.18		.51	.42	.51	.17				
10			.19		.50	.42	.76	.15				
11			0.17		0.48	0.39	0.89	0.12				
12			.16		.45	.34	.92	.11				
13			.17		.77	.54	.61	.11				
14			.15		.66	.61	.58	.10				
15			.14	0.03	.54	.62	.57					
16			0.13		0.50	0.68	0.54					
17			.11		.48	.61	.50					
18			.10		.46	.59	.49					
19			.10		.46	.58	.47					
20			.09	0.03	.52	.59	.45					
21			0.09	0.83	0.52	0.67	0.45					
22			.09	.58	.49	.80	.43					
23			.07	.80	.48	.74	.42					
24			.05	.83	.46	.64	.40					
25			.04	.74	.45	.57	.38					
26			0.03	0.60	0.45	0.55	0.36					
27			.02	.56	.44	.52	.34					
28			.02	.54	.43	.51	.32					
29			.02	.52	.42	.73	.30					
30			.01	.50	.44	.62	.28					
31			–	.51	.60	–	.26					
Mean			0.12	0.23	0.52	0.55	0.51	0.085				
Max.			0.24	0.83	0.77	0.80	0.92	0.28				
Min.			0.01	0.00	0.42	0.34	0.26	0.00				

WATER YEAR 1968 : Max. 0.92 m. Min. 0.24 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1				0.00	0.13	0.090	0.52	0.00				
2				0.00	0.13	0.52	0.64					
3					0.75	0.22	0.25					
4					0.61	0.050	0.19					
5					0.43	0.070	0.95					
6					0.31	0.060	0.25					
7					0.22	0.040	0.22					
8					0.19	0.030	0.16					
9					0.13	0.020	0.13					
10					0.10	0.020	1.00					
11					0.080	0.00	1.74					
12					0.050	0.00	1.97					
13					1.05	0.22	0.43					
14					0.58	0.43	0.34					
15				0.00	0.22	0.46	0.31					
16					0.10	0.64	0.22					
17					0.080	0.43	0.10					
18					0.060	0.37	0.090					
19					0.060	0.34	0.070					
20				0.00	0.16	0.37	0.050					
21				1.38	0.16	0.61	0.050					
22				0.34	0.090	1.20	0.030					
23				1.20	0.080	0.90	0.020					
24				1.38	0.060	0.52	0.00					
25				0.90	0.050	0.31	0.00					
26				0.40	0.050	0.25	0.00					
27				0.28	0.040	0.16	0.00					
28				0.22	0.030	0.13	0.00					
29				0.16	0.020	0.85	0.00					
30				0.10	0.040	0.46	0.00					
31				0.13	0.40	–	0.00					
Total			0.00	6.49	6.46	9.77	9.73	0.00				
Mean			0.00	0.21	0.21	0.32	0.31	0.00				
Max.			0.00	1.38	1.05	1.20	1.97	0.00				
Min.				0.00	0.020	0.00	0.00	0.00				
Runoff – mcm.			0.00	0.561	0.558	0.844	0.841	0.00				

WATER YEAR 1968 : Max. 1.97 Min. 0.00 Mean 0.089 Annual Runoff 2.804 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Jul.21,68	03.00	1.53	9.62				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
SAKAE KRANG RIVER BASIN

Huai Thap Salao at Ban Prada Hak, Uthai Thani (Ct.3)

Location: Lat 15° – 24' – 19" N., Long 99° – 42' – 40" E., on right bank about 4 kilometers downstream from local residents weir and about 5 kilometers upstream from confluence with Huai Thap Than, at Ban Prada Hak, Amphoe Nong Chang, Uthai Thani.

Drainage Area: 791 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 gage site.
Elevation: +4.671 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 to date
Rated by Float: –
Rated by Current Meter: 1967 to date

Stability of Channel Regimes: Unstable, shifting adjustment is included for flow computation.

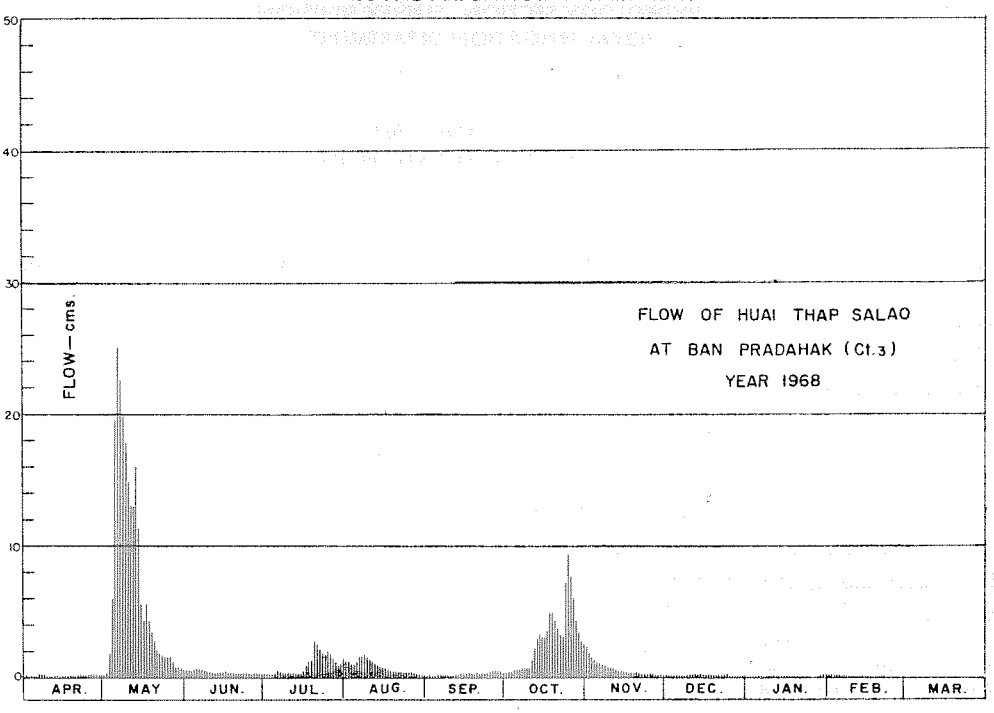
Overbank Flow Conditions: No overbank flow.

General Description: Records fair. Stage – discharge relationship used is defined by discharge measurements made during 1968. No upstream state diversions for irrigation except those built by local residents. No adjustment made for virgin flow.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.12	0.22	0.39	0.25	0.54	0.26	0.33	0.61	0.13	0.04	0.13	0.03
2	.12	.27	.39	.25	.55	.33	.34	.54	.12	.03	.12	.03
3	.11	.62	.39	.25	.50	.31	.35	.51	.13	.03	.12	.03
4	.11	.94	.39	.28	.50	.28	.38	.47	.12	.03	.10	.02
5	.12	1.66	.42	.35	.55	.34	.37	.45	.11	.03	.09	.02
6	0.16	1.74	0.43	0.38	0.61	0.32	0.38	0.43	0.11	0.02	0.08	0.02
7	.18	.66	.40	.36	.60	.32	.42	.41	.11	.01	.07	.03
8	.17	.62	.36	.34	.62	.30	.39	.38	.11	.02	.06	.03
9	.15	.55	.35	.32	.59	.29	.39	.37	.12	.01	.06	.04
10	.15	.42	.32	.30	.57	.28	.41	.36	.11	.01	.05	.03
11	0.15	1.34	0.31	0.30	0.53	0.29	0.48	0.33	0.14	0.02	0.04	0.03
12	.15	.37	.30	.30	.50	.29	.65	.28	.15	.01	.04	.03
13	.15	.47	.33	.29	.47	.30	.75	.27	.13	.01	.03	.04
14	.15	.17	.34	.26	.45	.37	.77	.25	.13	.01	.03	.03
15	.15	0.90	.32	.29	.42	.35	.75	.25	.11	.01	.02	.03
16	0.15	0.87	0.37	0.39	0.42	0.33	0.75	0.25	0.10	0.01	0.01	0.03
17	.15	.97	.30	.51	.40	.30	.82	.23	.12	.01	.01	.03
18	.15	.87	.30	.55	.39	.32	.92	.23	.12	.01	.01	.06
19	.15	.78	.30	.57	.38	.30	.91	.23	.11	.01	.01	.03
20	.15	.73	.30	.77	.37	.29	.85	.22	.10	.01	.01	.03
21	0.16	0.64	0.28	0.74	0.35	0.30	0.79	0.23	0.10	0.01	0.00	0.02
22	.18	.61	.27	.66	.35	.27	.75	.20	.09	.01	.01	.02
23	.18	.60	.26	.62	.33	.28	.73	.21	.08	.04	.01	.01
24	.21	.57	.26	.63	.33	.30	1.04	.18	.08	.04	.01	.01
25	.20	.57	.26	.68	.32	.30	.15	.17	.07	.04	.01	.02
26	0.21	0.55	0.25	0.63	0.31	0.34	1.00	0.19	0.06	0.03	0.02	0.01
27	.20	.51	.28	.57	.30	.36	0.90	.17	.06	.04	.02	.01
28	.19	.41	.28	.53	.28	.35	.81	.14	.05	.06	.02	.02
29	.18	.43	.25	.50	.26	.35	.75	.13	.05	.10	–	.02
30	.19	.41	.26	.51	.25	.33	.69	.13	.05	.12	–	.01
31	–	.41	–	.59	.24	–	.65	–	.05	.12	–	.01
Mean	0.16	0.90	0.32	0.45	0.43	0.31	0.67	0.29	0.10	0.03	0.04	0.02
Max.	0.21	1.74	0.43	0.77	0.62	0.37	1.15	0.61	0.15	0.12	0.13	0.06
Min.	0.11	0.22	0.25	0.25	0.24	0.26	0.33	0.13	0.05	0.01	0.02	0.01

WATER YEAR 1968 : Max. 1.74 m. Min. 0.01 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.100	0.250	0.602	0.250	1.25	0.115	0.426	2.17	0.205	0.100	0.250	0.030
2	0.100	0.360	0.602	0.250	1.30	0.220	0.448	1.69	0.190	0.090	0.235	0.030
3	0.090	1.95	0.602	0.250	1.05	0.190	0.470	1.49	0.205	0.090	0.235	0.030
4	0.090	5.32	0.602	0.316	1.05	0.145	0.635	1.25	0.190	0.090	0.205	0.020
5	0.100	22	0.701	0.470	1.30	0.235	0.602	1.15	0.175	0.090	0.190	0.030
6	0.160	25	0.734	0.569	1.69	0.205	0.635	1.05	0.175	0.080	0.175	0.020
7	0.190	22	0.635	0.503	1.62	0.205	0.767	0.950	0.175	0.070	0.160	0.030
8	0.175	20	0.503	0.448	1.75	0.175	0.668	0.850	0.175	0.080	0.145	0.030
9	0.145	18	0.470	0.404	1.56	0.160	0.668	0.767	0.190	0.070	0.145	0.040
10	0.145	15	0.404	0.360	1.43	0.145	0.734	0.734	0.175	0.070	0.130	0.030
11	0.145	13	0.382	0.360	1.20	0.160	1.10	0.635	0.220	0.080	0.115	0.030
12	0.145	13	0.360	0.360	1.05	0.160	2.17	0.470	0.272	0.070	0.115	0.030
13	0.145	16	0.426	0.338	0.900	0.175	3.01	0.448	0.235	0.070	0.100	0.040
14	0.145	9.13	0.448	0.272	0.800	0.404	3.22	0.404	0.235	0.070	0.100	0.030
15	0.145	4.62	0.404	0.338	0.701	0.306	3.01	0.404	0.205	0.070	0.090	0.030
16	0.145	4.25	0.536	0.602	0.701	0.316	3.01	0.404	0.190	0.080	0.080	0.030
17	0.145	5.64	0.360	1.10	0.635	0.250	3.75	0.360	0.220	0.080	0.080	0.030
18	0.145	4.25	0.360	1.30	0.602	0.294	5.00	0.360	0.220	0.080	0.080	0.060
19	0.145	3.22	0.360	1.43	0.569	0.250	4.87	0.360	0.205	0.080	0.080	0.030
20	0.145	2.70	0.360	2.91	0.536	0.235	4.12	0.338	0.190	0.080	0.060	0.030
21	0.160	2.02	0.316	2.62	0.470	0.250	3.43	0.360	0.190	0.080	0.050	0.020
22	0.190	1.82	0.294	2.02	0.470	0.205	3.01	0.294	0.175	0.080	0.060	0.020
23	0.190	1.75	0.272	1.75	0.426	0.220	2.80	0.316	0.160	0.115	0.040	0.010
24	0.235	1.56	0.272	1.82	0.426	0.360	7.30	0.250	0.160	0.115	0.040	0.010
25	0.220	1.56	0.272	2.17	0.404	0.360	9.32	0.272	0.145	0.115	0.040	0.020
26	0.235	1.56	0.250	1.82	0.382	0.448	6.60	0.316	0.130	0.100	0.030	0.010
27	0.220	1.20	0.316	1.43	0.360	0.503	5.00	0.272	0.130	0.115	0.030	0.010
28	0.205	0.734	0.316	1.20	0.316	0.470	3.87	0.220	0.115	0.145	0.030	0.020
29	0.190	0.800	0.250	1.05	0.272	0.470	3.22	0.205	0.115	0.205	–	0.020
30	0.205	0.734	0.272	1.10	0.250	0.426	2.62	0.145	0.115	0.235	–	0.010
31	–	0.734	–	1.56	0.235	–	2.47	–	0.115	0.235	–	0.010
Total	4.795	220.162	12.681	31.370	25.705	8.057	88.953	18.934	5.593	3.130	3.090	0.790
Mean	0.160	7.10	0.423	1.01	0.829	0.268	2.87	0.631	0.180	0.101	0.110	0.025
Max.	0.235	25	0.734	2.91	1.75	0.503	9.32	2.17	0.272	0.235	0.250	0.060
Min.	0.090	0.250	0.250	0.250	0.235	0.115	0.426	0.145	0.115	0.070	0.030	0.010
Runoff - mcm.	0.414	19.022	1.096	2.710	2.221	0.696	7.685	1.636	0.484	0.270	0.267	0.068

WATER YEAR 1968 : Max. 25 Min. 0.010 Mean 1.16 Annual Runoff 36.570 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
May 6, 68	09.00	1.75	25				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
SAKAE KRANG RIVER BASIN

Mae Wong River at Ban Hin Dat, Nakhon Sawan (Ct.5)

Location: Lat 15° - 54' - 10" N., Long 99° - 26' - 46" E., on right bank about 20 meters upstream from temporary bridge and about 1 kilometer upstream from Khao Chon Kan, at Ban Hin Dat, Tambon Mae Wong, Amphoe Lat Yao, Nakhon Sawan.

Drainage Area: 693 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 staff gage line.
Elevation: +5.0226 m. (A.D.)

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

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

Period of Available Gage Records: 1968 - 71

Rating Operation:

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

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

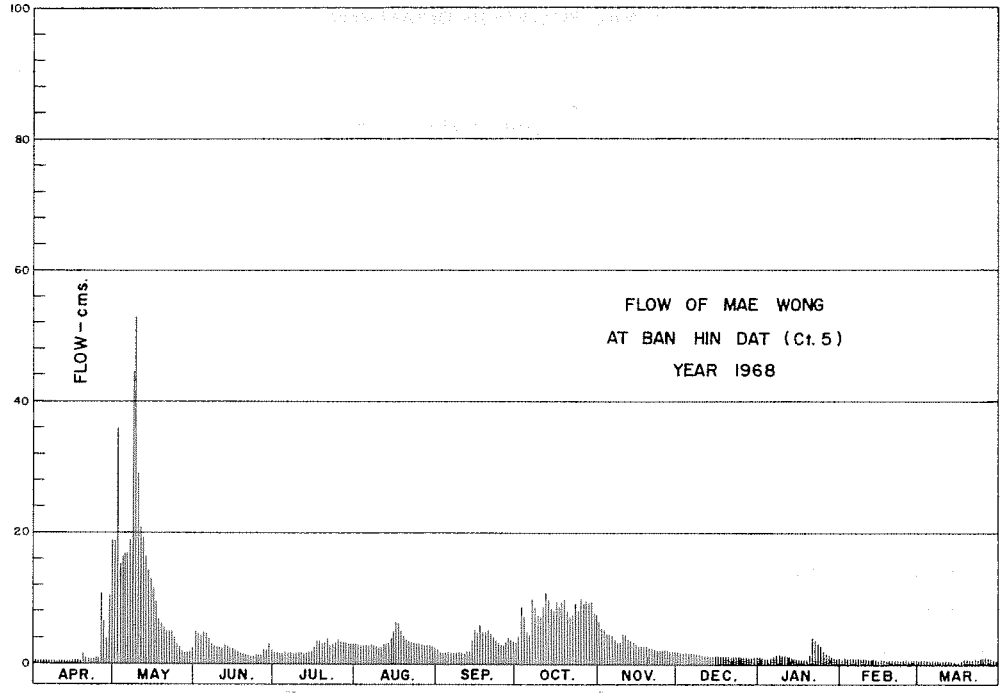
Overbank Flow Conditions: No overbank flow.

General Description: Records fair. Stage - discharge relationship used is defined by discharge measurements made during 1968. No upstream state diversions except those built by local residents. No adjustment made for virgin flow.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.15	0.95	0.50	0.30	0.39	0.33	0.41	0.56	0.30	0.22	0.20	0.16
2	.15	1.33	.47	.30	.39	.29	.50	.51	.29	.22	.20	.15
3	.15	0.98	.46	.29	.38	.29	.64	.50	.29	.21	.20	.15
4	.15	.90	.49	.29	.38	.28	.59	.47	.29	.21	.20	.14
5	.15	.90	.48	.29	.38	.28	.47	.47	.28	.21	.19	.13
6	0.15	0.90	0.43	0.28	0.37	0.29	0.46	0.46	0.28	0.23	0.19	0.13
7	.15	.97	.39	.29	.38	.28	.68	.44	.27	.26	.19	.13
8	.15	1.45	.36	.30	.37	.28	.63	.40	.27	.26	.19	.13
9	.15	.62	.36	.29	.37	.29	.58	.39	.27	.26	.19	.12
10	.15	.16	.35	.29	.35	.27	.58	.47	.26	.25	.19	.12
11	0.15	1.00	0.35	0.30	0.36	0.27	0.64	0.47	0.26	0.23	0.19	0.11
12	.15	.94	.38	.29	.39	.30	.72	.43	.26	.23	.18	.11
13	.15	.89	.36	.29	.40	.30	.68	.41	.25	.22	.18	.11
14	.15	.82	.35	.28	.40	.39	.63	.40	.25	.21	.18	.10
15	.15	.79	.33	.29	.47	.50	.62	.38	.25	.21	.18	.10
16	0.19	0.74	0.32	0.35	0.56	0.48	0.66	0.37	0.25	0.20	0.18	0.10
17	.18	.68	.31	.43	.55	.53	.64	.35	.25	.20	.18	.11
18	.15	.60	.30	.43	.50	.49	.66	.35	.24	.20	.18	.17
19	.30	.54	.28	.40	.42	.49	.68	.35	.24	.20	.18	.16
20	.20	.50	.26	.40	.43	.50	.63	.35	.24	.28	.17	.15
21	0.20	0.49	0.25	0.45	0.41	0.48	0.59	0.33	0.23	0.44	0.17	0.14
22	.20	.49	.25	.38	.40	.46	.59	.32	.23	.42	.17	.15
23	.19	.50	.24	.38	.40	.43	.66	.31	.23	.39	.17	.16
24	.20	.40	.27	.39	.40	.41	.62	.31	.23	.31	.17	.17
25	.20	.38	.27	.43	.39	.39	.68	.31	.22	.30	.17	.17
26	0.70	0.36	0.27	0.43	0.38	0.37	0.66	0.31	0.22	0.26	0.17	0.19
27	.55	.30	.34	.40	.37	.40	.67	.31	.22	.25	.17	.19
28	.42	.30	.31	.40	.37	.44	.66	.30	.22	.23	.16	.16
29	.64	.30	.41	.40	.36	.43	.66	.30	.22	.22	-	.13
30	.94	.30	.32	.39	.36	.40	.61	.30	.22	.20	-	.12
31	-	.35	-	.39	.35	-	.60	-	.22	.20	-	.12
Mean	0.25	0.73	0.35	0.35	0.40	0.38	0.62	0.39	0.25	0.25	0.18	0.14
Max.	0.94	1.62	0.50	0.45	0.56	0.53	0.72	0.56	0.30	0.44	0.20	0.19
Min.	0.15	0.30	0.24	0.28	0.35	0.27	0.41	0.30	0.22	0.20	0.16	0.10

WATER YEAR 1968 : Max. 1.62 m. Min. 0.10 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.60	19	5.30	2.00	3.26	2.42	3.59	6.74	2.00	1.12	0.90	0.66
2	0.60	36	4.73	2.00	3.26	1.89	5.30	5.54	1.89	1.12	0.90	0.60
3	0.60	15	4.54	1.89	3.12	1.89	8.86	5.30	1.89	1.01	0.90	0.60
4	0.60	17	5.11	1.89	3.12	1.78	7.46	4.73	1.89	1.01	0.90	0.54
5	0.60	17	4.92	1.89	3.12	1.78	4.73	4.73	1.78	1.01	0.84	0.48
6	0.60	17	3.97	1.78	2.98	1.89	4.54	4.54	1.78	1.23	0.84	0.48
7	0.60	20	3.26	1.89	3.12	1.78	10	4.16	1.67	1.56	0.84	0.48
8	0.60	43	2.84	2.00	2.98	1.78	8.57	3.40	1.67	1.56	0.84	0.48
9	0.60	53	2.84	1.89	2.98	1.89	7.22	3.26	1.67	1.56	0.84	0.42
10	0.60	28	2.70	1.89	2.70	1.67	7.22	4.73	1.56	1.45	0.84	0.42
11	0.60	21	2.70	2.00	2.84	1.67	8.86	4.73	1.56	1.23	0.84	0.36
12	0.60	19	3.12	1.89	3.26	2.00	11	3.97	1.56	1.23	0.78	0.36
13	0.60	17	2.84	1.89	3.40	2.00	10	3.59	1.45	1.12	0.78	0.36
14	0.60	14	2.70	1.78	3.40	3.26	8.57	3.40	1.45	1.01	0.78	0.30
15	0.60	13	2.42	1.89	4.73	5.30	8.28	3.12	1.45	1.01	0.78	0.30
16	0.84	12	2.28	2.70	6.74	4.92	9.44	2.98	1.45	0.90	0.78	0.30
17	0.78	10	2.14	3.97	6.50	6.02	8.86	2.70	1.45	0.90	0.78	0.36
18	0.60	7.70	2.00	3.97	5.30	5.11	9.44	2.70	1.34	0.90	0.78	0.72
19	2.00	6.26	1.78	3.40	4.73	5.11	10	2.70	1.34	0.90	0.78	0.66
20	0.90	5.30	1.56	3.40	3.97	5.30	8.57	2.70	1.34	1.78	0.72	0.60
21	0.90	5.11	1.45	4.35	3.59	4.92	7.46	2.42	1.23	4.16	0.72	0.54
22	0.90	5.11	1.45	3.12	3.40	4.54	7.46	2.28	1.23	3.78	0.72	0.60
23	0.84	5.30	1.34	3.12	3.40	3.97	9.44	2.14	1.23	3.26	0.72	0.66
24	0.90	3.40	1.67	3.26	3.40	3.59	8.28	2.14	1.23	2.14	0.72	0.72
25	0.90	3.12	1.67	3.97	3.26	3.26	10	2.14	1.12	2.00	0.72	0.72
26	11	2.84	1.67	3.97	3.12	2.98	9.44	2.14	1.12	1.56	0.72	0.84
27	6.50	2.00	2.56	3.40	2.98	3.40	9.73	2.14	1.12	1.45	0.72	0.84
28	3.78	2.00	2.14	3.40	2.98	4.16	9.44	2.00	1.12	1.23	0.66	0.66
29	8.86	2.00	3.59	3.40	2.84	3.97	9.44	2.00	1.12	1.12	–	0.48
30	19	2.00	2.28	3.26	2.84	3.40	7.99	2.00	1.12	0.90	–	0.42
31	–	2.70	–	3.26	2.70	–	7.70	–	1.12	0.90	–	0.42
Total	67.70	425.84	83.57	84.52	110.02	97.65	256.89	101.12	44.95	46.11	22.14	16.38
Mean	2.26	13.7	2.78	2.73	3.55	3.25	8.29	3.37	1.45	1.49	0.79	0.53
Max.	19	53	5.30	4.35	6.74	6.02	11	6.74	2.00	4.16	0.90	0.84
Min.	0.60	2.00	1.34	1.78	2.70	1.67	3.59	2.00	1.12	0.90	0.66	0.30
Runoff - mcm.	5.849	36.792	7.220	7.302	9.506	8.437	22.195	8.737	3.884	3.984	1.913	1.415

WATER YEAR 1968 : Max. 53 Min. 0.30 Mean 3.72 Annual Runoff 117.235 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
May 9, 68	15.00	1.86	72				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
THA CHIN RIVER BASIN

Huai Kra Sieo at Ban Wang Yao, Suphan Buri (T.3)

Location: Lat 14° - 51' - 44" N., Long 99° - 39' - 10" E., on right bank about 3 kilometers upstream from confluence with Huai Yang and about 2 kilometers upstream from Ban Wang Yao, Amphoe Doembang Nangbuat, Suphan Buri.

Drainage Area: 1,065 sq.km.

Type of Gage: Staff gage.

Zero Gage at Bottom at: +70.778 m. (M.S.L.)

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

Location: On right bank infront of camp of station T.3
Elevation: +76.906 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 - 70

Rating Operation:

Period of Rating: 1963 - 68
Rated by Float: -
Rated by Current Meter: 1963 - 68

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

Overbank Flow Conditions: No overbank flow.

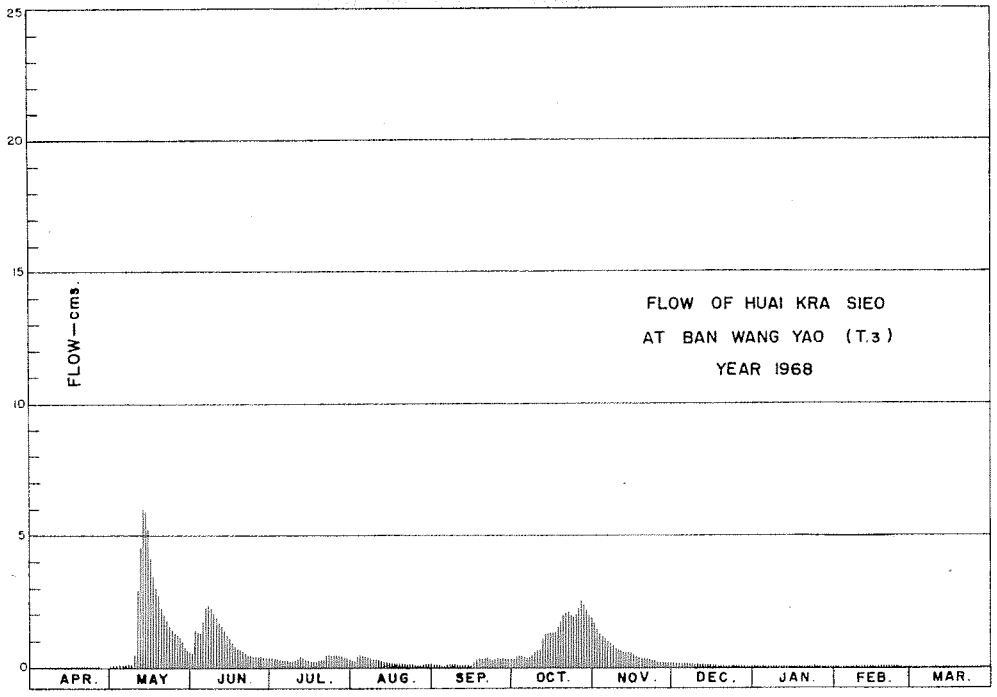
General Description: Records good. Stage - discharge relationship used is defined by discharge measurements made during 1968. No upstream state diversions for irrigation except those built by local residents. No adjustment made for virgin flow.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	71.15	71.25	71.48	71.44	71.42	71.34	71.42	71.61	71.38	71.24	71.13	71.01
2	.14	.24	.61	.43	.42	.34	.46	.59	.38	.23	.13	.01
3	.13	.23	.59	.43	.46	.35	.44	.57	.38	.22	.13	.00
4	.12	.31	.59	.42	.46	.32	.43	.55	.38	.22	.12	.00
5	.11	.28	.64	.42	.45	.31	.43	.54	.37	.22	.12	.00
6	71.11	71.27	71.68	71.42	71.45	71.34	71.42	71.53	71.37	71.22	71.11	70.99
7	.13	.27	.69	.41	.44	.35	.43	.52	.36	.22	.11	.99
8	.13	.28	.68	.41	.43	.36	.44	.51	.35	.22	.10	.99
9	.13	.33	.66	.41	.42	.35	.47	.50	.35	.22	.10	.98
10	.13	.44	.64	.41	.42	.33	.47	.50	.35	.21	.09	.98
11	71.12	71.79	71.62	71.41	71.41	71.32	71.48	71.49	71.35	71.21	71.08	70.98
12	.11	.90	.61	.43	.41	.32	.54	.48	.35	.21	.08	.97
13	.10	72.02	.58	.40	.40	.34	.57	.47	.35	.21	.07	.97
14	.09	.01	.56	.40	.40	.35	.57	.47	.34	.20	.07	.98
15	.08	71.93	.54	.39	.39	.34	.57	.46	.34	.20	.07	71.03
16	71.07	71.86	71.52	71.39	71.39	71.39	71.57	71.45	71.34	71.19	71.06	71.19
17	.06	.79	.50	.38	.38	.42	.58	.44	.34	.19	.06	.46
18	.06	.75	.49	.39	.36	.43	.61	.43	.33	.18	.06	.35
19	.05	.72	.48	.39	.37	.42	.63	.43	.32	.17	.05	.24
20	.04	.68	.47	.43	.36	.42	.66	.43	.32	.16	.05	.20
21	71.04	71.65	71.46	71.43	71.35	71.43	71.66	71.42	71.31	71.15	71.05	71.19
22	.03	.63	.44	.46	.35	.42	.66	.42	.30	.14	.04	.19
23	.03	.61	.44	.47	.35	.41	.65	.41	.30	.13	.04	.18
24	.35	.59	.43	.46	.34	.42	.64	.41	.30	.13	.04	.18
25	.31	.58	.43	.46	.34	.43	.66	.40	.29	.14	.03	.17
26	71.28	71.56	71.44	71.47	71.33	71.41	71.69	71.39	71.29	71.15	71.03	71.16
27	.26	.54	.44	.46	.32	.43	.71	.39	.28	.15	.03	.15
28	.27	.53	.43	.45	.32	.42	.69	.38	.28	.15	.02	.14
29	.26	.51	.44	.44	.36	.42	.67	.38	.27	.14	-	.13
30	.26	.50	.44	.44	.37	.42	.65	.38	.26	.14	-	.12
31	-	.49	-	.43	.34	-	.64	-	.25	.14	-	.12
Mean	71.14	71.57	71.53	71.42	71.39	71.38	71.56	71.46	71.33	71.18	71.07	71.00
Max.	71.35	72.02	71.69	71.47	71.46	71.43	71.71	71.61	71.38	71.24	71.13	71.46
Min.	71.03	71.23	71.43	71.38	71.32	71.31	72.42	71.38	71.25	71.13	71.02	70.97

WATER YEAR 1968 : Max. 72.02 m. Min. 70.97 m.

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.00	0.00	0.55	0.40	0.25	0.08	0.30	1.58	0.16	0.00	0.00	0.00
2		0.00	1.40	0.35	0.25	0.08	0.50	1.40	0.16			
3		0.00	1.26	0.35	0.45	0.10	0.40	1.26	0.16			
4		0.02	1.26	0.30	0.45	0.04	0.35	1.12	0.16			
5		0.00	1.85	0.30	0.40	0.02	0.35	1.05	0.14			
6		0.00	2.21	0.30	0.40	0.08	0.30	0.98	0.14			
7		0.00	2.30	0.25	0.35	0.10	0.35	0.91	0.12			
8		0.00	2.21	0.25	0.30	0.12	0.40	0.84	0.10			
9		0.06	2.03	0.25	0.30	0.10	0.60	0.65	0.10			
10		0.40	1.85	0.25	0.30	0.06	0.60	0.65	0.10			
11		3.20	1.67	0.35	0.25	0.04	0.65	0.60	0.10			
12		4.50	1.58	0.45	0.25	0.04	1.05	0.55	0.10			
13		6.00	1.33	0.30	0.20	0.08	1.26	0.50	0.10			
14		5.85	1.19	0.30	0.20	0.10	1.26	0.55	0.08			
15		4.98	1.05	0.25	0.18	0.08	1.26	0.50	0.08			
16		4.14	0.91	0.25	0.18	0.18	1.26	0.45	0.08			
17		3.30	0.77	0.20	0.16	0.30	1.33	0.40	0.08			
18		2.90	0.70	0.25	0.16	0.35	1.58	0.35	0.06			
19		2.60	0.65	0.25	0.14	0.30	1.76	0.35	0.04			
20		2.21	0.60	0.30	0.12	0.30	2.03	0.35	0.04			
21		1.94	0.55	0.30	0.10	0.35	2.03	0.30	0.02			
22		1.76	0.45	0.45	0.10	0.30	2.03	0.30	0.00			
23	0.00	1.58	0.45	0.50	0.10	0.25	1.94	0.25				
24	0.10	1.40	0.40	0.45	0.08	0.30	1.85	0.25				
25	0.02	1.33	0.40	0.45	0.08	0.35	2.03	0.20				
26		1.19	0.40	0.50	0.06	0.25	2.30	0.18				
27		1.05	0.40	0.45	0.04	0.35	2.50	0.18				
28		0.98	0.35	0.40	0.04	0.30	2.30	0.16				
29		0.70	0.40	0.35	0.12	0.30	2.12	0.16				
30		0.65	0.40	0.35	0.14	0.30	1.94	0.16				
31		0.60	-	0.30	0.08	-	1.85		0.00	0.00	0.00	0.00
Total	0.12	53.34	31.57	10.40	6.23	5.60	40.48	17.18	2.12	0.00	0.00	0.00
Mean	0.00	1.72	1.05	0.33	0.20	0.19	1.30	0.57	0.07	0.00	0.00	0.00
Max.	0.10	6.00	2.30	0.50	0.45	0.35	2.50	1.58	0.16	0.00	0.00	0.00
Min.	0.00	0.00	0.35	0.20	0.04	0.02	0.30	0.16	0.00	0.00	0.00	0.00
Runoff - mcm.	0.010	4.608	2.728	0.898	0.538	0.484	3.497	1.484	0.183	0.00	0.00	0.00

No Flow

WATER YEAR 1968 : Max. 6.00 Min. 0.00 Mean 0.458 Annual Runoff 14.432 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
May 13, 68	24.00	72.06	6.60				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
THA CHIN RIVER BASIN

Huai Kra Sieo at Ban Dan Chang, Suphan Buri (T.38)

Location: Lat 14° – 49' – 03" N., Long 99° – 41' – 51" E., on left bank at Thep Prachasan Bridge, Ban Dan Chang, Amphoe Doembang Nangbuat, Suphan Buri.

Drainage Area: 1,395 sq.km.

Type of Gage: Water – stage recorder.

Zero Gage at Bottom at: +57.250 m. (M.S.L.)

Bench Mark: B.M. – H.S.

Location: Near automatic buildings.
Elevation: +64.140 m. (M.S.L.)

Gage Reading Frequency: Recording.

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

Period of Available Gage Records: 1968 to date

Rating Operation:

Period of Rating: 1968 – 71
Rated by Float: –
Rated by Current Meter: 1968 – 71

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

Overbank Flow Conditions: No overbank flow.

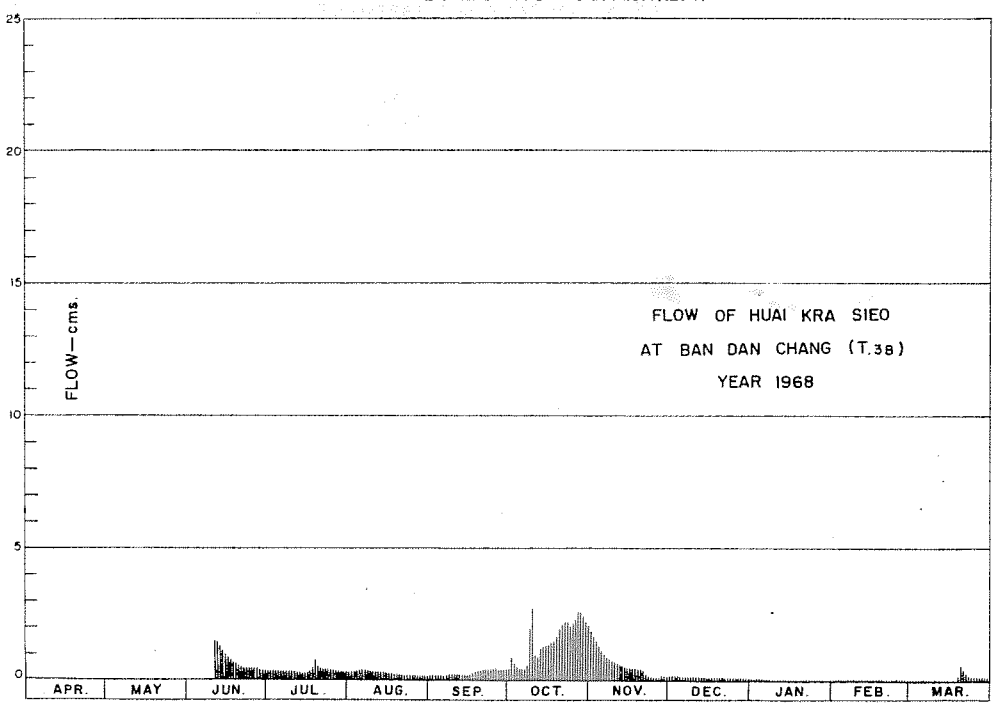
General Description: Records fair. Stage – discharge relationship used is defined by discharge measurements made during 1968–69. No upstream state diversions for irrigation except those built by local residents. No adjustment made for virgin flow.

Remarks: Stream gaging began on June 11, 1968.
Discharge record for periods of no flow are omitted.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1				57.35	57.33	57.27	57.38	57.71	57.29	57.21	57.06	57.00
2				.35	.33	.26	.50	.68	.29	.21	.06	.00
3				.36	.34	.27	.44	.64	.29	.21	.04	.00
4				.36	.35	.28	.41	.59	.28	.21	.04	.00
5				.35	.37	.27	.38	.56	.28	.21	.03	.00
6				57.35	57.38	57.25	57.38	57.53	57.28	57.21	57.02	57.00
7				.35	.36	.27	.38	.51	.28	.20	.02	.00
8				.35	.35	.28	.38	.47	.28	.20	.02	.00
9				.34	.34	.29	.73	.46	.28	.18	.02	.00
10				.34	.34	.29	.88	.44	.27	.18	.01	.00
11			57.64	57.34	57.33	57.28	57.51	57.44	57.27	57.17	57.01	57.00
12			.63	.34	.32	.28	.48	.43	.27	.15	.01	.00
13			.57	.33	.32	.28	.56	.42	.27	.12	.01	.00
14			.55	.33	.31	.29	.59	.41	.27	.09	.01	.00
15			.51	.32	.31	.28	.60	.41	.26	.07	.01	.00
16			57.49	57.33	57.31	57.28	57.60	57.40	57.26	57.07	57.00	57.00
17			.46	.35	.30	.31	.61	.38	.26	.07	.00	.00
18			.44	.40	.30	.34	.64	.38	.26	.07	.00	.00
19			.42	.48	.29	.36	.65	.37	.26	.07	.00	.12
20			.41	.40	.29	.36	.74	.37	.25	.07	.00	.42
21			57.41	57.39	57.28	57.36	57.77	57.35	57.25	57.07	57.00	57.35
22			.40	.38	.28	.36	.79	.30	.24	.07	.00	.29
23			.40	.38	.28	.36	.78	.27	.24	.07	.00	.28
24			.39	.37	.27	.36	.75	.27	.24	.07	.00	.27
25			.39	.37	.27	.36	.77	.27	.23	.07	.00	.26
26			57.38	57.36	57.27	57.39	57.81	57.27	57.22	57.07	57.00	57.26
27			.37	.36	.27	.35	.86	.27	.22	.07	.00	.26
28			.36	.36	.27	.35	.86	.29	.21	.07	.00	.25
29			.35	.35	.26	.36	.83	.28	.21	.07	–	.25
30			.34	.34	.26	.36	.78	.28	.21	.07	–	.24
31			–	.34	.26	–	.75	–	.21	.06	–	.24
Mean				57.36	57.31	57.31	57.63	57.41	57.25	57.12	57.01	57.11
Max.				57.48	57.38	57.39	57.88	57.71	57.29	57.21	57.06	57.42
Min.				57.32	57.26	57.25	57.38	57.27	57.21	57.06	57.00	57.00

WATER YEAR 1968 : Max. 57.88 m. Min. 57.00 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1				0.32	0.27	0.14	0.40	1.80	0.12	0.01		
2				0.32	0.27	0.12	0.85	1.66	0.12	0.01		
3				0.35	0.30	0.14	0.61	1.48	0.12	0.01		
4				0.35	0.32	0.16	0.49	1.25	0.10	0.01		
5	Stream gaging began			0.32	0.37	0.14	0.40	1.12	0.10	0.01		
6				0.32	0.40	0.10	0.40	0.98	0.10	0.01		
7				0.32	0.35	0.14	0.40	0.89	0.10	0.00		
8	on June 11,1968			0.32	0.32	0.16	0.40	0.73	0.10	0.00		
9				0.30	0.30	0.18	1.90	0.69	0.10	0.00		
10				0.30	0.30	0.18	2.69	0.61	0.09	0.00		
11			1.46	0.30	0.27	0.16	0.89	0.61	0.09	0.00		- No Flow -
12			1.43	0.30	0.25	0.16	0.77	0.57	0.09	0.00		
13			1.16	0.27	0.25	0.16	1.12	0.53	0.09	0.00		
14			1.07	0.27	0.22	0.18	1.25	0.49	0.09	0.00		
15			0.89	0.25	0.22	0.16	1.30	0.49	0.08	0.00		
16			0.81	0.27	0.22	0.16	1.30	0.45	0.08	0.00	- No Flow -	
17			0.69	0.32	0.20	0.22	1.34	0.40	0.08	0.00		
18			0.61	0.45	0.20	0.30	1.48	0.40	0.08	0.00		
19			0.53	0.77	0.18	0.35	1.52	0.37	0.08	0.00		0.00
20			0.49	0.45	0.18	0.35	1.95	0.37	0.06	0.00		0.53
21			0.49	0.42	0.16	0.35	2.10	0.32	0.06	0.00		0.32
22			0.45	0.40	0.16	0.35	2.20	0.13	0.05	0.00		0.12
23			0.45	0.40	0.16	0.35	2.15	0.09	0.05	0.00		0.10
24			0.42	0.37	0.14	0.35	2.00	0.09	0.05	0.00		0.09
25			0.42	0.37	0.14	0.35	2.10	0.09	0.04	0.00		0.08
26			0.40	0.35	0.14	0.42	2.30	0.09	0.05	0.00		0.08
27			0.37	0.35	0.14	0.32	2.58	0.09	0.05	0.00		0.08
28			0.35	0.35	0.14	0.32	2.58	0.12	0.01	0.00		0.06
29			0.32	0.32	0.12	0.35	2.41	0.10	0.01			0.06
30			0.30	0.30	0.12	0.35	2.15	0.10	0.01	0.00		0.05
31			-	0.30	0.12	-	2.00	-	0.01	0.00		0.05
Total				10.80	6.93	7.17	46.03	17.11	2.22	0.06	0.00	1.62
Mean				0.35	0.22	0.24	1.48	0.57	0.07	0.00	0.00	0.05
Max.				0.77	0.40	0.42	2.69	1.80	0.12	0.01	0.00	0.53
Min.				0.25	0.12	0.10	0.40	0.09	0.01	0.00	0.00	0.00
Runoff - mcm.				0.933	0.599	0.619	3.977	1.476	0.192	0.005	0.00	0.140

WATER YEAR 1968 : Max. 2.69 Min. 0.00 Mean Annual Runoff mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Oct.10,68		58.43	6.17				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
PASAK RIVER BASIN

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

Location: Lat 14° – 35' – 32" N., Long 101° – 00' – 23" E., on left bank about 100 meters downstream from Kaeng Khoi Water Supply, Amphoe Kaeng Khoi, Saraburi.

Drainage Area: 14,522 sq.km.

Type of Gage: • Water – stage recorder.

Zero Gage at Bottom at: +6.110 m. (M.S.L.)

Bench Mark: B.M. – S.2

Location: On left bank near the bridge of Automatic building.
Elevation: +20.130 m. (M.S.L.)

Gage Reading Frequency: Recording.

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

Period of Available Gage Records: 1914 to date

Rating Operation:

Period of Rating: 1945, 1947 – 48, 1959 – 61, 1965 to date
Rated by Float: 1945, 1947 – 48
Rated by Current Meter: 1959 – 61, 1965 to date

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

Overbank Flow Conditions: No overbank flow.

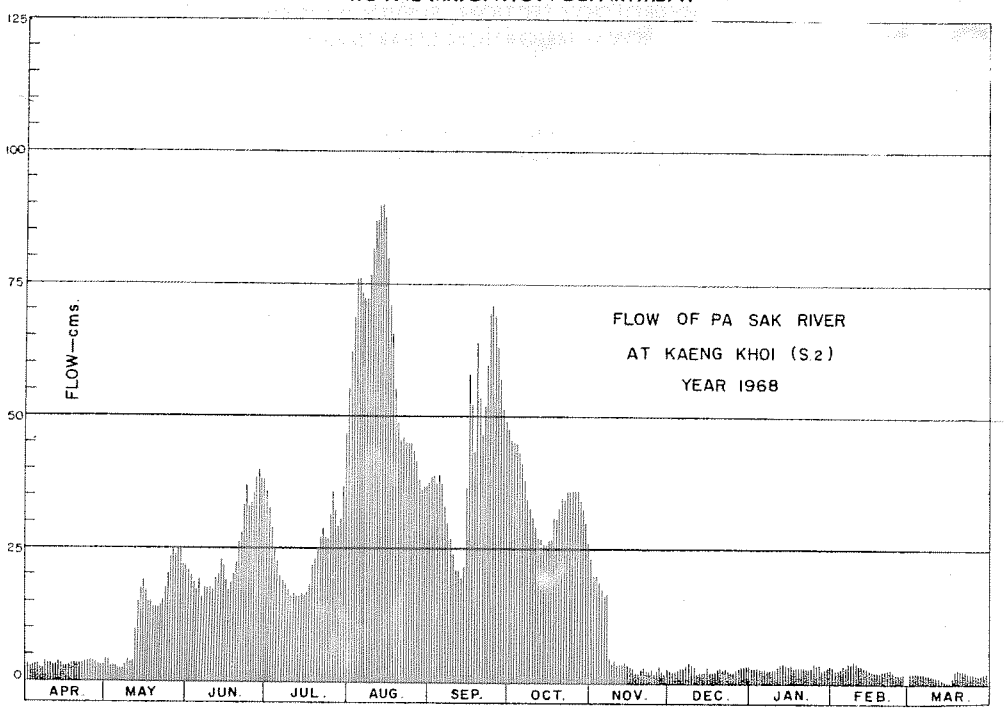
General Description: Records fair except those for period of low flow effected by back water from Rama VI. Barrage which are poor. Stage – discharge relationship used is defined by discharge measurements made during 1968. Flow is diverted for irrigation of about 3,000 hectares above gage site at Lom Sak. No adjustment made for virgin flow.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	7.45	7.58	7.74	8.01	8.32	8.07	8.20	7.77	7.33	7.38	7.41	7.22
2	.38	.50	.72	7.96	.43	.08	.18	.72	.32	.37	.32	.23
3	.37	.38	.69	.87	.49	.09	.17	.71	.32	.41	.34	.23
4	.42	.42	.65	.82	.59	.05	.18	.68	.39	.40	.37	.22
5	.48	.40	.68	.76	.60	.08	.14	.60	.36	.30	.50	.22
6	7.31	7.31	7.59	7.69	8.56	8.01	8.12	7.62	7.40	7.37	7.41	7.22
7	.33	.33	.66	.68	.55	7.98	.06	.63	.45	.33	.54	.20
8	.54	.39	.65	.66	.55	.90	.00	.50	.58	.33	.49	.19
9	.44	.61	.66	.64	.60	.86	7.97	.51	.50	.36	.57	.17
10	.49	.53	.62	.62	.66	.81	.93	.60	.31	.33	.50	.16
11	7.40	7.34	7.69	7.63	8.72	7.74	7.91	7.47	7.22	7.43	7.45	7.13
12	.43	.42	.71	.61	.72	.73	.86	.49	.28	.51	.45	.08
13	.51	.57	.73	.61	.75	.69	.86	.49	.27	.52	.41	.01
14	.47	.65	.78	.64	.75	.74	.84	.54	.28	.50	.41	6.96
15	.37	.70	.71	.62	.71	8.05	.83	.48	.32	.47	.35	.93
16	7.36	7.63	7.63	7.63	8.62	8.36	7.87	7.43	7.30	7.44	7.29	6.95
17	.42	.60	.67	.66	.50	.26	.87	.40	.26	.41	.30	7.14
18	.46	.58	.71	.76	.37	.12	.94	.26	.30	.41	.28	.33
19	.49	.56	.75	.77	.28	.24	.94	.38	.29	.43	.29	.38
20	.48	.55	.83	.82	.21	.22	.98	.24	.41	.42	.32	.33
21	7.44	7.55	7.88	7.87	8.18	8.19	8.01	7.46	7.34	7.42	7.33	7.33
22	.47	.58	.96	.90	.19	.28	.00	.33	.39	.41	.35	.29
23	.50	.61	8.04	.86	.18	.40	.02	.26	.33	.36	.34	.22
24	.55	.68	7.98	.86	.18	.52	.02	.38	.30	.39	.28	.22
25	.56	.77	.99	.95	.18	.53	.02	.24	.29	.54	.22	.23
26	7.53	7.81	8.04	8.02	8.15	8.50	8.02	7.26	7.34	7.48	7.21	7.19
27	.48	.78	.06	7.93	.11	.39	.03	.46	.40	.34	.21	.18
28	.44	.81	.10	.90	.04	.31	.01	.31	.41	.32	.22	.20
29	.40	.81	.07	.94	.03	.26	7.98	.20	.48	.37		.25
30	.47	.76	.06	8.06	.04	.24	.90	.40	.48	.45		.25
31		.75		.19	.05		.83		.48	.46		.24
Mean	7.46	7.58	7.55	8.29	8.39	8.12	7.99	7.46	7.38	7.41	7.36	7.19
Max.	7.56	7.81	8.10	8.19	8.75	8.53	8.20	7.77	7.58	7.54	7.57	7.38
Min.	7.31	7.31	7.59	7.61	8.03	7.69	7.83	7.20	7.22	7.30	7.21	6.93

WATER YEAR 1968 : Max. 8.75 m. Min. 6.93 m.

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	3.27	4.18	21	35	55	38	47	23	2.45	2.79	2.99	1.75
2	2.79	3.62	20	32	63	39	45	20	2.38	2.72	2.38	1.81
3	2.72	2.79	19	27	68	39	45	20	2.38	2.99	2.52	1.81
4	3.06	3.06	17	25	76	37	45	19	2.85	2.92	2.72	1.75
5	3.48	2.92	19	22	76	39	43	18	2.65	2.25	3.62	1.75
6	2.32	2.32	15	19	73	35	41	16	2.92	2.72	2.99	1.75
7	2.45	2.45	18	19	72	33	38	17	3.27	2.45	3.99	1.62
8	3.99	2.85	17	18	72	29	34	3.62	4.18	2.45	3.55	1.56
9	3.20	4.39	18	17	76	27	33	3.69	3.62	2.65	4.11	1.45
10	3.55	3.83	16	16	82	25	31	4.32	3.32	2.45	3.62	1.39
11	2.92	2.52	19	17	87	21	29	3.41	1.75	3.13	3.27	1.22
12	3.13	9.60	20	16	87	21	27	3.55	2.12	3.69	3.27	0.94
13	3.69	14	21	16	90	19	27	3.55	2.06	3.76	2.99	0.55
14	3.41	17	23	17	90	21	26	3.99	2.12	3.62	2.99	0.30
15	2.72	19	20	16	86	37	26	3.48	3.38	3.41	2.56	0.15
16	2.65	17	17	17	78	58	27	3.13	2.25	3.20	2.19	0.25
17	3.06	15	18	18	68	51	27	2.92	2.00	2.99	2.25	1.28
18	3.34	15	20	22	59	41	31	2.00	2.25	2.99	2.12	2.45
19	3.55	14	22	23	52	64	31	1.87	2.85	3.13	2.19	2.79
20	3.48	14	26	25	47	48	33	2.52	2.99	3.06	2.38	2.45
21	3.20	14	28	27	45	46	35	3.34	2.52	3.06	2.45	2.45
22	3.41	15	32	29	46	52	34	2.45	2.85	2.99	2.58	2.19
23	3.62	16	37	27	45	61	36	2.00	2.45	2.65	2.52	1.75
24	3.97	19	33	27	45	70	36	2.79	2.25	2.85	2.12	1.75
25	4.04	23	34	32	45	71	36	1.87	2.19	3.99	1.75	1.81
26	3.82	25	37	36	43	68	36	2.00	2.52	3.48	1.68	1.56
27	3.48	23	39	31	41	60	36	3.34	2.92	2.52	1.68	1.51
28	3.20	25	40	29	37	54	35	2.32	3.41	2.38	1.75	1.62
29	2.92	25	38	31	36	51	33	1.62	3.48	2.72		1.93
30	3.41	22	38	38	37	49	29	2.92	3.48	3.27		1.93
31		22		46	37		26		3.48	3.34		1.87
Total	97.85	398.53	742	770	1,914	1,304	1,058	196.70	85.34	92.62	75.25	49.39
Mean	3.26	12.85	23.9	24.8	61.74	43.5	34	6.56	2.75	2.99	2.69	1.59
Max.	4.04	25	40	46	90	71	47	23	4.18	3.99	4.11	2.79
Min.	2.32	2.32	15	16	36	19	26	1.62	1.75	2.25	1.68	0.15
Runoff - mcm.	8.454	36.593	64.109	68.528	165.370	112.142	91.411	16.995	7.373	8.002	6.502	4.267

WATER YEAR 1968 : Max. 90 Min. 0.15 Mean 18.6 Annual Runoff 587.751 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Aug.13	-	8.76	91				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
PASAK RIVER BASIN

Pasak River at Amphoe Muang, Phetchabun (S.4 B)

Location: Lat 16° – 25' – 22" N., Long 101° – 09' – 52" E., on left bank about 500 meters upstream from municipal bridge, Amphoe Muang, Phetchabun.

Drainage Area: 3,565 sq.km.

Type of Gage: Water – stage recorder.

Zero Gage at Bottom at: +106.50 m. (M.S.L.)

Bench Mark: B.M. – H.S.

Location: Infront of town – hall of Changwat Phetchabun.
Elevation: +114.20 m. (M.S.L.)

Gage Reading Frequency: Recording.

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

Period of Available Gage Records: 1966 to date

Rating Operation:

Period of Rating: 1966 – 70
Rated by Float: –
Rated by Current Meter: 1966 – 70

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

Overbank Flow Conditions: No overbank flow.

General Description: Records fair except those flow period of low flow is influence by temporary weir which are poor. Stage – discharge relationship used is defined by discharge measurements made during 1966. No upstream state diversions for irrigation except those built by local residents. No adjustment made for virgin flow.

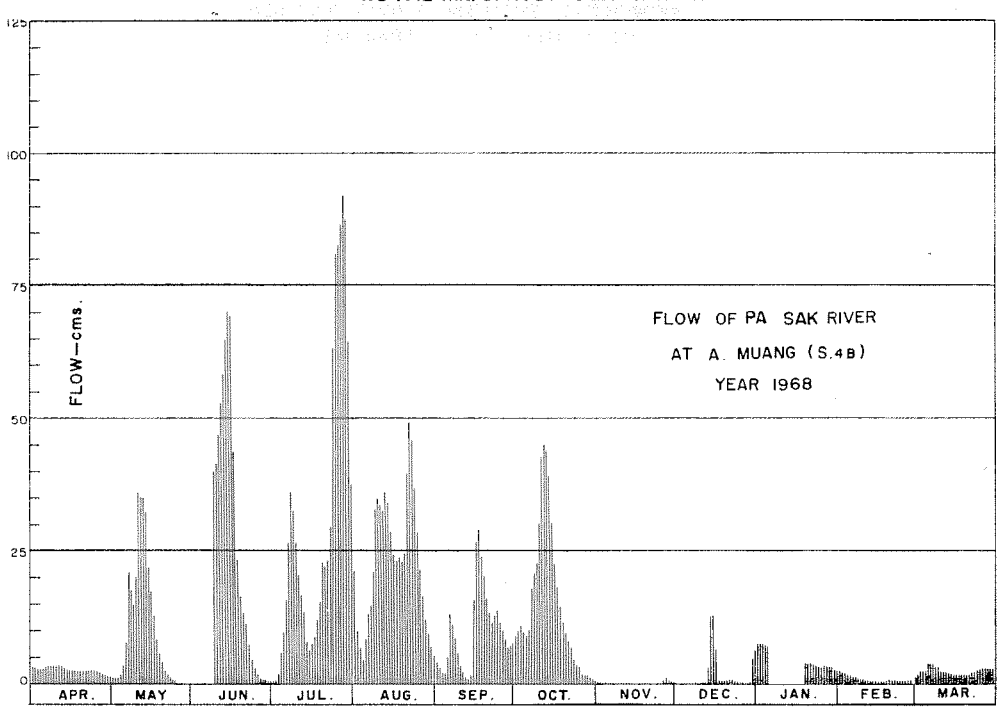
Remarks: No record for period Apr. 6 – Jan. 8 and June 6 – 18.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	108.03	107.66		107.50	110.10	108.23	108.98	107.44	107.32	108.73	107.88	107.62
2	.01	.66		.52	109.23	.08	109.05	.34	.17	.74	.84	.92
3	107.99	.66		.58	108.74	107.88	.20	.36	.11	.73	.82	108.23
4	.98	.76		108.39	.34	.82	.15	.36	.34	.70	.30	.23
5	.98	108.08		.98	.22	.90	108.93	.30	.31	.66	.75	.17
6	108.06	108.23		109.63	109.50	109.44	108.92	107.26	107.27		107.70	108.14
7	.10	109.52		110.84	110.59	.23	109.89	.20	.19		.66	.13
8	.10	110.31		111.46	.93	108.83	110.89	.16	.43		.62	.04
9	.10	109.50	111.66	.23	111.24	.42	.32	.21	.36		.59	107.85
10	.10	110.21	.85	110.72	.41	.09	111.09	.13	.40		.57	.83
11	108.10	111.46	112.27	110.23	111.27	107.84	111.83	107.12	107.44		107.54	107.85
12	.06	.39	.51	109.79	.22	.60	.96	.19	.47		.53	.84
13	.00	.41	.79	.32	.46	.55	.82	.32	108.20		.49	.81
14	107.95	.08	.93	108.81	.28	.71	.39	.21	109.48		.48	.77
15	.94	110.37	.88	.56	110.85	109.07	110.85	.18	.51		.46	.74
16	107.94	109.71	111.84	108.75	110.59	110.73	110.35	107.16	107.67		107.46	107.75
17	.94	.24	110.83	.89	.53	.99	109.89	.21	.56		.46	.75
18	.94	108.78	.10	109.30	.56	.67	.59	.20	.54		.46	.76
19	.94	.45	109.73	.88	.46	.37	.33	.17	.51	108.16	.52	.76
20	.94	.21	.53	110.47	.59	109.77	.06	.18	.52	.13	.54	.74
21	107.94	107.97	109.12	110.39	111.67	109.43	108.81	107.18	107.57	108.16	107.51	107.74
22	.94	.80	108.67	.54	112.13	.28	.66	.21	.58	.14	.50	.81
23	.94	.67	108.33	111.12	111.95	.43	.34	.22	.50	.10	.49	.88
24	.94	.57	.07	112.61	.27	.58	.15	.29	.47	.06	.48	.95
25	.94	.54	107.85	113.29	110.73	.30	.05	.29	.44	.03	.47	.96
26	107.89		107.61	113.33	110.28	109.06	107.77	107.57	107.40	108.11	107.47	107.97
27	.83		.53	.47	109.76	108.89	.78	.62	.39	.09	.46	.98
28	.78		.54	.59	.37	.62	.73	.47	.38	.06	.46	.97
29	.72		.50	.40	.09	.20	.65	.47	.44	.03		.93
30	.68		.48	112.53	108.72	.29	.59	.43	108.31	107.98		.93
31				111.18	.43		.51		.63	.93		.96
Mean	107.93			110.46	110.33	108.91	109.35	107.28	107.64		107.57	107.90
Max.	108.10			113.59	112.13	110.99	111.96	107.62	109.51		107.88	108.23
Min.	107.68			107.50	108.22	107.55	107.51	107.12	107.11		107.46	107.62

WATER YEAR 1968 : Max. 113.59 m. Min. 107.11 m.

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	3.06	1.24		0.66	19	4.26	9.24	0.48	0.18	7.51	2.28	1.10
2	2.94	1.24		0.73	11	3.36	9.74	0.23	0.00	7.58	2.03	2.48
3	2.83	1.24		0.95	7.58	2.28	11	0.27	0.00	7.51	1.98	4.26
4	2.78	1.69		5.24	4.93	1.98	10	0.27	0.23	7.30	1.88	4.26
5	2.78	3.36		9.24	4.20	2.38	8.89	0.14	0.16	7.05	1.64	3.90
6	3.24	4.26		14	13	13	8.82	0.08	0.10		1.40	3.72
7	3.48	13		27	14	11	17	0.00	0.00		1.24	3.66
8	3.48	21		36	17	8.20	21	0.00	0.45		1.10	3.12
9	3.48	13	40	32	33	5.43	21	0.01	0.27		0.93	2.13
10	3.48	20	43	26	35	3.42	30	0.00	0.36		0.91	2.05
11	3.48	36	52	20	33	2.08	43	0.00	0.48		0.80	2.13
12	3.24	35	58	16	32	1.02	45	0.00	0.57		0.77	2.03
13	2.88	35	66	12	36	0.84	43	0.18	4.08		0.63	1.93
14	2.63	30	70	8.06	33	1.45	35	0.01	13		0.60	1.74
15	2.58	21	69	6.35	27	9.88	27	0.00	13		0.54	1.59
16	2.58	15	43	7.64	24	26	21	0.00	1.28		0.54	1.64
17	2.58	11	27	8.61	23	29	17	0.01	0.83		0.54	1.64
18	2.58	7.85	19	12	24	24	14	0.00	0.80		0.54	1.69
19	2.58	5.62	15	16	23	21	12	0.00	0.70	3.84	0.75	1.69
20	2.58	4.14	13	23	23	15	9.81	0.00	0.75	3.96	0.80	1.59
21	2.58	2.73	10	22	40	13	8.06	0.00	0.91	3.84	0.70	1.59
22	2.58	1.88	7.10	23	49	11	7.03	0.01	0.95	3.72	0.66	1.93
23	2.58	1.28	4.87	31	45	13	4.93	0.03	0.66	3.48	0.63	2.28
24	2.58	0.91	3.30	61	33	14	3.78	0.13	0.57	3.24	0.60	2.63
25	2.58	0.80	2.13	81	26	12	3.18	0.13	0.48	3.06	0.57	2.68
26	2.33		1.06	85	20	9.81	1.74	0.91	0.36	3.54	0.57	2.73
27	2.03		0.77	87	15	8.61	1.78	1.10	0.34	3.42	0.54	2.78
28	1.78		0.80	92	12	6.76	1.54	0.57	0.32	3.24	0.54	2.73
29	1.50		0.66	85	10	7.30	1.20	0.97	0.48	3.06		2.53
30	1.31		0.60	59	7.44	7.92	0.93	0.45	4.74	2.78		2.53
31				32	5.49		0.70		6.82	2.53		2.68
Total	81.11			937.48	699.64	288.98	448.42	5.58	53.90		26.79	75.47
Mean	2.70			30.2	22.6	9.63	14.5	0.19	1.74		0.96	2.43
Max.	3.48			92	49	29	45	1.10	13		2.28	4.26
Min.	1.31			0.66	4.20	0.84	0.70	0.00	0.00		0.54	1.10
Runoff - mcm.	7.008			80.998	60.449	24.968	38.743	0.482	4.657		2.315	6.521

WATER YEAR 1968 : Max. 92 Min. 0.00 Mean Annual Runoff mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Jul.22	18.00	113.62	93				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
PASAK RIVER BASIN

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

Location: Lat 14° - 38' - 04" N., Long 101° - 12' - 37" E., on left bank about 50 meters upstream from Bangkok - Nakhon Ratchasima Highway Bridge, 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: On left bank near Automatic Bridge.
Elevation: +6.919 m. (A.D.)

Gage Reading Frequency: Recording.

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

Period of Available Gage Records: 1965 to date.

Rating Operation:

Period of Rating: 1965 to date
Rated by Float: -
Rated by Current Meter: 1965 to date

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

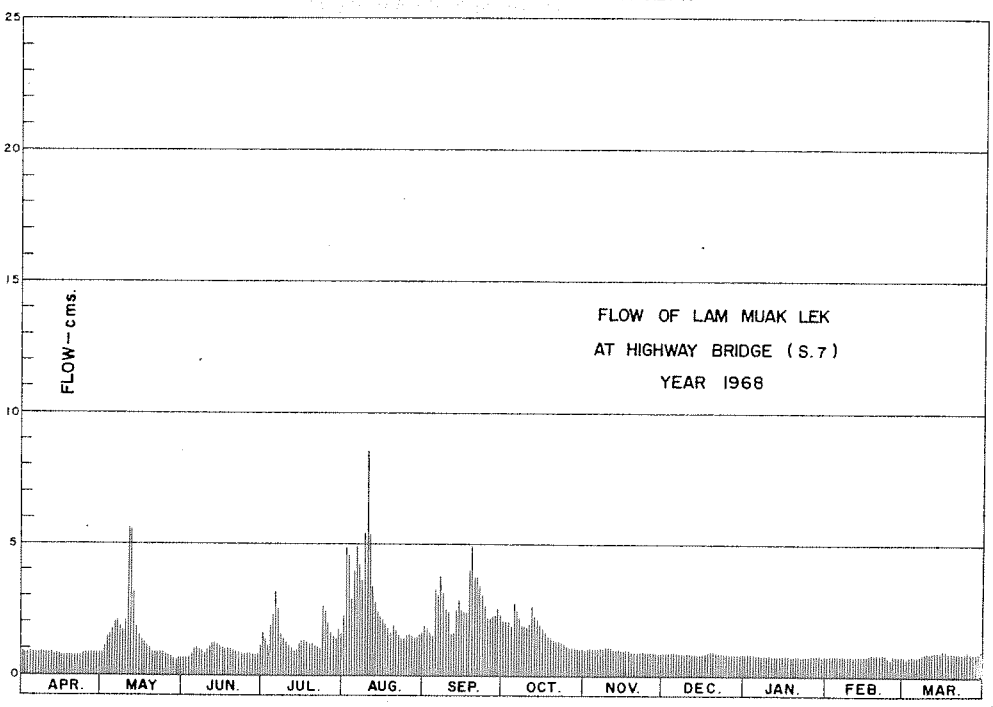
Overbank Flow Conditions: No overbank flow.

General Description: Records good. Stage - discharge relationship used is defined by discharge measurements made during 1968. No upstream state diversions for irrigation except those built by local residents. No adjustment made for virgin flow.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.54	0.54	0.51	0.64	0.69	0.67	0.69	0.56	0.54	0.53	0.52	0.52
2	.54	.59	.51	.61	.93	.67	.68	.56	.54	.53	.52	.51
3	.54	.63	.51	.58	.90	.64	.68	.57	.54	.53	.52	.52
4	.54	.63	.54	.68	.77	.63	.66	.56	.54	.53	.52	.52
5	.54	.65	.57	.69	.88	.80	.75	.56	.54	.52	.52	.52
6	0.54	0.68	0.57	0.79	0.93	0.78	0.73	0.56	0.54	0.52	0.52	0.52
7	.54	.68	.56	.71	.86	.84	.69	.56	.53	.52	.51	.53
8	.54	.65	.54	.64	.83	.78	.67	.57	.53	.52	.52	.54
9	.54	.64	.54	.62	.99	.73	.67	.57	.53	.52	.52	.54
10	.54	.70	.56	.60	1.17	.68	.66	.57	.53	.52	.52	.54
11	0.53	0.98	0.58	0.58	0.93	0.64	0.68	0.57	0.53	0.52	0.52	0.54
12	.53	.98	.58	.56	.81	.63	.74	.55	.53	.52	.52	.54
13	.52	.77	.60	.55	.76	.73	.69	.55	.53	.52	.52	.55
14	.53	.69	.59	.55	.74	.76	.69	.55	.53	.52	.52	.55
15	.52	.64	.57	.59	.70	.74	.67	.55	.53	.52	.52	.55
16	0.52	0.61	0.56	0.61	0.69	0.72	0.65	0.55	0.53	0.52	0.52	0.56
17	.52	.59	.56	.60	.67	.72	.64	.55	.54	.52	.53	.55
18	.52	.58	.56	.59	.65	.87	.63	.55	.55	.52	.53	.54
19	.52	.57	.56	.59	.64	.94	.61	.54	.55	.52	.53	.54
20	.52	.55	.55	.59	.67	.84	.61	.54	.55	.52	.52	.54
21	0.52	0.54	0.55	0.58	0.65	0.84	0.60	0.54	0.54	0.52	0.52	0.54
22	.52	.54	.54	.57	.63	.81	.60	.54	.53	.52	.52	.54
23	.52	.54	.54	.56	.61	.78	.59	.54	.53	.52	.53	.54
24	.53	.54	.54	.74	.61	.73	.59	.54	.53	.52	.51	.54
25	.53	.53	.53	.74	.63	.70	.58	.54	.53	.52	.51	.55
26	0.53	0.52	0.53	0.68	0.63	0.70	0.57	0.54	0.53	0.52	0.52	0.54
27	.53	.52	.53	.64	.63	.71	.57	.54	.53	.52	.52	.53
28	.53	.51	.53	.63	.62	.71	.56	.54	.53	.52	.52	.53
29	.53	.50	.52	.61	.62	.73	.56	.54	.53	.52	-	.54
30	.54	.52	.55	.65	.63	.71	.56	.54	.53	.52	-	.54
31	-	.51	-	.64	.64	-	.56	-	.53	.52	-	.56
Mean	0.53	0.62	0.55	0.63	0.74	0.74	0.64	0.55	0.53	0.52	0.52	0.54
Max.	0.54	0.98	0.60	0.79	1.17	0.94	0.75	0.57	0.55	0.53	0.53	0.56
Min.	0.52	0.50	0.51	0.55	0.61	0.63	0.56	0.54	0.53	0.52	0.51	0.51

WATER YEAR 1968 : Max. 1.17 m. Min. 0.50 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.88	0.88	0.67	1.66	2.11	1.93	2.11	1.02	0.88	0.81	0.74	0.74
2	0.88	1.23	0.67	1.39	4.92	1.93	2.02	1.02	0.88	0.81	0.74	0.67
3	0.88	1.57	0.67	1.16	4.59	1.66	2.02	1.09	0.88	0.81	0.74	0.74
4	0.88	1.57	0.88	2.02	2.97	1.57	1.84	1.02	0.88	0.81	0.74	0.74
5	0.88	1.75	1.09	2.11	4.26	3.30	2.75	1.02	0.88	0.74	0.74	0.74
6	0.88	2.02	1.09	3.19	4.92	3.08	2.53	1.02	0.88	0.74	0.74	0.74
7	0.88	2.02	1.02	2.31	4.02	3.78	2.11	1.02	0.81	0.74	0.67	0.81
8	0.88	1.75	0.88	1.66	3.66	3.08	1.93	1.09	0.81	0.74	0.74	0.88
9	0.88	1.66	0.88	1.48	5.76	2.53	1.93	1.09	0.81	0.74	0.74	0.88
10	0.88	2.20	1.02	1.30	8.52	2.02	1.84	1.09	0.81	0.74	0.74	0.88
11	0.81	5.62	1.16	1.16	4.92	1.66	2.02	1.09	0.81	0.74	0.74	0.88
12	0.81	5.62	1.16	1.02	3.42	1.57	2.64	0.95	0.81	0.74	0.74	0.88
13	0.74	2.97	1.30	0.95	2.86	2.53	2.11	0.95	0.81	0.74	0.74	0.95
14	0.81	2.11	1.23	0.95	2.64	2.86	2.11	0.95	0.81	0.74	0.74	0.95
15	0.74	1.66	1.09	1.23	2.20	2.64	1.93	0.95	0.81	0.74	0.74	0.95
16	0.74	1.39	1.02	1.39	2.11	2.42	1.75	0.95	0.81	0.74	0.74	1.02
17	0.74	1.23	1.02	1.30	1.93	2.42	1.66	0.95	0.88	0.74	0.81	0.95
18	0.74	1.16	1.02	1.23	1.75	4.14	1.57	0.95	0.95	0.74	0.81	0.88
19	0.74	1.09	1.02	1.23	1.66	5.06	1.39	0.88	0.95	0.74	0.81	0.88
20	0.74	0.95	0.95	1.23	1.93	3.78	1.39	0.88	0.95	0.74	0.74	0.88
21	0.74	0.88	0.95	1.16	1.75	3.78	1.30	0.88	0.88	0.74	0.74	0.88
22	0.74	0.88	0.88	1.09	1.57	3.42	1.30	0.88	0.81	0.74	0.74	0.88
23	0.74	0.88	0.88	1.02	1.39	3.08	1.23	0.88	0.81	0.74	0.81	0.88
24	0.81	0.88	0.88	2.64	1.39	2.53	1.23	0.88	0.81	0.74	0.67	0.88
25	0.81	0.81	0.81	2.64	1.57	2.20	1.16	0.88	0.81	0.74	0.67	0.95
26	0.81	0.74	0.81	2.02	1.57	2.20	1.09	0.88	0.81	0.74	0.74	0.88
27	0.81	0.74	0.81	1.66	1.57	2.31	1.09	0.88	0.81	0.74	0.74	0.81
28	0.81	0.67	0.81	1.57	1.48	2.31	1.02	0.88	0.81	0.74	0.74	0.81
29	0.81	0.60	0.74	1.39	1.48	2.53	1.02	0.88	0.81	0.74	–	0.88
30	0.88	0.74	0.95	1.75	1.57	2.31	1.02	0.88	0.81	0.74	–	0.88
31	–	0.67	–	1.66	1.66	–	1.02	–	0.81	0.74	–	1.02
Total	24.37	48.94	28.36	48.57	88.06	80.63	52.13	27.78	26.09	23.22	20.79	26.79
Mean	0.81	1.58	0.94	1.57	2.84	2.69	1.68	0.96	0.84	0.75	0.74	0.86
Max.	0.88	5.62	1.30	3.19	8.52	5.06	2.75	1.09	0.95	0.81	0.81	1.02
Min.	0.74	0.60	0.67	0.95	1.39	1.57	1.02	0.88	0.81	0.74	0.67	0.67
Runoff - mcm.	2.105	4.228	2.450	4.196	7.608	6.966	4.504	2.486	2.254	2.006	1.796	2.315

WATER YEAR 1968 : Max. 8.52 Min. 0.60 Mean 1.36 Annual Runoff 42.917 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
May.11,68		1.70	18.8				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
PASAK RIVER BASIN

Nam Phung at Nam Phung Bridge, Phetchabun (S.10)

Location: Lat 16° – 56' – 50" N., Long 101° – 13' – 10" E., on right bank at Nam Phung Bridge, Tambon Hin Hao, Amphoe Lom Kao, Phetchabun.

Drainage Area: 268 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 gage site.
Elevation: +8.85 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: 1965 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.

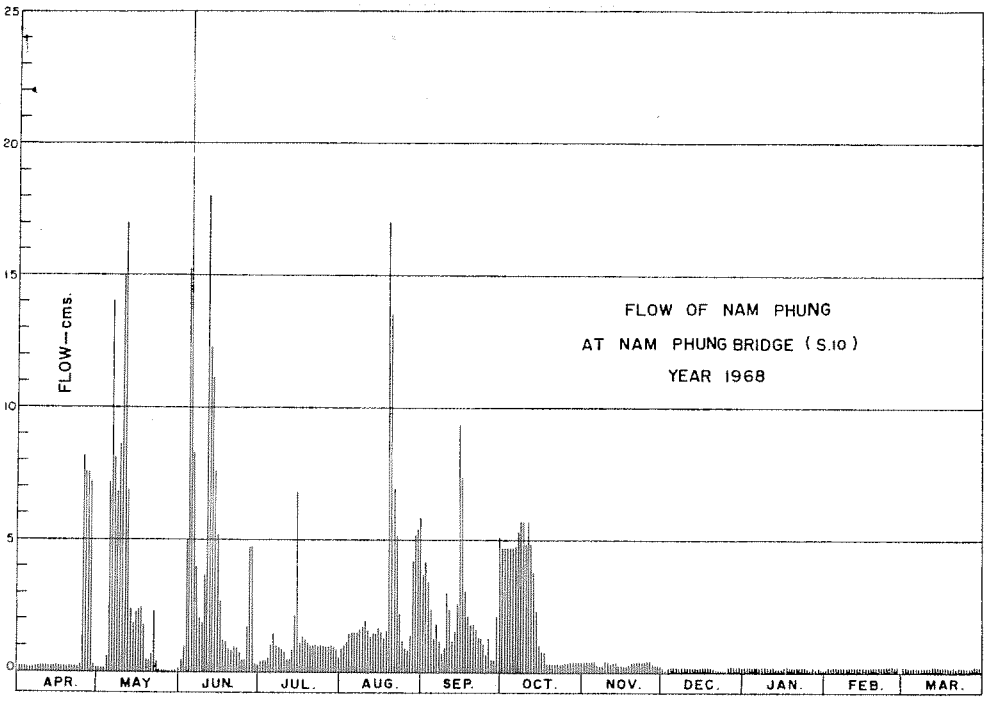
Overbank Flow Conditions: No overbank flow.

General Description: Records poor. Stage – discharge relationship used is defined by discharge measurements made during 1967. No upstream state diversions for irrigation except those built by local residents. No adjustment made for virgin flow.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	– 0.02	– 0.04	0.10	0.10	0.23	0.66	0.80	0.07	– 0.08	– 0.02	– 0.09	– 0.02
2	.02	.04	.23	.10	.26	.74	.80	.08	.09	.02	.01	.02
3	.02	.06	.26	.10	.29	.60	.80	.08	.01	.02	.01	.03
4	.03	.01	1.92	.10	.35	.50	.80	.08	.01	.02	.01	.03
5	.03	0.55	2.14	.27	.36	.27	.80	.08	.01	.02	.01	.03
6	– 0.03	1.52	0.93	0.35	0.36	0.41	0.80	0.02	– 0.01	– 0.02	– 0.02	– 0.03
7	.02	.06	.56	.26	.36	.28	.86	.02	.01	.02	.01	.03
8	.01	.00	.46	.24	.38	.19	.90	.01	.01	.01	.02	.03
9	.01	.01	.42	.22	.40	.10	.90	.09	.01	.01	.02	.03
10	.01	.62	.40	.20	.45	.60	.80	.07	.01	.01	.02	.03
11	– 0.01	1.76	1.78	0.10	0.36	0.50	0.90	0.03	– 0.01	– 0.01	– 0.02	– 0.03
12	.01	0.66	.42	.10	.32	.26	.80	.06	.01	.01	.02	.02
13	.01	.48	.35	.22	.36	.36	.66	.06	.02	.08	.02	.02
14	.01	.41	.01	.25	.34	.52	.47	.02	.02	.07	.01	.01
15	.01	.50	0.80	1.00	.39	1.21	.23	.01	.01	.08	.02	.04
16	– 0.01	0.51	0.44	0.22	0.37	0.97	0.20	0.01	– 0.01	– 0.01	– 0.02	– 0.05
17	.01	.52	.30	.34	.31	.57	.20	.01	.01	.01	.02	.03
18	.01	.40	.30	.31	.33	.45	.02	.02	.01	.02	.02	.03
19	.01	.10	.21	.28	1.74	.41	.03	.06	.01	.02	.02	.08
20	.01	.10	.21	.25	.29	.42	.03	.06	.05	.02	.02	.01
21	– 0.01	0.10	0.24	0.26	1.00	0.39	0.03	0.07	– 0.08	– 0.02	– 0.02	– 0.07
22	.01	.50	.24	.27	0.84	.31	.03	.07	.08	.02	.02	.02
23	.04	– 0.10	.20	.25	.43	.32	.04	.07	.08	.01	.02	.03
24	.06	.10	.10	.26	.27	.25	.04	.07	.08	.01	.02	.05
25	1.11	.10	.10	.25	.23	.12	.05	.08	.09	.07	.02	.05
26	1.06	– 0.11	0.10	0.25	0.21	0.32	0.06	0.09	– 0.01	– 0.09	– 0.02	– 0.06
27	.06	.14	.80	.25	.24	.10	.06	.01	.01	.01	.02	.06
28	.03	.14	.80	.26	.73	.10	.06	.01	.01	.09	.02	.01
29	– 0.02	.14	.02	.25	.85	.10	.07	.01	.01	.01		.01
30	.04	.13	.02	.22	.87	.84	.06	.01	.01	.08		.02
31		.11	.02	.10	.91		.07		.01	.08		.02
Mean	0.13	0.21	0.59	0.25	0.51	0.43	0.40	0.05	– 0.03	– 0.03	– 0.02	– 0.03
Max.	1.11	1.76	2.14	1.00	1.74	1.21	0.90	0.09	– 0.01	– 0.01	– 0.01	– 0.01
Min.	– 0.06	– 0.14	0.02	0.10	0.21	0.10	0.02	0.01	– 0.09	– 0.09	– 0.09	– 0.08

WATER YEAR 1968 : Max. 2.14 m. Min. -0.14 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.21	0.18	0.47	0.47	0.91	3.48	4.70	0.40	0.12	0.21	0.10	0.21
2	0.21	0.18	0.91	0.47	1.03	4.16	4.70	0.42	0.10	0.21	0.22	0.21
3	0.21	0.15	1.03	0.47	1.16	3.00	4.70	0.42	0.22	0.21	0.22	0.19
4	0.19	0.22	20	0.47	1.45	2.30	4.70	0.42	0.22	0.21	0.22	0.19
5	0.19	2.65	25	1.07	1.50	1.07	4.70	0.42	0.22	0.21	0.22	0.19
6	0.19	14	6.03	1.45	1.50	1.76	4.70	0.29	0.22	0.21	0.21	0.19
7	0.21	7.52	2.72	1.03	1.50	1.12	5.30	0.29	0.22	0.21	0.22	0.19
8	0.22	6.80	2.06	0.95	1.60	0.75	5.70	0.26	0.22	0.22	0.21	0.19
9	0.22	6.92	1.82	0.86	1.70	0.47	5.70	0.45	0.22	0.22	0.21	0.19
10	0.22	15	1.70	0.78	2.00	3.00	4.70	0.40	0.22	0.22	0.21	0.19
11	0.22	17	18	0.47	1.50	2.30	5.70	0.31	0.22	0.22	0.21	0.19
12	0.22	3.46	12	0.47	1.30	1.03	4.70	0.38	0.22	0.22	0.21	0.21
13	0.22	2.18	11	0.86	1.50	1.50	3.48	0.38	0.21	0.16	0.21	0.21
14	0.22	1.76	6.92	0.99	1.45	2.44	2.16	0.29	0.21	0.13	0.22	0.22
15	0.22	2.30	4.70	6.80	1.65	9.33	0.91	0.26	0.22	0.16	0.21	0.18
16	0.22	2.37	1.94	0.86	1.55	6.47	0.78	0.26	0.22	0.22	0.21	0.16
17	0.22	2.44	1.20	1.40	1.25	2.79	0.78	0.26	0.22	0.22	0.21	0.19
18	0.22	1.70	1.20	1.25	1.35	2.00	0.29	0.29	0.22	0.21	0.21	0.19
19	0.22	0.47	0.82	1.12	17	1.76	0.31	0.38	0.22	0.21	0.21	0.12
20	0.22	0.47	0.82	0.99	10	1.82	0.31	0.38	0.16	0.21	0.21	0.22
21	0.22	0.47	0.95	1.03	6.80	1.65	0.31	0.40	0.12	0.21	0.21	0.13
22	0.22	2.30	0.95	1.07	5.10	1.25	0.31	0.40	0.12	0.21	0.21	0.21
23	0.18	0.09	0.78	0.99	1.88	1.30	0.33	0.40	0.12	0.21	0.21	0.19
24	0.15	0.09	0.47	1.03	1.07	0.99	0.33	0.40	0.12	0.22	0.21	0.16
25	8.12	0.09	0.47	0.99	0.91	0.93	0.35	0.42	0.10	0.13	0.21	0.16
26	7.52	0.08	0.47	0.99	0.82	1.30	0.38	0.45	0.22	0.10	0.21	0.15
27	7.52	0.05	4.70	0.99	0.95	0.47	0.38	0.26	0.22	0.22	0.21	0.15
28	7.16	0.05	4.30	1.03	4.07	0.47	0.38	0.26	0.22	0.10	0.21	0.22
29	0.21	0.05	0.29	0.99	5.20	0.47	0.40	0.26	0.22	0.22		0.22
30	0.16	0.06	0.29	0.86	5.40	5.10	0.38	0.26	0.22	0.12		0.21
31		0.08		0.47	5.81		0.40		0.22	0.12		0.21
Total	35.75	91.20	134.41	35.67	90.91	66.08	72.97	10.47	6.00	5.96	5.83	5.84
Mean	1.19	2.94	4.48	1.09	2.93	2.20	2.35	0.35	0.19	0.19	0.21	0.19
Max.	8.12	17	25	6.80	17	9.33	5.70	0.45	0.22	0.22	0.22	0.22
Min.	0.15	0.05	0.29	0.47	0.82	0.47	0.29	0.26	0.10	0.10	0.10	0.12
Runoff - MCM.	3.089	7.880	11.613	2.909	7.855	5.709	6.305	0.905	0.518	0.515	0.504	0.504

WATER YEAR 1968 : Max. 25 Min. 0.05 Mean 1.53 Annual Runoff 48.305 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Aug.19	15.00	2.25	27				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
SALAWIN RIVER BASIN

Mae Lamao Creek at Ban Ko Ko, Tak (S.W.1)

Location: Lat 16° - 54' - 56" N., Long 98° - 37' - 57" E., on right bank at Ban Ko Ko, 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: At abutment of measuring line.
Elevation: + 5.597 m. (A.D.)

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

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 - 69
Rated by Float: -
Rated by Current Meter: 1966 - 69

Stability of Channel Regimes: Unstable, shifting adjustment is used for flow computation.

Overbank Flow Conditions: No overbank flow.

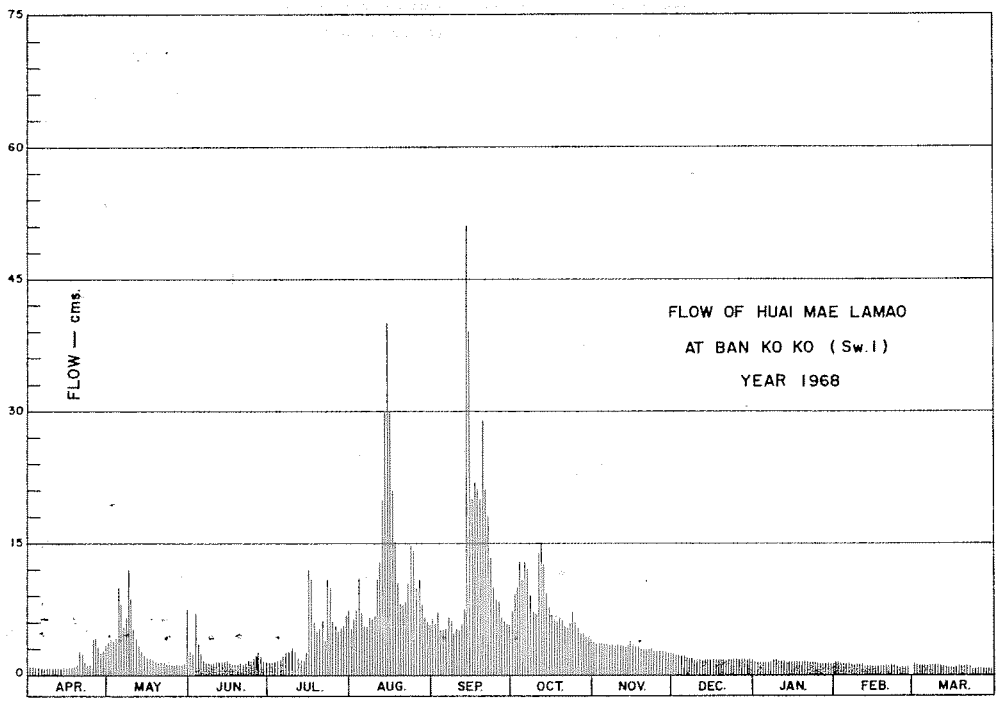
General Description: Records good. Stage - discharge relationship used is defined by discharge measurements made during 1968. No upstream state diversions for irrigation except those built by local residents. No adjustment made for virgin flow.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.10	0.28	0.23	0.17	0.35	0.36	0.45	0.28	0.22	0.20	0.18	0.14
2	.10	.31	.25	.17	.42	.34	.54	.28	.21	.20	.18	.13
3	.10	.29	.46	.18	.45	.32	.57	.28	.21	.20	.17	.13
4	.10	.32	.29	.18	.50	.30	.65	.27	.21	.20	.17	.13
5	.09	.58	.23	.19	.44	.30	.57	.27	.21	.20	.17	.13
6	0.09	0.45	0.19	0.21	0.37	0.31	0.65	0.27	0.20	0.20	0.17	0.13
7	.09	.36	.17	.24	.37	.37	.61	.26	.21	.20	.16	.13
8	.10	.45	.17	.24	.42	.36	.50	.26	.21	.22	.16	.13
9	.10	.64	.16	.24	.41	.33	.43	.26	.21	.22	.16	.13
10	.10	.41	.16	.28	.55	.36	.40	.26	.21	.21	.16	.13
11	0.10	0.33	0.18	0.24	0.61	0.35	0.68	0.26	0.20	0.21	0.16	0.13
12	.10	.29	.18	.21	.73	.39	.72	.26	.20	.21	.15	.12
13	.10	.24	.18	.19	.94	.45	.64	.25	.20	.20	.15	.12
14	.09	.20	.18	.19	1.24	1.71	.50	.25	.20	.20	.15	.12
15	.09	.19	.19	.24	.47	.31	.45	.29	.20	.20	.15	.12
16	0.10	0.17	0.17	0.66	1.13	0.92	0.41	0.26	0.20	0.20	0.15	0.11
17	.10	.17	.16	.65	0.83	.96	.38	.25	.20	.20	.15	.11
18	.10	.16	.16	.43	.65	.93	.37	.25	.20	.20	.16	.11
19	.12	.15	.16	.33	.54	.89	.39	.24	.20	.20	.16	.12
20	.23	.15	.17	.34	.46	1.13	.38	.24	.20	.20	.16	.12
21	0.21	0.15	0.16	0.39	0.48	0.91	0.34	0.23	0.20	0.20	0.16	0.12
22	.14	.15	.16	.28	.50	.82	.33	.23	.20	.20	.16	.12
23	.12	.14	.18	.57	.61	.66	.36	.24	.20	.20	.16	.10
24	.12	.14	.18	.36	.74	.57	.42	.24	.20	.20	.15	.10
25	.30	.14	.20	.39	.69	.51	.36	.24	.20	.20	.14	.10
26	0.31	0.12	0.22	0.37	0.56	0.46	0.34	0.24	0.20	0.19	0.14	0.10
27	.25	.14	.25	.33	.55	.42	.32	.24	.20	.19	.14	.10
28	.21	.13	.21	.35	.46	.40	.32	.23	.20	.19	.14	.10
29	.23	.13	.18	.36	.40	.39	.30	.23	.20	.19	-	.10
30	.27	.14	.18	.42	.37	.38	.30	.23	.20	.19	-	.10
31	-	.48	-	.45	.35	-	.29	-	.20	.19	-	.10
Mean	0.14	0.26	0.20	0.32	0.60	0.60	0.45	0.25	0.20	0.20	0.16	0.11
Max.	0.31	0.64	0.46	0.66	1.47	1.71	0.72	0.29	0.22	0.22	0.18	0.14
Min.	0.09	0.12	0.16	0.17	0.35	0.30	0.29	0.23	0.20	0.19	0.14	0.10

WATER YEAR 1968 : Max. 1.71 m. Min. 0.09 m.

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.90	3.68	2.72	1.50	5.40	6.44	7.32	3.84	2.56	1.65	1.65	1.50
2	0.90	4.20	2.40	1.50	6.88	6.00	9.50	3.84	2.40	1.65	1.65	1.35
3	0.90	3.84	2.10	1.65	7.54	7.32	10	3.84	2.40	1.65	1.50	1.35
4	0.90	4.40	3.68	1.65	11	5.20	13	3.68	2.40	1.65	1.50	1.35
5	0.81	10	3.04	1.80	7.10	5.20	11	3.68	2.40	1.65	1.50	1.35
6	0.81	7.10	1.80	2.10	5.60	5.40	13	3.68	2.25	1.65	1.50	1.35
7	0.81	5.20	1.50	2.56	5.60	6.66	12	3.52	2.10	1.65	1.35	1.35
8	0.90	7.10	1.50	2.56	6.66	6.44	8.89	3.52	2.10	1.95	1.35	1.35
9	0.90	12	1.35	2.56	6.44	4.80	7.32	3.52	2.10	1.95	1.35	1.35
10	0.90	6.22	1.35	3.20	6.76	5.40	7.10	3.52	2.10	1.80	1.35	1.35
11	0.90	4.60	1.65	2.56	11	5.20	14	3.52	1.95	1.80	1.35	1.35
12	0.90	3.84	1.65	2.10	14	5.80	15	3.52	1.95	1.80	1.20	1.20
13	0.90	3.04	1.65	1.80	20	7.32	13	3.36	1.95	1.65	1.20	1.20
14	0.81	2.40	1.65	1.80	31	51	9.50	3.36	1.95	1.65	1.20	1.20
15	0.81	2.25	1.80	2.56	40	34	8.20	4.00	1.95	1.65	1.20	1.20
16	0.90	1.95	1.50	12	28	20	7.10	3.52	1.95	1.65	1.20	1.05
17	0.90	1.95	1.35	11	18	22	6.44	3.36	1.95	1.65	1.20	1.05
18	0.90	1.80	1.35	6.00	13	21	6.22	3.36	1.95	1.65	1.35	1.05
19	1.20	1.65	1.35	5.00	9.76	20	6.66	3.20	1.95	1.65	1.35	1.20
20	2.88	1.50	1.50	5.20	7.76	29	6.44	3.20	1.95	1.65	1.35	1.20
21	2.56	1.50	1.35	6.22	8.20	21	5.60	3.04	1.95	1.65	1.35	1.20
22	1.50	1.50	1.35	4.00	8.72	18	5.40	3.04	1.95	1.65	1.35	1.20
23	1.20	1.35	1.65	11	12	14	6.00	3.20	1.95	1.65	1.35	0.90
24	1.20	1.35	1.65	10	15	10	7.32	2.88	1.95	1.65	1.20	0.90
25	4.00	1.35	1.95	6.22	14	8.72	6.00	2.88	1.95	1.65	1.05	0.90
26	4.20	1.05	2.25	5.80	10	7.54	5.60	2.88	1.95	1.50	1.05	0.90
27	3.20	1.35	2.72	5.00	11	6.66	4.80	2.88	1.95	1.50	1.05	0.90
28	2.56	1.20	2.10	5.40	8.20	6.22	4.80	2.72	1.95	1.50	1.05	0.90
29	2.88	1.20	1.65	5.60	6.88	6.00	4.40	2.72	1.95	1.50	–	0.90
30	3.52	1.35	1.65	6.88	6.22	5.80	4.40	2.72	1.95	1.50	–	0.90
31	–	7.54	–	7.54	5.80	–	4.20	–	1.95	1.50	–	0.90
Total	46.65	109.46	60.21	144.76	367.52	378.12	250.21	104.00	63.76	51.30	36.75	35.85
Mean	1.55	3.53	2.00	4.67	11.9	12.6	8.07	3.33	2.01	1.63	1.31	1.16
Max.	4.20	12	3.10	12	40	51	15	4.00	2.56	1.95	1.65	1.50
Min.	0.81	1.05	1.35	1.50	5.40	4.80	4.20	2.72	1.95	1.50	1.05	0.90
Runoff – mcm.	4.030	9.457	5.202	12.510	31.753	32.669	21.618	8.640	5.508	4.432	3.175	3.097

WATER YEAR 1968 : Max. 51 Min. 0.81 Mean 4.52 Annual Runoff 142.438 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sept.14	18.00	2.00	64				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
SALAWIN RIVER BASIN

Mae Yuam River at Ban Tha Kham, Mae Hong Son (SW.2)

Location: Lat 18° - 11' - 26" N., Long 97° - 56' - 06" E., on left bank about 500 meters upstream from Mae Yuam Weir at Ban Tha Kham, Amphoe Mae Sariang, Mae Hong Son.

Drainage Area: 2,617 sq.km.

Type of Gage: Staff gage.

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

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

Location: At gage site about 30 meters from left bank.
Elevation: +8.377 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 - 70
Rated by Float: -
Rated by Current Meter: 1966 - 70

Stability of Channel Regimes: Unstable, shifting adjustment is included for flow computation.

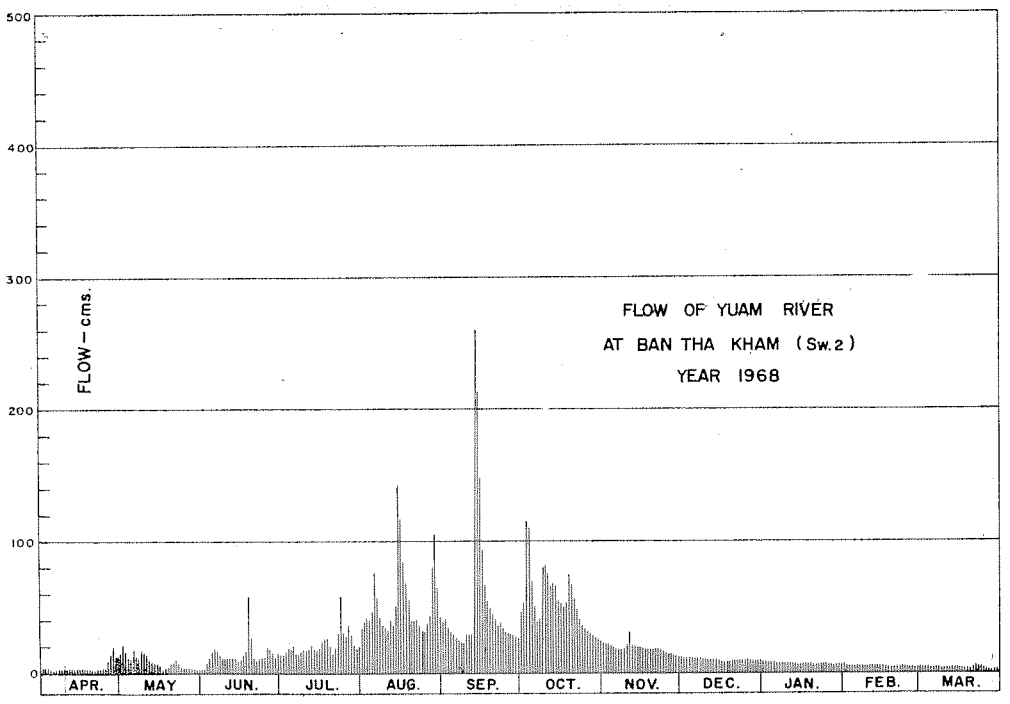
Overbank Flow Conditions: No overbank flow.

General Description: Records good. Stage - discharge relationship used is defined by discharge measurements made during 1968. No state diversions above gage site except those built by the local residents. No adjustment made for virgin flow.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.70	1.19	0.53	1.40	1.58	1.56	1.60	1.42	1.34	1.36	1.51	1.48
2	.69	.34	.54	.39	.62	.56	.64	.41	.34	.35	.50	.48
3	.69	.15	.86	.41	.63	.51	.99	.41	.34	.34	.49	.48
4	.68	.00	.98	.45	.62	.49	.97	.40	.34	.34	.48	.48
5	.65	.05	1.08	.42	.67	.48	.73	.40	.33	.33	.48	.47
6	0.64	1.26	1.14	1.44	1.85	1.45	1.64	1.39	1.33	1.33	1.48	1.48
7	.65	.05	.10	.37	.74	.44	.53	.39	.33	.33	.47	.52
8	.68	.02	.02	.36	.62	.42	.55	.39	.34	.34	.48	.50
9	.63	.22	0.99	.39	.59	.42	.79	.39	.34	.34	.48	.49
10	.60	.21	.96	.39	.58	.48	.80	.43	.33	.34	.49	.49
11	0.55	1.11	0.99	1.40	1.56	1.47	1.77	1.55	1.33	1.33	1.49	1.49
12	.55	0.97	.98	.52	.62	.47	.71	.46	.32	.33	.49	.49
13	.55	.92	.96	.54	.59	.58	.72	.45	.32	.32	.49	.48
14	.54	.81	.95	.49	.64	2.56	.71	.45	.32	.32	.48	.47
15	.54	.69	.97	.48	2.18	.14	.69	.45	.33	.32	.47	.47
16	0.53	0.70	1.01	1.51	1.99	1.86	1.68	1.43	1.35	1.32	1.47	1.46
17	.53	.62	.07	.56	.79	.69	.66	.40	.35	.31	.47	.44
18	.53	.58	.23	.57	.77	.59	.66	.39	.36	.35	.46	.44
19	.53	.59	.71	.58	.70	.56	.79	.39	.37	.39	.46	.43
20	.53	.71	.52	.50	.58	.53	.76	.39	.37	.39	.46	.42
21	0.56	0.73	1.34	1.46	1.56	1.50	1.69	1.40	1.37	1.44	1.49	1.49
22	.59	.81	.30	.53	.58	.50	.64	.39	.37	.45	.50	.49
23	.61	.70	.31	.57	.55	.51	.58	.39	.37	.45	.50	.48
24	.59	.60	.36	.81	.53	.49	.54	.38	.37	.45	.40	.47
25	.60	.58	.37	.61	.52	.47	.50	.38	.38	.45	.49	.45
26	0.89	0.55	1.45	1.59	1.56	1.45	1.49	1.37	1.38	1.50	1.48	1.44
27	1.06	.55	.43	.66	.63	.44	.48	.37	.38	.50	.48	.42
28	.19	.54	.41	.59	.82	.47	.47	.36	.38	.50	.48	.40
29	.04	.54	.36	.54	.98	.46	.45	.36	.37	.50		.41
30	.11	.55	.40	.51	.75	.44	.44	.35	.37	.50		.42
31		.55		.52	.62		.43		.36	.51		.43
Mean	0.67	0.83	1.14	1.50	1.68	1.57	1.65	1.40	1.35	1.39	1.48	1.46
Max.	1.19	1.34	1.71	1.81	2.18	2.56	1.99	1.55	1.38	1.51	1.51	1.52
Min.	0.53	0.54	0.53	1.36	1.52	1.42	1.43	1.35	1.32	1.31	1.46	1.40

WATER YEAR 1968 : Max. 2.56 m. Min. 1.40 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	2.72	16	2.88	15	35	40	46	24	12	8.60	6.80	4.00
2	2.56	22	3.04	14	40	40	52	22	12	8.00	6.20	4.00
3	2.56	14	10	16	42	34	115	22	12	7.40	5.60	4.00
4	2.40	10	14	19	40	31	111	21	12	8.00	5.20	4.00
5	2.04	11	17	19	47	30	69	19	11	7.40	5.20	3.60
6	1.92	18	19	21	76	27	55	18	11	7.40	5.20	3.20
7	2.04	11	16	15	58	26	39	18	11	7.40	4.80	4.80
8	2.40	11	13	14	40	24	42	18	12	8.00	5.20	4.00
9	2.04	17	12	17	36	24	80	18	11	8.00	5.20	3.60
10	2.40	16	11	17	35	30	82	21	10	8.00	5.20	3.60
11	2.40	13	12	18	32	29	76	31	10	7.40	5.20	3.60
12	2.40	9.38	12	20	40	29	66	21	9.80	7.40	5.20	3.60
13	2.40	8.12	11	22	36	43	68	20	9.80	6.80	5.20	4.40
14	2.28	7.40	11	18	43	260	66	20	9.80	6.80	4.80	4.00
15	2.28	6.44	9.90	17	143	164	55	20	10	6.80	4.40	4.00
16	2.16	6.68	11	19	111	103	53	19	8.00	6.80	4.40	3.60
17	2.16	4.88	13	25	73	71	50	19	8.00	6.20	4.40	3.20
18	2.16	4.00	18	26	69	55	53	18	8.60	7.40	4.00	3.20
19	2.16	4.22	58	27	58	50	74	18	9.20	7.40	4.00	2.80
20	2.16	6.92	31	19	40	46	69	18	9.20	5.20	4.00	2.40
21	2.56	7.40	13	15	40	42	58	19	9.20	6.20	4.40	5.20
22	3.04	9.38	10	21	40	36	50	18	9.20	6.80	4.80	5.20
23	3.36	6.68	11	26	36	38	42	18	9.20	6.80	4.80	4.80
24	3.04	4.44	12	58	34	35	36	17	9.20	6.80	4.40	4.40
25	3.20	4.00	12	30	32	32	34	15	9.80	6.80	4.40	3.60
26	9.46	3.52	19	28	38	30	32	14	9.80	6.20	4.00	3.20
27	14	3.52	18	36	44	29	31	14	9.80	6.20	4.00	2.40
28	18	3.04	16	28	74	29	29	13	9.80	6.20	4.00	1.60
29	12	3.04	12	22	105	28	27	13	9.20	6.20		2.00
30	13	3.20	15	19	63	26	26	12	9.20	6.20		2.40
31		3.20		20	43		25		8.60	6.80		2.60
Total	127.48	268.46	442.82	681	1,643	1,481	1,711	555	309.40	217.60	135.00	111.20
Mean	4.25	8.66	14.8	22.0	53.0	49.4	55.2	18.6	9.98	7.02	4.82	3.59
Max.	18	22	58	58	143	260	115	31	12	8.60	6.80	5.20
Min.	1.92	3.04	2.88	14	32	24	25	12	8.00	5.20	4.00	1.60
Runoff - MCM.	11.014	23.195	38.260	58.838	141.955	127.958	147.830	48.211	26.732	18.801	11.664	9.608

WATER YEAR 1968 : Max. 260 Min. 1.60 Mean 21.0 Annual Runoff 664.067 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sep.14	12.00	2.78	344				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
MAE KOK RIVER BASIN

Mae Kok River at Mae Kok Bridge, Chiang Rai (G.2A)

Location: Lat 19° – 55' – 16" N., Long 99° – 50' – 57" E., on right bank about 80 meters downstream from Chiang Rai – Mae Chan highway bridge, 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 bridge.
Elevation: +393.391 m. (M.S.L.)

Gage Reading Frequency: Recording.

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

Period of Available Gage Records: 1958 to date

Rating Operation:

Period of Rating: 1958 – 60, 1967 to date
Rated by Float: –
Rated by Current Meter: 1958 – 60, 1967 to date

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

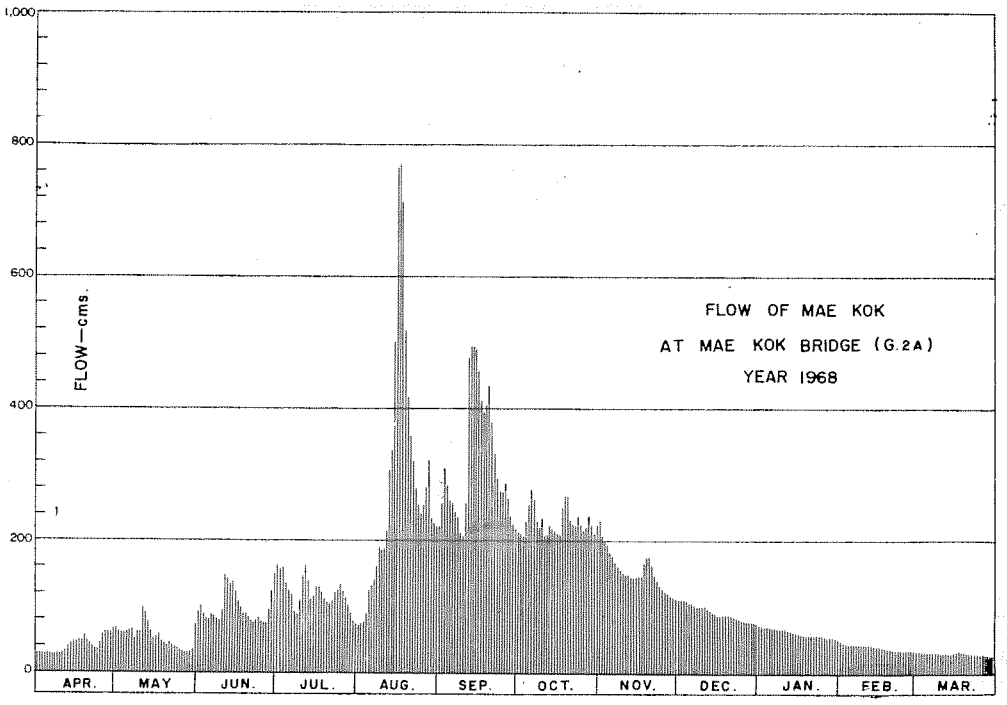
Overbank Flow Conditions: No overbank flow.

General Description: Records good. Stage – discharge relationship used is defined by discharge measurements made during 1968. No upstream state diversions for irrigation except those built by local residents. No adjustment made for virgin flow.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	390.78	391.03	391.16	391.45	391.07	391.62	391.60	391.65	391.24	391.06	390.92	390.81
2	.78	.02	.21	.38	.08	.72	.60	.58	.24	.06	.91	.81
3	.77	.01	.14	.43	.09	.85	.58	.56	.24	.06	.90	.81
4	.78	.00	.12	.38	.11	.80	.64	.53	.24	.06	.90	.81
5	.78	.01	.10	.32	.28	.73	.73	.50	.22	.06	.90	.80
6	390.77	391.02	391.15	391.29	391.32	391.71	391.78	391.48	391.22	391.05	390.90	390.80
7	.77	.03	.14	.26	.34	.68	.74	.45	.21	.04	.90	.80
8	.77	390.94	.12	.16	.41	.66	.65	.43	.20	.04	.90	.80
9	.78	391.02	.10	.14	.53	.58	.61	.41	.20	.04	.90	.80
10	.78	.01	.21	.24	.52	.56	.66	.39	.20	.04	.90	.80
11	390.78	391.20	391.39	391.38	391.52	391.74	391.58	391.39	391.20	391.03	390.89	390.80
12	.83	.13	.38	.43	.60	392.22	.59	.39	.18	.03	.89	.79
13	.89	.06	.32	.35	.90	.26	.63	.37	.17	.02	.88	.79
14	.90	.00	.35	.24	.94	.26	.61	.37	.16	.00	.88	.79
15	.91	390.94	.30	.24	392.28	.25	.60	.38	.15	.00	.87	.80
16	390.91	390.97	391.24	391.32	392.71	392.18	391.59	391.38	391.14	391.00	390.86	390.81
17	.93	391.00	.21	.32	.72	.10	.58	.39	.14	390.99	.86	.82
18	.92	390.93	.14	.30	.52	.05	.71	.46	.14	.99	.85	.81
19	.98	.91	.16	.26	.24	:09	.75	.48	.14	.98	.85	.80
20	.93	.88	.13	.23	.09	.14	.75	.48	.14	.98	.84	.80
21	390.89	390.92	391.09	391.22	391.96	392.00	391.63	391.44	391.14	390.98	390.84	390.79
22	.86	.88	.08	.21	.86	391.89	.63	.38	.13	.98	.83	.78
23	.84	.86	.10	.29	.77	.82	.62	.35	.12	.98	.83	.78
24	.82	.85	.12	.28	.73	.77	.67	.33	.12	.98	.82	.77
25	.89	.83	.10	.34	.67	.76	.62	.31	.11	.98	.82	.77
26	391.00	390.81	391.08	391.31	391.73	391.80	391.60	391.29	391.10	390.97	390.82	390.77
27	.01	.80	.08	.26	.80	.74	.63	.28	.10	.96	.82	.76
28	.01	.80	.15	.22	.88	.67	.67	.27	.10	.96	.82	.76
29	.00	.81	.29	.17	.66	.64	.61	.25	.10	.96		.76
30	.05	.83	.39	.11	.65	.61	.58	.25	.09	.96		.75
31		391.09		.08	.62		.63		.08	.95		.75
Mean	390.87	390.95	391.18	391.28	391.73	391.86	391.64	391.41	391.16	391.01	390.87	390.79
Max.	391.05	391.20	391.39	391.45	392.72	392.26	391.78	391.65	391.24	391.06	390.92	390.81
Min.	390.77	390.80	391.08	391.08	391.07	391.56	391.58	391.25	391.08	390.95	390.82	390.75

WATER YEAR 1968 : Max. 392.72 m. Min. 390.75 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	29	66	92	167	73	221	213	231	111	71	47	32
2	29	64	103	147	75	257	213	207	111	71	46	32
3	28	62	88	162	77	308	207	201	111	71	44	32
4	29	60	83	147	81	287	228	191	111	71	44	32
5	29	62	79	131	121	260	260	186	106	71	44	31
6	28	64	90	123	131	253	280	176	106	69	44	31
7	28	66	88	116	136	242	264	167	103	68	44	31
8	28	50	83	92	156	235	231	162	101	68	44	31
9	29	64	79	88	191	207	217	156	101	68	44	31
10	29	62	103	111	188	201	235	150	101	68	44	31
11	29	101	150	147	188	264	207	150	101	66	43	31
12	35	86	147	162	213	474	210	150	97	66	43	30
13	43	71	131	139	328	495	224	145	94	64	41	30
14	44	60	139	111	345	495	217	145	92	60	41	30
15	46	50	125	111	505	490	213	147	90	60	40	31
16	46	55	111	131	763	454	210	147	88	60	39	32
17	49	60	103	131	770	414	207	150	88	58	39	34
18	47	49	88	125	640	392	253	170	88	58	37	32
19	57	46	92	116	485	410	268	176	88	57	37	31
20	49	41	86	108	410	434	268	176	88	57	37	31
21	43	47	77	106	353	370	224	165	88	57	36	30
22	39	41	75	103	312	324	224	147	86	57	35	29
23	36	39	79	123	276	296	221	139	83	57	35	29
24	34	37	83	121	260	276	238	134	83	57	34	28
25	43	35	79	136	238	272	221	128	81	57	34	28
26	60	32	75	128	260	287	213	123	79	55	34	28
27	62	31	75	116	287	264	224	121	79	54	34	27
28	62	31	90	106	320	238	238	118	79	54	34	27
29	60	32	123	94	235	228	217	113	79	54		27
30	69	35	150	81	231	217	207	113	77	54		25
31		77		75	221		224		75	52		25
Total	1,239	1,676	2,966	3,754	8,869	9,565	7,076	4,680	2,865	1,910	1,117	929
Mean	41.3	54.1	98.9	121	286	319	228	156	92.4	61.6	39.9	30.0
Max.	69	101	150	167	770	495	280	231	111	71	47	34
Min.	28	31	75	75	73	201	207	113	75	52	34	25
Runoff - mcm.	107.050	144.806	256.262	324.346	766.282	826.416	611.366	404.352	247.536	165.024	96.509	80.266

WATER YEAR 1968 : Max. 770 Min. 25 Mean 128 Annual Runoff 4,030.214 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Aug.17	01.00	392.75	790				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
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 readings.

Period of Available Gage Records: 1957 to date

Rating Operation:

Period of Rating: 1957 - 60, 1965 - 66
Rated by Float: -
Rated by Current Meter: 1957 - 60, 1965 - 66

Stability of Channel Regimes: Stable, no shifting adjustment for flow computation for year without actual ratings.

Overbank Flow Conditions: No overbank flow.

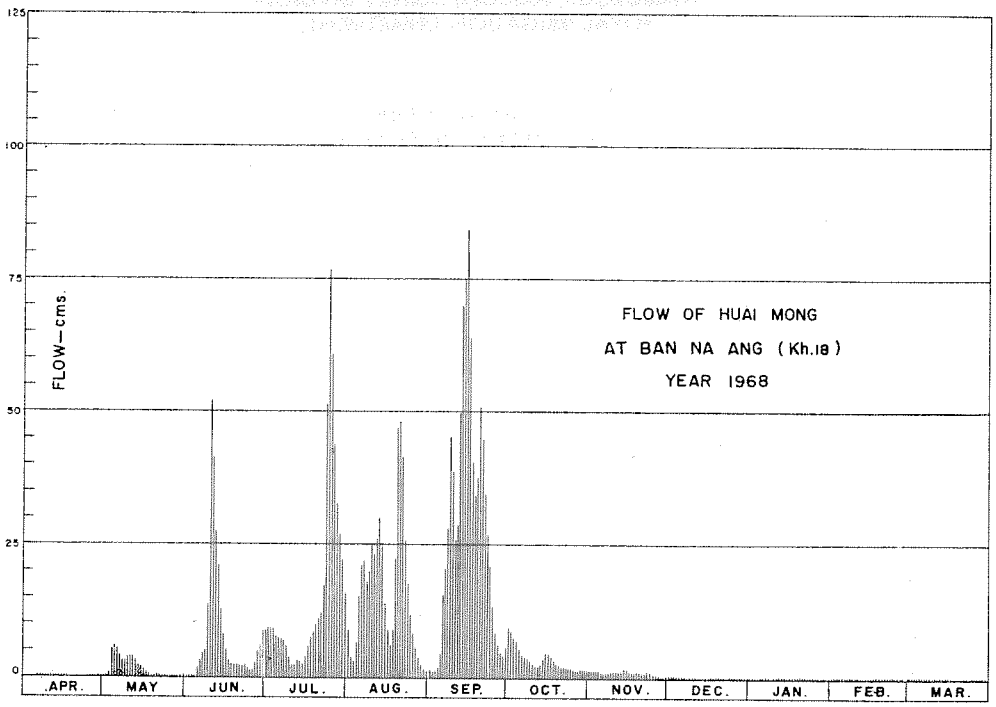
General Description: Records good. Stage - discharge relationship used is defined by discharge measurements made during 1966. No upstream state diversions except those built by local residents. No adjustment made for virgin flow.

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

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.62	0.70	0.74	3.09	2.86	1.37	3.16	1.44	0.98	0.76	0.81	0.79
2	.62	.75	.80	.18	.14	.34	.04	.42	.94	.77	.81	.79
3	.62	1.10	.84	.17	1.82	.35	2.78	.42	.95	.73	.78	.79
4	.63	2.50	.90	2.99	.94	.42	.60	.38	.92	.78	.78	.77
5	.68	.59	1.40	.77	3.76	.73	.41	.28	.88	.81	.77	.78
6	0.72	2.43	1.86	2.79	4.59	4.03	2.20	1.29	0.82	0.80	0.77	0.78
7	.72	.10	2.29	.77	.65	.46	.13	.30	.80	.79	.78	.78
8	.78	1.86	.39	.60	.14	5.19	.07	.30	.79	.77	.78	.76
9	.75	.93	3.90	.21	.47	6.09	1.93	.32	.80	.77	.79	.77
10	.74	2.13	6.33	1.90	.92	5.70	1.77	.32	.83	.78	.83	.78
11	0.73	2.14	5.68	1.66	4.62	4.77	1.66	1.36	0.85	0.78	0.89	0.78
12	.71	.14	4.78	.75	5.08	5.40	.65	.45	.86	.76	.93	.78
13	.71	1.90	.16	.95	.32	6.77	.85	.44	.85	.77	.89	.78
14	.69	.63	3.21	.85	4.71	.92	2.11	.55	.85	.92	.78	.78
15	.72	.49	2.52	.77	3.79	7.00	.27	.47	.81	1.06	.78	.78
16	0.73	1.37	2.17	2.24	3.09	6.66	2.22	1.30	0.83	0.94	0.78	0.78
17	.70	.21	1.92	.58	2.64	.07	.08	.25	.90	.77	.80	.77
18	.68	.06	.74	.92	.38	5.51	1.94	.29	.86	.80	.80	.78
19	.66	0.95	.77	3.04	4.05	.66	.81	.31	.86	.82	.80	.78
20	.66	.92	.74	.26	6.16	6.30	.70	.26	.89	.85	.78	.78
21	0.65	0.88	1.71	3.39	6.19	5.98	1.63	1.26	0.83	0.95	0.77	0.77
22	.65	.85	.74	.53	5.57	.35	.57	.26	.81	.85	.76	.71
23	.66	.84	.73	4.47	4.63	4.87	.58	.38	.80	.82	.77	.70
24	.66	.81	.49	6.79	3.78	.24	.58	.29	.79	.80	.78	.70
25	.67	.73	.32	.89	.13	3.43	.54	.14	.79	.79	.76	.70
26	0.68	0.75	1.48	6.23	2.69	2.83	1.46	1.08	0.78	0.81	0.76	0.68
27	.71	.75	.97	5.61	.30	.50	.46	.05	.77	.86	.76	.68
28	.72	.75	2.40	.20	1.98	.22	.52	.02	.76	.86	.76	.67
29	.70	.71	.60	4.88	.64	.17	.49	.02	.76	.84		.67
30	.69	.72	3.06	.47	.44	.70	.54	0.96	.74	.81		.73
31		.72		3.95	.35		.41		.75	.84		.71
Mean	0.69	1.33	2.35	3.42	3.61	3.33	1.94	1.32	0.81	0.82	0.79	0.75
Max.	0.78	2.59	6.33	6.89	6.19	7.00	3.16	1.55	0.98	1.06	0.93	0.79
Min.	0.62	0.70	0.74	1.66	1.35	1.34	1.41	0.96	0.74	0.73	0.76	0.67

WATER YEAR 1968 : Max. 7.00 m. Min. 0.69 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1		0.00	0.04	8.94	7.60	1.21	9.36	1.42	0.36	0.06	0.11	0.09
2		0.05	0.10	9.48	3.96	1.12	8.64	1.36	0.28	0.07	0.11	0.09
3		0.50	0.14	9.42	2.66	1.15	7.18	1.36	0.30	0.03	0.08	0.09
4		5.60	0.20	8.34	3.10	1.36	6.20	1.24	0.24	0.08	0.03	0.07
5		6.14	1.30	7.12	14	2.32	5.15	0.94	0.18	0.11	0.07	0.08
6	0.02	5.25	2.78	7.24	21	16	4.20	0.97	0.12	0.10	0.07	0.08
7	0.02	3.80	4.65	7.12	22	20	3.92	1.00	0.10	0.09	0.08	0.08
8	0.08	2.78	5.06	6.20	17	28	3.68	1.00	0.09	0.07	0.08	0.06
9	0.05	3.05	15	4.25	20	45	3.05	1.06	0.10	0.07	0.09	0.07
10	0.04	3.92	52	2.90	25	37	2.48	1.06	0.13	0.08	0.13	0.08
11	0.03	3.96	36	2.08	22	23	2.08	1.18	0.15	0.08	0.19	0.08
12	0.01	3.96	23	2.40	27	31	2.05	1.45	0.16	0.06	0.26	0.08
13	0.01	2.90	17	3.15	30	69	2.75	1.42	0.15	0.07	0.19	0.08
14	0.00	1.99	10	2.75	23	18	3.84	1.75	0.15	0.24	0.08	0.08
15	0.02	1.57	5.72	2.48	14	84	4.55	1.51	0.11	0.46	0.08	0.08
16	0.03	1.21	4.08	4.40	8.94	64	4.30	1.00	0.13	0.28	0.08	0.08
17	0.00	0.73	3.00	6.08	6.40	45	3.72	0.85	0.20	0.07	0.10	0.07
18		0.46	2.36	7.92	5.02	33	3.10	0.97	0.16	0.10	0.10	0.08
19		0.30	2.48	8.64	16	36	2.63	1.03	0.16	0.12	0.10	0.08
20		0.24	2.36	10	47	51	2.20	0.88	0.19	0.15	0.08	0.08
21		0.18	2.24	11	48	42	1.99	0.88	0.13	0.30	0.07	0.07
22		0.15	2.36	12	34	31	1.81	0.88	0.11	0.15	0.06	0.01
23		0.14	2.32	20	22	24	1.84	1.24	0.10	0.12	0.07	0.00
24		0.11	1.57	70	14	18	1.84	0.97	0.06	0.10	0.08	0.00
25		0.03	1.06	76	9.18	11	1.72	0.58	0.06	0.09	0.06	0.00
26	0.00	0.05	1.54	49	6.65	7.45	1.48	0.48	0.08	0.11	0.06	0.00
27	0.01	0.05	3.25	35	4.70	5.60	1.48	0.45	0.07	0.16	0.06	0.00
28	0.02	0.05	5.10	29	3.30	4.30	1.66	0.42	0.06	0.16	0.06	0.00
29	0.00	0.01	6.20	25	2.02	4.30	1.57	0.42	0.06	0.14		0.00
30	0.00	0.02	8.76	20	1.42	4.08	1.72	0.32	0.04	0.11		0.03
31		0.02		15	1.15	6.70	1.33		0.05	0.14		0.01
Total	0.34	49.22	221.67	482.93	482.10	820.29	103.52	30.09	4.28	3.97	2.68	1.70
Mean	0.001	1.59	7.39	15.6	15.5	27.3	3.34	1.00	0.14	0.13	0.10	0.05
Max.	0.08	6.14	52	76	48	84	9.36	1.75	0.36	0.46	0.26	0.09
Min.	0.00	0.00	0.04	2.08	1.15	1.12	1.33	0.32	0.04	0.03	0.06	0.00
Runoff – mcm.	0.029	4.252	19.152	41.725	41.653	70.873	8.944	2.600	0.370	0.343	0.231	0.146

WATER YEAR 1968 : Max. 84 Min. 0.00 Mean 6.03 Annual Runoff 190.321 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sep.15	09.00	7.03	86				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
MAE KHONG RIVER BASIN

Nam Un River at Ban Khok Sa-At, Sakon Nakhon (Kh.20B)

Location: Lat 17° - 18' - 08" N., Long 103° - 45' - 27" E., on left bank about 1 kilometer north - east of Ban Nong Bua, and about 500 meters upstream from Nam Oon Damsite, Amphoe Phannanikhom, Sakon Nakhon.

Drainage Area: 1,117 sq.km.

Type of Gage: Staff gage.

Zero Gage at Bottom at: +160.00 m. (M.S.L.)

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

Location: Located at a distance of 20 meters from right bank at damsite.
Elevation: +169.900 m. (M.S.L.)

Gage Reading Frequency: 13-time daily readings at 06.00, 07.00, 08.00, 09.00, 10,00, 11,00, 12.00, 13.00, 14.00, 15.00, 16.00, 17.00 and 18.00 hours.

Basis of Mean Daily Gage Height: Arithmetic mean of 13 hourly readings.

Period of Available Gage Records: 1962 - 71

Rating Operation:

Period of Rating: 1962 - 70
Rated by Float: -
Rated by Current Meter: 1962 - 70

Stability of Channel Regimes: Unstable, shifting adjustment is included for flow computation.

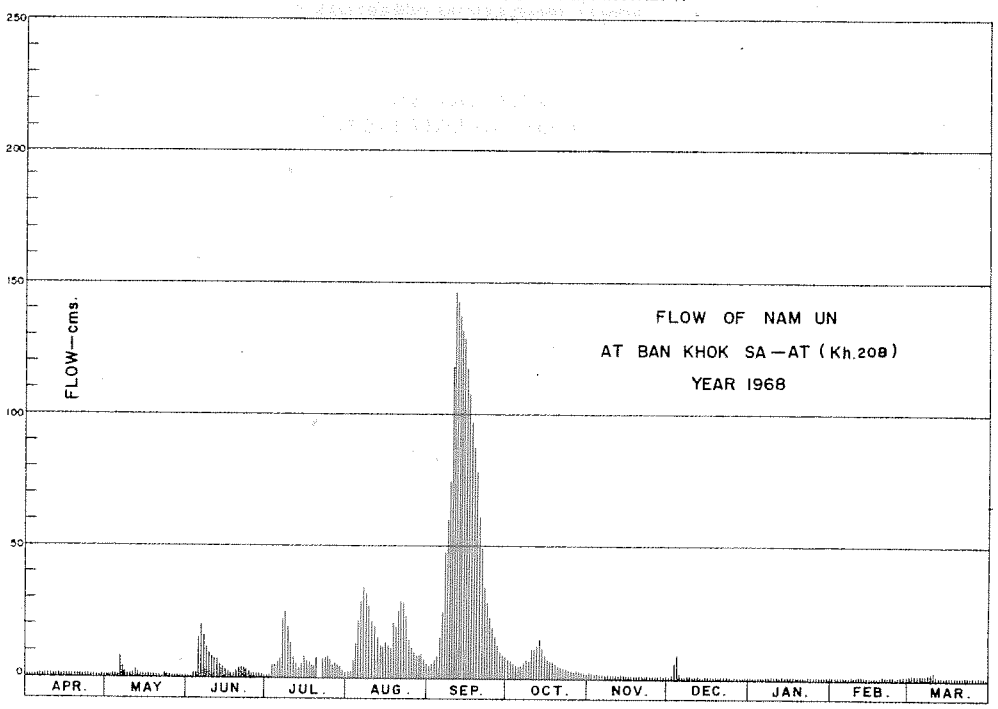
Overbank Flow Conditions: No overbank flow.

General Description: Records good. Stage - discharge relationship used is defined by discharge measurements made during 1968. No upstream state diversions for irrigation except those built by local residents. No adjustment made for virgin flow.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	163.04	163.72	162.94	162.52	162.64	162.91	163.25	162.61	162.23	162.20	162.15	162.80
2	.07	.76	.89	.54	.85	163.05	.16	.60	.46	.14	.13	.88
3	.09	.80	163.05	163.23	163.29	.18	.11	.59	163.21	.12	.14	163.01
4	.13	.84	.87	.06	164.01	.39	.01	.55	.49	.12	.12	.08
5	.18	.89	164.11	.23	.53	164.07	162.98	.49	162.26	.12	.12	.17
6	163.22	164.75	164.41	163.37	165.04	164.63	162.98	162.51	162.24	162.11	162.18	163.27
7	.28	.22	.12	164.50	.17	166.22	163.17	.48	.24	.11	.64	.35
8	.32	163.90	163.76	.64	164.97	.58	.28	.49	.21	.09	.81	.41
9	.35	.89	.57	.27	.64	167.22	.20	.49	.21	.10	.94	.47
10	.37	.84	.44	163.77	.22	168.78	.55	.48	.22	.14	163.05	.13
11	163.38	163.90	163.38	163.40	164.23	169.33	163.57	162.48	162.20	162.09	163.14	162.14
12	.38	164.07	.39	.16	163.94	.14	.76	.48	.16	.11	.20	.14
13	.41	163.75	.22	162.98	.67	168.95	.88	.48	.17	.10	.24	.13
14	.43	.49	.04	.84	.58	.83	.54	.46	.17	.15	.28	.11
15	.46	.37	162.97	163.35	.78	.51	.34	.46	.20	.20	.33	.19
16	163.48	163.27	162.89	163.25	163.69	168.09	163.24	162.46	162.19	162.20	163.38	162.47
17	.53	.19	.82	.25	.47	167.80	.17	.43	.21	.24	.39	.58
18	.56	.14	.77	162.93	164.33	.46	.10	.41	.17	.13	.39	.66
19	.57	.12	.80	.87	.06	.10	.06	.39	.16	.15	.47	.74
20	.58	.07	163.01	163.33	.62	166.34	162.98	.37	.14	.15	.55	.83
21	163.61	163.02	163.08	163.35	164.71	165.36	162.95	162.37	162.14	162.13	163.57	162.92
22	.64	162.99	.04	.27	.65	164.87	.89	.36	.20	.11	.59	.96
23	.66	163.23	162.32	.36	.30	.73	.86	.37	.16	.06	.61	.99
24	.67	.05	.79	.37	163.86	.42	.80	.33	.15	.10	162.76	163.05
25	.68	163.06	.70	.19	.58	.14	.77	.32	.13	.13	.23	.12
26	163.69	162.94	162.61	163.02	163.52	163.89	162.69	162.32	162.10	162.17	162.46	163.10
27	.69	.92	.58	.10	.35	.68	.71	.30	.12	.21	.58	.19
28	.68	.89	.58	.04	.36	.53	.71	.30	.13	.13	.71	.24
29	.70	.87	.56	162.85	.44	.40	.67	.28	.10	.13		.27
30	.72	.85	.52	.68	.19	.33	.63	.27	.16	.15		.28
31		.85		.61	.03		.64		.16	.17		.29
Mean	163.45	163.44	163.13	163.24	163.93	165.76	163.09	162.43	162.26	162.14	162.89	162.90
Max.	163.72	164.75	164.41	164.64	165.17	169.33	163.88	162.61	163.49	162.24	163.61	163.47
Min.	163.04	162.85	162.52	162.52	162.64	162.91	162.63	162.27	162.10	162.06	162.12	162.11

WATER YEAR 1968 : Max. 169.33 m. Min. 163.29 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.58	0.58	0.26	0.74	2.02	3.98	6.80	1.50	0.29	0.26	0.16	0.74
2	0.07	0.74	0.16	0.82	3.50	5.10	5.90	1.45	1.14	0.15	0.14	0.82
3	0.78	0.90	1.55	5.26	6.80	6.30	5.42	1.40	6.60	0.13	0.15	1.06
4	0.86	1.06	1.45	4.54	15	8.48	4.62	1.22	9.59	0.13	0.13	1.10
5	0.98	1.26	15	6.00	23	17	4.38	0.98	0.38	0.13	0.13	1.26
6	1.02	8.05	20	7.40	32	26	4.38	1.06	0.32	0.12	0.20	1.45
7	1.14	3.26	15	22	34	56	6.00	0.94	0.32	0.12	0.18	1.50
8	1.22	1.30	10	25	31	64	7.10	0.98	0.23	0.09	0.41	1.50
9	1.22	1.26	8.71	19	26	80	6.30	0.98	0.23	0.10	0.50	1.40
10	1.18	1.05	7.30	12	19	127	11	0.94	0.26	0.15	0.58	2.61
11	1.06	1.60	6.70	7.72	19	146	11	0.94	0.20	0.09	0.58	0.13
12	0.98	3.18	6.80	5.34	15	139	13	0.94	0.15	0.12	0.47	0.13
13	1.02	1.75	5.18	3.90	12	132	15	1.02	0.16	0.10	0.32	0.12
14	0.98	1.02	3.74	3.42	11	128	10	0.94	0.19	0.16	0.18	0.09
15	0.98	1.02	3.18	8.05	13	118	8.16	0.94	0.26	0.26	0.12	0.19
16	0.98	1.02	2.61	6.20	12	105	7.10	0.94	0.23	0.26	0.13	0.14
17	1.06	1.18	2.16	6.20	9.37	95	6.00	0.82	0.29	0.38	0.14	0.18
18	1.06	0.98	1.86	3.50	21	86	5.34	0.74	0.19	0.14	0.14	0.15
19	0.98	0.90	2.04	3.03	18	77	5.02	0.78	0.18	0.16	0.29	0.14
20	0.90	0.70	3.50	7.61	27	58	4.22	0.70	0.15	0.16	0.54	0.14
21	0.94	0.50	4.06	7.83	29	39	3.98	0.70	0.15	0.14	0.62	0.15
22	0.94	0.41	3.74	7.00	28	31	3.50	0.66	0.26	0.12	0.70	0.08
23	0.90	1.35	2.82	7.94	20	28	3.26	0.70	0.18	0.05	0.78	0.16
24	0.86	0.62	2.62	8.05	14	23	2.82	0.54	0.16	0.10	0.02	0.06
25	0.78	0.32	1.50	6.20	11	18	2.61	0.50	0.14	0.14	0.03	0.10
26	0.70	0.26	1.10	4.38	9.92	15	2.10	0.50	0.10	0.19	0.38	0.02
27	0.58	0.20	0.98	5.02	8.05	12	2.22	0.44	0.13	0.29	0.58	0.09
28	0.44	0.16	0.98	4.54	8.16	9.81	2.22	0.44	0.14	0.14	0.90	0.10
29	0.50	0.14	0.90	3.03	9.04	8.38	1.80	0.38	0.10	0.14		0.09
30	0.58	0.12	0.74	1.92	6.40	7.61	1.68	0.35	0.18	0.16		0.05
31		0.12		1.55	4.94		1.65		0.18	0.19		0.00
Total	26.27	37.02	136.64	215.19	498.20	1,669.66	174.58	25.42	23.08	4.87	9.50	15.75
Mean	0.88	1.19	4.55	6.94	16.1	55.7	5.63	0.85	0.74	0.157	0.34	0.51
Max.	1.22	8.05	20	25	34	146	15	1.50	9.59	0.38	0.78	2.61
Min.	0.07	0.12	0.16	0.74	2.02	3.98	1.65	0.35	0.10	0.05	0.02	0.00
Runoff - mcm.	2.269	3.199	11.806	18.592	43.044	144.259	15.084	2.196	1.994	0.421	0.821	1.361

WATER YEAR 1968 : Max. 146 Min. 0.00 Mean 7.77 Annual Runoff 245.046 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sep.11	08.00	169.33	146				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
MAE KHONG RIVER BASIN

Nam Phung at Ban Chan Phen, Sakon Nakhon.(Kh.21A)

Location: Lat 16° - 58' - 22" N., Long 104° - 40' - 03" E., on left bank about 6 kilometers downstream from Nam Phung Damsite, 500 meters upstream from confluence with Huai Huat and 800 meters upstream from Ban Chan Phen, Amphoe Muang, Sakhon Nakhon.

Drainage Area: 577 sq.km.

Type of Gage: Water - stage recorder.

Zero Gage at Bottom at: + 172.00 m. (M.S.L.)

Bench Mark: B.M. 2 - H.S./R.I.D. No.2

Location: On left bank 15 meters upstream from gage site.
Elevation: + 178.373 m. (M.S.L.)

Gage Reading Frequency: Recording.

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

Period of Available Gage Records: 1961 - 69

Rating Operation:

Period of Rating: 1961 - 67
Rated by Float: -
Rated by Current Meter: 1961 - 67

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

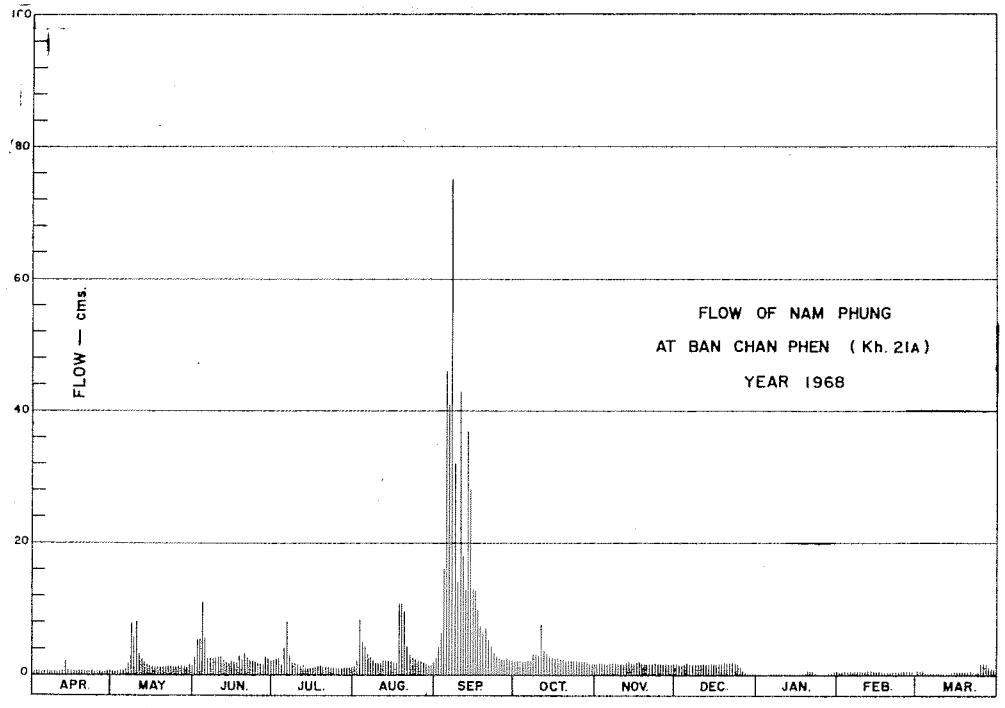
Overbank Flow Conditions: No overbank flow.

General Description: Records fair. Stage - discharge relationship used is defined by discharge measurements made during 1967. Flow regulated by Nam Phung Dam. No adjustment made for virgin flow.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	172.85	172.88	173.01	172.99	172.93	173.01	172.99	172.96	172.96	172.73	172.86	172.88
2	.86	.88	.16	173.01	.99	.11	.99	.97	.95	.72	.86	.86
3	.86	.88	.16	.02	173.27	.20	.99	.97	.95	.71	.86	.85
4	.86	.88	.35	172.95	.13	.59	.98	.96	.95	.71	.85	.80
5	.86	.89	.14	173.08	.12	174.11	.98	.95	.96	.71	.85	.81
6	172.86	172.89	173.02	173.26	173.05	174.02	172.99	172.96	172.96	172.71	172.85	172.79
7	.85	.96	.02	.03	.03	.52	.99	.96	.96	.74	.85	.77
8	.85	173.25	.01	172.97	.00	173.76	173.06	.96	.97	.83	.85	.75
9	.85	.17	.01	.95	172.97	.43	.05	.96	.96	.82	.85	.76
10	.85	.26	.03	.96	.96	174.06	.03	.96	.96	.83	.85	.76
11	172.84	173.06	173.03	172.94	172.95	173.54	173.24	172.96	172.96	172.82	172.85	172.77
12	.86	.00	.01	.93	173.00	.41	.07	.97	.96	.81	.85	.78
13	.98	172.98	172.98	.92	172.99	.95	.05	.98	.96	.81	.87	.78
14	.88	.95	.97	.92	.99	.73	.03	.97	.96	.81	.87	.81
15	.87	.94	.98	.92	.99	.40	.02	.97	.96	.81	.88	.84
16	172.87	172.93	172.98	172.93	172.97	173.42	173.01	172.97	172.96	172.82	172.88	172.84
17	.87	.92	.97	.93	.97	.30	.01	.98	.97	.80	.83	.84
18	.87	.92	173.04	.94	173.34	.22	.01	.97	.97	.80	.83	.85
19	.87	.92	.00	.95	.35	.19	.00	.96	.98	.80	.83	.85
20	.87	.93	.06	.93	.32	.22	172.99	.97	.97	.83	.83	.85
21	172.87	172.93	173.01	172.93	173.09	173.15	172.99	172.96	172.98	172.86	172.86	172.85
22	.87	.93	172.99	.93	.04	.12	.99	.96	.98	.82	.84	.84
23	.87	.94	.98	.92	.01	.09	.99	.97	.97	.80	.83	.84
24	.87	.93	.99	.92	.00	.03	.98	.96	.97	.79	.83	.83
25	.87	.92	.97	.92	172.99	.02	.98	.96	.95	.78	.85	.96
26	172.87	172.93	172.97	172.92	172.98	173.01	172.98	172.96	172.88	172.79	172.87	172.97
27	.87	.94	.95	.91	.97	.00	.98	.96	.83	.80	.88	.96
28	.87	.94	173.03	.92	.96	.01	.97	.96	.77	.79	.87	.92
29	.88	.92	.00	.92	.94	.00	.97	.96	.74	.83	-	.92
30	.88	.95	172.98	.92	.93	172.99	.96	.96	.74	.83	-	.91
31	-	.93	-	.93	.96	-	.96	-	.73	.85	-	.89
Mean	172.87	172.96	173.03	172.96	173.04	173.39	173.01	172.96	172.93	172.79	172.85	172.84
Max.	172.98	173.26	173.35	173.26	173.35	174.52	173.24	172.98	172.98	172.86	172.88	172.97
Min.	172.84	172.88	172.95	172.91	172.93	172.99	172.96	172.95	172.73	172.71	172.83	172.75

WATER YEAR 1968 : Max. 174.52 m. Min. 172.71 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.60	0.78	2.57	2.25	1.35	2.57	2.25	1.80	1.80	0.09	0.66	0.78
2	0.66	0.78	5.48	2.57	2.25	4.33	2.25	1.95	1.65	0.06	0.66	0.66
3	0.66	0.78	5.48	2.74	8.50	6.40	2.25	1.95	1.65	0.03	0.66	0.60
4	0.66	0.78	11	1.65	4.79	20	2.10	1.80	1.65	0.03	0.60	0.30
5	0.66	0.84	5.02	3.76	4.56	46	2.10	1.65	1.80	0.03	0.60	0.36
6	0.66	0.84	2.74	8.20	3.25	41	2.25	1.80	1.80	0.03	0.60	0.27
7	0.60	1.80	2.74	2.91	2.91	75	2.25	1.80	1.80	0.12	0.60	0.21
8	0.60	7.90	2.57	1.95	2.40	27	3.42	1.80	1.95	0.48	0.60	0.15
9	0.60	5.71	2.57	1.65	1.95	14	3.25	1.80	1.80	0.42	0.60	0.18
10	0.60	8.20	2.91	1.80	1.80	43	2.91	1.80	1.80	0.48	0.60	0.18
11	0.54	3.42	2.91	1.50	1.65	18	7.60	1.80	1.80	0.42	0.60	0.21
12	0.66	2.40	2.57	1.35	2.40	13	3.59	1.95	1.80	0.36	0.60	0.24
13	2.10	2.10	2.10	1.20	2.25	37	3.25	2.10	1.80	0.36	0.72	0.24
14	0.78	1.65	1.95	1.20	2.25	26	2.91	1.95	1.80	0.36	0.72	0.36
15	0.72	1.50	2.10	1.20	2.25	13	2.74	1.95	1.80	0.36	0.78	0.54
16	0.72	1.35	2.10	1.35	1.95	13	2.57	1.95	1.80	0.42	0.78	0.54
17	0.72	1.20	1.95	1.35	1.95	9.40	2.57	2.10	1.95	0.30	0.48	0.54
18	0.72	1.20	3.08	1.50	11	7.00	2.57	1.95	1.95	0.30	0.48	0.60
19	0.72	1.20	2.40	1.65	11	6.17	2.40	1.80	2.10	0.30	0.48	0.60
20	0.72	1.35	3.42	1.35	10	7.00	2.25	1.95	1.95	0.48	0.48	0.60
21	0.72	1.35	2.57	1.35	3.93	5.25	2.25	1.80	2.10	0.66	0.66	0.60
22	0.72	1.35	2.25	1.35	3.08	4.56	2.25	1.80	2.10	0.42	0.54	0.54
23	0.72	1.50	2.10	1.20	2.57	3.93	2.25	1.95	1.95	0.30	0.48	0.54
24	0.72	1.35	2.25	1.20	2.40	2.91	2.10	1.80	1.95	0.27	0.48	0.48
25	0.72	1.20	1.95	1.20	2.25	2.74	2.10	1.80	1.65	0.24	0.60	1.80
26	0.72	1.35	1.95	1.20	2.10	2.57	2.10	1.80	0.78	0.27	0.72	1.95
27	0.72	1.50	1.65	1.05	1.95	2.40	2.10	1.80	0.48	0.30	0.78	1.80
28	0.72	1.50	2.91	1.20	1.80	2.57	1.95	1.80	0.21	0.27	0.72	1.20
29	0.78	1.20	2.40	1.20	1.50	2.40	1.95	1.80	0.12	0.48	–	1.20
30	0.78	1.65	2.10	1.20	1.35	2.25	1.80	1.80	0.12	0.48	–	1.05
31	–	1.35	–	1.35	1.80	–	1.80	–	0.09	0.60	–	0.84
Total	22.02	61.08	89.79	56.63	105.19	460.45	80.13	55.80	48.00	9.72	17.28	20.16
Mean	0.73	1.97	2.99	1.83	3.35	15.3	2.58	1.86	1.55	0.31	0.62	0.65
Max.	2.10	8.20	11	8.20	11	75	7.60	2.10	2.10	0.66	0.78	1.95
Min.	0.54	0.78	1.65	1.05	1.35	2.25	1.80	1.65	0.09	0.03	0.48	0.15
Runoff – mcm.	1.902	5.277	7.758	4.893	9.088	39.783	6.923	4.821	4.147	0.840	1.493	1.742

WATER YEAR 1968 : Max. 75 Min. 0.03 Mean 2.81 Annual Runoff 1,026.25 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sept.7	16.00	175.02	118				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
MAE KHONG RIVER BASIN

Nam Loei at Wat Ku Kam, 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: On left bank at tamarind tree along measuring line.
Elevation: +10.689 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 but mean hourly discharge are used for flashy flood.

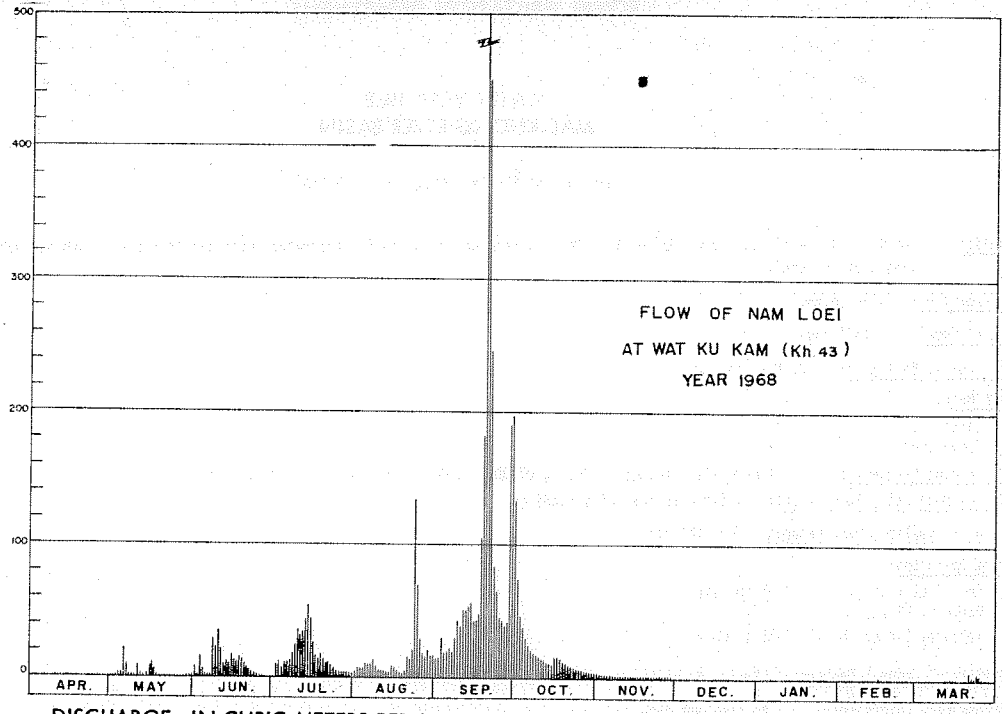
Overbank Flow Conditions: No overbank flow.

General Description: Records good. Stage - discharge relationship used is defined by discharge measurements made during 1973. No upstream state diversions for irrigation except those built by local residents. No adjustment made for virgin flow.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.66	0.60	1.14	0.77	0.99	1.28	3.12	0.96	0.83	0.74	0.71	0.69
2	.65	.59	0.82	1.23	1.12	.20	2.22	.95	.83	.74	.71	.69
3	.64	.58	1.32	.26	.08	.68	1.96	.94	.83	.74	.71	.69
4	.64	.91	0.97	.02	.04	.39	.78	.93	.82	.74	.71	.69
5	.67	.89	.84	.19	.20	.45	.62	.92	.82	.74	.70	.69
6	0.64	1.48	0.88	1.24	1.18	1.51	1.52	0.91	0.82	0.73	0.70	0.68
7	.64	0.88	.90	.23	.18	.36	.44	.91	.81	.73	.70	.68
8	.63	.81	1.65	.36	.29	.60	.40	.91	.81	.73	.70	.68
9	.62	.75	.46	.46	.10	.94	.36	.91	.80	.73	.70	.68
10	.61	.71	.78	.78	.03	.67	.32	.90	.80	.73	.69	.68
11	0.61	1.11	1.27	1.69	1.03	2.09	1.29	0.90	0.79	0.73	0.69	0.68
12	.60	0.83	.14	.78	.03	.07	.26	.90	.79	.73	.69	.79
13	.60	.74	.26	.93	0.98	.11	.23	.89	.79	.73	.69	.79
14	.60	.69	.13	2.13	.96	.16	.20	.89	.79	.72	.69	.76
15	.60	1.08	.37	1.94	1.13	1.92	.18	.88	.78	.72	.69	.71
16	0.59	1.23	1.25	1.51	1.06	1.93	1.33	0.88	0.78	0.72	0.69	0.73
17	.59	0.90	.23	.33	0.96	.97	.37	.87	.78	.72	.69	.70
18	.61	.76	.34	.27	.93	2.24	.28	.87	.78	.72	.68	.70
19	.62	.72	.28	.39	.89	* 4.04	.22	.86	.77	.72	.68	.69
20	.69	.70	.16	.26	.89	* 7.99	.20	.86	.77	.71	.70	.69
21	0.79	0.68	1.09	1.17	1.33	* 4.73	1.17	0.86	0.77	0.71	0.70	1.04
22	.68	.68	.02	.22	.25	2.69	.15	.85	.77	.71	.70	0.86
23	.63	.70	0.96	.06	.52	.45	.12	.85	.76	.71	.74	.79
24	.60	.69	.90	.01	3.26	.19	.09	.85	.76	.71	.72	1.01
25	.59	.76	.85	0.98	1.82	1.93	.07	.85	.76	.71	.71	0.88
26	0.58	0.72	0.82	0.95	1.59	1.92	1.05	0.85	0.76	0.71	0.70	0.78
27	.59	.72	.79	.93	.38	.81	.04	.84	.75	.73	.70	.75
28	.58	.71	.78	.97	.31	.93	.02	.84	.75	.73	.70	.74
29	.58	.72	.77	.98	.45	4.31	.00	.84	.75	.72		.74
30	.64	.90	.76	.93	.35	.23	0.98	.83	.75	.72		.74
31		.73		.92	.36		.97		.74	.71		.73
Mean	0.62	0.80	1.09	1.28	1.24	2.37	1.35	0.88	0.78	0.72	0.69	0.74
Max.	0.79	1.48	1.78	2.13	3.26	7.99	3.12	0.96	0.83	0.74	0.74	1.04
Min.	0.58	0.58	0.76	0.77	0.89	1.20	0.97	0.83	0.74	0.71	0.68	0.68

WATER YEAR 1968 : Max. 7.99 m. Min. 0.58 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.26	0.05	9.14	1.10	4.88	14	122	4.22	1.85	0.80	0.50	0.36
2	0.22	0.04	1.70	12	8.52	11	60	4.00	1.85	0.80	0.50	0.36
3	0.19	0.04	15	13	7.34	30	45	3.78	1.85	0.80	0.50	0.36
4	0.19	3.12	4.44	5.66	6.22	18	35	3.56	1.70	0.80	0.50	0.36
5	0.29	2.75	2.00	11	11	20	28	3.34	1.70	0.80	0.40	0.36
6	0.19	21	2.60	12	10	23	23	3.12	1.70	0.70	0.40	0.33
7	0.19	2.60	2.90	12	10	17	20	3.12	1.55	0.70	0.40	0.33
8	0.15	1.55	29	17	14	27	18	3.12	1.55	0.70	0.40	0.33
9	0.12	0.90	21	21	7.90	44	17	3.12	1.40	0.70	0.40	0.33
10	0.08	0.50	35	35	5.94	30	15	2.90	1.40	0.70	0.36	0.33
11	0.08	8.21	13	31	5.94	52	14	2.90	1.30	0.70	0.36	0.33
12	0.05	1.85	9.14	35	5.94	51	13	2.90	1.30	0.70	0.36	1.30
13	0.05	0.80	13	43	4.66	54	12	2.75	1.30	0.70	0.36	1.30
14	0.05	0.36	8.83	55	4.22	57	11	2.75	1.30	0.60	0.36	1.00
15	0.05	7.34	17	44	8.83	43	10	2.60	1.20	0.60	0.36	0.50
16	0.04	12	13	23	6.78	43	16	2.60	1.20	0.60	0.36	0.70
17	0.04	2.90	12	16	4.22	45	17	2.45	1.20	0.60	0.36	0.40
18	0.08	1.00	16	13	3.56	61	14	2.45	1.20	0.60	0.33	0.40
19	0.12	0.60	14	18	2.75	201	12	2.30	1.10	0.60	0.33	0.36
20	0.36	0.40	9.76	13	2.75	666	11	2.30	1.10	0.50	0.40	0.36
21	1.30	0.33	7.62	10	16	282	10	2.30	1.10	0.50	0.40	6.22
22	0.33	0.33	5.66	12	13	90	9.45	2.15	1.10	0.50	0.40	2.30
23	0.15	0.60	4.22	6.78	23	74	8.52	2.15	1.00	0.50	0.80	1.30
24	0.05	0.36	2.90	5.38	133	58	7.62	2.15	1.00	0.50	0.60	5.38
25	0.04	1.00	2.15	4.66	37	43	7.06	2.15	1.00	0.50	0.50	2.60
26	0.04	0.60	1.70	4.00	26	43	6.50	2.15	1.00	0.50	0.40	1.20
27	0.04	0.60	1.30	3.56	17	37	6.22	2.00	0.90	0.70	0.40	0.90
28	0.04	0.50	1.20	4.44	15	43	5.66	2.00	0.90	0.70	0.40	0.80
29	0.04	0.60	1.10	4.66	20	186	5.10	2.00	0.90	0.60		0.80
30	0.19	2.90	1.00	3.56	16	198	4.66	1.85	0.90	0.60		0.80
31		0.70		3.34	17		4.44		0.80	0.50		0.70
Total	5.02	76.53	277.36	493.14	468.45	2,561	588.23	81.18	39.35	19.80	11.84	33.10
Mean	0.17	2.47	9.24	15.9	15.1	85.4	19.0	2.71	1.27	0.64	0.42	1.07
Max.	1.30	21	35	55	133	666	122	4.22	1.85	0.80	0.80	6.22
Min.	0.44	0.04	1.00	1.10	2.75	11	4.44	1.85	0.80	0.50	0.33	0.33
Runoff - MCM.	0.434	6.612	23.964	42.607	40.474	221.270	50.823	7.014	3.400	1.711	1.023	2.860

WATER YEAR 1968 : Max. 666 Min. 0.04 Mean 12.7 Annual Runoff 402.192 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sep.20	18.00	8.63	756				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
MAE KHONG RIVER BASIN

Nam Loei at Ban Sai Khao, Loei (Kh.43A)

Location: Lat 17° – 13' – 30" N., Long 101° – 41' – 26" E., on right bank about 3 kilometers upstream from 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: –
Location: –
Elevation: –

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

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

Period of Available Gage Records: 1968 to date

Rating Operation:
Period of Rating: 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.

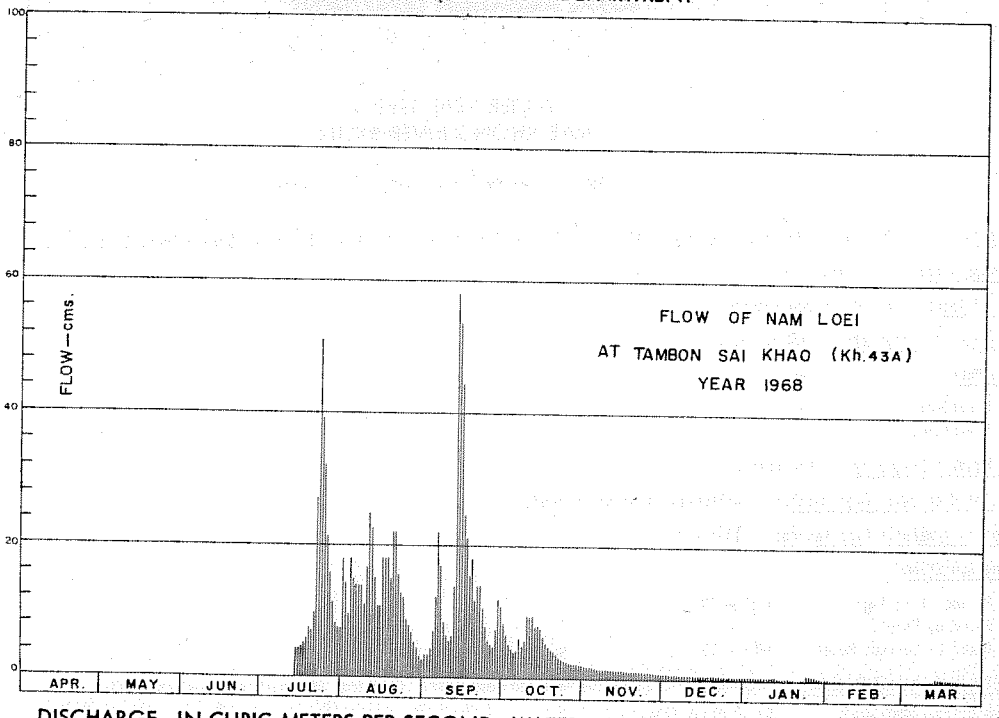
General Description: Records fair. Stage – discharge relationship used is defined by discharge measurements made during 1968. No upstream state diversions for irrigation except those built by local residents. No adjustment made for virgin flow.

Remarks: Stream gaging began on July 14, 1968.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1					1.57	0.94	1.20	0.80	0.66	0.61	0.58	0.53
2					.37	.91	.08	.80	.66	.61	.58	.53
3					.18	.98	.02	.79	.66	.61	.58	.53
4					.56	1.07	0.98	.78	.66	.61	.57	.53
5					.45	.37	.95	.76	.66	.61	.57	.53
6					1.42	1.68	0.96	0.76	0.66	0.61	0.57	0.53
7					.41	.41	1.07	.75	.66	.61	.57	.53
8					.40	.17	0.98	.75	.66	.61	.57	.53
9					.28	.09	1.05	.74	.65	.61	.57	.53
10					.50	.04	.23	.74	.65	.61	.57	.53
11					1.75	1.10	1.23	0.74	0.65	0.61	0.56	0.53
12					.67	.09	.23	.74	.65	.61	.56	.57
13					.46	2.49	.15	.74	.65	.60	.55	.63
14				0.99	.25	.37	.18	.73	.64	.60	.55	.62
15				.99	.27	.16	.14	.73	.64	.60	.55	.61
16				1.00	1.54	1.69	1.08	0.73	0.64	0.60	0.55	0.60
17				.04	.57	.65	.03	.72	.64	.60	.55	.59
18				.07	.56	.43	.01	.72	.63	.60	.55	.58
19				.15	.39	.56	0.98	.72	.63	.60	.54	.57
20				.12	.68	.32	.96	.71	.63	.59	.54	.56
21				1.30	1.67	1.42	0.95	0.71	0.62	0.59	0.54	0.55
22				.94	.46	.40	.91	.70	.62	.59	.54	.53
23				2.35	.33	.24	.88	.70	.61	.59	.53	.52
24				1.97	.36	.15	.86	.69	.61	.68	.53	.51
25				.93	.20	.05	.85	.69	.61	.67	.53	.51
26				1.60	1.17	1.03	0.84	0.68	0.61	0.66	0.53	0.51
27				.40	.10	0.99	.84	.68	.61	.65	.53	.51
28				.24	.03	1.14	.83	.68	.61	.65	.53	.51
29				.17	0.99	.34	.82	.68	.61	.63		.51
30				.15	.90	.29	.81	.68	.61	.60		.51
31				.12	.86		.81		.61	.59		.51
Mean				1.36	1.37	1.35	1.00	0.73	0.63	0.61	0.55	0.54
Max.				2.35	1.75	2.49	1.23	0.80	0.66	0.68	0.58	0.63
Min.				0.99	0.86	0.91	0.81	0.68	0.61	0.59	0.53	0.51

WATER YEAR 1968 : Max. 2.49 m. Min. m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1					18	3.72	8.55	1.90	0.76	0.46	0.37	0.24
2					13	3.25	6.23	1.90	0.76	0.46	0.37	0.24
3					8.14	4.34	5.02	1.81	0.76	0.46	0.37	0.24
4		Stream gaging			18	6.04	4.34	1.72	0.76	0.46	0.34	0.24
5		began on Jul.14,68			15	13	3.87	1.54	0.76	0.46	0.34	0.24
6					14	22	4.03	1.34	0.76	0.46	0.34	0.24
7					14	14	6.04	1.45	0.76	0.46	0.34	0.24
8					14	7.93	4.34	1.45	0.76	0.46	0.34	0.24
9					10	6.41	5.57	1.36	0.70	0.46	0.34	0.24
10					16	5.39	9.27	1.36	0.70	0.46	0.34	0.24
11					25	6.50	9.27	1.36	0.70	0.46	0.32	0.24
12					22	6.41	9.27	1.36	0.70	0.46	0.32	0.34
13					15	58	7.52	1.36	0.70	0.40	0.29	0.58
14				4.49	9.75	52	8.14	1.27	0.64	0.40	0.29	0.52
15				4.49	10	42	7.32	1.27	0.64	0.40	0.29	0.46
16				4.65	18	22	6.23	1.27	0.64	0.40	0.29	0.40
17				5.39	18	21	5.20	1.18	0.64	0.40	0.29	0.39
18				6.04	18	14	4.83	1.18	0.58	0.40	0.29	0.37
19				7.52	13	18	4.34	1.18	0.58	0.40	0.26	0.34
20				6.91	22	11	4.03	1.09	0.58	0.39	0.26	0.32
21				11	22	14	3.87	1.09	0.52	0.39	0.26	0.29
22				32	15	14	3.25	1.00	0.52	0.39	0.26	0.24
23				51	12	9.51	2.86	1.00	0.46	0.39	0.24	0.21
24				33	12	7.52	2.62	0.94	0.46	0.88	0.24	0.19
25				32	8.55	5.57	2.50	0.94	0.46	0.82	0.24	0.19
26				19	7.93	5.20	2.38	0.88	0.46	0.76	0.24	0.19
27				14	6.50	4.49	2.38	0.88	0.46	0.70	0.24	0.19
28				9.51	5.20	7.32	2.26	0.88	0.46	0.70	0.24	0.19
29				7.93	4.49	12	2.14	0.88	0.46	0.58		0.19
30				7.52	3.10	11	2.02	0.88	0.46	0.40		0.19
31				6.91	2.62		2.02		0.46	0.39		0.19
Total				263.36	410.28	427.60	151.71	37.92	19.06	15.11	8.35	8.62
Mean				14.6	13.2	14.2	4.89	1.26	0.61	0.49	0.30	0.28
Max.				51	25	58	9.27	1.90	0.76	0.88	0.37	0.58
Min.				4.49	2.62	3.25	2.02	0.88	0.46	0.39	0.24	0.19
Runoff – MCM.				22.754	35.448	36.945	13.108	3.276	1.647	1.305	0.721	0.745

WATER YEAR 1968 : Max. 58 Min. Mean Annual Runoff mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sep.13	22.00	3.32	109				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
MAE KHONG RIVER BASIN

Nam Ngoen at Ban Mae Rai, Chiang Rai (Kh.49)

Location: lat 20° – 18′ – 25″ N., Long 100 – 15′ – 56″ E., on right bank at Ban Mae Rai, Amphoe Chiang Saen, Chiang Rai.

Drainage Area: 16 sq.km.

Type of Gage: Water – stage recorder.

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

Bench Mark: –

Location: –

Elevation: –

Gage Reading Frequency: Recording.

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

Period of Available Gage Records: 1968 – 71

Rating Operation:

Period of Rating: 1968 – 70

Rated by Float: –

Rated by Current Meter: 1968 – 70

Stability of Channel Regimes: Unstable, shifting adjustment and mean hourly discharge are used for flow computation.

Overbank Flow Conditions: No overbank flow.

General Description: Records fair. Stage – discharge relationship used is defined by discharge measurements made during 1968. No upstream state diversions for irrigation except those built by local residents. No adjustment made for virgin flow.

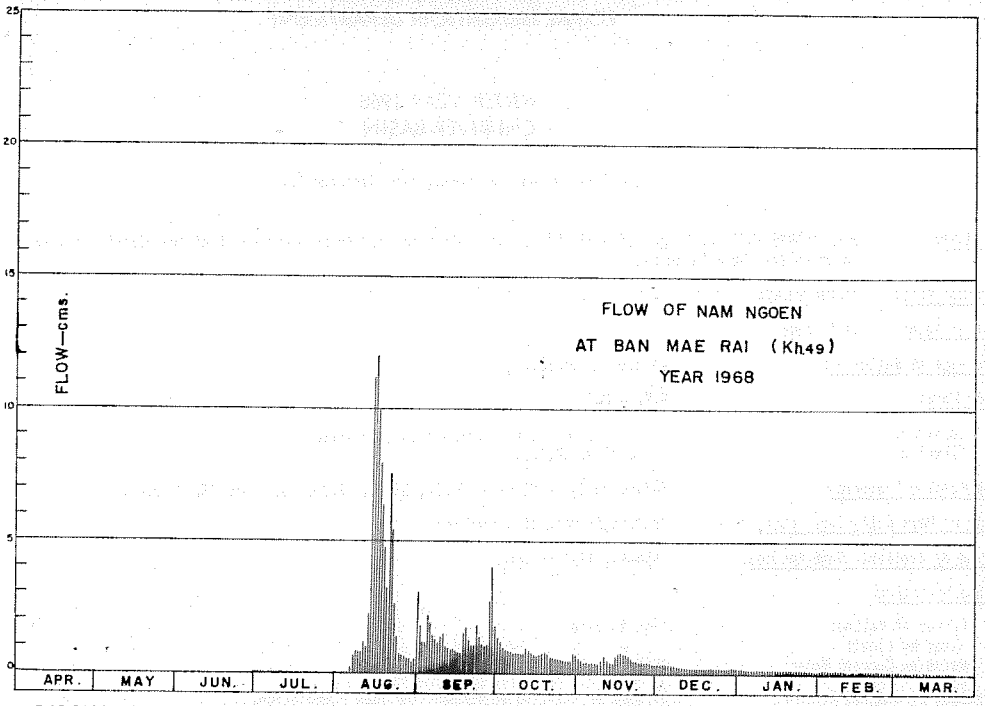
Remarks: Stream gaging began on July 1, 1968 discharge record for period of no flow are omitted.

* Mean hourly discharge

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1				1.07	1.10	1.84	1.58	1.43	1.43	1.40	1.37	1.32
2				.07	.18	.64	.54	.42	.43	.40	.36	.32
3				.07	.23	.57	.52	.42	.43	.39	.36	.32
4				.06	.19	.68	.51	.41	.43	.39	.34	.32
5				.05	.25	.69	.50	.40	.43	.39	.34	.32
6				1.05	1.33	1.59	1.49	1.39	1.43	1.39	1.35	1.32
7				.04	.46	.57	.47	.40	.43	.39	.35	.31
8				.03	.50	.53	.48	.38	.42	.38	.35	.31
9				.03	.50	.58	.47	.38	.42	.36	.35	.32
10				.03	.49	.60	.47	.48	.42	.38	.35	.33
11				1.03	1.59	1.54	1.48	1.45	1.41	1.39	1.34	1.35
12				.03	.51	.54	.51	.42	.41	.39	.34	.31
13				.04	.68	.52	.49	.41	.41	.39	.34	.29
14				.04	.95	.54	.47	.39	.41	.39	.32	.28
15				.04	2.41	.52	.46	.47	.41	.39	.28	.29
16				1.06	2.49	1.50	1.46	1.48	1.41	1.38	1.28	1.29
17				.05	.32	.49	.46	.50	.41	.39	.31	.30
18				.05	.05	.60	.48	.54	.41	.39	.33	.32
19				.04	1.85	.62	.49	.53	.41	.39	.33	.33
20				.03	.68	.56	.48	.52	.41	.39	.34	.32
21				1.03	2.16	1.52	1.46	1.49	1.41	1.39	1.34	1.32
22				.04	1.80	.51	.45	.45	.41	.39	.34	.32
23				.07	.51	.64	.42	.45	.41	.39	.35	.29
24				.09	.48	.57	.43	.45	.41	.39	.35	.25
25				.10	.49	.53	.42	.44	.41	.38	.34	.23
26				1.09	1.50	1.52	1.41	1.44	1.41	1.38	1.34	1.25
27				.07	.49	.51	.41	.44	.41	.37	.33	.26
28				.11	.47	.72	.41	.44	.41	.37	.33	.26
29				.11	.46	.88	.41	.43	.41	.37		.26
30				.08	.45	.64	.48	.43	.41	.38		.26
31				.09	.51		.46		.41	.37		.25
Mean				1.06	1.61	1.59	1.47	1.44	1.41	1.38	1.34	1.30
Max.				1.11	2.49	1.88	1.58	1.54	1.43	1.40	1.37	1.33
Min.				1.03	1.10	1.49	1.41	1.39	1.41	1.36	1.28	1.23

WATER YEAR 1968 : Max. 2.49 m. Min. 1.03 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1				0.00	0.00	3.00	1.38	0.56	0.32	0.18	0.12	0.04
2					0.00	1.38	1.15	0.48	0.32	0.18	0.13	0.06
3					0.04	0.97	0.97	0.48	0.32	0.16	0.13	0.06
4					0.00	1.67	0.92	0.44	0.32	0.16	0.10	0.06
5					0.06	2.19	0.86	0.40	0.32	0.16	0.10	0.06
6					0.21	1.45	0.80	0.37	0.32	0.16	0.12	0.06
7					0.64	1.32	0.72	0.40	0.32	0.16	0.12	0.05
8					0.80	1.09	0.76	0.35	0.29	0.13	0.12	0.05
9					0.80	1.38	0.72	0.35	0.26	0.10	0.12	0.06
10					0.76	1.52	0.72	0.72	0.26	0.13	0.12	0.08
11					1.21	0.97	0.76	0.60	0.24	0.16	0.10	0.08
12					*0.87	0.97	0.92	0.48	0.24	0.16	0.10	0.05
13					*2.04	0.86	0.80	0.44	0.24	0.16	0.10	0.03
14					*4.63	0.97	0.72	0.37	0.24	0.16	0.08	0.01
15					*11	0.86	0.68	0.68	0.24	0.16	0.04	0.03
16					*12	0.76	0.68	0.72	0.24	0.13	0.04	0.03
17					*10	0.72	0.68	0.80	0.24	0.16	0.08	0.04
18					* 5.79	1.52	0.76	0.72	0.24	0.16	0.10	0.06
19					* 3.56	1.67	0.80	0.68	0.24	0.16	0.10	0.08
20					* 2.04	1.26	0.76	0.64	0.24	0.13	0.12	0.06
21					* 7.47	1.03	0.60	0.52	0.24	0.13	0.12	0.06
22					* 3.29	0.97	0.56	0.44	0.24	0.13	0.12	0.06
23					* 0.89	1.81	0.52	0.44	0.24	0.13	0.13	0.03
24					0.72	1.32	0.56	0.44	0.24	0.13	0.08	0.00
25					0.76	1.09	0.52	0.40	0.24	0.12	0.06	0.00
26					0.64	1.03	0.48	0.40	0.24	0.13	0.06	0.03
27					0.60	0.97	0.48	0.40	0.24	0.12	0.05	0.04
28					0.52	2.46	0.48	0.40	0.24	0.12	0.05	0.04
29					0.48	4.00	0.48	0.37	0.21	0.12		0.04
30					0.44	1.81	0.76	0.32	0.21	0.13		0.04
31				0.00	0.68		0.68		0.21	0.12		0.03
Total				0.00	72.94	43.02	22.68	14.81	8.00	4.44	2.71	1.42
Mean				0.00	2.35	1.43	0.73	0.49	0.26	0.14	0.10	0.04
Max.				0.00	12	4.00	1.38	0.80	0.32	0.18	0.13	0.08
Min.				0.00	0.00	0.72	0.48	0.32	0.21	0.10	0.04	0.00
Runoff - mcm.				0.000	6.302	3.717	1.959	1.279	0.691	0.384	0.234	0.123

WATER YEAR 1968 : Max. 12 Min. 0.00 Mean Annual Runoff mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Aug.15	15.00	2.64	16				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
CHI RIVER BASIN

Chi River at Wat Tai Kosum, Maha Sarakham (E. 1)

Location: Lat. 16°-15'-02" N., Long. 103°-04'-25" E., on right bank, 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: +136.64 m. (M.S.L.)

Bench Mark: B.M. - E.1

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: 1936-43, 1951 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.

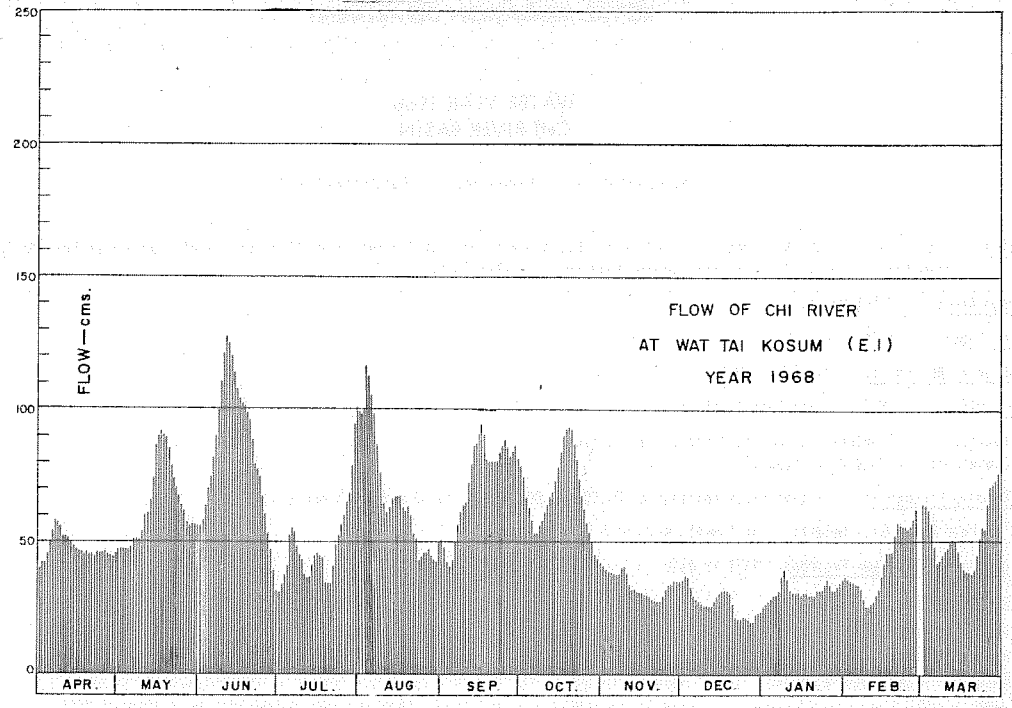
Overbank Flow Conditions: No overbank flow.

General Description: Records good. Stage-discharge relationship used is defined by discharge measurements made during 1968. Flow regulated by Nam Phong Dam at above gage site. No adjustment made for virgin flow.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	137.82	138.02	138.19	137.62	138.93	138.10	138.60	137.87	137.74	137.51	137.77	138.34
2	.90	.02	.24	.69	.94	137.99	.53	.84	.79	.53	.76	.34
3	.89	.02	.33	.78	139.24	.91	.41	.83	.77	.55	.74	.32
4	.99	.02	.46	.86	.17	.87	.30	.82	.68	.57	.72	.26
5	138.12	.02	.56	138.11	.03	.86	.23	.81	.61	.59	.69	.16
6	138.18	138.04	138.69	138.18	138.94	138.05	138.14	137.80	137.58	137.60	137.70	138.02
7	.23	.09	.81	.13	.78	.20	.14	.79	.55	.63	.64	137.90
8	.22	.10	.92	.02	.60	.28	.19	.86	.52	.81	.56	.92
9	.20	.09	139.09	137.94	.43	.32	.23	.88	.49	.84	.51	.98
10	.10	.18	.33	.92	.30	.37	.28	.79	.49	.74	.50	138.02
11	138.12	138.27	139.41	137.77	138.26	138.46	138.34	137.70	137.49	137.66	137.52	138.04
12	.10	.28	.37	.75	.33	.57	.41	.64	.49	.63	.54	.08
13	.06	.31	.29	.83	.39	.73	.44	.64	.54	.63	.60	.10
14	.04	.50	.19	.93	.41	.76	.52	.63	.59	.62	.68	.07
15	.02	.70	.08	.99	.40	.81	.60	.62	.63	.60	.80	137.96
16	138.00	138.80	139.03	137.97	138.40	138.87	138.66	137.62	137.64	137.62	137.91	137.89
17	137.98	.84	.01	.95	.30	.78	.78	.61	.64	.63	.98	.85
18	.96	.81	138.98	.75	.29	.64	.84	.59	.64	.61	.99	.83
19	.99	.78	.93	.71	.33	.64	.85	.58	.62	.59	.99	.83
20	.96	.72	.88	.71	.27	.64	.85	.56	.53	.61	138.13	.81
21	137.96	138.62	138.76	137.72	138.14	138.64	138.79	137.55	137.38	137.64	138.21	137.84
22	.94	.54	.60	138.02	.09	.64	.67	.54	.35	.65	.20	138.00
23	.98	.45	.59	.07	137.90	.69	.53	.54	.37	.66	.20	.14
24	.98	.39	.51	.15	.94	.74	.42	.59	.38	.70	.20	.20
25	.98	.32	.35	.25	.99	.77	.28	.64	.38	.74	.18	.17
26	137.98	138.25	138.19	138.30	138.00	138.71	138.21	137.70	137.37	137.71	138.20	138.38
27	.97	.22	.08	.39	.01	.64	.13	.69	.34	.66	.25	.47
28	.96	.20	137.96	.46	137.95	.70	.05	.72	.34	.64	.31	.49
29	.95	.21	.78	.63	.93	.74	137.97	.74	.41	.67		.54
30	.98	.19	.62	.96	.91	.64	.94	.72	.46	.72		.56
31		.19		.99	138.08		.89		.46	.75		.55
Mean	138.02	138.33	138.67	138.05	138.38	138.49	138.39	137.70	137.52	137.64	137.87	138.13
Max.	138.23	138.84	139.41	138.99	139.24	138.87	138.85	137.88	137.79	137.84	138.31	138.56
Min.	137.82	138.02	137.62	137.62	137.90	137.86	137.89	137.54	137.34	137.51	137.50	137.81

WATER YEAR 1968 : Max. 139.41 m. Min. 137.34 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	39	47	56	31	98	51	78	41	36	26	37	64
2	42	47	58	34	98	46	74	40	38	27	36	64
3	42	47	63	37	116	42	67	39	37	28	36	63
4	46	47	70	40	112	41	62	39	33	29	35	60
5	52	47	76	52	104	40	58	38	30	30	34	54
6	55	48	83	55	98	49	53	38	29	30	34	47
7	58	51	90	53	89	56	53	38	28	31	32	42
8	57	51	97	47	78	61	56	40	27	38	28	43
9	56	51	107	44	68	63	58	41	26	40	26	46
10	51	55	122	43	62	65	61	38	26	36	26	47
11	52	60	127	37	60	70	64	34	26	32	27	48
12	51	61	124	36	63	76	67	32	26	31	28	50
13	49	62	119	39	66	86	69	32	28	31	30	51
14	48	72	113	43	67	87	73	31	30	31	33	50
15	47	84	107	46	67	90	78	31	31	30	38	45
16	46	90	104	45	67	94	81	31	32	31	42	42
17	46	92	102	44	62	89	89	30	32	31	46	40
18	45	90	101	36	61	80	92	30	32	30	46	39
19	46	89	98	34	63	80	93	29	31	30	46	39
20	45	85	95	34	60	80	93	28	27	30	53	39
21	45	79	87	35	53	80	89	28	22	32	57	40
22	44	74	78	47	51	80	83	28	21	32	56	46
23	46	70	77	50	42	83	74	28	21	32	56	53
24	46	66	73	54	44	86	68	30	22	34	56	56
25	46	63	64	59	46	88	61	32	22	36	55	55
26	46	59	56	62	46	84	57	34	21	34	56	66
27	45	57	50	66	47	80	53	34	20	32	59	71
28	45	56	45	70	44	84	49	35	20	32	62	72
29	44	57	37	80	43	86	45	36	23	33		74
30	46	56	31	99	42	80	44	35	24	35		76
31		56		101	50		42		24	36		75
Total	1,426	1,969	2,510	1,553	2,067	2,177	2,084	1,020	845	990	1,170	1,656
Mean	47.5	63.5	83.7	50.1	66.7	72.6	67.2	34.0	27.2	31.9	41.7	53.4
Max.	58	92	127	101	116	94	93	41	38	40	62	76
Min.	39	47	31	31	42	40	42	28	20	26	26	38
Runoff - MCM.	123.206	170.122	216.864	134.179	178.589	188.093	180.058	88.128	73.008	85.536	101.088	143.078

WATER YEAR 1968 : Max. 127 Min. 20 Mean 53.3 Annual Runoff 1,681.9[illegible] mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
June.11	12.00	139.42	127				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
CHI RIVER BASIN

Chi River at Wat Si Thammaram, Ubon Ratchathani (E.2)

Location: Lat 15° - 47' - 06" N., Long 104° - 08' - 36" E., on left bank 1.5 kilometers south of office of Amphoe Yasothon and 500 meters downstream from Wat Si Thammaram, Amphoe Yasothon, Ubon Ratchathani.

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 district post office.
Elevation: +126.972 m. (M.S.L.)

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

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

Period of Available Gage Records: 1951 to date

Rating Operation:

Period of Rating: 1951
Rated by Float: -
Rated by Current Meter: 1951

Stability of Channel Regimes: Stable, no shifting adjustment for flow computation for year without actual rating.

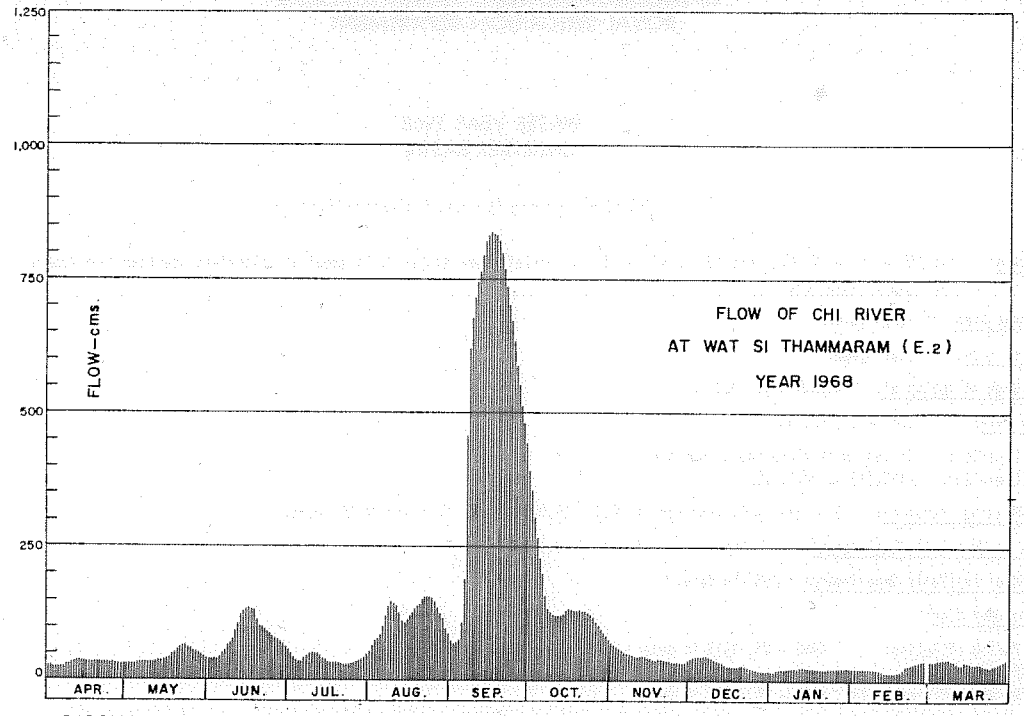
Overbank Flow Conditions: No overbank flow.

General Description: Records fair. Stage - discharge relationship used is defined by discharge measurements made during 1951. Flow regulated by Nam Phong Dam and Lam Pao Dam at above gage site. No adjustment made for virgin flow.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	119.03	119.17	119.34	119.60	119.58	119.87	123.15	119.83	119.39	119.77	118.97	119.28
2	.01	.14	.34	.47	.76	.82	122.79	.77	.43	.78	.97	.29
3	118.96	.13	.35	.36	.90	.88	.35	.72	.46	.82	.96	.31
4	.93	.13	.37	.25	.96	.89	121.96	.67	.45	.86	.96	.34
5	.95	.16	.43	.24	120.07	120.12	.58	.62	.46	.90	.97	.36
6	118.96	119.19	119.52	119.29	120.31	121.21	121.20	119.57	119.47	118.92	118.96	119.38
7	119.02	.21	.62	.36	.57	123.59	120.83	.55	.46	.93	.95	.39
8	.07	.22	.79	.45	.75	124.74	.62	.52	.43	.93	.93	.35
9	.13	.22	.83	.53	.83	125.11	.62	.49	.38	.94	.93	.32
10	.18	.22	.94	.54	.79	.27	.54	.47	.35	.94	.92	.27
11	119.24	119.23	120.19	119.55	120.73	125.36	120.50	119.44	119.32	118.97	118.89	119.21
12	.25	.24	.37	.53	.59	.45	.50	.45	.27	119.01	.83	.14
13	.25	.25	.52	.45	.39	.55	.52	.46	.18	.03	.76	.15
14	.24	.28	.61	.38	.30	.63	.60	.44	.10	.02	.73	.25
15	.23	.32	.66	.28	.39	.66	.64	.39	.07	.00	.73	.27
16	119.22	119.34	120.69	119.21	120.50	125.68	120.66	119.35	119.05	118.97	118.72	119.22
17	.22	.40	.65	.18	.57	.67	.65	.33	.04	.96	.74	.20
18	.22	.49	.60	.20	.66	.66	.64	.32	.05	.95	.75	.22
19	.21	.56	.39	.21	.74	.62	.62	.33	.08	.94	.77	.19
20	.21	.65	.25	.21	.79	.53	.62	.33	.10	.94	.85	.15
21	119.21	119.70	120.25	119.15	120.89	125.43	120.62	119.32	119.09	118.95	119.03	119.11
22	.22	.74	.19	.12	.93	.31	.60	.30	.05	.95	.11	.08
23	.23	.75	.12	.09	.93	.16	.58	.28	.00	.93	.15	.08
24	.22	.71	.08	.11	.93	124.98	.54	.28	118.95	.93	.19	.07
25	.20	.65	.03	.15	.89	.77	.47	.27	.90	.95	.23	.09
26	119.17	119.58	119.94	119.19	120.78	124.53	120.38	119.25	118.85	118.95	119.25	119.14
27	.13	.53	.93	.25	.67	.30	.28	.22	.82	.96	.26	.18
28	.13	.49	.87	.29	.56	.02	.18	.21	.80	.97	.27	.25
29	.13	.45	.77	.34	.40	123.77	.08	.24	.80	.98		.31
30	.15	.40	.68	.42	.20	.49	119.99	.31	.79	.99		.37
31		.36		.47	.03		.91		.78	.98		.42
Mean	119.14	119.38	120.01	119.32	120.50	124.03	120.81	119.42	119.14	118.94	118.96	119.24
Max.	119.25	119.75	120.69	119.60	120.93	125.68	123.15	119.83	119.47	119.03	119.27	119.42
Min.	118.93	119.13	119.34	119.09	119.58	119.82	119.91	119.21	118.78	118.77	118.72	119.07

WATER YEAR 1968 : Max. 125.68 m. Min. 118.72 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	26	32	40	55	54	73	389	70	42	17	24	37
2	26	31	40	47	66	69	346	66	45	18	24	38
3	24	30	41	41	75	74	297	63	47	19	24	39
4	23	30	41	36	79	74	255	59	46	20	24	40
5	23	32	45	35	87	90	217	56	47	21	24 *	41
6	24	33	50	38	105	182	181	53	47	22	24	42
7	26	34	56	41	126	446	148	52	47	23	23	42
8	28	34	67	46	141	619	130	50	45	23	23	41
9	30	34	70	51	148	688	130	48	42	23	23	39
10	33	34	78	51	144	723	123	47	41	23	22	37
11	35	35	95	52	139	746	120	45	39	24	21	34
12	36	35	110	51	127	770	120	46	37	26	19	31
13	36	36	122	46	111	798	121	47	33	26	17	31
14	35	37	129	42	104	821	128	45	29	26	16	36
15	35	39	133	37	111	830	131	42	28	25	16	37
16	34	40	135	34	120	836	133	41	27	24	16	34
17	34	43	132	33	126	833	132	40	27	24	16	33
18	34	48	128	33	133	830	131	39	27	23	17	34
19	34	53	111	34	140	818	130	40	28	23	17	33
20	34	58	100	34	144	792	130	40	29	23	20	31
21	34	62	100	31	153	764	130	39	29	23	26	30
22	34	64	95	30	157	733	128	38	27	23	30	28
23	35	65	90	29	157	699	126	37	25	23	31	28
24	34	62	88	30	157	662	123	37	23	23	33	28
25	33	58	84	31	153	624	118	37	21	23	35	29
26	32	54	78	33	143	583	110	36	20	23	36	31
27	30	51	77	36	134	547	102	34	19	24	36	33
28	30	48	73	38	125	505	95	34	18	24	37	36
29	30	46	66	40	112	470	88	35	18	24		39
30	31	43	60	44	96	433	81	39	18	25		41
31		41		47	84		76		18	24		44
Total	933	1,342	2,534	1,226	3,751	17,132	4,669	1,355	989	712	674	1,097
Mean	31.1	43.3	84.5	39.5	121	571	151	43.2	31.9	23.0	24.1	35.4
Max.	36	65	135	55	157	836	389	70	47	26	37	44
Min.	23	30	40	29	54	69	76	34	18	17	16	28
Runoff - MCM.	80.611	115.949	218.938	105.926	324.086	1,480.205	403.402	117.072	85.450	61.517	58.234	94.781

WATER YEAR 1968 : Max. 836 Min. 16 Mean 100 Annual Runoff 3,146.170 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sep.16	18.00	125.70	842				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
CHI RIVER BASIN

Chi Piver at Keeng Tha Dua, Chaiyaphum (E.5)

Location: Lat 15° – 46' – 07" N., Long 101° – 49' – 03" E., on left bank at Ban Na Di about 12 kilometers upstream from Amphoe Ban Khwao, Chayaphum.

Drainage Area: 4,254 sq.km.

Type of Gage: Staff gage.

Zero Gage at Bottom at: +186.144 m. (M.S.L.)

Bench Mark: B.M. – E.5 No.1107

Location: On left bank along measuring line.
Elevation: +197.319 m. (M.S.L.)

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

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

Period of Available Gage Records: 1958 to date.

Rating Operation:

Period of Rating: 1967 – 70, 1973 to date
Rated by Float: –
Rated by Current Meter: 1967 – 70, 1973 to date

Stability of Channel Regimes: Unstable, shifting adjustment is included for flow computation.

Overbank Flow Conditions: No overbank flow.

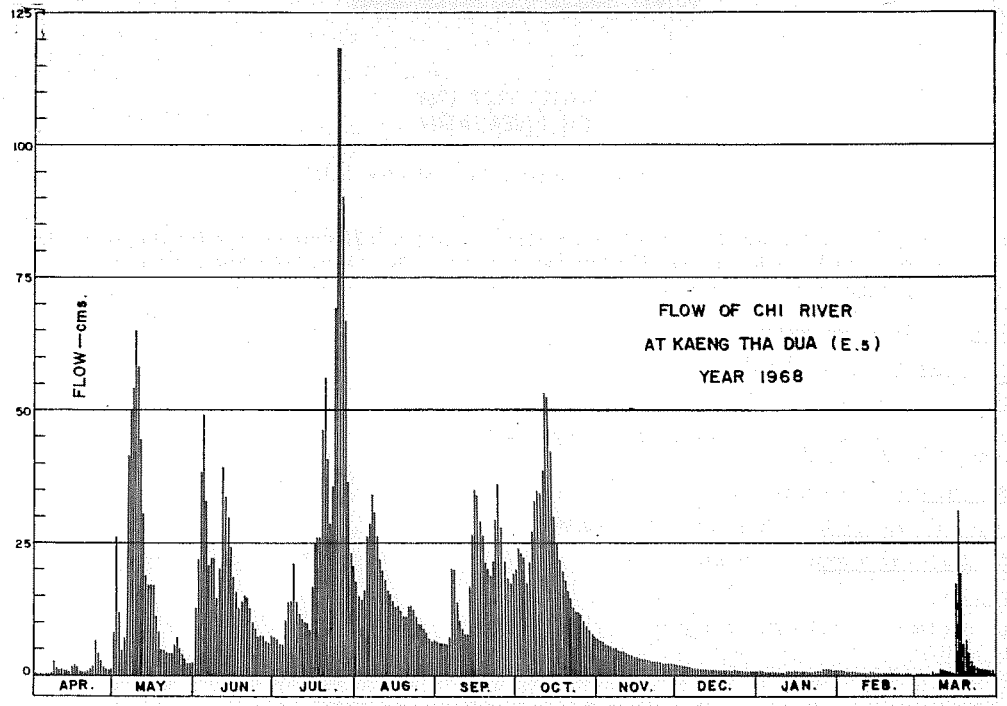
General Description: Records good. Stage – discharge relationship used is defined by discharge measurements made during 1968. No upstream state diversions for irrigation except those built by local residents. No adjustment made for virgin flow.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	186.67	187.47	187.43	187.28	188.07	187.19	188.08	187.25	186.85	186.71	186.71	186.58
2	.66	188.71	188.19	.22	187.95	.17	.28	.24	.84	.70	.71	.57
3	.65	187.66	189.13	.18	.91	.16	.26	.20	.83	.70	.69	.58
4	.66	.17	.71	.17	.90	.16	.18	.18	.83	.69	.69	.58
5	.67	.33	188.66	.48	188.55	.12	187.88	.16	.82	.68	.71	.58
6	186.69	189.00	188.20	187.73	188.71	187.23	187.91	187.13	186.81	186.68	186.67	186.61
7	.69	.71	.34	.62	.96	188.06	188.41	.10	.81	.68	.66	.66
8	187.02	.65	.36	188.21	.74	187.78	.77	.09	.81	.68	.65	.61
9	186.90	190.39	187.81	187.77	.45	.50	.84	.07	.80	.67	.65	.61
10	.83	.31	.44	.59	.22	.37	.80	.05	.80	.67	.65	.79
11	186.83	189.53	189.24	187.52	188.09	187.29	188.88	187.04	186.79	186.67	186.65	186.75
12	.80	188.81	188.99	.52	.01	.24	189.74	.07	.79	.68	.63	.71
13	.77	.26	.76	.50	187.90	.28	.71	.05	.78	.71	.66	.67
14	.79	.16	.58	.43	.83	188.25	.19	.02	.77	.72	.65	.65
15	.94	.18	.19	.36	.77	.85	188.68	.01	.77	.70	.64	.65
16	186.99	188.18	187.96	188.56	187.73	188.81	188.39	186.99	186.76	186.70	186.63	187.44
17	.86	187.81	.79	.65	.68	.55	.24	.97	.76	.68	.62	188.43
18	.81	.59	.76	.15	.62	.56	.14	.96	.75	.69	.62	187.28
19	.75	.29	.58	189.39	.57	.21	.03	.95	.75	.68	.62	.14
20	.76	.16	.90	190.15	.57	.10	187.92	.93	.74	.68	.62	.25
21	186.75	187.11	187.92	189.39	187.68	188.00	187.83	186.92	186.74	186.66	186.61	186.97
22	.85	.08	.70	188.74	.68	.00	.73	.92	.72	.66	.62	.86
23	.89	.09	.59	.83	.62	.35	.64	.91	.76	.69	.61	.82
24	187.38	.25	.45	190.15	.55	.91	.61	.91	.73	.68	.61	.78
25	.15	.37	.38	192.73	.47	.57	.58	.90	.74	.71	.60	.74
26	186.99	187.17	187.31	192.76	187.41	188.38	187.52	186.89	186.73	186.81	186.61	186.74
27	.88	.08	.29	191.56	.34	.14	.46	.88	.72	.76	.59	.72
28	.93	.00	.21	190.13	.28	187.93	.40	.87	.72	.76	.59	.70
29	.88	186.89	.21	189.05	.23	.88	.36	.86	.71	.74		.70
30	.90	.92	.30	188.49	.19	.97	.32	.86	.72	.71		.69
31		.91		.28	.22		.28		.72	.70		.70
Mean	186.84	187.94	188.01	188.63	187.83	187.90	188.16	187.01	186.76	186.70	186.64	186.82
Max.	187.38	190.39	189.71	192.76	188.96	188.91	189.74	187.25	186.85	186.81	186.71	188.43
Min.	186.65	186.89	187.21	187.17	187.19	187.12	187.28	186.86	186.71	186.66	186.59	186.57

WATER YEAR 1968 : Max. 192.76 m. Min. 186.57 m.

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.25	6.50	8.00	7.10	17	6.40	20	6.65	2.00	0.80	0.80	0.15
2	0.20	26	19	6.30	15	6.20	24	6.50	1.90	0.75	0.80	0.10
3	0.15	9.50	37	5.90	14	6.10	23	6.10	1.80	0.75	0.70	0.15
4	0.20	3.60	49	5.80	15	6.10	22	5.90	1.80	0.70	0.70	0.15
5	0.25	7.85	28	10	26	6.10	17	5.70	1.70	0.65	0.60	0.15
6	0.35	36	20	14	29	7.55	18	5.40	1.60	0.65	0.60	0.30
7	0.35	50	22	12	34	20	26	5.10	1.30	0.65	0.55	0.55
8	2.50	49	22	21	29	16	33	5.00	1.30	0.65	0.50	0.30
9	1.40	65	14	14	24	12	35	4.80	1.25	0.60	0.50	0.30
10	1.05	58	8.15	12	21	9.65	34	4.60	1.25	0.60	0.50	1.20
11	1.05	42	39	11	19	8.45	35	4.50	1.20	0.60	0.50	1.00
12	0.90	28	34	10	18	7.70	53	4.20	1.20	0.55	0.40	0.80
13	0.75	18	30	9.95	16	8.30	52	4.00	1.15	0.80	0.50	0.60
14	0.85	17	26	8.90	15	23	42	3.70	1.10	0.85	0.50	0.50
15	1.70	17	19	7.85	14	35	31	3.60	1.10	0.75	0.45	0.50
16	2.20	17	16	25	13	34	26	3.40	1.05	0.75	0.40	9.50
17	1.20	11	13	26	13	29	23	3.20	1.05	0.65	0.35	26
18	0.95	8.15	13	18	12	29	21	3.10	1.00	0.70	0.35	7.10
19	0.65	4.60	10	41	11	22	19	3.00	1.00	0.65	0.35	5.50
20	0.70	4.80	15	56	11	21	17	2.80	0.95	0.65	0.35	6.65
21	0.90	4.30	15	41	13	19	15	2.70	0.95	0.55	0.30	3.20
22	1.40	4.00	12	28	13	19	14	2.70	0.85	0.55	0.35	2.10
23	1.70	4.10	10	30	12	25	12	2.60	1.05	0.70	0.30	1.70
24	6.65	5.70	8.30	56	11	36	12	2.60	0.90	0.65	0.30	1.40
25	4.30	7.10	7.25	118	9.50	29	12	2.50	0.95	0.80	0.25	1.20
26	2.70	4.90	7.55	118	9.65	25	11	2.40	0.90	1.30	0.30	1.20
27	1.60	4.00	7.25	89	8.60	21	9.80	2.30	0.85	1.05	0.20	1.10
28	1.35	3.20	6.20	56	7.70	18	8.90	2.20	0.85	1.05	0.20	1.00
29	1.10	2.10	6.20	34	6.95	17	8.30	2.10	0.80	0.95		1.00
30	1.20	2.40	7.40	23	6.40	19	7.70	2.10	0.85	0.80		0.95
31		2.30		20	6.80		7.10		0.85	0.75		1.00
Total	40.55	523.10	529.30	934.80	470.60	541.55	688.80	115.45	36.50	23.00	12.65	77.35
Mean	1.35	16.9	17.6	30.1	15.2	18.0	22.2	3.85	1.18	0.74	0.45	1.90
Max.	6.65	65	49	118	34	36	53	6.65	2.00	1.30	0.80	26
Min.	0.15	2.10	6.20	5.80	6.40	6.10	7.10	2.10	0.80	0.55	0.20	0.10
Runoff - mcm.	3.503	45.196	45.731	80.767	40.660	46.790	59.512	9.975	3.154	1.987	1.093	6.683

WATER YEAR 1968 : Max. 118 Min. 0.10 Mean 10.9 Annual Runoff 345.051 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Jul.25	21.00	193.02	125				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
CHI RIVER BASIN

Huai Pa Thao at Ban Na Fai, Chaiyaphum (E.6A)

Location: Lat 15° - 55' - 28" N., Long 102° - 02' - 18" E., on right bank about 2.5 kilometers east side from Chaiyaphum - Chum Phae Road at kilometer pole No. 12.300 and about 500 meters downstream from Ban Na Fai Weir, Amphoe Muang, Chaiyaphum.

Drainage Area: 498 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: Under bridge of Automatic building about 6 meters apart.
Elevation: +6.303 m. (A.D.)

Gage Reading Frequency: Recordings.

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

Period of Available Gage Records: 1967 to date

Rating Operation:

Period of Rating: 1967 - 71, 1973 to date
Rated by Float: -
Rated by Current Meter: 1967 - 71, 1973 to date

Stability of Channel Regimes: Unstable, shifting adjustment is included for flow computation.

Overbank Flow Conditions: No overbank flow.

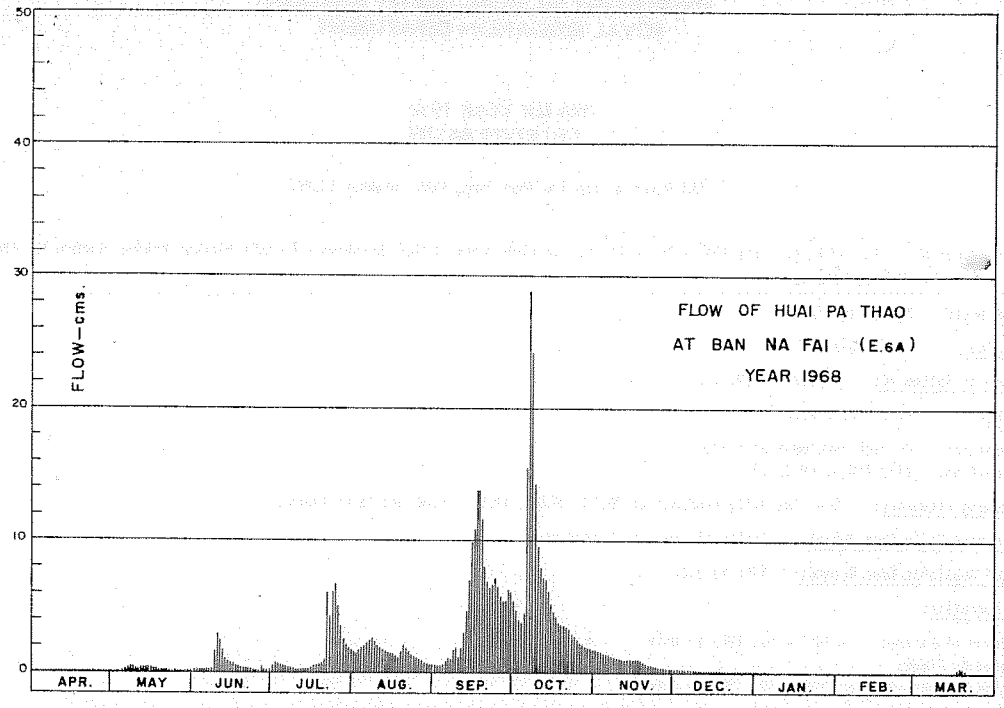
General Description: Records fair except those for drought period which are poor. Stage - discharge relationship used is defined by discharge measurements made during 1968. Flow regulated by Ban Na Fai Weir, about 500 meters upstream. No adjustment made for virgin flow.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	1.87	2.03	0.81	3.75	4.07	3.63	4.35	3.95	2.77	2.30	2.18	1.90
2	.86	.02	.77	.74	.04	.61	.31	.92	.73	.28	.16	.91
3	.86	.02	.69	.75	.09	.59	.28	.90	.73	.27	.14	.88
4	.83	.02	.66	.60	.27	.63	.27	.87	.72	.28	.13	.89
5	.85	.05	.67	.55	.31	.95	.30	.82	.68	.32	.13	.88
6	1.86	2.52	2.79	3.49	4.34	4.09	5.02	3.78	2.65	2.30	2.13	1.90
7	.84	.54	.82	.44	.38	.19	.45	.75	.63	.26	.08	.89
8	.84	.90	.87	.40	.42	.23	.22	.72	.60	.25	.12	.88
9	.82	.79	.88	.37	.35	.20	4.85	.70	.59	.23	.13	.88
10	.85	.60	3.70	.31	.27	.12	.74	.66	.59	.24	.12	.88
11	1.84	2.49	3.61	3.25	4.21	4.06	4.65	3.63	2.60	2.24	2.11	1.89
12	.84	.61	.37	.20	.18	.22	.61	.61	.59	.24	.11	.90
13	.84	.74	.12	.22	.15	.28	.60	.61	.55	.24	.09	.88
14	.87	.65	2.99	.17	.13	.41	.51	.60	.55	.22	.08	.92
15	.87	.74	.95	.33	.15	.61	.42	.57	.57	.20	.08	.95
16	1.84	2.66	2.87	3.45	4.11	4.67	4.39	3.55	2.52	2.18	2.09	2.40
17	.84	.58	.82	.50	.05	.80	.33	.52	.51	.17	.09	.52
18	.84	.49	.74	.54	.02	.77	.28	.48	.53	.23	.08	.86
19	.88	.43	.67	.68	.29	.53	.22	.25	.52	.24	.07	.64
20	.88	.40	.63	.80	.41	.44	.22	.06	.49	.17	.03	.67
21	1.87	2.34	2.61	3.81	4.31	4.41	4.23	2.97	2.48	2.17	1.98	2.33
22	.89	.34	.62	5.00	.22	.36	.18	.94	.50	.17	.96	.22
23	.90	.31	.59	4.70	.13	.40	.13	.92	.48	.15	.90	.14
24	.96	.25	.55	.92	.06	.44	.10	.92	.45	.14	.86	.03
25	2.03	.22	.53	.88	.03	.36	.09	.90	.40	.18	.87	.02
26	2.12	2.19	2.55	4.59	3.97	4.31	4.07	2.90	2.36	2.19	1.88	2.00
27	.12	.17	3.18	.36	.90	.27	.05	.90	.36	.21	.85	1.98
28	.09	.16	.60	.21	.81	.29	.02	.85	.35	.25	.88	.98
29	.05	.17	.60	.16	.75	.38	3.99	.83	.37	.27		.96
30	.03	.25	.64	.08	.72	.39	.97	.82	.34	.23		.93
31		.42		.06	.68		.96		.32	.20		.92
Mean	1.90	2.39	2.93	3.82	4.12	4.25	4.38	3.40	2.53	2.23	2.05	2.06
Max.	2.12	2.90	3.70	5.00	4.42	4.80	5.45	3.95	2.77	2.32	2.18	2.86
Min.	1.82	2.02	2.53	3.17	3.68	3.59	3.96	2.82	2.32	2.14	1.85	1.88

WATER YEAR 1968 : Max. 5.45 m. Min. 1.83 m.

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.003	0.04	0.36	0.83	1.53	0.56	5.21	1.82	0.39	0.09	0.09	0.03
2	0.002	0.04	0.29	0.78	1.43	0.54	4.49	1.73	0.36	0.09	0.09	0.03
3	0.002	0.04	0.22	0.75	1.45	0.52	3.94	1.67	0.36	0.08	0.08	0.02
4	0.000	0.04	0.17	0.57	1.99	0.56	3.87	1.58	0.36	0.09	0.08	0.02
5	0.008	0.05	0.17	0.50	2.14	0.89	4.10	1.45	0.33	0.10	0.08	0.02
6	0.009	0.30	0.23	0.46	2.25	1.13	16	1.35	0.31	0.11	0.08	0.03
7	0.007	0.31	0.25	0.42	2.44	0.94	29	1.29	0.29	0.10	0.07	0.02
8	0.007	0.59	0.28	0.39	2.63	1.67	21	1.23	0.28	0.09	0.08	0.02
9	0.005	0.50	0.29	0.37	2.30	1.95	12	1.19	0.27	0.09	0.08	0.02
10	0.008	0.36	3.05	0.33	1.99	1.13	9.48	1.11	0.27	0.09	0.08	0.02
11	0.007	0.28	2.59	0.29	1.79	1.95	7.95	1.05	0.23	0.09	0.08	0.02
12	0.007	0.36	1.67	0.26	1.70	3.05	7.35	1.02	0.22	0.09	0.08	0.03
13	0.007	0.46	1.09	0.27	1.61	3.94	7.20	1.02	0.20	0.09	0.07	0.02
14	0.01	0.39	0.88	0.24	1.55	6.06	6.06	1.00	0.20	0.08	0.07	0.03
15	0.01	0.46	0.80	0.34	1.40	10	5.11	1.00	0.21	0.08	0.07	0.02
16	0.007	0.40	0.68	0.43	1.31	11	4.82	1.02	0.19	0.07	0.07	0.16
17	0.007	0.34	0.60	0.46	1.40	14	4.33	1.03	0.18	0.07	0.07	0.22
18	0.007	0.28	0.50	0.50	1.13	14	3.94	1.03	0.19	0.09	0.07	0.44
19	0.01	0.25	0.43	0.62	1.79	8.76	3.53	0.78	0.19	0.09	0.07	0.29
20	0.01	0.18	0.37	0.74	2.21	7.35	3.53	0.62	0.17	0.07	0.06	0.19
21	0.01	0.20	0.33	0.75	1.85	6.90	3.60	0.55	0.17	0.07	0.05	0.13
22	0.01	0.20	0.32	6.06	1.58	6.30	3.26	0.52	0.18	0.07	0.05	0.09
23	0.01	0.18	0.28	3.46	1.35	6.78	2.99	0.50	0.17	0.07	0.03	0.07
24	0.03	0.15	0.24	6.06	1.21	7.35	2.84	0.50	0.15	0.08	0.02	0.04
25	0.04	0.14	0.21	6.78	1.15	6.30	2.78	0.49	0.13	0.09	0.02	0.04
26	0.06	0.13	0.16	4.72	1.03	5.70	2.25	0.49	0.12	0.10	0.02	0.04
27	0.06	0.12	0.49	3.74	0.92	5.31	2.18	0.49	0.12	0.10	0.02	0.03
28	0.05	0.12	0.09	2.63	0.81	5.50	2.06	0.45	0.11	0.12	0.02	0.03
29	0.05	0.12	0.08	2.25	0.67	6.54	1.95	0.43	0.12	0.13		0.03
30	0.04	0.13	0.08	1.82	0.64	6.06	1.88	0.43	0.11	0.11		0.02
31		0.17		1.67	0.60		1.85		0.10	0.10		0.02
Total	0.493	7.33	17.20	49.49	47.85	152.74	190.55	28.84	6.68	2.79	1.75	2.19
Mean	0.016	0.24	0.57	1.60	1.54	5.09	6.15	0.96	0.21	0.09	0.06	0.07
Max.	0.06	0.59	3.05	6.78	2.63	14	29	1.82	0.39	0.13	0.09	0.44
Min.	0.00	0.04	0.08	0.24	0.60	0.52	1.85	0.43	0.10	0.07	0.02	0.02
Runoff - MCM.	0.042	0.633	1.486	4.276	4.134	13.197	16.463	2.492	0.577	0.241	0.151	0.189

WATER YEAR 1968 : Max. 29 Min. 0.00 Mean 1.39 Annual Runoff 43.883 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Oct.7	13.00	5.50	33				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
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: 29,802 sq.km.

Type of Gage: Staff gage.

Zero Gage at Bottom at: +133.21 m. (M.S.L.)

Bench Mark: B.M. – H.S. No.6

Location: On right abutment of bridge.
Elevation: +147.910 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 – 57, 1965 to date
Rated by Float: –
Rated by Current Meter: 1955 – 57, 1965 to date

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

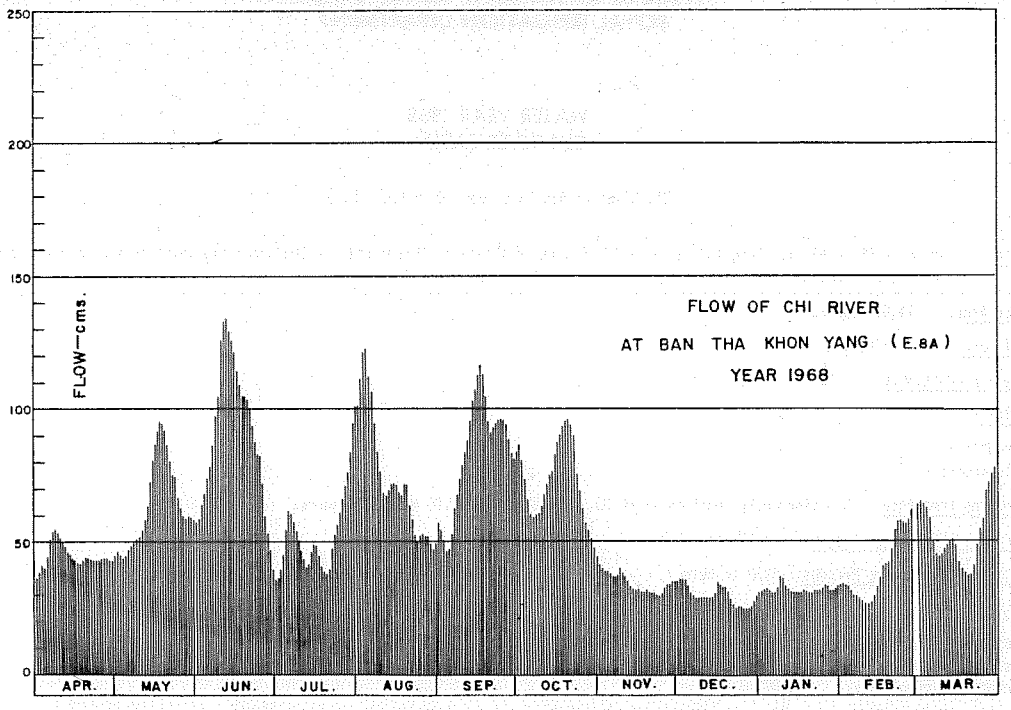
Overbank Flow Conditions: No overbank flow.

General Description: Records good. Stage – discharge relationship used is defined by discharge measurements made during 1968. Flow regulated by Ubonrat Dam at above gage site. No adjustment made for virgin flow.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	134.57	134.77	135.01	134.56	135.88	135.00	135.59	134.69	134.54	134.46	134.53	135.14
2	.65	.78	.07	.59	.87	134.93	.51	.67	.58	.47	.53	.16
3	.69	.76	.15	.68	136.25	.84	.37	.65	.58	.47	.53	.15
4	.75	.73	.24	.84	.27	.77	.25	.65	.55	.47	.50	.12
5	.81	.77	.36	135.07	.12	.81	.13	.63	.48	.46	.45	.07
6	134.89	134.81	135.45	135.10	136.06	134.91	135.05	134.61	134.42	134.46	134.43	134.92
7	.95	.85	.61	.03	135.82	135.10	.04	.60	.41	.46	.41	.80
8	.97	.86	.80	134.96	.62	.26	.07	.62	.40	.51	.39	.77
9	.94	.88	.98	.91	.44	.35	.09	.67	.40	.61	.36	.75
10	.91	.91	136.31	.83	.29	.44	.13	.62	.39	.55	.36	.79
11	134.86	134.95	136.45	134.74	135.20	135.54	135.22	134.57	134.39	134.49	134.36	134.82
12	.81	135.02	.46	.67	.21	.60	.30	.53	.41	.47	.36	.84
13	.78	.08	.39	.68	.27	.77	.36	.51	.41	.46	.38	.87
14	.76	.30	.31	.77	.30	.95	.38	.48	.41	.46	.44	.88
15	.73	.47	.23	.85	.30	136.02	.52	.47	.44	.45	.53	.83
16	134.72	135.61	136.14	134.84	135.28	136.14	135.62	134.47	134.54	134.44	134.61	134.73
17	.71	.71	.03	.77	.22	.17	.69	.46	.53	.46	.68	.69
18	.71	.76	135.95	.69	.20	.05	.74	.46	.51	.47	.71	.65
19	.74	.75	.96	.64	.31	135.84	.76	.47	.50	.44	.71	.62
20	.75	.66	.93	.63	.23	.72	.78	.46	.46	.44	.75	.61
21	134.74	135.54	135.87	134.63	135.12	135.67	135.75	134.45	134.37	134.44	134.90	134.62
22	.72	.43	.75	.77	134.98	.73	.66	.44	.32	.47	135.01	.69
23	.72	.35	.58	.88	.87	.77	.42	.43	.31	.47	.02	.83
24	.72	.36	.50	.96	.87	.79	.34	.43	.33	.48	.02	.95
25	.73	.17	.31	135.04	.91	.79	.21	.45	.32	.51	.01	135.00
26	134.75	135.10	135.10	135.15	134.92	135.77	135.09	134.50	134.31	134.52	135.00	135.08
27	.74	.05	.00	.25	.91	.70	.01	.52	.30	.49	.05	.27
28	.74	.04	134.90	.32	.90	.57	134.95	.53	.30	.47	.11	.33
29	.73	.06	.77	.46	.84	.49	.88	.56	.33	.47		.38
30	.73	.04	.61	.71	.81	.50	.83	.56	.38	.49		.43
31		.02		.89	.87		.76		.44	.52		.44
Mean	134.77	135.15	135.64	134.93	135.33	135.53	135.31	134.54	134.42	134.48	134.65	134.94
Max.	134.97	135.76	136.46	135.89	136.27	136.17	135.78	134.69	134.58	134.61	135.11	135.44
Min.	134.57	134.73	134.61	134.56	134.81	134.77	134.76	134.43	134.30	134.44	134.36	134.61

WATER YEAR 1968 : Max. 136.46 m. Min. 134.30 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	36	45	57	35	101	57	86	41	35	31	34	64
2	39	46	60	37	100	53	82	40	36	32	34	65
3	41	45	64	41	121	49	75	39	36	32	34	64
4	44	43	69	49	122	45	69	39	35	32	23	63
5	47	45	75	60	113	47	63	38	32	31	31	60
6	51	47	79	62	110	52	59	37	30	31	30	53
7	54	49	87	58	98	62	59	37	29	31	29	47
8	55	50	97	55	88	70	60	38	29	33	29	45
9	54	51	106	52	79	74	61	40	29	37	27	44
10	52	52	125	48	71	79	63	38	29	35	27	46
11	50	54	133	44	67	84	68	36	29	33	27	48
12	47	58	134	40	67	87	72	34	29	32	27	49
13	46	61	129	41	70	95	75	33	29	31	28	50
14	45	72	125	45	72	104	76	32	29	31	31	51
15	43	80	120	49	72	108	83	32	31	31	34	48
16	43	87	114	49	71	114	88	32	35	31	37	43
17	42	92	108	45	68	116	91	31	34	31	41	41
18	42	95	104	41	67	109	94	31	33	32	42	39
19	44	94	105	39	72	99	95	32	33	31	42	38
20	44	90	103	38	68	93	96	31	31	31	44	37
21	44	84	100	38	63	90	94	31	28	31	52	38
22	43	78	94	45	56	93	90	31	26	32	57	41
23	43	74	86	51	50	95	78	30	25	32	58	48
24	43	75	82	55	50	96	74	30	26	32	58	54
25	43	65	82	59	52	96	67	31	26	33	57	57
26	44	62	62	64	53	95	61	33	25	34	57	61
27	44	59	57	69	52	92	57	34	25	33	59	70
28	44	59	52	73	52	85	54	34	25	32	62	73
29	43	60	45	80	49	81	51	35	26	32		76
30	43	59	37	92	47	82	48	35	28	33		78
31		58		101	50		45		31	34		79
Total	1,353	1,989	2,691	1,655	2,271	2,502	2,234	1,035	924	997	1,121	1,670
Mean	45.1	64.1	89.7	53.4	73.2	83.4	72.1	34.5	29.8	32.2	40.0	53.9
Max.	55	95	134	101	122	116	96	41	36	37	62	79
Min.	36	43	37	35	47	45	45	30	25	31	27	37
Runoff - MCM.	116.900	171.850	232.502	142.992	196.214	216.173	193.018	89.424	79.834	86.141	96.854	144.288

WATER YEAR 1968 : Max. 134 Min. 25 Mean 56.0 Annual Runoff 1,766.189 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Jun.12	12.00	136.48	135				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
CHI RIVER BASIN

Chi River at Ban Nang Luan, Khon Kaen (E.9)

Location: Lat 16° - 05' - 49" N., Long 102° - 34' - 23" E., on left bank at Mancha Khiri - Chonnabot highway Bridge, about 6 kilometers from Amphoe Mancha Khiri at Ban 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: -

Location: -

Elevation: -

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

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

Period of Available Gage Records: 1958 to date

Rating Operation:

Period of Rating: 1967 to date

Rated by Float: -

Rated by Current Meter: 1967 to date

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

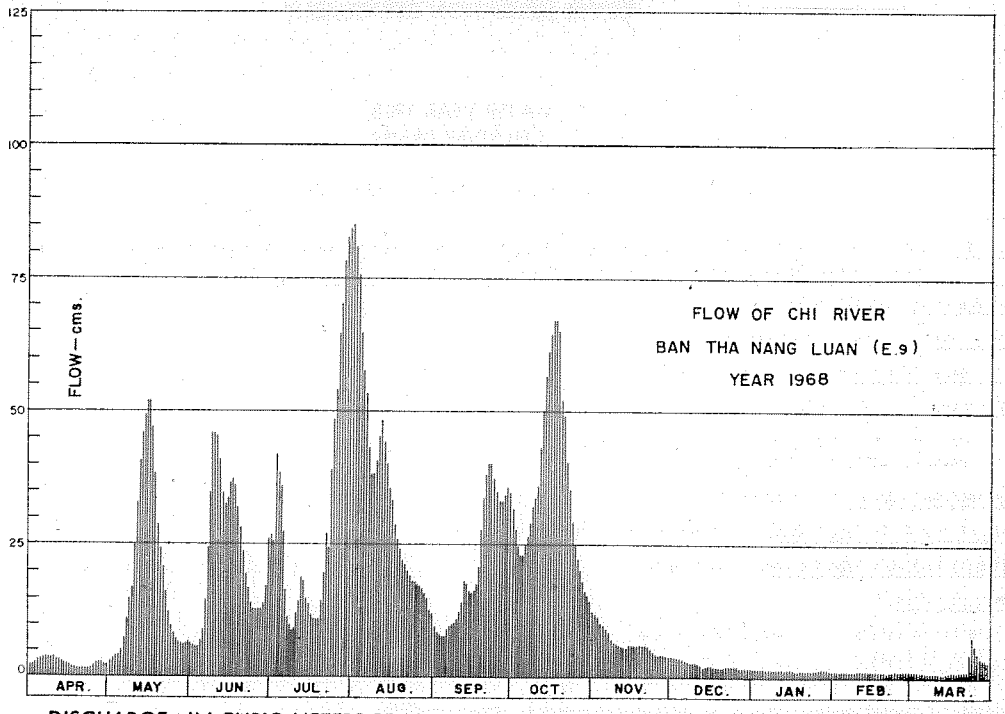
Overbank Flow Conditions: No overbank flow.

General Description: Records good. Stage - discharge relationship used is defined by discharge measurements made during 1968. No upstream state diversions for irrigation except those built by local residents. No adjustment made for virgin flow.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	1.37	1.47	1.85	3.23	5.95	2.20	3.51	2.32	1.62	1.31	1.25	1.23
2	.42	.57	.82	.12	.76	.08	.27	.30	.60	.31	.24	.23
3	.48	.66	.81	.98	.61	.02	.10	.25	.59	.31	.24	.22
4	.51	.66	.93	.85	.28	1.99	2.99	.20	.58	.30	.23	.20
5	.55	.71	2.10	.66	4.90	.98	3.00	.16	.56	1.30	.23	.18
6	1.59	1.88	2.47	2.49	4.49	2.07	3.10	2.09	1.52	1.30	1.23	1.18
7	.60	2.12	3.15	.27	.06	.15	.19	.02	.49	.30	.23	.18
8	.59	.44	.83	.15	3.80	.19	.30	1.95	.48	.30	.23	.18
9	.59	.61	4.19	.07	.77	.20	.46	.91	.46	.30	.23	.18
10	.59	.87	.20	.16	.90	.26	.58	.89	.45	.30	.23	.18
11	1.57	3.44	3.86	2.43	4.15	2.39	3.75	1.87	1.43	1.29	1.24	1.18
12	.52	.77	.70	.70	.29	.54	4.13	.84	.41	.29	.24	.17
13	.47	4.11	.57	.74	.15	.68	.45	.82	.33	.28	.24	.14
14	.44	.34	.50	.54	3.94	.63	.77	.82	.38	.28	.24	.16
15	.41	.46	.62	.44	.75	.61	.94	.86	.38	.27	.24	.20
16	1.38	4.47	3.74	2.32	3.59	2.61	5.06	1.86	1.39	1.26	1.24	1.20
17	.34	.21	.72	.26	.32	.62	.16	.85	.38	.25	.22	.19
18	.33	3.82	.57	.26	.21	.80	.18	.85	.37	.25	.21	.19
19	.31	.36	.35	.27	.05	3.13	4.99	.84	.34	.25	.20	.20
20	.30	.04	.10	.41	2.96	.56	.63	.84	.34	.25	.20	.21
21	1.30	2.85	2.85	2.83	2.90	3.79	4.31	1.84	1.34	1.26	1.18	1.24
22	.30	.59	.64	3.22	.82	.88	3.89	.82	.35	.26	.18	.26
23	.32	.35	.45	.54	.75	.88	.61	.77	.35	.26	.19	.75
24	.36	.17	.40	.90	.71	.71	.29	.72	.35	.25	.21	.99
25	.40	.05	.40	4.29	.68	.63	.09	.69	.35	.26	.23	.87
26	1.44	1.97	2.42	4.63	2.66	3.54	2.93	1.69	1.35	1.27	1.24	1.70
27	.45	.90	.42	.98	.62	.51	.81	.70	.34	.29	.23	.60
28	.43	.86	.46	5.29	.57	.58	.67	.67	.33	.28	.23	.57
29	.42	.85	.72	.60	.50	.69	.59	.65	.33	.26	-	.52
30	.41	.87	3.18	.84	.41	.62	.50	.62	.33	.25	-	.47
31	-	.90	-	.93	.32	-	.40	-	.33	.25	-	.43
Mean	1.44	2.66	2.97	3.33	3.64	2.85	3.67	1.89	1.41	1.28	1.22	1.33
Max.	1.60	4.47	4.20	5.93	5.95	3.88	5.18	2.32	1.62	1.31	1.25	1.99
Min.	1.30	1.47	1.81	2.07	2.32	1.98	2.40	1.62	1.33	1.25	1.18	1.14

WATER YEAR 1968 : Max. 5.95 m. Min. 1.14 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	2.12	2.79	6.00	27	85	10	33	12	3.84	1.76	1.40	1.28
2	2.44	3.49	5.64	25	81	8.75	28	12	3.70	1.76	1.34	1.28
3	2.86	4.12	5.52	42	77	8.04	25	11	3.63	1.76	1.34	1.22
4	3.07	4.12	6.96	39	70	7.68	23	10	3.56	1.76	1.28	1.10
5	3.35	4.50	9.00	36	61	7.56	23	9.75	3.42	1.70	1.28	0.99
6	3.63	6.36	14	15	52	8.64	25	8.88	3.14	1.70	1.28	0.99
7	3.70	9.25	26	11	44	9.62	26	8.04	2.93	1.70	1.28	0.99
8	3.63	14	39	9.62	38	10	28	7.20	2.86	1.70	1.28	0.99
9	3.63	16	46	8.64	38	10	32	6.72	2.72	1.70	1.28	0.99
10	3.63	21	45	9.75	40	11	34	6.48	2.65	1.70	1.28	0.99
11	3.49	31	40	14	45	13	37	6.24	2.51	1.64	1.34	0.99
12	3.14	38	36	18	48	15	45	5.88	2.37	1.64	1.34	0.92
13	2.79	45	34	19	45	18	51	5.62	1.88	1.58	1.34	0.74
14	2.58	49	32	15	41	17	58	5.64	2.18	1.58	1.34	0.86
15	2.37	52	35	14	37	16	62	6.12	2.18	1.52	1.34	1.10
16	2.18	52	37	12	34	16	65	6.12	2.24	1.46	1.34	1.10
17	1.94	47	37	11	29	17	67	6.00	2.18	1.40	1.22	1.05
18	1.88	39	34	11	27	20	67	6.00	2.12	1.40	1.16	1.05
19	1.76	30	29	11	24	25	63	5.88	1.94	1.40	1.10	1.10
20	1.70	24	25	13	22	34	49	5.88	1.94	1.40	1.10	1.16
21	1.70	21	21	20	21	38	49	5.88	1.94	1.46	0.99	1.34
22	1.70	16	17	27	20	40	40	5.64	2.00	1.46	0.99	1.46
23	1.82	12	14	23	19	40	35	5.10	2.00	1.46	1.05	4.90
24	2.06	9.87	13	40	18	37	28	4.60	2.00	1.40	1.16	7.68
25	2.30	8.40	13	48	18	35	25	4.33	2.00	1.46	1.23	6.24
26	2.58	7.44	13	55	17	33	22	4.33	2.00	1.52	1.34	4.40
27	2.65	6.60	13	63	17	33	20	4.40	1.94	1.64	1.28	3.70
28	2.51	6.12	14	70	16	34	17	4.19	1.88	1.58	1.28	3.49
29	2.44	6.00	18	77	15	36	16	4.05	1.88	1.46	–	3.14
30	2.37	6.24	26	82	13	35	15	3.84	1.88	1.40	–	2.79
31	–	6.60	–	84	12	–	13	–	1.88	1.40	–	2.51
Total	78.02	598.90	705.12	950.01	1,124	643.30	1,121	197.81	75.39	48.50	34.98	62.54
Mean	2.60	19.3	23.5	30.6	36.3	21.4	36.2	6.59	2.43	1.56	1.25	2.02
Max.	3.70	52	46	84	85	40	67	12	3.84	1.76	1.40	7.68
Min.	1.70	2.79	5.52	8.64	12	7.56	13	3.84	1.88	1.40	0.99	0.74
Runoff – mcm.	6.741	51.745	60.922	82.080	97.114	55.581	96.854	17.091	6.514	4.190	3.022	5.403

WATER YEAR 1968 : Max. 85 Min. 0.74 Mean 15.4 Annual Runoff 487.259 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Aug.1,68	01.00	5.98	85				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
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 bridge on Khon Kaen - Maha Sarakham highway, Tambon Don Han, 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: On left bank near abutment of bridge.
Elevation: +154.989 m. (M.S.L.)

Gage Reading Frequency: Recording.

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

Period of Available Gage Records: 1954 to date

Rating Operation:

Period of Rating: 1963, 1965 to date
Rated by Float: -
Rated by Current Meter: 1963, 1965 to date

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

Overbank Flow Conditions: No overbank flow.

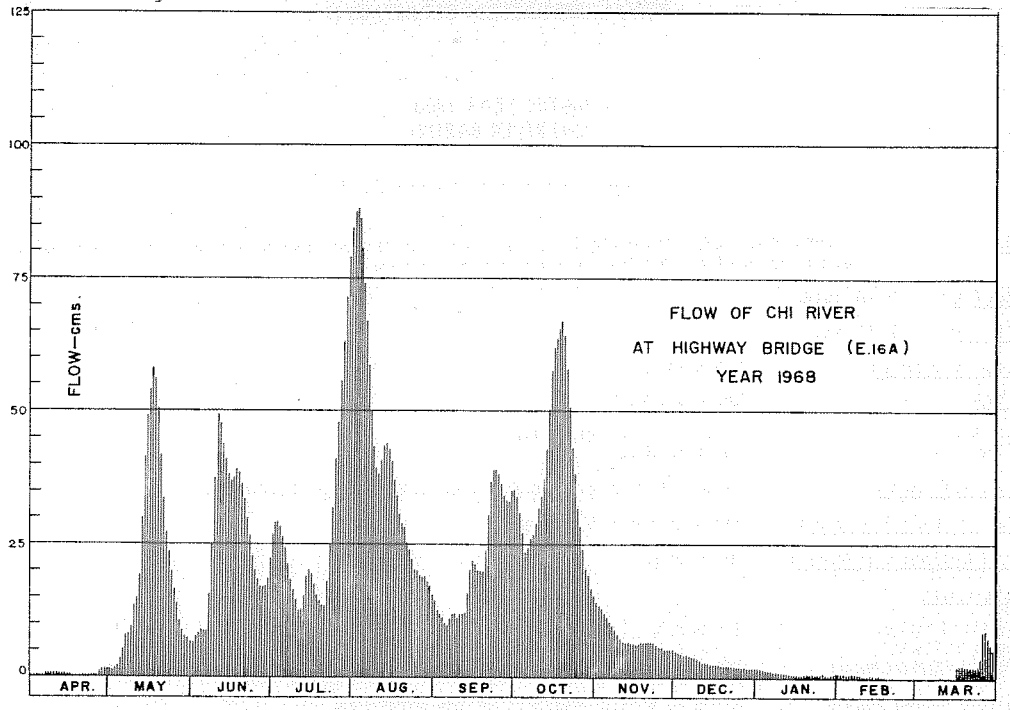
General Description: Records good. Stage - discharge relationship used is defined by discharge measurements made during 1968. No upstream state diversions for irrigation except those built by local residents. No adjustment made for virgin flow.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	142.88	143.04	143.41	144.26	145.86	143.77	144.53	143.77	143.31	143.06	142.97	142.78
2	.88	.04	.47	.35	.90	.71	.46	.73	.30	.06	.96	.78
3	.89	.08	.51	.35	.90	.70	.35	.72	.28	.04	.95	.78
4	.89	.13	.54	.30	.79	.66	.23	.69	.27	.03	.95	.78
5	.91	.27	.53	.24	.59	.59	.15	.65	.27	.03	.95	.77
6	142.98	143.38	143.53	144.16	145.36	143.59	144.18	143.62	143.25	143.02	142.95	142.77
7	.98	.50	.74	.06	.12	.68	.25	.58	.24	.01	.94	.76
8	.98	.51	144.12	143.95	144.89	.68	.29	.54	.23	.01	.93	.75
9	.99	.61	.45	.85	.72	.65	.34	.50	.22	142.99	.92	.74
10	.97	.78	.80	.76	.65	.67	.44	.46	.20	.99	.91	.73
11	142.96	143.83	144.95	143.69	144.67	143.67	144.50	143.43	143.18	142.98	142.91	142.72
12	.95	144.00	.88	.72	.75	.69	.59	.42	.17	.98	.92	.74
13	.94	.40	.78	.87	.81	.87	.77	.42	.17	.97	.92	.72
14	.93	.75	.68	144.00	.81	144.03	145.01	.41	.16	.96	.92	.71
15	.93	.97	.61	.04	.75	.10	.16	.40	.16	.95	.92	.73
16	142.91	145.11	144.60	143.99	144.64	144.07	145.27	143.39	143.15	142.94	142.91	143.10
17	.89	.17	.65	.91	.52	.02	.34	.41	.14	.94	.89	.13
18	.88	.11	.67	.82	.42	.01	.39	.42	.14	.93	.87	.10
19	.88	144.90	.64	.77	.34	.02	.40	.42	.14	.93	.85	.10
20	.89	.61	.55	.75	.30	.19	.32	.42	.13	.98	.84	.09
21	142.89	144.40	144.43	143.80	144.23	144.44	145.18	143.42	143.13	142.96	142.83	143.08
22	.90	.25	.31	144.00	.16	.61	144.98	.42	.12	.95	.82	.07
23	.90	.13	.18	.25	.09	.68	.76	.40	.12	.94	.82	.08
24	.90	.00	.05	.49	.04	.67	.56	.38	.11	.93	.81	.10
25	.91	143.87	143.97	.71	.01	.63	.39	.37	.10	.95	.80	.25
26	142.92	143.74	143.92	144.02	144.00	144.56	144.26	143.36	143.10	142.95	142.80	143.52
27	143.04	.61	.91	145.12	143.99	.50	.14	.33	.10	.92	.79	.52
28	.05	.53	.91	.29	.98	.47	.03	.33	.09	.92	.78	.44
29	.05	.49	.92	.44	.94	.49	143.95	.33	.09	.95	-	.37
30	.05	.46	144.06	.63	.90	.53	.88	.32	.08	.98	-	.32
31	-	.43	-	.77	.83	-	.82	-	.08	.99	-	.25
Mean	142.94	143.94	144.15	144.30	144.64	144.06	144.58	143.47	143.17	142.97	142.89	142.99
Max.	143.05	145.17	144.95	145.77	145.90	144.68	145.40	143.77	143.31	143.06	142.97	143.52
Min.	142.88	143.04	143.41	143.69	143.83	143.59	143.82	143.32	143.08	142.92	142.78	142.71

WATER YEAR 1968 : Max. 145.92 m. Min. 142.71 m.

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31,1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.24	1.40	6.48	27	86	14	35	14	4.86	1.60	0.79	0.00
2	0.24	1.40	7.56	29	88	12	33	13	4.70	1.60	0.72	
3	0.27	1.80	8.30	29	88	12	29	13	4.40	1.40	0.65	
4	0.27	2.36	8.90	28	83	11	26	12	4.25	1.30	0.65	
5	0.37	4.25	8.70	26	75	9.90	23	11	4.25	1.30	0.65	
6	0.86	5.98	8.70	24	65	9.90	24	10	3.95	1.20	0.65	
7	0.86	8.10	13	21	56	12	26	9.70	3.80	1.10	0.58	
8	0.86	8.30	23	18	47	12	27	8.90	3.65	1.10	0.51	
9	0.93	10	32	16	41	11	29	8.10	3.50	0.93	0.44	
10	0.79	14	44	14	38	12	32	7.38	3.20	0.93	0.37	
11	0.72	15	49	12	39	12	34	6.84	2.96	0.86	0.37	
12	0.65	19	46	13	42	12	37	6.66	2.84	0.86	0.44	
13	0.58	31	43	16	44	16	42	6.66	2.84	0.79	0.44	
14	0.51	42	39	19	44	20	51	6.48	2.72	0.72	0.44	
15	0.51	50	37	20	42	22	57	6.30	2.72	0.65	0.44	0.00
16	0.37	55	37	19	38	21	62	6.14	2.60	0.58	0.37	2.00
17	0.27	58	38	17	34	20	64	6.48	2.48	0.58	0.27	2.36
18	0.24	55	39	15	31	20	66	6.66	2.48	0.51	0.21	2.00
19	0.24	47	38	14	29	20	67	6.66	2.48	0.51	0.15	2.00
20	0.27	37	35	13	28	24	64	6.66	2.36	0.86	0.12	1.90
21	0.27	31	32	14	25	32	58	6.66	2.36	0.72	0.09	1.80
22	0.30	26	28	19	24	37	50	6.66	2.24	0.65	0.06	1.70
23	0.30	23	24	26	22	39	42	6.30	2.24	0.58	0.06	1.80
24	0.30	19	21	33	20	39	36	5.98	2.12	0.51	0.03	2.00
25	0.37	16	19	40	20	38	30	5.82	2.00	0.65	0.00	3.95
26	0.44	13	17	48	19	36	27	5.66	2.00	0.65	0.00	8.50
27	1.40	10	17	56	19	34	23	5.18	2.00	0.44	0.00	8.50
28	1.50	8.70	17	62	19	33	20	5.18	1.90	0.44	0.00	7.02
29	1.50	7.92	17	68	18	33	18	5.18	1.90	0.65	–	5.82
30	1.50	7.38	21	76	17	35	16	5.02	1.80	0.86	–	5.02
31	–	6.84	–	82	15	–	15	–	1.80	0.93	–	3.95
Total	17.93	635.43	774.64	914	1,256	658.80	1,163	230.26	89.40	26.46	9.50	60.32
Mean	0.60	20.50	25.8	29.5	40.5	22.0	37.5	7.67	2.88	0.85	0.339	1.94
Max.	1.50	58	49	82	88	39	67	14	4.86	1.60	0.79	8.50
Min.	0.24	1.40	6.48	12	15	9.90	15	5.02	1.80	0.44	0.00	0.00
Runoff – MCM.	1.549	54.901	66.929	78.970	108.518	56.920	100.483	19.894	7.724	2.286	0.821	5.212

No Flow

WATER YEAR 1968 : Max. 88 Min. 0.00 Mean 16.0 Annual Runoff 504.208 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Aug.3,68	03.00	145.92	88				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
CHI RIVER BASIN

Nam Phong at Ban Tha Hin, Khon Kaen (E. 17)

Location: Lat. 16°-26'-20" N., Long. 102°-56'-52" E., on left bank about 20 meters downstream from bridge on Khon Kaen – Yang Talat road, opposite to Wat Tha Hin, Amphoe Muang, Khon Kaen.

Drainage Area: 14,426 sq.km.

Type of Gage: Staff gage.

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

Bench Mark: B.M. – H.S. No. 2

Location: on right bank near gage site.
Elevation: +10.990 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: 1954 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.

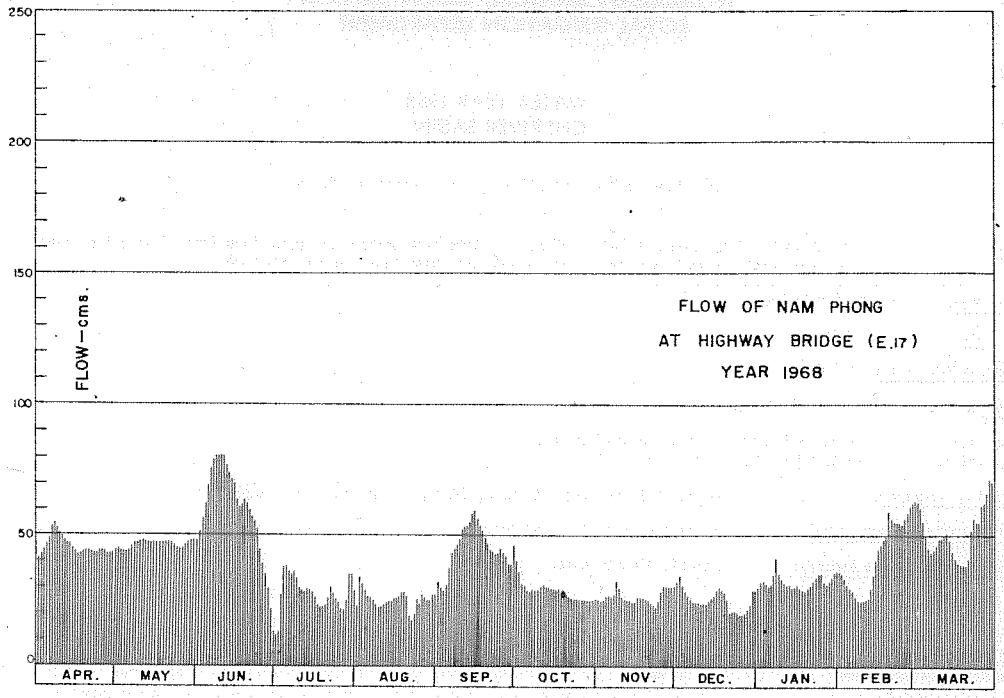
Overbank Flow Conditions: No overbank flow.

General Description: Records good. Stage-discharge relationship used is defined by discharge measurements made during 1968. Flow regulated by Ubonrat Dam at above gage site. No adjustment made for virgin flow.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	2.72	2.86	2.98	1.44	1.89	2.42	2.67	2.11	2.41	2.34	2.54	3.45
2	.78	.84	3.12	.56	2.49	.32	.47	.10	.49	.40	.53	.42
3	.84	.82	.32	2.19	.37	.25	.38	.13	.33	.39	.43	.37
4	.90	.82	.45	.57	.27	.32	.32	.19	.23	.35	.34	.19
5	.97	.82	.64	.63	.18	.44	.26	.19	.16	.34	.31	2.99
6	3.14	2.86	3.85	2.53	2.15	2.76	2.25	2.16	2.12	2.35	2.27	2.82
7	.19	.91	.93	.53	.11	.85	.27	.20	.10	.49	.17	.81
8	.11	.94	.96	.54	.09	.91	.26	.40	.10	.74	.13	.86
9	.05	.93	.97	.44	.01	.96	.27	.26	.10	.53	.11	.94
10	.01	.93	.96	.29	1.98	3.09	.32	.18	.10	.43	.13	.99
11	2.97	2.95	3.91	2.24	2.04	3.14	2.35	2.14	2.10	2.38	2.15	3.01
12	.94	.94	.82	.25	.10	.12	.33	.11	.10	.37	.18	.07
13	.93	.93	.72	.28	.11	.20	.31	.10	.14	.35	.38	.08
14	.81	.92	.68	.30	.08	.29	.30	.08	.18	.34	.58	2.94
15	.78	.94	.64	.26	.17	.34	.29	.09	.24	.34	.75	.78
16	2.77	2.92	3.43	2.13	2.15	3.24	2.28	2.16	2.29	2.36	2.86	2.72
17	.80	.92	.36	1.99	.16	.12	.28	.18	.33	.34	.91	.67
18	.83	.94	.41	.98	.26	.04	.26	.16	.27	.29	.97	.66
19	.84	.94	.44	2.00	.26	2.96	.22	.14	.20	.29	3.00	.66
20	.83	.92	.40	.02	.13	.87	.22	.12	1.96	.34	.34	.66
21	2.81	2.92	3.34	2.17	1.87	2.81	2.18	2.08	1.89	2.38	3.22	2.80
22	.80	.92	.21	.28	.75	.74	.13	1.99	.93	.39	.20	3.10
23	.80	.90	.19	.22	.86	.74	.13	2.03	.95	.44	.20	.25
24	.82	.86	.01	.13	2.13	.79	.12	.17	.92	.50	.19	.19
25	.84	.86	2.69	.07	.02	.84	.12	.31	.90	.50	.17	.21
26	2.81	2.86	2.57	1.97	2.19	2.79	2.14	2.34	1.90	2.41	3.26	3.43
27	.79	.89	.44	.93	.15	.68	.14	.34	.94	.38	.35	.44
28	.78	.93	.29	.97	.13	.62	.13	.33	2.00	.39	.43	.59
29	.80	.96	1.93	2.50	.14	.67	.12	.33	.11	.46		.71
30	.84	.96	.49	.51	.22	.90	.11	.33	.27	.51		.66
31		.95		.17	.58		.11		.30	.54		.66
Mean	2.88	2.90	3.27	2.20	2.13	2.84	2.25	2.18	2.13	2.41	2.72	3.10
Max.	3.19	2.96	3.97	2.63	2.58	3.34	2.67	2.40	2.49	2.74	3.43	3.71
Min.	2.72	2.82	1.49	1.44	1.75	2.25	2.11	1.99	1.89	2.29	2.11	2.66

WATER YEAR 1968 : Max. 3.97 m. Min. 1.44 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	41	45	48	11	20	32	39	25	32	30	36	63
2	43	44	53	13	34	30	34	24	34	32	35	62
3	44	44	59	27	31	28	31	25	30	32	33	60
4	46	44	63	37	29	30	30	27	28	31	30	55
5	48	44	69	38	26	33	28	27	28	30	30	49
6	53	45	76	35	26	42	28	26	25	31	29	44
7	55	46	79	35	25	45	29	27	24	34	26	44
8	52	47	80	36	24	46	28	32	24	41	25	45
9	51	47	80	33	22	48	29	28	24	35	25	47
10	49	47	80	29	22	52	30	26	24	33	25	49
11	48	48	78	28	23	53	31	25	24	31	26	49
12	47	47	75	28	24	53	30	25	24	31	26	51
13	47	47	72	29	25	55	30	24	25	31	31	51
14	44	47	70	29	24	58	29	24	26	30	37	47
15	43	47	69	28	26	59	29	24	28	30	42	43
16	42	47	62	25	26	56	29	26	29	31	45	41
17	43	47	60	22	26	53	29	26	30	30	46	39
18	44	47	62	22	28	50	28	26	29	29	48	39
19	44	47	63	22	28	48	27	25	27	29	49	39
20	44	47	61	23	25	45	27	25	21	30	59	39
21	44	47	59	26	19	44	26	24	20	31	56	43
22	43	47	55	29	17	42	25	22	21	32	55	52
23	43	46	55	27	19	42	25	23	21	33	55	57
24	44	45	49	25	25	43	25	26	20	35	55	55
25	44	45	40	24	23	44	25	30	20	35	54	55
26	44	45	37	22	27	43	25	30	20	32	57	62
27	43	46	33	21	26	40	25	30	21	31	60	63
28	43	47	29	22	25	38	25	30	22	32	62	67
29	43	48	21	35	25	39	25	30	25	33		71
30	44	48	12	35	27	46	25	30	29	35		70
31		48		26	37		25		29	36		70
Total	1,363	1,436	1,749	842	784	1,337	871	792	782	996	1,157	1,621
Mean	45.4	46.3	58.3	27.2	25.3	44.7	28.1	26.4	25.2	32.1	41.3	52.3
Max.	55	48	80	38	37	59	39	32	34	41	62	71
Min.	41	44	12	11	17	28	25	22	20	29	25	39
Runoff - RCM.	117.763	124.070	151.114	72.749	67.738	115.517	75.254	68.429	67.565	86.054	99.965	140.054

WATER YEAR 1968 : Max. 80 Min. 11 Mean 37.6 Annual Runoff 1,186.272 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Jun.9	24.00	3.98	80				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
CHI RIVER BASIN

Chi River at Maha Chana Chai, Ubon Ratchathani (E. 20)

Location: Lat. 15°-31'-49" N., Long. 104°-15'-07" E., on right bank infront of Amphoe Maha Chana Chai office near Maha Chana Chai – Kham Khuan Kaeo road, Amphoe Maha Chana Chai, Ubon Ratchathani.

Drainage Area: 47,818 sq.km.

Type of Gage: Staff gage

Zero Gage at Bottom at: +112.00 m. (M.S.L.)

Bench Mark: B.M. of Thai Army Survey Department.

Location: infront of Amphoe Maha Chana Chai office.
Elevation: +131.297 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: 1955-61, 1968 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 for year without actual ratings.

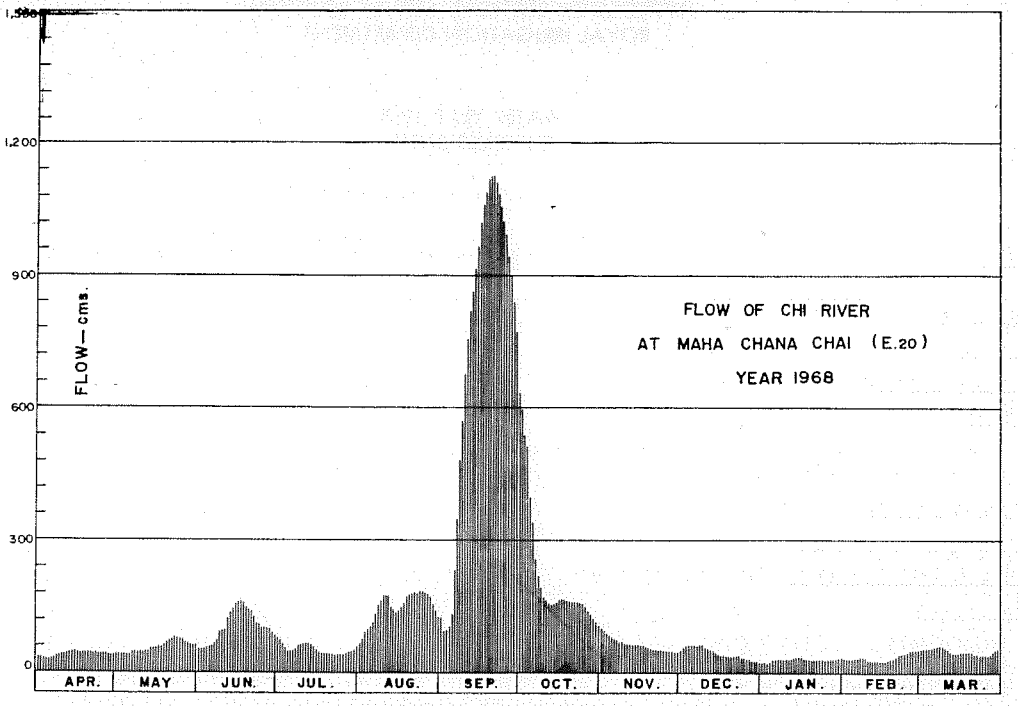
Overbank Flow Conditions: No overbank flow.

General Description: Records fair. Stage-discharge relationship used is defined by discharge measurements made during 1972-73. No upstream state diversions for irrigation except those built by local residents. No adjustment made for virgin flow.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	115.00	115.12	115.30	115.69	115.45	116.27	120.32	115.94	115.27	114.80	114.95	115.29
2	114.98	.14	.30	.62	.57	115.92	119.95	.89	.38	.79	.93	.29
3	.94	.10	.31	.53	.81	.90	.55	.80	.40	.79	.92	.29
4	.90	.10	.34	.34	.89	.95	.07	.76	.44	.82	.94	.31
5	.90	.10	.36	.25	.96	116.15	118.57	.71	.44	.86	.96	.34
6	114.93	115.12	115.39	115.24	116.06	116.70	118.10	115.64	115.44	114.89	114.97	115.37
7	.97	.17	.49	.25	.30	118.30	117.70	.59	.44	.90	.97	.38
8	115.01	.20	.57	.32	.54	119.08	.26	.57	.46	.91	.96	.40
9	.06	.18	.84	.43	.66	.82	116.95	.54	.46	.92	.95	.39
10	.11	.18	.87	.48	.75	120.35	.75	.49	.38	.93	.94	.34
11	115.15	115.18	115.92	115.51	116.79	120.71	116.68	115.47	115.34	114.93	114.88	115.26
12	.19	.18	116.20	.50	.73	.91	.60	.46	.30	.94	.84	.19
13	.21	.18	.33	.49	.58	121.06	.59	.46	.28	.98	.82	.15
14	.21	.21	.47	.43	.45	.20	.59	.45	.22	115.00	.81	.14
15	.21	.25	.58	.36	.35	.33	.64	.45	.11	.01	.80	.16
16	115.19	115.26	116.64	115.26	116.41	121.45	116.69	115.45	115.06	115.00	114.80	115.17
17	.17	.29	.66	.19	.51	.56	.70	.45	.06	114.96	.80	.18
18	.17	.33	.63	.15	.62	.63	.70	.38	.05	.94	.80	.19
19	.18	.42	.53	.15	.74	.70	.68	.33	.05	.93	.84	.20
20	.19	.52	.48	.15	.79	.71	.67	.31	.08	.93	.92	.16
21	115.17	115.60	116.41	115.15	116.82	121.72	116.66	115.31	115.09	114.93	115.00	115.09
22	.17	.63	.27	.12	.86	.68	.66	.30	.08	.93	.05	.08
23	.17	.70	.18	.09	.83	.62	.65	.29	.04	.93	.10	.07
24	.17	.69	.16	.09	.89	.54	.63	.28	.02	.93	.14	.06
25	.17	.64	.09	.09	.87	.45	.58	.27	114.99	.93	.18	.05
26	115.17	115.60	116.03	115.11	116.82	121.34	116.51	115.26	114.94	114.91	115.22	115.05
27	.17	.55	115.99	.16	.82	.25	.42	.25	.88	.91	.26	.09
28	.10	.49	.96	.18	.78	.10	.32	.24	.84	.93	.29	.16
29	.08	.46	.89	.25	.62	120.90	.22	.23	.84	.95	–	.24
30	.08	.41	.78	.29	.45	.62	.12	.24	.85	.97	–	.29
31	–	.47	–	.36	.25	–	.02	–	.81	.98	–	.33
Mean	115.10	115.33	115.99	115.26	116.48	120.03	117.14	115.46	115.16	114.91	114.96	116.21
Max.	115.21	115.70	116.66	115.69	116.89	121.72	120.32	115.94	115.46	115.01	115.29	115.40
Min.	114.90	115.10	115.30	115.09	115.45	115.90	116.02	115.23	114.81	114.79	114.80	115.05

WATER YEAR 1968 : Max. 121.72 m. Min. 114.79 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	35	42	53	80	63	126	666	99	51	25	32	52
2	34	43	53	75	72	98	590	95	59	24	31	52
3	32	41	54	69	89	90	521	88	60	24	31	52
4	30	41	56	56	95	100	448	85	63	26	32	54
5	30	41	57	50	101	116	378	82	63	28	33	56
6	31	42	59	49	109	166	318	77	63	29	33	58
7	33	45	66	50	129	342	270	73	63	30	33	59
8	36	47	72	54	151	449	222	72	64	30	33	60
9	39	46	91	62	162	567	191	70	64	31	32	59
10	42	46	94	66	171	673	171	66	59	31	32	56
11	44	46	98	68	175	759	164	65	56	31	29	51
12	46	46	120	67	169	817	156	64	53	32	27	46
13	48	46	132	66	154	865	155	64	52	34	26	44
14	48	48	144	62	142	912	155	63	48	35	25	43
15	48	50	154	57	133	959	160	63	43	36	25	45
16	46	51	160	51	139	1,006	165	63	39	35	25	45
17	45	52	162	46	148	1,050	166	63	39	33	25	46
18	45	55	159	44	158	1,079	166	59	38	32	25	46
19	46	61	150	44	170	1,108	164	55	38	31	27	47
20	46	68	145	44	175	1,112	163	54	40	31	31	45
21	45	74	139	44	178	1,116	162	54	40	31	35	40
22	45	76	126	42	182	1,100	162	53	40	31	38	40
23	45	81	118	40	179	1,074	161	52	37	31	41	39
24	45	80	117	40	185	1,042	159	52	36	31	43	39
25	45	77	111	40	183	1,006	154	51	34	31	46	38
26	45	74	106	42	178	963	148	51	32	30	48	38
27	45	70	103	45	178	930	140	50	29	30	51	40
28	41	66	101	46	174	878	131	49	27	31	52	45
29	40	64	95	50	158	814	122	49	27	32	–	49
30	40	61	87	52	142	735	114	49	26	33	–	52
31	–	65	–	57	124	–	106	–	25	34	–	55
Total	1,240	1,745	3,182	1,658	4,566	22,052	6,948	1,930	1,408	953	941	1,491
Mean	41.3	56.3	106	53.5	147	735	224.12	64.33	45.41	30.74	33.60	48.06
Max.	48	81	162	80	185	1,116	666	99	64	36	52	60
Min.	30	41	53	40	63	90	106	49	25	24	25	38
Runoff – MCM.	107.136	150.768	274.925	143.251	394.502	1,905.293	600.307	166.752	121.651	82.339	81.302	128.822

WATER YEAR 1968 : Max. 1,116 Min. 24 Mean 131.8 Annual Runoff 4,157.050 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Oct. 21, 68	06.00	121.72	1,116				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
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 bridge at Ban Kaeng Ko, Amphoe Muang, Chaiyaphum.

Drainage Area: 6,912 sq.km.

Type of Gage: Water – stage recorder.

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

Bench Mark: B.M. – H.S. E.21

Location: About 0.50 meter infront of bridge of Automatic Building.
Elevation: +9.433 m. (A.D.)

Gage Reading Frequency: Recording.

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

Period of Available Gage Records: 1955 – 57, 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.

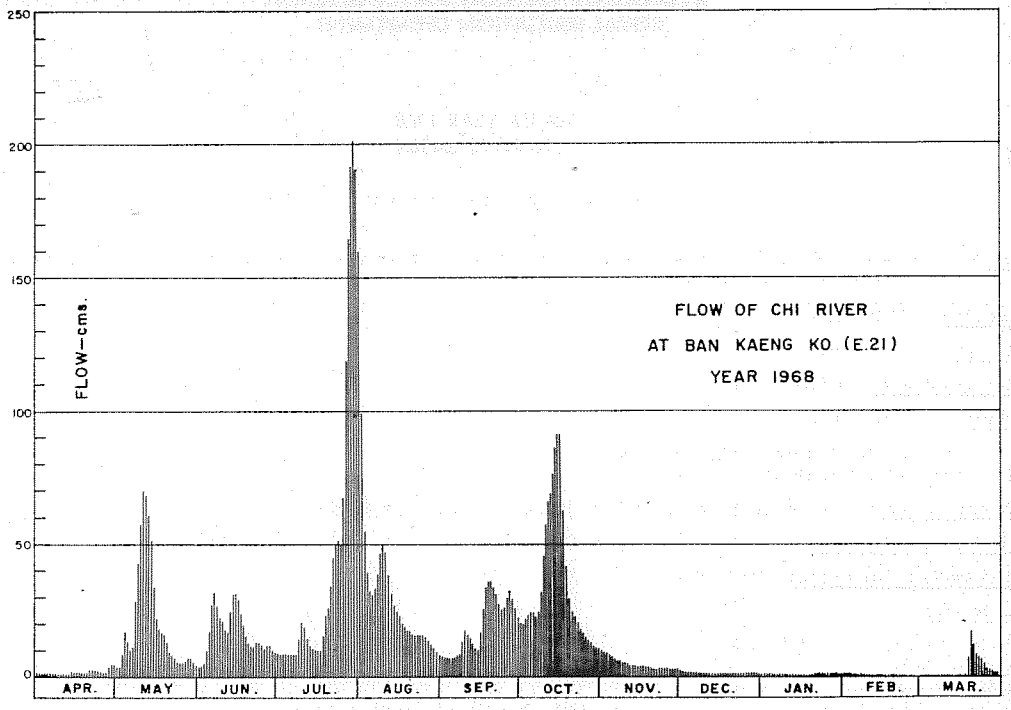
General Description: Records good. Stage – discharge relationship used is defined by discharge measurements made during 1968. No upstream state diversions for irrigation except those built by local resident. No adjustment made for virgin flow.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	1.23	1.37	1.40	1.57	3.37	1.54	1.86	1.60	1.33	1.25	1.27	1.19
2	.24	.38	.40	.56	2.90	.52	.85	.59	.33	.25	.26	.19
3	.24	.51	.42	.56	.47	.52	.86	.57	.32	.25	.27	.18
4	.23	.77	.60	.56	.19	.51	.90	.56	.31	.23	.26	.17
5	.22	.71	.77	.56	.08	.50	.92	.52	.30	.23	.24	.17
6	1.22	1.58	1.99	1.54	2.04	1.52	1.94	1.50	1.30	1.22	1.21	1.17
7	.22	.63	2.08	.54	.11	.54	.91	.49	.30	.22	.21	.17
8	.21	2.02	1.97	.56	.23	.54	.88	.47	.29	.22	.21	.17
9	.20	.25	.89	.73	.34	.66	.98	.46	.29	.22	.20	.17
10	.20	.49	.86	.86	.37	.79	2.24	.46	.29	.20	.20	.17
11	1.20	2.66	1.79	1.80	2.30	1.77	2.47	1.44	1.29	1.20	1.20	1.17
12	.20	.64	.78	.71	.17	.73	.61	.42	.29	.20	.20	.17
13	.23	.52	.95	.65	.07	.67	.66	.43	.28	.20	.20	.17
14	.30	.38	2.07	.62	.00	.63	.78	.42	.28	.20	.20	.17
15	.30	.08	.07	.61	1.95	.60	.90	.42	.27	.20	.20	.18
16	1.30	1.89	2.01	1.61	1.90	1.71	2.90	1.42	1.27	1.20	1.20	1.17
17	.29	.81	1.92	.60	.85	.95	.70	.41	.27	.20	.20	.17
18	.28	.78	.82	.71	.82	2.11	.38	.40	.28	.19	.20	.18
19	.28	.74	.73	.90	.81	.15	.13	.40	.28	.20	.19	.47
20	.31	.67	.67	.93	.78	.15	.01	.39	.28	.21	.19	.78
21	1.35	1.59	1.62	2.02	1.76	2.11	1.94	1.39	1.28	1.25	1.19	1.66
22	.34	.54	.62	.29	.74	.04	.90	.37	.27	.26	.19	.54
23	.33	.50	.68	.39	.74	1.99	.86	.39	.28	.25	.19	.51
24	.30	.46	.68	.40	.76	.95	.81	.39	.26	.25	.19	.47
25	.28	.46	.65	.34	.75	.97	.77	.38	.26	.26	.19	.40
26	1.29	1.45	1.60	2.62	1.73	2.05	1.73	1.38	1.26	1.26	1.19	1.36
27	.29	.46	.66	3.14	.70	.10	.70	.38	.26	.27	.19	.34
28	.39	.51	.64	.60	.66	.07	.68	.37	.25	.27	.19	.31
29	.43	.50	.59	.81	.62	1.99	.65	.36	.25	.26		.29
30	.43	.46	.58	.89	.59	.92	.63	.35	.25	.25		.28
31		.42		.78	.56		.62		.25	.24		.26
Mean	1.28	1.78	1.75	2.11	2.01	1.81	2.07	1.44	1.28	1.23	1.21	1.28
Max.	1.43	2.66	2.08	3.89	3.37	2.15	2.90	1.60	1.33	1.27	1.27	1.78
Min.	1.20	1.37	1.40	1.54	1.56	1.50	1.62	1.35	1.25	1.19	1.19	1.17

WATER YEAR 1968 : Max. 3.89 m. Min. 1.17 m.

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	1.30	3.40	4.00	9.10	139	8.20	21	10	2.60	1.50	1.70	0.90
2	1.40	3.60	4.00	8.80	91	7.60	20	9.70	2.60	1.50	1.60	0.90
3	1.40	7.30	4.60	8.80	56	7.60	21	9.10	2.40	1.50	1.70	0.80
4	1.30	17	10	8.80	38	7.30	23	8.80	2.20	1.30	1.60	0.70
5	1.20	14	17	8.80	32	7.00	24	7.60	2.00	1.30	1.40	0.70
6	1.20	9.40	27	8.20	30	7.60	25	7.00	2.00	1.20	1.10	0.70
7	1.20	11	32	8.20	34	8.20	23	6.70	2.00	1.20	1.10	0.70
8	1.10	29	26	8.80	41	8.20	22	6.10	1.90	1.20	1.10	0.70
9	1.00	42	22	15	47	12	27	5.80	1.90	1.20	1.00	0.70
10	1.00	57	21	21	49	18	41	5.80	1.90	1.00	1.00	0.70
11	1.00	70	18	18	45	17	56	5.20	1.90	1.00	1.00	0.70
12	1.00	68	17	14	37	15	66	4.60	1.90	1.00	1.00	0.70
13	1.30	59	25	12	31	13	70	4.90	1.80	1.00	1.00	0.70
14	2.00	50	31	11	28	11	80	4.60	1.80	1.00	1.00	0.70
15	2.00	32	31	10	25	10	91	4.60	1.70	1.00	1.00	0.80
16	2.00	22	28	10	23	14	91	4.60	1.70	1.00	1.00	0.70
17	1.90	18	24	10	20	25	73	4.30	1.70	1.00	1.00	0.70
18	1.80	17	19	14	19	34	50	4.00	1.80	0.90	1.00	0.80
19	1.80	16	15	23	18	36	35	4.00	1.80	1.00	0.90	6.10
20	2.20	13	13	24	17	36	28	3.80	1.80	1.10	0.90	17
21	3.00	9.70	11	29	16	34	25	3.40	1.80	1.50	0.90	12
22	2.80	8.20	11	44	16	30	23	3.40	1.70	1.60	0.90	8.20
23	2.60	7.00	13	50	16	27	21	3.80	1.80	1.50	0.90	7.30
24	2.00	5.80	13	51	16	25	18	3.80	1.60	1.50	0.90	6.10
25	1.80	5.80	12	47	16	26	17	3.60	1.60	1.60	0.90	4.00
26	1.90	5.50	10	67	15	30	15	3.60	1.60	1.60	0.90	3.20
27	1.90	5.80	12	114	14	33	14	3.60	1.60	1.70	0.90	2.80
28	3.80	7.30	12	166	12	31	13	3.40	1.50	1.70	0.90	2.20
29	4.90	7.00	9.70	191	11	27	12	3.20	1.50	1.60		1.90
30	4.90	5.80	9.40	201	9.70	24	11	3.00	1.50	1.50		1.80
31		4.60		188	8.80		11		1.50	1.40		1.60
Total	58.70	631.20	501.70	1,399.50	970.50	589.70	1,067	156.00	57.10	40.10	30.30	87.50
Mean	1.98	20.4	16.7	45.1	31.3	19.6	34.4	5.20	1.84	1.29	1.08	2.82
Max.	4.90	70	32	201	139	36	91	10	2.60	1.70	1.70	17
Min.	1.00	3.40	4.00	8.20	8.80	7.00	11	3.00	1.50	0.90	0.90	0.70
Runoff - MCM.	5.072	54.536	43.347	120.917	83.851	50.950	92.189	13.478	4.933	3.465	2.618	7.560

WATER YEAR 1968 : Max. 201 Min. 0.70 Mean 15.3 Annual Runoff 482.915 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Jul.30	12.00	3.90	202				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
CHI RIVER BASIN

Nam Phong at Ban Nong Wai, Khon Kaen (E.22 A)

Location: Lat 16° – 43' – 29" N., Long 102° – 48' – 21" E., on left bank about 500 meters downstream from Khon Kaen – Udon highway bridge at downstream side of Nam Phong Weir, Khon Kaen.

Drainage Area: 13,183 sq.km.

Type of Gage: Staff gage.

Zero Gage at Bottom at: +150.92 m. (M.S.L.)

Bench Mark: B.M. of NEA.

Location: At km. 111 on Udon – Khon Kaen highway.
Elevation: +165.507 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: 1966 to date
Rated by Float: –
Rated by Current Meter: 1966 to date

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

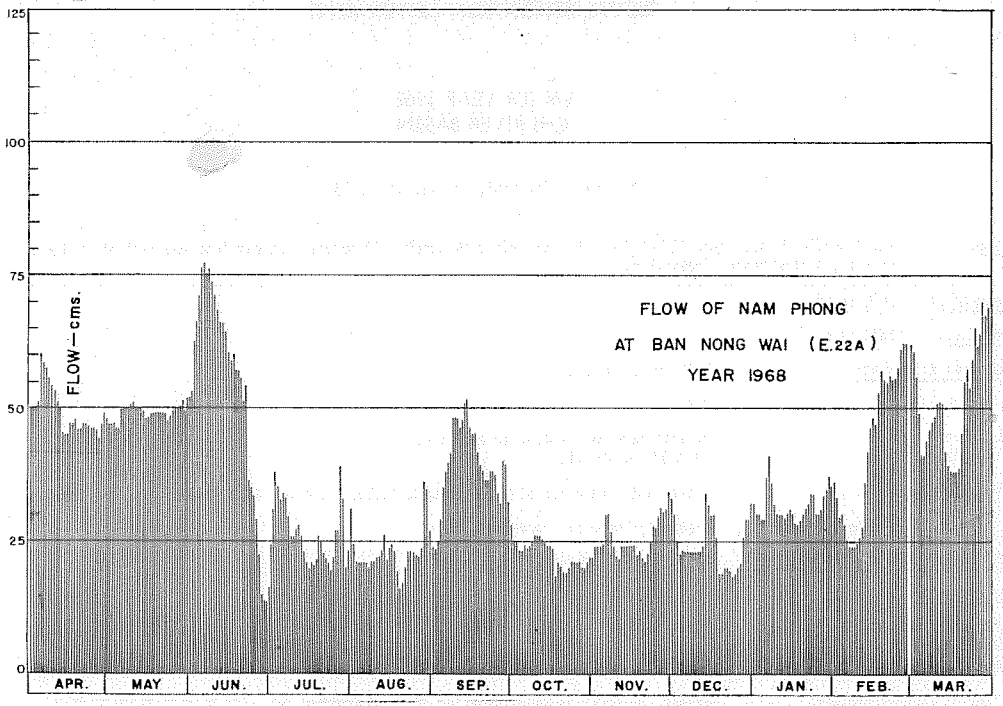
Overbank Flow Conditions: No overbank flow.

General Description: Records good. Stage – discharge relationship used is defined by discharge measurements made during 1968. Flow regulated by Ubonrat Dam upstream. No adjustment made for virgin flow.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	155.34	155.35	155.57	153.81	154.57	154.19	154.35	154.08	154.59	154.62	154.78	156.00
2	.46	.32	.98	154.57	.08	.12	.23	.16	.40	.49	.56	155.90
3	.49	.34	156.20	.91	.01	.21	.22	.20	.15	.48	.43	.56
4	.54	.29	.41	.75	153.99	.41	.13	.18	.05	.46	.48	.34
5	.93	.29	.67	.62	.99	.72	.13	.14	.10	.45	.35	.30
6	155.86	155.49	156.69	154.69	154.01	154.88	154.19	154.49	154.12	154.86	154.19	155.15
7	.78	.49	.62	.65	.01	.99	.10	.51	.14	155.04	.15	.23
8	.67	.49	.64	.46	153.97	155.16	.15	.27	.14	154.69	.15	.33
9	.64	.49	.54	.29	154.02	.40	.21	.18	.13	.53	.20	.40
10	.59	.52	.41	.23	.03	.39	.29	.08	.14	.47	.22	.42
11	155.52	155.47	156.30	154.34	154.04	155.31	154.28	154.02	154.14	154.51	154.30	155.54
12	.41	.46	.19	.39	.06	.34	.29	.16	.11	.49	.44	.51
13	.27	.46	.18	.30	.12	.46	.24	.19	.44	.45	.93	.18
14	.24	.44	.12	.14	.26	.55	.18	.18	.71	.47	155.15	154.97
15	.25	.38	155.97	153.99	153.97	.36	.16	.17	.52	.54	.34	.97
16	155.34	155.40	155.82	153.91	154.19	155.25	154.16	154.16	154.46	154.51	155.39	154.88
17	.34	.42	.92	.98	.20	.24	.12	.19	.51	.39	.27	.88
18	.36	.41	.81	.95	.04	.08	153.77	.05	.19	.40	.62	.91
19	.29	.41	.77	154.08	153.79	154.95	154.01	.11	153.77	.45	.84	.93
20	.28	.42	.71	.29	.61	.91	153.95	.05	.86	.48	.72	155.28
21	155.32	155.44	155.47	154.13	153.79	154.82	153.87	154.00	153.94	154.53	155.72	155.68
22	.33	.41	.65	.06	.97	.82	.89	.04	.94	.62	.75	.84
23	.30	.32	154.67	.00	154.14	.91	.96	.25	.88	.72	.69	.58
24	.31	.39	.73	153.91	.14	.92	154.02	.38	.85	.71	.70	.88
25	.31	.41	.64	.94	.11	.83	.00	.33	.87	.47	.83	156.16
26	155.27	155.46	154.37	154.31	154.04	154.65	154.03	154.51	153.93	154.50	155.97	155.92
27	.15	.49	153.91	.35	.05	.52	.00	.57	154.00	.55	156.04	156.19
28	.32	.49	.59	.96	.02	.98	153.97	.48	.28	.67	.01	.37
29	.41	.50	.56	.32	.80	.96	.96	.55	.45	.77	–	.26
30	.40	.45	.53	153.83	.71	.58	154.01	.72	.43	.84	–	.33
31	–	.58	–	154.06	.31	–	.05	–	.58	.74	–	.35
Mean	155.42	155.43	155.59	154.26	154.09	154.93	154.09	154.25	154.19	154.58	155.08	155.56
Max.	155.93	155.58	156.69	154.96	154.80	155.55	154.35	154.72	154.71	155.04	156.04	156.37
Min.	155.15	155.29	153.53	153.81	153.61	154.12	153.77	154.00	153.77	153.77	154.15	154.88

WATER YEAR 1968 : Max. 156.69 m. Min. 153.77 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31,1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	47	47	52	18	31	24	27	22	32	32	36	62
2	50	47	61	31	22	23	25	24	28	30	31	59
3	50	47	66	38	21	25	25	24	24	30	29	52
4	51	46	71	35	21	28	23	24	22	29	30	47
5	60	46	76	32	21	34	23	23	23	29	27	40
6	58	50	77	34	21	38	24	30	23	37	24	43
7	57	50	75	33	21	40	23	30	23	41	24	45
8	54	50	76	29	20	43	24	26	23	34	24	47
9	54	50	73	26	21	48	25	24	23	31	24	48
10	53	51	71	25	21	48	26	22	23	30	25	49
11	51	50	68	27	22	46	26	21	23	30	26	51
12	49	50	66	28	22	47	26	24	23	30	29	51
13	45	50	66	26	23	50	25	24	29	29	39	44
14	45	49	64	23	26	52	24	24	24	30	43	39
15	45	48	61	21	20	47	24	24	31	31	47	39
16	47	48	58	19	24	45	24	24	29	30	48	38
17	47	49	60	21	24	45	23	24	30	28	45	38
18	48	49	57	20	22	42	17	22	24	28	53	38
19	46	49	57	22	17	39	21	23	17	29	57	39
20	46	49	55	26	15	38	20	22	19	30	55	46
21	47	49	50	23	17	36	19	21	20	31	55	55
22	47	49	54	22	20	36	19	22	20	32	56	57
23	46	47	33	21	23	38	20	25	19	34	55	52
24	46	48	35	19	23	38	21	28	18	34	55	59
25	46	49	33	20	23	37	21	27	19	30	58	65
26	46	50	28	27	22	33	21	30	20	30	61	60
27	43	50	19	27	22	31	21	31	21	31	62	66
28	47	50	14	39	21	40	20	30	26	33	62	70
29	49	51	14	27	36	39	20	31	29	35	–	67
30	48	49	13	18	34	32	21	34	29	37	–	69
31	–	52	–	22	27	–	22	–	32	35	–	69
Total	1,468	1,519	1,603	799	703	1,162	700	760	756	980	1,180	1,604
Mean	48.9	49.0	53.4	25.8	22.7	38.7	22.6	25.3	24.4	31.6	42.1	51.7
Max.	60	52	77	39	36	52	27	34	32	41	62	70
Min.	43	46	13	18	15	23	17	21	17	28	24	38
Runoff – mcm.	126.835	131.242	138.499	69.034	60.739	100.397	60.480	65.664	65.318	84.672	101.952	138.586

WATER YEAR 1968 : Max. 77 Min. 13 Mean 36.2 Annual Runoff 1,143.418 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
June.8	03.00	156.75	78				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
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 about 4.00 meters upstream from abutment of bridge at Ban Khai, Amphoe Muang, Chaiyaphum.

Drainage Area: 6,835 sq.km.

Type of Gage: Staff gage

Zero Gage at Bottom at: +174.10 m. (M.S.L.)

Bench Mark:

Location: on left bank near Automatic building.
Elevation: +181.926 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: 1954-56, 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.

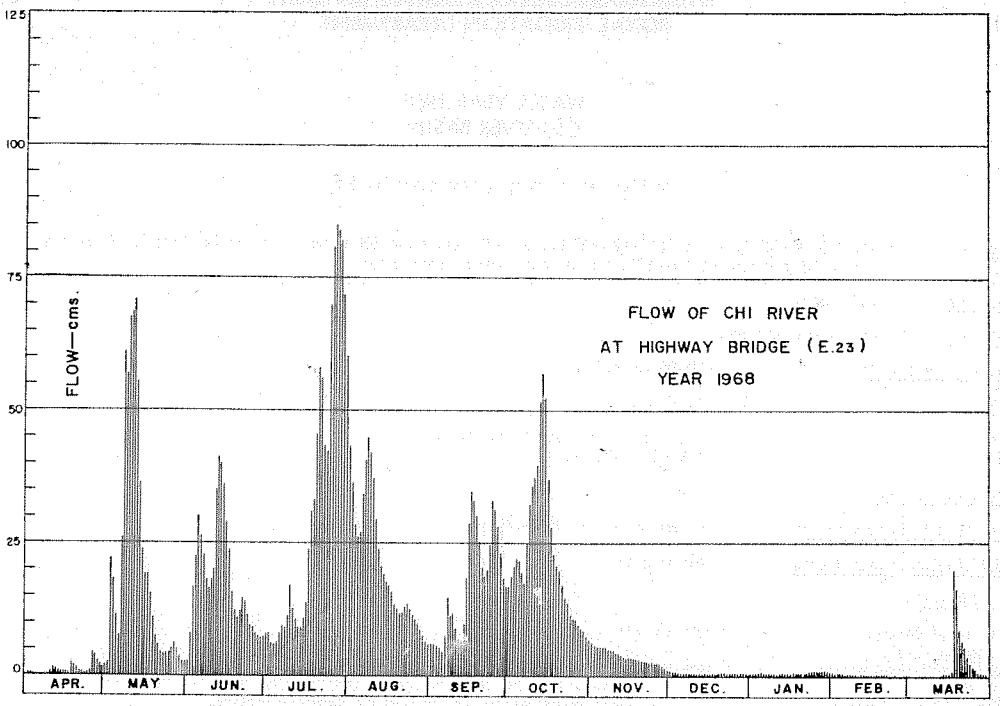
General Description: Records fair. Stage-discharge relationship used is defined by discharge measurements made during 1968. No upstream state diversions for irrigation except those built by local residents. No adjustment made for virgin flow.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	174.87	175.32	175.43	176.08	178.75	175.87	176.92	175.91	175.15	175.02	175.07	174.83
2	.86	.39	.64	.07	.33	.88	177.03	.89	.13	.03	.01	.76
3	.85	177.21	176.78	175.83	177.75	.85	.16	.84	.11	.03	.00	.71
4	.84	176.93	177.15	.88	.54	.80	.27	.83	.09	.02	174.98	.69
5	.79	.19	.77	.89	.58	.76	.25	.82	.07	.02	.97	.71
6	174.72	175.81	177.47	176.08	178.02	175.72	177.00	175.80	175.05	175.01	174.94	174.75
7	.80	177.60	.29	.23	.39	176.04	176.90	.78	.04	.01	.92	.78
8	.81	179.34	176.87	.16	.61	.70	177.32	.74	.05	174.99	.91	.76
9	.78	.07	.83	.40	.44	.36	.86	.74	.03	.98	.91	.81
10	175.06	.64	.99	.85	.06	.42	178.09	.72	.03	.97	.91	.79
11	175.20	179.69	177.10	176.57	177.67	176.15	178.17	175.68	175.03	174.97	174.90	174.73
12	.15	.77	178.14	.33	.41	175.98	.29	.64	.05	.97	.90	.72
13	.07	178.57	.36	.19	.20	.93	.91	.61	.05	.98	.98	.92
14	.05	177.78	.31	.17	.09	.95	179.14	.58	.06	175.01	.89	.99
15	174.99	.18	177.86	.32	176.97	176.90	178.88	.58	.06	.05	.89	.94
16	174.98	177.05	177.61	176.59	176.88	177.77	178.30	175.58	175.04	175.06	174.88	174.90
17	175.04	.00	.07	177.06	.77	178.03	177.78	.56	.06	.06	.88	.97
18	.34	176.78	176.68	.81	.61	177.87	.38	.54	.07	.05	.88	177.12
19	.27	.35	.48	.88	.56	.78	.14	.53	.06	.04	.88	176.74
20	.19	.04	.34	178.59	.47	.46	.07	.51	.04	.03	.87	175.89
21	175.03	175.84	176.57	179.20	176.48	177.17	176.91	175.49	175.06	175.02	174.87	175.93
22	.00	.66	.73	.12	.59	.05	.75	.48	.06	.03	.86	.70
23	174.95	.63	.62	178.44	.60	.00	.60	.46	.07	.09	.84	.48
24	175.05	.65	.35	.32	.53	.31	.49	.45	.06	.12	.82	.33
25	.12	.65	.22	179.50	.41	.94	.39	.43	.05	.12	.80	.25
26	175.65	175.75	176.17	180.23	176.33	177.83	176.34	175.41	175.06	175.14	174.73	175.14
27	.59	.90	.07	.40	.30	.59	.28	.38	.05	.14	.68	.05
28	.40	.73	.00	.38	.19	.31	.20	.32	.04	.16	.81	.01
29	.31	.62	175.99	.29	.04	.03	.14	.25	.06	.18	–	.00
30	.23	.42	176.02	179.90	175.94	176.85	.05	.19	.04	.14	–	174.98
31	–	.46	–	.50	.86	–	175.98	–	.02	.10	–	.95
Mean	175.07	176.81	176.83	177.62	177.11	176.78	177.23	175.59	175.06	175.05	174.89	175.14
Max.	175.65	179.77	178.36	180.40	178.75	178.03	179.14	175.91	175.15	175.18	175.07	177.12
Min.	174.72	175.32	175.43	175.83	175.86	176.72	175.98	175.19	175.02	174.97	174.68	174.69

WATER YEAR 1968 : Max. 180.40 m. Min. 174.68 m.

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.34	2.12	2.78	8.20	48	6.16	17	6.50	1.20	0.68	0.88	0.26
2	0.32	2.54	4.32	8.10	40	6.24	19	6.32	1.12	0.72	0.64	0.12
3	0.30	22	16	5.84	30	6.00	21	5.92	1.04	0.72	0.60	0.020
4	0.28	18	21	6.24	26	5.60	22	5.84	0.96	0.68	0.56	0.00
5	0.18	9.30	30	6.32	27	5.28	22	5.76	0.88	0.68	0.54	0.020
6	0.040	5.68	25	8.20	35	4.96	19	5.60	0.80	0.64	0.48	0.10
7	0.20	27	23	9.70	41	7.80	17	5.40	0.76	0.64	0.44	0.16
8	0.22	61	17	9.00	45	15	23	5.12	0.80	0.58	0.42	0.12
9	0.16	55	16	11	42	11	32	5.12	0.72	0.56	0.42	0.22
10	0.84	68	18	17	35	12	36	4.96	0.72	0.54	0.42	0.18
11	1.40	69	20	13	29	8.90	37	4.64	0.72	0.54	0.40	0.060
12	1.20	71	37	11	24	7.20	39	4.32	0.80	0.54	0.40	0.040
13	0.88	45	41	9.30	21	6.70	52	4.08	0.80	0.56	0.40	0.44
14	0.80	30	40	9.10	20	6.90	57	3.84	0.84	0.64	0.38	0.58
15	0.58	21	32	11	18	17	51	3.84	0.80	0.80	0.38	0.48
16	0.56	19	28	13	17	30	40	3.84	0.76	0.84	0.36	0.40
17	0.76	19	20	19	16	35	30	3.68	0.84	0.84	0.36	0.54
18	2.24	16	15	31	14	32	24	3.52	0.88	0.80	0.36	20
19	1.82	11	12	32	13	30	21	3.44	0.84	0.76	0.36	15
20	1.36	7.80	11	45	12	25	20	3.28	0.76	0.72	0.34	6.32
21	0.72	5.92	13	58	12	21	17	3.14	0.84	0.68	0.34	6.70
22	0.60	4.48	15	56	13	19	15	3.08	0.84	0.72	0.32	4.80
23	0.50	4.24	14	42	14	19	14	2.96	0.88	0.96	0.28	3.08
24	0.80	4.40	11	40	13	23	12	2.90	0.84	1.08	0.24	2.18
25	1.08	4.40	9.60	65	12	33	11	2.78	0.80	1.08	0.20	1.70
26	4.40	5.20	9.10	81	11	31	11	2.66	0.84	1.16	0.060	1.16
27	3.92	6.40	8.10	85	10	27	10	2.48	0.90	1.16	0.00	0.80
28	2.60	5.04	7.40	84	9.30	23	9.40	2.12	0.76	1.24	0.22	0.64
29	2.06	4.16	7.30	82	7.80	19	8.80	1.70	0.84	1.32	–	0.60
30	1.58	2.72	7.60	73	6.80	17	7.90	1.36	0.76	1.16	–	0.56
31	–	2.96	–	65	6.08	–	7.20	–	0.68	1.00	–	0.50
Total	32.74	629.36	531.20	1,014.00	667.98	510.74	772.30	120.24	25.96	25.04	10.80	67.78
Mean	1.09	20.3	17.7	32.7	21.5	17.0	25.3	4.01	0.837	0.807	0.385	2.19
Max.	4.40	71	41	85	48	35	57	6.50	1.20	1.32	0.88	20
Min.	0.040	2.12	2.78	5.84	6.08	4.96	7.20	1.36	0.68	0.54	0.00	0.00
Runoff - mcm.	2.829	54.377	45.896	87.610	57.713	44.128	62.407	10.389	2.242	2.163	0.933	5.856

WATER YEAR 1968 : Max. 85 Min. 0.00 Mean 11.9 Annual Runoff 376,543 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Jul.27,68	24.00	180.40	85				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
CHI RIVER BASIN

Chi River at Ban Nong O, Chaiyaphum (E. 32A)

Location: Lat. 15°-54'-20" N., Long. 101°-42'-45" E., on left bank about 500 meters north of Ban Nong O, 600 meters upstream from gaging station E32, Amphoe Kaset Sombun, 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.

Location: on left bank along staff gage line.
Elevation: +213.903 m. (M.S.L.)

Gage Reading Frequency: Recording

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

Period of Available Gage Records: 1966 to date

Rating Operation:

Period of Rating: 1966 to date
Rated by Float: -
Rated by Current Meter: 1966 to date

Stability of Channel Regimes: Unstable, shifting adjustment is included for flow computation.

Overbank Flow Conditions: No overbank flow.

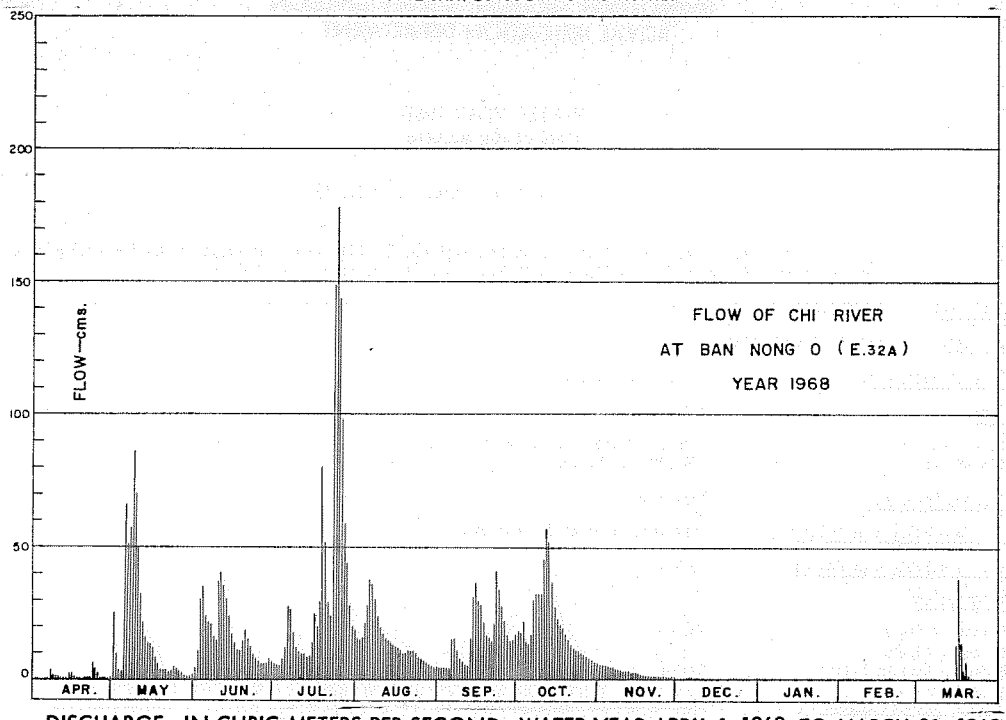
General Description: Records fair. Stage-discharge relationship used is defined by discharge measurements made during 1968. No upstream state diversions for irrigation except those built by local residents. No adjustment made for virgin flow.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	198.50	199.89	198.96	199.00	199.42	198.91	199.59	198.99	198.66	198.56	198.55	198.49
2	.52	.20	199.10	198.95	.43	.91	.54	.98	.66	.55	.55	.48
3	.51	198.81	200.18	.94	.39	.93	.70	.96	.66	.55	.52	.47
4	.50	.82	.29	199.08	.73	.91	.43	.94	.65	.55	.54	.47
5	.52	199.69	199.53	.29	200.03	.90	.34	.92	.64	.55	.52	.47
6	198.50	201.31	199.72	199.94	200.29	199.48	199.51	198.91	198.64	198.55	198.52	198.47
7	.86	200.54	.70	.91	.19	.46	200.05	.89	.64	.55	.52	.47
8	.70	201.54	.40	.46	199.94	.20	.13	.87	.64	.54	.52	.58
9	.65	202.03	.37	.28	.72	.09	.15	.86	.63	.54	.52	.60
10	.64	200.84	200.34	.23	.61	.03	.08	.85	.62	.54	.51	.56
11	198.61	200.20	200.41	199.19	199.55	198.99	200.82	198.87	198.62	198.56	198.55	198.55
12	.60	199.66	.14	.20	.47	.96	201.07	.86	.61	.57	.54	.51
13	.60	.48	.02	.17	.41	199.47	200.68	.84	.61	.57	.53	.50
14	.77	.42	199.71	.19	.37	200.10	.14	.83	.60	.56	.52	.49
15	.78	.40	.47	199.87	.35	.20	199.90	.81	.60	.55	.51	.70
16	198.63	199.28	199.36	.52	199.32	199.97	199.75	198.80	198.59	198.55	198.51	200.48
17	.58	.10	.26	.98	.27	.96	.67	.78	.59	.54	.50	199.12
18	.57	198.97	.18	201.79	.22	.69	.59	.77	.59	.54	.49	198.84
19	.58	.89	.33	200.95	.20	.54	.51	.76	.59	.52	.49	199.07
20	.64	.86	.51	200.10	.30	.53	.44	.74	.57	.52	.50	198.78
21	198.67	198.84	199.35	199.93	199.30	199.41	199.37	198.74	198.58	198.54	198.49	198.66
22	.66	.83	.20	200.55	.28	.52	.30	.72	.58	.55	.49	.62
23	199.01	.87	.14	203.67	.21	200.35	.27	.72	.57	.53	.49	.59
24	198.92	.94	.08	204.75	.17	.01	.26	.71	.58	.60	.48	.56
25	.75	.89	.83	203.44	.12	199.85	.22	.70	.57	.64	.49	.57
26	198.68	198.83	198.99	201.60	199.08	199.67	199.18	198.70	198.57	198.60	198.52	198.55
27	.73	.74	.96	200.37	.04	.50	.13	.69	.57	.60	.51	.55
28	.69	.64	.94	199.84	.00	.44	.10	.68	.57	.57	.50	.54
29	.68	.70	199.04	.64	198.97	.48	.07	.68	.58	.56	-	.55
30	.80	.67	.01	.55	.96	.51	.04	.67	.57	.57	-	.54
31	-	.73	-	-	.94	-	.02	-	.56	.57	-	.53
Mean	198.66	199.44	199.45	200.17	199.40	199.46	199.65	198.81	198.60	198.56	198.51	198.66
Max.	199.01	202.03	200.41	204.75	200.29	200.35	201.07	198.99	198.66	198.64	198.55	200.48
Min.	198.50	198.64	198.94	198.94	198.94	198.90	199.02	198.67	198.56	198.52	198.48	198.47

WATER YEAR 1968 : Max. 204.75 m. Min. 198.47 m.

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.16	25	5.56	6.92	16	5.06	19	6.74	1.30	0.52	0.46	0.00
2	0.32	10	8.05	6.05	16	5.06	18	6.55	1.30	0.46	0.46	0.00
3	0.24	3.25	31	5.89	15	5.39	22	6.22	1.30	0.46	0.24	0.00
4	0.16	3.91	35	8.42	22	5.06	15	5.89	1.20	0.46	0.40	0.00
5	0.32	23	19	13	30	4.90	13	5.56	1.10	0.46	0.24	0.00
6	0.16	66	22	28	38	16	18	5.39	1.10	0.46	0.24	0.00
7	3.74	41	21	27	36	16	31	5.06	1.10	0.46	0.24	0.00
8	1.70	67	15	16	29	10	33	4.73	1.10	0.40	0.24	0.64
9	1.20	86	15	12	23	8.23	33	4.57	1.00	0.40	0.24	0.76
10	1.10	50	38	11	19	7.11	31	4.24	0.94	0.40	0.16	0.52
11	0.88	32	40	10	18	6.38	50	4.24	0.94	0.52	0.46	0.46
12	0.82	20	33	10	16	5.89	57	4.07	0.88	0.58	0.40	0.16
13	0.82	16	30	9.36	15	16	47	3.74	0.88	0.58	0.32	0.08
14	2.50	14	23	7.67	14	32	33	3.58	0.82	0.52	0.24	0.00
15	2.62	14	17	10	13	37	27	3.25	0.82	0.46	0.16	1.60
16	1.00	12	14	25	13	30	24	3.12	0.76	0.46	0.16	38
17	0.70	8.05	12	17	12	29	22	2.87	0.76	0.40	0.08	8.05
18	0.64	5.72	11	28	11	21	20	2.75	0.76	0.40	0.00	3.25
19	0.70	4.40	15	80	10	17	18	2.62	0.76	0.24	0.00	7.11
20	1.10	3.91	19	54	12	17	16	2.37	0.64	0.24	0.08	2.50
21	1.40	3.58	16	31	12	14	14	2.37	0.70	0.40	0.00	1.20
22	1.30	3.41	12	26	12	17	13	2.12	0.70	0.46	0.00	0.88
23	6.22	4.07	9.92	41	11	41	12	2.12	0.64	0.32	0.00	0.70
24	4.73	5.23	8.61	140	9.74	31	12	2.00	0.70	0.76	0.00	0.52
25	2.25	4.40	7.48	178	8.80	26	11	1.90	0.64	1.00	0.00	0.58
26	0.82	3.41	6.74	132	8.05	21	10	1.90	0.64	0.76	0.24	0.46
27	1.20	2.25	6.22	74	7.30	17	9.36	1.80	0.64	0.76	0.16	0.46
28	0.88	1.20	5.89	40	6.55	15	8.80	1.60	0.64	0.58	0.08	0.40
29	0.82	1.80	8.05	26	6.05	16	8.23	1.60	0.70	0.52	–	0.46
30	1.90	1.50	7.11	21	5.89	17	7.67	1.50	0.64	0.58	–	0.40
31	–	2.12	–	19	5.56	–	7.30	–	0.58	0.58	–	0.32
Total	42.40	538.21	511.63	1,113.31	470.94	509.08	660.36	106.47	26.68	15.60	5.30	69.51
Mean	1.41	17.4	17.1	35.9	15.2	17.0	21.3	3.55	0.86	0.503	0.189	2.24
Max.	6.22	86	40	178	38	41	57	6.74	1.30	1.00	0.46	38
Min.	0.16	1.20	5.56	5.89	5.56	4.90	7.30	1.50	0.58	0.24	0.00	0.00
Runoff – MCM.	3.663	46.501	44.205	96.190	40.689	43.985	57.055	9.199	2.305	1.348	0.458	6.006

WATER YEAR 1968 : Max. 178 Min. 0.00 Mean 11.1 Annual Runoff 351.604 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Jul. 24, 68	19.00	205.38	202				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
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 the camp of gaging station.
Elevation: +143.700 m. (M.S.L.)

Gage Reading Frequency: Recording

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

Period of Available Gage Records: 1961 to date

Rating Operation:

Period of Rating: 1961-69
Rated by Float: -
Rated by Current Meter: 1961-69

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

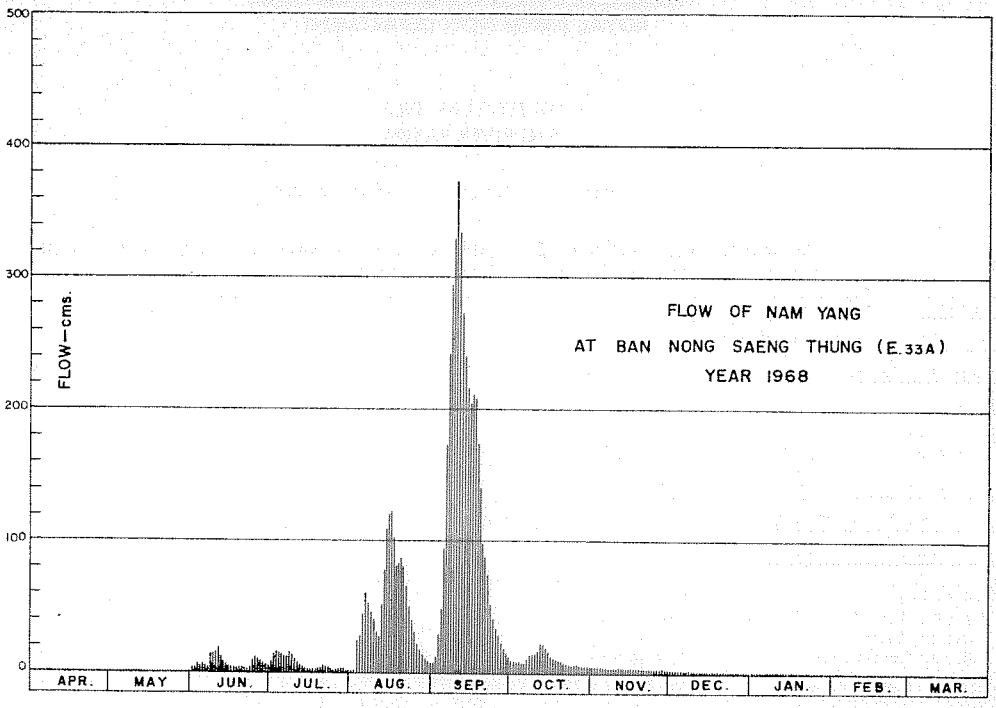
Overbank Flow Conditions: Overbank flow was observed but not included for flow computation.

General Description: Records good. Stage-discharge relationship used is defined by discharge measurements made during 1968. No upstream stage diversions for irrigation except those built by local residents. No adjustment made for virgin flow.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	134.57	134.57	135.31	135.34	134.79	135.39	135.65	135.29	134.97	134.77	134.75	134.66
2	.56	.57	134.98	.66	.93	.51	.61	.26	.96	.83	.73	.66
3	.55	.55	135.43	.79	136.01	136.03	.57	.23	135.05	.78	.71	.65
4	.55	.54	.32	.75	.14	.95	.55	.22	134.99	.82	.69	.65
5	.55	.55	.45	.66	.69	137.70	.50	.22	.97	.78	.70	.65
6	134.56	134.59	135.24	135.54	137.25	140.20	135.50	135.19	134.96	134.77	134.69	134.65
7	.55	.66	.10	.56	.10	141.41	.69	.20	.94	.79	.68	.64
8	.55	.96	.90	.70	136.83	142.15	.75	.18	.93	.78	.70	.65
9	.57	.82	.73	.70	.66	.34	.77	.16	.92	.75	.71	.65
10	.57	.85	.78	.55	.42	.54	.74	.16	.92	.78	.70	.66
11	134.57	134.90	136.08	135.35	136.15	142.40	135.84	135.16	134.91	134.80	134.68	134.65
12	.62	.85	135.66	.21	.23	.00	136.08	.15	.90	.81	.70	.65
13	.60	.79	.40	.11	137.74	141.76	.06	.14	.89	.79	.72	.64
14	.59	.81	.31	.03	138.48	.34	135.91	.14	.89	.78	.74	.64
15	.59	.79	.23	134.96	.90	.08	.76	.14	.88	.78	.72	.64
16	134.57	134.74	135.18	134.93	138.97	141.09	135.67	135.14	134.90	134.76	134.70	134.67
17	.57	.75	.08	.93	.33	.03	.62	.28	.96	.74	.68	.67
18	.56	.69	.07	.93	137.82	140.64	.54	.12	.88	.76	.68	.68
19	.57	.65	.18	.99	138.06	139.82	.53	.11	.88	.76	.69	.67
20	.56	.64	.15	135.11	137.96	138.76	.50	.10	.87	.73	.70	.69
21	134.57	134.64	135.12	135.18	137.61	138.61	135.44	135.08	134.85	134.77	134.72	134.67
22	.60	.69	.10	.15	.34	.09	.43	.09	.85	.84	.74	.69
23	.58	.70	.12	.08	.00	137.33	.39	.08	.93	.76	.67	.66
24	.58	.89	.57	.01	136.61	136.92	.36	.06	.92	.74	.67	.66
25	.61	.76	.62	.02	.31	.65	.34	.05	.91	.73	.68	.65
26	134.56	134.69	135.50	135.05	136.05	136.43	135.33	135.04	134.89	134.73	134.74	134.64
27	.56	.68	.50	.07	135.86	.26	.32	.01	.87	.72	.75	.64
28	.54	.73	.36	134.99	.71	.09	.28	.01	.87	.73	.66	.63
29	.56	.79	.24	.94	.56	135.92	.27	.00	.86	.75	-	.64
30	.55	.71	.22	.87	.48	.73	.26	134.99	.85	.73	-	.72
31	-	.71	-	.82	.39	-	.25	-	.83	.72	-	.68
Mean	134.57	134.72	135.36	135.22	136.81	138.94	135.56	135.13	134.90	134.77	134.70	134.66
Max.	134.62	134.96	136.08	135.79	138.97	142.54	136.08	135.29	135.05	134.84	134.75	134.72
Min.	134.54	134.54	134.98	134.82	134.79	135.39	135.25	134.99	134.83	134.72	134.66	134.63

WATER YEAR 1968 : Max. 142.54 m. Min. 134.63 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.04	0.04	4.50	7.15	1.94	7.60	9.76	4.17	1.40	0.32	0.32	0.00
2	0.00	0.04	2.28	14	1.58	9.44	8.96	3.84	1.35	0.60	0.24	0.00
3	0.00	0.00	7.00	16	24	19	8.05	3.51	1.64	0.36	0.16	0.00
4	0.00	0.00	5.41	16	27	42	7.45	3.40	1.30	0.55	0.08	0.00
5	0.00	0.00	7.30	14	42	66	6.40	3.40	1.20	0.36	0.12	0.00
6	0.00	0.12	4.39	12	59	168	6.25	3.19	1.15	0.32	0.08	0.00
7	0.00	0.16	3.05	12	52	230	10	3.26	1.05	0.45	0.04	0.00
8	0.00	1.64	15	15	44	290	13	3.12	1.00	0.40	0.12	0.00
9	0.04	0.90	14	13	39	320	13	2.98	0.95	0.28	0.16	0.00
10	0.04	1.05	14	10	32	371	13	2.98	0.95	0.40	0.12	0.04
11	0.04	1.30	20	7.45	25	333	15	2.77	0.90	0.50	0.04	0.00
12	0.24	1.05	12	4.28	27	273	22	2.70	0.85	0.55	0.12	0.00
13	0.16	0.70	8.05	3.26	80	243	21	2.63	0.80	0.45	0.20	0.00
14	0.12	0.85	6.70	2.70	109	216	18	2.63	0.85	0.40	0.28	0.00
15	0.12	0.75	5.54	2.21	120	201	15	2.63	0.80	0.40	0.20	0.00
16	0.04	0.50	4.06	2.00	123	210	11	2.63	0.90	0.32	0.12	0.08
17	0.04	0.60	3.12	2.00	97	207	10	3.73	1.20	0.24	0.04	0.08
18	0.00	0.32	3.05	2.00	78	173	8.80	2.35	0.80	0.32	0.04	0.12
19	0.04	0.16	4.06	2.77	87	136	8.65	2.28	0.80	0.32	0.08	0.08
20	0.00	0.12	3.73	3.73	83	92	7.60	2.21	0.75	0.20	0.16	0.08
21	0.04	0.12	3.40	4.50	67	86	6.70	2.07	0.70	0.40	0.24	0.08
22	0.16	0.32	3.26	3.95	58	68	6.55	2.14	0.70	0.75	0.32	0.16
23	0.08	0.36	3.40	3.19	47	44	5.95	2.07	1.10	0.36	0.04	0.04
24	0.08	1.30	9.60	2.56	36	40	5.54	1.94	1.05	0.28	0.04	0.04
25	0.20	0.65	12	2.56	28	32	5.28	1.88	1.00	0.24	0.08	0.00
26	0.00	0.32	10	2.63	22	27	5.15	1.82	0.90	0.24	0.32	0.00
27	0.00	0.28	9.60	2.70	16	23	5.02	1.64	0.80	0.20	0.36	0.00
28	0.00	0.50	7.45	2.00	13	19	4.50	1.64	0.80	0.24	0.00	0.00
29	0.00	0.80	5.67	1.64	10	15	4.39	1.58	0.75	0.32	–	0.00
30	0.00	0.40	5.41	1.25	8.96	11	4.28	1.52	0.70	0.24	–	0.28
31	–	0.40	–	1.00	7.60	–	4.17	–	0.60	0.20	–	0.12
Total	1.48	15.75	217.03	189.53	1,465.08	3,972.04	290.45	78.71	29.74	11.21	4.12	1.20
Mean	0.05	0.51	7.23	6.11	47.3	132	9.37	2.62	0.96	0.36	0.15	0.04
Max.	0.24	1.64	20	16	123	371	22	4.17	1.64	0.75	0.36	0.28
Min.	0.00	0.00	2.28	1.00	1.58	7.60	4.17	1.52	0.60	0.20	0.00	0.00
Runoff – MCM.	0.128	1.361	18.751	16.375	126.583	343.184	25.095	6.800	2.569	0.968	0.356	0.104

WATER YEAR 1968 : Max. 371 Min. 0.00 Mean 17.2 Annual Runoff 542.276 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sept. 10	01.00	142.57	395				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
CHI RIVER BASIN

Lam Pong Khun Phet at Nong Bua Noi, Chaiyaphum (E.35)

Location: Lat. 15°-45'-00" N., Long. 101°-40'-30" E., on left bank about 2 kilometers upstream from confluence with Lam Kra Chuan, at Ban Nong Bua Noi, Amphoe Chatturat, Chaiyaphum.

Drainage Area: 457 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 building.
Elevation: +5.637 m. (A.D.)

Gage Reading Frequency: Recording

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

Period of Available Gage Records: 1968 to date

Rating Operation:

Period of Rating: 1968 to date
Rated by Float: -
Rated by Current Meter: 1968 to date

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

Overbank Flow Conditions: No overbank flow.

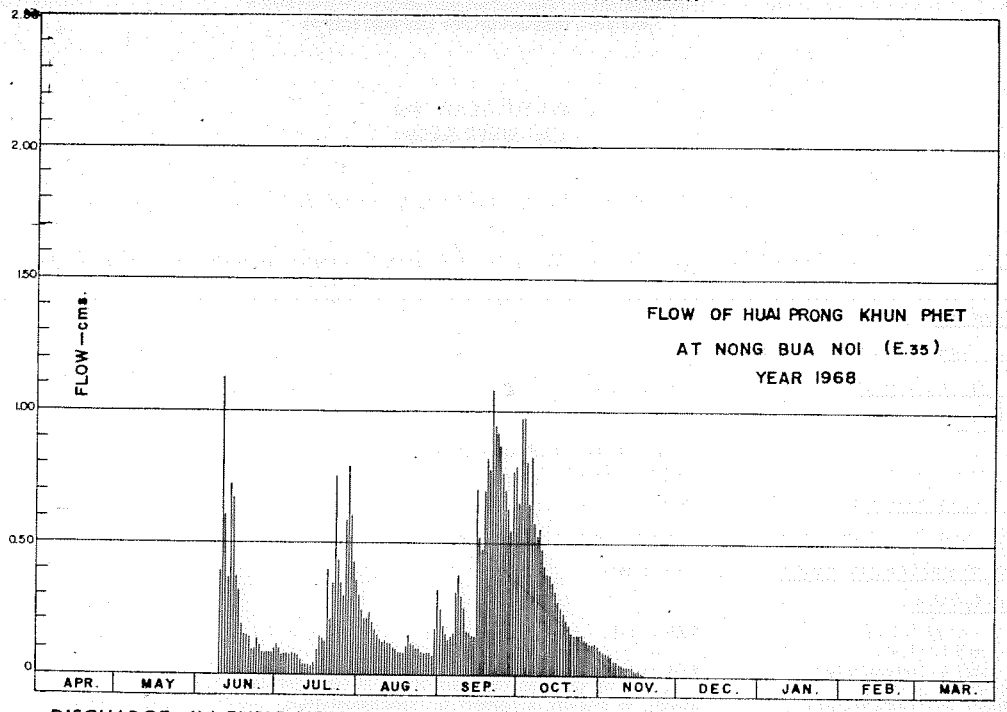
General Description: Records poor. Stage-discharge relationship used is defined by discharge measurements made during 1968. No upstream state diversions for irrigation except those built by local residents. No adjustment made for virgin flow.

Remarks: Stream gaging began on June 9, 1968. Records for period of no flow are omitted.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1				0.55	0.65	0.61	0.77	0.54	0.35	0.14		
2				.54	.62	.59	.89	.53	.35	.14		
3				.52	.60	.58	.89	.53	.35	.13		
4				.53	.61	.56	.81	.53	.35	.12		
5				.52	.62	.57	.76	.52	.34	.11		
6				0.52	0.60	0.58	0.84	0.51	0.32	0.10		
7				.53	.58	.65	.75	.51	.31	.10		
8				.52	.57	.69	.74	.50	.31	.09		
9			0.63	.52	.56	.63	.75	.50	.31	.08		
10			.93	.51	.56	.60	.72	.49	.30	.08		
11			0.72	0.50	0.56	0.58	0.70	0.49	0.29	0.07		
12			.62	.50	.55	.58	.69	.49	.29	.07		
13			.81	.50	.55	.57	.69	.49	.28	.06		
14			.79	.49	.54	.67	.67	.48	.28	.06		
15			.69	.49	.54	.80	.65	.47	.27	.06		
16			0.66	0.54	0.53	0.72	0.64	0.47	0.26	0.05		
17			.59	.57	.53	.73	.63	.46	.25	.04		
18			.57	.55	.53	.80	.62	.45	.25	.04		
19			.57	.55	.55	.84	.60	.45	.24	.03		
20			.56	.70	.57	.81	.59	.44	.23	.04		
21			0.54	0.59	0.55	0.92	0.57	.43	0.23	0.04		
22			.53	.64	.55	.88	.57	.42	.23	.04		
23			.56	.82	.54	.87	.57	.42	.20	.03		
24			.55	.71	.54	.84	.57	.41	.20	.03		
25			.53	.67	.53	.81	.57	.40	.19	.02		
26			0.53	0.61	0.53	0.79	0.56	0.39	0.18	0.02		
27			.53	.73	.53	.76	.56	.38	.18	.01		
28			.53	.84	.53	.74	.55	.38	.17			
29			.53	.75	.52	.72	.55	.37	.16			
30			.54	.71	.59	.73	.55	.36	.16			
31			-	.67	.66	-	.54	-	.15			
Mean				0.59	0.56	0.70	0.66	0.46	0.26			
Max.			0.93	0.84	0.66	0.92	0.89	0.54	0.35	0.14		
Min.			0.53	0.49	0.52	0.56	0.54	0.36	0.15	0.01		

WATER YEAR 1968 : Max. 0.89 m. Min. 0.36 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1				0.12	0.30	0.22	0.61	0.10				
2				0.10	0.24	0.18	0.97	0.088				
3				0.072	0.20	0.16	0.97	0.088				
4				0.088	0.22	0.13	0.73	0.088				
5				0.072	0.24	0.15	0.58	0.072				
6				0.072	0.20	0.16	0.82	0.056				
7				0.088	0.16	0.30	0.55	0.056				
8				0.072	0.15	0.38	0.52	0.040				
9			0.26	0.072	0.13	0.26	0.55	0.040				
10			1.12	0.056	0.13	0.20	0.46	0.032				
11			0.46	0.040	0.13	0.16	0.40	0.032				
12			0.24	0.040	0.12	0.16	0.38	0.032				
13			0.73	0.040	0.12	0.15	0.38	0.032				
14			0.67	0.032	0.10	0.15	0.34	0.024				
15			0.38	0.032	0.10	0.70	0.30	0.016				
16			0.32	0.10	0.088	0.46	0.28	0.016				
17			0.18	0.15	0.088	0.49	0.26	0.008				
18			0.15	0.12	0.088	0.70	0.24	0.000				
19			0.15	0.12	0.12	0.82	0.20					
20			0.14	0.40	0.15	0.73	0.18					
21			0.10	0.18	0.12	1.08	0.15					
22			0.088	0.28	0.12	0.94	0.15					
23			0.14	0.76	0.10	0.91	0.15					
24			0.12	0.43	0.10	0.82	0.15					
25			0.088	0.34	0.088	0.73	0.15					
26			0.088	0.22	0.088	0.67	0.14					
27			0.088	0.49	0.088	0.58	0.14					
28			0.088	0.79	0.088	0.52	0.12					
29			0.088	0.55	0.072	0.46	0.12					
30			0.10	0.43	0.18	0.49	0.12					
31			–	0.34	0.32	–	0.10					
Total				6.696	4.438	13.860	11.210	0.820				
Mean				0.216	0.143	0.462	0.362	0.027				
Max.			1.12	0.79	0.32	1.08	0.97	0.10				
Min.			0.088	0.032	0.072	0.13	0.10	0.00				
Runoff - MCM.				0.578	0.383	1.197	0.968	0.071				

WATER YEAR 1968 : Max. 1.08 Min. 0.00 Mean Annual Runoff mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
June.10	06.00	1.05	1.65				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
CHI RIVER BASIN

Lam Krachuan at Ban Nong Bua Raheo, Chaiyaphum (E. 36)

Location: Lat. 15°-44'-10" N., Long. 101°-41'-01" E., on left bank about 2 kilometers upstream from confluence with Lam Prong Khun Phet at Ban Nong Bua Raheo, Amphoe Chatturat, Chaiyaphum.

Drainage Area: 296 sq.km.

Type of Gage: Water-stage recorder.

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

Bench Mark: B.M. E.36

Location: infront of camp of gaging station.
Elevation: +6.864 m. (A.D.)

Gage Reading Frequency: Recording

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

Period of Available Gage Records: 1968 to date

Rating Operation:

Period of Rating: 1968 to date
Rated by Float: –
Rated by Current Meter: 1968 to date

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

Overbank Flow Conditions: No overbank flow.

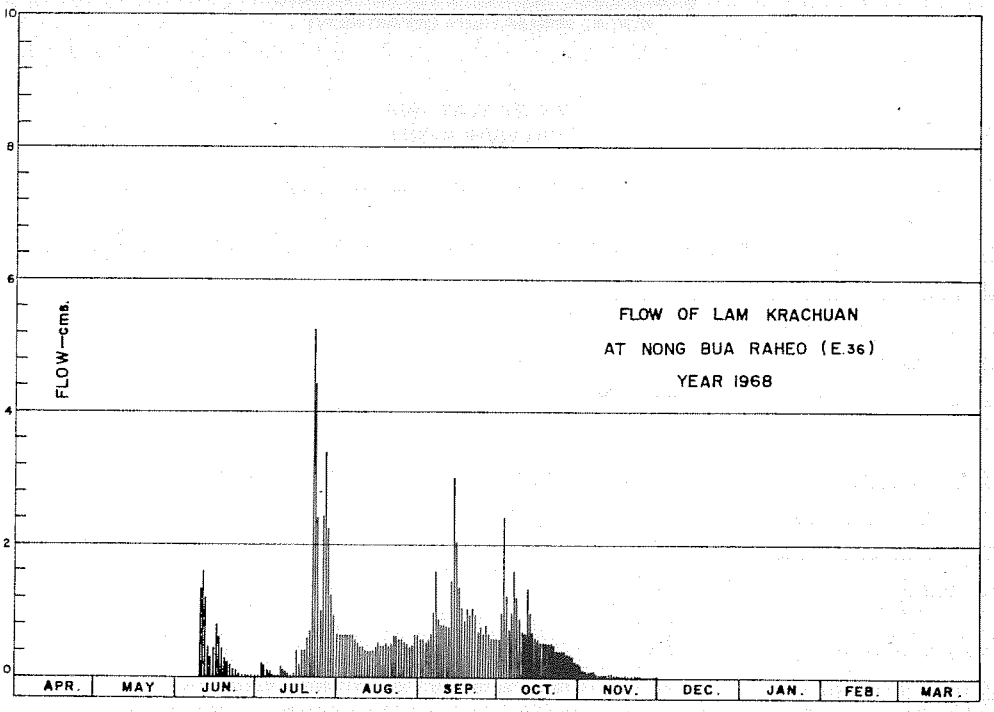
General Description: Records poor. Stage-discharge relationship used is defined by discharge measurement made during 1968. Flow regulated by man-made channel obstructions. No adjustment made for virgin flow.

Remark: Stream gaging began on June 10, 1968. No records for period of no flow.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1				0.17	0.30	0.29	0.29	0.22	0.11			
2				.19	.30	.29	.33	.21	.08			
3				.23	.30	.28	.42	.21	.07			
4				.22	.30	.29	.31	.21	.06			
5				.21	.30	.28	.30	.21	.05			
6				0.21	0.30	0.32	0.33	0.21	0.04			
7				.20	.29	.37	.37	.20	.03			
8				.20	.28	.31	.33	.20	.02			
9				.20	.27	.31	.31	.20	.01			
10			0.35	.22	.27	.31	.30	.20	.01			
11			0.37	0.21	0.26	0.31	0.29	0.20				
12			.28	.21	.26	.30	.35	.20				
13			.25	.20	.26	.36	.31	.20				
14			.23	.19	.26	.45	.30	.19				
15			.29	.20	.27	.39	.29	.19				
16			0.31	0.26	0.28	0.33	0.28	0.18				
17			.27	.22	.27	.33	.28	.18				
18			.26	.21	.27	.31	.28	.18				
19			.23	.26	.28	.33	.28	.18				
20			.23	.37	.27	.32	.28	.18				
21			0.22	0.31	0.28	0.33	0.28	0.18				
22			.21	.33	.30	.32	.27	.17				
23			.21	.55	.30	.30	.26	.16				
24			.20	.39	.29	.31	.26	.16				
25			.19	.31	.29	.30	.26	.15				
26			0.19	0.44	0.28	0.31	0.26	0.15				
27			.19	.47	.28	.30	.25	.15				
28			.18	.37	.27	.29	.25	.15				
29			.18	.33	.29	.29	.24	.14				
30			.17	.32	.30	.29	.23	.14				
31			–	.30	.30	–	.23	–				
Mean				0.27	0.28	0.32	0.29	0.18				
Max.			0.37	0.55	0.30	0.45	0.42	0.22	0.11			
Min.			0.17	0.17	0.26	0.28	0.23	0.14	0.01			

WATER YEAR 1968 : Max. 0.55 m. Min. 0.14 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1				0.02	0.65	0.59	0.59	0.17				
2				0.04	0.65	0.59	1.06	0.11				
3				0.23	0.65	0.53	2.40	0.11				
4				0.17	0.65	0.59	0.79	0.11				
5				0.11	0.65	0.53	0.65	0.11				
6				0.11	0.65	0.92	1.06	0.11				
7				0.05	0.59	1.60	1.60	0.050				
8				0.05	0.53	0.79	1.06	0.050				
9				0.05	0.47	0.79	0.79	0.050				
10			1.33	0.17	0.47	0.79	0.65	0.050				
11			1.60	0.11	0.41	0.79	0.69	0.050				
12			0.53	0.11	0.41	0.65	1.33	0.050				
13			0.35	0.05	0.41	1.46	0.79	0.050				
14			0.23	0.04	0.41	3.00	0.65	0.040				
15			0.59	0.05	0.47	1.87	0.59	0.040				
16			0.79	0.41	0.53	1.06	0.53	0.030				
17			0.47	0.17	0.47	1.06	0.53	0.030				
18			0.41	0.41	0.47	0.79	0.53	0.030				
19			0.23	0.41	0.53	1.06	0.53	0.030				
20			0.23	0.80	0.47	0.92	0.53	0.030				
21			0.17	0.79	0.53	1.06	0.53	0.030				
22			0.11	1.06	0.65	0.92	0.47	0.020				
23			0.11	5.25	0.65	0.65	0.41	0.010				
24			0.05	1.87	0.59	0.79	0.41	0.010				
25			0.04	0.79	0.59	0.65	0.41	0.00				
26			0.04	2.80	0.53	0.79	0.41	0.00				
27			0.04	3.40	0.53	0.65	0.35	0.00				
28			0.03	1.60	0.47	0.59	0.35	0.00				
29			0.03	1.06	0.47	0.59	0.29	0.00				
30			0.02	0.92	0.65	0.59	0.23	0.00				
31			–	0.65	0.65	–	0.23	–				
Total			7.40	23.25	16.85	27.26	21.34	1.37	0.00	0.00	0.00	
Mean			0.246	0.750	0.543	0.908	0.688	0.045				
Max.			1.60	5.25	0.65	3.00	2.40	0.17				
Min.			0.02	0.02	0.41	0.53	0.23	0.00				
Runoff – mcm.			0.639	2.009	1.456	2.355	1.844	0.118	0.00	0.00	0.00	

WATER YEAR 1968 : Max. Min. Mean Annual Runoff mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Jun.23,68	04.00	0.63	7.40				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
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: Staff gage

Zero Gage at Bottom at: +196.394 m. (M.S.L.)

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

Location: about 20 meters south-east of camp of gaging station.
Elevation: +205.115 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: 1967-71
Rated by Float: -
Rated by Current Meter: 1967-71

Stability of Channel Regimes: Unstable, shifting adjustment is included for flow computation.

Overbank Flow Conditions: No overbank flow.

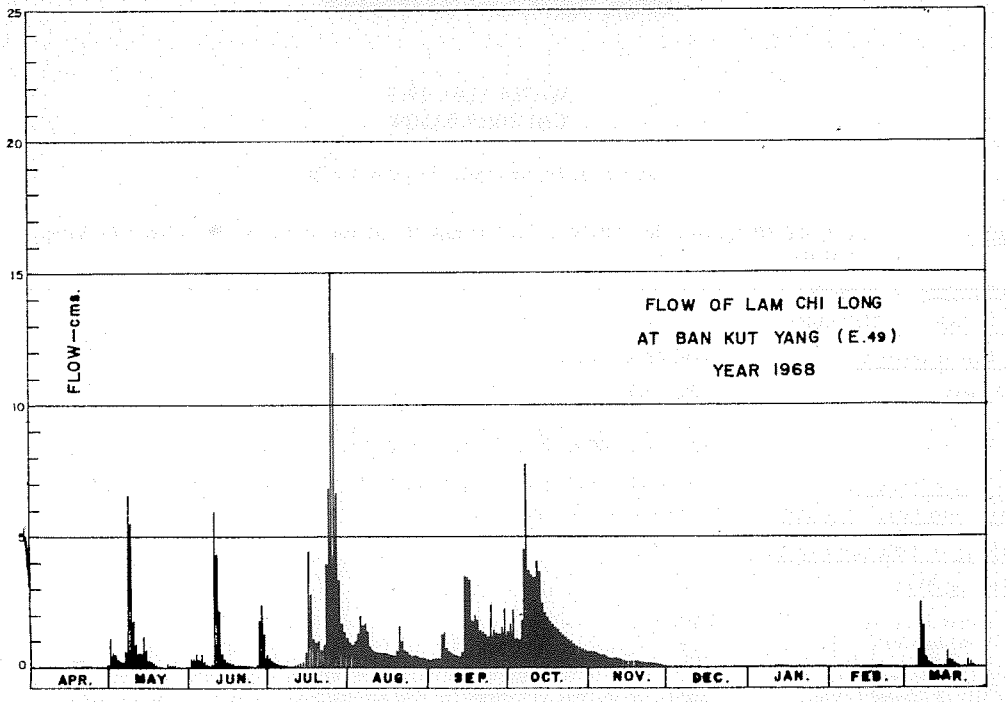
General Description: Records fair. Stage-discharge relationship used is defined by discharge measurements made during 1968. River stage is effected by man-made channel obstructions. No adjustment made for virgin flow.

Remark: Discharge record for period of no flow are omitted.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	198.79	199.71	199.23	199.16	199.57	199.08	199.72	199.39	198.95	198.80	198.83	198.77
2	.79	.38	.18	.04	.48	.12	200.14	.40	.97	.80	.78	.78
3	.78	.35	.38	198.97	.55	.10	199.75	.36	.95	.78	.77	.79
4	.78	.18	.15	.93	.75	.08	.58	.33	.96	.78	.78	.80
5	.78	.09	.34	.90	200.07	.65	.54	.32	.94	.78	.79	.80
6	198.80	199.02	199.11	198.88	199.86	199.71	200.17	199.29	198.92	198.78	198.79	200.25
7	.81	.51	198.99	.88	.94	.38	201.69	.26	.88	.81	.81	199.73
8	.82	201.58	.95	.88	.61	.34	200.81	.23	.98	.83	.81	.02
9	.82	.16	.98	.82	.46	.28	.76	.19	.96	.85	.79	.04
10	.81	199.73	201.41	.81	.37	.25	.49	.20	.95	.87	.79	198.96
11	198.81	199.49	200.71	199.04	199.34	199.22	200.93	199.21	198.94	198.92	198.79	198.89
12	.81	.34	199.56	.02	.32	.20	.75	.18	.93	.94	.79	.86
13	.80	.34	.29	.04	.33	.32	.35	.15	.91	.88	.78	.84
14	.80	.74	.14	.07	.33	200.57	.18	.11	.86	.87	.78	.84
15	.79	.34	.05	.44	.30	.55	.08	.10	.88	.85	.78	.97
16	198.79	199.18	198.98	100.96	199.27	199.93	200.02	199.10	198.83	198.83	198.78	199.36
17	.78	.13	.95	.38	.25	.87	199.97	.11	.88	.83	.79	.08
18	.78	.05	.90	199.56	.22	.99	.89	.09	.83	.84	.79	.10
19	.78	198.98	.89	.53	.38	.92	.85	.09	.81	.85	.78	.00
20	.78	.91	.88	.56	.83	.74	.81	.06	.82	.87	.78	198.93
21	198.78	198.88	198.89	199.33	199.52	199.72	199.75	199.07	198.79	198.85	198.78	198.91
22	.78	.87	.86	.41	.34	.73	.71	.04	.77	.85	.78	.87
23	.78	199.05	.84	200.30	.29	.66	.69	.07	.72	.85	.77	.92
24	.78	198.94	.83	201.95	.23	200.21	.64	.03	.75	.84	.77	199.15
25	.78	.96	.82	203.19	.20	199.74	.60	.02	.73	.84	.77	.08
26	198.78	198.89	198.81	202.40	199.23	199.76	199.56	199.01	198.73	198.84	198.77	198.93
27	.77	.86	200.05	201.21	.18	.70	.51	.02	.73	.84	.77	.87
28	.77	.83	.33	200.39	.17	.81	.47	.00	.75	.85	.77	.85
29	.77	.83	199.44	199.99	.13	200.14	.45	198.96	.77	.84	-	.84
30	.77	.81	.25	.79	.11	199.82	.42	.98	.76	.84	-	.82
31	-	.83	-	.66	.09	-	.40		.79	.84	-	.79
Mean	198.79	199.29	199.27	199.76	199.41	199.65	199.99	199.14	198.85	198.84	198.78	198.99
Max.	198.82	201.58	201.41	203.19	200.07	200.57	201.69	199.40	198.98	198.94	198.83	200.25
Min.	198.77	198.81	198.81	198.81	199.09	199.08	199.40	198.96	198.72	198.78	198.77	198.77

WATER YEAR 1968 : Max. 203.19 m. Min. 198.72 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1		1.12	0.35	0.35	0.96	0.26	1.24	0.61	0.070	0.00	0.021	0.00
2		0.55	0.29	0.21	0.80	0.31	2.18	0.63	0.086	0.00		0.00
3		0.51	0.55	0.14	0.92	0.31	1.30	0.57	0.070	0.00		0.00
4		0.29	0.25	0.11	1.24	0.29	0.97	0.52	0.078	0.00		0.00
5		0.19	0.50	0.086	1.94	1.20	1.09	0.51	0.056	0.00		0.00
6		0.13	0.21	0.070	1.46	1.32	2.49	0.47	0.049	0.00		2.44
7	0.007	0.76	0.10	0.070	1.63	0.64	7.67	0.43	0.021	0.007	0.007	1.26
8	0.014	6.55	0.070	0.070	0.97	0.58	3.70	0.38	0.056	0.021	0.007	0.17
9	0.014	4.99	0.094	0.028	0.71	0.50	3.55	0.33	0.047	0.035		0.19
10	0.007	1.16	5.89	0.021	0.61	0.45	2.80	0.35	0.0.35	0.049		0.12
11	0.007	0.73	3.55	0.10	0.57	0.41	4.07	0.36	0.028	0.086		0.06
12	0.007	0.50	0.85	0.10	0.54	0.38	3.76	0.32	0.028	0.10		0.04
13		0.50	0.43	0.13	0.55	0.61	2.65	0.29	0.028	0.056		0.03
14		1.18	0.24	0.16	0.55	3.44	2.22	0.24	0.00	0.049		0.03
15		0.50	0.15	0.66	0.51	3.38	1.98	0.23	0.028	0.035		0.13
16		0.29	0.13	4.39	0.47	1.79	1.84	0.23	0.00	0.021		0.60
17		0.23	0.11	2.73	0.44	1.66	1.72	0.24	0.042	0.021		0.23
18		0.15	0.070	0.94	0.40	1.94	1.55	0.22	0.021	0.028		0.25
19		0.094	0.063	0.90	0.68	1.77	1.46	0.22	0.007	0.035		0.15
20		0.042	0.056	0.97	1.53	1.38	1.38	0.16	0.014	0.049		0.09
21		0.021	0.063	0.58	0.92	1.34	1.26	0.17	0.00	0.035		0.08
22		0.014	0.042	0.71	0.61	1.26	1.18	0.14	0.00	0.035		0.05
23		0.15	0.028	2.62	0.54	1.12	1.14	0.17	0.00	0.035		0.09
24		0.063	0.021	8.50	0.45	2.34	1.05	0.13	0.00	0.028		0.31
25		0.078	0.014	15	0.41	1.28	0.97	0.13	0.00	0.028		0.23
26		0.028	0.007	9.87	0.45	1.32	0.90	0.12	0.00	0.028		0.09
27		0.007	1.68	4.82	0.38	1.20	0.81	0.13	0.00	0.028		0.05
28		0.00	2.34	2.42	0.37	1.42	0.74	0.11	0.00	0.035		0.03
29		0.00	0.76	1.48	0.32	2.18	0.71	0.078	0.00	0.028	–	0.03
30		0.00	0.47	1.38	0.30	1.44	0.66	0.094	0.00	0.028	–	0.01
31	–	0.00	–	1.12	0.27	–	0.63	–	0.00	0.028	–	0.00
Total	0.056	20.827	19.378	60.735	22.50	37.52	59.67	8.582	0.759	0.928	0.035	6.76
Mean	0.002	0.67	0.64	1.96	0.72	1.25	1.92	0.29	0.024	0.030	0.001	0.270
Max.	0.014	6.55	5.89	15	1.94	3.44	7.67	0.63	0.086	0.10	0.021	2.44
Min.	0.00	0.00	0.007	0.021	0.27	0.26	0.63	0.078	0.00	0.00	0.00	0.00
Runoff – mcm.	0.005	1.799	1.674	5.247	1.944	3.242	5.155	0.741	0.065	0.080	0.003	0.584

WATER YEAR 1968 : Max. 15 Min. 0.00 Mean 0.651 Annual Runoff 20.542 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Jul.25,68	12.00	205.27	16				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
CHI RIVER BASIN

Huai Yang at Ban Yang Khai, Chaiyaphum (E. 50)

Location: Lat. 15°-49'-32" N., Long. 101°-51'-58" E., on left bank of Huai Yang at Ban Yang Khai, Tambon Ban Raeng, Chaiyaphum.

Drainage Area: 41 sq.km.

Type of Gage: Staff gage

Zero Gage at Bottom at: +198.608 m. (M.S.L.)

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

Location: B.M.1 at foot of Rampee Tree and B.M.2 on right bank near measuring line.
Elevation: B.M.1 +206.196 m. (M.S.L.) B.M.2 +207.103 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: 1967-71

Rating Operation:

Period of Rating: 1967-71
Rated by Float: -
Rated by Current Meter: 1967-71

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

Overbank Flow Conditions: No overbank flow.

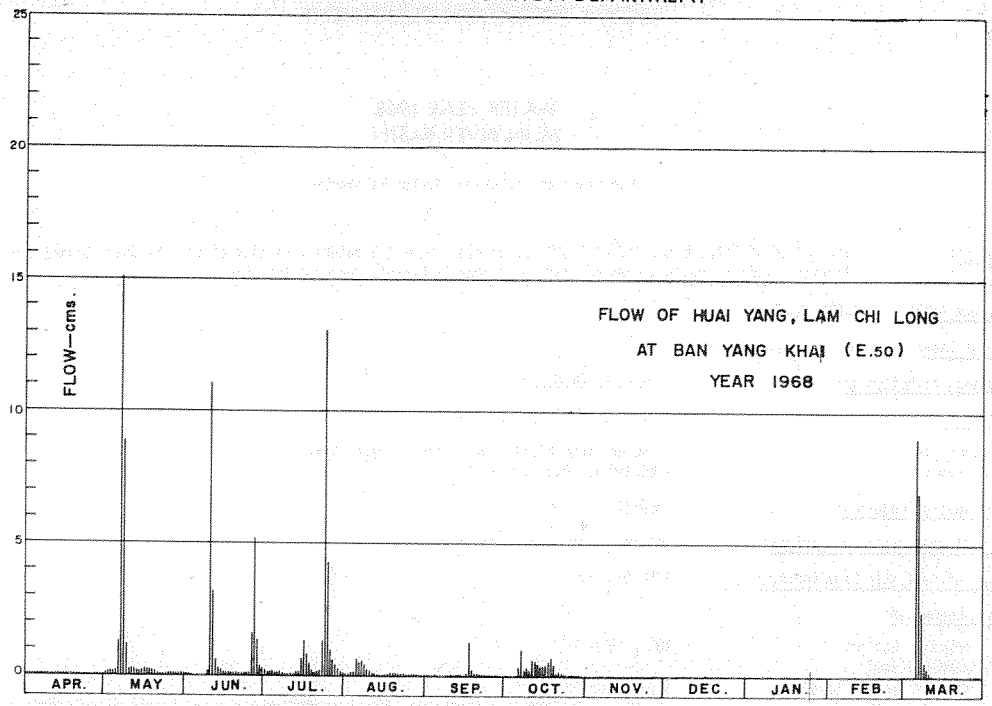
General Description: Record fair. Stage-discharge relationship used is defined by discharge measurements made during 1968. No upstream state diversions for irrigation except those built by local residents. No adjustment made for virgin flow.

Remarks: Records for period of no flow are omitted.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	199.71	200.20	200.14	200.25	200.18	200.09	200.09	200.01				
2	.68	.25	.12	.25	.18	.09	.08	.01				
3	.66	.25	.06	.25	.22	.08	.04	.01				No Flow
4	.64	.25	.04	.22	.23	.07	.02	.01				
5	.61	.18	.04	.17	.54	.13	.08	.01				
6		200.62	200.04	200.16	200.45	200.11	200.41	200.01				202.46
7		203.36	.03	.15	.51	.09	.68	.01				200.97
8		202.08	.03	.15	.38	.08	.26	.01				.41
9		200.63	.33	.14	.30	.06	.34	.01				.30
10		.21	202.73	.13	.25	.04	.26	.01				.18
11		200.34	201.22	200.13	200.21	200.07	200.57	200.01				200.12
12		.31	200.62	.16	.19	.07	.51	.01				.01
13		.27	.35	.26	.18	.06	.43	199.97				199.90
14		.27	.26	.27	.17	.06	.40					
15		.28	.24	.59	.16	.06	.41					
16		200.29	200.23	200.78	200.15	200.11	200.44					
17		.30	.22	.55	.13	.79	.53					
18		.29	.20	.47	.11	.20	.57					
19		.27	.18	.31	.22	.13	.46					
20		.20	.14	.25	.17	.12	.20					
21		200.12	200.13	200.20	200.17	200.11	200.27					
22		.09	.15	.26	.16	.10	.16					
23		.10	.15	.44	.14	.09	.12					
24		.10	.15	202.98	.13	.08	.12					
25		.12	.14	201.18	.12	.06	.11					
26		200.13	200.20	200.68	200.12	200.03	200.10					
27		.14	201.75	.47	.12	.04	.10					
28		.14	200.59	.38	.11	.08	.10					
29		.14	.35	.31	.11	.08	.07					
30		.14	.27	.26	.10	.07	.03					
31		.14	-	.22	.10	-	.01					
Mean		200.39	200.37	200.42	200.20	200.11	200.26					
Max.	199.71	203.36	202.73	202.98	200.54	200.79	200.68	200.01				202.46
Min.		200.09	200.03	200.13	200.10	200.03	200.01					

WATER YEAR 1968 : Max. 203.36 m. Min. 200.01 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1		0.10	0.07	0.15	0.09	0.04	0.04					
2		0.15	0.06	0.15	0.09	0.04	0.03					
3		0.15	0.01	0.15	0.12	0.03	0.00					
4		0.15	0.00	0.12	0.13	0.02	0.00					
5		0.09	0.00	0.08	0.63	0.06	0.03					
6		0.81	0.00	0.08	0.45	0.05	0.37					
7		15	0.00	0.07	0.57	0.04	0.99					
8		6.80	0.00	0.07	0.32	0.03	0.16					
9		0.84	0.24	0.07	0.20	0.01	0.26					
10		0.11	11	0.06	0.15	0.00	0.16					
11		0.26	2.83	0.06	0.11	0.02	0.69					
12		0.21	0.81	0.08	0.09	0.02	0.57					
13		0.17	0.27	0.16	0.09	0.01	0.41					
14		0.17	0.16	0.17	0.08	0.01	0.35					
15		0.18	0.14	0.73	0.08	0.01	0.37					
16		0.19	0.13	1.29	0.07	0.05	0.43					
17		0.20	0.12	0.65	0.06	1.32	0.61					
18		0.19	0.10	0.49	0.05	0.10	0.69					
19		0.17	0.09	0.21	0.12	0.06	0.47					
20		0.10	0.07	0.15	0.08	0.06	0.40					
21		0.06	0.06	0.10	0.08	0.05	0.17					
22		0.04	0.07	0.16	0.08	0.05	0.08					
23		0.05	0.07	0.43	0.07	0.04	0.06					
24		0.05	0.07	13	0.06	0.03	0.06					
25		0.06	0.07	2.67	0.06	0.01	0.05					
26		0.06	0.10	0.99	0.06	0.00	0.05					
27		0.07	5.15	0.49	0.05	0.00	0.05					
28		0.07	0.73	0.32	0.05	0.03	0.05					
29		0.07	0.27	0.21	0.05	0.05	0.02					
30		0.07	0.17	0.16	0.05	0.02	0.00					
31		0.07	–	0.12	0.05	–	0.00					
Total		26.71	22.86	23.64	4.25	2.24	7.32					
Mean		0.862	0.762	0.762	0.137	0.075	0.236					
Max.		15	11	13	0.63	1.32	0.99					
Min.		0.04	0.00	0.06	0.05	0.00	0.00					
Runoff – mcm.		2.308	1.975	2.042	0.367	0.193	0.632					

WATER YEAR 1968 : Max. 15 Min. 0.00 Mean 0.27 Annual Runoff 8.518 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
May.7	16.00	203.71	18				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
MUN RIVER BASIN

Mun River at Tha Chang, Nakhon Ratchasima

Location: Lat. 15°-00'-03" N., Long. 102°-15'-57" E., on right bank 100 meters west side of Ban Tha Chang School and 38 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: +158.50 m. (M.S.L.)

Bench Mark: B.M. - H.S./R.I.D. No. 1004

- Location: 10 meters from right bank along the gage line.
- Elevation: +165.140 m. (M.S.L.)

Gage Reading Frequency: Recording

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

Period of Available Gage Records: 1950 to date

Rating Operation:

- Period of Rating: 1960, 1969-70
- Rated by Float: -
- Rated by Current Meter: 1960, 1969-70

Stability of Channel Regimes: Stable, no shifting adjustment for flow computation for year without actual ratings.

Overbank Flow Conditions: No overbank flow.

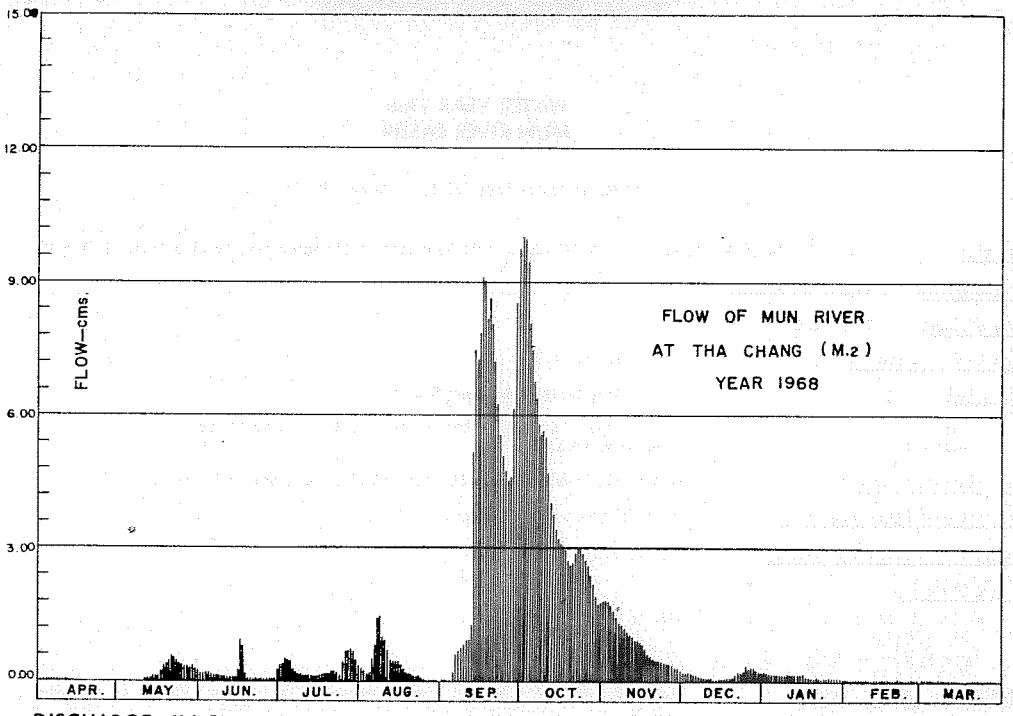
General Description: Records fair. Stage-discharge relationship used is defined by discharge measurements made during 1960. No upstream state diversions for irrigation except those built by local residents. No adjustment made for virgin flow.

Remark: Discharge record for period of no flow are omitted.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	158.97	158.88	159.26	159.42	159.35	159.01	161.45	160.04	159.28	159.29	159.08	159.00
2	.96	.88	.26	.45	.31	.00	.40	.04	.27	.28	.07	158.99
3	.95	.88	.26	.51	.20	158.96	.29	.03	.28	.25	.07	159.01
4	.96	.87	.26	.50	.24	.99	.15	.00	.26	.24	.06	.01
5	.97	.87	.21	.47	.49	159.31	.06	159.95	.24	.22	.04	.00
6	158.99	158.86	159.19	159.29	159.69	159.56	160.95	159.89	159.22	159.23	159.03	158.98
7	.99	.84	.18	.27	.92	.62	.85	.88	.18	.22	.02	.98
8	.99	.81	.18	.24	.93	.66	.81	.87	.14	.21	.01	.97
9	.99	.81	.17	.23	.73	.69	.85	.83	.12	.22	.01	.98
10	.98	.87	.16	.20	.73	.73	.82	.80	.11	.25	.01	.98
11	158.98	159.05	159.12	159.20	159.58	159.74	160.72	159.77	159.10	159.25	158.99	158.98
12	.97	.09	.15	.19	.49	.86	.53	.76	.08	.25	159.00	.98
13	.96	.08	.13	.18	.48	161.08	.52	.72	.06	.25	.04	.97
14	.93	.18	.10	.17	.46	.02	.42	.72	.08	.25	.03	.97
15	.91	.15	.26	.18	.48	.14	.39	.72	.10	.24	.01	.97
16	158.91	159.16	159.14	159.21	159.38	161.31	160.37	159.66	159.09	159.23	159.01	158.96
17	.93	.27	.11	.23	.32	.30	.36	.63	.10	.13	.00	.96
18	.92	.37	.10	.24	.26	.16	.31	.57	.11	.14	158.99	.97
19	.91	.42	.09	.26	.24	.25	.27	.54	.12	.12	.99	.97
20	.89	.50	.06	.28	.23	.14	.26	.51	.17	.09	.99	.97
21	158.84	159.55	159.06	159.31	159.20	161.02	160.32	159.49	159.26	159.15	158.97	158.95
22	.84	.51	.05	.30	.14	160.92	.36	.49	.29	.09	.97	.95
23	.89	.47	.03	.18	.20	.83	.35	.47	.30	.09	.97	.95
24	.89	.41	.02	.13	.00	.75	.33	.45	.33	.10	.97	.95
25	.88	.39	.02	.47	158.97	.69	.29	.44	.41	.12	.97	.95
26	158.88	159.36	159.02	159.60	158.97	160.65	160.26	159.43	159.34	159.12	159.04	158.94
27	.88	.39	.06	.64	.97	.84	.20	.39	.38	.11	.02	.93
28	.88	.33	.06	.65	.97	161.01	.14	.36	.36	.10	.01	.93
29	.88	.39	.09	.59	.97	.16	.06	.36	.32	.09	-	.93
30	.88	.33	.34	.48	.98	.36	.00	.30	.31	.08	-	.94
31	-	.31	-	.38	-	-	.03	-	.30	.08	-	.94
Mean	158.93	159.17	159.14	159.34	159.33	160.39	160.55	159.67	159.22	159.18	159.01	158.97
Max.	158.99	159.55	159.34	159.65	159.93	161.36	161.45	160.04	159.41	159.29	159.08	159.01
Min.	158.84	158.81	159.02	159.13	158.97	158.96	160.00	159.30	159.06	159.08	158.97	158.93

WATER YEAR 1968 : Max. 161.45 m. Min. 158.81 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.01		0.18	0.38	0.29	0.03	10	1.81	0.20	0.21	0.06	0.03
2	0.01		0.18	0.41	0.23	0.03	10	1.81	0.19	0.20	0.05	0.02
3	0.01		0.18	0.49	0.13	0.01	9.90	1.78	0.20	0.17	0.05	0.03
4	0.01		0.18	0.47	0.17	0.02	7.90	1.68	0.18	0.17	0.05	0.03
5	0.01		0.14	0.44	0.46	0.23	7.28	1.52	0.17	0.15	0.04	0.03
6	0.02		0.12	0.21	0.83	0.59	6.40	1.31	0.15	0.16	0.04	0.02
7	0.02		0.12	0.19	1.43	0.68	5.66	1.31	0.12	0.15	0.03	0.02
8	0.02		0.12	0.17	1.46	0.77	5.39	1.28	0.09	0.14	0.03	0.01
9	0.02		0.11	0.16	0.92	0.83	5.66	1.17	0.08	0.15	0.03	0.02
10	0.02		0.10	0.13	0.92	0.92	5.46	1.08	0.07	0.17	0.03	0.02
11	0.02	0.05	0.08	0.13	0.63	0.94	4.58	1.00	0.07	0.17	0.02	0.02
12	0.01	0.06	0.10	0.12	0.46	1.25	3.84	0.99	0.06	0.17	0.03	0.02
13	0.01	0.06	0.09	0.12	0.45	7.44	3.78	0.90	0.05	0.17	0.04	0.01
14		0.12	0.07	0.11	0.43	6.96	3.30	0.90	0.06	0.17	0.04	0.01
15		0.01	0.18	0.12	0.45	7.84	3.16	0.90	0.07	0.17	0.03	0.01
16		0.10	0.92	0.14	0.33	9.10	3.07	0.77	0.06	0.16	0.03	0.01
17		0.19	0.74	0.16	0.25	9.00	3.03	0.70	0.07	0.09	0.03	0.01
18		0.32	0.07	0.17	0.18	7.96	2.81	0.61	0.07	0.09	0.02	0.01
19		0.38	0.06	0.18	0.17	8.60	2.64	0.55	0.08	0.08	0.02	0.01
20		0.47	0.05	0.20	0.16	7.84	2.60	0.49	0.11	0.06	0.02	0.01
21		0.57	0.05	0.23	0.13	6.96	2.86	0.46	0.18	0.01	0.10	0.01
22		0.49	0.05	0.22	0.09	6.16	3.03	0.46	0.21	0.06	0.01	0.01
23		0.44	0.04	0.12	0.13	5.52	2.98	0.44	0.22	0.06	0.01	0.01
24		0.37	0.03	0.09	0.03	5.02	2.90	0.41	0.26	0.07	0.01	0.01
25		0.35	0.03	0.44	0.01	4.68	2.73	0.40	0.37	0.08	0.01	0.01
26		0.30	0.03	0.67	0.01	4.46	2.60	0.39	0.28	0.08	0.04	0.003
27		0.35	0.05	0.72	0.01	5.59	2.35	0.35	0.33	0.07	0.05	0.00
28		0.26	0.05	0.74	0.01	6.88	2.14	0.30	0.30	0.07	0.05	0.00
29		0.35	0.06	0.65	0.01	7.96	1.87	0.30	0.25	0.06	–	0.00
30		0.26	0.28	0.46	0.02	9.60	1.68	0.22	0.23	0.06	–	0.003
31	–	0.23	–	0.33	–	–	1.78	–	0.22	0.06	–	0.003
Total	0.18	5.82	4.26	9.16	10.80	133.87	133.38	26.29	5.00	3.77	0.86	0.40
Mean	0.006	0.188	0.142	0.295	0.360	4.462	4.303	0.876	0.161	0.122	0.031	0.013
Max.	0.02	0.57	0.92	0.74	1.46	9.60	10	1.81	0.37	0.21	0.06	0.03
Min.	0.00	0.05	0.03	0.09	0.01	0.01	1.68	0.22	0.05	0.06	0.01	0.00
Runoff – mcm.	0.015	0.502	0.368	0.791	0.933	11.566	11.524	2.271	0.432	0.326	0.074	0.034

WATER YEAR 1968 : Max. 10 Min. 0.00 Mean 0.914 Annual Runoff 28.839 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Oct.1	18.00	161.45	10				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
MUN RIVER BASIN

Mun River at Amphoe Rasi Salai, Si Sa Ket (M. 5)

Location: Lat. 15°-20'-16" N., Long. 104°-09'-29" E., on left bank infront of Amphoe Rasi Salai office, Si Sa Ket.

Drainage Area: 44,275 m. (M.S.L.)

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: +119.194 m. (M.S.L.)

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: 1955 to date

Rating Operation:

Period of Rating: 1972 to date
Rated by Float: -
Rated by Current Meter: 1972 to date

Stability of Channel Regimes: Stable, no shifting adjustment for flow computation for year without actual ratings.

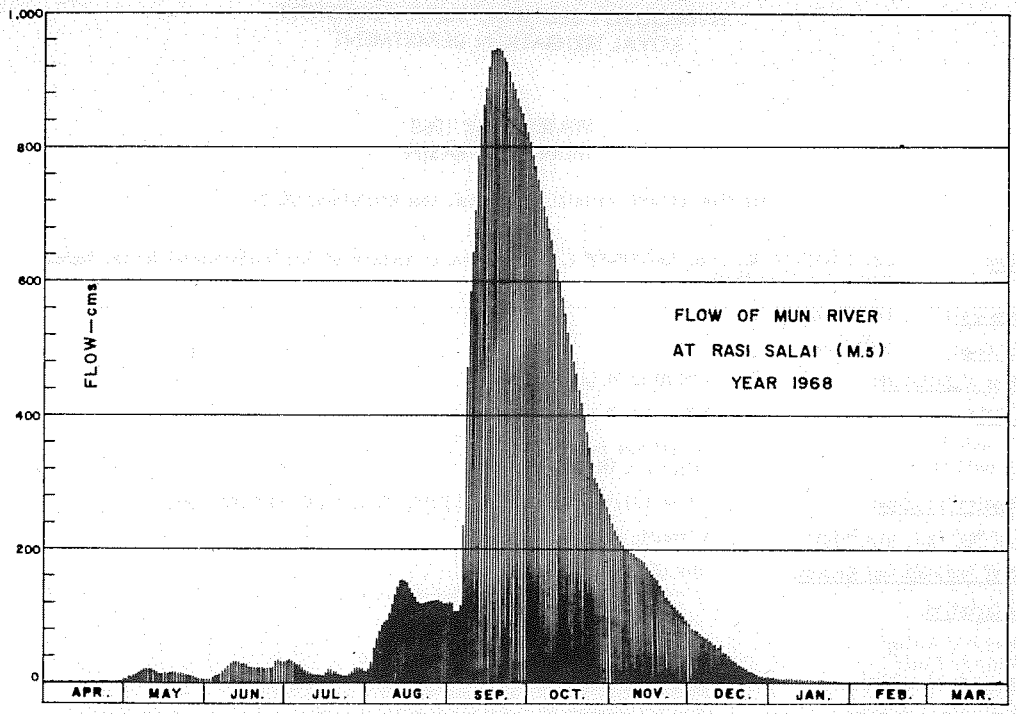
Overbank Flow Conditions: No overbank flow.

General Description: Records fair. Stage-discharge relationship used is defined by discharge measurements made during 1972-73. No upstream state diversions for irrigation except those built by local residents. No adjustment made for virgin flow.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	110.10	110.26	110.24	110.80	110.60	111.87	116.62	112.92	111.50	110.31	110.16	110.12
2	.09	.31	.28	.83	.82	.85	.51	.82	.43	.31	.16	.12
3	.09	.35	.34	.80	111.09	.74	.39	.75	.41	.30	.16	.12
4	.08	.40	.38	.74	.24	.70	.28	.69	.38	.29	.16	.12
5	.08	.45	.41	.70	.38	.86	.18	.64	.35	.29	.15	.12
6	110.08	110.49	110.47	110.68	111.48	112.59	116.07	112.60	111.29	110.28	110.15	110.12
7	.07	.54	.54	.62	.54	113.96	115.96	.57	.26	.27	.15	.12
8	.07	.60	.60	.57	.58	114.76	.85	.55	.22	.27	.15	.12
9	.06	.59	.70	.52	.71	115.22	.76	.52	.19	.26	.15	.12
10	.06	.58	.73	.46	.85	.71	.62	.50	.15	.25	.15	.11
11	110.05	110.56	110.76	110.43	111.97	116.10	115.49	112.47	111.11	110.25	110.15	110.11
12	.08	.51	.76	.42	112.09	.45	.38	.44	.07	.24	.14	.11
13	.10	.47	.75	.40	.17	.71	.26	.41	.14	.24	.14	.11
14	.12	.42	.73	.39	.18	.92	.11	.39	110.99	.23	.14	.11
15	.11	.42	.70	.39	.15	117.06	114.96	.34	.94	.23	.14	.11
16	110.10	110.47	110.66	110.53	112.10	117.18	114.83	112.30	110.89	110.23	110.14	110.11
17	.10	.48	.63	.59	.03	.29	.69	.25	.83	.22	.14	.11
18	.10	.49	.63	.56	111.99	.31	.55	.20	.78	.22	.14	.11
19	.09	.49	.60	.51	.92	.31	.43	.15	.73	.21	.14	.11
20	.09	.46	.61	.47	.87	.30	.30	.10	.69	.21	.13	.11
21	110.12	110.45	110.60	110.44	111.83	117.26	114.14	112.04	110.65	110.21	110.13	110.11
22	.13	.44	.62	.41	.85	.23	.01	111.97	.62	.20	.13	.11
23	.13	.42	.58	.37	.87	.18	113.82	.90	.57	.20	.13	.11
24	.12	.40	.58	.40	.88	.09	.66	.85	.55	.20	.13	.12
25	.11	.38	.60	.48	.89	.04	.51	.80	.51	.19	.13	.12
26	110.13	110.35	110.62	110.56	111.89	116.98	113.36	111.76	110.46	110.19	110.12	110.16
27	.14	.31	.80	.61	.89	.89	.29	.72	.42	.18	.12	.16
28	.15	.28	.83	.62	.88	.83	.25	.66	.39	.18	.12	.15
29	.17	.26	.78	.62	.86	.78	.18	.62	.37	.17	-	.13
30	.21	.24	.76	.58	.84	.69	.12	.55	.34	.17	-	.11
31	-	.21	-	.53	.86	-	.01	-	.32	.17	-	.09
Mean	110.10	110.42	110.60	110.54	111.75	115.69	114.79	112.25	110.89	110.23	110.14	110.12
Max.	110.21	110.60	110.83	110.83	112.18	117.31	116.62	112.92	111.50	110.31	110.16	110.16
Min.	110.05	110.21	110.24	110.37	110.60	111.70	113.01	111.55	110.32	110.17	110.12	110.09

WATER YEAR 1968 : Max. 117.31 m. Min. 110.05 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	1.00	6.40	5.60	34	22	122	819	246	87	8.40	2.80	1.60
2	0.90	8.40	7.20	36	35	120	800	233	81	8.40	2.80	1.60
3	0.90	10	9.60	34	54	109	779	223	80	8.00	2.80	1.60
4	0.80	12	11	30	66	105	761	216	77	7.60	2.80	1.60
5	0.80	14	12	28	77	121	744	209	75	7.60	2.50	1.60
6	0.80	16	15	27	85	203	725	204	70	7.20	2.50	1.60
7	0.70	18	18	23	90	390	706	200	68	6.80	2.50	1.60
8	0.70	22	22	20	93	512	687	198	65	6.80	2.50	1.60
9	0.60	21	28	17	106	585	672	194	62	6.40	2.50	1.60
10	0.60	21	30	14	120	664	649	192	59	6.00	2.50	1.30
11	0.50	20	32	13	132	730	628	188	56	6.00	2.50	1.30
12	0.80	17	32	13	145	789	611	185	53	5.60	2.20	1.30
13	1.00	15	31	12	154	835	592	181	58	5.60	2.20	1.30
14	1.60	13	30	12	155	873	568	179	46	5.20	2.20	1.30
15	1.30	13	28	12	151	898	544	173	43	5.20	2.20	1.30
16	1.00	15	26	18	146	921	523	168	39	5.20	2.20	1.30
17	1.00	15	24	21	138	942	500	162	36	4.80	2.20	1.30
18	1.00	16	24	20	134	946	478	157	33	4.80	2.20	1.30
19	0.90	16	22	17	127	946	460	151	30	4.40	2.20	1.30
20	0.90	14	23	15	122	944	441	146	27	4.40	1.90	1.30
21	1.60	14	22	14	118	936	417	139	25	4.40	1.90	1.30
22	1.90	14	23	12	120	931	397	132	23	4.00	1.90	1.30
23	1.90	13	21	11	122	921	369	125	20	4.00	1.90	1.30
24	1.60	12	21	12	123	904	346	120	19	4.00	1.90	1.60
25	1.30	11	22	15	124	895	325	115	17	3.70	1.90	1.60
26	1.90	10	23	20	124	883	304	111	14	3.70	1.60	2.80
27	2.20	8.40	34	23	124	867	295	107	13	3.40	1.60	2.80
28	2.50	7.20	36	23	123	856	289	101	12	3.40	1.60	2.50
29	3.10	6.40	33	23	121	847	279	97	11	3.10	–	1.90
30	4.40	5.60	32	21	119	831	272	91	9.60	3.10	–	1.30
31	–	4.40	–	18	121	–	257	–	8.80	3.10	–	0.90
Total	40.20	408.80	697.40	608	3,491	20,626	16,237	4,943	1,317.40	164.30	62.50	48.00
Mean	1.34	13.2	23.2	19.6	113	687	524	165	42.5	5.30	2.23	1.55
Max.	4.40	22	36	36	155	946	819	246	87	8.40	2.80	2.80
Min.	0.50	4.40	5.60	11	22	105	257	91	8.80	3.10	1.60	0.90
Runoff – MCM.	3.473	35.320	60.255	52.531	301.622	1,782.086	1,402.877	427.075	113.823	14.195	5.400	4.147

WATER YEAR 1968 : Max. 946 Min. 0.50 Mean 133 Annual Runoff 4,202.807 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sept. 18	06.00	117.31	946				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
MUN RIVER BASIN

Mun River at Seri Prachathipatai Bridge, Ubon Ratchathani (M. 7)

Location: Lat. 15°-13'-17" N., Long. 104°-51'-39" E., on left bank at abutment of Seri Prachathipthai 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:

Location: on left bank near bridge.
Elevation: +113.317 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: 1944 to date

Rating Operation:

Period of Rating:
Rated by Float:
Rated by Current Meter: 1956, 1958, 1964 to date

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

Overbank Flow Conditions: No overbank flow.

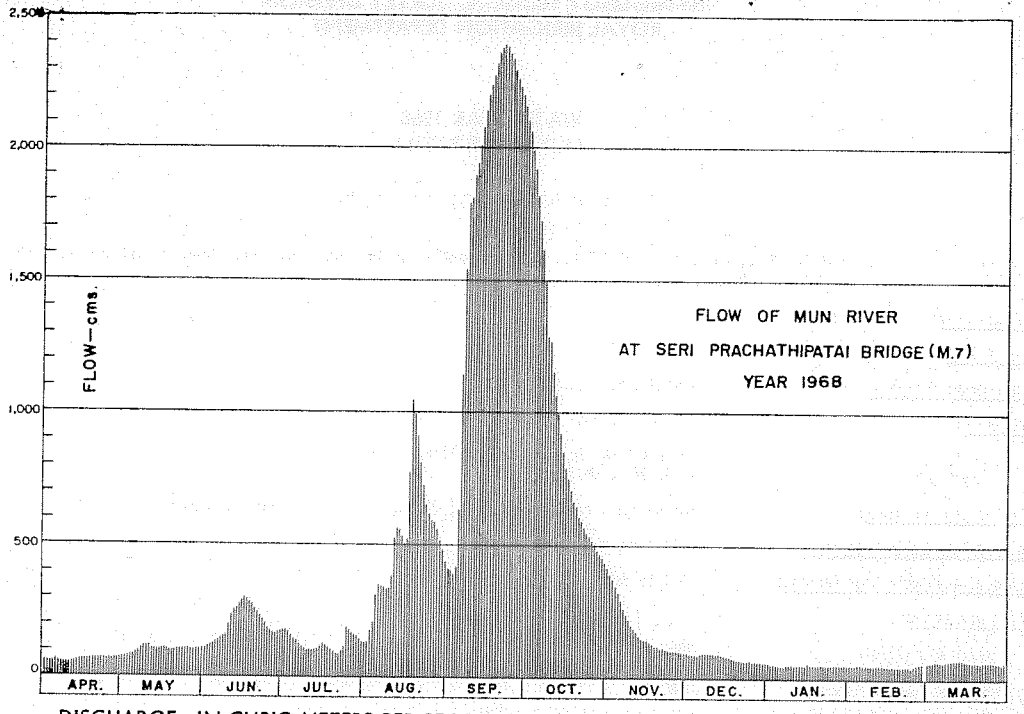
General Description: Records good. Stage-discharge relationship used is defined by discharge measurements made during 1968. No upstream state diversions for irrigation.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	106.61	106.70	106.86	107.15	105.96	107.92	111.89	107.88	106.81	106.63	106.61	106.65
2	.62	.71	.89	.14	.99	.89	.77	.83	.79	.61	.61	.67
3	.62	.72	.93	.10	107.16	.86	.64	.78	.79	.60	.61	.67
4	.62	.75	.95	.06	.30	.82	.49	.68	.79	.60	.62	.68
5	.65	.76	.97	.03	.62	108.10	.31	.60	.78	.59	.62	.69
6	106.64	106.78	107.00	106.99	107.72	109.30	111.12	107.52	106.80	106.59	106.61	106.69
7	.62	.80	.02	.94	.70	110.28	110.85	.43	.81	.59	.61	.69
8	.60	.86	.05	.89	.69	111.02	.60	.36	.81	.61	.61	.69
9	.59	.90	.10	.86	.67	.28	.35	.29	.81	.61	.61	.70
10	.59	.91	.22	.84	.70	.42	.07	.23	.80	.61	.61	.70
11	106.59	106.90	107.34	106.83	107.76	111.48	109.82	107.17	106.80	106.61	106.61	106.70
12	.61	.87	.41	.83	108.24	.57	.59	.12	.79	.62	.61	.71
13	.63	.86	.44	.85	.34	.74	.39	.07	.79	.62	.60	.71
14	.66	.85	.50	.87	.31	.86	.20	.04	.78	.61	.60	.70
15	.66	.86	.55	.92	.22	.97	.04	.02	.77	.61	.59	.69
16	106.67	106.87	107.57	106.96	108.14	112.08	108.90	107.00	106.75	106.62	106.59	106.69
17	.68	.85	.54	.93	.23	.15	.78	106.97	.74	.62	.59	.68
18	.67	.83	.51	.89	109.20	.24	.66	.94	.72	.63	.58	.68
19	.69	.82	.48	.84	.55	.33	.58	.92	.71	.63	.58	.67
20	.69	.82	.44	.81	.39	.38	.51	.91	.70	.62	.57	.67
21	106.68	106.83	107.40	106.78	109.16	112.42	108.44	106.89	106.69	106.62	106.57	106.67
22	.67	.84	.34	.77	108.87	.43	.38	.88	.69	.61	.57	.67
23	.66	.85	.29	.79	.66	.41	.33	.87	.69	.61	.57	.68
24	.67	.86	.24	.91	.53	.37	.26	.86	.68	.61	.58	.69
25	.68	.87	.17	107.18	.47	.32	.22	.85	.68	.61	.61	.67
26	106.68	106.87	107.14	107.14	108.42	112.25	108.17	106.84	106.67	106.61	106.62	106.66
27	.69	.86	.11	.10	.38	.19	.14	.84	.67	.61	.63	.65
28	.68	.85	.09	.09	.31	.14	.10	.83	.66	.61	.64	.65
29	.69	.85	.11	.06	.21	.08	.05	.82	.66	.61	–	.64
30	.69	.84	.13	.01	.11	111.99	.01	.82	.65	.61	–	.65
31	–	.84	–	106.97	.01	–	107.95	–	.64	.61	–	.66
Mean	106.65	106.83	107.23	106.95	108.16	111.18	109.41	107.14	106.74	106.61	106.60	106.68
Max.	106.69	106.91	107.57	107.18	109.55	112.43	111.89	107.88	106.81	106.63	106.64	106.71
Min.	106.59	106.70	106.86	106.77	106.96	107.82	107.95	106.82	106.64	106.59	106.57	106.64

WATER YEAR 1968 : Max. 112.43 m. Min. 106.59 m.

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	53	71	106	178	130	417	2,107	403	95	57	53	61
2	55	73	113	175	136	407	2,045	386	91	53	53	65
3	55	75	122	164	181	396	1,980	369	91	51	53	65
4	55	82	127	154	220	383	1,905	336	91	51	55	67
5	61	84	131	146	317	480	1,817	310	89	49	55	69
6	59	89	138	136	350	942	1,727	284	93	49	53	69
7	55	93	143	125	343	1,353	1,604	257	95	49	53	69
8	51	106	151	113	340	1,681	1,494	237	95	53	53	69
9	49	115	164	106	333	1,802	1,384	217	95	53	53	71
10	49	117	198	102	343	1,807	1,261	200	93	53	53	71
11	49	115	231	100	363	1,900	1,152	184	93	53	53	71
12	53	108	251	100	530	1,945	1,058	170	91	55	53	73
13	57	106	260	104	566	2,030	978	156	91	55	51	73
14	63	104	278	108	556	2,091	902	148	89	53	51	71
15	63	106	294	120	523	2,148	838	143	86	53	49	69
16	65	108	300	130	494	2,206	782	138	82	55	49	69
17	67	104	291	122	527	2,242	734	131	80	55	49	67
18	65	100	281	113	902	2,289	686	125	75	57	48	67
19	69	97	272	102	1,042	2,336	654	120	73	57	48	65
20	69	97	260	95	978	2,363	628	117	71	55	46	65
21	67	100	248	89	886	2,385	602	113	69	55	46	65
22	65	102	231	86	770	2,390	581	111	69	53	46	65
23	63	104	217	91	686	2,379	563	108	69	53	46	67
24	65	106	203	117	635	2,358	538	106	67	53	48	69
25	67	108	184	186	613	2,331	523	104	67	53	53	65
26	67	108	175	175	595	2,294	505	102	65	53	55	63
27	69	106	167	164	581	2,263	494	102	65	53	57	61
28	67	104	161	161	556	2,237	480	100	63	53	59	61
29	69	104	167	154	520	2,206	462	97	63	53	–	59
30	69	102	172	141	484	2,159	448	97	61	53	–	61
31	–	102	–	131	448	–	427	–	59	53	–	63
Total	1,830	3,096	6,036	3,988	15,948	54,283	31,359	5,471	2,476	1,651	1,441	2,065
Mean	61.0	99.9	201	129	514	1,809	1,012	182	79.9	53.2	51.5	66.6
Max.	69	117	300	186	1,042	2,390	2,107	403	95	57	59	73
Min.	49	71	106	86	130	383	427	97	59	49	46	59
Runoff – MCM.	158.112	267.494	521.510	344.563	1,377.907	4,690.051	2,709.418	472.694	213.926	142.646	124.502	178.416

WATER YEAR 1968 : Max. 2,390 Min. 46 Mean 355 Annual Runoff 11,201.242mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sept. 22, 68	16.00	112.44	2,396				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
MUN RIVER BASIN

Lam Plai Mat at Railway Bridge, Buri Ram (M. 8)

Location: Lat. 15°-01'-05" N., Long. 102°-48'-55" E., on right bank about 15 meters downstream from Railway Bridge, Amphoe Lam Plai Mat, Buri Ram.

Drainage Area: 5,025 sq.km.

Type of Gage: Staff gage

Zero Gage at Bottom at: +148.890 m. (M.S.L.)

Bench Mark: B.M. – H.S. 1015

Location: on left bank along staff gage line.
Elevation: +155.976 m. (M.S.L.)

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

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

Period of Available Gage Records: 1951 to date

Rating Operation:

Period of Rating: 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.

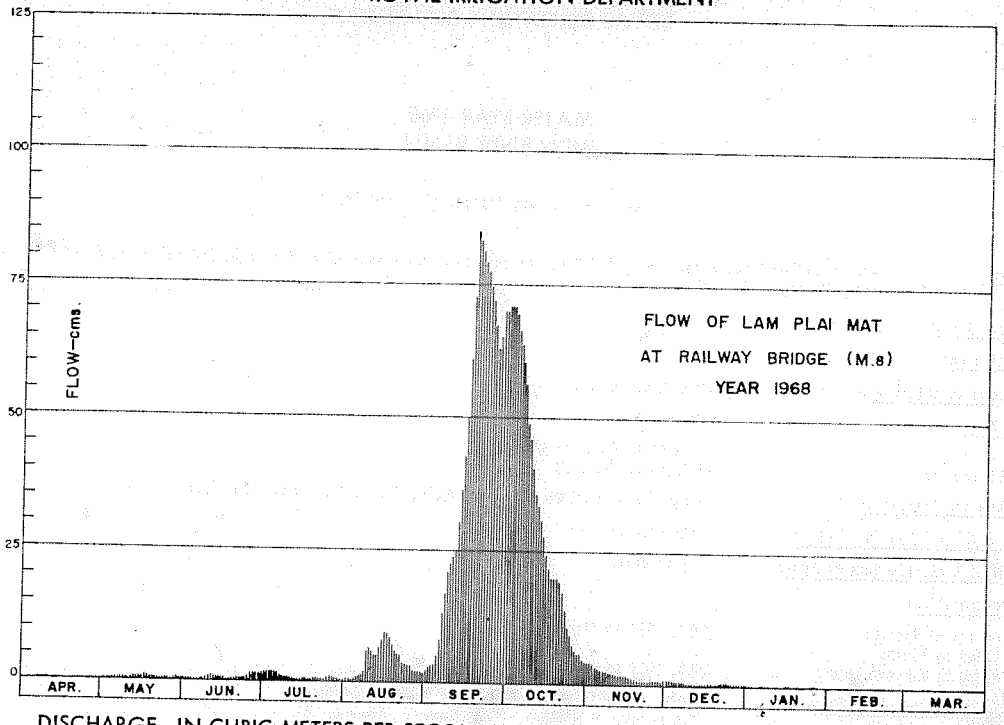
General Description: Records fair. Stage-discharge relationship used is defined by discharge measurements made during 1967. No upstream state diversions for irrigation except those built by local residents. No adjustment made for virgin flow.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	150.13	150.17	150.28	150.50	150.31	150.68	156.03	150.89	150.36	150.20	150.13	150.12
2	.13	.18	.27	.53	.29	.74	.05	.86	.39	.18	.13	.11
3	.13	.18	.26	.54	.28	.78	.03	.83	.35	.16	.14	.07
4	.13	.18	.25	.52	.28	.81	155.96	.78	.34	.15	.14	.03
5	.14	.21	.24	.48	.36	151.06	.86	.73	.34	.13	.13	.02
6	150.15	150.23	150.23	150.42	150.42	151.54	155.71	150.66	150.33	150.24	150.12	150.01
7	.15	.27	.21	.39	.44	152.01	.51	.65	.31	.20	.12	.00
8	.16	.28	.23	.35	.59	.45	.24	.64	.29	.18	.12	.99
9	.17	.25	.28	.35	151.10	.79	154.91	.62	.26	.18	.11	.98
10	.16	.22	.34	.33	.20	.97	.55	.59	.23	.16	.12	.98
11	150.15	150.21	150.40	150.29	151.09	153.01	154.20	150.55	150.22	150.15	150.12	149.98
12	.15	.23	.37	.25	.00	.12	.00	.53	.26	.14	.12	.97
13	.14	.30	.33	.24	.01	.49	153.82	.52	.29	.14	.12	.96
14	.14	.28	.29	.25	.22	154.23	.60	.52	.28	.14	.12	.95
15	.13	.28	.29	.28	.43	.78	.28	.52	.24	.15	.12	.94
16	150.12	150.33	150.28	150.28	151.54	155.25	152.98	150.52	150.21	150.16	150.12	149.94
17	.12	.39	.26	.26	.50	.76	.73	.47	.32	.17	.12	.93
18	.11	.36	.26	.25	.39	156.32	.65	.44	.28	.16	.11	.92
19	.11	.32	.26	.29	.24	.54	.67	.44	.27	.16	.11	.90
20	.12	.29	.25	.31	.11	.46	.63	.44	.26	.15	.12	.89
21	150.14	150.27	150.26	150.28	151.07	156.40	152.52	150.42	150.33	150.15	150.12	149.88
22	.12	.25	.23	.26	150.91	.34	.31	.36	.33	.14	.12	.87
23	.12	.23	.23	.28	.82	.25	.00	.42	.31	.13	.12	.86
24	.12	.26	.25	.31	.79	.15	151.67	.34	.30	.14	.12	.85
25	.12	.24	.38	.35	.76	.05	.45	.49	.28	.15	.12	.85
26	150.15	150.23	150.43	150.36	150.72	155.93	151.29	150.41	150.25	150.15	150.11	149.84
27	.17	.23	.44	.34	.70	.82	.17	.34	.27	.15	.11	.84
28	.17	.28	.45	.31	.68	.90	.08	.30	.24	.14	.11	.83
29	.16	.28	.44	.29	.68	156.00	.02	.31	.25	.14	–	.83
30	.16	.26	.45	.27	.68	.02	150.94	.35	.25	.13	–	.82
31	–	.25	–	.27	.67	–	.90	–	.22	.13	–	.82
Mean	150.13	150.25	150.30	150.33	150.84	154.18	153.37	150.53	150.28	150.15	150.12	149.70
Max.	150.17	150.39	150.45	150.54	151.54	156.54	156.05	150.89	150.39	150.20	150.14	150.12
Min.	150.11	150.17	150.21	150.24	150.28	150.68	150.90	150.30	150.22	150.13	150.11	149.82

WATER YEAR 1968 : Max. 156.54 m. Min. 150.01 m.

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.12	0.28	0.72	1.80	0.85	2.78	71	4.23	1.10	0.40	0.12	0.08
2	0.12	0.32	0.68	1.95	0.76	3.18	71	4.02	1.25	0.32	0.12	0.04
3	0.12	0.32	0.64	2.00	0.72	3.46	71	3.81	1.05	0.24	0.16	0.00
4	0.12	0.32	0.60	1.90	0.72	3.67	69	3.46	1.00	0.20	0.16	0.00
5	0.16	0.44	0.56	1.70	1.10	5.48	66	3.11	1.00	0.12	0.12	0.00
6	0.20	0.52	0.52	1.40	1.40	9.46	63	2.66	0.95	0.56	0.08	0.00
7	0.20	0.68	0.44	1.25	1.50	14	58	2.60	0.85	0.40	0.08	0.00
8	0.24	0.72	0.52	1.05	2.25	18	53	2.54	0.76	0.32	0.08	0.00
9	0.28	0.60	0.72	1.05	5.80	21	47	2.42	0.64	0.32	0.04	0.00
10	0.24	0.48	1.00	0.95	6.60	23	42	2.25	0.52	0.24	0.08	0.00
11	0.20	0.44	1.30	0.76	5.72	24	37	2.05	0.48	0.20	0.08	0.00
12	0.20	0.52	1.15	0.60	5.00	25	35	1.95	0.64	0.16	0.08	0.00
13	0.16	0.80	0.95	0.56	5.08	29	33	1.90	0.76	0.16	0.08	0.00
14	0.16	0.72	0.76	0.60	6.76	38	30	1.90	0.72	0.16	0.08	0.00
15	0.12	0.72	0.76	0.72	8.47	44	27	1.90	0.56	0.20	0.08	0.00
16	0.08	0.95	0.72	0.72	9.46	53	23	1.90	0.44	0.24	0.08	0.00
17	0.08	1.25	0.64	0.64	9.10	64	21	1.65	0.90	0.28	0.08	0.00
18	0.04	1.10	0.64	0.60	8.12	79	20	1.50	0.72	0.24	0.04	0.00
19	0.04	0.90	0.64	0.76	6.92	85	20	1.50	0.68	0.24	0.04	0.00
20	0.08	0.76	0.60	0.85	5.88	83	20	1.50	0.64	0.20	0.08	0.00
21	0.16	0.68	0.64	0.72	5.61	81	19	1.40	0.95	0.20	0.08	0.00
22	0.08	0.60	0.52	0.64	4.37	79	17	1.10	0.95	0.16	0.08	0.00
23	0.08	0.52	0.52	0.72	3.74	77	14	1.40	0.85	0.12	0.08	0.00
24	0.08	0.64	0.60	0.85	3.53	74	11	1.00	0.80	0.16	0.08	0.00
25	0.08	0.56	1.20	1.05	3.32	71	8.56	1.75	0.72	0.20	0.08	0.00
26	0.20	0.52	1.45	1.10	3.04	68	7.32	1.35	0.60	0.20	0.04	0.00
27	0.28	0.52	1.50	1.00	2.90	65	6.36	1.00	0.68	0.20	0.04	0.00
28	0.28	0.72	1.55	0.85	2.78	67	5.64	0.80	0.56	0.16	0.04	0.00
29	0.24	0.72	1.50	0.76	2.78	70	5.16	0.85	0.60	0.16	–	0.00
30	0.24	0.64	1.55	0.68	2.78	70	4.58	1.05	0.60	0.12	–	0.00
31	–	0.60	–	0.68	2.72	–	4.30	–	0.48	0.12	–	0.00
Total	4.68	19.56	25.59	30.91	129.78	1,350.03	979.92	60.55	23.45	7.00	2.28	0.12
Mean	0.156	0.630	0.853	0.997	4.18	45.0	31.6	2.02	0.756	0.225	0.081	0.00
Max.	0.28	1.25	1.55	2.00	9.46	85	71	4.23	1.25	0.40	0.16	0.08
Min.	0.04	0.28	0.44	0.56	0.72	2.78	4.30	0.80	0.44	0.12	0.04	0.00
Runoff - mcm.	0.404	1.689	2.210	2.670	11.212	116.642	84.665	5.231	2.026	0.604	0.196	0.010

WATER YEAR 1968 : Max. 85 Min. 0.00 Mean 7.22 Annual Runoff 227.565 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sept. 19, 68	18.00	156.54	85				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
MUN RIVER BASIN

Huai Samran at Highway Bridge, Si Sa Ket (M. 9)

Location: Lat. 15°-07'-00" N., Long. 104°-19'-20" E., on left bank downstream side of bridge, 200 meters north of city jail, Amphoe Muang, Si Sa Ket.

Drainage Area: 3,026 sq.km.

Type of Gage: Staff gage

Zero Gage at Bottom at: +109.00 m. (M.S.L.)

Bench Mark: B.M. No. 0339

Location: on right bank at the bridge.

Elevation: +123.034 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: 1951, 1972 to date.

Rated by Float:

Rated by Current Meter: 1951, 1972 to date.

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

Overbank Flow Conditions: No overbank flow.

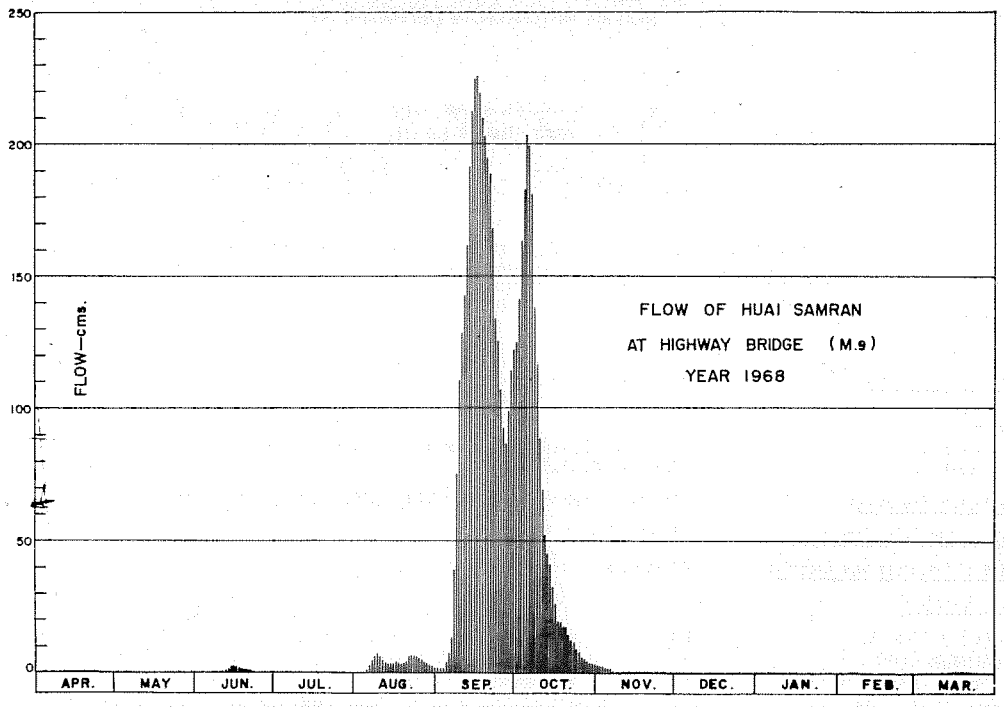
General Description: Records fair. Stage-discharge relationship used is defined by discharge measurements made during 1951. No upstream state diversions for irrigation except those built by local residents. No adjustment made for virgin flow.

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

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	109.33	109.46	109.66	109.87	109.97	110.85	116.38	111.12	109.68	109.40	109.34	109.24
2	.33	.51	.73	.77	110.14	.82	.66	.06	.67	.39	.33	.24
3	.35	.59	.75	.71	.25	.78	.90	110.94	.65	.38	.32	.23
4	.35	.57	.77	.70	.33	111.14	117.28	.85	.65	.38	.32	.23
5	.44	.97	.79	.68	.62	.67	.46	.75	.63	.37	.31	.22
6	109.37	110.55	109.82	109.65	111.01	112.14	117.37	110.63	109.62	109.36	109.30	109.22
7	.33	.18	.83	.64	.63	113.40	.05	.54	.62	.35	.30	.21
8	.34	.15	.93	.61	.85	115.20	116.55	.46	.60	.35	.31	.21
9	.38	.12	110.14	.58	.88	116.12	.21	.38	.62	.34	.30	.22
10	.38	.12	.30	.56	.78	.38	115.45	.27	.60	.34	.29	.21
11	109.37	110.12	110.42	109.54	111.56	116.64	114.81	110.18	109.58	109.33	109.29	109.21
12	.36	.08	.60	.50	.33	.92	.30	.10	.55	.33	.28	.21
13	.35	.02	.86	.49	.22	117.28	.08	.03	.53	.34	.28	.21
14	.35	109.94	.95	.47	.27	.54	113.95	109.96	.50	.36	.30	.33
15	.37	.83	.94	.45	.36	.68	.56	.94	.50	.33	.30	.30
16	109.37	109.78	110.93	109.44	111.42	117.69	113.19	109.93	109.50	109.33	109.29	109.37
17	.34	.72	.90	.43	.33	.63	112.79	.92	.49	.32	.28	.39
18	.37	.67	.88	.43	.30	.55	.85	.91	.49	.31	.27	.36
19	.33	.90	.83	.42	.26	.43	.76	.90	.48	.28	.27	.33
20	.33	.85	.75	.42	.38	.36	.71	.90	.47	.27	.26	.31
21	109.33	109.71	110.66	109.41	111.80	117.14	112.53	109.90	109.46	109.28	109.25	109.30
22	.33	.62	.58	.43	.84	116.78	.37	.87	.45	.29	.25	.30
23	.34	.58	.47	.47	.83	.49	.26	.86	.45	.30	.28	.28
24	.34	.55	.27	.55	.79	.19	.05	.88	.44	.30	.27	.27
25	.33	.50	.13	.68	.66	115.86	111.87	.99	.44	.31	.26	.26
26	109.35	109.53	110.08	109.84	111.58	115.54	111.72	109.89	109.45	109.30	109.25	109.25
27	.37	.57	109.75	110.13	.40	.48	.59	.84	.44	.29	.25	.26
28	.40	.58	.69	.14	.24	.81	.48	.81	.43	.29	.25	.29
29	.41	.43	.64	.13	.13	116.14	.37	.76	.42	.30	—	.26
30	.44	.42	.83	109.97	.03	.31	.28	.70	.41	.32	—	.24
31	—	.51	—	.95	110.86	—	.19	—	.40	.34	—	.23
Mean	109.36	109.78	110.26	109.65	111.26	115.46	113.94	110.18	109.52	109.33	109.29	109.26
Max.	109.44	110.55	110.95	110.14	111.88	117.69	117.46	111.12	109.68	109.40	109.34	109.39
Min.	109.33	109.42	109.64	109.41	109.97	110.78	111.19	109.70	109.40	109.27	109.25	105.21

WATER YEAR 1968 : Max. 117.69 m. Min. 109.21 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.006	0.032	0.088	0.15	0.18	1.82	125	2.79	0.094	0.020	0.008	0.000
2	0.006	0.043	0.11	0.12	0.32	1.72	141	2.56	0.091	0.018	0.006	
3	0.010	0.067	0.11	0.10	0.45	1.59	157	2.14	0.085	0.018	0.004	
4	0.010	0.067	0.12	0.10	0.57	2.88	187	1.82	0.085	0.018	0.004	
5	0.028	0.18	0.13	0.094	1.15	5.62	203	1.50	0.079	0.014	0.002	
6	0.014	0.99	0.14	0.085	2.38	9.84	194	1.17	0.076	0.012	0.000	
7	0.006	0.37	0.14	0.082	5.35	28	168	0.97	0.076	0.010	0.000	
8	0.008	0.34	0.17	0.073	6.95	75	135	0.80	0.070	0.010	0.002	
9	0.016	0.30	0.32	0.064	7.22	112	116	0.66	0.076	0.008	0.000	
10	0.016	0.30	0.52	0.054	6.36	125	83	0.51	0.070	0.008		
11	0.014	0.30	0.73	0.052	4.94	140	62	0.37	0.064	0.006		
12	0.012	0.26	1.10	0.040	3.75	158	48	0.28	0.055	0.006		
13	0.010	0.22	1.86	0.038	3.24	187	43	0.22	0.049	0.008		0.000
14	0.010	0.17	2.17	0.034	3.46	210	40	0.18	0.040	0.012		0.006
15	0.014	0.14	2.14	0.030	3.90	224	32	0.17	0.040	0.006		0.000
16	0.014	0.12	2.10	0.028	4.20	225	25	0.17	0.040	0.006		0.014
17	0.008	0.11	2.00	0.026	3.75	219	18	0.17	0.038	0.004		0.018
18	0.014	0.091	1.93	0.026	3.60	211	19	0.16	0.038	0.002		0.012
19	0.006	0.16	1.75	0.024	3.42	200	18	0.16	0.036	0.000		0.006
20	0.006	0.15	1.50	0.024	4.00	193	17	0.16	0.034			0.002
21	0.006	0.10	1.25	0.022	6.50	175	14	0.16	0.032			0.000
22	0.006	0.076	1.06	0.026	6.86	149	12	0.15	0.030			
23	0.008	0.064	0.82	0.034	6.77	131	11	0.15	0.030			
24	0.008	0.055	0.48	0.055	6.43	116	8.85	0.15	0.028			
25	0.006	0.040	0.31	0.094	5.55	100	7.13	0.19	0.028			
26	0.010	0.049	0.26	0.14	5.04	87	5.96	0.16	0.030			
27	0.014	0.061	0.11	0.31	4.10	85	5.10	0.14	0.028			
28	0.020	0.064	0.097	0.32	3.33	98	4.52	0.13	0.026		0.000	
29	0.022	0.026	0.082	0.31	2.83	113	3.95	0.12	0.024		–	
30	0.028	0.024	0.14	0.18	2.45	121	3.51	0.10	0.024		–	
31	–	0.043	–	0.17	1.86	–	3.10	–	0.020	0.000	–	0.000
Total	0.356	5.013	23.737	2.905	120.91	3,505.47	1,910.12	18.41	1.536	0.186	0.026	0.058
Mean	0.012	0.16	0.79	0.094	3.90	117	61.6	0.61	0.049	0.006	0.000	0.000
Max.	0.028	0.99	2.17	0.32	7.22	225	203	2.79	0.094	0.020	0.008	0.018
Min.	0.006	0.024	0.082	0.022	0.18	1.59	3.10	0.10	0.020	0.000	0.000	0.000
Runoff – mcm.	0.031	0.433	2.051	0.251	10.447	302.873	165.034	1.591	0.133	0.016	0.002	0.005

WATER YEAR 1968 : Max. 225 Min. 0.00 Mean 15.3 Annual Runoff 482.866 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Oct. 10	12.00	117.70	226				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
MUN RIVER BASIN

Kaeng Saphu, Phibun Mang Sahan, Ubon Ratchathani (M. 11)

Location: Lat. 15°-14'-46" N., Long. 105°-14'-38" E., on right bank about 200 meters downstream from office of Amphoe Phibun Mang Sahan and 100 meters downstream from Kaeng Saphu, Ubon Ratchathani.

Drainage Area: 115,687 sq.km.

Type of Gage: Staff gage

Zero Gage at Bottom at: +101.00 m. (M.S.L.)

Bench Mark: B.M. - H.S. referred to B.M. of Thai Army Survey Department No. 148/2476.

Location: near the road infront of Thai Government Saving Bank.
Elevation: +113.572 m. (M.S.L.)

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

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

Period of Available Gage Records: 1951 to date

Rating Operation:

Period of Rating: 1951
Rated by Float: -
Rated by Current Meter: 1951

Stability of Channel Regimes: Stable, no shifting adjustment for flow computation for year without actual ratings.

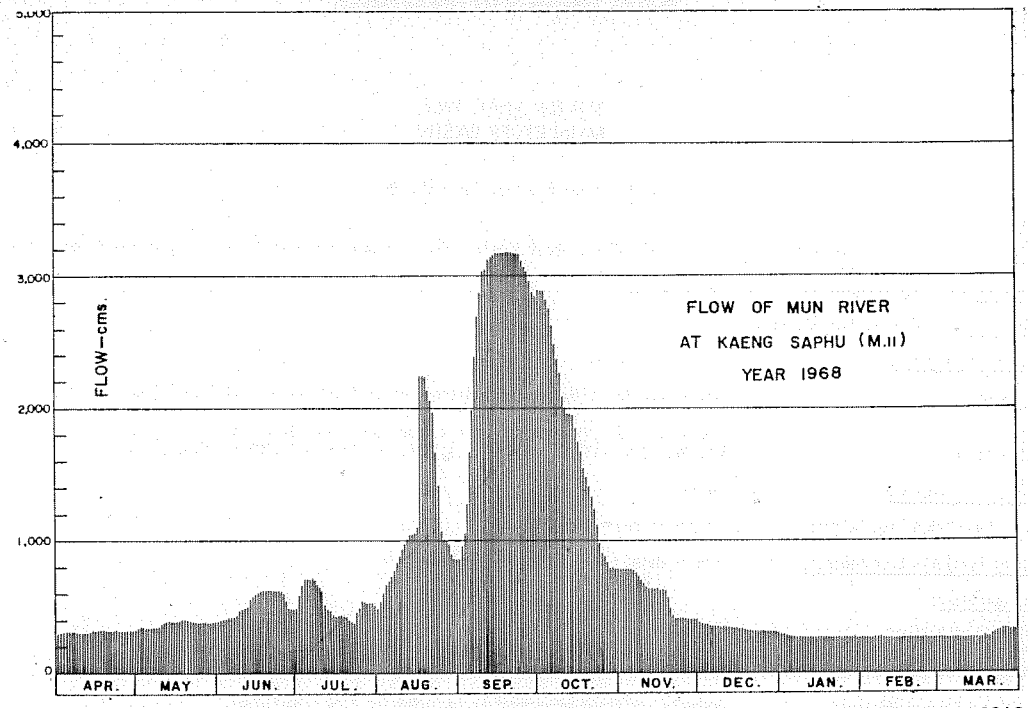
Overbank Flow Conditions: No overbank flow.

General Description: Records poor. Stage-discharge relationship used is defined by discharge measurements made during 1951. No upstream state diversions for irrigation except those built by local residents. No adjustment made for virgin flow.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	106.68	106.74	106.83	107.00	107.00	107.60	109.76	107.50	106.80	106.65	106.60	106.60
2	.68	.74	.84	.18	.10	.72	.76	.50	.80	.64	.60	.60
3	.68	.75	.85	.28	.22	.90	.76	.50	.80	.63	.60	.60
4	.68	.75	.86	.38	.30	108.23	.70	.50	.80	.62	.60	.60
5	.68	.75	.87	.38	.35	.66	.65	.50	.78	.61	.60	.60
6	106.68	106.75	106.88	107.38	107.40	109.02	109.55	107.50	106.77	106.60	106.60	106.60
7	.68	.75	.89	.38	.48	.35	.43	.45	.77	.60	.60	.60
8	.68	.75	.90	.38	.55	.60	.32	.40	.77	.60	.60	.60
9	.68	.75	.99	.30	.60	.78	.25	.35	.77	.60	.60	.60
10	.68	.80	107.00	.25	.72	.88	.02	.30	.77	.60	.60	.60
11	106.66	106.82	107.00	107.10	107.80	109.90	108.93	107.28	106.77	106.60	106.60	106.60
12	.67	.83	.00	.00	.85	.95	.93	.25	.77	.60	.60	.60
13	.69	.83	.11	.00	.88	.98	.93	.25	.76	.60	.60	.60
14	.70	.83	.15	.00	.88	.99	.93	.25	.75	.60	.60	.60
15	.70	.83	.20	106.90	.88	110.00	.82	.25	.74	.60	.60	.60
16	106.70	106.83	107.20	106.90	107.88	110.00	108.72	107.25	106.73	106.60	106.60	106.60
17	.71	.84	.23	.90	109.20	.00	.65	.25	.73	.60	.60	.60
18	.71	.85	.23	.90	.20	.00	.50	.25	.73	.60	.60	.60
19	.71	.86	.23	.90	.20	.00	.41	.11	.73	.60	.60	.60
20	.71	.85	.23	.90	.08	.00	.32	.00	.72	.60	.60	.60
21	106.70	106.84	107.23	106.88	109.02	110.00	108.25	106.88	106.71	106.60	106.60	106.65
22	.70	.83	.23	.84	108.88	.00	.11	.88	.71	.60	.60	.68
23	.70	.83	.23	.80	.50	.00	.02	.88	.71	.60	.60	.70
24	.70	.83	.23	.99	.21	.00	107.82	.88	.70	.60	.60	.70
25	.70	.83	.23	107.02	107.90	109.94	.70	.88	.70	.60	.60	.70
26	106.70	106.83	107.20	107.10	107.85	109.90	107.65	106.87	106.70	106.60	106.60	106.70
27	.70	.83	.10	.08	.80	.88	.55	.86	.70	.60	.60	.70
28	.70	.83	.00	.08	.78	.82	.50	.85	.70	.60	.60	.70
29	.70	.83	.00	.08	.68	.74	.50	.85	.70	.60	.60	.70
30	.70	.83	.00	.08	.60	.72	.50	.85	.70	.60	-	.70
31	-	.83	-	.00	.60	-	.50	-	.70	.60	-	.70
Mean	106.69	106.81	107.06	107.08	107.95	109.55	108.63	107.18	106.64	106.60	106.60	106.63
Max.	106.71	106.86	107.23	107.38	109.20	110.00	109.76	107.50	106.80	106.65	106.60	106.70
Min.	106.66	106.74	106.83	106.80	107.00	107.60	107.50	106.85	106.70	106.60	106.60	106.60

WATER YEAR 1968 : Max. 110.00 m. Min. 106.60 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	310	342	391	485	485	855	2,884	790	375	295	270	270
2	310	342	397	593	545	934	2,884	790	375	290	270	270
3	310	347	402	653	617	1,065	2,884	790	375	285	270	270
4	310	347	408	713	665	1,319	2,815	790	375	280	270	270
5	310	347	413	713	695	1,689	2,757	790	364	275	270	270
6	310	347	419	713	725	2,045	2,642	790	358	270	270	270
7	310	347	424	713	777	2,412	2,504	757	358	270	270	270
8	310	347	430	713	822	2,700	2,378	725	358	270	270	270
9	310	347	479	665	855	2,907	2,297	695	358	270	270	270
10	310	375	485	635	934	3,022	2,045	665	358	270	270	270
11	300	386	485	545	990	3,045	1,955	653	358	270	270	270
12	305	391	485	485	1,027	3,105	1,955	635	358	270	270	270
13	315	391	551	485	1,050	3,141	1,955	635	353	270	270	270
14	320	391	575	485	1,050	3,153	1,955	635	347	270	270	270
15	320	391	605	430	1,050	3,165	1,845	635	342	270	270	270
16	320	391	605	430	1,050	3,165	1,745	635	336	270	270	270
17	325	397	623	430	2,240	3,165	1,680	635	336	270	270	270
18	325	402	623	430	2,240	3,165	1,545	635	336	270	270	270
19	325	408	623	430	2,240	3,165	1,468	551	336	270	270	270
20	325	402	623	430	2,105	3,165	1,391	485	331	270	270	270
21	320	397	623	419	2,045	3,165	1,335	419	325	270	270	295
22	320	391	623	397	1,905	3,165	1,223	419	325	270	270	310
23	320	391	623	375	1,545	3,165	1,155	419	325	270	270	320
24	320	391	623	479	1,303	3,165	1,005	419	320	270	270	320
25	320	391	623	497	1,065	3,093	920	419	320	270	270	320
26	320	391	605	545	1,027	3,045	887	413	320	270	270	320
27	320	391	545	533	990	3,022	822	408	320	270	270	320
28	320	391	485	533	976	2,953	790	402	320	270	270	320
29	320	391	485	533	907	2,861	790	402	320	270	270	320
30	320	391	485	533	855	2,838	790	402	320	270	–	320
31	–	391	–	485	855	–	790	–	320	270	–	320
Total	9,480	11,745	15,766	16,505	35,635	80,854	54,111	17,838	10,622	8,445	7,830	8,885
Mean	316	379	525	532	1,149	2,695	1,745	595	343	272	270	287
Max.	325	408	623	713	2,240	3,165	2,884	790	375	295	270	320
Min.	300	342	391	375	485	855	790	402	320	270	270	270
Runoff – mcm.	819.072	1,014.768	1,362.182	1,426.032	3,078.864	6,985.786	4,675.190	1,541.203	917.741	729.648	676.512	767.664

WATER YEAR 1968 : Max. 3,165 Min. 270 Mean 759 Annual Runoff 23,994.662 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sept. 15	06.00	110.00	3,165				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
MUN RIVER BASIN

Lam Chi at Ban Kho Kho, Surin (M. 26)

Location: Lat. 14°-54'-03" N., Long. 103°-24'-21" E., about 5 meters from railway bridge at 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, about 28 meters from left bank along staff gage line.

Location: B.M. - H.S. No. 1036 about 26 meters from right bank along staff gage line.
Elevation: B.M. No. 1035 +134.981 m. (M.S.L.), B.M. No. 1036 +135.203 m. (M.S.L.)

Gage Reading Frequency: Recording

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

Period of Available Gage Records: 1954 to date.

Rating Operation:

Period of Rating: 1967-68
Rated by Float: -
Rated by Current Meter: 1967-68

Stability of Channel Regimes: Unstable, shifting adjustment is included for flow computation.

Overbank Flow Conditions: No overbank flow.

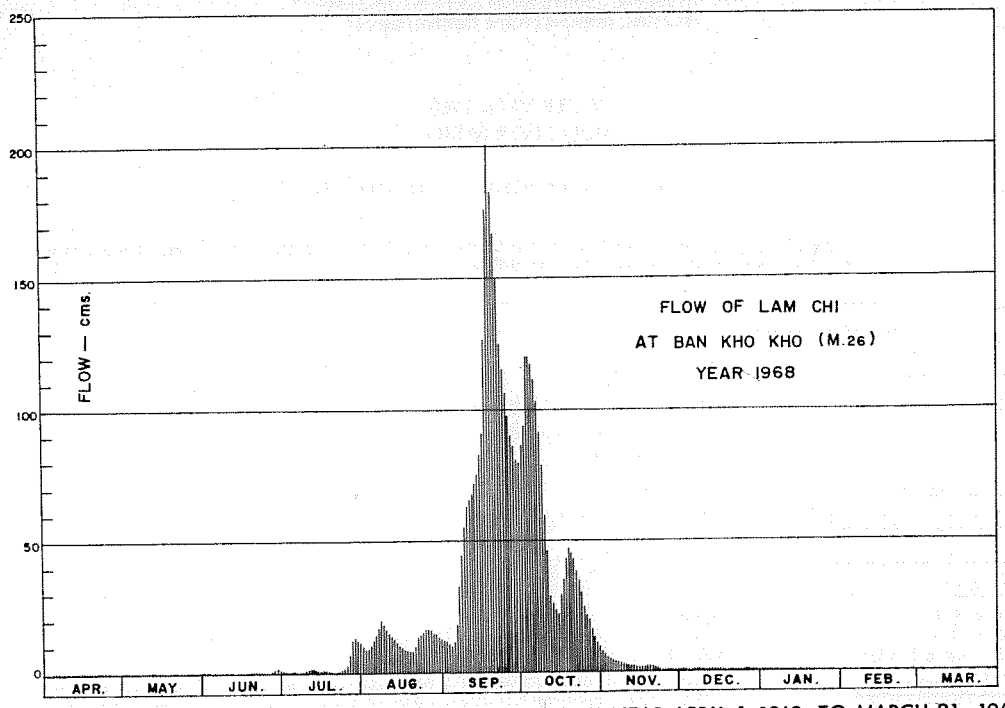
General Description: Records fair. Stage-discharge relationship used is defined by discharge measurements made during 1968. No upstream state diversions for irrigation except those built by local residents. No adjustment made for virgin flow.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	127.42	127.49	127.48	127.89	129.59	129.74	134.99	129.13	127.60	127.65	127.53	127.49
2	.40	.57	.49	.78	.41	.65	135.16	128.99	.59	.63	.59	.50
3	.39	.54	.49	.72	.46	.55	.28	.86	.65	.54	.54	.48
4	.38	.50	.51	.76	.61	.54	.29	.70	.59	.58	.64	.49
5	.37	.45	.52	.71	.84	.81	.21	.61	.55	.58	.58	.46
6	127.36	127.44	127.51	127.70	130.17	130.72	134.97	128.54	127.56	127.55	127.55	127.44
7	.35	.46	.53	.68	.39	131.67	.64	.43	.51	.54	.51	.43
8	.36	.47	.53	.62	.52	132.49	.16	.33	.54	.57	.46	.44
9	.36	.46	.54	.78	.47	133.19	133.43	.28	.66	.54	.56	.43
10	.36	.47	.51	.92	.22	.62	132.44	.21	.67	.53	.63	.44
11	127.35	127.51	127.50	128.10	130.06	133.82	131.55	128.18	127.58	127.49	127.48	127.43
12	.38	.70	.52	.15	129.98	134.01	.04	.13	.58	.50	.55	.42
13	.48	.63	.51	.12	.92	.14	130.88	.05	.50	.54	.48	.41
14	.47	.57	.51	127.98	.77	.39	.75	.03	.63	.44	.45	.40
15	.44	.65	.52	128.04	.61	.72	.52	.00	.64	.41	.46	.40
16	127.43	127.65	127.54	127.87	129.50	135.10	130.84	127.91	127.65	127.53	127.47	127.41
17	.41	.57	.54	.73	.39	.50	131.53	.99	.54	.50	.45	.40
18	.41	.52	.59	.72	.33	.80	132.01	128.12	.65	.50	.49	.42
19	.43	.54	.76	.68	.28	.87	.17	.07	.64	.57	.49	.43
20	.44	.51	.83	.68	.40	.82	.07	127.92	.62	.58	.47	.44
21	127.41	127.51	127.73	127.56	129.59	135.72	131.84	127.85	127.60	127.54	127.45	127.42
22	.40	.57	.68	.80	.83	.61	.57	.80	.57	.59	.45	.43
23	.42	.47	.68	.75	130.00	.45	.29	.71	.55	.48	.45	.46
24	.43	.49	.66	128.10	.10	.24	.02	.71	.54	.47	.43	.44
25	.40	.51	.64	.24	.17	134.99	130.73	.69	.55	.56	.46	.41
26	127.39	127.43	127.59	128.44	130.17	134.66	130.51	127.67	127.70	127.58	127.45	127.41
27	.39	.43	.79	129.35	.07	.51	.31	.66	.72	.52	.45	.42
28	.38	.44	128.10	.91	.01	.46	.06	.69	.69	.56	.47	.43
29	.37	.51	.13	.99	129.95	.48	129.80	.68	.68	.60	-	.43
30	.37	.52	.02	.85	.89	.54	.57	.66	.67	.60	-	.46
31	-	.48	-	.70	.82	-	.35	-	.68	.50	-	.48
Mean	127.40	127.52	127.63	128.17	129.85	133.63	132.10	128.12	127.61	127.54	127.50	127.44
Max.	127.48	127.70	128.13	129.99	130.52	135.87	135.29	129.13	127.72	127.65	127.64	127.50
Min.	127.35	127.43	127.48	127.56	129.28	129.54	129.35	127.66	127.50	127.41	127.43	127.40

WATER YEAR 1968 : Max. 135.87 m. Min. 127.35 m.

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.06	0.09	0.03	0.87	9.50	12	89	7.22	0.48	0.26	0.13	0.06
2	0.05	0.17	0.04	0.56	8.06	11	93	6.24	0.38	0.22	0.19	0.07
3	0.04	0.14	0.04	0.44	8.46	10	119	5.44	0.50	0.12	0.14	0.06
4	0.04	0.10	0.05	0.52	9.66	9.34	119	4.55	0.38	0.16	0.28	0.06
5	0.03	0.07	0.05	0.42	12	11	116	4.10	0.30	0.16	0.18	0.05
6	0.03	0.07	0.05	0.36	15	20	106	3.75	0.32	0.13	0.15	0.04
7	0.02	0.08	0.06	0.30	17	32	97	3.20	0.22	0.12	0.11	0.03
8	0.03	0.08	0.06	0.16	19	15	85	2.70	0.28	0.15	0.08	0.04
9	0.03	0.08	0.06	0.40	18	56	70	2.45	0.52	0.12	0.10	0.03
10	0.03	0.08	0.05	0.66	15	63	51	2.16	0.54	0.13	0.17	0.04
11	0.02	0.11	0.04	0.14	14	66	36	2.04	0.36	0.09	0.06	0.03
12	0.04	0.40	0.05	1.24	13	68	28	1.84	0.36	0.10	0.09	0.03
13	0.09	0.26	0.05	1.14	12	71	26	1.52	0.14	0.14	0.06	0.02
14	0.08	0.17	0.05	0.72	11	76	24	1.44	0.34	0.07	0.04	0.02
15	0.07	0.30	0.05	0.90	9.66	83	21	1.32	0.36	0.05	0.05	0.02
16	0.06	0.30	0.06	0.46	8.78	92	25	1.02	0.38	0.13	0.05	0.02
17	0.05	0.17	0.09	0.19	7.90	132	36	1.40	0.18	0.10	0.04	0.02
18	0.05	0.12	0.13	0.18	7.43	176	43	1.92	0.38	0.10	0.06	0.03
19	0.06	0.14	0.40	0.14	7.08	200	46	1.72	0.36	0.17	0.06	0.03
20	0.07	0.11	0.54	0.14	7.98	182	44	1.14	0.32	0.18	0.05	0.04
21	0.05	0.11	0.34	0.06	9.50	159	41	0.93	0.28	0.14	0.04	0.03
22	0.05	0.17	0.24	0.32	13	143	37	0.78	0.22	0.19	0.04	0.03
23	0.06	0.08	0.24	0.22	14	119	33	0.75	0.19	0.09	0.04	0.05
24	0.06	0.09	0.20	1.08	15	110	28	0.75	0.18	0.08	0.03	0.04
25	0.05	0.11	0.18	1.60	16	102	24	0.69	0.19	0.16	0.05	0.02
26	0.04	0.06	0.13	2.40	16	93	21	0.63	0.48	0.18	0.04	0.02
27	0.04	0.06	0.46	7.58	15	87	19	0.60	0.66	0.12	0.04	0.03
28	0.04	0.07	1.36	12	14	83	16	0.69	0.58	0.16	0.05	0.03
29	0.03	0.05	1.72	13	14	80	13	0.66	0.56	0.20	–	0.03
30	0.03	0.05	1.28	12	13	79	11	0.66	0.54	0.20	–	0.05
31	–	0.03	–	10	12	–	8.94	–	0.56	0.10	–	0.06
Total	1.40	3.92	8.10	71.20	382.01	2,440.34	1,525.94	64.25	11.54	4.32	2.42	1.13
Mean	0.047	0.126	0.270	2.30	12.3	81.3	49.2	2.14	0.372	0.139	0.086	0.036
Max.	0.09	0.40	1.72	13	19	200	119	7.22	0.66	0.26	0.28	0.07
Min.	0.02	0.03	0.03	0.06	7.08	9.34	8.94	0.60	0.14	0.05	0.03	0.02
Runoff - mcm.	0.121	0.339	0.700	6.152	33.006	210.845	131.841	5.55	0.997	0.373	0.209	0.098

WATER YEAR 1968 : Max. 300 Min. 0.02 Mean 12.4 Annual Runoff 390.232 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sep.19,68	12.00	135.88	204				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
MUN RIVER BASIN

Lam Se Bai at Phawaphutanon Bridge, Ubon Ratchathani (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 Khun Kaeo, Ubon Ratchathani.

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./R.I.D. Lam Sae

Location: on right bank near gage site.
Elevation: +128.102 m. (M.S.L.)

Gage Reading Frequency: Recordings

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

Period of Available Gage Records: 1954-55, 1957 to date.

Rating Operation:

Period of Rating: 1965-67
Rated by Float: –
Rated by Current Meter: 1965-67

Stability of Channel Regimes: Stable, no shifting adjustment for flow computation for year without actual ratings.

Overbank Flow Conditions: No overbank flow.

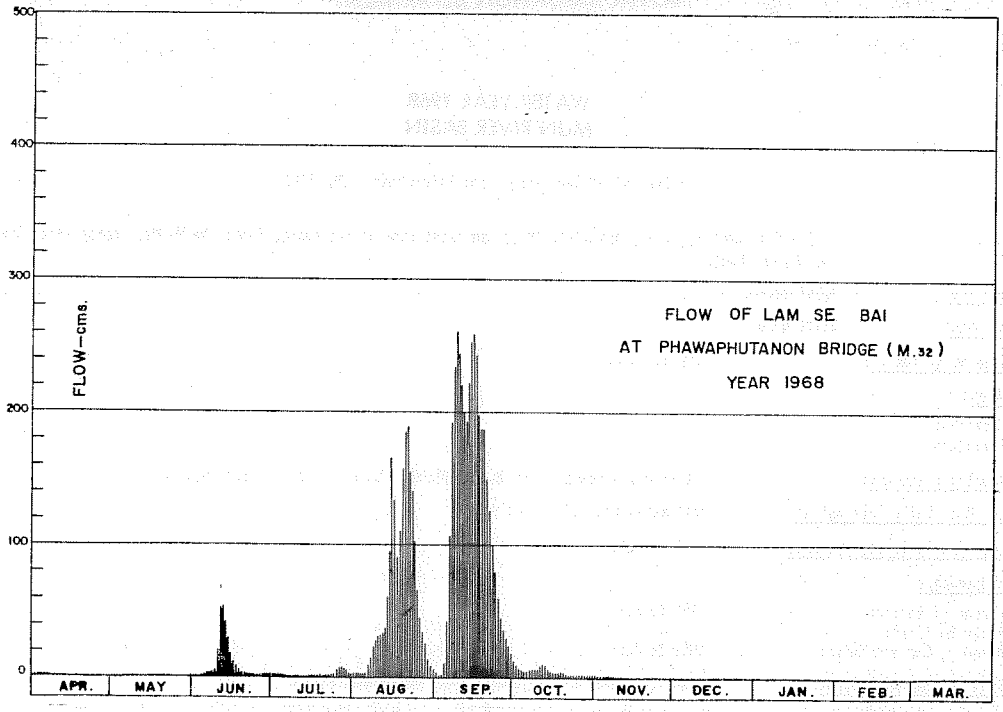
General Description: Records fair. Stage-discharge relationship used is defined by discharge measurements made during 1965-67. No upstream state diversions for irrigation except those built by local residents. No adjustment made for virgin flow.

Remark: Discharge record for period of no flow are omitted.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	120.59	120.61	120.73	121.29	121.23	121.31	122.19	120.94	120.71	120.59	120.56	120.54
2	.59	.61	.74	.25	.14	.27	121.96	.91	.71	.58	.57	.53
3	.59	.63	.88	.20	.18	.43	.76	.88	.71	.57	.57	.53
4	.58	.63	21.42	.16	.26	.98	.61	.85	.71	.57	.57	.53
5	.58	.63	.64	.12	.18	122.87	.51	.83	.70	.57	.57	.52
6	120.57	120.65	121.81	121.09	121.28	124.60	121.47	120.83	120.70	120.57	120.56	120.52
7	.57	.66	.77	.06	.98	125.57	.46	.82	.70	.57	.56	.52
8	.58	.71	.94	.04	122.77	.84	.44	.81	.70	.56	.56	.51
9	.58	.75	.97	.01	123.16	.96	.43	.80	.70	.56	.56	.51
10	.57	.75	122.36	120.97	.31	.75	.55	.80	.69	.56	.56	.51
11	120.57	120.75	123.93	120.93	123.35	125.59	122.01	120.79	120.68	120.56	120.56	120.51
12	.56	.76	.95	.89	.38	.43	.05	.79	.67	.56	.55	.50
13	.56	.76	.63	.86	.49	.68	121.88	.78	.67	.56	.55	.51
14	.56	.76	.17	.85	124.37	.91	.72	.78	.65	.56	.55	.52
15	.57	.80	122.65	.83	125.29	.95	.59	.78	.65	.57	.55	.54
16	120.57	120.86	122.20	120.82	125.28	125.86	121.48	120.77	120.64	120.57	120.55	120.54
17	.57	.87	121.86	.80	124.71	.51	.41	.76	.63	.57	.55	.54
18	.58	.86	.62	.79	.44	.44	.35	.80	.63	.57	.55	.55
19	.60	.84	.48	.80	125.01	.47	.30	.83	.62	.57	.55	.56
20	.60	.82	.40	.81	.44	.19	.26	.87	.62	.57	.55	.56
21	120.59	120.80	121.29	120.87	125.47	124.86	121.23	120.91	120.62	120.58	120.55	120.57
22	.59	.78	.19	.89	.07	.77	.20	.93	.61	.57	.54	.58
23	.59	.76	.11	.97	124.43	.56	.15	.87	.61	.57	.54	.59
24	.59	.75	.07	121.17	123.96	.24	.12	.82	.60	.57	.54	.60
25	.59	.73	.10	.57	.64	123.93	.08	.78	.60	.57	.54	.60
26	120.58	120.73	121.23	121.79	123.32	123.62	121.06	120.78	120.59	120.56	120.54	120.61
27	.58	.73	.39	.84	122.90	.38	.03	.77	.59	.56	.54	.61
28	.58	.74	.45	.89	.45	.08	.02	.76	.59	.56	.54	.61
29	.58	.74	.41	.73	.05	122.77	.00	.74	.59	.56		.60
30	.59	.73	.33	.54	121.73	.48	120.99	.72	.59	.56		.59
31		.73		.37	.48		.96	.71	.59	.56		.58
Mean	120.58	120.74	121.79	121.13	123.20	124.34	121.43	120.81	120.66	120.54	120.55	120.55
Max.	120.60	120.87	123.95	121.89	125.47	125.96	122.19	120.94	120.71	120.59	120.57	120.61
Min.	120.56	120.61	120.73	120.79	121.14	121.27	120.96	120.71	120.59	120.56	120.54	120.50

WATER YEAR 1968 : Max. 125.96 m. Min. 120.54 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.00	0.01	0.13	1.95	1.65	2.05	10	0.48	0.11	0.00	0.00	0.00
2		0.01	0.14	1.75	1.20	1.85	7.60	0.42	0.11			
3		0.03	0.36	1.50	1.40	2.71	5.60	0.36	0.11			
4		0.03	2.64	1.30	1.80	7.80	4.10	0.30	0.11			
5		0.03	4.40	1.10	1.40	21	3.28	0.26	0.10			
6		0.05	6.10	0.96	1.90	94	2.99	0.26	0.10			
7		0.06	5.70	0.84	7.80	202	2.92	0.24	0.10			
8		0.11	7.40	0.76	19	241	2.78	0.22	0.10			
9		0.15	7.70	0.64	27	259	2.71	0.20	0.10			
10		0.15	13	0.54	31	227	3.60	0.20	0.09			
11		0.15	53	0.46	32	205	8.13	0.19	0.08			
12		0.16	54	0.38	33	183	8.65	0.19	0.07			
13		0.16	41	0.32	37	217	6.80	0.18	0.07			
14		0.16	28	0.30	77	251	5.20	0.18	0.05			
15		0.20	17	0.26	165	257	3.92	0.18	0.05			
16		0.32	11	0.24	164	244	3.06	0.17	0.04			
17		0.34	6.60	0.20	104	194	2.57	0.16	0.03			
18		0.32	4.20	0.19	82	184	2.25	0.20	0.03			
19		0.28	3.06	0.20	133	188	2.00	0.26	0.02			
20		0.24	2.50	0.22	184	153	1.80	0.34	0.02			
21		0.20	1.95	0.34	188	118	1.65	0.42	0.02			
22		0.18	1.45	0.38	140	109	1.50	0.46	0.01			
23		0.16	1.05	0.54	81	91	1.25	0.34	0.01			0.00
24		0.15	0.88	1.35	55	69	1.10	0.24	0.00			0.00
25		0.13	1.00	3.76	41	53	0.92	0.18				0.00
26		0.13	1.65	5.90	32	41	0.84	0.18				0.01
27		0.13	2.45	6.40	22	33	0.72	0.17				0.01
28		0.14	2.85	6.90	14	26	0.68	0.16			0.00	0.01
29		0.14	2.57	5.30	8.65	20	0.60	0.14				0.00
30	0.00	0.13	2.15	3.52	5.30	15	0.58	0.12				0.00
31		0.13		2.32	3.06		0.52	0.11	0.00	0.00		0.00
Total	0.00	4.58	285.93	90.85	1,695.16	3,709.41	100.32	7.51	1.53	0.00	0.00	0.03
Mean	0.00	0.14	9.53	1.64	54.68	123.65	3.23	0.24	0.05	0.00	0.00	0.00
Max.	0.00	0.34	54	6.90	188	259	10	0.48	0.11	0.00	0.00	0.01
Min.	0.00	0.01	0.13	0.19	1.20	1.85	0.52	0.11	0.00	0.00	0.00	0.00
Runoff - mcm.	0.000	0.395	24.704	4.393	146.461	320.493	8.667	0.648	0.132	0.000	0.000	0.000

WATER YEAR 1968 : Max. 259 Min. 0.00 Mean 16.0 Annual Runoff 505.899 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sep.9	13.00	125.98	262				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
MUN RIVER BASIN

Lam Sae Bai at Ban Kaeng, Ubon Ratchathani (M. 32A)

Location: Lat. 15°-54'-05" N., Long. 104°-28'-20" E., on right bank at Ban Kaeng, Tambon Na Mo Ma, Amphoe Amnat Charoen, Ubon Ratchathani.

Drainage Area: 1,535 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, 15.00 and 18.00 hours.

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

Period of Available Gage Records: 1968 to date

Rating Operation:

Period of Rating: 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

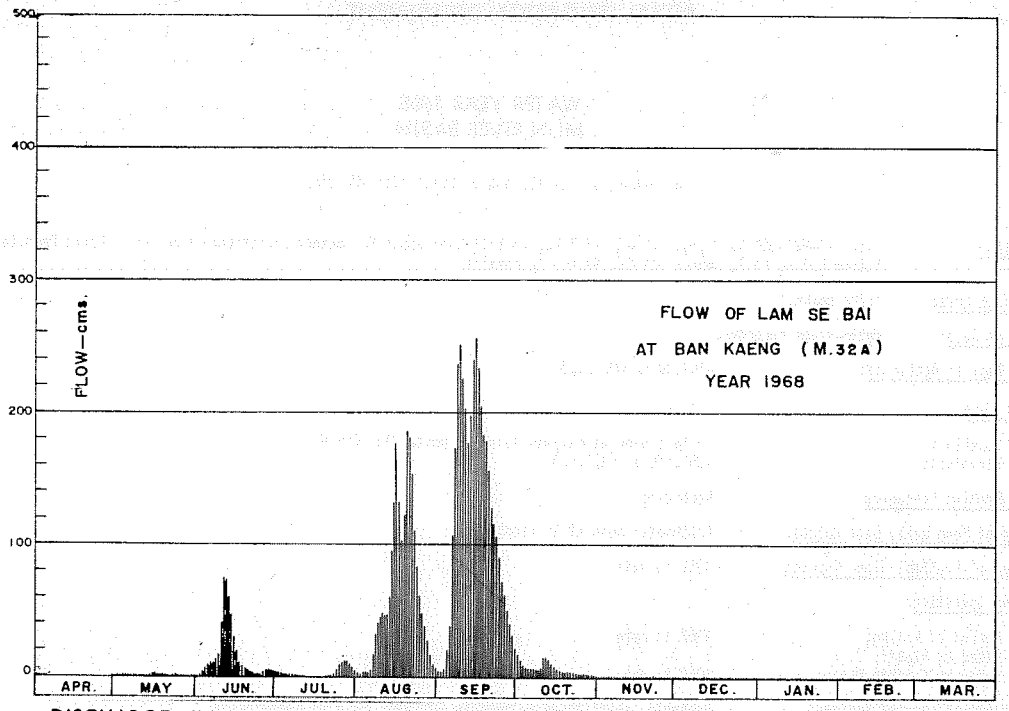
General Description: Records fair. Stage-discharge relationship used is defined by discharge measurements made during 1968. No upstream state diversions for irrigation except those built by local residents. No adjustment made for virgin flow.

Remark: Stream gaging began on May 1, 1968.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1		0.75	1.08	1.51	1.44	1.51	2.39	1.17	0.93	0.77	0.74	0.72
2		.76	.16	.47	.35	.53	.14	.14	.93	.77	.75	.72
3		.77	.49	.43	.45	.74	1.95	.11	.92	.77	.76	.72
4		.78	.73	.40	.49	2.39	.80	.08	.92	.77	.76	.72
5		.79	.93	.36	.40	3.38	.73	.07	.92	.77	.75	.72
6		0.83	2.05	1.32	1.60	5.45	1.69	1.06	0.94	0.77	0.75	0.72
7		.86	.01	.29	2.38	6.75	.68	.05	.94	.76	.75	.72
8		.97	.21	.27	3.20	7.36	.66	.04	.92	.76	.75	.71
9		.99	.22	.23	.53	.54	.66	.04	.91	.76	.74	.71
10		.97	.98	.18	.66	.05	.78	.04	.89	.76	.75	.70
11		0.94	4.48	1.15	3.67	6.78	2.30	1.03	0.88	0.76	0.74	0.70
12		.93	.34	.11	.63	.39	.29	.02	.87	.76	.75	.70
13		.93	3.92	.08	.69	.93	.10	.02	.87	.76	.75	.81
14		1.00	.41	1.06	5.34	7.45	1.92	.02	.86	.77	.75	.81
15		.26	2.87	.04	6.48	.60	.79	.00	.85	.77	.75	.78
16		1.26	2.43	1.02	6.16	7.23	1.69	0.99	0.84	0.77	0.75	0.75
17		.20	.06	.01	5.22	6.64	.63	.99	.83	.77	.75	.73
18		.20	1.83	.00	.06	.54	.57	.00	.83	.76	.75	.73
19		.15	.69	.03	.93	.48	.52	.05	.83	.76	.75	.73
20		.11	.64	.06	6.65	5.94	.49	.08	.83	.75	.76	.77
21		1.06	1.51	1.13	6.55	5.42	1.46	1.11	0.82	0.75	0.76	0.81
22		.02	.43	.10	5.81	.38	.43	.13	.81	.75	.76	.79
23		0.97	.35	.26	4.83	.06	.40	.07	.80	.74	.76	.78
24		.95	.33	.48	.21	4.60	.38	.02	.79	.74	.75	.77
25		1.02	.37	.88	3.84	.18	.35	0.98	.79	.74	.75	.77
26		1.06	1.52	2.06	3.48	3.88	1.32	0.96	0.79	0.74	0.74	0.77
27		.03	.66	.11	.05	.59	.30	.95	.73	.74	.74	.77
28		0.99	.70	.13	2.60	.27	.28	.94	.78	.74	.73	.77
29		.98	.64	1.96	.23	2.94	.26	.93	.78	.74		.76
30		.98	.55	.75	1.91	.65	.23	.92	.78	.74		.76
31		1.02		.57	.68		.20		.77	.75		.75
Mean		0.98	2.09	1.34	4.45	5.12	1.66	0.90	0.85	0.76	0.75	0.75
Max.		1.26	4.48	2.13	6.65	7.60	2.39	1.17	0.93	0.77	0.76	0.81
Min.		0.75	1.08	1.00	1.35	1.51	1.20	0.00	0.73	0.74	0.73	0.70

WATER YEAR 1968 : Max. 7.60 m. Min. m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1		0.050	0.92	4.39	3.52	4.39	17	1.42	0.46	0.07	0.04	0.02
2		0.060	1.36	3.91	2.45	4.57	13	1.24	0.46	0.07	0.05	0.02
3		0.070	4.17	3.39	3.65	6.86	10	1.06	0.44	0.07	0.06	0.02
4		0.080	6.72	3.00	4.17	17	7.70	0.92	0.44	0.07	0.06	0.02
5		0.090	9.59	2.46	3.00	37	6.72	0.88	0.44	0.07	0.05	0.02
6		0.19	11	2.42	5.20	118	6.28	0.84	0.48	0.07	0.05	0.02
7		0.28	11	2.32	17	194	6.16	0.80	0.48	0.06	0.05	0.02
8		0.54	14	2.16	35	237	5.92	0.76	0.44	0.06	0.05	0.01
9		0.58	14	1.84	44	251	5.92	0.76	0.42	0.06	0.04	0.01
10		0.54	29	1.48	48	214	7.42	0.76	0.37	0.06	0.05	0.00
11		0.48	76	1.30	48	192	15	0.72	0.34	0.06	0.04	0.00
12		0.46	71	1.06	47	170	15	0.68	0.31	0.06	0.05	0.00
13		0.46	56	0.92	49	205	12	0.68	0.31	0.06	0.05	0.13
14		0.60	40	0.84	112	244	9.46	0.68	0.28	0.07	0.05	0.13
15		2.08	26	0.76	176	256	7.56	0.60	0.25	0.07	0.05	0.08
16		2.08	18	0.68	156	227	6.28	0.58	0.22	0.07	0.05	0.05
17		1.60	11	0.64	106	286	5.56	0.58	0.19	0.07	0.05	0.03
18		1.60	8.15	0.60	98	180	4.93	0.00	0.19	0.06	0.05	0.03
19		1.30	6.28	0.72	143	176	4.48	0.00	0.19	0.06	0.05	0.03
20		1.60	5.68	0.84	187	143	4.17	0.00	0.19	0.05	0.06	0.07
21		0.84	4.30	1.18	181	116	3.78	1.06	0.16	0.05	0.06	0.10
22		0.68	3.39	1.00	136	114	3.39	1.18	0.13	0.05	0.06	0.09
23		0.54	2.45	2.08	89	98	3.00	0.80	0.10	0.04	0.06	0.08
24		0.50	2.43	4.04	66	80	2.48	0.68	0.09	0.04	0.05	0.07
25		0.68	2.47	8.90	53	65	2.45	0.56	0.09	0.04	0.05	0.07
26		0.84	4.48	11	42	55	2.42	0.52	0.09	0.04	0.04	0.07
27		0.72	5.92	12	31	46	2.40	0.50	0.03	0.04	0.04	0.07
28		0.58	6.40	12	21	37	2.24	0.48	0.08	0.04	0.03	0.07
29		0.56	5.68	10	14	29	2.08	0.46	0.08	0.04		0.06
30		0.56	4.75	7.00	9.33	22	1.84	0.44	0.08	0.04		0.06
31		0.68		4.93	6.16		1.60		0.07	0.05		0.05
Total		21.92	462.14	109.86	1,936.48	3,724.82	198.24	20.64	7.90	1.76	1.39	1.45
Mean		0.707	15.4	3.54	62.5	124	6.39	0.69	0.25	0.05	0.05	0.05
Max.		2.08	76	12	187	256	17	1.42	0.48	0.07	0.06	0.13
Min.		0.050	0.92	0.60	2.45	4.39	1.60	0.00	0.03	0.04	0.03	0.00
Runoff - mcm.		1.894	39.929	9.492	167.312	321.824	17.128	1.783	0.682	0.149	0.120	0.125

WATER YEAR 1968 : Max. 256 Min. Mean Annual Runoff mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sept. 25	20.00	7.64	259				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
MUN RIVER BASIN

Lam Takhong at Sikhiu, Nakhon Ratchasima (M. 38c)

Location: Lat. 14°-52'-06" N., Long. 101°-33'-53" E., on left bank about 500 meters downstream from Lam Ta Khong Damsite, Tambon Khlong Phai, Amphoe Sikhiu, Nakhon Ratchasima.

Drainage Area: 1,292 sq.km.

Type of Gage: Water-stage recorder.

Zero Gage at Bottom at: +242.00 m. (M.S.L.)

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

Location: on left bank at railway telegram post. No. 204/9
Elevation: +256.115 m. (M.S.L.)

Gage Reading Frequency: Recording

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

Period of Available Gage Records: 1962 to date

Rating Operation:

Period of Rating: 1962 to date
Rated by Float: -
Rated by Current Meter: 1962 to date

Stability of Channel Regimes: Unstable, shifting adjustment is included for flow computation.

Overbank Flow Conditions: No overbank flow.

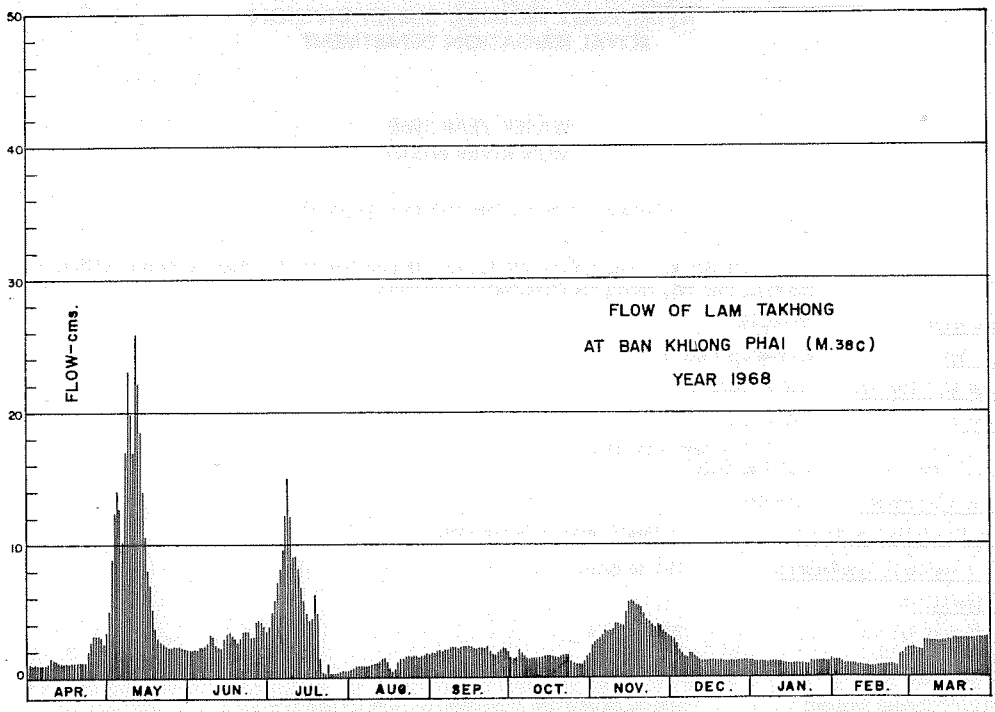
General Description: Records good. Stage-discharge relation used is defined by discharge measurements made during 1968. Flow affected by the construction of Lam Takhong Dam. No adjustment made for virgin flow.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	244.06	245.01	244.44	245.53	244.13	244.97	244.70	244.92	245.18	244.27	244.22	244.34
2	.00	.17	.43	.67	.18	.98	.78	245.02	.14	.27	.23	.34
3	243.98	.65	.45	.79	.27	245.01	.89	.04	.08	.27	.20	.33
4	.96	.82	.46	.92	.34	.00	245.07	.05	244.94	.26	.20	.35
5	.97	.81	.52	246.01	.31	244.98	.14	.10	.80	.25	.21	.33
6	244.00	245.40	244.54	246.16	244.28	245.06	245.02	245.29	244.73	244.25	244.21	244.32
7	.02	.67	.53	.35	.33	.03	244.96	.39	.66	.23	.19	.31
8	.22	246.10	.73	.48	.37	.16	.87	.43	.61	.27	.19	.29
9	.29	.30	.81	.21	.43	.15	.80	.42	.52	.27	.18	.28
10	.21	.01	.67	.05	.47	.11	.79	.52	.45	.27	.18	.28
11	244.17	246.00	244.55	246.09	244.48	245.08	244.79	245.48	244.37	244.26	244.18	244.27
12	.13	.50	.48	245.95	.53	.14	.81	.45	.34	.24	.16	.27
13	.09	.09	.47	.85	.63	.18	.87	.54	.33	.24	.16	.25
14	.08	245.86	.87	.76	.62	.15	.90	.65	.33	.23	.11	.30
15	.07	.62	245.06	.63	.42	.17	.88	.70	.32	.22	.11	.32
16	244.04	245.41	245.19	245.58	244.03	245.10	244.88	245.72	244.32	244.19	244.13	244.31
17	.03	.30	.23	.54	.08	.04	.79	.68	.32	.23	.15	.31
18	.06	.06	.30	.83	.30	.08	.72	.65	.31	.23	.16	.33
19	.07	244.81	.34	.67	.67	.11	.65	.65	.31	.23	.16	.33
20	.14	.71	.43	244.44	.71	.05	.72	.60	.30	.20	.16	.31
21	244.10	244.67	245.55	244.03	244.82	245.13	244.79	245.58	244.30	244.20	244.15	244.30
22	.09	.67	.55	243.90	.84	.13	.83	.53	.29	.22	.14	.30
23	.34	.55	.47	244.05	.87	244.98	.70	.51	.29	.21	.15	.33
24	.49	.51	.42	243.97	.85	.86	.44	.46	.27	.18	.14	.31
25	.81	.50	.55	.93	.89	.84	.42	.42	.29	.18	.12	.32
26	244.78	244.56	245.67	243.95	244.87	244.98	244.42	245.37	244.30	244.18	244.12	244.34
27	.80	.54	.70	244.04	.83	245.05	.41	.32	.30	.15	.22	.34
28	.75	.52	.64	.03	.91	.10	.41	.38	.29	.18	.35	.36
29	.51	.49	.60	.08	.93	.08	.41	.24	.29	.16	-	.37
30	.78	.47	.53	.08	.97	244.97	.54	.21	.29	.18	-	.37
31	-	.47	-	.11	.98	-	.66	-	.28	.22	-	.37
Mean	244.23	245.23	245.04	245.18	244.56	245.05	244.74	245.41	244.47	244.22	244.17	244.32
Max.	244.81	246.50	245.70	246.48	244.98	245.18	245.14	245.72	245.18	244.27	244.35	244.35
Min.	243.96	244.47	244.43	243.90	244.03	244.84	244.41	244.92	244.28	244.15	244.11	244.25

WATER YEAR 1968 : Max. 246.50 m. Min. 243.90 m.

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	1.05	4.37	2.13	4.00	0.62	1.81	1.41	2.56	3.04	1.23	1.37	2.21
2	0.96	5.61	2.11	4.97	0.96	1.97	1.57	2.88	2.88	1.23	1.37	2.21
3	0.93	11	2.15	5.94	0.83	2.05	1.59	2.96	2.35	1.23	1.33	2.03
4	0.90	14	2.17	7.24	0.93	2.01	2.15	3.00	2.05	1.21	1.02	2.07
5	0.92	14	2.30	8.26	0.89	1.97	1.89	3.20	1.77	1.19	1.04	2.03
6	0.96	7.90	2.35	10	0.84	2.13	1.65	3.55	1.57	1.19	1.04	1.77
7	0.99	12.11	2.32	13	0.92	2.07	1.53	3.55	1.49	1.15	1.01	1.75
8	1.37	19	2.92	15	0.98	2.35	1.35	3.76	1.91	1.23	1.01	1.71
9	1.51	23	3.25	11	1.07	2.32	1.53	3.70	1.73	1.23	0.96	1.69
10	1.35	17	2.71	8.74	1.15	2.23	1.51	4.18	1.59	1.23	0.96	1.69
11	1.27	17	2.37	9.24	1.17	2.17	1.51	4.06	1.43	1.21	0.96	1.67
12	1.19	26	2.21	7.57	1.27	2.30	1.55	3.88	1.37	1.17	0.93	1.67
13	1.11	19	2.19	6.51	1.47	2.40	1.67	4.45	1.35	1.17	0.93	1.63
14	1.09	15	3.08	5.69	1.45	2.32	1.73	5.29	1.35	1.07	0.86	1.73
15	1.07	11	3.40	4.67	1.05	2.37	1.69	5.69	1.33	1.05	0.86	1.77
16	1.02	8.02	3.55	4.30	0.47	2.21	1.69	5.85	1.33	1.05	0.86	1.75
17	1.05	6.80	3.16	4.06	0.54	2.09	1.51	5.53	1.33	1.07	0.92	1.85
18	1.05	4.75	2.96	6.32	0.87	2.17	1.65	5.45	1.31	1.07	0.93	1.89
19	1.07	3.55	2.68	4.97	1.21	2.23	1.51	5.45	1.31	1.07	0.93	1.89
20	1.21	2.84	3.00	1.00	1.41	2.11	1.65	4.90	1.29	1.02	0.93	1.85
21	1.13	2.71	3.55	0.47	1.51	2.23	1.79	4.75	1.29	1.02	0.92	1.83
22	1.11	2.53	3.55	0.28	1.55	2.28	1.87	4.37	1.27	1.05	0.95	1.83
23	1.93	2.37	3.16	1.00	1.61	1.97	1.61	4.24	1.27	1.35	0.92	1.89
24	2.23	2.27	2.96	0.38	1.57	1.73	1.09	3.94	1.31	1.29	0.95	1.85
25	3.25	2.25	3.08	0.32	1.65	1.69	1.05	3.70	1.35	1.29	0.87	1.87
26	3.12	2.40	4.24	0.35	1.61	1.97	1.05	4.00	1.37	1.29	1.77	1.91
27	3.20	2.35	4.45	0.48	1.53	2.11	1.04	3.70	1.37	1.23	1.97	1.91
28	3.00	2.30	4.06	0.47	1.69	2.21	1.04	3.50	1.27	1.29	2.23	1.95
29	2.27	2.23	3.82	0.54	1.73	2.17	1.47	3.30	1.27	1.25	–	1.97
30	3.12	2.19	3.45	0.54	1.81	1.95	1.73	3.16	1.27	1.29	–	1.97
31	–	2.19	–	0.58	1.83	–	1.97	–	1.25	1.37	–	1.94
Total	46.43	267.63	89.33	147.89	37.92	63.57	48.05	122.55	48.07	36.79	30.80	57.78
Mean	1.55	8.63	2.98	4.77	1.22	2.12	1.55	4.08	1.55	1.19	1.10	1.86
Max.	3.25	26	4.45	15	1.83	2.40	2.15	5.85	3.04	1.37	2.23	2.21
Min.	0.90	2.19	2.11	0.28	0.47	1.69	1.04	2.56	1.25	1.02	0.86	1.63
Runoff - MCM.	4.012	23.123	7.718	12.778	3.276	5.492	4.152	10.588	4.153	3.179	2.661	4.992

WATER YEAR 1968 : Max. 26 Min. 0.28 Mean 2.73 Annual Runoff 86.124 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
May 12	16.00	246.63	29				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
MUN RIVER BASIN

Lam Takhong at Khao Yai, Nakhon Ratchasima (M. 43)

Location: Lat. 14°-31'-40" N., Long. 101°-24'-09" E., on left bank infront of highway maintenance office, at Ban Musi, Khao Yai, 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: on left bank near gage site.
Elevation: +5.592 m. (A.D.)

Gage Reading Frequency: Recording

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

Period of Available Gage Records: 1965 to date

Rating Operation:

Period of Rating: 1965 to date
Rated by Float: -
Rated by Current Meter: 1965 to date

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

Overbank Flow Conditions: No overbank flow.

General Description: Records good. Stage-discharge relationship used is defined by discharge measurements made during 1968. No upstream state diversions for irrigation except those built by local residents. No adjustment made for virgin flow.

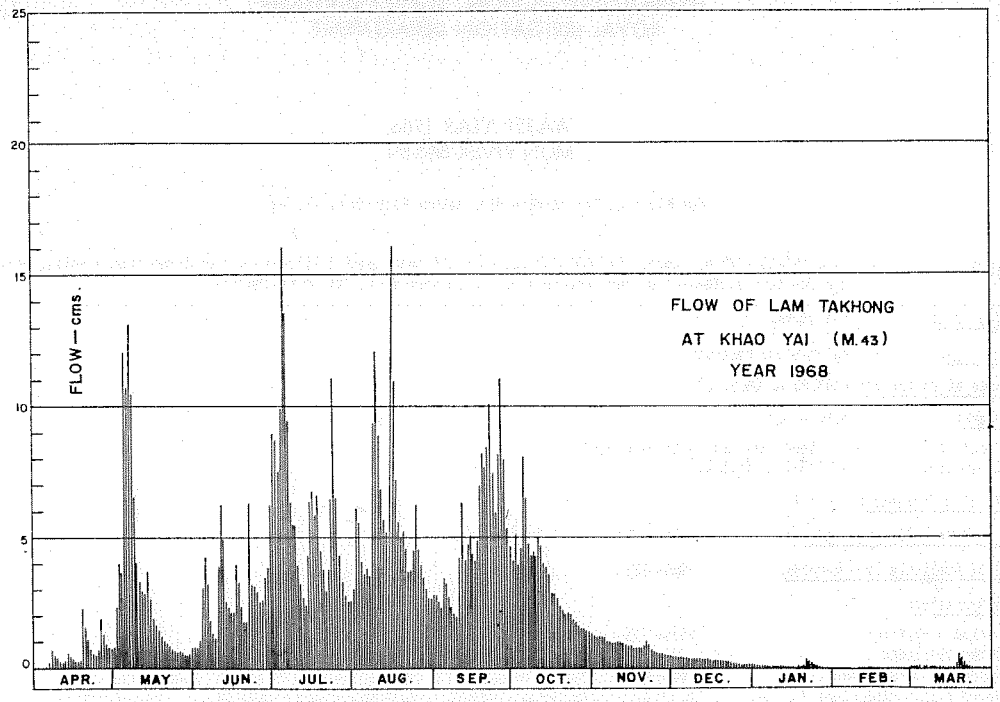
Remark: Discharge record for period of no flow are omitted.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.32	0.53	0.55	1.21	0.78	0.78	0.87	0.61	0.49	0.40	0.38	0.26
2	.32	.71	.54	.19	1.03	.77	.96	.61	.49	.40	.37	.30
3	.32	.88	.61	.08	0.97	.73	.85	.61	.48	.40	.37	.30
4	.31	.77	.81	.20	.87	.71	.94	.61	.48	.39	.37	.29
5	.31	1.38	.90	.57	.84	.83	1.15	.59	.48	.38	.37	.29
6	0.35	1.28	0.73	1.39	0.87	0.77	0.98	0.58	0.47	0.38	0.36	0.28
7	.53	.44	.65	.12	.83	.74	.92	.58	.47	.38	.36	.27
8	.50	.12	.61	0.99	.95	.71	.90	.57	.46	.38	.36	.27
9	.46	0.93	.58	.99	1.39	.69	.91	.58	.46	.37	.35	.26
10	.43	.83	.84	.88	.28	.68	.88	.58	.46	.37	.35	.24
11	0.42	0.81	1.04	0.82	1.10	1.04	0.95	0.58	0.46	0.38	0.35	0.22
12	.44	.77	0.84	.79	.01	0.82	.91	.57	.46	.39	.34	.21
13	.52	.80	.75	.75	0.99	.92	.83	.56	.46	.39	.34	.20
14	.48	.86	.73	.72	.95	.94	.87	.55	.45	.38	.34	.19
15	.46	.75	.70	1.05	1.00	.96	.80	.55	.45	.38	.34	.18
16	0.43	0.70	0.72	1.07	1.55	0.86	0.77	0.54	0.44	0.38	0.34	0.22
17	.42	.66	.88	.00	.11	.92	.78	.54	.44	.37	.34	.27
18	.45	.63	.77	.06	.00	1.05	.76	.54	.44	.40	.35	.50
19	.73	.62	.70	0.95	0.94	.16	.73	.54	.44	.39	.34	.51
20	.64	.60	.65	.85	.97	.11	.71	.56	.44	.40	.31	.46
21	0.58	0.58	0.66	0.80	0.87	1.14	0.70	0.59	0.43	0.46	0.30	0.41
22	.53	.56	1.04	.77	.83	.27	.71	.55	.43	.43	.30	.39
23	.49	.53	0.80	1.00	.88	.10	.70	.52	.43	.42	.29	.38
24	.47	.53	.81	.30	.94	.00	.68	.51	.42	.41	.29	.36
25	.54	.52	.78	.03	1.04	.04	.67	.51	.42	.40	.29	.38
26	0.69	0.52	0.73	0.92	0.90	1.33	0.65	0.51	0.40	0.39	0.29	0.38
27	.59	.52	.75	.83	.85	.21	.64	.50	.40	.39	.28	.34
28	.56	.50	.84	.80	.83	.03	.64	.50	.41	.39	.27	.33
29	.55	.50	.87	.77	.78	0.95	.63	.49	.41	.38	-	.31
30	.54	.52	1.01	.75	.76	.93	.63	.49	.41	.38	-	.31
31	-	.55	-	.75	.77	-	.62	-	.41	.38	-	.31
Mean	0.48	0.74	0.76	0.98	0.96	0.94	0.80	0.55	0.44	0.39	0.33	0.31
Max.	0.73	1.44	1.04	1.57	1.55	1.33	1.15	0.61	0.49	0.46	0.38	0.51
Min.	0.31	0.50	0.54	0.72	0.76	0.68	0.62	0.49	0.40	0.37	0.27	0.18

WATER YEAR 1968 : Max. 1.57 m. Min. 0.18 m.

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.00	0.68	0.80	8.98	2.80	2.80	3.84	1.19	0.46	0.10	0.07	
2	0.00	2.10	0.74	8.64	6.08	2.70	5.04	1.19	0.46	0.10	0.06	
3	0.00	3.96	1.19	6.88	5.18	2.30	3.60	1.19	0.42	0.10	0.06	
4	0.00	2.70	3.12	8.80	3.84	2.10	4.76	1.19	0.42	0.08	0.06	
5	0.00	12	4.20	16	3.48	3.36	8.00	1.04	0.42	0.07	0.06	
6	0.04	10	2.30	12	3.84	2.70	5.32	0.98	0.38	0.07	0.05	
7	0.68	13	1.55	7.52	3.36	2.40	4.48	0.98	0.38	0.07	0.05	
8	0.50	7.52	1.19	5.46	4.90	2.10	4.20	0.92	0.34	0.07	0.05	
9	0.34	4.62	0.98	5.46	12	1.91	4.34	0.98	0.34	0.06	0.04	
10	0.22	3.36	3.48	3.96	10	1.82	3.96	0.98	0.34	0.06	0.04	
11	0.18	3.12	6.24	3.24	7.20	6.24	4.90	0.98	0.34	0.07	0.04	
12	0.36	2.70	3.48	2.90	5.76	3.24	4.34	0.92	0.34	0.08	0.02	
13	0.62	3.00	2.50	2.50	5.46	4.48	3.36	0.86	0.34	0.08	0.02	
14	0.42	3.72	2.30	2.20	4.90	4.76	3.84	0.80	0.30	0.07	0.02	
15	0.34	2.50	2.00	6.40	5.60	5.04	3.00	0.80	0.30	0.07	0.02	
16	0.22	2.00	2.20	6.72	16	3.72	2.70	0.74	0.26	0.07	0.02	
17	0.18	1.64	3.96	5.60	7.36	4.48	2.80	0.74	0.26	0.06	0.02	
18	0.30	1.37	2.70	6.56	5.60	6.40	2.60	0.74	0.26	0.10	0.04	0.50
19	2.30	1.28	2.00	4.90	4.76	8.16	2.30	0.74	0.26	0.08	0.02	0.56
20	1.46	1.10	1.55	3.60	5.18	7.36	2.10	0.86	0.26	0.10	0.00	0.34
21	0.98	0.98	1.64	3.00	3.84	7.84	2.00	1.04	0.22	0.34		0.14
22	0.68	0.86	6.24	2.70	3.36	10	2.10	0.80	0.22	0.22		0.08
23	0.46	0.68	3.00	5.60	3.96	7.20	2.00	0.62	0.22	0.18		0.07
24	0.38	0.68	3.12	11	4.76	5.60	1.82	0.56	0.18	0.14		0.05
25	0.74	0.62	2.80	6.08	6.24	6.24	1.73	0.56	0.18	0.10		0.07
26	0.91	0.62	2.30	4.48	4.20	11	1.55	0.56	0.10	0.08		0.07
27	1.04	0.62	2.50	3.36	3.60	8.98	1.46	0.50	0.10	0.08		0.02
28	0.86	0.50	3.48	3.00	3.36	6.08	1.46	0.50	0.14	0.08		0.01
29	0.80	0.50	3.84	2.70	2.80	4.90	1.37	0.46	0.14	0.07		0.00
30	0.74	0.62	5.76	2.50	2.60	4.62	1.37	0.46	0.14	0.07		0.00
31	–	0.80	–	2.50	2.70	–	1.28	–	0.14	0.07		0.00
Total	16.65	89.85	83.16	175.24	164.72	150.53	97.62	24.88	8.66	2.99	0.76	1.91
Mean	0.555	2.90	2.77	5.65	5.31	5.02	3.15	0.83	0.28	0.096	0.027	0.062
Max.	2.30	13	6.24	16	16	11	8.00	1.19	0.46	0.34	0.07	0.56
Min.	0.00	0.50	0.74	2.50	2.60	1.82	1.28	0.46	0.10	0.06	0.00	0.00
Runoff – RCM.	1.438	7.763	7.185	15.141	14.232	13.006	8.434	2.150	0.748	0.258	0.066	0.165

WATER YEAR 1968 : Max. 16 Min. 0.00 Mean 2.24 Annual Runoff 70.586 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Aug. 16	02.00	2.32	37				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
MUN RIVER BASIN

Mun River at Ban Jorakhe Hin, Nakhon Ratchasima (M. 49)

Location: Lat. 14°-30'-32" N., Long. 102°-09'-50" E., on right bank about 3 kilometers downstream from damsite, about 3 kilometers south-west of Ban Jorakhe Hin, Amphoe Khon Buri, Nakhon Ratchasima.

Drainage Area: 451 sq.km.

Type of Gage: Water-stage recorder

Zero Gage at Bottom at: +197.16 m. (M.S.L.)

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

Location: on right bank near Automatic gage.
Elevation: +202.348 m. (M.S.L.)

Gage Reading Frequency: Recording

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

Period of Available Gage Records: 1965-1973

Rating Operation:

Period of Rating: 1965-1973
Rated by Float: -
Rated by Current Meter: 1965-1973

Stability of Channel Regimes: Unstable, shifting adjustment is included for flow computation.

Overbank Flow Conditions: No overbank flow.

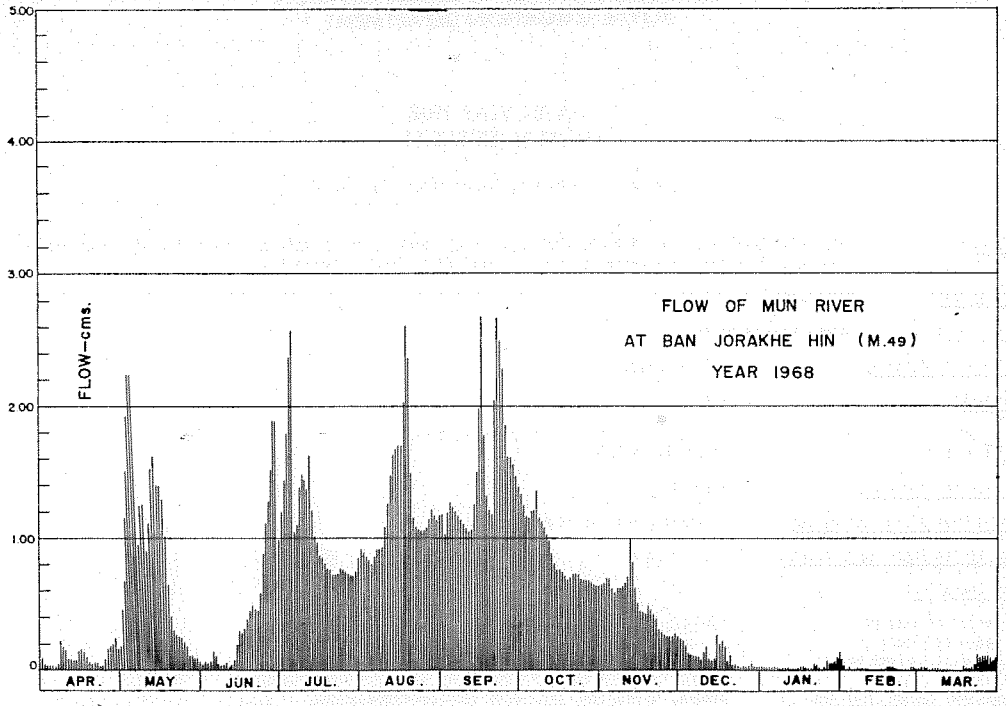
General Description: Records poor. Stage-discharge relationship used is defined by discharge measurements made during 1968. Water stage is effected by channel obstructions which are made by local resident. No upstream state diversion. No adjustment made for virgin flow.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	197.84	197.94	197.80	199.05	199.67	200.40	200.33	199.89	198.57	197.89	197.97	197.77
2	.71	198.51	.87	.20	.65	.26	.27	.86	.55	.91	.86	.77
3	.76	199.38	.85	.36	.63	.40	.22	.83	.45	.88	.83	.75
4	.76	.38	.84	.68	.61	.45	.21	.77	.42	.89	.86	.75
5	.75	.14	.95	.76	.59	.43	.25	.66	.39	.91	.84	.74
6	197.76	198.79	197.91	199.74	199.61	200.41	200.26	199.59	198.37	197.89	197.85	197.75
7	.80	.53	.79	.78	.67	.38	.34	.57	.38	.89	.86	.75
8	198.08	.85	.75	.97	.67	.36	.40	.53	.38	.85	.88	.74
9	.04	199.05	.76	200.03	.65	.34	.40	.50	.31	.93	.89	.74
10	197.95	198.87	.81	.00	.78	.33	.37	.48	.40	.92	.88	.74
11	197.88	198.62	197.73	199.93	199.89	200.31	200.34	199.46	198.40	197.89	197.85	197.74
12	.87	199.10	.76	.84	200.04	.28	.28	.21	.26	.87	.85	.75
13	.87	.15	.83	.78	.12	.44	.23	198.99	.23	.85	.85	.75
14	.85	.06	198.01	.73	.14	.46	.18	.90	.28	.87	.85	.75
15	.97	.06	.29	.67	.15	.52	.14	.79	.53	.91	.84	.75
16	197.99	199.07	198.31	199.64	200.14	200.60	200.15	198.78	198.65	197.94	197.87	197.73
17	.94	198.96	.36	.63	.32	.63	.14	.78	.71	.95	.90	.73
18	.89	.71	.44	.60	.58	.58	.12	.77	.41	.87	.92	.81
19	.83	.37	.51	.57	.50	.52	.09	.84	.23	.88	.93	.77
20	.79	.14	.54	.56	.41	.46	.11	.80	.13	.92	.93	.79
21	197.82	198.06	198.51	199.54	200.36	200.58	200.13	198.76	198.00	197.99	197.90	197.78
22	.83	.01	.48	.53	.33	.69	.14	.73	.01	.95	.84	.89
23	.76	.03	.58	.55	.32	.65	.12	.65	.00	.89	.80	.98
24	.76	.04	.83	.57	.32	.60	.09	.62	197.97	.86	.80	198.00
25	.82	.01	.99	.57	.31	.53	.09	.60	.99	.91	.80	.05
26	197.99	197.97	199.14	199.55	200.33	200.49	200.09	198.58	197.97	198.03	197.79	198.10
27	198.03	.89	.29	.53	.38	.49	.09	.59	.89	.00	.80	.14
28	.02	.91	.45	.53	.42	.46	.08	.59	.97	197.98	.77	.16
29	.10	.88	.01	.53	.39	.41	.04	.61	.91	198.00	-	.20
30	197.98	.89	198.84	.56	.36	.38	199.99	.58	.88	.04	-	.30
31	-	.86	-	.64	.40	-	.95	-	.89	.09	-	.33
Mean	197.88	198.52	198.31	199.63	200.09	200.46	200.18	199.08	198.24	197.92	197.86	197.87
Max.	198.10	199.38	199.45	200.03	200.58	200.69	200.40	199.89	198.71	198.09	197.97	198.33
Min.	197.71	197.86	197.73	199.05	199.59	200.26	199.95	198.58	197.88	197.85	197.77	197.73

WATER YEAR 1968 : Max. 200.69 m. Min. 197.71 m.

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.08	0.12	0.03	1.18	0.91	1.18	1.32	0.64	0.24	0.02	0.06	0.01
2	0.02	0.66	0.07	1.42	0.88	0.97	1.23	0.66	0.22	0.02	0.02	0.01
3	0.03	2.23	0.05	1.71	0.85	1.18	1.15	0.69	0.15	0.01	0.01	0.01
4	0.03	2.23	0.05	2.37	0.82	1.26	1.13	0.67	0.13	0.02	0.02	0.01
5	0.02	1.75	0.14	2.56	0.79	1.23	1.19	0.61	0.11	0.02	0.01	0.01
6	0.02	1.15	0.11	1.01	0.85	1.19	1.21	0.57	0.10	0.02	0.02	0.01
7	0.03	0.76	0.04	1.07	0.91	1.15	1.34	0.61	0.10	0.02	0.02	0.01
8	0.22	1.24	0.03	1.37	0.91	1.12	1.12	0.62	0.10	0.01	0.02	0.01
9	0.19	1.26	0.03	1.47	0.88	1.09	1.12	0.64	0.06	0.02	0.02	0.01
10	0.13	1.15	0.05	1.42	1.07	1.07	1.07	0.68	0.12	0.02	0.02	0.01
11	0.08	0.77	0.02	1.31	1.24	1.04	1.03	0.72	0.17	0.02	0.01	0.01
12	0.08	1.52	0.03	1.61	1.49	1.00	0.94	0.98	0.08	0.01	0.01	0.01
13	0.08	1.62	0.06	1.07	1.63	1.24	0.86	0.67	0.06	0.01	0.01	0.01
14	0.07	1.39	0.15	1.01	1.67	1.54	0.79	0.56	0.09	0.01	0.01	0.01
15	0.15	1.39	0.29	0.91	1.69	2.21	0.73	0.44	0.27	0.02	0.01	0.01
16	0.16	1.40	0.26	0.86	1.67	2.67	0.75	0.43	0.18	0.03	0.02	0.00
17	0.12	1.23	0.30	0.85	2.02	1.35	0.73	0.43	0.22	0.03	0.02	0.00
18	0.09	0.85	0.38	0.80	2.60	1.27	0.71	0.42	0.17	0.01	0.03	0.03
19	0.05	0.62	0.45	0.76	2.08	1.18	0.67	0.49	0.05	0.01	0.03	0.02
20	0.03	0.37	0.48	0.75	1.19	1.09	0.69	0.45	0.11	0.02	0.03	0.02
21	0.05	0.29	0.45	0.72	1.12	2.40	0.72	0.41	0.03	0.05	0.02	0.02
22	0.05	0.25	0.42	0.71	1.07	2.65	0.73	0.38	0.04	0.03	0.01	0.06
23	0.02	0.25	0.52	0.73	1.06	2.33	0.71	0.30	0.03	0.02	0.01	0.12
24	0.02	0.24	0.85	0.76	1.06	2.21	0.67	0.28	0.02	0.01	0.01	0.10
25	0.05	0.20	1.09	0.76	1.04	1.67	0.67	0.26	0.03	0.02	0.01	0.11
26	0.16	0.16	1.32	0.73	1.07	1.60	0.67	0.25	0.02	0.07	0.00	0.11
27	0.19	0.09	1.58	0.71	1.15	1.60	0.67	0.25	0.02	0.05	0.01	0.11
28	0.18	0.10	1.88	0.71	1.21	1.54	0.66	0.25	0.05	0.04	0.01	0.09
29	0.24	0.08	1.12	0.71	1.16	1.45	0.63	0.27	0.02	0.05	–	0.08
30	0.15	0.09	0.86	0.75	1.12	1.40	0.63	0.25	0.02	0.10	–	0.12
31	–	0.06	–	0.86	1.18	–	0.64	–	0.02	0.14	–	0.10
Total	2.79	25.52	13.11	33.66	38.39	44.88	27.18	14.88	3.03	0.93	0.48	1.24
Mean	0.093	0.82	0.44	1.09	1.24	1.50	0.88	0.50	0.10	0.03	0.02	0.04
Max.	0.24	2.23	1.88	2.56	2.60	2.67	1.34	0.98	0.27	0.14	0.06	0.12
Min.	0.02	0.06	0.02	0.71	0.79	0.97	0.63	0.25	0.02	0.01	0.00	0.00
Runoff – MCM.	0.241	2.205	1.133	2.908	3.317	3.878	2.348	1.286	0.261	0.080	0.041	0.107

WATER YEAR 1968 : Max. 2.67 Min. 0.00 Mean 0.56 Annual Runoff 17.806 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sept. 22	16.00	200.71	2.69				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
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 the office of Amphoe Khon Buri, 30 meters south-east of Khon Buri sanitarium, 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.

Location: on right bank at the foot of a big tree.
Elevation: +10.00 m. (A.D.)

Gage Reading Frequency: Recording

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

Period of Available Gage Records: 1965 to date

Rating Operation:

Period of Rating: 1965-67
Rated by Float: –
Rated by Current Meter: 1965-67

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

Overbank Flow Conditions: No overbank flow.

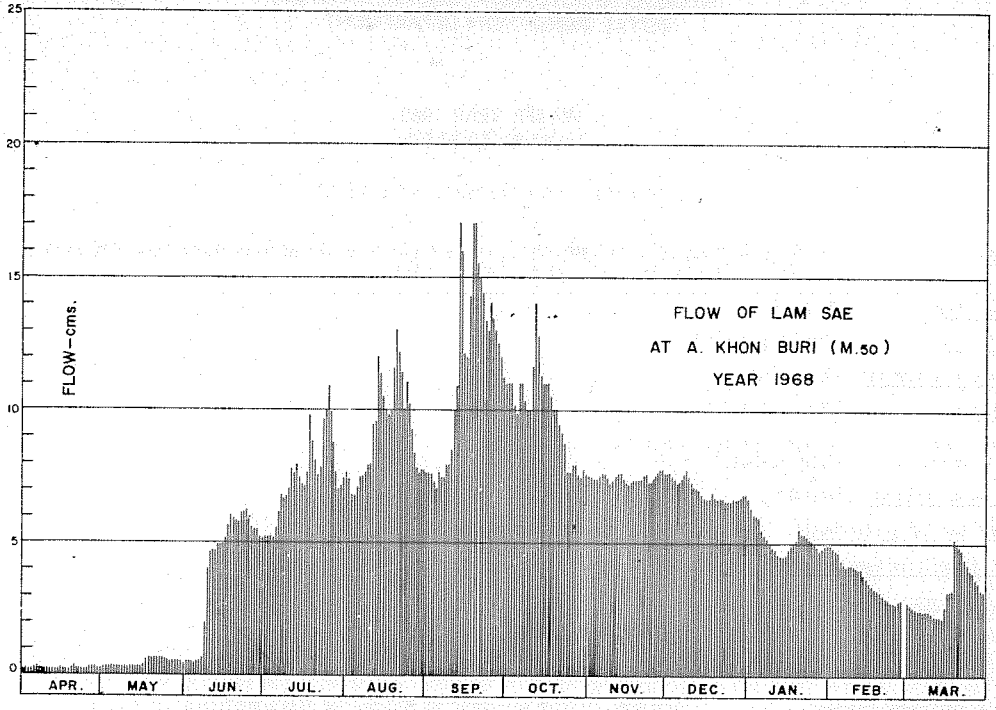
General Description: Records poor. Stage-discharge relationship used is defined by discharge measurements made during 1967. Water stage is effected by channel obstructions which are made by local residents. No upstream state diversions. No adjustment made for virgin flow.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.40	0.53	0.71	1.58	1.76	1.76	1.86	1.75	1.76	1.67	1.55	1.33
2	.42	.54	.72	.57	.71	.76	.87	.75	.76	.65	.54	.32
3	.40	.54	.70	.58	.70	.74	.85	.74	.75	.64	.53	.31
4	.41	.53	.67	.57	.70	.70	.83	.74	.74	.64	.52	.30
5	.50	.53	.70	.61	.72	.76	.82	.75	.73	.63	.49	.30
6	0.51	0.54	0.73	1.66	1.75	1.75	1.85	1.76	1.74	1.59	1.48	1.39
7	.48	.54	.98	.70	.75	.74	.85	.76	.75	.58	.47	.29
8	.45	.55	1.26	.68	.76	.78	.84	.75	.77	.57	.48	.30
9	.43	.54	.46	.70	.78	.78	.83	.73	.75	.55	.48	.29
10	.41	.54	.52	.72	.78	.78	.84	.74	.73	.54	.47	.28
11	0.40	0.53	1.53	1.77	1.81	1.84	1.90	1.75	1.72	1.53	1.47	1.27
12	.43	.52	.53	.75	.80	.86	.93	.76	.72	.51	.46	.27
13	.40	.52	.55	.78	.88	2.00	.88	.76	.71	.51	.45	.27
14	.41	.52	.55	.74	.87	1.95	.86	.75	.70	.51	.44	.26
15	.42	.51	.55	.73	.84	.90	.87	.73	.69	.52	.42	.32
16	0.42	0.60	1.58	1.73	1.84	1.90	1.85	1.73	1.68	1.54	1.41	1.38
17	.41	.84	.62	.77	.82	.96	.85	.74	.69	.55	.40	.38
18	.41	.86	.64	.82	.83	2.01	.84	.74	.71	.56	.39	.36
19	.50	.83	.63	.79	.89	2.01	.83	.74	.69	.57	.38	.57
20	.52	.83	.62	.79	.92	1.97	.83	.74	.69	.60	.37	.55
21	0.46	0.89	1.62	1.75	1.89	1.96	1.80	1.74	1.69	1.59	1.36	1.54
22	.43	.86	.65	.77	.86	.94	.80	.75	.69	.59	.35	.51
23	.42	.85	.65	.80	.82	.92	.79	.76	.68	.58	.34	.49
24	.41	.80	.65	.83	.84	.91	.76	.73	.68	.57	.33	.47
25	.43	.79	.61	.85	.83	.93	.76	.74	.68	.56	.33	.46
26	0.53	0.75	1.60	1.82	1.80	1.92	1.78	1.75	1.69	1.55	1.32	1.44
27	.57	.75	.60	.79	.78	.92	.78	.76	.69	.54	.34	.42
28	.49	.74	.60	.75	.77	.90	.75	.77	.69	.53	.34	.40
29	.44	.73	.57	.71	.75	.89	.75	.77	.70	.54	–	.38
30	.46	.70	.57	.73	.77	.86	.77	.76	.70	.55	–	.37
31	–	.68	–	.75	.76	–	.75	–	.70	.55	–	.37
Mean	0.44	0.66	1.38	1.73	1.80	1.87	1.82	1.75	1.71	1.57	1.42	1.37
Max.	0.57	0.89	1.65	1.85	1.92	2.01	1.93	1.77	1.77	1.67	1.55	1.57
Min.	0.40	0.51	0.67	1.57	1.70	1.70	1.75	1.73	1.68	1.51	1.32	1.26

WATER YEAR 1968 : Max. 2.01 m. Min. 0.40 m.

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.20	0.33	0.51	5.28	7.64	7.64	11	7.50	7.64	6.41	4.95	2.77
2	0.22	0.34	0.52	5.17	6.94	7.64	11	7.50	7.64	6.15	4.84	2.68
3	0.20	0.34	0.50	5.28	6.80	7.36	11	7.36	7.50	6.02	4.73	2.59
4	0.21	0.33	0.47	5.17	6.80	6.80	10	7.36	7.36	6.02	4.62	2.50
5	0.30	0.33	0.50	5.63	7.08	7.64	9.78	7.50	7.22	5.89	4.30	2.50
6	0.31	0.34	0.53	6.26	7.50	7.50	11	7.64	7.36	5.39	4.20	2.50
7	0.28	0.34	0.78	6.80	7.50	7.36	11	7.64	7.50	5.28	4.10	2.43
8	0.25	0.35	2.22	6.54	7.64	7.92	10	7.50	7.78	5.17	4.20	2.50
9	0.23	0.34	4.00	6.80	7.92	7.92	10	7.22	7.50	4.95	4.20	2.43
10	0.21	0.34	4.62	7.08	7.92	7.92	10	7.36	7.22	4.84	4.10	2.36
11	0.20	0.33	4.73	7.78	9.44	10	12	7.50	7.08	4.73	4.10	2.29
12	0.23	0.32	4.73	7.50	9.10	11	14	7.64	7.08	4.51	4.00	2.29
13	0.20	0.32	4.95	7.92	12	17	12	7.64	6.94	4.51	3.90	2.29
14	0.21	0.32	4.95	7.36	11	15	11	7.50	6.80	4.51	3.80	2.22
15	0.22	0.31	4.95	7.22	10	12	11	7.22	6.67	4.62	3.69	2.68
16	0.22	0.40	5.28	7.22	10	12	11	7.22	6.54	4.84	3.50	3.22
17	0.21	0.64	5.76	7.78	9.78	15	11	7.36	6.67	4.95	3.40	3.22
18	0.21	0.66	6.02	9.78	10	17	10	7.36	6.94	5.06	3.31	3.04
19	0.30	0.63	5.89	8.06	12	17	10	7.36	6.67	5.17	3.22	5.17
20	0.32	0.63	5.76	8.06	13	15	10	7.36	6.67	5.50	3.13	4.95
21	0.26	0.69	5.76	7.50	12	15	9.10	7.36	6.69	5.39	3.04	4.84
22	0.23	0.66	6.15	7.78	11	14	9.10	7.50	6.69	5.39	2.95	4.51
23	0.22	0.65	6.15	9.10	9.78	13	8.06	7.64	6.54	5.28	2.86	4.30
24	0.21	0.60	6.15	10	11	13	7.64	7.22	6.54	5.17	2.77	4.10
25	0.23	0.59	5.63	11	10	14	7.64	7.36	6.54	5.06	2.77	4.00
26	0.33	0.55	5.50	9.78	9.10	13	7.92	7.50	6.69	4.95	2.68	3.80
27	0.37	0.55	5.50	8.06	7.92	13	7.92	7.64	6.69	4.84	2.86	3.60
28	0.26	0.54	5.50	7.50	7.78	12	7.50	7.78	6.69	4.73	2.86	3.40
29	0.24	0.53	5.17	6.94	7.50	12	7.50	7.78	6.80	4.84	–	3.22
30	0.26	0.50	5.17	7.22	7.78	11	7.78	7.64	6.80	4.95	–	3.15
31	–	0.48	–	7.50	7.64	–	7.50	–	6.80	4.95	–	3.13
Total	7.54	14.28	124.35	231.09	281.56	346.70	304.44	224.16	216.25	160.07	102.99	98.66
Mean	0.24	0.46	4.14	7.45	9.08	11.6	9.82	7.47	6.97	5.16	3.68	3.18
Max.	0.37	0.69	6.15	11	13	17	14	7.78	7.78	6.41	4.95	5.17
Min.	0.20	0.31	0.47	5.17	6.80	6.80	7.50	7.22	6.54	4.51	2.68	2.22
Runoff - mcm.	0.654	1.234	10.744	19.966	24.327	29.955	26.304	19.367	18.684	13.830	8.898	8.524

WATER YEAR 1968 : Max. 17 Min. 0.20 Mean 5.79 Annual Runoff 2,111.89 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sep.13	02.00	205	19				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
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 50 meters upstream from 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: on right bank near gage site.
Elevation: +6.581 m. (A.D.)

Gage Reading Frequency: Recording

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

Period of Available Gage Records: 1965 to date

Rating Operation:

Period of Rating: 1965-68, 1972 to date.
Rated by Float: –
Rated by Current Meter: 1965-68, 1972 to date.

Stability of Channel Regimes: Unstable, shifting adjustment is included for flow computation.

Overbank Flow Conditions: No overbank flow.

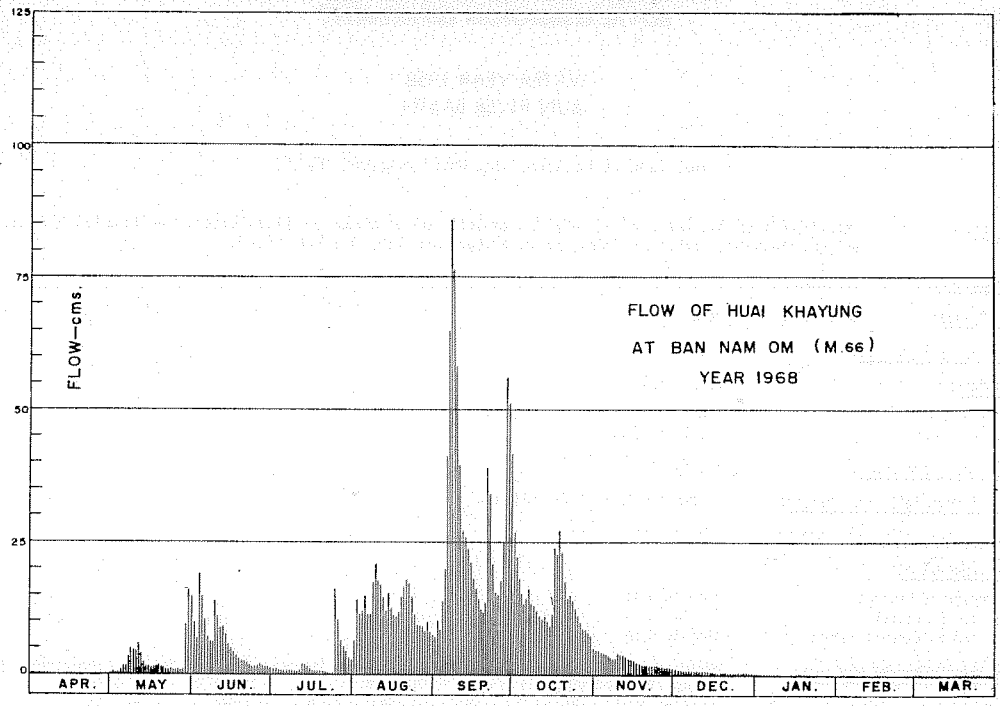
General Description: Records good. Stage-discharge relationship used is defined by discharge measurements made during 1968. No upstream state diversions for irrigation except those built by local residents. No adjustment made for virgin flow.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.11	0.28	1.11	0.40	0.90	0.94	2.10	0.81	0.37	0.22	0.13	0.03
2	.11	.27	0.92	.38	1.48	1.20	1.79	.79	.35	.22	.13	.03
3	.11	.26	1.82	.36	.30	0.95	.59	.77	.34	.21	.15	.03
4	.14	.28	.45	.34	.55	1.58	.38	.75	.34	.20	.14	.03
5	.17	.49	.16	.32	.54	2.34	.41	.72	.33	.20	.14	.03
6	0.14	0.46	1.02	0.32	1.29	4.22	1.59	0.68	0.33	0.20	0.14	0.03
7	.13	.56	0.94	.32	.29	5.01	.45	.66	.32	.20	.15	.03
8	.12	.82	1.98	.29	.63	4.45	.42	.64	.33	.20	.13	.03
9	.12	.78	1.49	.29	.89	3.38	.33	.77	.33	.20	.13	.02
10	.12	.73	1.20	.29	.63	2.65	.26	.76	.32	.20	.12	.03
11	0.12	0.87	1.14	0.28	1.59	2.18	1.24	0.72	0.32	0.19	0.08	0.02
12	.12	.68	.17	.50	.33	.10	.28	.67	.31	.18	.07	.03
13	.12	.52	.03	.47	.26	1.93	.22	.64	.29	.17	.06	.02
14	.12	.42	0.87	.38	.52	.82	.15	.61	.29	.17	.05	.02
15	.12	.45	1.83	.33	.28	.67	.15	.57	.29	.17	.05	.03
16	0.12	0.42	0.73	0.32	1.25	1.56	2.06	0.56	0.27	0.16	0.05	0.03
17	.12	.45	.67	.30	.24	.43	1.89	.54	.26	.16	.04	.04
18	.12	.47	.61	.29	.30	.32	2.25	.52	.25	.16	.05	.04
19	.12	.45	.59	.28	.58	.32	2.00	.50	.25	.16	.05	.04
20	.12	.44	.55	.26	.62	.47	1.65	.48	.24	.15	.04	.02
21	0.11	0.41	0.54	0.24	1.68	2.78	1.52	0.46	0.24	0.15	0.04	0.01
22	.10	.38	.47	.24	.62	1.92	.50	.48	.24	.15	.03	.02
23	.10	.39	.45	.24	.45	.56	.45	.47	.23	.16	.03	.02
24	.10	.36	.44	.30	.24	.42	.29	.46	.23	.16	.03	.02
25	.23	.36	.50	1.65	.13	.65	.20	.46	.23	.15	.03	.02
26	0.20	0.37	0.51	1.10	1.12	1.70	1.12	0.43	0.22	0.15	0.04	0.02
27	.20	.36	.44	0.89	.07	2.87	.05	.41	.23	.14	.05	.02
28	.16	.40	.41	.80	.04	3.59	.02	.40	.22	.14	.04	.01
29	.15	1.19	.41	.65	.20	.35	0.98	.40	.22	.15	–	.02
30	.18	.61	.37	.56	.01	2.84	.89	.38	.22	.14	–	.01
31	–	.56	–	.52	0.97	–	.85	–	.21	.13	–	.03
Mean	0.13	0.56	0.56	0.45	1.36	2.24	1.42	0.58	0.28	0.17	0.08	0.02
Max.	0.23	1.61	1.98	1.65	1.89	5.01	2.25	0.81	0.37	0.22	0.15	0.04
Min.	0.10	0.26	0.37	0.24	0.90	0.94	0.85	0.38	0.21	0.13	0.04	0.01

WATER YEAR 1968 : Max. 5.01 m. Min. 0.01 m.

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.00	0.52	7.95	1.23	6.70	6.70	25	4.40	1.02	0.36	0.08	0.04
2	0.00	0.48	5.62	1.09	14	10	20	4.20	0.88	0.36	0.08	0.04
3	0.00	0.44	19	0.95	11	7.95	16	4.00	0.81	0.32	0.16	0.04
4	0.00	0.52	13	0.81	12	18	13	3.80	0.81	0.28	0.12	0.04
5	0.00	1.93	8.60	0.81	15	31	14	3.50	0.74	0.28	0.12	0.04
6	0.00	1.72	6.82	0.81	11	73	16	3.10	0.74	0.28	0.12	0.04
7	0.00	2.52	6.22	0.81	11	86	13	2.90	0.67	0.28	0.16	0.04
8	0.00	5.14	22	0.74	18	71	13	2.72	0.74	0.28	0.08	0.04
9	0.00	4.70	14	0.74	21	46	12	4.00	0.81	0.28	0.08	0.04
10	0.00	4.20	9.58	0.74	17	36	11	3.90	0.74	0.28	0.28	0.08
11	0.00	5.70	8.74	0.67	17	27	10	3.70	0.74	0.24	0.12	0.04
12	0.00	3.70	9.16	2.27	12	26	11	3.20	0.67	0.20	0.08	0.08
13	0.00	2.18	7.30	2.00	11	23	10	2.90	0.56	0.16	0.04	0.04
14	0.00	1.44	5.38	1.37	15	21	9.02	2.63	0.56	0.16	0.00	0.04
15	0.00	1.65	4.90	1.02	12	18	9.02	2.27	0.56	0.16	0.00	0.08
16	0.00	1.44	3.90	0.95	11	16	24	2.18	0.48	0.20	0.00	0.08
17	0.00	1.51	3.30	0.81	11	14	21	2.00	0.44	0.20	0.08	0.12
18	0.00	1.79	2.72	0.74	12	12	27	1.86	0.48	0.20	0.12	0.12
19	0.00	1.65	2.54	0.67	16	12	22	1.72	0.48	0.20	0.12	0.12
20	0.00	1.37	2.18	0.56	17	15	16	1.58	0.44	0.16	0.08	0.04
21	0.00	1.16	2.09	0.48	18	39	14	1.58	0.44	0.16	0.08	0.00
22	0.00	0.95	1.58	0.48	17	22	15	1.72	0.44	0.16	0.04	0.04
23	0.00	1.02	1.44	0.48	14	16	14	1.65	0.40	0.20	0.04	0.04
24	0.00	0.81	1.51	0.81	11	14	12	1.58	0.40	0.20	0.04	0.04
25	0.32	0.81	1.93	16	9.16	18	11	1.58	0.40	0.16	0.04	0.04
26	0.20	0.88	2.00	7.95	9.02	18	9.44	1.37	0.36	0.16	0.08	0.04
27	0.20	0.81	1.51	5.86	8.34	41	8.47	1.30	0.40	0.12	0.12	0.04
28	0.04	1.09	1.30	5.14	7.95	56	8.08	1.23	0.36	0.12	0.08	0.04
29	0.00	9.44	1.30	3.90	10	51	7.56	1.23	0.36	0.16	–	0.08
30	0.12	16	1.02	3.00	7.56	40	5.26	1.09	0.36	0.12	–	0.04
31	–	15	–	2.63	7.06	–	4.80	–	0.32	0.08	–	0.12
Total	0.88	92.59	178.59	66.52	389.79	884.65	421.65	74.89	17.61	6.52	2.44	1.72
Mean	0.03	2.99	5.95	2.14	12.6	29.5	13.6	2.50	0.568	0.210	0.087	0.055
Max.	0.32	16	22	16	21	86	27	4.40	1.02	0.36	0.16	0.12
Min.	0.00	0.44	1.02	0.48	6.70	6.70	4.80	1.09	0.32	0.08	0.00	0.00
Runoff – MCM.	0.076	8.000	15.430	5.747	33.678	76.434	36.430	6.470	1.521	0.563	0.211	0.149

WATER YEAR 1968 : Max. 86 Min. 0.00 Mean 5.86 Annual Runoff 184.710 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sept. 7	05.00	5.24	98				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
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 bridge on Phibun Mangsahan – Chong Mek highway, near Wat Pha Thepburom, Tambon Don Chick, 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 9 meters from bank at Wat Pha Thepburom.
- Elevation: +6.775 m. (A.D.)

Gage Reading Frequency: Recordings

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

Period of Available Gage Records: 1965 to date

Rating Operations:

- Period of Rating: 1965 to date
- Rated by Float: –
- Rated by Current Meter: 1965 to date

Stability of Channel Regimes: Unstable, no shifting adjustment but mean hourly discharge are used for flow computation for period of high flood.

Overbank Flow Conditions: Overbank flow was observed and included for flow computation.

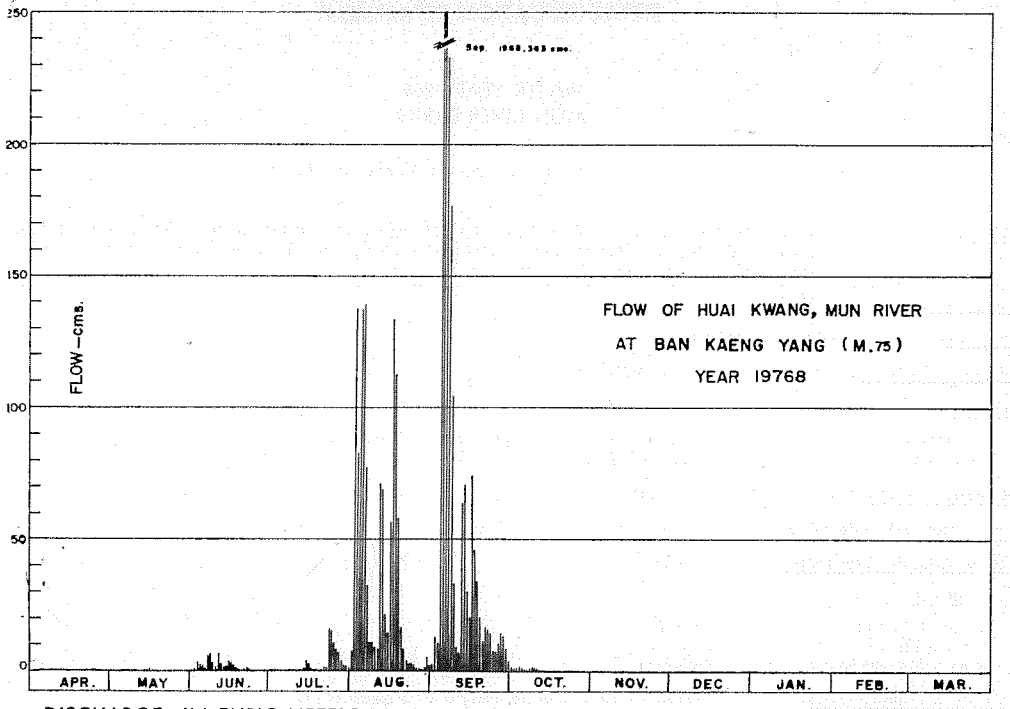
General Description: Records fair. Stage-discharge relationship used is defined by discharge measurements made durigg 1968. No upstream state diversions for irrigation except those built by local residents. No adjustment made for virgin flow.

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

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.64	0.63	0.77	0.79	1.00	1.07	0.93	0.74	0.70	0.70	0.65	0.68
2	.64	.63	.77	.76	2.08	.60	.87	.73	.71	.72	.66	.67
3	.63	.63	1.06	.75	5.41	.41	.86	.73	.72	.69	.67	.66
4	.64	.62	0.99	.74	2.48	2.24	.90	.73	.71	.70	.67	.68
5	.64	.62	.98	.73	5.40	5.58	.93	.72	.71	.73	.66	.67
6	0.64	0.79	0.82	0.75	5.45	7.36	0.86	0.71	0.71	0.71	0.66	0.67
7	.64	.75	1.21	.78	1.88	6.56	.84	.74	.71	.71	.67	.66
8	.64	.77	.27	.78	.42	5.44	.82	.73	.71	.71	.68	.66
9	.65	.77	0.95	.77	.50	1.83	.96	.73	.71	.71	.71	.67
10	.65	.75	.80	.76	.39	.35	.86	.75	.71	.71	.69	.67
11	0.65	0.74	1.30	0.76	1.18	1.30	0.83	0.73	0.70	0.71	0.67	0.67
12	.65	.74	.06	.76	3.71	3.49	.82	.72	.69	.70	.67	.66
13	.65	.73	0.85	.77	.64	.71	.79	.72	.67	.67	.67	.65
14	.65	.71	.91	.93	1.87	2.01	.78	.73	.69	.67	.67	.65
15	.64	.85	1.10	1.13	.47	1.72	.79	.74	.71	.67	.67	.65
16	0.64	0.83	1.01	0.90	2.43	3.81	0.81	0.74	0.70	0.67	0.68	0.65
17	.63	.77	0.97	.83	5.33	2.73	.80	.73	.70	.69	.67	.66
18	.63	.72	.83	.80	4.66	.35	.79	.73	.68	.69	.68	.67
19	.71	.70	.81	.78	2.49	1.87	.78	.73	.69	.69	.68	.66
20	.69	.69	.80	.78	1.68	.41	.76	.73	.70	.71	.68	.64
21	0.67	0.70	0.81	0.78	1.29	1.80	0.76	0.73	0.73	0.71	0.70	0.64
22	.66	.72	.91	.91	.09	.76	.75	.70	.69	.70	.68	.66
23	.65	.75	.81	.87	0.98	.73	.74	.71	.68	.70	.69	.68
24	.65	.76	.77	1.75	1.06	.34	.73	.72	.65	.73	.68	.68
25	.66	.77	.75	.64	0.96	.33	.74	.73	.67	.74	.66	.71
26	0.68	0.75	0.74	1.41	0.88	1.46	0.74	0.72	0.69	0.74	0.66	0.71
27	.68	.73	.73	.31	.86	.71	.74	.72	.70	.75	.67	.72
28	.67	.70	.72	.09	.85	.63	.73	.71	.72	.70	.68	.71
29	.63	.74	.71	0.94	.90	.36	.75	.70	.72	.72		.71
30	.64	.71	.73	.89	1.19	.06	.74	.70	.71	.68		.69
31		.75		.84	0.92		.74		.72	.68		.69
Mean	0.65	0.73	0.90	0.92	2.17	2.47	0.80	0.72	0.70	0.70	0.67	0.67
Max.	0.71	0.85	1.30	1.75	5.45	7.36	0.96	0.75	0.73	0.75	0.71	0.72
Min.	0.63	0.62	0.71	0.73	0.85	1.06	0.73	0.70	0.65	0.67	0.65	0.65

WATER YEAR 1968 : Max. 7.36 m. Min. 0.65 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.00	0.00	0.35	0.45	2.50	3.41	1.73	0.20	0.00	0.00		
2		0.00	0.35	0.30	24	13	1.13	0.15	0.050	0.10		
3		0.00	3.28	0.25	137	8.89	1.04	0.15	0.10	0.00		
4		0.00	2.39	0.20	34	28	1.40	0.15	0.050	0.00		
5		0.00	2.28	0.15	137	187	1.73	0.10	0.050	0.15		
6		0.45	0.68	0.25	139	363	1.04	0.050	0.050	0.050		
7		0.25	5.46	0.40	19	222	0.86	0.20	0.050	0.050		
8		0.35	6.42	0.40	9.08	155	0.68	0.15	0.050	0.050		
9		0.35	1.95	0.35	11	18	2.06	0.15	0.050	0.050	0.050	
10		0.25	0.50	0.30	8.52	7.80	1.04	0.25	0.050	0.050		
11		0.20	6.90	0.30	5.00	6.90	0.77	0.15	0.00	0.050		
12		0.20	3.28	0.30	71	64	0.68	0.10	0.00	0.000		
13		0.15	0.95	0.35	68	71	0.45	0.10	0.00	0.000		
14		0.050	1.51	1.73	19	22	0.40	0.15	0.00	0.000		
15		0.95	3.80	4.25	10	15	0.45	0.20	0.050	0.000		
16		0.77	2.63	1.40	33	74	0.59	0.20	0.00	0.000		
17		0.35	2.17	0.77	133	41	0.50	0.15	0.00	0.000		
18	0.00	0.10	0.77	0.50	106	31	0.45	0.15	0.00	0.000		
19	0.050	0.00	0.59	0.40	34	19	0.40	0.15	0.00	0.000		
20	0.00	0.00	0.50	0.40	14	8.89	0.30	0.15	0.00	0.050		
21		0.00	0.59	0.40	6.74	17	0.30	0.15	0.15	0.050		
22		0.10	1.51	1.51	3.67	16	0.25	0.00	0.00	0.000		
23		0.25	0.59	1.13	2.28	15	0.20	0.050	0.00	0.000		
24		0.30	0.35	16	3.28	7.62	0.15	0.10	0.00	0.15		
25		0.35	0.25	13	2.06	7.44	0.20	0.15	0.00	0.20		0.050
26		0.25	0.20	8.89	1.22	9.84	0.20	0.10	0.00	0.20		0.050
27		0.15	0.15	7.08	1.04	15	0.20	0.10	0.00	0.25		0.10
28		0.00	0.10	3.67	0.95	13	0.15	0.050	0.10	0.000		0.050
29		0.20	0.050	1.84	1.40	7.98	0.25	0.00	0.10	0.10		0.050
30		0.050	0.15	1.31	5.15	3.28	0.20	0.00	0.050	0.000		0.000
31		0.25		0.86	1.62		0.20		0.10	0.000		0.000
Total	0.050	6.32	50.70	69.14	1,043.51	1,471.05	20.00	3.75	1.05	1.550	0.050	0.300
Mean	0.00	0.20	1.69	2.23	33.7	49.0	0.64	0.12	0.034	0.050	0.000	0.010
Max.	0.050	0.95	6.90	16	139	363	2.06	0.25	0.15	0.25	0.050	0.10
Min.	0.000	0.000	0.050	0.15	0.95	3.28	0.15	0.000	0.000	0.000	0.000	0.000
Runoff - mcm.	0.004	0.546	4.380	5.974	90.159	127.099	1.728	0.324	0.091	0.134	0.004	0.026

WATER YEAR 1968 : Max. 363 Min. 0.000 Mean 7.30 Annual Runoff 230.469 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sep.6	02.00	7.50	399				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
MUN RIVER BASIN

Lam Dom Noi at Ban Fang Lum, Ubon Ratchathani (M. 79)

Location: Lat. 15°-07'-09" N., Long. 105°-22'-42" E., on right bank about 20 meters upstream from concrete bridge crossing Lam Dom Noi on Phibun Mangsahan – Chong Mek highway, about 300 meters south-east of Ban Fang Lum, Tambon Non Klang, Amphoe Phibun Mangsahan, Ubon Ratchathani.

Drainage Area: 1,973 sq.km.

Type of Gage: Water-stage recorder

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

Bench Mark: B.M. – H.S. M. 79

Location: on right bank about 10 meters from the top gage.
Elevation: +12.246 m. (A.D.)

Gage Reading Frequency: Recordings

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

Period of Available Gage Records: 1965-69

Rating Operation:

Period of Rating: 1965-69
Rated by Float: –
Rated by Current Meter: 1965-69

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

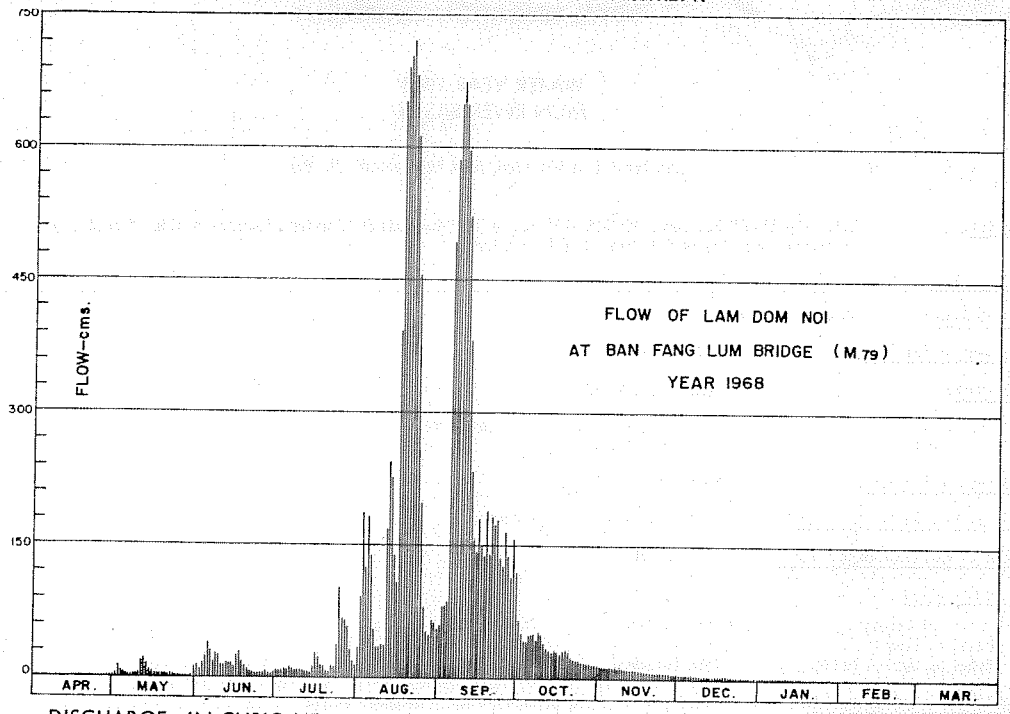
Overbank Flow Conditions: No overbank flow.

General Description: Records fair. Stage-discharge relationship used is defined by discharge measurements made during 1968. No upstream state diversions for irrigation except those built by local residents. No adjustment made for virgin flow.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.34	0.57	1.07	0.86	1.12	2.21	2.31	1.10	0.75	0.55	0.47	0.40
2	.33	1.06	0.87	.80	2.44	.60	1.98	.08	.74	.55	.47	.43
3	.34	0.86	1.19	.87	4.15	.61	.82	.06	.72	.55	.47	.43
4	.35	.73	.38	.97	2.98	.69	.79	.05	.73	.54	.48	.40
5	.40	.64	.75	.94	4.08	5.05	.94	.04	.71	.54	.47	.39
6	0.41	0.57	1.41	1.02	3.26	7.54	1.99	1.02	0.71	0.55	0.46	0.40
7	.38	.54	.12	0.92	1.95	8.27	.98	.00	.70	.55	.44	.42
8	.37	.62	.47	.82	.59	.79	.73	.00	.69	.53	.43	.41
9	.39	.63	.31	.85	.69	9.02	2.03	0.99	.68	.51	.44	.40
10	.38	.81	.03	.85	.75	8.86	1.87	.99	.66	.55	.44	.39
11	0.37	1.28	1.06	0.84	1.66	8.27	1.68	0.98	0.66	0.55	0.44	0.39
12	.36	.26	.21	.81	3.82	7.49	.58	.97	.65	.54	.43	.39
13	.37	0.93	.14	.78	4.86	4.81	.56	.96	.64	.52	.42	.39
14	.39	.77	.13	.73	.47	3.42	.50	.95	.62	.54	.44	.39
15	.43	.69	0.97	1.09	3.16	.48	.57	.93	.66	.53	.44	.39
16	0.47	0.68	1.39	1.47	2.94	4.06	1.47	0.91	0.63	0.53	0.43	0.39
17	.50	.67	.51	.20	6.48	3.46	.46	.89	.62	.53	.43	.39
18	.44	.65	.09	.02	8.82	.52	.56	.88	.62	.52	.42	.40
19	.44	.63	0.95	0.89	9.13	4.17	.59	.86	.61	.51	.42	.39
20	.45	.61	.87	.81	.29	3.38	.48	.85	.60	.51	.43	.39
21	0.46	0.58	0.79	0.78	9.40	4.09	1.38	0.84	0.58	0.51	0.44	0.39
22	.44	.65	.73	1.07	.03	3.94	.33	.81	.57	.50	.43	.38
23	.42	.60	.70	.01	8.27	4.03	.30	.81	.56	.49	.42	.39
24	.40	.56	.69	.71	6.75	3.28	.26	.80	.58	.48	.41	.43
25	.39	.53	.74	2.92	3.16	.28	.23	.79	.58	.48	.43	.45
26	0.38	0.50	0.73	2.27	2.17	3.85	1.20	0.78	0.58	0.48	0.46	0.43
27	.38	.49	.78	.27	1.98	.28	.19	.78	.56	.48.	.44	.41
28	.39	.49	.75	.13	.96	2.85	.17	.77	.59	.45	.42	.40
29	.56	.54	.72	1.46	2.31	3.77	.15	.76	.58	.45	–	.39
30	.54	.72	.76	.22	.24	.20	.14	.76	.56	.47	–	.38
31	–	1.05	–	.10	.06	–	.12	–	.56	.47	–	.37
Mean	0.41	0.71	1.04	1.18	4.16	4.64	1.56	0.91	0.63	0.51	0.44	0.40
Max.	0.56	1.28	1.75	2.92	9.40	9.02	2.31	1.10	0.75	0.55	0.48	0.45
Min.	0.33	0.49	0.69	0.73	1.12	2.21	1.12	0.76	0.56	0.45	0.41	0.37

WATER YEAR 1968 : Max. 9.40 m. Min. 0.33 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.14	2.58	14	8.34	16	61	66	15	5.85	2.30	1.30	0.60
2	0.09	14	8.58	6.90	73	82	50	14	5.64	2.30	1.30	0.90
3	0.14	8.34	18	8.58	187	83	42	14	5.22	2.30	1.30	0.90
4	0.20	5.43	24	11	105	87	41	13	5.43	2.16	1.40	0.60
5	0.60	3.72	39	10	181	260	48	13	5.01	2.16	1.30	0.50
6	0.70	2.58	25	13	123	506	50	13	5.01	2.30	1.20	0.60
7	0.42	2.16	16	9.84	48	587	50	12	4.80	2.30	1.00	0.80
8	0.34	3.36	28	7.38	33	647	38	12	4.62	2.02	0.90	0.70
9	0.50	3.54	22	8.10	37	674	52	12	4.44	1.74	1.00	0.60
10	0.42	7.14	13	8.10	39	655	45	12	4.08	2.30	1.00	0.50
11	0.34	21	14	7.86	35	587	36	11	4.08	2.30	1.00	0.50
12	0.26	20	18	7.14	162	500	32	11	3.90	2.16	0.90	0.50
13	0.34	10	16	6.48	244	240	31	11	3.72	1.88	0.80	0.50
14	0.50	6.27	16	5.43	212	134	29	11	3.36	2.16	1.00	0.50
15	0.90	4.62	11	15	117	138	32	10	4.08	2.02	1.00	0.50
16	1.30	4.44	25	28	103	180	28	9.57	3.54	2.02	0.90	0.50
17	1.60	4.26	29	18	395	137	27	9.06	3.36	2.02	0.90	0.50
18	1.00	3.90	15	13	651	141	31	8.82	3.36	1.88	0.80	0.60
19	1.00	3.54	11	9.06	688	188	33	8.34	3.18	1.74	0.80	0.50
20	1.10	3.18	8.58	7.14	707	131	28	8.10	3.00	1.74	0.90	0.50
21	1.20	2.72	6.69	6.48	720	182	24	7.86	2.72	1.74	1.00	0.50
22	1.00	3.90	5.43	14	676	171	22	7.14	2.58	1.60	0.90	0.42
23	0.80	3.00	4.80	12	587	178	21	7.14	2.44	1.50	0.80	0.50
24	0.60	2.44	4.62	37	422	125	20	6.90	2.72	1.40	0.70	0.90
25	0.50	2.02	5.64	101	117	125	19	6.69	2.72	1.40	0.90	1.10
26	0.42	1.60	5.43	64	59	164	18	6.48	2.72	1.40	1.20	0.90
27	0.42	1.50	6.48	64	50	125	18	6.48	2.44	1.40	1.00	0.70
28	0.50	1.50	5.85	57	49	97	17	6.27	2.86	1.10	0.80	0.60
29	2.44	2.16	5.22	27	66	158	16	6.06	2.72	1.10	–	0.50
30	2.16	5.22	6.06	19	62	119	16	6.06	2.44	1.30	–	0.42
31	–	13	–	15	53	–	16	–	2.44	1.30	–	0.34
Total	21.93	175.12	427.38	624.83	7,017	7,462	996	294.97	114.48	57.04	28.00	18.68
Mean	0.73	5.58	14.2	20.1	226	249	32.1	9.83	3.69	1.84	1.00	0.60
Max.	2.44	21	39	101	720	674	66	15	5.85	2.30	1.40	1.10
Min.	0.09	1.50	4.62	5.43	16	61	16	6.06	2.44	1.10	0.70	0.34
Runoff - mcm.	1.895	14.957	36.926	53.985	606.269	644.717	86.054	25.485	9.891	4.928	2.419	1.614

WATER YEAR 1968 : Max. 720 Min. 0.09 Mean 47.2 Annual Runoff 1,489.141 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sep.15	06.00	110.00	3,165				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
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 bridge on Buntharik 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. M. 80

Location: on left bank 12 meters from gage site.
Elevation: +11.819 m. (A.D.)

Gage Reading Frequency: Recording

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

Period of Available Gage Records: 1965 to date

Rating Operation:

Period of Rating: 1965 to date
Rated by Float: –
Rated by Current Meter: 1965 to date

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

Overbank Flow Conditions: No overbank flow.

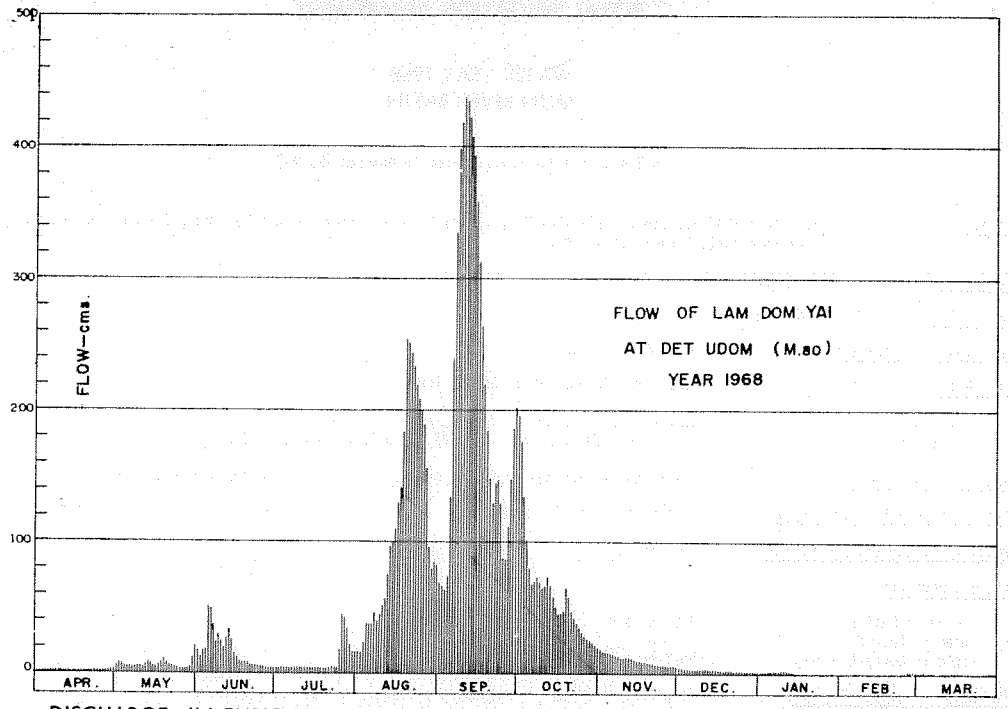
General Description: Records good. Stage-discharge relationship used is defined by discharge measurements made during 1968. No upstream state diversions for irrigation except those built by local residents. No adjustment made for virgin flow.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.64	1.15	1.59	1.03	1.66	3.40	6.59	1.68	1.05	0.82	0.68	0.61
2	.64	.22	.40	.00	.62	.29	5.98	.63	.03	.82	.69	.60
3	.64	.10	.57	0.97	.84	.27	4.82	.60	.03	.81	.68	.60
4	.65	.08	.74	.97	2.44	.51	3.98	.58	.02	.81	.68	.59
5	.65	.00	2.87	.96	.43	5.16	.48	.58	.00	.80	.66	.59
6	0.64	0.95	2.69	0.98	2.41	8.49	3.35	1.53	1.00	0.82	0.67	0.59
7	.62	.99	.06	.99	.76	9.57	.43	.48	0.99	.79	.66	.59
8	.63	1.00	1.90	1.00	.45	10.16	.54	.46	.98	.79	.66	.58
9	.67	0.99	2.15	0.97	.58	.45	.39	.44	.97	.81	.66	.58
10	.69	1.08	.00	.97	.92	.70	.26	.42	.96	.81	.65	.59
11	0.72	1.05	1.70	0.97	2.86	10.66	3.33	1.43	0.94	0.81	0.65	0.59
12	.70	.20	2.09	.96	3.49	.46	.52	.44	.94	.79	.62	.59
13	.69	.23	.28	.94	4.21	.16	.30	.40	.93	.78	.65	.61
14	.67	.11	1.80	.97	.24	9.74	2.97	.37	.91	.77	.63	.61
15	.67	.07	.55	1.05	.45	.26	.77	.34	.91	.76	.64	.63
16	0.66	1.03	1.39	1.04	5.02	8.58	2.64	1.31	0.89	0.75	0.63	0.62
17	.65	.11	.29	.03	.32	7.62	.70	.28	.89	.75	.64	.65
18	.64	.24	.28	0.94	6.29	6.58	.83	.26	.90	.75	.63	.60
19	.65	.33	.32	.94	7.73	.06	3.28	.24	.89	.74	.64	.59
20	.66	.18	.24	1.00	.71	5.37	.06	.22	.88	.73	.64	.59
21	0.65	1.11	1.18	1.06	7.48	4.87	2.68	1.20	0.88	0.71	0.64	0.59
22	.69	.06	.13	.08	.27	5.38	.53	.18	.87	.72	.63	.60
23	.68	0.99	.10	.06	.00	.42	.42	.17	.86	.71	.62	.59
24	.70	.94	.09	.07	6.77	4.51	.32	.14	.85	.70	.61	.58
25	.67	.90	.08	.53	.64	3.80	.21	.13	.85	.70	.61	.57
26	0.68	0.89	1.05	2.68	6.31	3.95	2.10	1.12	0.84	0.70	0.60	0.57
27	.78	.89	.06	.59	4.93	4.73	.01	.10	.85	.70	.62	.59
28	.81	.87	.03	.21	3.82	5.62	1.93	.08	.83	.69	.61	.62
29	.75	.96	.01	1.83	.68	6.37	.84	.08	.82	.68		.66
30	.80	1.44	.02	.64	.87	.72	.78	.06	.82	.68		.62
31		.82		.59	.73		.73		.81	.69		.61
Mean	0.67	1.10	1.56	1.23	4.38	6.79	3.09	1.33	0.91	0.75	0.64	0.60
Max.	0.81	1.82	2.87	2.68	7.73	10.70	6.59	1.68	1.05	0.82	0.69	0.66
Min.	0.62	0.87	1.01	0.94	1.62	3.27	1.73	1.06	0.81	0.68	0.60	0.57

WATER YEAR 1968 : Max. 10.70 m. Min. 0.57 m.

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.78	7.15	16	5.25	17	69	197	18	5.55	2.46	1.06	0.57
2	0.78	8.40	12	4.80	16	66	170	17	5.25	2.46	1.13	0.50
3	0.78	6.30	18	4.41	22	65	122	16	5.25	2.33	1.06	0.50
4	0.85	6.00	19	4.41	39	73	90	16	5.10	2.35	1.06	0.40
5	0.85	4.80	52	4.28	38	136	72	16	4.80	2.20	0.92	0.40
6	0.78	4.15	46	4.54	38	296	68	15	4.80	2.46	0.99	0.40
7	0.64	4.67	27	4.67	48	361	70	14	4.67	2.10	0.92	0.40
8	0.71	4.80	23	4.80	39	400	74	13	4.54	2.10	0.92	0.30
9	0.99	4.67	30	4.41	43	420	69	13	4.41	2.33	0.92	0.30
10	1.13	6.00	26	4.41	53	438	65	12	4.28	2.33	0.85	0.40
11	1.40	5.55	18	4.41	51	435	67	13	4.02	2.33	0.85	0.40
12	1.20	8.00	28	4.28	73	421	74	13	4.02	2.10	0.64	0.40
13	1.13	8.60	34	4.02	98	400	66	12	3.89	2.00	0.85	0.57
14	0.90	6.47	21	4.41	99	372	55	11	3.63	1.90	0.71	0.57
15	0.99	5.85	15	5.70	107	341	49	11	3.63	1.80	0.78	0.71
16	0.92	5.25	12	5.40	130	300	45	10	3.37	1.70	0.71	0.64
17	0.85	6.47	9.80	5.25	142	248	46	9.60	3.37	1.70	0.78	0.85
18	0.78	8.80	9.60	4.02	184	197	50	9.20	3.50	1.70	0.71	0.50
19	0.85	11	10	4.02	254	174	65	8.80	3.37	1.60	0.78	0.40
20	0.92	7.66	8.80	4.80	252	144	58	8.40	3.24	1.50	0.78	0.40
21	0.85	6.47	7.66	5.70	241	124	46	8.00	3.24	1.30	0.78	0.40
22	1.13	5.70	6.81	6.00	230	145	41	7.66	3.11	1.40	0.71	0.50
23	1.06	4.60	6.30	5.70	217	146	38	7.49	2.98	1.30	0.64	0.40
24	1.20	4.02	6.15	5.85	206	110	35	6.98	2.85	1.20	0.57	0.30
25	0.99	3.50	6.00	15	200	83	32	6.81	2.85	1.20	0.57	0.20
26	1.06	3.37	5.55	46	185	89	28	6.64	2.72	1.20	0.50	0.20
27	2.00	3.37	5.70	43	127	119	26	6.30	2.85	1.20	0.64	0.40
28	2.33	3.11	5.25	32	84	154	24	6.00	2.59	1.13	0.57	0.64
29	1.70	4.28	4.95	22	79	188	22	6.00	2.46	1.06		0.92
30	2.20	13	5.10	17	86	203	20	5.70	2.46	1.06		0.64
31		21		16	81		19		2.33	1.13		0.57
Total	32.84	203.01	494.67	306.54	3,479	6,716	1,903	323.58	115.13	54.61	22.40	14.78
Mean	1.09	6.55	16.5	9.89	112	224	61.4	10.8	3.71	1.76	0.80	0.48
Max.	2.33	21	52	46	254	438	197	18	5.55	2.46	1.13	0.92
Min.	0.64	3.11	4.95	4.02	16	65	19	5.70	2.33	1.06	0.50	0.20
Runoff - MCM.	2.837	17.540	42.739	26.485	300.586	580.262	164.419	27.957	9.947	4.718	1.935	1.277

WATER YEAR 1968 : Max. 438 Min. 0.20 Mean 37.4 Annual Runoff 1,180.704 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sep.10	24.00	10.74	441				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
MUN RIVER BASIN

Lam Sae at Ban Map Krat, Nakhon Ratchasima (M. 81)

Location: Lat. 14°-23'-51" N., Long. 102°-15'-20" E., on right bank infront of Wat Map Krat, Tambon Khok Kra Chai, Amphoe Khon Buri, Nakhon Ratchasima.

Drainage Area: 482 sq.km.

Type of Gage: Staff gage

Zero Gage at Bottom at: +209.903 m. (M.S.L.)

Bench Mark: B.M. – R.I.D. No. 326 at Sandal Tree.

Location: B.M. – R.I.D. No. 350 at Peepal Tree.
Elevation: +215.006 m. (M.S.L.) and +215.923 m. (M.S.L.) respectively.

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 to date
Rated by Float: –
Rated by Current Meter: 1967 to date

Stability of Channel Regimes: Unstable, shifting adjustment is included for flow computation.

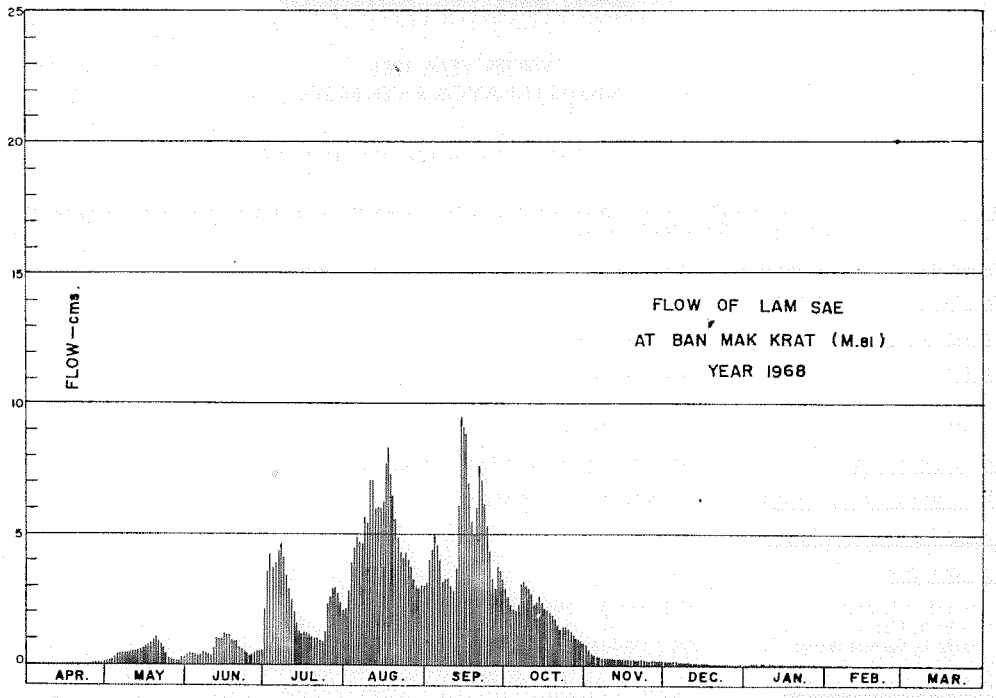
Overbank Flow Conditions: No overbank flow.

General Description: Records fair. Stage-discharge relationship used is defined by discharge measurements made during 1968. No upstream state diversions for irrigation except those built by local residents. No adjustnent made for virgin flow.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	208.74	209.43	209.96	210.93	210.66	210.77	210.72	209.86	209.30	209.12	209.06	208.79
2	.72	.50	.97	211.28	.78	211.04	.62	.84	.30	.11	.07	.79
3	.72	.55	.96	.39	211.18	.15	.53	.81	.29	.10	.07	.79
4	.72	.62	.96	.25	.30	.29	.49	.79	.28	.09	.08	.79
5	.72	.75	.89	.29	.44	.16	.45	.76	.28	.09	.08	.79
6	208.71	209.80	209.92	211.41	211.39	211.04	210.43	209.74	209.25	209.09	209.09	208.79
7	.70	.87	210.03	.50	.35	210.95	.72	.70	.25	.10	.09	.79
8	.70	.89	.10	.35	.56	211.01	.75	.63	.25	.10	.09	.78
9	.70	.91	.10	.19	.44	.01	.68	.61	.25	.10	.08	.78
10	.69	.92	.07	.04	.79	210.91	.66	.58	.24	.09	.01	.77
11	208.68	209.93	210.17	210.91	211.80	210.78	210.54	209.58	209.24	209.09	208.95	208.77
12	.70	.96	.54	.77	.60	.69	.42	.59	.24	.08	.95	.77
13	.70	.99	.51	.61	.62	211.11	.51	.56	.23	.08	.91	.77
14	.74	210.01	.49	.51	.63	.79	.61	.57	.23	.08	.91	.77
15	.73	.05	.66	.43	.58	.72	.50	.57	.20	.08	.90	.77
16	208.71	210.09	210.59	210.35	211.91	211.68	210.44	209.57	209.20	209.07	208.89	208.77
17	.69	.12	.51	.32	212.00	.47	.40	.55	.19	.06	.88	.77
18	.73	.15	.41	.27	211.77	.35	.38	.55	.19	.06	.87	.80
19	.78	.22	.32	.25	.65	.27	.34	.55	.18	.06	.86	.81
20	.78	.29	.38	.22	.52	.56	.27	.54	.18	.06	.85	.80
21	208.79	210.21	210.35	210.23	211.37	211.73	210.20	209.53	209.19	209.06	208.82	208.80
22	.78	.17	.28	.19	.30	.63	.18	.51	.18	.07	.82	.79
23	.77	.02	.19	.16	.21	.43	.22	.50	.16	.10	.81	.81
24	.76	209.81	.10	.20	.30	.31	.22	.43	.16	.12	.80	.84
25	.76	.85	.02	.72	.45	.26	.17	.38	.16	.13	.80	.85
26	208.82	209.84	209.96	210.82	211.36	211.12	210.11	209.37	209.16	209.12	208.79	208.85
27	.92	.76	.99	.92	.25	.02	.05	.35	.17	.10	.79	.84
28	209.16	.72	210.04	.93	.11	210.98	.00	.34	.17	.08	.79	.82
29	.24	.71	.03	.84	210.95	.92	209.96	.32	.16	.07		.82
30	.34	.76	.08	.74	.91	.82	.93	.31	.15	.07		.81
31		.86		.65	.81		.91		.13	.06		.80
Mean	208.79	209.89	210.19	210.76	211.39	211.16	210.37	209.57	209.21	209.09	208.93	208.80
Max.	209.34	210.29	210.66	211.50	212.00	211.79	210.75	209.86	209.30	209.13	209.09	208.85
Min.	208.68	209.43	209.89	210.16	210.66	210.69	209.91	209.31	209.13	209.06	208.79	208.77

WATER YEAR 1968 : Max. 212.00 m. Min. 208.68 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.01	0.18	0.44	2.57	2.12	2.96	2.84	0.76	0.12	0.03	0.01	0.00
2	0.01	0.22	0.45	3.76	2.48	3.96	2.54	0.42	0.12	0.03	0.01	0.00
3	0.01	0.25	0.44	4.20	3.84	4.40	2.27	0.39	0.12	0.03	0.01	0.00
4	0.01	0.30	0.44	3.64	4.32	5.04	2.15	0.37	0.12	0.02	0.01	0.00
5	0.01	0.42	0.37	3.80	4.92	4.44	2.05	0.34	0.12	0.02	0.01	0.00
6	0.01	0.47	0.40	4.28	4.68	3.96	2.21	0.32	0.13	0.02	0.01	0.01
7	0.02	0.45	0.51	4.64	4.52	3.08	3.08	0.26	0.13	0.03	0.01	0.01
8	0.02	0.47	0.42	4.04	5.64	3.28	3.17	0.24	0.13	0.03	0.01	0.01
9	0.02	0.49	0.42	3.40	4.92	3.28	2.96	0.28	0.13	0.03	0.01	0.01
10	0.02	0.50	0.39	2.90	7.02	2.96	2.90	0.25	0.13	0.02	0.01	0.00
11	0.02	0.51	0.49	2.51	7.08	2.57	2.54	0.25	0.13	0.02	0.02	0.00
12	0.02	0.54	1.04	2.09	5.88	3.40	2.18	0.26	0.11	0.02	0.02	0.00
13	0.02	0.58	0.98	1.61	6.00	5.22	2.45	0.24	0.10	0.02	0.01	0.00
14	0.02	0.61	0.95	1.34	6.06	9.45	2.63	0.20	0.10	0.02	0.01	0.00
15	0.02	0.67	1.28	1.18	5.76	8.96	2.30	0.20	0.09	0.02	0.01	0.00
16	0.02	0.72	1.14	1.26	7.74	8.68	2.12	0.20	0.09	0.02	0.01	0.00
17	0.02	0.76	1.18	1.20	8.28	6.00	2.00	0.19	0.09	0.02	0.01	0.00
18	0.06	0.81	0.98	1.10	6.90	5.28	1.94	0.19	0.08	0.02	0.01	0.00
19	0.03	0.93	0.82	1.06	6.18	4.80	1.82	0.19	0.08	0.02	0.01	0.00
20	0.03	1.06	0.93	1.00	5.40	6.54	1.61	0.18	0.08	0.02	0.01	0.00
21	0.08	0.91	0.67	1.02	4.60	7.56	1.40	0.18	0.08	0.02	0.01	0.01
22	0.08	0.84	0.62	0.95	4.32	6.96	1.36	0.16	0.08	0.02	0.01	0.00
23	0.07	0.62	0.54	0.89	3.96	5.76	1.46	0.16	0.07	0.03	0.00	0.00
24	0.07	0.39	0.49	0.96	4.32	5.04	1.46	0.12	0.07	0.03	0.00	0.00
25	0.07	0.21	0.34	2.30	3.96	3.60	1.34	0.16	0.04	0.03	0.00	0.00
26	0.09	0.20	0.42	2.60	3.60	3.08	1.22	0.16	0.04	0.03	0.00	0.00
27	0.12	0.15	0.49	2.90	3.17	2.78	1.10	0.15	0.04	0.03	0.00	0.00
28	0.07	0.13	0.54	2.93	2.99	3.76	1.00	0.14	0.04	0.02	0.00	0.01
29	0.08	0.13	0.53	2.66	2.87	3.52	0.93	0.13	0.04	0.01		0.01
30	0.12	0.26	0.60	2.36	3.05	3.14	0.87	0.13	0.04	0.01		0.01
31		0.34		2.09	2.99		0.84		0.03	0.01		0.01
Total	1.25	15.12	19.31	73.24	149.57	143.46	60.72	7.22	2.77	0.70	0.24	0.09
Mean	0.04	0.49	0.64	2.36	4.82	4.78	1.96	0.24	0.09	0.022	0.01	0.00
Max.	0.12	1.06	1.28	4.64	8.28	9.45	3.17	0.76	0.13	0.03	0.02	0.01
Min.	0.01	0.13	0.37	0.89	2.12	2.57	0.84	0.12	0.03	0.01	0.00	0.00
Runoff - MCM.	0.108	1.306	1.668	6.328	12.923	12.395	5.246	0.624	0.239	0.060	0.021	0.008

WATER YEAR 1968 : Max. 9.45 Min. 0.00 Mean 1.30 Annual Runoff 40.927 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sep.13	24.00	212.05	11				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
NAKHON NAYOK RIVER BASIN

Nakhon Nayok River at Khao Kariang, Nakhon Nayok (NY. 1)

Location: Lat. 14°-14'-22" N., Long. 101°-16'-45" E., on left bank about 10 kilometers from Suwanson road and 12 kilometers upstream from Muang Nakhon Nayok.

Drainage Area: 520 sq.km.

Type of Gage: Staff gage

Zero Gage at Bottom at: +2.959 m. (M.S.L.)

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

Location: near upper gage.
Elevation: +9.791 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: 1952-73

Rating Operation:

Period of Rating: 1953, 1955-57, 1966-73.
Rated by Float: -
Rated by Current Meter: 1953, 1955-57, 1966-73.

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

Overbank Flow Conditions: No overbank flow.

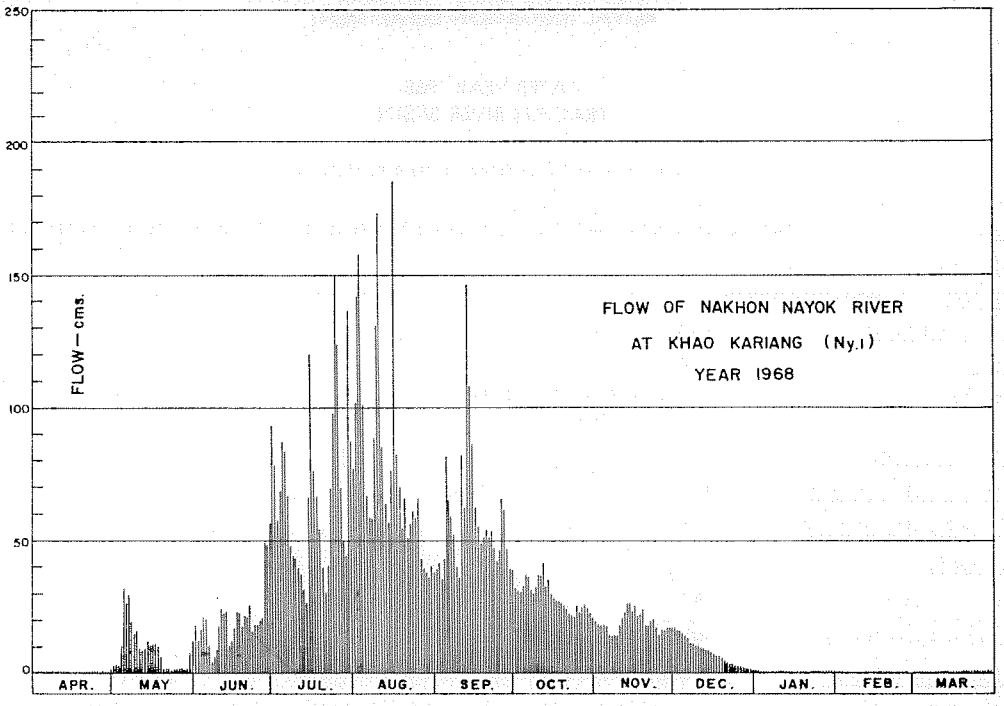
General Description: Records good. Stage-discharge relationship used is defined by discharge measurments made during 1968. No upstream state diversions for irrigation except those built by local residents. No adjustment made for virgin flow.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	3.44	3.65	4.34	6.09	5.85	4.92	4.73	4.35	4.30	3.50	3.44	3.38
2	.43	.70	.04	5.61	6.90	.99	.74	.34	.28	.49	.44	.37
3	.43	.66	.23	.07	7.14	.87	.70	.34	.25	.48	.44	.37
4	.43	.61	.42	.97	6.27	.80	.68	.32	.22	.46	.44	.37
5	.43	4.78	.39	.92	5.75	5.85	.91	.29	.20	.45	.43	.37
6	3.43	4.54	4.12	5.75	5.42	5.40	4.87	4.21	4.15	3.45	3.41	3.37
7	.46	.69	3.94	.22	.40	.41	.75	.20	.10	.48	.40	.37
8	.46	.38	.82	4.85	.39	.04	.72	.21	.09	.47	.40	.37
9	.45	.21	.87	5.08	6.35	4.92	.68	.21	.07	.46	.40	.37
10	.44	.26	4.30	.01	7.35	.78	.89	.33	.05	.45	.40	.36
11	3.44	4.00	4.53	4.90	6.22	5.87	4.85	4.42	4.02	3.45	3.40	3.36
12	.44	3.98	.47	.84	5.63	.27	5.01	.49	.00	.45	.39	.36
13	.44	.99	.45	.68	.48	6.96	4.74	.60	3.98	.45	.39	.36
14	.44	4.13	3.95	.56	.31	.20	.84	.60	.96	.45	.39	.36
15	.44	.07	4.09	6.52	.59	5.91	.68	.47	.93	.45	.39	.36
16	3.44	4.09	4.31	5.77	7.53	5.45	4.65	4.58	3.90	3.44	3.39	3.40
17	.44	.11	.51	.39	5.78	.30	.64	.42	.88	.44	.39	.40
18	.44	.04	.48	.53	.47	.18	.62	.48	.86	.44	.39	.39
19	.44	3.82	.23	.06	.17	.22	.58	.54	.82	.44	.39	.39
20	.47	.53	.46	4.87	.53	.32	.55	.31	.74	.44	.39	.40
21	3.47	3.55	4.40	4.60	5.13	5.22	4.50	4.29	3.71	3.44	3.39	3.39
22	.47	.57	.57	5.05	.37	.29	.46	.40	.70	.44	.39	.40
23	.47	.46	.14	.69	.46	.13	.44	.41	.70	.44	.39	.42
24	.47	.55	.34	6.22	.36	.00	.44	.24	.68	.44	.38	.42
25	.47	.55	.34	7.01	.53	.08	.57	.21	.65	.44	.38	.41
26	3.47	3.54	4.39	5.85	5.08	5.56	4.43	4.25	3.64	3.44	3.38	3.40
27	.50	.54	.40	.42	4.96	.41	.57	.28	.61	.44	.38	.40
28	.49	.53	5.20	.04	.96	.09	.61	.30	.60	.44	.38	.40
29	.47	.52	.15	.11	.83	4.94	.52	.30	.58	.44		.40
30	.58	.80	.48	6.80	.97	.94	.45	.30	.55	.44		.40
31		4.11		5.58	.72		.39		.52	.44		.40
Mean	3.46	3.90	4.38	5.45	5.84	5.31	4.65	4.36	3.89	3.45	3.40	3.38
Max.	3.56	4.78	5.48	7.01	7.53	6.96	5.01	4.60	4.30	3.50	3.44	3.42
Min.	3.43	3.46	3.82	4.56	4.72	4.73	4.39	4.21	3.52	3.44	3.38	3.36

WATER YEAR 1968 : Max. 7.53 m. Min. 3.36 m.

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.52	2.75	18	93	81	38	31	19	17	1.00	0.52	0.12
2	0.44	3.50	9.80	69	143	41	31	18	16	0.92	0.52	0.080
3	0.44	2.90	15	44	158	36	30	18	16	0.84	0.52	0.080
4	0.44	2.15	21	87	104	33	29	18	15	0.68	0.52	0.080
5	0.44	32	20	84	76	81	37	17	14	0.60	0.44	0.080
6	0.44	24	12	76	59	58	36	14	13	0.60	0.28	0.080
7	0.68	29	7.80	50	58	59	31	14	11	0.84	0.20	0.080
8	0.68	19	5.40	35	58	43	30	14	11	0.76	0.20	0.080
9	0.60	14	6.40	44	109	38	29	14	10	0.68	0.20	0.080
10	0.52	16	17	41	173	32	37	18	10	0.60	0.20	0.040
11	0.52	9.00	24	37	101	82	35	21	9.40	0.60	0.20	0.040
12	0.52	8.60	22	55	70	52	41	23	9.00	0.60	0.16	0.040
13	0.52	8.80	22	29	62	146	31	26	8.60	0.60	0.16	0.040
14	0.52	12	8.00	25	54	100	35	26	8.20	0.60	0.16	0.040
15	0.52	10	11	120	68	84	29	22	7.60	0.60	0.16	0.040
16	0.52	11	17	77	185	61	28	25	7.00	0.52	0.16	0.20
17	0.52	11	23	58	77	53	27	21	6.60	0.52	0.16	0.20
18	0.52	9.80	22	66	62	48	27	22	6.20	0.52	0.16	0.16
19	0.52	5.40	15	43	48	50	25	24	5.40	0.52	0.16	0.16
20	0.76	1.30	22	36	65	54	25	17	4.10	0.52	0.16	0.20
21	0.76	1.50	20	26	46	50	23	18	3.65	0.52	0.16	0.16
22	0.76	1.70	25	43	57	53	22	20	3.50	0.52	0.16	0.20
23	0.76	0.68	12	73	61	46	21	20	3.50	0.52	0.16	0.36
24	0.76	1.50	18	191	56	41	21	15	3.20	0.52	0.12	0.36
25	0.76	1.50	18	150	65	44	25	14	2.75	0.52	0.12	0.28
26	0.76	1.40	20	81	44	66	21	16	2.60	0.52	0.12	0.20
27	1.00	1.40	20	59	39	59	25	16	2.15	0.52	0.12	0.20
28	0.92	1.30	49	43	39	45	26	17	2.00	0.52	0.12	0.20
29	0.76	1.20	47	45	34	39	24	17	1.80	0.52		0.20
30	1.80	5.00	62	136	40	39	22	17	1.50	0.52		0.20
31		11		67	38		20		1.20	0.52		0.20
Total	19.68	260.38	609.40	1,973	2,330	1,671	874	561	232.95	18.84	6.32	4.48
Mean	0.66	8.40	21.3	63.6	75.16	55.7	28.2	18.7	7.51	0.61	0.23	0.14
Max.	1.80	32	62	150	185	146	41	26	17	1.00	0.52	0.36
Min.	0.44	0.68	5.40	25	38	32	20	14	1.20	0.52	0.12	0.040
Runoff – mcm.	1.700	22.497	52.652	170.467	201.312	144.374	75.514	48.470	20.127	1.628	0.546	0.387

WATER YEAR 1968 : Max. 185 Min. 0.040 Mean 23.4 Annual Runoff 739.674 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Aug.16	11.00	8.70	270				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
PRACHIN RIVER BASIN

Prachin River at Amphoe Muang, PrachinBuri (Kgt. 1)

Location: Lat. 14°-03'-01" N., Long. 101°-22'-03" E., on left bank behind Metecrological station at Muang, Prachin Buri.

Drainage Area: 9,209 sq.km.

Type of Gage: Water-stage recorder.

Zero Gage at Bottom at: -1.305 m. (M.S.L.)

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

Location: in fence of Meteorological Station
Elevation: +4.115 m. (M.S.L.)

Gage Reading Frequency: Recording

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

Period of Available Gage Height: 1926 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.

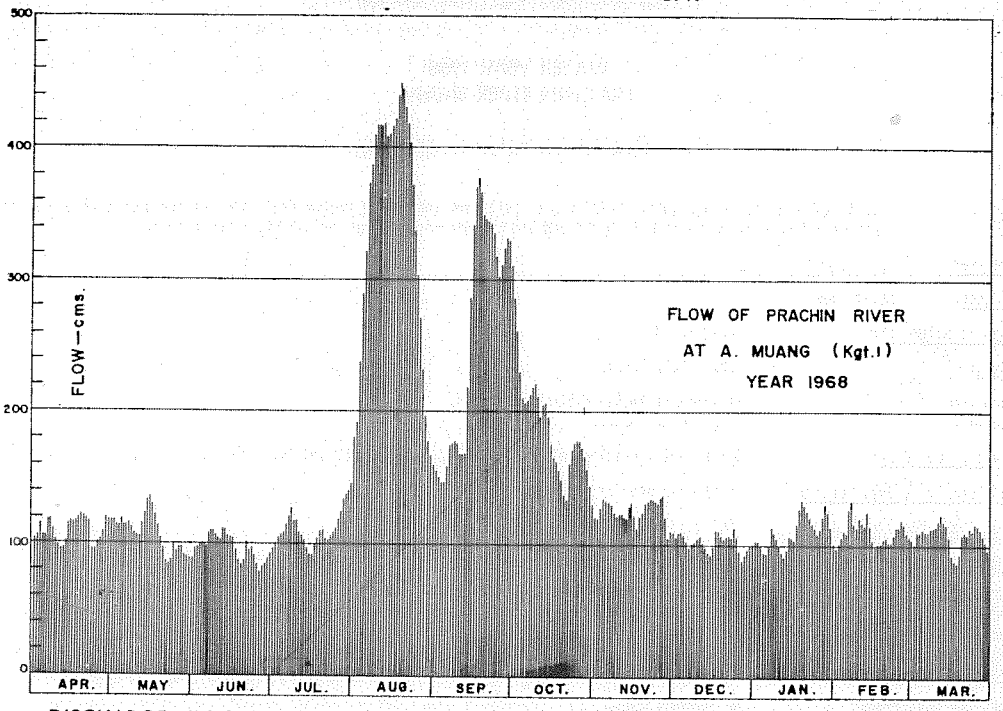
General Description: Records fair except those for periods effected by tidal which are poor. Stage-discharge relationship used is defined by discharge measurements made during 1967. No adjustment made for virgin flow.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.04	0.23	-0.06	-0.02	0.83	0.64	1.68	0.25	0.12	0.05	-0.04	0.06
2	.05	.20	-0.02	0.02	.96	.55	.46	.22	.06	.04	-0.01	-0.01
3	.19	.15	0.00	.07	1.35	.52	.24	.34	.11	.00	0.07	0.14
4	.04	.25	.02	.07	.71	.51	.10	.40	.12	-0.09	.14	.12
5	.07	.18	.01	.09	.99	.63	.05	.34	.09	-0.09	.08	.16
6	0.22	0.18	-0.03	0.21	2.19	0.79	1.06	0.38	0.02	-0.03	0.33	0.13
7	.22	.19	+0.12	.25	.37	.80	.11	.37	-0.03	0.08	.39	.13
8	.12	.15	.13	.31	.50	.81	.15	.32	0.02	.17	.20	.16
9	.01	.11	.09	.17	.57	.81	.17	.24	.02	.08	.14	.16
10	-0.04	.09	.07	.23	.57	.73	.11	.26	.07	.00	.26	.16
11	-0.06	0.05	0.03	0.08	2.56	0.72	0.93	0.29	0.09	-0.05	0.26	0.25
12	-0.05	.16	.15	.08	.58	.72	1.04	.27	0.00	-0.11	.14	.28
13	+0.01	.26	.15	.04	.51	1.03	.05	.23	-0.05	-0.07	.30	.22
14	.19	.38	.05	-0.03	.51	.62	0.95	.35	-0.08	0.09	.16	.19
15	.20	.41	.06	-0.15	.50	2.05	.75	.37	-0.11	.09	.07	.08
16	0.18	0.34	0.04	-0.13	2.58	2.24	0.70	0.24	-0.03	0.03	-0.03	-0.10
17	.20	.23	-0.07	0.01	.72	.30	.67	.12	0.15	.23	0.03	-0.15
18	.24	.18	-0.17	.05	.78	.24	.60	.27	.14	.33	.02	-0.18
19	.28	.05	-0.21	.12	.75	.11	.56	.27	.10	.40	.06	-0.10
20	.25	-0.07	-0.16	.15	.67	.09	.44	.36	.06	.36	.06	0.10
21	0.23	-0.15	0.02	0.05	2.55	2.08	0.36	0.38	0.07	0.32	0.02	0.12
22	.19	-0.21	-0.08	.05	.40	.06	.63	.39	.10	.25	.02	.10
23	-0.05	-0.17	-0.03	.06	.20	.00	.73	.41	.06	.19	.10	.16
24	-0.09	-0.01	-0.12	.11	1.98	1.90	.80	.38	.18	.17	.17	.14
25	0.01	-0.07	-0.21	.16	.71	.78	.82	.37	.07	.09	.19	.20
26	0.02	-0.03	-0.32	0.24	1.42	1.81	0.82	0.42	-0.08	0.16	0.25	0.18
27	.07	-0.03	-0.24	.32	.23	.94	.76	.43	-0.18	.22	.18	.16
28	.22	-0.11	-0.20	.40	0.98	2.00	.72	.18	-0.09	.36	.10	.09
29	.24	-0.11	-0.16	.44	.82	1.98	.63	.02	-0.03	.32	-	.01
30	.21	-0.14	-0.07	.45	.74	.87	.57	.12	0.00	.15	-	-0.05
31	-	-0.16	-	.52	.65	-	.46		0.01	.00	-	-0.08
Mean	0.11	0.08	-0.04	0.14	2.00	1.44	0.87	0.30	0.03	0.12	0.13	0.09
Max.	0.28	0.41	0.15	0.52	2.78	2.30	1.68	0.43	0.18	0.40	0.39	0.28
Min.	-0.09	-0.21	-0.32	-0.15	0.65	0.51	0.36	0.02	-0.18	-0.11	-0.04	-0.18

WATER YEAR 1968 : Max. 2.78 m. Min. -0.21 m.

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	103	119	95	98	181	159	287	120	110	104	97	105
2	104	116	98	102	196	150	259	118	105	103	99	99
3	115	112	100	106	244	147	230	129	109	100	106	111
4	103	120	102	106	291	146	213	135	110	93	111	110
5	106	114	101	107	331	158	207	133	107	93	106	113
6	118	114	98	117	360	176	208	133	102	98	128	110
7	118	115	110	120	387	177	214	132	98	106	134	110
8	110	112	110	126	407	178	219	127	102	114	116	113
9	101	109	107	114	417	178	221	120	102	106	111	113
10	97	107	106	119	417	169	214	121	106	100	121	113
11	95	104	102	106	416	168	193	124	107	96	121	120
12	96	113	112	106	419	168	206	122	100	91	111	123
13	101	121	112	103	408	205	207	119	96	94	125	118
14	115	133	104	98	408	280	195	130	94	107	113	115
15	116	136	105	89	407	339	171	132	91	107	106	116
16	114	129	103	90	419	368	166	120	98	102	98	92
17	116	119	94	101	440	327	163	110	112	119	102	88
18	120	114	87	104	449	368	155	122	111	128	102	86
19	123	104	84	110	444	348	151	122	108	135	105	92
20	120	94	88	112	432	345	139	121	105	131	105	108
21	119	88	102	104	414	344	131	133	106	127	102	110
22	115	84	94	104	392	341	158	134	108	120	102	108
23	96	87	98	105	362	332	169	136	105	115	108	113
24	93	99	91	109	329	318	177	133	114	114	114	111
25	101	94	84	113	291	301	179	132	106	107	115	116
26	102	98	77	120	254	305	179	137	94	113	120	114
27	106	98	82	127	221	324	173	138	86	118	114	113
28	118	91	85	135	199	332	168	114	93	131	108	107
29	120	91	88	139	179	329	158	102	98	127	–	101
30	117	89	94	140	170	314	152	110	100	112	–	96
31	–	88	–	147	160	–	141	–	99	100	–	94
Total	3,278	3,312	2,913	3,477	10,444	7,844	5,803	3,759	3,182	3,411	3,100	3,328
Mean	109	107	97.1	112	337	261	187	125	103	110	111	107
Max.	123	136	112	147	449	377	287	138	114	135	134	123
Min.	93	84	77	89	160	146	131	102	86	91	97	86
Runoff – MCM.	283.219	286.157	251.683	300.413	902.362	677.722	501.379	324.778	274.925	294.710	267.840	287.539

WATER YEAR 1968 : Max. 449 Min. 77 Mean 147 Annual Runoff 4,652.813 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Aug.18,68	06.00	2.79	450				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
PRACHIN RIVER BASIN

Prachin River at Kabin Buri, PrachinBuri (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 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./R.I.D.

- Location: at fence of Amphoe Kabin Buri office.
- Elevation: +10.1786 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, 1943-44, 1949 and 1964 to date
- Rated by Float: 1941, 1943-44, and 1949
- Rated by Current Meter: 1964 to date

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

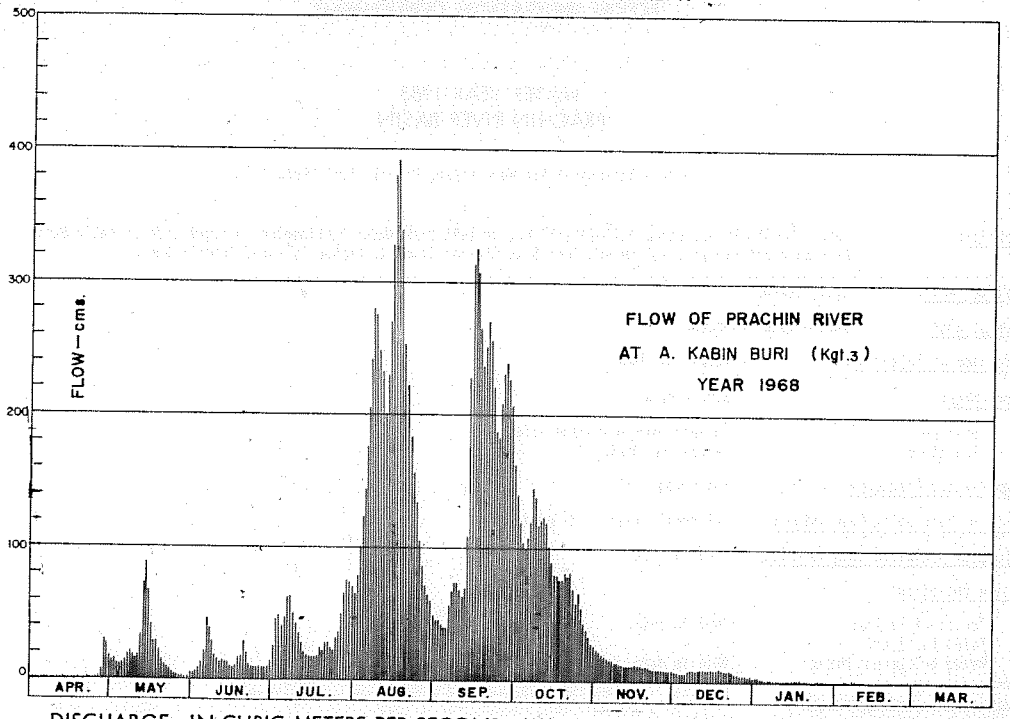
Overbank Flow Conditions: No overbank flow.

General Description: Records fair. Stage-discharge relationship used is defined by discharge measurements made during 1968. No upstream state diversions for irrigation except those built by local residents. No adjustment made for virgin flow.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.25	1.11	0.72	1.36	2.52	2.03	4.28	1.44	0.82	0.63	0.36	0.29
2	.24	.13	.78	2.05	.52	.07	3.93	.38	.82	.61	.44	.28
3	.24	0.99	.92	.14	3.08	1.95	.61	.31	.82	.58	.46	.27
4	.23	.98	1.19	1.94	.53	.90	.31	.27	.80	.54	.51	.27
5	.21	1.07	.46	.89	4.01	2.13	.20	.23	.79	.52	.49	.26
6	0.19	1.10	2.05	2.34	4.77	2.38	3.32	1.19	0.84	0.49	0.51	0.26
7	.20	.24	1.88	.51	5.47	.57	.60	.17	.85	.47	.52	.26
8	.21	.40	.46	.31	.93	.72	.99	.12	.84	.45	.48	.25
9	.19	.29	.22	.08	.84	.70	.81	.10	.86	.47	.43	.24
10	.18	.15	.13	1.90	.54	.60	.49	.07	.88	.46	.41	.24
11	0.17	1.29	1.05	1.73	5.37	2.51	3.58	1.07	0.88	0.46	0.39	0.24
12	.15	.79	.10	.51	4.77	.52	.64	.06	.91	.45	.38	.24
13	.14	2.79	.05	.30	.92	3.30	.53	.03	.89	.43	.37	.24
14	.14	.99	0.96	.25	5.62	5.80	.19	.02	.89	.44	.36	.23
15	.14	.42	.91	.21	6.37	6.37	2.95	.03	.90	.47	.34	.23
16	0.15	1.84	0.90	1.22	7.11	6.47	2.83	1.06	0.91	0.49	0.33	0.19
17	.16	.54	.98	.22	.23	5.99	.81	.02	.92	.47	.33	.19
18	.17	.60	1.21	.25	6.58	.41	.73	.00	.94	.45	.32	.21
19	.14	.30	.21	.44	5.82	.35	.75	0.98	.92	.46	.32	.21
20	.17	.08	.58	.34	.36	.63	.87	.96	.87	.46	.31	.21
21	0.25	0.99	1.30	1.59	5.17	5.79	2.80	0.96	0.86	0.43	0.30	0.20
22	.27	.85	0.99	.62	4.79	.54	.87	.95	.83	.42	.30	.20
23	.32	.74	.86	.43	.29	.05	.53	.92	.79	.42	.30	.26
24	.36	.67	.89	.38	3.96	4.56	.27	.90	.76	.41	.29	.32
25	.35	.61	.88	.73	.47	.51	.54	.88	.74	.40	.28	.29
26	0.48	0.56	0.88	1.83	3.12	4.97	2.35	0.89	0.72	0.40	0.28	0.28
27	.78	.50	.89	2.2	2.85	5.35	.07	.88	.71	.39	.29	.26
28	1.60	.48	.86	.58	.57	.40	1.86	.87	.68	.38	.29	.25
29	.53	.46	.92	.73	.51	.14	.72	.85	.66	.38	—	.24
30	.17	.52	1.05	.71	.33	4.80	.61	.83	.63	.37	—	.22
31	—	.66	—	.67	.16	—	.51	—	.61	.36	—	.22
Mean	0.36	1.20	1.11	1.82	4.50	4.12	2.95	1.05	0.82	0.46	0.37	0.24
Max.	1.60	2.99	2.05	2.73	7.23	6.47	4.28	1.44	0.94	0.63	0.52	0.32
Min.	0.14	0.46	0.72	1.21	2.16	1.90	1.51	0.83	0.61	0.36	0.28	0.19

WATER YEAR 1968 : Max. 7.23 m. Min. 0.14 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.35	14	5.88	21	65	44	163	24	7.82	4.31	0.92	0.47
2	0.32	15	7.02	45	65	46	141	22	7.82	3.97	1.68	0.44
3	0.32	11	9.92	49	93	41	122	20	7.82	3.52	1.92	0.41
4	0.29	11	16	41	118	39	105	19	7.40	2.96	2.54	0.41
5	0.23	13	24	39	146	48	99	18	7.21	2.68	2.28	0.38
6	0.18	14	45	57	195	59	106	16	8.24	2.28	2.54	0.38
7	0.20	18	38	64	244	67	122	16	8.45	2.04	2.68	0.38
8	0.23	22	24	56	280	74	145	14	8.24	1.80	2.16	0.35
9	0.18	19	17	46	273	73	134	14	8.66	2.04	1.56	0.32
10	0.16	15	15	39	249	69	115	13	9.08	1.92	1.32	0.32
11	0.14	19	13	33	235	64	121	13	9.08	1.92	1.13	0.32
12	0.10	35	14	26	195	65	124	13	9.71	1.80	1.06	0.32
13	0.080	78	13	20	205	105	118	12	9.29	1.56	0.99	0.32
14	0.080	88	11	18	255	269	99	12	9.29	1.68	0.92	0.29
15	0.080	60	9.71	17	315	315	86	12	9.50	2.04	0.78	0.29
16	0.10	37	9.50	17	380	324	80	13	9.71	2.28	0.71	0.18
17	0.12	27	11	17	391	285	79	12	9.92	2.04	0.71	0.18
18	0.14	29	17	18	333	240	75	12	10	1.80	0.64	0.23
19	0.080	20	17	24	271	235	76	11	9.92	1.92	0.64	0.23
20	0.14	13	28	21	236	256	82	11	8.87	1.92	0.57	0.23
21	0.35	11	20	28	222	269	78	11	8.66	1.56	0.50	0.20
22	0.41	8.45	11	29	196	249	82	10	8.03	1.44	0.50	0.20
23	0.64	6.26	8.66	23	163	214	65	9.92	7.21	1.44	0.90	0.38
24	0.92	4.99	9.29	22	143	181	54	9.50	6.64	1.32	0.47	0.64
25	0.85	3.97	9.08	33	114	178	66	9.08	6.26	1.20	0.44	0.47
26	2.16	3.24	9.29	37	95	208	57	9.29	5.88	1.20	0.44	0.44
27	7.02	2.40	9.29	54	81	235	46	9.08	5.69	1.13	0.47	0.38
28	29	2.16	8.66	68	67	239	38	8.87	5.16	1.06	0.47	0.35
29	26	1.92	9.92	75	64	220	33	8.45	4.82	1.06	0.47	0.32
30	16	2.68	13	74	57	197	29	8.03	4.31	0.99	–	0.26
31	–	4.82	–	72	49	–	26	–	3.97	0.92	–	0.26
Total	86.87	609.89	453.22	1,183	5,795	4,898	2,766	390.22	242.66	59.80	31.54	10.35
Mean	2.89	19.7	15.1	38.2	187	163	89.2	13.0	7.83	1.93	1.13	0.33
Max.	29	88	45	75	391	324	163	24	10	4.31	2.68	0.64
Min.	0.08	1.92	5.88	17	49	39	26	8.03	3.97	0.92	0.44	0.18
Runoff - mcm.	7.506	52.694	39.158	102.211	500.688	423.187	238.982	33.715	20.966	5.167	2.725	0.894

WATER YEAR 1968 : Max. 391 Min. 0.08 Mean 45.3 Annual Runoff 1,427.894 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sep.16	06.00	7.33	400				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
PRACHIN RIVER BASIN

Lam Phra Sathung at Ban Wang Khian, Pracnin Buri (Kgt. 10)

Location: Lat. 13°-48'-29" N., Long. 102°-03'-35" E., on left bank about 1 kilometer on right side of Kabin Buri - Aranyaprathet highway, 400 meters from Saha Charoen Sawmill, Amphoe Sa Kaeo, Prachin Buri.

Drainage Area: 2,523 sq.km.

Type of Gage: Water-stage recorder.

Zero Gage at Bottom at: +23.74 m. (M.S.L.)

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

- Location: on left bank near gage site.
- Elevation: +34.641 m. (M.S.L.)

Gage Reading Frequency: Recording

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

Period of Available Gage Records: 1966 to date

Rating Operation:

- Period of Rating: 1966 to date
- Rated by Float: -
- Rated by Current Meter: 1966 to date

Stability of Channel Regimes: Unstable, shifting adjustment is included for flow computation.

Overbank Flow Conditions: No overbank flow.

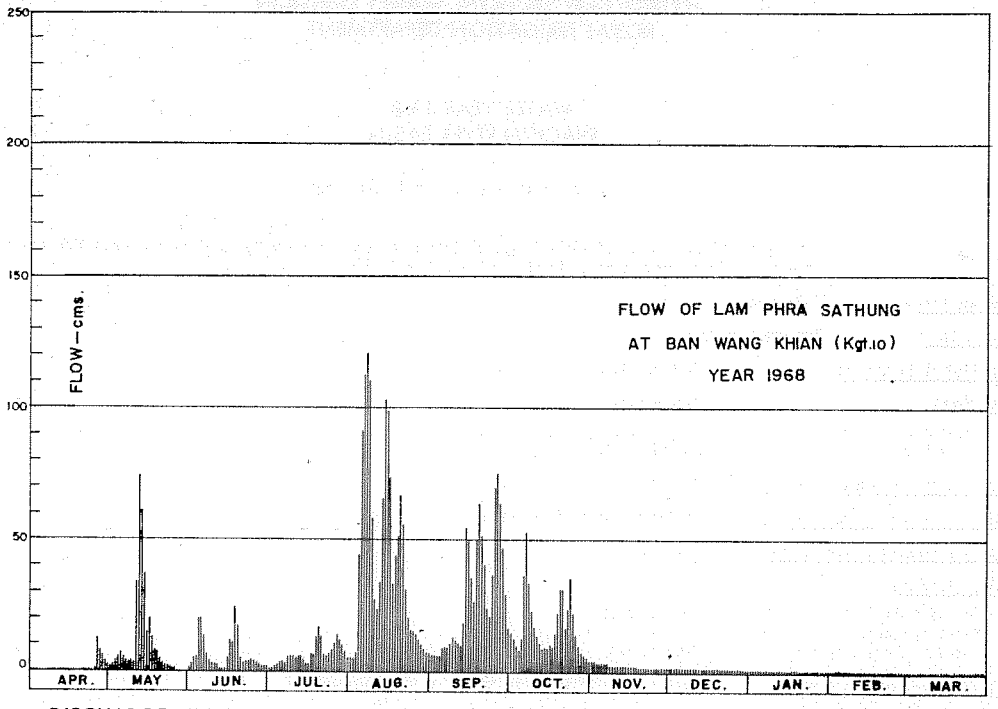
General Description: Records good. Stage-discharge relationship used is defined by discharge measurements made during 1968. No upstream state diversions except those built by local residents. No adjustment made for virgin flow.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	24.70	25.19	25.40	25.11	25.75	25.86	26.52	25.67	25.10	24.88	24.83	24.64
2	.69	.45	.72	.15	.75	.86	.40	.61	.09	.88	.95	.63
3	.67	.78	.63	.21	26.08	.82	.17	.57	.08	.88	.97	.60
4	.66	.88	27.00	.48	27.65	.86	.00	.53	.09	.87	25.12	.64
5	.65	.98	26.98	.67	30.46	26.16	.34	.51	.06	.87	24.94	.64
6	24.64	25.83	26.10	25.65	31.90	26.17	28.06	25.50	25.06	24.89	24.85	24.64
7	.63	.66	25.80	.54	32.27	.14	.95	.46	.06	.91	.80	.64
8	.62	.45	.60	.75	31.63	.33	27.72	.41	.05	.88	.76	.64
9	.62	.53	.43	.80	29.02	.50	.13	.40	.05	.84	.76	.64
10	.61	.52	.46	.78	27.45	.40	26.66	.39	.06	.84	.74	.64
11	24.61	28.33	25.38	25.53	27.50	26.39	26.42	25.36	25.07	24.86	24.72	24.64
12	.61	30.16	.17	.76	.63	.16	.28	.39	.09	.89	.72	.62
13	.62	29.12	.07	.78	29.62	.93	.11	.42	.08	.88	.70	.62
14	.62	27.35	.03	.51	31.72	29.11	.17	.41	.08	.90	.70	.61
15	.62	26.39	.49	.47	.53	.03	.13	.34	.08	.88	.70	.61
16	24.68	27.06	26.26	25.34	28.99	27.87	26.24	25.34	25.09	24.88	24.70	24.63
17	.69	26.45	25.92	.85	27.67	.13	.19	.32	.08	.87	.70	.66
18	.70	25.93	27.12	.72	28.93	29.34	.79	.29	.02	.86	.69	.63
19	.68	.93	26.66	26.58	29.05	.89	27.32	.25	24.99	.87	.68	.63
20	.66	.69	25.78	.84	.60	.07	.76	.22	.98	.90	.68	.66
21	24.68	25.50	25.49	26.28	28.28	28.32	27.79	25.20	24.97	24.87	24.68	24.74
22	.73	.35	.67	25.84	27.44	27.27	26.52	.19	.98	.91	.66	.77
23	.72	.20	.65	.78	26.94	26.93	27.28	.18	.97	.89	.66	.77
24	.81	.10	.71	.87	.53	27.98	28.02	.16	.97	.84	.66	.77
25	.95	.00	.67	26.00	.53	29.96	26.91	.15	.96	.83	.66	.76
26	26.42	24.92	25.51	26.34	26.44	30.22	26.41	25.14	24.94	24.82	24.66	24.76
27	25.99	.88	.40	.56	.27	29.28	.19	.13	.93	.82	.65	.80
28	.84	.82	.26	.33	.04	28.27	.01	.13	.91	.82	.64	.76
29	.46	.83	.16	.13	25.93	27.20	25.89	.12	.88	.82	-	.75
30	.20	.83	.15	25.93	.94	26.60	.79	.11	.88	.82	-	.74
31	-	.83	-	.76	.92	-	.73	-	.88	.82	-	.72
Mean	24.85	25.94	25.72	25.81	28.14	27.36	26.70	25.33	25.02	24.86	24.75	24.68
Max.	26.42	30.16	27.12	26.84	32.27	30.22	28.95	25.67	25.10	24.91	25.12	24.80
Min.	24.61	24.82	25.03	25.11	25.75	25.82	25.73	25.11	24.88	24.82	24.64	24.61

WATER YEAR 1968 : Max. 32.27 m. Min. 24.61 m.

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.20	1.95	3.42	1.59	5.76	6.54	15	4.48	1.28	0.47	0.34	0.08
2	0.18	3.35	5.84	1.77	5.76	6.54	13	4.05	1.23	0.47	0.71	0.02
3	0.14	5.84	5.12	2.05	8.80	6.18	10	3.77	1.19	0.47	0.78	0.00
4	0.12	6.72	20	3.56	29	6.54	8.80	3.49	1.23	0.43	1.37	0.04
5	0.10	7.62	20	4.96	80	9.40	12	3.35	1.10	0.43	0.68	0.04
6	0.02	6.27	9.40	4.80	111	9.50	38	3.28	1.10	0.50	0.38	0.04
7	0.06	4.88	6.54	3.98	120	9.20	53	3.00	1.10	0.57	0.28	0.04
8	0.04	3.35	4.88	6.45	106	11	32	2.75	1.06	0.50	0.20	0.04
9	0.04	3.91	3.65	6.90	52	13	22	2.70	1.06	0.36	0.20	0.04
10	0.02	3.84	3.84	6.72	23	12	16	2.65	1.10	0.36	0.16	0.04
11	0.02	40	3.00	4.64	23	11	13	2.50	1.14	0.40	0.12	0.04
12	0.02	74	1.95	6.54	25	9.40	10	2.65	1.23	0.50	0.12	0.00
13	0.04	54	1.50	6.72	59	19	8.90	2.80	1.19	0.47	0.08	0.00
14	0.04	24	1.32	4.48	103	54	9.50	2.75	1.19	0.54	0.16	0.00
15	0.04	11	5.12	4.19	98	48	9.10	2.40	1.19	0.47	0.16	0.00
16	0.16	20	12	3.28	48	28	10	2.40	1.23	0.47	0.16	0.02
17	0.18	12	9.00	7.35	26	18	9.70	2.30	1.19	0.43	0.16	0.08
18	0.20	7.17	24	6.18	47	53	17	2.15	0.96	0.40	0.14	0.02
19	0.16	7.17	16	15	53	63	24	1.95	0.85	0.43	0.12	0.02
20	0.12	5.12	5.84	17	66	48	31	1.82	0.82	0.54	0.12	0.08
21	0.16	3.70	3.65	11	42	40	31	1.73	0.78	0.43	0.12	0.24
22	0.26	2.75	4.96	6.90	28	23	13	1.68	0.82	0.57	0.08	0.30
23	0.24	2.00	4.80	6.36	20	19	23	1.64	0.78	0.50	0.08	0.30
24	0.43	1.55	5.28	7.17	15	35	35	1.55	0.78	0.36	0.08	0.30
25	0.92	1.37	4.96	8.40	15	70	18	1.50	0.75	0.34	0.08	0.28
26	12	1.03	3.77	12	14	75	12	1.46	0.68	0.32	0.08	0.28
27	7.71	0.89	3.00	14	12	57	9.70	1.41	0.64	0.32	0.06	0.36
28	6.36	0.68	2.30	11	9.60	39	7.35	1.41	0.57	0.32	0.04	0.28
29	5.42	0.71	1.82	9.30	8.50	22	6.27	1.37	0.47	0.32	–	0.26
30	2.00	0.71	1.77	7.35	7.26	16	5.44	1.32	0.47	0.32	–	0.22
31	–	0.71	–	5.84	7.08	–	4.96	–	0.47	0.32	–	0.20
Total	35.46	318.29	198.69	217.48	1,267.76	837.30	527.72	72.31	29.65	13.33	7.06	3.66
Mean	1.18	10.3	6.62	7.01	40.9	27.9	17.02	2.41	0.96	0.43	0.25	0.12
Max.	12	74	24	17	120	75	53	4.48	1.28	0.57	1.37	0.36
Min.	0.02	0.68	1.32	1.59	5.76	6.18	4.96	1.32	0.47	0.32	0.04	0.00
Runoff – mcm.	3.064	27.500	17.167	18.790	109.534	72.343	45.595	6.248	2.562	1.152	0.610	0.316

WATER YEAR 1968 : Max. 120 Min. 0.00 Mean 9.67 Annual Runoff 304.880 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Aug.17,68	17.00	32.30	120				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
PRACHIN RIVER BASIN

Lam 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 Thotsaphon Sawmill, Amphoe Sa Kaeo, 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: on left bank near gage site.
- Elevation: +9.687 m. (A.D.)

Gage Reading Frequency: Recording

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

Period of Available Gage Records: 1966 to date

Rating Operation:

- Period of Rating: 1966 to date
- Rated by Float: –
- Rated by Current Meter: 1966 to date

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

Overbank Flow Conditions: No overbank flow.

General Description: Records good. Stage-discharge relationship used is defined by discharge measurements made during 1968. No upstream state diversions for irrigation except those built by local residents. No adjustment made for virgin flow.

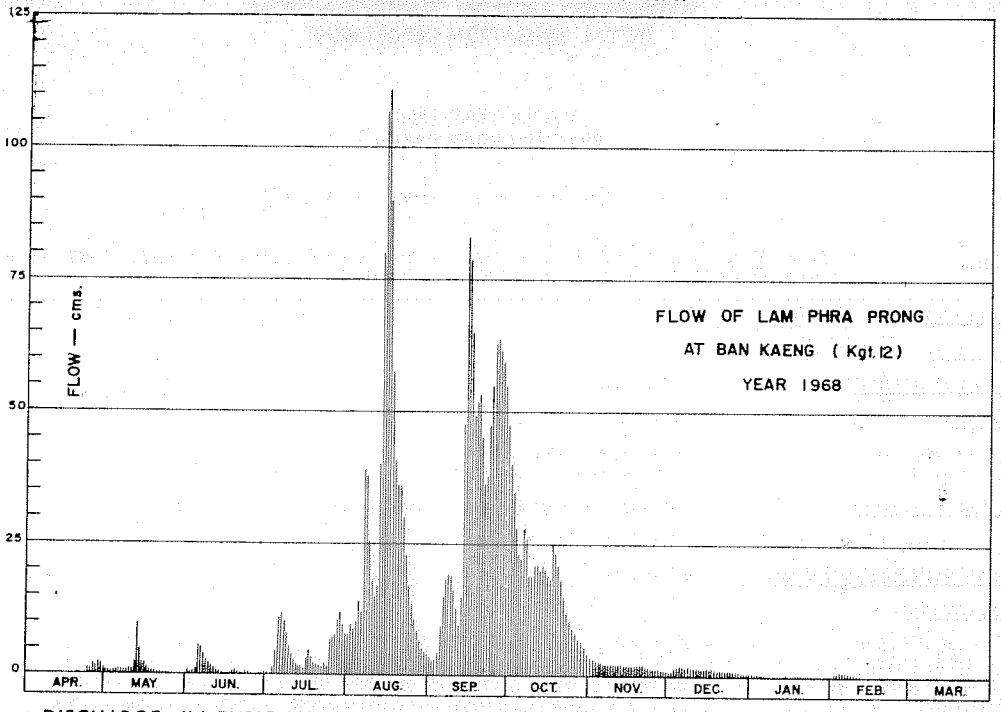
Remarks: Discharge record for period of no flow are omitted.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.53	0.73	0.83	0.63	1.65	1.13	3.70	1.12	0.84	0.55	0.44	0.39
2	.52	.68	.73	.61	.75	.10	.39	.08	.86	.53	.62	.39
3	.52	.64	.81	.69	.69	.09	.05	.06	.82	.52	.62	.39
4	.51	.69	.89	1.14	.80	.08	2.73	.05	.84	.51	.66	.37
5	.51	.74	1.38	.37	2.06	.35	.52	.04	.88	.50	.65	.36
6	0.50	0.76	1.34	1.74	2.92	1.77	2.47	1.00	0.87	0.49	0.63	0.36
7	.50	.75	.17	.84	3.47	2.14	.80	0.98	.85	.50	.58	.36
8	.49	.72	.05	.66	.42	.23	.69	.98	.86	.50	.56	.35
9	.49	.72	0.97	.38	2.71	.21	.30	.97	.84	.50	.52	.35
10	.48	.78	.93	.21	.38	.14	.25	1.00	.84	.49	.49	.34
11	0.47	0.76	0.86	1.04	2.13	1.88	2.37	0.94	0.84	0.48	0.49	0.34
12	.46	.96	.80	0.94	.30	.69	.35	.96	.80	.48	.48	.34
13	.45	1.65	.75	.88	3.36	2.05	.26	.96	.77	.48	.48	.33
14	.44	1.11	.71	.88	5.15	4.06	.33	.94	.75	.52	.45	.33
15	.43	0.82	.66	.82	6.12	5.17	.30	.93	.84	.48	.44	.33
16	0.47	0.82	0.63	1.06	6.27	5.03	2.22	0.90	0.78	0.50	0.44	0.33
17	.48	.80	.61	.25	5.39	4.34	.15	.90	.85	.50	.43	.32
18	.49	.73	.75	.08	4.04	3.83	.56	.90	.75	.53	.43	.32
19	.50	.70	.78	0.96	3.31	.94	.46	.91	.75	.51	.42	.33
20	.53	.66	.68	.92	.11	.98	.30	.92	.73	.49	.41	.33
21	0.55	0.61	0.62	0.90	3.11	3.64	2.11	0.92	0.71	0.48	0.41	0.33
22	.57	.60	.62	.86	2.84	.24	1.96	.90	.66	.48	.41	.34
23	.60	.60	.70	.95	.48	.31	.80	.87	.67	.50	.40	.34
24	.82	.58	.67	.99	.24	.79	.69	.86	.65	.47	.40	.34
25	.81	.55	.61	1.53	.02	4.04	.59	.82	.66	.47	.39	.37
26	0.94	0.54	0.60	1.54	1.81	4.33	1.54	0.84	0.64	0.46	0.39	0.37
27	.86	.51	.57	.62	.63	.39	.45	.84	.62	.45	.38	.36
28	.94	.50	.57	.87	.46	.28	.35	.83	.61	.44	.38	.36
29	.91	.50	.58	.94	.32	.21	.32	.81	.59	.43	–	.35
30	.81	.56	.64	.75	.26	3.97	.25	.82	.57	.45	–	.35
31	–	.55	–	.61	.20	–	.21	–	.60	.45	–	.41
Mean	0.59	0.72	0.78	1.21	2.85	2.95	2.21	0.93	0.75	0.49	0.48	0.35
Max.	0.94	1.65	1.38	1.94	6.27	5.17	3.70	1.12	0.88	0.55	0.66	0.41
Min.	0.43	0.50	0.57	0.61	1.20	1.08	1.21	0.81	0.57	0.43	0.38	0.32

WATER YEAR 1968 : Max. 6.27 m. Min. 0.32 m.

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.12	0.93	1.11	0.52	8.35	3.52	47	3.44	1.88	0.63	0.31	0.18
2	0.08	0.72	0.68	0.44	9.65	3.28	40	3.12	2.00	0.57	0.88	0.18
3	0.08	0.56	0.98	0.76	8.87	3.20	33	2.96	1.78	0.54	0.88	0.18
4	0.04	0.76	1.47	3.96	10	4.32	27	2.88	1.88	0.50	1.04	0.14
5	0.04	0.98	5.72	6.27	14	7.15	23	2.80	2.09	0.47	1.00	0.12
6		1.07	5.30	11	12	12	22	2.48	2.04	0.44	0.92	0.12
7		1.02	3.69	12	39	18	28	2.32	1.93	0.47	0.73	0.12
8		0.89	2.72	9.78	38	19	26	2.32	2.00	0.47	0.67	0.10
9		0.89	2.08	6.38	24	19	19	2.24	1.88	0.47	0.54	0.10
10		1.16	1.77	4.60	18	16	19	2.48	1.88	0.44	0.44	0.08
11		1.07	1.25	3.12	15	12	21	2.32	1.88	0.42	0.44	0.08
12		2.48	0.98	2.32	17	9.91	21	2.48	1.67	0.42	0.42	0.08
13		9.65	0.76	1.85	37	15	20	2.48	1.53	0.42	0.42	0.06
14		3.69	0.60	1.85	80	55	21	2.32	1.43	0.54	0.33	0.06
15		1.40	0.40	1.40	107	83	20	2.24	1.88	0.42	0.31	0.06
16		1.40	0.28	3.28	111	79	19	2.00	1.58	0.47	0.31	0.06
17		1.25	0.20	5.00	87	61	18	2.00	1.93	0.47	0.28	0.04
18		0.93	0.76	3.44	57	49	25	2.00	1.43	0.57	0.28	0.06
19		0.80	0.89	2.48	41	52	23	2.08	1.43	0.50	0.25	0.06
20	0.12	0.64	0.72	2.16	36	53	20	2.19	1.34	0.44	0.23	0.06
21	0.20	0.44	0.48	2.00	36	45	17	2.19	1.25	0.42	0.23	0.06
22	0.28	0.40	0.48	1.70	31	36	15	2.00	1.04	0.42	0.23	0.08
23	0.40	0.40	0.80	2.40	24	38	12	1.77	1.08	0.47	0.20	0.08
24	1.40	0.32	0.68	1.92	17	48	11	1.70	1.00	0.39	0.20	0.08
25	1.32	0.20	0.44	6.93	14	55	9.39	1.40	1.04	0.39	0.18	0.14
26	2.32	0.00	0.40	7.04	11	63	8.74	1.55	0.96	0.36	0.18	0.14
27	1.70	0.00	0.28	7.96	8.87	64	7.59	1.55	0.88	0.33	0.16	0.12
28	2.32	0.00	0.28	11	6.82	61	6.49	1.47	0.84	0.31	0.16	0.12
29	2.08	0.00	0.32	12	5.30	59	6.16	1.32	0.77	0.28	–	0.10
30	1.32	0.00	0.56	9.65	4.70	53	5.40	1.40	0.70	0.33	–	0.10
31	–	0.00	–	7.83	4.14	–	4.05	–	0.80	0.33	–	0.23
Total	13.82	34.05	37.08	153.04	932.70	1,096.38	594.82	65.50	45.82	13.70	12.22	3.19
Mean	0.46	1.10	1.24	4.94	30.1	36.5	19.2	2.18	1.48	0.44	0.44	0.10
Max.	2.32	9.65	5.72	12	111	83	47	3.44	2.09	0.63	1.04	0.23
Min.	0.00	0.00	0.20	0.44	4.14	3.20	4.05	1.32	0.70	0.28	0.16	0.04
Runoff – MCM.	1.194	2.942	3.204	13.223	80.585	94.727	51.392	5.659	3.959	1.184	1.056	0.276

WATER YEAR 1968 : Max. 111 Min. 0.00 Mean 8.22 Annual Runoff 259.400 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Aug.16,68	06.00	6.33	116				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
PRACHIN RIVER BASIN

Lam Phra Prong at Kabin Buri, Prachin Buri (Kgt. 13)

Location: Lat. 13°-58'-57" N., Long. 101°-42'-46" E., on left bank about 40 meters upstream from Freedom Highway Bridge on Chachoeng Sao – Kabin Buri highway, Amphoe Kabin Buri, Prachin Buri.

Drainage Area: 5,347 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: +10.547 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 to date
- Rated by Float: –
- Rated by Current Meter: 1967 to date

Stability of Channel Regimes: Stable, no shifting adjustment for flow computation for year without actual ratings.

Overbank Flow Conditions: No overbank flow.

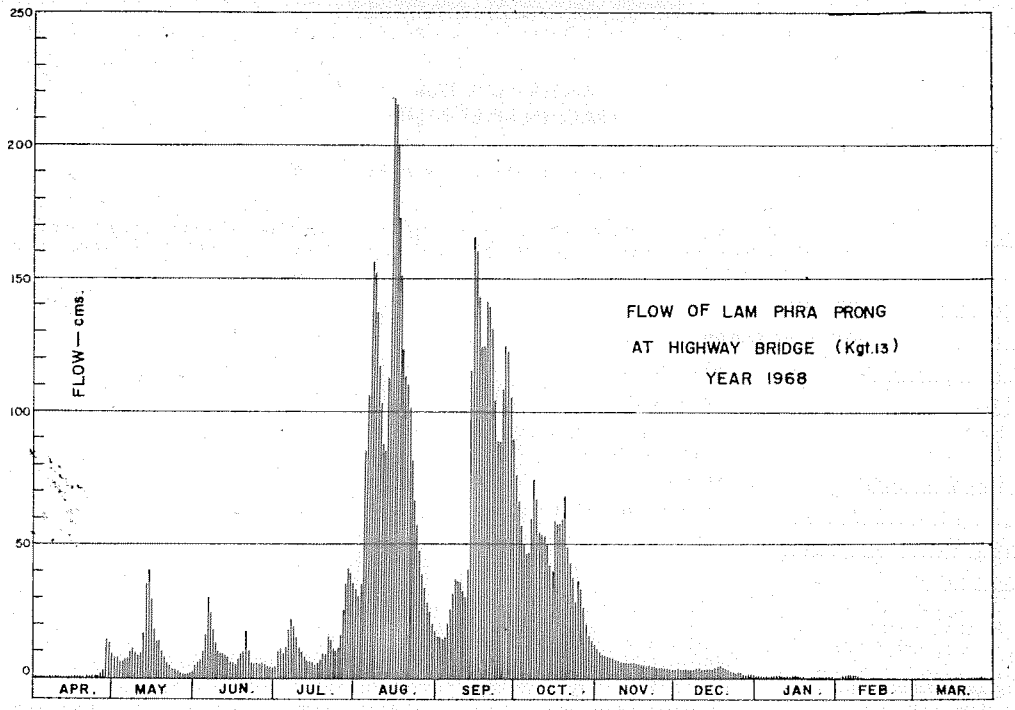
General Description: Records fair. Stage-discharge relationship used is defined by discharge measurements made during 1967. No upstream state diversions for irrigation except those built by local residents. No adjustment made for virgin flow.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.87	1.72	1.51	1.43	3.23	2.30	5.10	1.98	1.32	1.07	0.92	0.82
2	.86	.74	.57	.92	.07	.33	4.72	.90	.35	.06	1.01	.81
3	.86	.60	.79	2.00	.44	.26	.35	.83	.34	.04	.03	.81
4	.85	.59	2.10	1.84	4.97	.25	.00	.78	.34	.04	.08	.80
5	.83	.68	.57	2.02	5.57	.65	3.86	.75	.33	.03	.08	.80
6	0.81	1.71	3.13	2.42	6.00	3.00	3.90	1.72	1.33	1.02	1.11	0.79
7	.82	.85	2.71	.69	.91	.29	4.45	.68	.33	.01	.09	.78
8	.83	2.02	.23	.54	7.29	.45	.96	.65	.35	.01	.03	.77
9	.81	1.90	1.95	.29	.13	.44	.65	.62	.39	.01	.01	.76
10	.80	.77	.85	.07	6.33	.38	.22	.59	.36	.00	0.97	.76
11	0.79	1.90	1.81	1.96	5.64	3.20	4.20	1.59	1.35	0.99	0.96	0.75
12	.77	2.41	.83	.78	.15	.06	.17	.57	.35	.97	.92	.75
13	.76	3.40	.72	.65	.54	.86	.00	.55	.35	.96	.92	.75
14	.76	.60	.59	.65	6.90	6.05	3.70	.55	.34	1.01	.91	.75
15	.76	.03	.53	.60	7.94	7.31	.47	.55	.35	.03	.90	.75
16	0.77	2.45	1.48	1.51	8.44	7.48	4.39	1.54	1.42	1.03	0.89	0.75
17	.78	.15	.73	.56	.35	6.96	.33	.53	.47	.00	.88	.75
18	.79	.22	.87	.64	7.47	.25	.36	.49	.49	.00	.88	.75
19	.76	1.92	.96	.85	6.55	.46	.48	.49	.42	.00	.88	.75
20	.79	.70	2.38	.76	.19	.92	.75	.47	.36	0.97	.87	.75
21	0.87	1.60	1.93	2.31	6.10	6.90	3.69	1.49	1.31	0.96	0.86	0.75
22	.89	.46	.58	.25	5.65	.61	.75	.47	.26	.96	.85	.79
23	.94	.35	.51	1.97	4.94	5.80	.20	.45	.21	.96	.85	.91
24	.98	.28	.58	.89	.45	.38	.00	.40	.19	.96	.85	.90
25	.97	.22	.53	2.03	.01	.50	.43	.40	.18	.96	.84	.87
26	1.11	1.16	1.58	2.37	3.54	6.15	3.15	1.40	1.17	0.95	0.84	0.87
27	.40	.10	.49	.95	.32	.50	2.72	.38	.15	.94	.83	.86
28	2.22	.08	.44	3.46	.01	.44	.50	.38	.13	.93	.82	.85
29	.15	.06	.41	.66	2.85	.11	.31	.36	.10	.93	–	.84
30	1.78	.12	.34	.58	.65	5.66	.18	.33	.09	.92	–	.83
31	–	.27	–	.38	.49	–	.08	–	.08	.92	–	.83
Mean	0.98	1.81	1.82	2.19	5.33	4.90	3.81	1.56	1.30	0.99	0.93	0.80
Max.	2.22	3.60	3.13	3.66	8.44	7.48	5.10	1.98	1.49	1.07	1.11	0.91
Min.	0.76	1.06	1.34	1.43	2.49	2.25	2.08	1.33	1.08	0.92	0.82	0.75

WATER YEAR 1968 : Max. 8.44 m. Min. 0.75 m.

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.42	7.46	5.10	4.30	32	15	78	11	3.28	1.35	0.60	0.30
2	0.40	7.72	5.70	10	29	16	67	9.86	3.55	1.30	1.05	0.27
3	0.40	6.00	8.37	11	36	15	58	8.89	3.46	1.20	1.15	0.27
4	0.37	5.90	12	9.02	74	15	49	8.24	3.46	1.20	1.40	0.25
5	0.32	6.96	20	11	92	21	46	7.85	3.37	1.15	1.40	0.25
6	0.27	7.33	30	17	106	27	47	7.46	3.37	1.10	1.58	0.22
7	0.30	9.15	22	22	140	33	60	6.96	3.37	1.05	1.45	0.20
8	0.32	11	14	19	156	37	74	6.60	3.55	1.05	1.15	0.17
9	0.27	9.80	10	15	149	36	65	6.24	3.91	1.05	1.05	0.15
10	0.25	8.11	9.15	12	118	35	54	5.90	3.64	1.00	0.85	0.15
11	0.22	9.80	8.63	10	94	31	54	5.90	3.55	0.95	0.80	0.12
12	0.17	17	8.89	8.24	79	29	53	5.70	3.55	0.85	0.60	0.12
13	0.15	35	7.46	6.60	91	46	49	5.50	3.55	0.80	0.60	0.12
14	0.15	40	5.90	6.60	140	108	42	5.50	3.46	1.05	0.55	0.12
15	0.15	28	5.30	6.00	186	157	37	5.50	3.55	1.15	0.50	0.12
16	0.17	18	4.80	5.10	217	165	59	5.40	4.20	1.15	0.47	0.12
17	0.20	13	7.59	5.60	211	142	57	5.00	4.70	1.00	0.45	0.12
18	0.22	14	9.41	6.48	165	115	58	4.90	4.90	1.00	0.45	0.12
19	0.15	10	10	9.15	126	123	61	4.90	4.20	1.00	0.45	0.12
20	0.22	7.20	17	7.98	113	141	68	4.70	3.64	0.85	0.42	0.12
21	0.42	6.00	10	16	110	140	42	4.90	3.19	0.80	0.40	0.12
22	0.47	4.60	5.80	15	94	128	43	4.70	2.78	0.80	0.37	0.22
23	0.70	3.55	5.10	11	73	99	31	4.50	2.38	0.80	0.37	0.55
24	0.90	2.94	5.80	9.67	60	86	27	4.00	2.22	0.80	0.37	0.50
25	0.85	2.46	5.30	11	49	89	36	4.00	2.14	0.80	0.35	0.42
26	1.58	1.98	5.80	16	38	112	30	4.00	2.06	0.75	0.35	0.42
27	4.00	1.50	4.90	26	34	124	22	3.82	1.90	0.70	0.32	0.40
28	14	1.40	4.40	37	28	122	18	3.82	1.74	0.65	0.30	0.37
29	13	1.30	4.10	41	25	110	16	3.64	1.50	0.65	–	0.35
30	8.24	1.66	3.46	39	21	95	14	3.37	1.45	0.60	–	0.32
31	–	2.86	–	35	18	–	12	–	1.40	0.60	–	0.32
Total	49.28	301.68	275.96	458.74	2,906	2,412	1,427	172.69	97.02	29.20	19.80	7.42
Mean	1.64	9.73	9.20	14.8	93.7	80.4	46.0	5.76	3.12	0.942	0.707	0.239
Max.	14	40	30	41	217	165	78	11	4.90	1.35	1.58	0.55
Min.	0.15	1.30	3.46	4.30	18	15	12	3.37	1.40	0.60	0.30	0.12
Runoff – mcm.	4.258	26.065	23.843	39.635	251.078	208.397	123.293	14.920	8.382	2.523	1.711	0.641

WATER YEAR 1968 : Max. 217 Min. 0.12 Mean 22.3 Annual Runoff 704.747 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Aug.16,68	18.00	8.58	226				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
PRACHIN RIVER BASIN

Lam Phya Than 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, about 35 kilometers from crossing with Suwanson road, 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: on left bank near gaging station.
- Elevation: +44.428 m. (M.S.L.)

Gage Reading Frequency: Recording

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

Period of Available Gage Records: 1966 to date

Rating Operation:

- Period of Rating: 1966 to date
- Rated by Float: -
- Rated by Current Meter: 1966 to date

Stability of Channel Regimes: Unstable, shifting adjustment is included for flow computation.

Overbank Flow Conditions: No overbank flow.

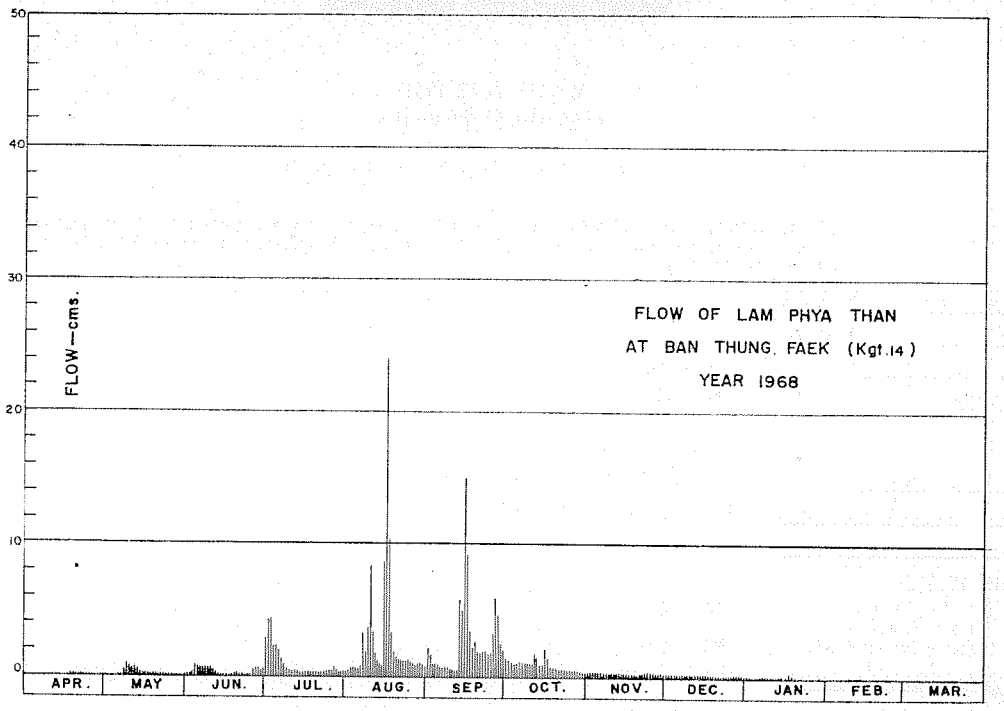
General Description: Records good. Stage-discharge relationship used is defined by discharge measurements made during 1968. No upstream state diversions for irrigation except those built by local residents. No adjustment made for virgin flow.

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

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	34.63	34.63	34.70	35.34	34.89	35.23	35.06	34.80	34.69	34.61	34.59	34.52
2	.63	.63	.79	.47	35.03	.08	.04	.80	.69	.61	.60	.51
3	.62	.63	.84	.47	.02	34.99	.02	.79	.69	.61	.60	.51
4	.61	.63	35.02	.19	.02	35.07	34.99	.79	.68	.61	.60	.50
5	.61	.64	34.99	.29	.01	34.99	35.01	.79	.68	.60	.59	.51
6	34.61	34.67	34.98	35.24	34.98	34.96	35.02	34.78	34.68	34.60	34.58	34.53
7	.61	.66	.97	.11	35.38	.98	.02	.77	.68	.60	.58	.52
8	.61	.73	.96	.03	.19	.96	.02	.76	.68	.61	.58	.52
9	.61	35.05	.96	34.98	.29	.94	.02	.77	.68	.61	.57	.52
10	.61	34.98	.98	.93	.72	.92	.03	.78	.68	.61	.57	.51
11	34.61	34.94	34.89	34.90	35.32	34.90	34.99	34.74	34.68	34.61	34.57	34.51
12	.61	.95	.78	.88	.20	.88	35.15	.76	.68	.61	.57	.50
13	.61	.89	.75	.86	.13	35.52	.04	.77	.67	.60	.56	.50
14	.61	.85	.74	.84	.07	.46	34.97	.76	.67	.61	.56	.50
15	.61	.82	.73	.83	.06	.95	35.00	.75	.67	.62	.56	.50
16	34.61	34.80	34.72	34.85	36.34	35.38	35.20	34.75	34.67	34.69	34.56	34.50
17	.62	.78	.71	.84	35.42	.29	.00	.74	.67	.71	.55	.50
18	.63	.77	.73	.84	.22	.15	34.97	.74	.66	.69	.55	.50
19	.65	.79	.85	.83	.14	.21	.94	.74	.66	.67	.54	.50
20	.66	.77	.84	.84	.11	.11	.92	.74	.65	.65	.54	.49
21	34.67	34.79	34.80	34.83	35.09	35.13	34.90	34.73	34.65	34.63	34.54	34.49
22	.69	.80	.77	.82	.08	.14	.89	.72	.63	.63	.54	.49
23	.71	.78	.75	.80	.06	.15	.88	.72	.62	.62	.53	.48
24	.69	.75	.74	.85	.10	.10	.87	.71	.62	.61	.53	.48
25	.67	.73	.73	.88	.06	.10	.86	.71	.62	.61	.52	.48
26	34.64	34.71	34.90	34.88	35.05	35.35	34.85	34.71	34.62	34.61	34.52	34.48
27	.63	.69	.97	.93	.00	.48	.84	.70	.62	.61	.52	.48
28	.63	.68	.93	.85	.03	.33	.83	.70	.62	.61	.52	.48
29	.62	.67	.87	.82	.05	.19	.82	.69	.62	.60	-	.47
30	.63	.66	.98	.85	.02	.11	.82	.69	.62	.60	-	.47
31	-	.66	-	.85	34.98	-	.81	-	.62	.59	-	.47
Mean	34.63	34.76	34.84	34.96	35.16	35.17	34.96	34.75	34.66	34.62	34.56	34.50
Max.	34.71	35.05	35.02	35.47	36.34	35.95	35.20	34.80	34.69	34.71	34.60	34.53
Min.	34.61	34.63	34.70	34.80	34.89	34.88	34.81	34.69	34.62	34.59	34.52	34.47

WATER YEAR 1968 : Max. 36.34 m. Min. 34.47 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1		0.020	0.090	2.90	0.32	2.30	1.30	0.32	0.20	0.13		
2		0.020	0.18	4.30	0.74	1.20	1.20	0.38	0.20	0.13		
3		0.020	0.29	4.30	0.71	0.77	1.10	0.35	0.20	0.13		
4		0.020	0.85	1.58	0.71	1.15	0.95	0.35	0.20	0.13		
5		0.030	0.74	2.40	0.68	0.77	1.05	0.35	0.20	0.12		
6		0.060	0.74	1.93	0.59	0.68	1.10	0.32	0.20	0.12		
7		0.050	0.68	1.10	3.30	0.74	1.00	0.29	0.20	0.14		
8		0.12	0.65	0.74	1.65	0.68	1.00	0.26	0.20	0.13		
9		1.00	0.65	0.59	2.40	0.62	1.00	0.29	0.20	0.13		
10		0.71	0.71	0.44	8.40	0.56	1.05	0.32	0.20	0.13		
11		0.59	0.44	0.35	2.70	0.50	0.85	0.20	0.20	0.13		
12		0.62	0.17	0.47	1.65	0.44	1.79	0.26	0.20	0.13		
13		0.44	0.14	0.41	1.20	5.80	1.10	0.35	0.19	0.12		
14		0.32	0.13	0.35	0.90	4.90	0.77	0.32	0.19	0.13		
15		0.23	0.12	0.32	0.85	15	0.90	0.29	0.19	0.14		
16		0.19	0.11	0.38	24	4.30	2.20	0.29	0.19	0.23		
17	0.010	0.17	0.10	0.35	4.45	3.30	0.90	0.26	0.19	0.29		
18	0.020	0.16	0.12	0.35	2.30	1.93	0.77	0.26	0.18	0.19		
19	0.040	0.18	0.32	0.32	1.65	2.50	0.68	0.26	0.18	0.15		
20	0.050	0.16	0.29	0.38	1.44	1.65	0.62	0.32	0.17	0.11		
21	0.060	0.18	0.19	0.35	1.30	1.79	0.56	0.29	0.17	0.080		
22	0.080	0.19	0.16	0.32	1.25	1.86	0.59	0.26	0.15	0.060		
23	0.10	0.17	0.14	0.26	1.15	1.93	0.56	0.29	0.14	0.050		
24	0.080	0.14	0.13	0.41	1.37	1.58	0.53	0.26	0.14	0.000		
25	0.060	0.12	0.12	0.44	1.15	1.65	0.50	0.26	0.14	0.000		
26	0.030	0.10	0.47	0.44	1.10	3.90	0.47	0.26	0.14	0.000		
27	0.020	0.080	0.68	0.59	0.85	5.80	0.44	0.23	0.14	0.000		
28	0.020	0.070	0.56	0.35	1.00	3.70	0.41	0.23	0.14	0.000		
29	0.010	0.060	0.38	0.26	1.10	2.30	0.38	0.20	0.14	0.000		
30	0.020	0.050	0.71	0.35	0.95	1.65	0.38	0.20	0.14	0.000		
31	–	0.050	–	0.35	0.77	–	0.35	–	0.14	0.000		
Total	0.600	6.320	11.030	28.06	72.63	75.95	26.50	8.52	5.46	3.080	0.000	0.000
Mean	0.020	0.204	0.367	0.905	2.34	2.53	0.854	0.284	0.176	0.099	0.000	0.000
Max.	0.10	1.00	0.85	4.30	24	15	2.20	0.38	0.20	0.29	0.000	0.000
Min.	0.000	0.020	0.090	0.26	0.32	0.44	0.35	0.20	0.14	0.000	0.000	0.000
Runoff – mcm.	0.052	0.546	0.953	2.426	6.275	6.562	2.290	0.736	0.472	0.266	0.000	0.000

WATER YEAR 1968 : Max. 24 Min. 0.000 Mean 0.652 Annual Runoff 20.578 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Aug.16,68	07.00	37.31	65				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
PRACHIN RIVER BASIN

Huai Samong at highway bridge, Prachin Buri (Kgt. 15)

Location: Lat. 14°-02'-37" N., Long. 101°-47'-30" E., on left bank about 5 kilometers upstream from confluence with Lam Hanuman, on Kabin Buri – Korat highway about 2 kilometers from crossing with Suwanson Road, Amphoe Kabin Buri, Prachin Buri.

Drainage Area: 789 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 gage site.
Elevation: +6.248 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 for year without actual ratings.

Overbank Flow Conditions: No overbank flow.

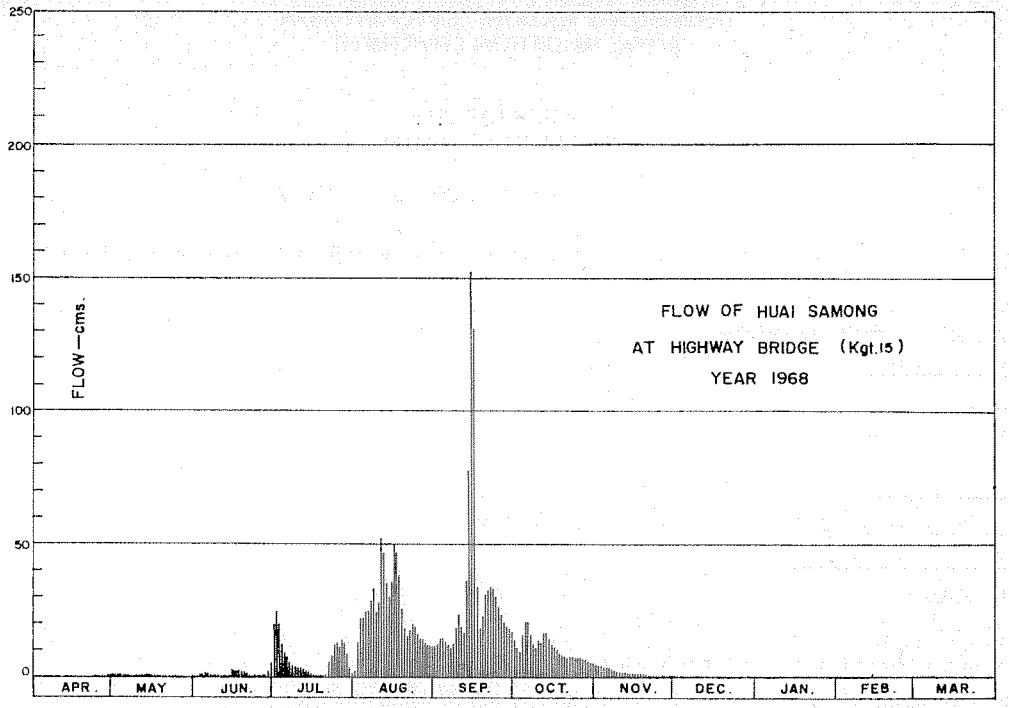
General Description: Records fair except those for period effected by backwater from Prachin River, which are poor. Stage-discharge relation used is defined by discharge measurements made during 1967. No upstream state diversions for irrigation except those built by local residents. No adjustment made for virgin flow.

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

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.29	0.48	0.35	1.46	0.62	1.08	1.15	0.78	0.46	0.36	0.37	0.34
2	.27	.50	.41	.51	1.12	.13	.02	.76	.46	.36	.38	.34
3	.28	.50	.50	.21	.44	.20	0.97	.74	.46	.36	.39	.34
4	.28	.49	.52	.07	.43	.18	1.24	.72	.45	.36	.40	.34
5	.29	.48	.53	0.97	.53	.13	.41	.70	.45	.36	.41	.34
6	0.29	0.47	0.50	0.86	1.53	1.08	1.41	0.67	0.45	0.35	0.41	0.34
7	.29	.46	.48	.78	.63	.05	.21	.64	.44	.35	.40	.34
8	.29	.45	.46	.75	.73	.17	.09	.61	.44	.35	.40	.34
9	.29	.43	.44	.72	.39	.37	.04	.57	.44	.35	.39	.34
10	.30	.44	.43	.70	.68	.48	.17	.57	.43	.34	.39	.33
11	0.30	0.46	0.42	0.67	2.18	1.28	1.14	0.56	0.43	0.34	0.39	0.33
12	.30	.48	.45	.65	1.98	.26	.28	.56	.42	.34	.38	.33
13	.31	.50	.44	.60	.71	2.24	.27	.55	.42	.34	.38	.33
14	.31	.48	.47	.56	.63	3.80	.18	.55	.41	.34	.38	.33
15	.31	.46	.63	.52	.81	.10	.11	.53	.41	.33	.37	.33
16	0.30	0.40	0.62	0.50	2.13	2.01	1.05	0.52	0.40	0.33	0.37	0.33
17	.30	.40	.60	.48	.02	1.17	0.98	.52	.40	.33	.37	.33
18	.30	.38	.58	.46	1.74	.27	.94	.51	.40	.33	.36	.33
19	.29	.36	.56	.44	.47	.59	.94	.51	.39	.32	.36	.33
20	.29	.36	.54	.45	.26	.67	.92	.50	.39	.32	.36	.34
21	0.29	0.37	0.51	0.52	1.22	1.74	0.92	0.50	0.39	0.32	0.36	0.34
22	.30	.36	.42	.80	.30	.75	.92	.49	.39	.32	.35	.35
23	.32	.35	.38	.90	.38	.71	.91	.49	.38	.32	.35	.35
24	.34	.34	.37	1.09	.33	.63	.91	.49	.38	.31	.35	.36
25	.36	.33	.36	.14	.23	.53	.90	.48	.38	.31	.35	.36
26	0.38	0.32	0.35	1.06	1.18	1.42	0.90	0.48	0.38	0.31	0.34	0.37
27	.40	.30	.39	.16	.16	.37	.88	.48	.37	0.31	.34	.37
28	.42	.30	.47	.08	.14	.33	.86	.47	.37	0.33	.34	.37
29	.45	.29	.60	0.85	.10	.30	.84	.47	.37	0.33	–	.36
30	.46	.28	.80	.61	.08	.28	.82	.47	.37	0.35	–	.36
31	–	.31	–	.50	.06	–	.80	–	.36	0.35	–	.36
Mean	0.32	0.41	0.49	0.81	1.46	1.54	1.04	0.56	0.41	0.34	0.37	0.34
Max.	0.46	0.50	0.80	1.51	2.18	3.80	1.41	0.78	0.46	0.36	0.41	0.37
Min.	0.27	0.28	0.35	0.44	0.62	1.05	0.80	0.47	0.36	0.31	0.34	0.33

WATER YEAR 1968 : Max. 3.80 m. Min. 0.27 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1		0.86	0.15	23	2.48	12	13	4.88	0.72	0.18	0.21	0.12
2		1.00	0.37	25	13	15	10	4.56	0.72	0.18	0.24	0.12
3		1.00	1.00	15	22	15	8.80	4.24	0.72	0.18	0.27	0.12
4		0.93	1.24	11	22	14	16	3.92	0.65	0.18	0.30	0.12
5		0.86	1.36	8.88	25	13	21	3.60	0.65	0.18	0.37	0.12
6		0.79	1.00	6.40	25	12	21	3.18	0.65	0.15	0.37	0.12
7		0.72	0.86	4.88	29	11	15	2.76	0.58	0.15	0.30	0.12
8		0.65	0.72	4.40	33	14	12	2.34	0.58	0.15	0.30	0.12
9		0.51	0.58	3.92	21	20	11	1.84	0.58	0.15	0.27	0.12
10		0.58	0.51	3.60	31	24	14	1.84	0.51	0.12	0.27	0.09
11		0.72	0.44	3.18	52	17	13	1.72	0.51	0.12	0.27	0.09
12		0.86	0.65	2.90	43	17	17	1.72	0.44	0.12	0.24	0.09
13	0.03	1.00	0.58	2.20	32	55	17	1.60	0.44	0.12	0.24	0.09
14	0.03	0.86	0.79	1.72	29	152	14	1.60	0.37	0.12	0.24	0.09
15	0.03	0.72	2.62	1.24	36	104	12	1.36	0.37	0.09	0.21	0.09
16		0.30	2.48	1.00	50	45	11	1.24	0.30	0.09	0.21	0.09
17		0.30	2.20	0.86	45	14	9.12	1.24	0.30	0.09	0.21	0.09
18		0.24	1.96	0.72	33	17	8.16	1.12	0.30	0.09	0.18	0.09
19		0.18	1.72	0.58	23	28	8.16	1.12	0.27	0.06	0.18	0.09
20		0.18	1.48	0.65	17	31	7.68	1.00	0.27	0.06	0.18	0.12
21		0.21	1.12	1.24	15	33	7.68	1.00	0.27	0.06	0.18	0.12
22		0.18	0.44	5.20	18	34	7.68	0.93	0.27	0.06	0.15	0.15
23	0.06	0.15	0.24	7.20	20	32	7.44	0.93	0.24	0.06	0.15	0.15
24	0.12	0.12	0.21	12	19	29	7.44	0.93	0.24	0.03	0.15	0.18
25	0.18	0.09	0.18	13	16	25	7.20	0.86	0.24	0.03	0.15	0.18
26	0.24	0.06	0.15	11	14	22	7.20	0.86	0.24	0.03	0.12	0.21
27	0.30	0.00	0.27	14	14	20	6.80	0.86	0.21	0.03	0.12	0.21
28	0.44	0.00	0.79	12	13	19	6.40	0.79	0.21	0.09	0.12	0.21
29	0.65	0.00	2.20	6.20	12	18	6.00	0.79	0.21	0.09	–	0.18
30	0.72	0.00	5.20	2.34	12	17	5.60	0.79	0.21	0.15	–	0.18
31	–	0.03	–	1.00	11	–	5.20	–	0.18	0.15	–	0.18
Total	2.80	14.10	33.51	206.31	747.48	877.0	333.56	55.62	12.45	3.36	6.20	4.05
Mean	0.09	0.45	1.12	6.65	24.1	29.2	10.7	1.85	0.40	0.11	0.22	0.13
Max.	0.72	1.00	5.20	25	52	152	21	4.88	0.72	0.18	0.37	0.21
Min.	0.00	0.00	0.15	0.58	2.48	11	5.20	0.79	0.18	0.03	0.12	0.09
Runoff – mcm.	0.241	1.218	2.895	17.825	64.582	75.772	28.819	4.805	1.075	0.290	0.535	0.349

WATER YEAR 1968 : Max. 152 Min. 0.00 Mean 6.29 Annual Runoff 198.412 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sep.14,70	18.00	3.85	156				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
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, Amphoe KabinBuri, 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 gaging station office of Kgt. 15A.
Elevation: +9.615 m. (A.D.)

Gage Reading Frequency: Recording

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

Period of Available Gage Records: 1968 to date

Rating Operation:

Period of Rating: 1968 to date
Rated by Float: –
Rated by Current Meter: 1968 to date

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

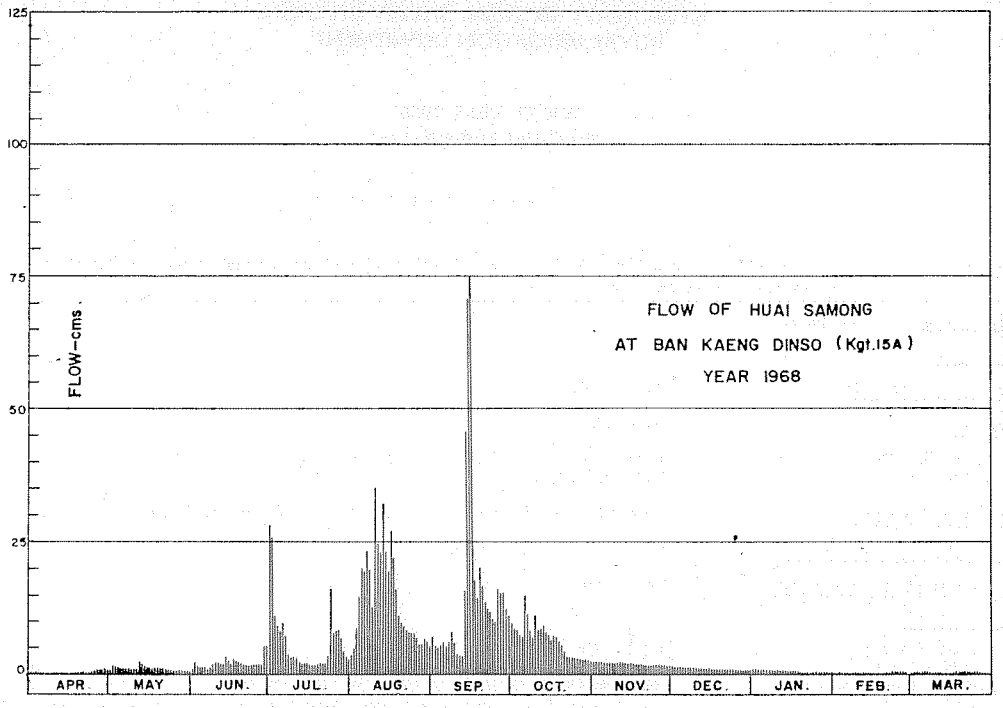
Overbank Flow Conditions: No overbank flow.

General Description: Records fair. Stage-discharge relationship used is defined by discharge measurements made during 1968. No upstream state diversions for irrigation except those built by local residents. No adjustment made for virgin flow.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.56	0.70	0.69	2.28	1.17	1.36	1.47	0.98	0.80	0.71	0.59	0.58
2	.55	.81	1.00	1.72	.23	.22	.42	.97	.80	.68	.59	.58
3	.55	.80	0.83	.41	.41	.20	.42	.96	.79	.67	.59	.58
4	.54	.74	.79	.47	.74	.21	.34	.96	.78	.65	.60	.59
5	.54	.71	.80	.37	.98	.26	.30	.95	.78	.65	.59	.60
6	0.54	0.71	0.74	1.51	1.95	1.21	1.78	0.94	0.77	0.64	0.59	0.60
7	.53	.71	.72	.30	2.09	.25	.54	.94	.77	.62	.58	.60
8	.53	.72	.86	.15	1.83	.40	.38	.93	.77	.62	.58	.59
9	.53	.70	.82	.12	1.53	.26	.31	.92	.76	.62	.57	.58
10	.53	.70	.94	.12	2.51	.18	.60	.92	.75	.62	.56	.58
11	0.53	0.72	0.92	0.96	2.15	1.17	1.40	0.96	0.75	0.62	0.55	0.58
12	.53	1.00	.84	.92	.03	.13	.40	.94	.74	.61	.55	.58
13	.54	0.88	.87	.90	.44	.13	.46	.92	.74	.61	.55	.58
14	.54	.80	1.12	.96	.05	3.33	.36	.91	.73	.60	.55	.57
15	.55	.78	0.98	.93	1.81	.55	.35	.91	.73	.63	.55	.57
16	0.54	0.75	0.89	0.89	2.25	2.16	1.28	0.92	0.73	0.63	0.55	0.58
17	.54	.71	1.02	.89	1.97	1.77	.35	.93	.71	.62	.54	.59
18	.53	.71	0.95	.89	.67	.64	.33	.92	.72	.62	.53	.62
19	.54	.74	0.94	.89	.53	.96	.26	.90	.71	.60	.53	.62
20	.57	.72	0.88	.91	.51	.82	.21	.89	.71	.59	.53	.61
21	0.57	0.71	0.85	0.94	1.45	1.68	1.16	0.87	0.70	0.59	0.52	0.61
22	.57	.70	.83	.90	.41	.64	.13	.86	.70	.58	.59	.60
23	.58	.68	.81	.94	.39	.61	.12	.86	.69	.58	.65	.60
24	.62	.67	.85	1.82	.39	.54	.12	.84	.69	.58	.63	.59
25	.66	.67	.86	.35	.37	.50	.10	.84	.69	.60	.62	.59
26	0.68	0.68	0.83	1.42	1.28	1.79	1.08	0.84	0.69	0.60	0.61	0.58
27	.66	.67	.82	.43	.23	.74	.06	.82	.68	.60	.60	.58
28	.66	.66	.85	.28	.25	.75	.03	.83	.68	.60	.59	.58
29	.71	.65	1.21	.17	.31	.59	.02	.82	.68	.60	–	.58
30	.66	.65	.22	.13	.25	.60	.00	.81	.67	.59	–	.58
31	–	.64	–	.10	.21	–	0.99	–	.67	.59	–	.58
Mean	0.57	0.72	0.89	1.19	1.65	1.62	1.28	0.90	0.72	0.61	0.57	0.58
Max.	0.71	1.00	1.22	2.28	2.51	3.55	1.78	0.98	0.80	0.71	0.65	0.60
Min.	0.53	0.64	0.69	0.89	1.17	1.13	0.99	0.81	0.67	0.58	0.52	0.57

WATER YEAR 1968 : Max. 3.55 m. Min. 0.52 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.38	1.00	0.95	28	3.70	7.40	9.05	2.40	1.50	1.05	0.47	0.44
2	0.35	1.55	2.50	24	5.45	5.30	8.30	2.35	1.50	0.90	0.47	0.44
3	0.35	1.50	1.65	8.15	8.15	5.00	8.30	2.30	1.45	0.85	0.47	0.44
4	0.32	1.20	1.45	9.05	15	5.15	7.10	2.30	1.40	0.75	0.50	0.47
5	0.32	1.05	1.50	7.55	20	5.90	6.50	2.25	1.40	0.75	0.47	0.50
6	0.32	1.05	1.20	9.70	19	5.15	15	2.20	1.35	0.70	0.47	0.50
7	0.29	1.05	1.10	6.50	23	5.75	10	2.20	1.35	0.60	0.44	0.50
8	0.29	1.10	1.80	3.50	17	8.00	7.70	2.15	1.35	0.60	0.44	0.47
9	0.29	1.00	1.60	3.20	10	5.90	6.65	2.10	1.30	0.60	0.41	0.44
10	0.29	1.00	2.20	3.20	35	3.80	11	2.10	1.25	0.60	0.38	0.44
11	0.29	1.10	2.10	2.30	24	3.70	8.00	2.30	1.25	0.60	0.35	0.44
12	0.29	2.50	1.75	2.10	21	3.36	8.60	2.20	1.20	0.55	0.35	0.44
13	0.32	1.90	1.85	2.00	32	3.44	8.90	2.10	1.20	0.55	0.35	0.44
14	0.32	1.50	3.20	2.30	22	70	7.40	2.05	1.15	0.50	0.35	0.41
15	0.35	1.40	2.40	2.15	16	75	7.25	2.05	1.15	0.65	0.35	0.41
16	0.32	1.25	1.95	1.95	27	25	6.20	2.10	1.15	0.65	0.35	0.44
17	0.32	1.05	2.60	1.95	20	15	7.25	2.15	1.05	0.60	0.32	0.47
18	0.29	1.05	2.25	1.95	13	12	6.95	2.10	1.10	0.60	0.29	0.60
19	0.32	1.20	2.20	1.95	10	20	5.90	2.00	1.05	0.50	0.29	0.60
20	0.41	1.10	1.90	2.05	9.70	16	5.15	1.95	1.05	0.47	0.29	0.55
21	0.41	1.05	1.75	2.20	8.75	13	3.60	1.85	1.00	0.47	0.26	0.55
22	0.41	1.00	1.65	2.00	8.15	12	3.30	1.80	1.00	0.44	0.47	0.50
23	0.44	0.90	1.55	2.20	7.85	12	3.20	1.80	0.95	0.44	0.75	0.50
24	0.60	0.85	1.75	16	7.85	10	3.20	1.70	0.95	0.44	0.65	0.47
25	0.80	0.85	1.80	7.25	7.55	9.50	3.00	1.70	0.95	0.50	0.60	0.47
26	0.90	0.90	1.65	8.30	6.20	16	2.90	1.70	0.95	0.50	0.55	0.44
27	0.80	0.85	1.60	8.45	5.45	15	2.80	1.60	0.90	0.50	0.50	0.44
28	0.80	0.80	1.75	6.20	5.25	15	2.65	1.65	0.90	0.50	0.47	0.44
29	1.05	0.75	5.15	3.70	6.65	11	2.60	1.60	0.90	0.50	–	0.44
30	0.80	0.75	5.30	3.30	5.75	11	2.50	1.55	0.85	0.47	–	0.44
31	–	0.70	–	3.00	5.15	–	2.45	–	0.85	0.47	–	0.44
Total	13.44	34.95	62.10	186.15	426.10	425.35	193.40	60.30	35.40	18.30	12.06	14.57
Mean	0.448	1.13	2.07	6.00	13.7	14.2	6.24	2.01	1.14	0.590	0.430	0.470
Max.	1.05	2.50	5.30	28	35	75	15	2.40	1.50	1.05	0.75	0.60
Min.	0.29	0.70	0.95	1.95	3.70	3.44	2.45	1.55	0.85	0.44	0.26	0.41
Runoff - mcm.	1.161	3.019	5.365	16.083	36.815	36.750	16.708	5.209	3.058	1.581	1.041	1.258

WATER YEAR 1968 : Max. 75 Min. 0.29 Mean 4.06 Annual Runoff 128.055 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sep.15,68	03.00	4.02	96				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
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 16 kilometers from Amphoe Phanat Nikhom office, Chon Buri.

Drainage Area: 535 sq.km.

Type of Gage: Staff gage

Zero Gage at Bottom at: +20.12 m. (M.S.L.)

Bench Mark: B.M. – H.S.

Location: on left bank infront of camp of gaging station.
Elevation: +25.780 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 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.

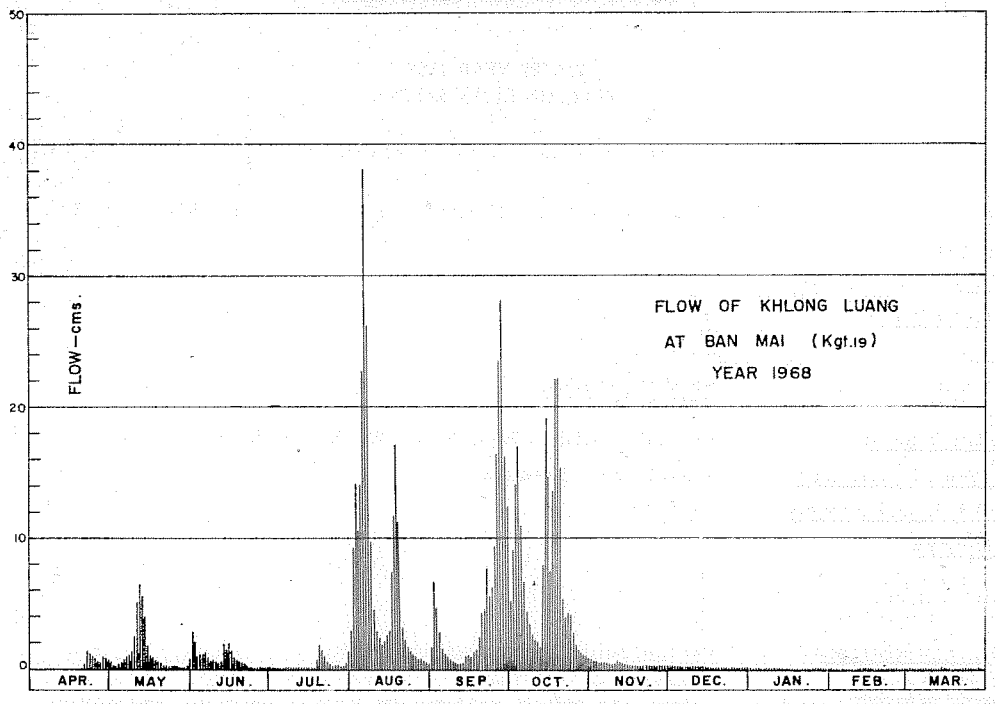
General Description: Records good. Stage-discharge relationship used is defined by discharge measurements made during 1968. No upstream state diversions for irrigation except those built by local residents. No adjustment made for virgin flow.

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

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	20.30	21.09	21.86	20.90	21.68	21.53	22.03	21.19	20.76	20.65	20.64	20.58
2	.30	.01	.58	.88	23.31	22.56	.92	.15	.76	.64	.66	.57
3	.30	20.94	.34	.87	.60	21.92	24.06	.13	.75	.63	.74	.56
4	.30	21.02	.37	.84	22.78	.59	23.35	.09	.74	.61	.75	.55
5	.30	.12	.39	.84	24.58	.44	.13	.08	.74	.61	.72	.54
6	20.30	21.26	21.42	20.83	25.12	21.31	22.49	21.10	20.74	20.62	20.68	20.54
7	.29	.39	.28	.83	24.74	.25	.22	.04	.73	.67	.68	.53
8	.29	.36	.16	.82	23.43	.17	21.94	.01	.73	.65	.68	.52
9	.29	.44	.20	.82	22.52	.09	.74	20.99	.73	.64	.67	.52
10	.29	.57	.13	.80	.12	.03	.61	.98	.72	.62	.67	.50
11	20.29	22.31	21.08	20.90	21.88	20.99	21.63	21.13	20.72	20.62	20.65	20.50
12	.30	.56	.16	.88	.72	.95	.45	.05	.71	.62	.64	.49
13	.31	.34	.63	.83	.61	21.02	.61	.01	.71	.62	.64	.54
14	.31	21.80	.48	.82	.67	.34	23.21	20.97	.71	.61	.64	.90
15	.33	.50	.60	.81	.77	.54	24.31	.94	.70	.62	.64	.76
16	20.33	21.35	21.39	20.79	21.91	21.29	22.47	20.92	20.70	20.73	20.63	20.69
17	.35	.27	.29	.80	22.98	.43	23.19	.88	.69	.71	.63	.68
18	.37	.20	.18	.81	24.02	.48	24.62	.87	.69	.68	.62	.70
19	.37	.16	.10	21.33	22.98	.86	.63	.85	.68	.67	.62	.69
20	.37	.15	.15	.59	.17	22.13	23.19	.84	.67	.66	.61	.67
21	21.07	21.07	21.04	21.39	21.83	22.03	22.29	20.84	20.67	20.64	20.61	20.64
22	.45	.04	20.98	.33	.62	.71	.00	.83	.66	.64	.61	.63
23	.35	.02	.94	.16	.49	.27	.13	.81	.66	.64	.60	.62
24	.27	.10	.91	.05	.39	.42	.10	.80	.66	.64	.60	.61
25	.19	.04	.89	20.99	.31	23.18	21.81	.79	.66	.64	.59	.61
26	21.11	20.98	20.87	21.04	21.23	24.91	21.61	20.78	20.65	20.64	20.59	20.64
27	.08	.94	.86	.03	.16	.80	.49	.79	.65	.64	.59	.64
28	.30	.92	.87	20.96	.22	.45	.39	.79	.65	.64	.58	.62
29	.28	.90	.92	.91	.13	23.77	.35	.78	.65	.64	–	.61
30	.17	.91	.91	21.04	.06	22.37	.33	.76	.65	.65	–	.60
31	–	21.20	–	.27	.02	–	.22	–	.64	.66	–	.59
Mean	20.62	21.20	21.20	20.97	22.29	22.06	22.40	20.94	20.70	20.64	20.64	20.61
Max.	21.45	22.56	21.86	21.59	25.12	24.91	24.63	21.19	20.76	20.73	20.75	20.90
Min.	20.29	20.90	20.86	20.79	21.02	20.95	21.22	20.76	20.64	20.61	20.58	20.49

WATER YEAR 1968 : Max. 25.12 m. Min. 20.29 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1		0.43	2.89	0.10	1.95	1.73	3.89	0.67	0.04	0.01	0.01	0.01
2		0.27	1.76	0.08	11	6.64	8.83	0.59	0.04	0.01	0.02	
3		0.14	0.97	0.07	14	3.34	17	0.55	0.04	0.01	0.03	
4		0.29	1.06	0.05	8.40	1.26	12	0.47	0.04	0.01	0.03	
5		0.49	1.13	0.05	23	1.42	9.67	0.45	0.04	0.01	0.03	
6		0.77	1.22	0.04	38	1.00	5.86	0.49	0.04	0.01	0.02	
7		1.13	0.82	0.04	27	0.85	4.43	0.43	0.03	0.01	0.02	
8		1.03	0.57	0.04	12	0.67	3.48	0.37	0.03	0.01	0.02	
9		1.29	0.65	0.04	5.97	0.51	2.60	0.33	0.03	0.01	0.02	
10		1.73	0.51	0.03	3.89	0.39	2.07	0.31	0.03	0.01	0.02	
11		5.07	0.41	0.10	2.81	0.31	2.15	0.61	0.03	0.01	0.01	
12		6.42	0.57	0.08	2.15	0.23	1.48	0.45	0.02	0.01	0.01	
13		5.23	1.95	0.04	1.73	0.37	2.07	0.37	0.02	0.01	0.01	
14		2.64	1.42	0.04	2.11	1.10	11	0.29	0.02	0.01	0.01	0.15
15		1.48	1.84	0.04	2.51	1.10	19	0.23	0.02	0.01	0.81	0.04
16		1.00	1.13	0.03	3.12	0.95	6.03	0.19	0.02	0.03	0.01	0.02
17		0.80	0.85	0.03	9.15	1.39	10	0.15	0.02	0.02	0.01	0.02
18		0.65	0.61	0.04	17	1.55	23	0.14	0.02	0.02	0.01	0.02
19		0.47	0.45	0.95	9.15	3.07	23	0.12	0.02	0.02	0.01	0.02
20		0.45	0.55	1.80	4.54	4.33	10	0.11	0.02	0.02	0.01	0.02
21	0.49	0.29	0.33	1.13	2.94	3.84	5.07	0.11	0.02	0.01	0.01	0.01
22	1.48	0.23	0.21	0.95	2.07	7.50	3.62	0.10	0.02	0.01	0.01	0.01
23	1.16	0.19	0.14	0.57	1.58	5.07	4.22	0.08	0.02	0.01	0.01	0.01
24	0.92	0.35	0.11	0.35	1.26	5.86	4.08	0.07	0.02	0.01	0.01	0.01
25	0.75	0.23	0.09	0.23	1.00	10	2.77	0.06	0.02	0.01	0.01	0.01
26	0.57	0.13	0.07	0.33	0.80	28	1.95	0.05	0.01	0.01	0.01	0.01
27	0.51	0.14	0.06	0.31	0.65	26	1.52	0.06	0.01	0.01	0.01	0.01
28	1.00	0.12	0.07	0.17	0.77	20	1.19	0.06	0.01	0.01	0.01	0.01
29	0.95	0.10	0.12	0.11	0.59	13	1.06	0.05	0.01	0.01	–	0.01
30	0.69	0.11	0.11	0.23	0.45	12	1.00	0.04	0.01	0.01	–	0.01
31	–	0.65	–	0.69	0.37	–	0.73	–	0.01	0.02	–	0.01
Total	8.50	34.32	22.67	8.76	211.96	163.48	204.77	8.00	0.73	0.38	0.40	0.41
Mean	0.28	1.11	0.76	0.28	6.83	5.44	6.60	0.27	0.02	0.01	0.01	0.01
Max.	1.48	6.42	2.89	1.80	38	28	23	0.67	0.04	0.03	0.03	0.15
Min.	0.00	0.10	0.06	0.03	0.37	0.23	0.73	0.04	0.01	0.01	0.01	0.00
Runoff - mcm.	0.734	2.965	1.959	0.757	18.313	14.124	17.692	0.691	0.064	0.033	0.035	0.035

WATER YEAR 1968 : Max. 38 Min. 0.00 Mean 1.82 Annual Runoff 57.402 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Aug.6,68	12.00	25.15	39				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
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: -

Type of Gage: Staff gage

Zero Gage at Bottom at: -0.810 m. (M.S.L.)

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

Location: near staff gage site.
Elevation: +3.0324 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.

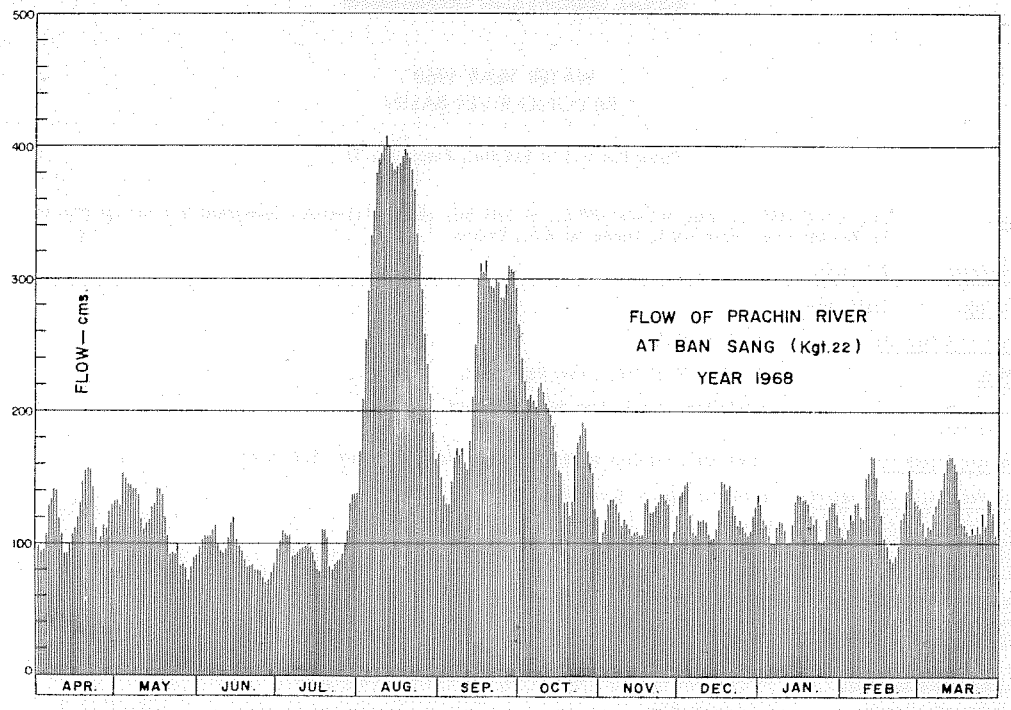
Overbank Flow Conditions: No overbank flow.

General Description: Record fair except those for periods of tidal effect which are poor. Stage-discharge relationship used to defined by discharge measurements made during 1967. No upstream state diversions for irrigation except those built by local residents. No adjustment made for virgin flow.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	-0.05	0.22	-0.08	-0.04	0.50	0.38	1.07	-0.05	0.25	0.21	0.00	0.17
2	-0.10	.13	-0.02	-0.01	.75	.24	0.95	+0.03	.27	.13	.00	.10
3	-0.11	.37	+0.01	+0.04	1.00	.20	.82	.12	.31	.07	.05	-0.01
4	-0.04	.34	.00	.01	.26	.18	.75	.20	.32	.02	.14	+0.07
5	+0.22	.31	.01	.02	.62	.30	.79	.23	.17	-0.04	.10	.04
6	0.22	0.31	0.04	-0.12	1.60	0.45	0.75	0.23	0.05	-0.07	0.20	0.14
7	.28	.28	.07	.12	.77	.50	.70	.19	-0.01	+0.07	.21	.19
8	.27	.29	-0.02	.09	.83	.45	.82	.14	+0.10	.10	.12	.24
9	.09	.25	-0.08	.08	.86	.50	.84	.06	.09	.09	.12	.29
10	.01	.10	-0.10	.07	.88	.43	.79	.10	.11	.03	.34	.36
11	-0.10	0.04	-0.11	-0.06	1.92	0.37	0.73	0.08	0.10	-0.04	0.37	0.44
12	-0.11	.08	+0.00	.02	.88	.52	.71	.06	.06	-0.06	.46	.45
13	-0.05	.10	0.09	.05	.81	.76	.66	.00	-0.01	+0.05	.46	.46
14	+0.02	.19	.12	.08	.78	1.06	.60	.03	.01	.22	.31	.43
15	.06	.20	.00	.16	.80	.32	.47	.04	+0.03	.25	.23	.39
16	0.12	0.29	-0.04	-0.23	1.81	1.40	0.37	0.02	0.15	0.24	0.10	0.20
17	.20	.29	.08	.23	.85	.34	.37	.02	.33	.22	-0.02	.08
18	.32	.24	.12	+0.06	.87	.41	.20	.20	.32	.23	.07	.08
19	.39	.09	.20	.04	.85	.32	.22	.23	.28	.20	.15	.04
20	.40	-0.01	.19	-0.16	.82	.30	.11	.15	.30	.13	.16	.02
21	0.39	-0.12	-0.17	-0.24	1.74	1.29	0.18	0.15	0.20	0.08	-0.11	0.06
22	.24	.09	.22	.20	.69	.33	.47	.19	.14	0.11	-0.05	.02
23	.02	.11	.21	.15	.49	.31	.53	.22	.06	-0.02	+0.11	.07
24	-0.05	.03	.22	.16	.43	.24	.57	.26	.11	.02	.14	.00
25	-0.01	.19	.25	.11	.24	.25	.64	.26	.08	.03	.27	.14
26	+0.08	-0.17	-0.30	-0.05	1.03	1.31	0.61	0.22	0.04	+0.10	0.39	0.06
27	.03	.20	.30	+0.01	0.86	.39	.44	.19	.02	.19	.33	.23
28	.16	.32	.26	0.19	.77	.37	.42	-0.05	.02	.21	.22	.22
29	.19	.20	.20	.25	.55	.36	.36	.01	.13	.21	-	.12
30	.21	.14	.13	.26	.44	.28	.11	+ 0.13	.17	.13	-	.02
31	-	.11	-	.25	.47	-	.13	-	.25	.05	-	-0.08
Mean	0.08	0.08	-0.12	-0.04	1.33	0.92	0.55	0.12	0.14	0.10	0.15	0.15
Max.	0.40	0.37	0.12	0.26	1.92	1.41	1.07	0.26	0.33	0.25	0.46	0.46
Min.	-0.11	-0.32	-0.30	-0.24	0.44	0.18	0.11	-0.05	-0.01	-0.07	-0.16	-0.08

WATER YEAR 1968 : Max. 1.92 m. Min. -0.01 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	101	133	96	100	172	155	257	99	137	132	105	127
2	93	121	102	104	208	136	238	109	140	121	105	118
3	94	154	106	110	246	131	219	120	145	114	111	104
4	100	150	105	106	288	128	208	131	147	107	123	114
5	129	145	106	107	333	144	214	134	127	100	118	110
6	133	145	110	91	348	165	208	134	111	97	131	123
7	141	141	114	91	380	172	201	129	104	114	132	129
8	140	142	102	94	391	165	219	123	118	118	120	136
9	117	137	96	96	396	172	222	112	117	117	120	142
10	106	118	93	97	400	162	214	118	119	109	150	152
11	93	110	92	98	408	154	205	115	118	100	154	163
12	92	115	105	102	400	175	202	112	112	98	166	165
13	99	118	117	99	387	210	195	105	104	111	166	166
14	107	128	120	96	381	256	186	109	104	133	145	162
15	112	131	105	87	385	298	168	110	109	37	134	156
16	120	142	100	79	387	312	154	107	124	136	118	131
17	131	142	96	80	394	302	154	107	148	133	102	115
18	147	136	91	112	398	314	131	131	147	134	97	115
19	156	117	82	110	394	298	133	134	141	131	88	110
20	158	104	83	87	389	295	119	124	144	121	87	107
21	156	91	85	78	374	293	128	124	131	115	92	112
22	136	94	80	82	365	300	168	129	123	119	99	107
23	107	92	81	88	328	297	176	133	112	102	119	114
24	99	101	80	87	317	285	182	138	119	102	123	105
25	104	83	77	92	285	286	192	138	115	101	140	123
26	115	85	71	99	251	297	137	133	110	118	156	112
27	109	82	71	106	225	310	163	129	107	129	148	134
28	125	69	76	129	211	307	161	99	107	132	133	133
29	129	82	82	137	179	305	152	104	121	132	–	120
30	132	89	90	138	163	291	119	121	127	121	–	107
31	–	92	–	137	168	–	121	–	137	111	–	96
Total	3,581	3,505	2,814	3,119	9,951	7,115	5,596	3,611	3,825	3,645	3,482	3,908
Mean	119	113	93.8	101	321	237	180	120	123	117	124	122
Max.	158	154	120	138	408	314	257	138	148	137	166	166
Min.	92	69	71	778	163	128	119	99	104	97	87	96
Runoff – mcm.	309.398	302.832	243.130	269.482	859.766	614.736	483.494	311.990	330.480	314.928	300.845	337.651

WATER YEAR 1968 : Max. 408 Min. 69 Mean 148 Annual Runoff 4,678.733 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Aug. 11, 68	15.00	1.93	409				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
RAYONG RIVER BASIN

Khlong Dok Krai at Ban Khai, Rayong (Z. 3)

Location: Lat. 12°-53'-35" N., Long. 101°-15'-29" E., on left bank about 3 kilometers downstream from Ban Dok Krai at Ban Mae Nam Khu, Tambon Tasit, Amphoe Ban Khai, Rayong.

Drainage Area: 291 sq.km.

Type of Gage: Staff gage

Zero Gage at Bottom at: +25.594 m. (M.S.L.)

Bench Mark: B.M. No. 1577 of Army Survey Department.

Location: on left bank at rain tree near staff gage.
Elevation: –

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: 1967-72

Rating Operation:

Period of Rating: 1967-72
Rated by Float: –
Rated by Current Meter: 1967-72

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

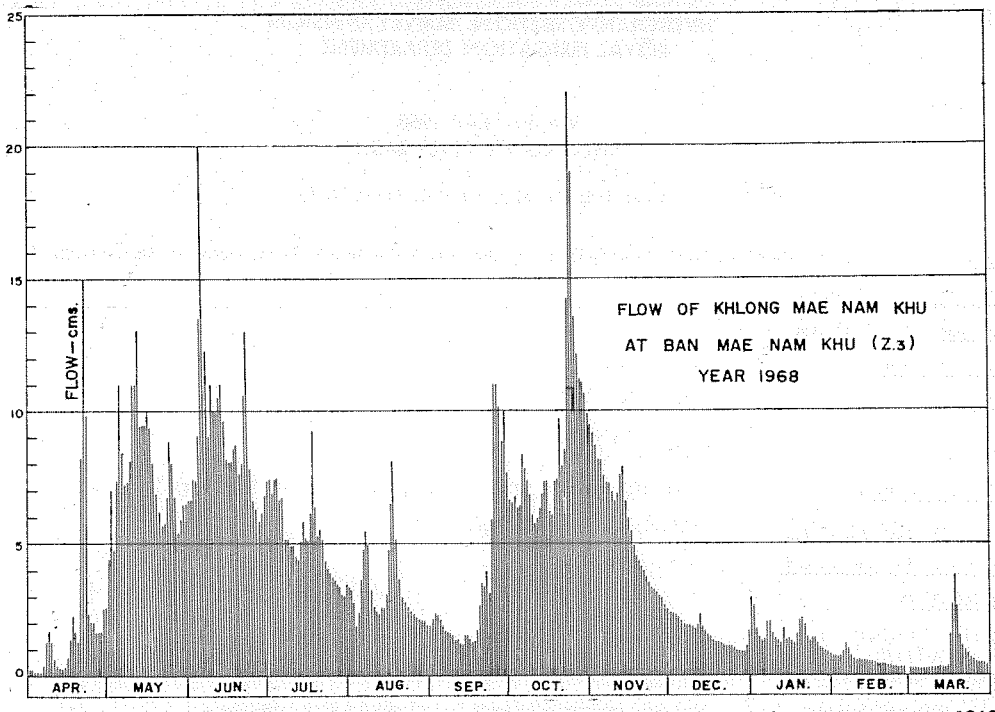
Overbank Flow Conditions: No overbank flow.

General Description: Records fair. Stage-discharge relationship used is defined by discharge measurements made during 1968. No upstream stage diversions for irrigation except those built by local residents. No adjustment made for virgin flow.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	25.76	26.69	27.09	27.27	26.55	26.25	27.14	27.48	26.37	26.48	25.95	25.79
2	.76	27.20	.26	.14	.46	.33	.13	.44	.36	.37	.94	.79
3	.72	26.74	.16	.25	.27	.37	.17	.39	.35	.17	.94	.79
4	.72	27.00	.51	.27	.46	.32	.09	.35	.32	.12	.95	.78
5	.72	.68	28.24	.14	.56	.26	.13	.34	.29	.09	26.02	.78
6	25.74	27.39	27.96	27.16	26.85	26.21	27.37	27.28	26.26	26.12	26.08	25.78
7	26.09	.22	.53	26.93	.97	.19	.29	.24	.25	.27	.01	.79
8	.22	.25	.38	.92	.75	.17	.24	.24	.24	.28	25.95	.79
9	.10	.22	.65	.89	.48	.14	.09	.16	.24	.15	.92	.79
10	25.93	.64	.56	.88	.42	.11	.03	.13	.21	.13	.91	.79
11	25.86	27.63	27.54	26.80	26.37	26.11	27.01	27.17	26.24	26.10	25.90	25.79
12	.81	.80	.68	.73	.36	.07	.09	.28	.35	.07	.89	.80
13	.79	.48	.55	.84	.42	.07	.17	.32	.23	.22	.89	.79
14	.77	.49	.44	27.04	.57	.16	.25	.10	.18	.12	.88	.78
15	.88	.49	.33	26.91	.57	.15	.25	.05	.16	.13	.87	.78
16	25.99	27.56	27.34	26.92	26.97	26.09	27.07	27.00	26.13	26.09	25.87	26.17
17	26.25	.46	.34	27.13	27.34	.09	.03	26.89	.11	.06	.86	.43
18	.33	.28	.42	.47	26.92	.12	.24	.82	.10	.17	.85	.65
19	25.93	.23	.35	26.95	.79	.37	.25	.77	.09	.28	.85	.22
20	26.43	.10	.27	.95	.58	.60	.52	.72	.07	.32	.85	.09
21	27.84	27.62	27.34	26.98	26.49	26.54	27.30	26.68	26.07	26.26	25.84	26.02
22	.97	26.98	.77	.79	.46	.69	.36	.63	.05	.12	.83	25.98
23	26.37	27.05	.56	.73	.42	.32	.70	.59	.05	.09	.82	.93
24	.28	.43	.24	.69	.39	.91	28.35	.56	.05	.13	.81	.90
25	.29	.28	.14	.65	.36	27.66	.15	.55	.03	.13	.81	.88
26	26.18	27.17	27.10	26.62	26.33	27.61	27.84	26.52	26.01	26.07	25.80	25.83
27	.18	26.96	.02	.59	.31	.51	.73	.49	.00	.05	.80	.86
28	.19	.98	.05	.57	.29	.37	.65	.47	.00	.02	.80	.84
29	.42	27.13	.14	.51	.29	.58	.61	.42	.00	.00	–	.83
30	.25	.08	.25	.50	.26	.21	.59	.40	.05	25.98	–	.82
31	–	.15	–	.50	.23	–	.53	–	.23	.97	–	.81
Mean	26.16	27.25	27.41	26.90	26.53	26.52	27.37	26.95	26.16	26.16	25.89	25.90
Max.	27.97	27.80	28.24	27.47	27.34	27.66	28.35	27.48	26.37	26.48	26.08	26.65
Min.	25.72	26.69	27.02	26.50	26.23	26.07	27.01	26.40	26.00	25.97	25.89	25.78

WATER YEAR 1968 : Max. 28.24 m. Min. 25.72 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.22	3.95	6.23	7.49	3.25	1.90	6.58	9.32	2.38	2.90	0.75	0.28
2	0.22	7.00	7.42	6.58	2.80	2.22	6.51	8.96	2.34	2.38	0.72	0.28
3	0.14	4.20	6.72	7.35	1.98	2.38	6.79	8.51	2.30	1.58	0.72	0.28
4	0.14	5.60	9.60	7.49	2.80	2.18	6.23	8.15	2.18	1.38	0.75	0.26
5	0.14	11	20	6.58	3.30	1.94	6.51	8.06	2.06	1.26	0.98	0.26
6	0.18	8.51	15	6.72	4.75	1.74	8.33	7.56	1.94	1.38	1.22	0.26
7	1.26	7.14	9.80	5.18	5.42	1.66	7.63	7.28	1.90	1.98	0.94	0.28
8	1.78	7.35	8.42	5.12	4.25	1.58	7.28	7.28	1.86	2.02	0.75	0.28
9	1.30	7.14	11	4.95	2.90	1.46	6.23	6.72	1.86	1.50	0.60	0.28
10	0.69	11	10	4.90	2.60	1.34	5.81	6.51	1.74	1.42	0.63	0.28
11	0.48	11	9.90	4.50	2.38	1.34	5.67	6.79	1.86	1.30	0.60	0.28
12	0.33	13	11	4.15	2.34	1.18	6.23	7.56	2.30	1.18	0.57	0.30
13	0.28	9.32	10	4.70	2.60	1.18	6.79	7.88	1.82	1.78	0.57	0.28
14	0.24	9.41	8.96	5.88	3.35	1.54	7.35	6.30	1.62	1.38	0.54	0.26
15	0.54	9.41	7.97	5.06	3.35	1.50	7.35	5.95	1.54	1.42	0.51	0.26
16	0.87	10	8.06	5.12	5.42	1.26	6.09	5.60	1.42	1.26	0.51	1.58
17	1.90	9.14	8.06	6.51	8.06	1.26	5.81	4.95	1.34	1.14	0.48	2.65
18	2.22	7.56	8.78	9.23	5.12	1.38	7.28	4.60	1.30	1.58	0.45	3.75
19	0.69	7.21	8.15	5.30	4.45	2.38	7.35	4.35	1.26	2.02	0.45	1.78
20	2.65	6.30	7.49	5.30	3.40	3.50	9.70	4.10	1.18	2.18	0.45	1.26
21	13	5.74	8.06	5.48	2.95	3.20	7.70	3.90	1.18	1.94	0.42	0.98
22	15	5.48	13	4.45	2.80	3.95	8.24	3.65	1.10	1.38	0.39	0.84
23	2.38	5.95	10	4.15	2.60	2.18	12	3.45	1.10	1.26	0.36	0.69
24	2.02	8.87	7.28	3.95	2.46	5.06	22	3.30	1.10	1.42	0.33	0.60
25	2.06	7.56	6.58	3.75	2.34	11	18	3.25	1.02	1.42	0.33	0.54
26	1.62	6.79	6.30	3.60	2.22	11	13	3.10	0.94	1.18	0.30	0.39
27	1.62	5.36	5.74	3.45	2.14	9.60	12	2.95	0.90	1.10	0.30	0.48
28	1.66	5.48	5.95	3.35	2.06	8.33	11	2.85	0.90	0.98	0.30	0.42
29	2.60	6.51	6.58	3.05	2.06	10	11	2.60	0.90	0.90	–	0.39
30	1.90	6.16	7.35	3.00	1.94	7.07	10	2.50	1.10	0.84	–	0.36
31	–	6.65	–	3.45	1.82	–	9.80	–	1.90	0.81	–	0.33
Total	60.13	235.79	269.40	159.79	99.91	106.31	272.26	167.98	48.34	46.27	15.92	21.16
Mean	2.00	7.61	8.98	5.15	3.22	3.54	8.78	5.60	1.56	1.40	0.57	0.68
Max.	15	13	20	9.23	8.06	11	22	9.32	2.38	2.90	1.22	3.75
Min.	0.14	3.95	5.74	3.00	1.82	1.18	5.67	2.50	0.90	0.81	0.30	0.26
Runoff - MCM.	5.195	20.372	23.276	13.806	8.632	9.185	23.523	14.513	4.176	3.998	1.375	1.828

WATER YEAR 1968 : Max. 22 Min. 0.14 Mean 4.12 Annual Runoff 129.882 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Oct. 24	09.00	28.36	22				

HYDROLOGY SECTION, SURVEY DIVISION
RŌYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
KHLONG YAI RIVER BASIN

Khlong Nong Pla Lai at Ban Khai, Rayong (Z. 4)

Location: Lat. 12°-54'-40" N., Long. 101°-17'-37" E., on left bank at Ban Nong Ma Pring, 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 staff 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 to date
Rated by Float: –
Rated by Current Meter: 1967 to date

Stability of Channel Regimes: Unstable, shifting adjustment is included for flow computation.

Overbank Flow Conditions: Overbank flow but not observed.

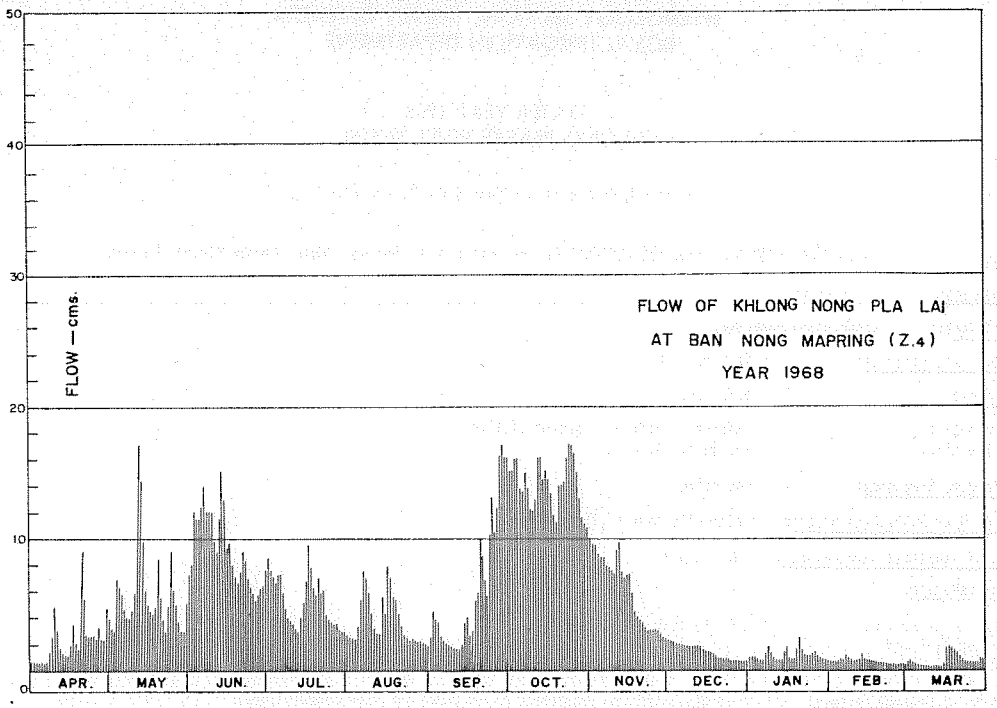
General Description: Records fair, stage-discharge relationship used is defined by discharge measurements made during 1968. No upstream state diversions for irrigation except those built by local residents. No adjustment made for virgin flow.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1968 TO MARCH 31,

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.27	0.95	1.77	1.87	0.85	0.76	2.69	2.05	0.85	0.55	0.40	0.19
2	.27	.83	2.06	.73	.86	1.19	.66	.02	.81	.57	.43	.38
3	.26	.86	.48	.66	.84	.09	.73	1.99	.78	.55	.43	.28
4	.24	1.54	.40	.58	.89	.06	.72	.91	.78	.53	.48	.22
5	.26	.40	.50	.71	1.41	0.83	.58	.89	.78	.45	.54	.19
6	0.25	1.40	2.69	1.68	1.55	0.79	2.48	1.79	0.77	0.47	0.52	0.18
7	.28	.18	.53	.34	.72	.72	.67	.73	.73	.62	.43	.16
8	.48	.11	.47	.18	.60	.69	.60	.70	.72	.76	.38	.15
9	.70	.20	.45	.14	.27	.65	.38	.65	.72	.65	.34	.14
10	1.21	.31	.21	.14	.06	.62	.30	.59	.72	.55	.32	.14
11	0.75	1.56	1.87	1.06	0.96	0.59	2.31	1.88	0.73	0.49	0.32	0.12
12	.51	2.18	2.39	.00	.91	.58	.73	.97	.76	.46	.31	.10
13	.49	.66	.67	.05	.95	.67	.73	.64	.71	.48	.48	.10
14	.41	1.79	.45	.41	1.14	1.05	.59	.59	.67	.65	.35	.10
15	.40	.24	1.98	.41	.14	.12	.63	.63	.64	.75	.32	.19
16	0.61	1.31	2.08	2.05	1.73	0.85	2.56	1.64	0.62	0.53	0.30	0.60
17	.96	.21	1.85	1.93	.50	.85	.42	.36	.60	.52	.30	.71
18	.69	.19	.68	.60	.32	1.30	.19	.28	.59	.51	.28	.69
19	.52	.33	.61	.44	.36	.40	.19	.22	.58	.66	.27	.67
20	.70	.84	.62	.72	.13	.98	.51	.16	.58	.92	.26	.51
21	1.83	1.27	1.93	1.46	1.00	1.75	2.51	1.15	0.57	0.64	0.24	0.41
22	0.80	.02	.88	.52	0.92	.41	.53	.09	055	.54	.22	.36
23	.75	.02	.67	.17	.87	.31	.73	.01	.55	.54	.22	.31
24	.77	.62	.57	.13	.83	2.31	.82	.00	.53	.55	.21	.28
25	.79	2.00	.48	.11	.81	.06	.84	.00	.51	.56	.20	.29
26	0.73	1.34	1.35	1.05	0.77	2.09	2.72	1.00	0.49	0.64	0.20	0.29
27	.90	.41	.48	.06	.75	.68	.50	0.99	.47	.53	.20	.28
28	.71	.08	.55	0.97	.76	.76	.35	.92	.45	.49	.19	.28
29	.72	.04	.57	.94	.72	.72	.25	.90	.45	.45		.38
30	1.18	.07	.76	.93	.70	.67	.19	.88	.45	.43		.36
31		.49		.92	.68		.11		.44	.39		.32
Mean	0.65	1.37	2.00	1.35	1.06	1.35	2.52	1.45	0.63	0.56	0.33	0.30
Max.	1.83	2.66	2.69	2.05	1.73	2.76	2.84	2.05	0.85	0.92	0.54	0.71
Min.	0.24	0.83	1.35	0.92	0.68	0.58	2.11	0.88	0.44	0.39	0.19	0.10

WATER YEAR 1968 : Max. 2.11 m. Min. 0.10 m.

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.62	3.42	7.89	8.62	2.42	2.20	15	9.68	2.29	0.97	0.70	0.43
2	0.62	2.80	8.55	7.61	2.47	4.43	15	9.45	2.12	1.04	0.79	0.94
3	0.60	2.95	12	7.12	2.38	3.86	16	9.22	2.00	0.97	0.58	0.65
4	0.55	6.98	11	6.57	2.60	3.70	16	8.62	2.00	0.91	0.70	0.50
5	0.60	6.05	12	7.47	5.51	2.51	14	8.47	2.00	0.67	0.88	0.43
6	0.57	5.45	14	7.26	6.37	2.33	13	8.40	1.96	0.73	0.82	0.40
7	0.65	4.14	12	5.09	7.54	2.04	15	7.96	1.80	1.24	1.12	0.36
8	1.32	3.75	12	4.14	6.70	1.92	14	7.75	1.76	1.80	0.94	0.34
9	2.20	4.25	12	3.92	4.67	1.76	12	7.40	1.76	1.36	0.82	0.31
10	4.91	4.91	9.68	3.64	3.48	1.64	12	6.98	1.76	0.97	0.76	0.31
11	2.42	6.44	8.17	3.20	2.95	1.52	12	9.07	1.80	0.79	0.76	0.27
12	1.44	11	12	2.90	2.70	1.48	16	9.77	1.92	0.70	0.73	0.22
13	1.36	15	15	3.15	2.90	1.84	16	7.33	1.72	0.76	1.32	0.22
14	1.04	8.03	13	5.21	5.51	3.64	14	6.93	1.56	1.36	0.85	0.22
15	1.00	4.49	9.00	5.21	3.92	4.03	15	7.26	1.44	1.76	0.76	0.43
16	1.84	4.91	9.77	9.60	7.89	2.60	14	7.33	1.36	0.91	0.70	1.80
17	3.48	4.31	8.47	8.70	6.31	2.60	13	5.51	1.28	0.88	0.70	1.84
18	2.16	4.19	7.26	6.37	5.21	5.21	11	4.37	1.24	0.85	0.65	1.76
19	1.48	5.03	6.77	5.39	5.45	5.81	11	4.03	1.20	1.40	0.63	1.68
20	2.20	8.40	6.84	7.19	3.75	9.04	14	3.70	0.94	2.47	0.60	1.44
21	9.07	4.67	9.07	5.81	3.05	8.17	14	3.64	0.91	1.56	0.55	1.04
22	2.65	3.26	8.70	6.18	2.65	5.87	14	3.31	0.85	1.16	0.50	0.88
23	2.42	2.75	7.19	4.08	2.42	5.27	16	2.90	0.85	1.16	0.50	0.73
24	2.51	6.18	6.50	3.86	2.24	13	17	3.00	0.79	1.20	0.48	0.65
25	2.60	8.85	5.93	3.75	2.42	10	17	3.00	0.73	1.24	0.45	0.68
26	2.33	4.49	5.15	3.42	2.24	11	16	3.00	0.79	1.56	0.45	0.68
27	3.15	4.91	5.93	3.48	2.16	16	14					
28	2.24	3.05	6.37	3.00	2.22	17	12	2.60	0.67	0.97	0.43	0.67
29	2.29	2.85	6.50	2.85	2.04	16	11	2.51	0.67	0.85		0.94
30	4.73	3.00	7.82	2.80	1.96	16	11	2.42	0.67	0.79		0.88
31		5.99		2.75	1.88		10		0.65	0.67		0.76
Total	65.05	166.50	276.56	160.34	116.01	183.37	430	178.61	42.22	34.82	19.62	23.13
Mean	2.17	5.37	9.22	5.17	3.74	6.11	13.9	5.95	1.36	1.12	0.70	0.75
Max.	9.07	15	15	9.60	7.89	17	17	9.68	2.29	2.47	1.32	1.84
Min.	0.55	2.75	5.15	2.75	1.88	1.48	10	2.42	0.65	0.67	0.43	0.22
Runoff - mcm.	5.620	14.386	23.895	13.853	10.023	15.843	37.152	15.432	3.648	3.008	1.695	1.998

WATER YEAR 1968 : Max. 17 Min. 0.22 Mean 4.65 Annual Runoff 146.554 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Oct. 25	06.00	2.87	18				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
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 at 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 office of gaging station.
Elevation: +7.595 m. (A.D.)

Gage Reading Frequency: Recording

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

Period of Available Gage Records: 1967 to date

Rating Operation:

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

Stability of Channel Regimes: Unstable, shifting adjustment is included for flow computation.

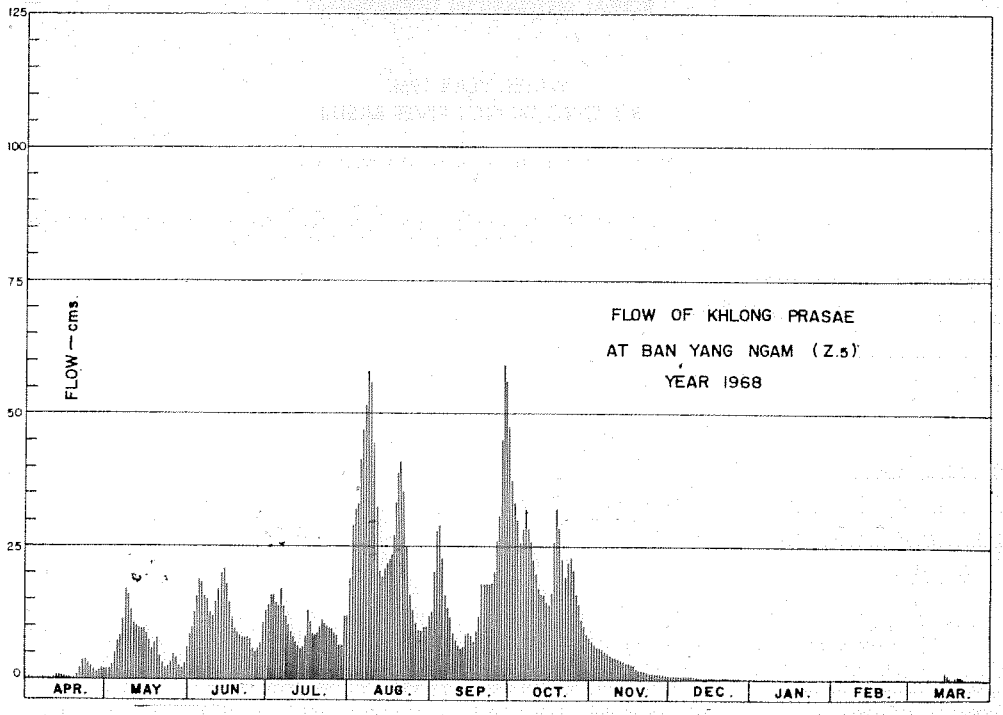
Overbank Flow Conditions: No overbank flow.

General Description: Records fair. Stage-discharge relationship used is defined by discharge measurements made during 1968. No upstream state diversions for irrigation except those built by local residents. No adjustment made for virgin flow.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.68	1.16	2.35	2.88	2.90	2.59	4.72	1.97	0.99	0.72	0.68	0.64
2	.66	.20	.50	3.07	4.01	3.33	.32	.89	1.00	.71	.72	.64
3	.65	.41	.89	.08	.37	.85	.12	.86	0.98	.71	.75	.63
4	.61	.80	3.24	2.91	.51	.89	3.93	.83	.96	.70	.71	.62
5	.60	2.11	.40	.91	.98	.22	.64	.78	.95	.70	.71	.62
6	0.63	2.29	3.28	3.16	5.28	2.87	3.89	1.71	0.93	0.73	0.72	0.62
7	.65	.26	.06	2.91	.55	.68	4.10	.66	.92	.73	.73	.62
8	.66	3.12	.00	.71	.83	.45	3.69	.63	.91	.73	.73	.62
9	.64	.03	2.74	.56	.71	.22	.72	.58	.90	.72	.72	.61
10	.66	2.65	.70	.40	.15	.05	.41	.57	.89	.71	.72	.61
11	0.88	2.51	2.96	2.29	4.18	1.94	3.17	1.55	0.88	0.70	0.72	0.61
12	.89	.57	3.13	.15	3.56	.88	2.95	.51	.87	.70	.72	.60
13	.86	.50	.40	.08	.48	.94	.94	.48	.86	.70	.71	.63
14	.82	.50	.46	.10	.58	2.23	.92	.45	.85	.70	.70	1.04
15	.80	.48	.21	.26	.54	.24	.75	.42	.84	.70	.70	0.85
16	0.77	2.30	2.90	2.81	3.60	2.20	2.77	1.37	0.83	0.70	0.70	0.74
17	.76	.15	.65	.62	4.05	.01	3.05	.34	.82	.70	.70	.70
18	.76	.02	.42	.37	.39	.25	.72	.31	.81	.69	.70	.85
19	.78	.20	.30	.37	.69	.59	4.06	.26	.80	.68	.69	.88
20	1.04	.27	.23	.37	.80	3.13	3.59	.23	.80	.68	.68	.75
21	1.28	1.76	2.19	2.55	4.46	3.12	3.27	1.20	0.78	0.68	0.67	0.70
22	.60	.64	.19	.55	3.75	.08	.15	.16	.77	.68	.66	.68
23	.40	.47	.20	.44	.20	.09	.40	.13	.77	.68	.66	.67
24	.37	.54	.18	.42	2.88	.11	.45	.10	.76	.69	.65	.65
25	.29	.67	1.90	.39	.67	.23	.21	.08	.76	.70	.65	.64
26	1.32	1.89	1.88	2.32	2.51	3.88	2.90	1.05	0.76	0.69	0.65	0.65
27	.24	.81	1.99	.25	.38	4.03	.69	.04	.76	.68	.64	.65
28	.18	.61	2.14	.09	.36	5.01	.45	.01	.74	.68	.64	.64
29	.24	.49	.56	.06	.47	.58	.27	.00	.72	.68	-	.63
30	.19	.49	.80	.67	.44	.37	.14	0.98	.72	.68	-	.63
31	-	.98	-	.65	.59	-	.05	-	.72	.68	-	.62
Mean	0.93	2.03	2.05	2.53	3.86	3.04	3.30	1.41	0.84	0.70	0.69	0.68
Max.	1.50	3.12	3.46	3.16	5.83	5.58	4.72	1.97	1.00	0.73	0.75	1.04
Min.	0.60	1.16	1.88	2.06	2.36	1.88	2.05	0.98	0.72	0.68	0.64	0.60

WATER YEAR 1968 : Max. 5.83 m. Min. 0.60 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.18	1.84	8.20	14	15	12	42	7.00	0.96	0.20	0.20	0.14
2	0.16	2.00	9.55	16	29	21	35	6.36	1.00	0.19	0.32	0.14
3	0.15	2.86	13	16	32	28	32	6.12	0.92	0.19	0.41	0.13
4	0.11	5.10	17	14	34	29	29	5.88	0.84	0.18	0.29	0.12
5	0.10	7.08	19	14	42	20	25	5.52	0.80	0.18	0.29	0.12
6	0.13	8.12	18	17	47	15	29	5.03	0.74	0.29	0.32	0.12
7	0.15	12	15	14	52	13	32	4.68	0.71	0.29	0.35	0.12
8	0.16	17	15	12	58	11	26	4.47	0.68	0.29	0.35	0.12
9	0.14	16	12	10	56	8.65	26	4.12	0.65	0.26	0.32	0.11
10	0.16	12	12	8.56	45	7.24	22	4.05	0.62	0.23	0.32	0.11
11	0.74	10	15	7.64	29	6.36	19	3.91	0.59	0.16	0.32	0.11
12	0.77	10	17	6.52	20	5.88	16	3.62	0.56	0.16	0.32	0.10
13	0.68	9.55	20	5.96	19	6.36	16	3.46	0.53	0.16	0.29	0.13
14	0.56	9.55	21	6.12	21	8.74	16	3.28	0.50	0.16	0.26	1.36
15	0.50	9.37	18	7.40	22	8.83	14	3.10	0.47	0.16	0.26	0.65
16	0.41	7.80	15	13	23	8.47	14	2.80	0.44	0.16	0.26	0.32
17	0.38	6.60	12	11	29	6.92	17	2.62	0.41	0.16	0.26	0.20
18	0.38	5.59	9.64	8.29	34	8.92	27	2.15	0.38	0.23	0.26	0.65
19	0.44	7.00	8.92	8.29	39	12	32	1.92	0.35	0.20	0.23	0.74
20	1.36	7.56	8.29	9.19	41	18	25	1.80	0.35	0.20	0.20	0.35
21	2.40	3.77	7.96	11	35	18	21	1.68	0.29	0.20	0.19	0.20
22	3.70	3.04	7.96	11	25	18	19	1.52	0.35	0.20	0.18	0.18
23	3.34	2.10	8.04	9.82	18	18	22	1.40	0.35	0.20	0.18	0.17
24	2.92	2.45	7.32	9.64	14	18	23	1.28	0.32	0.23	0.17	0.15
25	2.45	3.22	5.17	9.37	12	20	20	1.20	0.32	0.26	0.14	0.14
26	2.62	4.68	5.03	8.74	10	28	16	1.08	0.32	0.23	0.14	0.15
27	2.20	4.12	5.80	8.12	9.10	31	14	1.16	0.32	0.20	0.13	0.15
28	1.92	2.86	7.00	6.64	9.19	47	11	1.04	0.26	0.20	0.13	0.14
29	2.20	2.20	11	6.60	10	59	9.55	1.00	0.20	0.20	–	0.13
30	1.96	2.20	13	12	10	54	8.38	0.92	0.20	0.20	–	0.13
31	–	5.31	–	12	12	–	7.64	–	0.20	0.20	–	0.12
Total	33.37	202.97	361.88	323.90	851.29	566.37	665.57	94.17	15.63	6.37	7.09	7.50
Mean	1.11	6.54	12.6	10.4	27.5	18.9	21.5	3.14	0.504	0.205	0.253	0.242
Max.	3.70	17	21	17	58	59	42	7.00	1.00	0.29	0.41	1.36
Min.	0.10	1.84	5.03	5.96	9.10	5.88	7.64	0.92	0.20	0.16	0.13	0.10
Runoff – MCM.	2.883	17.537	31.267	27.985	73.552	48.934	57.505	8.136	1.350	0.550	0.613	0.648

WATER YEAR 1968 : Max. 59 Min. 0.10 Mean 8.59 Annual Runoff 270.960 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Sept. 29	13.00	9.63	59				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
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, 9 kilometers from the entrance of Nikhom Dong Thap, and 14 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: 0.00 m. (A.D.)

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

Location: on right bank along measuring line.
Elevation: +8.953 m. (A.D.)

Gage Reading Frequency: Recording

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

Period of Available Gage Records: 1965 to date

Rating Operation:

Period of Rating: 1965 to date
Rated by Float: -
Rated by Current Meter: 1965 to date

Stability of Channel Regimes: Unstable, shifting adjustment is included for flow computation.

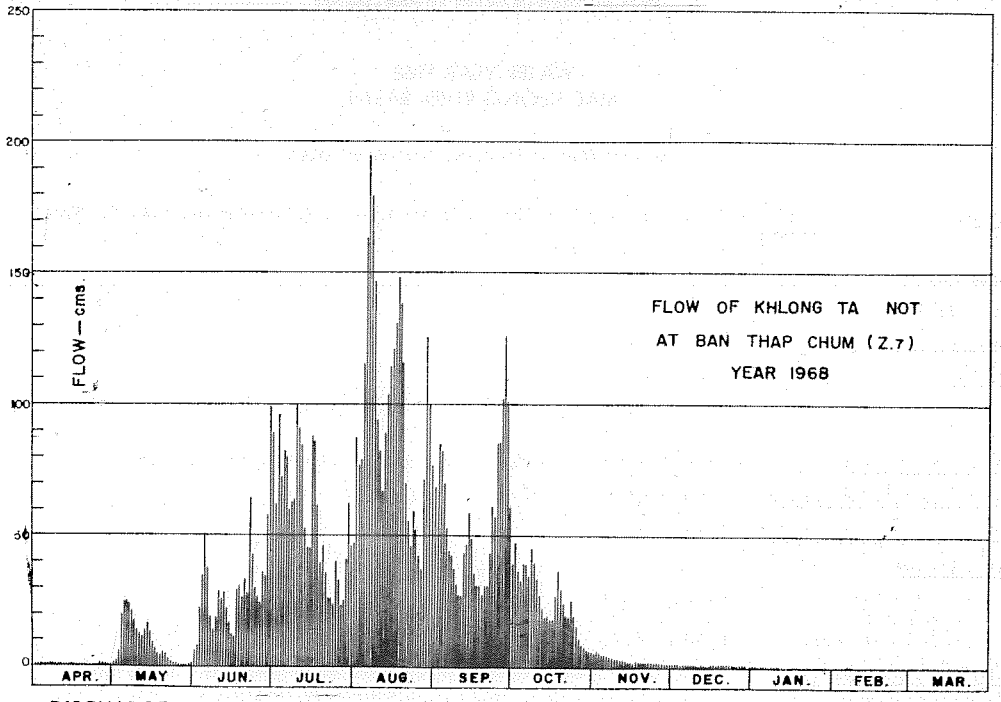
Overbank Flow Conditions: No overbank flow.

General Description: Records good. Stage-discharge relationship used is defined by discharge measurements made during 1968. No upstream state diversions for irrigation except those built by local residents. No adjustment made for virgin flow.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	2.67	3.04	3.78	7.15	5.78	6.14	5.33	3.62	2.92	2.71	2.68	2.61
2	.57	.21	.93	6.22	6.99	.88	.75	.59	.92	.72	.75	.61
3	.66	.53	4.91	7.40	.63	.92	.30	.49	.93	.71	.77	.60
4	.66	4.61	5.41	6.63	.82	.82	.12	.47	.90	.70	.73	.59
5	.67	.88	.93	7.01	8.12	.17	.45	.41	.86	.70	.77	.60
6	2.72	4.87	5.17	6.94	8.98	5.62	5.42	3.37	2.85	2.70	3.04	2.60
7	.83	.83	4.49	.31	9.55	.57	.13	.32	.84	.70	2.87	.60
8	.74	.69	.20	.45	.11	.41	.69	.28	.83	.69	.79	.59
9	.71	.52	.62	.25	8.05	.08	.40	.27	.83	.70	.76	.59
10	.70	.22	5.10	7.51	6.84	4.90	.27	.26	.82	.69	.73	.59
11	2.69	4.14	4.89	7.23	6.83	4.87	4.95	3.30	2.82	2.69	2.72	2.59
12	.69	.05	5.05	.04	.32	5.59	.76	.30	.81	.68	.70	.58
13	.68	.28	4.78	6.18	7.48	.74	.56	.24	.80	.68	.69	.58
14	.70	.47	.31	5.82	.63	6.13	.59	.20	.79	.66	.69	.58
15	.69	.10	.13	.82	.95	5.45	.47	.21	.78	.66	.67	.58
16	2.69	3.95	4.05	7.17	8.09	5.14	4.44	3.18	2.79	2.66	2.67	2.58
17	.68	.73	5.08	.10	.39	.06	.90	.13	.78	.66	.66	.58
18	.67	.48	.15	5.86	.72	.11	5.38	.10	.78	.66	.65	.60
19	.69	.41	4.75	.54	.41	4.90	.01	.08	.78	.74	.65	.61
20	.77	.63	5.18	.71	7.71	5.12	4.87	.05	.78	.73	.65	.61
21	2.73	3.42	4.68	5.10	6.34	5.12	4.58	3.03	2.78	2.70	2.64	2.60
22	.71	.23	6.31	4.86	.00	.68	.54	.01	.78	.69	.64	.61
23	.70	.12	5.65	.83	5.62	6.20	.92	.00	.77	.69	.63	.61
24	.72	.04	4.98	.70	6.12	5.73	.53	2.99	.74	.68	.63	.61
25	.92	.00	5.03	5.45	5.67	6.75	.23	.98	.73	.67	.62	.60
26	3.16	2.96	4.94	5.09	5.39	6.74	4.05	2.97	2.72	2.67	2.62	2.60
27	2.98	.93	5.48	4.73	.23	7.34	3.91	.97	.73	.67	.62	.59
28	.99	.95	.39	.88	6.73	.86	.81	.95	.72	.67	.62	.59
29	3.06	.96	6.43	5.72	7.83	6.95	.75	.93	.72	.67	-	.58
30	2.98	.98	7.49	6.25	.21	5.75	.68	.91	.71	.67	-	.58
31	-	3.03	-	5.70	6.53	-	.64	-	.71	.67	-	.58
Mean	2.76	3.72	5.04	6.08	7.19	5.89	4.76	3.19	2.80	2.69	2.70	2.59
Max.	3.16	4.88	7.49	7.51	9.55	7.86	5.75	3.62	2.93	2.74	3.04	2.61
Min.	2.66	2.93	3.78	4.70	5.23	4.87	3.64	2.91	2.71	2.66	2.62	2.58

WATER YEAR 1968 : Max. 9.55 m. Min. 2.58 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.40	1.20	7.30	87	48	64	36	5.14	0.65	0.20	0.15	0.025
2	0.40	2.28	8.95	57	87	83	47	6.00	0.65	0.22	0.32	0.025
3	0.37	4.87	26	96	75	85	35	5.05	0.67	0.20	0.37	0.000
4	0.37	20	37	69	81	81	31	4.87	0.60	0.17	0.27	0.000
5	0.40	25	51	82	129	60	39	4.36	0.50	0.17	0.37	0.000
6	0.52	25	31	80	167	44	38	4.04	0.47	0.17	1.10	0.000
7	0.80	24	17	59	194	43	33	3.64	0.45	0.17	0.62	0.000
8	0.57	21	13	63	173	39	45	3.32	0.42	0.15	0.42	0.000
9	0.50	18	20	57	126	30	38	3.24	0.42	0.17	0.35	0.000
10	0.47	13	29	100	82	27	33	3.16	0.40	0.15	0.27	0.000
11	0.45	12	25	90	82	26	26	2.68	0.40	0.17	0.25	0.000
12	0.45	11	28	83	64	43	22	2.68	0.37	0.15	0.20	0.000
13	0.42	14	23	55	104	47	18	2.20	0.35	0.15	0.17	0.000
14	0.25	17	15	45	104	59	19	1.92	0.55	0.10	0.17	0.000
15	0.22	11	12	45	116	40	17	1.99	0.52	0.10	0.12	0.000
16	0.22	9.25	11	88	122	32	16	1.78	0.52	0.10	0.12	0.000
17	0.20	6.80	29	85	134	30	25	2.28	0.52	0.10	0.10	0.000
18	0.17	4.44	31	46	148	31	36	2.06	0.52	0.10	0.075	0.050
19	0.22	3.88	24	38	134	27	27	1.92	0.37	0.30	0.12	0.075
20	0.17	5.80	33	46	107	31	24	1.71	0.37	0.27	0.12	0.075
21	0.02	3.96	22	31	66	31	19	1.57	0.37	0.20	0.10	0.050
22	0.00	2.44	64	26	55	45	18	1.45	0.37	0.17	0.10	0.050
23	0.05	1.64	45	25	44	61	25	1.40	0.35	0.17	0.075	0.050
24	0.10	1.20	28	23	59	52	18	1.35	0.27	0.15	0.075	0.050
25	0.60	1.00	26	40	46	85	13	1.30	0.25	0.12	0.050	0.025
26	1.40	0.90	24	31	39	85	9.85	1.25	0.22	0.12	0.050	0.025
27	0.75	0.82	36	23	35	106	8.00	1.25	0.25	0.12	0.050	0.000
28	0.77	0.87	34	26	79	126	7.00	1.15	0.22	0.12	0.050	0.000
29	0.95	0.90	63	46	125	92	6.40	1.05	0.22	0.12	–	0.000
30	9.75	0.95	99	62	101	47	5.70	0.97	0.20	0.12	–	0.000
31	–	1.15	–	46	71	–	5.32	–	0.20	0.12	–	0.000
Total	12.91	265.35	912.25	1,750	3,003	1,652	740.27	76.78	12.64	4.84	6.235	0.500
Mean	0.430	8.56	30.4	56.4	96.9	55.1	23.9	2.56	0.408	0.156	0.222	0.016
Max.	1.40	25	99	100	194	126	47	6.00	0.67	0.30	1.10	0.075
Min.	0.00	0.82	7.30	23	35	26	5.32	0.97	0.20	0.10	0.050	0.000
Runoff - MCM.	1.115	22.926	78.818	151.200	259.459	142.733	63.959	6.634	1.092	0.418	0.539	0.043

WATER YEAR 1968 : Max. 194 Min. 0.000 Mean 23.1 Annual Runoff 728.937 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Aug. 7, 68	09.00	9.59	196				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
MAE KLONG RIVER BASIN

Mae Klong River at Tha Muang, Kanchanaburi (K.4)

Location: Lat. 13°-57'-38" N., Long. 99°-38'-11" E., on left bank at Wat Si Lo Ratchabamrung, Amphoe Tha Muang, Kanchanaburi.

Drainage Area: 26,441 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: at the foot of tamarind tree infront of Amphoe Tha Muang office.
Elevation: +23.781 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: 1939-56, 1962-69

Rating Operation:

Period of Rating: 1943-47, 1962-65
Rated by Float: -
Rated by Current Meter: 1943-47, 1962-65

Stability of Channel Regimes: Stable, no shifting adjustment for flow computation for year without actual ratings.

Overbank Flow Conditions: No overbank flow.

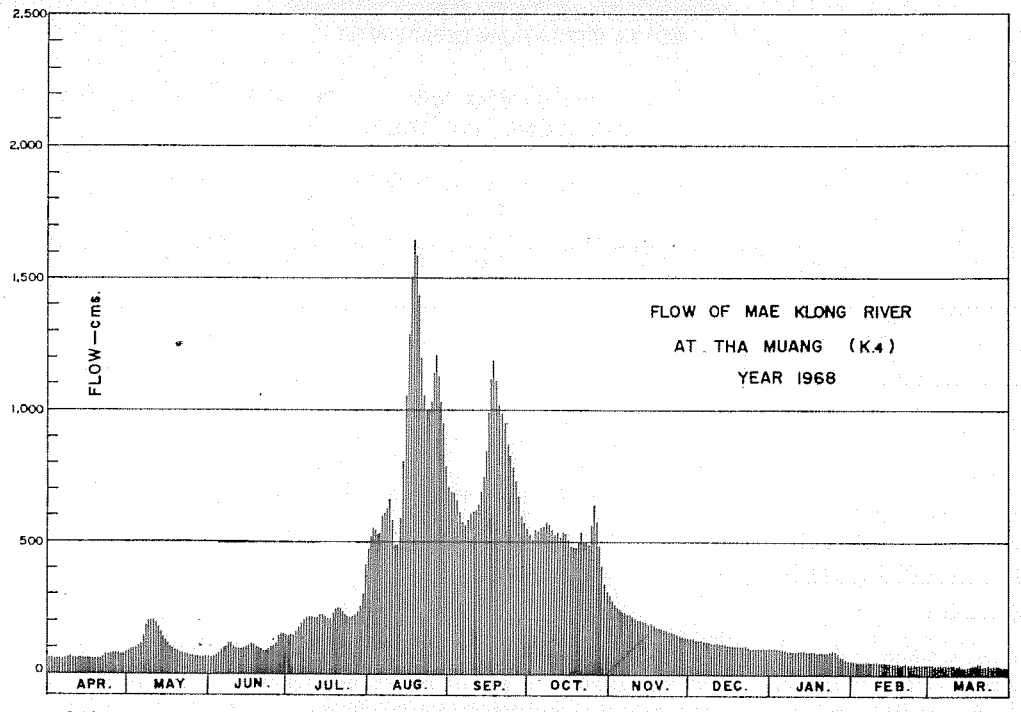
General Description: Records fair. Stage-discharge relationship used is defined by discharge measurements made during 1962-65. Upstream state diversions for irrigation of about 2,960 hectares. No adjustment made for virgin flow.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	12.73	13.03	12.75	13.46	15.40	16.14	15.53	14.36	13.43	13.06	12.64	12.46
2	.73	.05	.75	.50	.60	.15	.41	.24	.39	.06	.63	.45
3	.73	.10	.81	.46	.55	.05	.57	.19	.38	.05	.63	.44
4	.73	.12	.89	.53	.44	15.87	.52	.16	.36	.05	.62	.43
5	.73	.21	.99	.66	.58	.68	.61	.09	.34	.04	.61	.42
6	12.73	13.28	13.08	13.75	15.88	15.60	15.61	14.04	13.32	13.04	12.60	12.42
7	.72	.56	.17	.88	.84	.71	.70	.01	.31	.03	.59	.41
8	.79	.86	.28	.91	.66	.81	.65	13.99	.30	.02	.58	.41
9	.76	.84	.31	.95	.51	.88	.59	.96	.29	.03	.57	.40
10	.73	.92	.19	.96	.37	.84	.47	.90	.28	.03	.57	.40
11	12.72	13.81	13.09	13.93	15.34	15.92	15.54	13.86	13.27	13.02	12.57	12.39
12	.73	.73	.05	.94	.35	16.10	.43	.84	.26	.03	.56	.39
13	.71	.61	.07	14.02	.85	.26	.52	.83	.24	.04	.56	.38
14	.69	.49	.12	.03	16.84	.60	.54	.82	.23	.01	.56	.37
15	.70	.33	.20	13.96	17.58	17.14	.48	.77	.21	12.99	.55	.36
16	12.71	13.23	13.22	13.87	18.14	17.62	15.33	13.75	13.20	12.98	12.54	12.42
17	.71	.14	.26	.88	.62	.69	.31	.71	.19	.96	.53	.46
18	.73	.08	.20	.98	.84	.46	.27	.70	.18	.95	.52	.45
19	.72	.03	.14	14.13	.53	.21	.30	.67	.16	.96	.51	.53
20	.76	12.97	.09	.17	17.96	.15	.54	.63	.15	.95	.51	.48
21	12.73	12.94	13.04	14.14	17.37	17.05	15.38	13.61	13.14	12.94	12.50	12.45
22	.86	.91	.03	.06	.09	16.88	.39	.59	.14	.94	.49	.46
23	.92	.88	.04	.00	.10	.67	.32	.57	.13	.97	.48	.48
24	.85	.85	.11	13.95	.24	.56	.50	.54	.12	13.02	.47	.46
25	.95	.83	.14	.94	.54	.41	.97	.52	.11	.01	.47	.44
26	12.89	12.81	13.25	13.96	17.76	16.15	15.76	13.50	13.11	12.90	12.47	12.40
27	.95	.80	.47	14.02	.53	15.91	.31	.48	.10	.79	.47	.38
28	.86	.77	.54	.11	.09	.77	14.98	.47	.09	.75	.47	.37
29	.85	.77	.54	.34	16.71	.65	.74	.44	.08	.64	-	.36
30	.96	.77	.50	.89	.41	.56	.57	.43	.08	.65	-	.34
31	-	.78	-	15.23	.19	-	.47	-	.07	.65	-	.34
Mean	12.78	13.18	13.14	13.99	16.67	16.35	15.40	13.79	13.21	12.92	12.51	12.42
Max.	12.96	13.92	13.54	15.23	18.84	17.69	15.97	14.36	13.43	13.06	12.64	12.48
Min.	12.69	12.77	12.75	13.46	15.34	15.56	14.47	13.43	13.07	12.64	12.47	12.34

WATER YEAR 1968 : Max. 18.84 m. Min. 12.34 m.

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	59	89	61	141	504	689	535	285	137	93	51	36
2	59	92	61	147	552	692	506	263	132	93	50	35
3	59	97	67	141	540	665	545	254	130	92	50	34
4	59	99	75	152	514	618	533	249	128	92	49	33
5	59	109	85	171	547	571	554	237	125	90	48	33
6	59	118	95	185	620	552	554	229	123	90	47	33
7	58	156	105	205	610	578	576	225	121	89	46	32
8	65	201	118	209	566	603	564	221	120	88	45	32
9	62	198	121	215	530	620	550	217	119	89	45	31
10	59	210	107	217	497	610	521	207	118	89	45	31
11	58	194	96	212	490	630	538	201	116	88	45	30
12	59	182	92	213	492	678	511	198	115	89	44	30
13	57	164	94	226	613	723	533	197	113	90	44	30
14	55	146	99	228	894	821	538	195	112	87	44	29
15	56	124	108	217	1,142	989	523	188	109	85	43	28
16	57	112	110	203	1,357	156	487	185	108	84	42	33
17	57	101	115	204	1,549	1,182	482	179	107	82	41	36
18	59	95	108	220	1,640	1,099	473	177	106	81	41	35
19	58	89	101	244	1,513	1,012	480	175	104	82	40	41
20	62	83	96	251	1,286	993	538	167	103	81	40	37
21	59	80	90	246	1,067	960	499	164	101	80	39	35
22	72	77	89	233	973	907	502	161	101	80	38	36
23	78	74	90	223	976	842	485	158	100	83	37	37
24	71	71	98	215	1,023	809	528	153	99	88	37	36
25	81	69	101	213	1,127	766	643	150	98	87	37	34
26	75	67	114	217	1,209	692	590	147	98	76	37	31
27	81	66	143	226	1,124	628	482	144	97	65	37	30
28	72	63	153	241	973	593	410	143	96	61	37	29
29	71	63	153	282	854	564	361	137	95	51	–	28
30	82	63	147	391	766	542	327	137	95	52	–	27
31	–	64	–	464	703	–	307	–	94	52	–	27
Total	1,918	3,416	3,092	6,951	27,251	22,784	15,675	5,741	3,420	2,530	1,199	1,009
Mean	63.9	110	103	223	879	759	505	191	110	81.6	42.8	32.5
Max.	82	210	153	464	1,640	1,182	590	285	137	93	51	41
Min.	55	63	61	141	490	542	307	137	94	51	37	27
Runoff – mcm.	165.715	295.142	267.148	600.566	2,354.486	1,968.537	1,354.320	496.022	295.488	218.592	103.593	87.177

WATER YEAR 1968 : Max. 1,640 Min. 27 Mean 260 Annual Runoff 8,206.790 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Aug. 18	12.00	18.86	1,648				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
MAE KLONG RIVER BASIN

Khwae Yai at Kaeng Riang, Kanchanaburi (K. 6)

Location: Lat. 14°-25'-43" N., Long. 99°-07'-04" E., on left bank about 200 meters downstream from Lan Thom Cave and about 9 kilometers upstream from Erawan Fall, Tambon Tha Kradan, Amphoe Si Sawat, Kanchanaburi.

Drainage Area: 11,010 sq.km.

Type of Gage: Staff gage

Zero Gage at Bottom at: +54.00 m. (M.S.L.)

Bench Mark: B.M.-R.I.D. No. 2

Location: Near the rain gage infront of camp of station K. 6.
Elevation: +72.819 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: 1952-72

Rating Operation:

Period of Rating: 1952-71
Rated by Float: -
Rated by Current Meter: 1952-71

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

Overbank Flow Conditions: No overbank flow.

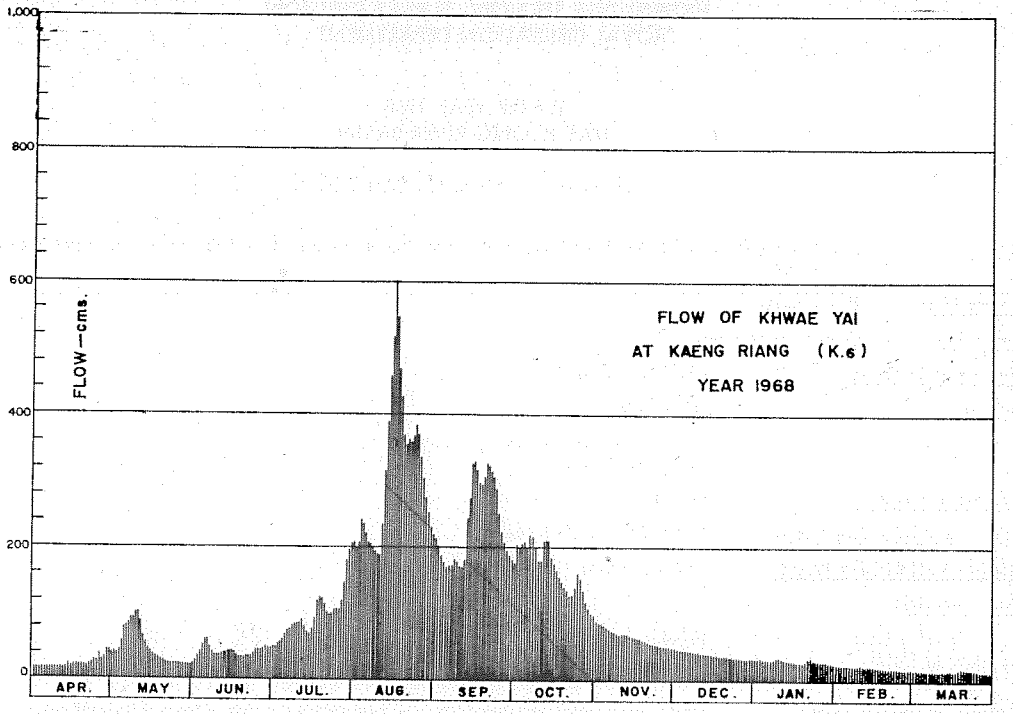
General Description: Records good. Stage-discharge relationship used is defined by discharge measurements made during 1968. No upstream state diversions for irrigation except those built by local residents. No adjustment made for virgin flow.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	55.79	56.13	55.88	56.28	57.97	58.02	57.63	56.80	56.27	56.04	55.91	55.76
2	.78	.19	56.00	.29	.89	57.94	.94	.76	.25	.03	.90	.75
3	.78	.13	.15	.38	58.00	.76	.89	.73	.24	.03	.90	.75
4	.77	.22	.28	.41	.28	.69	.93	.70	.24	.02	.89	.74
5	.77	.42	.42	.47	.16	.61	.98	.67	.23	.02	.88	.74
6	55.77	56.69	56.44	56.59	57.98	57.61	57.84	56.64	56.22	56.01	55.88	55.74
7	.78	.70	.26	.63	.95	.62	58.07	.62	.21	.01	.87	.74
8	.78	.81	.16	.68	.91	.72	.05	.59	.20	.02	.86	.73
9	.77	.82	.10	.71	.82	.71	57.87	.57	.19	.06	.86	.73
10	.76	.90	.08	.72	.81	.68	.70	.55	.18	.06	.86	.72
11	55.75	56.91	56.10	56.73	57.79	57.68	57.70	56.56	56.17	56.03	55.85	55.72
12	.75	.71	.14	.81	58.38	.79	.98	.57	.16	.01	.85	.71
13	.75	.49	.16	.68	59.05	58.33	.99	.54	.15	.00	.84	.71
14	.89	.34	.20	.56	.51	.63	.97	.51	.15	55.99	.84	.71
15	.80	.23	.20	.55	60.17	.99	.74	.50	.14	.98	.83	.74
16	55.82	56.15	56.19	56.64	60.65	59.02	57.63	56.48	56.13	55.97	55.83	55.70
17	.87	.09	.13	.85	.97	58.80	.58	.46	.12	.96	.82	.71
18	.85	.04	.07	57.11	.20	.72	.45	.44	.12	.96	.82	.77
19	.85	.01	.05	.17	59.72	.75	.39	.42	.11	.95	.81	.80
20	.82	55.98	.04	.15	.35	.94	.34	.41	.10	.95	.80	.75
21	55.83	55.95	56.06	57.00	59.19	58.99	57.26	56.39	56.10	55.97	55.80	55.76
22	.86	.92	.07	56.92	.30	.88	.19	.37	.10	56.06	.79	.78
23	.87	.91	.10	.86	.25	.81	.19	.36	.09	.06	.79	.75
24	.98	.90	.16	.94	.36	.57	.29	.35	.08	.01	.78	.73
25	.88	.90	.23	57.01	.45	.32	.53	.34	.07	55.98	.78	.71
26	56.12	55.90	56.22	56.97	59.17	58.06	57.45	56.32	56.07	55.98	55.77	55.70
27	55.99	.87	.23	57.01	58.83	57.93	.22	.32	.06	.98	.77	.70
28	56.03	.86	.32	.25	.61	.82	.08	.30	.05	.96	.77	.69
29	.22	.84	.27	.68	.44	.80	56.99	.30	.05	.94	-	.68
30	.18	.87	.25	.85	.23	.74	.91	.28	.04	.93	-	.68
31	-	.83	-	.96	.09	-	.86	-	.04	.92	-	.67
Mean	55.86	56.22	56.16	56.87	58.82	58.20	57.57	56.49	56.14	56.00	55.83	55.73
Max.	56.22	56.91	56.44	57.96	60.97	59.02	58.07	56.80	56.27	56.06	55.91	55.80
Min.	55.75	55.83	55.88	56.28	57.79	57.61	56.86	56.28	56.04	55.92	55.77	55.67

WATER YEAR 1968 : Max. 60.97 m. Min. 55.67 m.

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	19	39	24	50	208	214	172	91	49	34	26	17
2	18	43	31	50	199	205	205	88	47	33	25	17
3	18	39	41	57	211	185	199	85	47	33	25	17
4	18	45	50	59	242	178	205	83	47	32	24	16
5	18	60	60	64	229	169	209	80	46	32	24	16
6	18	82	62	74	209	173	194	78	45	32	24	16
7	18	83	48	77	206	171	219	76	45	32	23	16
8	18	92	41	81	202	181	217	74	44	32	23	16
9	18	93	37	84	192	180	197	72	43	35	23	16
10	17	100	36	85	191	177	179	70	43	35	23	15
11	17	101	38	85	188	177	179	71	42	33	22	15
12	17	84	40	92	254	168	209	72	41	32	22	15
13	17	66	41	81	332	248	210	69	41	31	22	15
14	24	54	44	71	391	282	208	67	41	30	22	15
15	19	46	44	70	480	325	183	66	40	30	21	16
16	21	41	43	78	551	329	172	65	39	29	21	14
17	23	37	39	96	600	302	166	64	39	29	21	15
18	22	34	35	120	484	293	153	62	39	29	21	18
19	22	32	34	126	419	296	147	60	38	28	20	19
20	21	30	34	124	370	319	142	59	37	28	19	17
21	21	28	35	109	350	325	134	58	37	29	19	17
22	23	26	35	102	363	312	127	56	37	35	19	18
23	23	26	37	97	357	304	127	55	37	35	19	17
24	30	25	41	104	371	275	137	55	36	32	18	16
25	24	25	46	110	383	247	161	54	35	30	18	15
26	39	25	45	107	347	218	153	52	35	30	18	14
27	30	23	46	110	306	204	130	52	35	30	18	14
28	33	23	52	133	280	192	117	51	34	29	18	14
29	45	22	49	177	261	189	108	51	34	27	–	14
30	43	23	47	195	237	183	101	50	34	17	–	14
31	–	21	–	207	221	–	97	–	34	26	–	13
Total	694	1,468	1,255	3,075	9,634	7,041	5,156	1,986	1,241	959	598	487
Mean	23.1	47.3	41.8	99.2	311	235	166	66.2	40.0	30.9	21.3	15.7
Max.	45	101	62	207	600	329	219	91	49	35	26	19
Min.	17	21	24	50	188	169	97	50	34	26	18	13
Runoff – mcm.	59.962	126.835	108.432	265.680	832.378	608.342	445.478	171.590	107.222	82.858	51.667	42.077

WATER YEAR 1968 : Max. 600 Min. 13 Mean 92.0 Annual Runoff 2,902.522 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Aug. 17, 68	07.00	61.09	618				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
MAE KLONG RIVER BASIN

Mae Klong River at Ban Tham, Kanchanaburi (K. 8)

Location: Lat. 13°-58'-06" N., Long. 99°-35'-12" E., on left bank 350 meters downstream from Wat Tha Lo, Amphoe Muang, Kanchanaburi.

Drainage Area: 26,421 sq.km.

Type of Gage: Water-stage recorder.

~~Zero~~ Gage at Bottom at: +14.00 m. (M.S.L.)

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

- Location: on left bank near tha camp of station K. 8
- Elevation: +24.500 m. (M.S.L.)

Gage Reading Frequency: Recording

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

Period of Available Gage Records: 1957-60, 1960-68

Rating Operation:

- Period of Rating: 1957-66
- Rated by Float: -
- Rated by Current Meter: 1957-66

Stability of Channel Regimes: Stable, no shifting adjustment for flow computation for year without actual ratings.

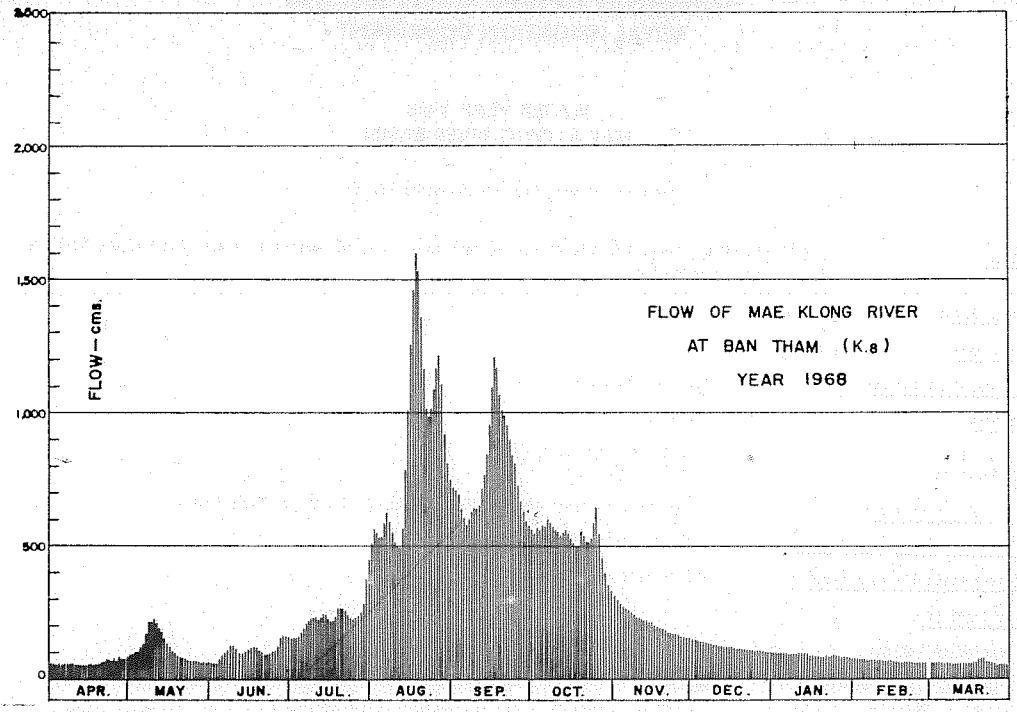
Overbank Flow Conditions: No overbank flow.

General Description: Records fair. Stage-discharge relationship used is defined by discharge measurements made during 1957-65. Upstream state diversions for irrigation of about 2,760 hectares at Tha Lo Project. No adjustment made for virgin flow.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	14.87	15.16	14.90	15.52	17.22	17.86	17.33	16.36	15.52	15.21	15.06	14.92
2	.87	.17	.91	.55	.34	.85	.27	.30	.51	.20	.05	.92
3	.87	.22	.97	.51	.26	.70	.36	.24	.49	.20	.05	.91
4	.87	.23	15.05	.60	.18	.61	.33	.19	.47	.19	.04	.91
5	.86	.31	.14	.70	.32	.46	.39	.14	.46	.19	.04	.90
6	14.88	15.40	15.21	15.79	17.56	17.39	17.38	16.10	15.44	15.18	15.03	14.90
7	.86	.63	.27	.90	.50	.48	.46	.08	.44	.18	.02	.90
8	.89	.89	.38	.92	.37	.57	.41	.03	.42	.17	.02	.89
9	.87	.86	.37	.95	.23	.61	.36	15.99	.41	.17	.02	.89
10	.85	.92	.25	.96	.12	.58	.32	.95	.39	.19	.01	.89
11	14.84	15.83	15.19	15.92	17.10	17.65	17.81	15.93	15.38	15.20	15.01	14.88
12	.84	.76	.16	.94	.11	.82	.24	.91	.37	.18	.01	.87
13	.83	.65	.17	16.03	.59	.97	.31	.90	.35	.18	.00	.87
14	.83	.49	.23	.02	18.45	18.28	.32	.90	.34	.15	.00	.87
15	.86	.38	.29	15.93	19.20	.74	.26	.85	.34	.14	.00	.86
16	14.86	15.30	15.31	15.87	19.71	19.22	17.15	15.83	15.33	15.13	14.98	14.89
17	.86	.22	.34	.87	20.18	.36	.14	.80	.32	.13	.98	.94
18	.89	.17	.29	.97	.39	.05	.09	.77	.31	.13	.97	.91
19	.89	.12	.23	16.11	.06	18.82	.15	.75	.29	.11	.96	15.03
20	.93	.09	.19	.14	19.52	.75	.31	.71	.28	.11	.96	.05
21	14.90	15.06	15.16	16.11	18.96	18.67	17.18	15.71	15.28	15.11	14.96	14.91
22	15.02	.04	.15	.05	.69	.50	.17	.67	.27	.11	.95	.93
23	.03	.01	.17	15.96	.72	.30	.14	.66	.27	.13	.95	.94
24	14.98	14.99	.22	.93	.88	.20	.33	.64	.26	.16	.94	.92
25	15.05	.97	.24	.92	19.17	.00	.63	.62	.25	.13	.94	.89
26	14.92	14.96	15.35	15.94	19.37	17.84	17.42	15.60	15.24	15.11	14.94	14.84
27	15.10	.95	.55	16.00	.12	.66	.10	.58	.24	.11	.94	.86
28	.02	.94	.59	.10	18.73	.53	16.84	.56	.23	.10	.93	.85
29	.01	.92	.59	.31	.33	.42	.66	.54	.22	.10	-	.84
30	.11	.92	.55	.76	.07	.37	.55	.54	.22	.08	-	.84
31	-	.93	-	17.03	17.91	-	.46	-	.21	.06	-	.83
Mean	14.91	15.27	15.24	15.97	18.33	18.21	17.20	15.86	15.34	15.14	14.99	14.89
Max.	15.11	15.92	15.59	17.03	20.39	19.36	17.63	16.36	15.52	15.21	15.06	15.05
Min.	14.83	14.92	14.90	15.51	17.10	17.37	16.46	15.54	15.21	15.06	14.93	14.83

WATER YEAR 1968 : Max. 20.39 m. Min. 14.83 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	57	94	60	151	528	718	559	314	151	102	78	62
2	57	95	60	156	562	715	542	300	150	100	77	62
3	57	103	61	150	539	688	568	288	146	100	77	61
4	57	105	77	164	517	643	559	278	143	98	76	61
5	56	118	90	180	556	598	577	268	142	98	76	60
6	58	132	102	198	628	577	574	260	138	97	74	60
7	56	169	111	220	610	604	598	256	138	97	73	60
8	59	218	129	224	571	631	583	246	135	95	73	59
9	57	212	127	230	530	643	568	238	134	95	73	59
10	55	224	108	232	501	634	556	230	130	98	71	59
11	54	206	98	224	496	655	553	226	129	100	71	58
12	54	192	94	228	499	706	533	222	127	99	71	57
13	53	172	95	246	637	751	553	220	124	99	70	57
14	53	146	105	244	898	844	556	220	122	92	70	57
15	56	129	114	226	1,151	994	538	210	122	90	70	56
16	56	116	118	214	1,335	1,158	509	206	121	89	68	59
17	56	103	122	214	1,513	1,207	506	200	119	89	68	64
18	59	95	114	234	1,596	1,099	493	194	118	87	67	61
19	59	87	105	262	1,468	1,020	509	190	114	86	66	74
20	63	83	98	268	1,264	997	553	182	113	86	66	77
21	60	78	94	262	1,068	970	517	182	118	86	66	61
22	73	76	92	250	977	914	514	175	111	86	65	63
23	74	71	95	232	988	850	506	174	111	89	65	64
24	68	69	103	226	1,041	820	559	170	110	94	64	62
25	77	67	106	224	1,141	760	649	167	108	89	64	59
26	62	66	124	228	1,211	712	586	164	106	86	54	54
27	84	65	156	240	1,123	658	496	161	106	86	64	56
28	73	64	162	260	990	619	430	158	105	84	63	55
29	71	62	162	302	860	586	386	154	103	84	–	54
30	86	62	156	410	781	571	360	154	103	81	–	54
31	–	63	–	478	733	–	338	–	102	78	–	53
Total	1,860	3,542	3,238	7,377	27,332	23,342	16,328	6,407	3,799	2,840	1,950	1,858
Mean	60.0	114	107	237	881	778	526	213	122	91.6	69.6	59.9
Max.	86	224	162	478	1,596	1,207	649	314	151	102	78	77
Min.	53	62	60	150	496	571	338	154	107	78	63	53
Runoff – mcm.	160.704	306.029	279.763	637.373	2,361.485	1,016.749	1,410.739	553.565	328.234	245.376	168.480	160.531

WATER YEAR 1968 : Max. 1,596 Min. 53 Mean 274 Annual Runoff 8,629.027 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Aug. 18	12.00	20.39	1,596				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
MAE KLONG RIVER BASIN

Khwae Noi at Wang Pho, Kanchanaburi (K. 9)

Location: Lat. 14°-06'-56" N., Long. 99°-08'-20" E., on left bank about 300 meters from Wang Pho Railway Station, Amphoe Sai Yok, Kanchanaburi.

Drainage Area: 6,902 sq.km.

Type of Gage: Staff gage

Zero Gage at Bottom at: +33.00 m. (M.S.L.)

Bench Mark: B.M. – H.S.

Location: on left bank near gage site.
Elevation: +54.582 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: 1962-64
Rated by Float: –
Rated by Current Meter: 1962-64

Stability of Channel Regimes: Stable, no shifting adjustment for flow computation for year without actual ratings.

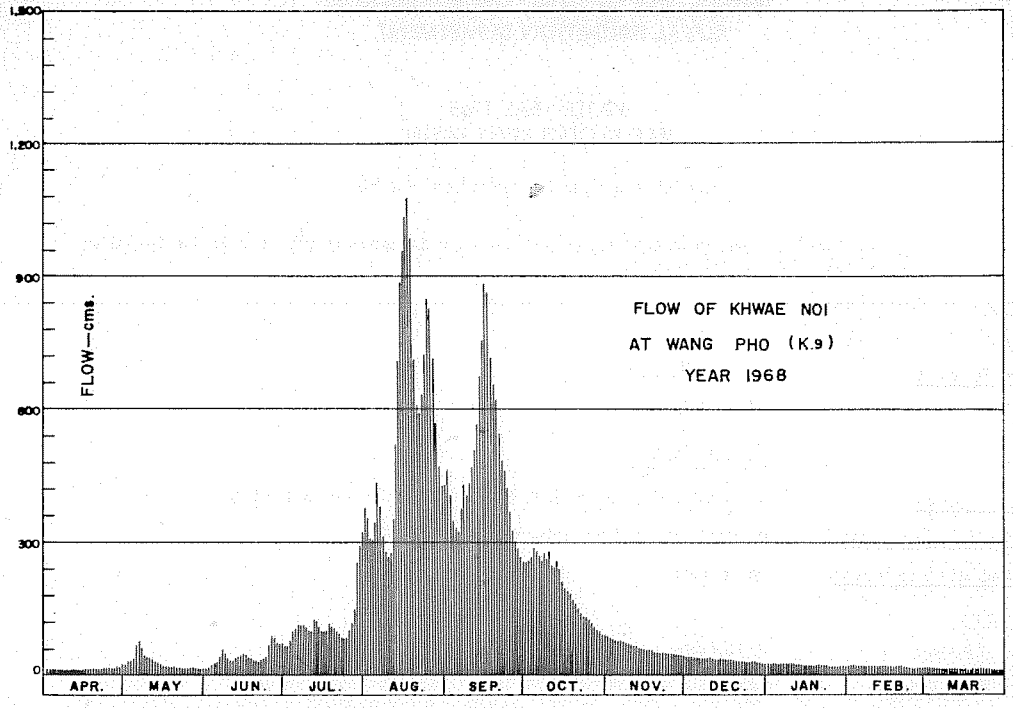
Overbank Flow Conditions: No overbank flow.

General Description: Records good. Stage-discharge relationship used is defined by discharge measurements made during 1962-64. No upstream state diversions for irrigation except those built by local residents. No adjustment made for virgin flow.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	33.89	34.25	33.90	35.12	38.87	39.43	37.58	35.48	34.66	34.30	34.08	33.89
2	.89	.46	.97	.09	.41	.18	.67	.43	.65	.29	.07	.88
3	.88	.46	34.10	.38	37.90	38.83	.75	.38	.63	.28	.07	.87
4	.88	.51	.12	.63	38.29	.47	.97	.35	.61	.27	.06	.87
5	.87	.89	.22	.76	39.24	.37	.91	.31	.60	.27	.06	.86
6	33.87	35.19	34.62	35.90	38.98	38.31	37.80	35.31	34.58	34.27	34.06	33.87
7	.87	.25	35.02	.85	.45	39.19	.73	.26	.57	.26	.06	.86
8	.86	34.95	34.81	.87	.01	.05	.83	.22	.56	.27	.05	.85
9	.86	.70	.56	.80	37.71	38.98	.64	.18	.55	.30	.08	.85
10	.85	.60	.41	.65	.78	39.30	.89	.15	.54	.30	.07	.84
11	33.85	34.54	34.41	35.78	37.90	39.75	37.49	35.13	34.53	34.26	34.06	33.84
12	.84	.40	.50	36.02	39.04	.94	.49	.10	.51	.23	.06	.83
13	.83	.35	.63	.01	41.19	40.44	.62	.05	.49	.22	.05	.83
14	.85	.28	.73	35.80	42.47	41.70	.36	.01	.48	.21	.04	.82
15	.91	.21	.78	.68	43.00	42.46	.04	.00	.47	.21	.04	.82
16	33.88	34.13	34.78	35.67	43.53	42.35	36.94	34.98	34.46	34.19	34.03	33.81
17	.87	.09	.61	.69	.62	41.64	.88	.97	.44	.18	.02	.83
18	.90	.05	.54	.89	.08	.14	.84	.93	.43	.18	.02	.82
19	.96	.03	.43	.78	41.89	40.93	.63	.89	.42	.18	.01	.85
20	.91	.01	.41	.79	40.90	.59	.55	.86	.41	.14	.01	.86
21	33.93	33.98	34.38	35.63	40.45	40.08	36.37	34.84	34.40	34.17	34.01	33.94
22	.96	.97	.53	.56	.55	39.68	.23	.82	.40	.14	.00	.92
23	.96	.95	.57	.44	41.06	.45	.15	.81	.39	.10	33.99	.85
24	.98	.93	.64	.38	.81	.12	.13	.79	.37	.08	.98	.83
25	34.00	.93	35.11	.49	42.24	38.71	.07	.76	.35	.07	.97	.81
26	33.98	33.95	35.52	35.79	41.69	38.34	35.95	34.74	34.35	34.06	33.97	33.80
27	.94	.96	.42	36.03	40.67	.09	.83	.73	.34	.04	.96	.79
28	34.03	.93	.27	.58	.00	37.96	.73	.71	.33	.04	.96	.78
29	.11	.91	.18	37.76	39.49	.74	.65	.71	.32	.04	–	.77
30	.23	.91	.22	38.12	.14	.66	.59	.68	.31	.03	–	.77
31	–	.89	–	.44	.30	–	.54	–	.31	.03	–	.76
Mean	33.92	34.27	34.64	35.94	40.21	39.57	36.89	35.01	34.46	34.18	34.03	33.83
Max.	34.23	35.25	35.52	38.44	43.62	42.46	37.97	35.48	34.66	34.30	34.08	33.94
Min.	33.83	33.89	33.90	35.09	37.71	37.66	35.54	34.68	34.31	34.03	33.96	33.76

WATER YEAR 1968 : Max. 43.62 m. Min. 33.76 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	15	25	15	65	388	456	251	87	41	27	20	15
2	15	33	17	63	333	426	259	84	41	27	20	14
3	14	33	21	81	280	384	266	81	40	26	20	14
4	14	35	22	96	319	340	287	79	39	26	20	14
5	14	52	25	104	433	328	281	77	39	26	20	14
6	14	69	40	114	402	321	271	77	38	26	20	14
7	14	73	59	110	338	427	265	74	38	26	20	14
8	14	55	48	112	291	410	274	71	37	26	19	13
9	14	43	37	107	263	402	257	69	37	27	20	13
10	13	39	31	97	269	440	279	67	37	27	20	13
11	13	37	31	100	280	494	243	66	36	26	20	13
12	13	31	35	122	409	517	243	64	35	25	20	13
13	13	29	40	122	685	580	255	61	35	25	19	13
14	13	26	44	107	883	761	231	59	34	24	19	13
15	15	24	47	99	971	882	203	58	34	24	19	13
16	14	22	47	98	1,061	864	194	57	33	24	19	12
17	14	21	39	99	1,078	752	188	56	33	23	19	13
18	15	19	37	113	985	678	185	54	32	23	19	13
19	17	19	32	106	790	648	168	52	32	23	18	13
20	15	18	31	106	644	600	162	51	31	22	18	14
21	16	17	30	96	581	534	148	50	31	23	18	16
22	17	17	36	92	595	486	137	49	31	22	18	16
23	17	16	38	84	666	458	131	48	31	21	18	13
24	17	16	41	81	778	418	130	47	30	20	17	13
25	18	16	65	87	846	369	126	46	29	20	17	12
26	17	16	89	106	759	325	117	45	29	20	17	12
27	16	17	83	123	612	299	109	44	29	19	17	12
28	19	16	74	164	524	286	102	43	28	19	17	11
29	21	15	69	267	463	266	97	43	28	19	–	11
30	25	15	71	302	421	258	93	42	27	19	–	11
31	–	15	–	337	440	–	90	–	27	19	–	11
Total	466	879	1,294	3,760	17,787	14,409	6,042	1,801	1,042	724	528	406
Mean	15.5	28.3	43.1	121	380	480	195	60.0	33.6	23.3	18.8	13.1
Max.	25	73	89	337	1,078	882	287	87	41	27	20	16
Min.	13	15	15	63	263	258	90	42	27	19	17	11
Runoff - mcm.	40.262	75.946	111.802	324.864	1,536.797	1,244.938	522.029	155.606	90.029	62.554	45.619	35.078

WATER YEAR 1968 : Max. 1,078 Min. 11 Mean 135 Annual Runoff 4,245.523 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Aug. 17, 68	01.00	43.68	1,088				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
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.1 – H.S.

Location: near gage site.
Elevation: +52.057 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 to date
Rated by Float: –
Rated by Current Meter: 1965 to date

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

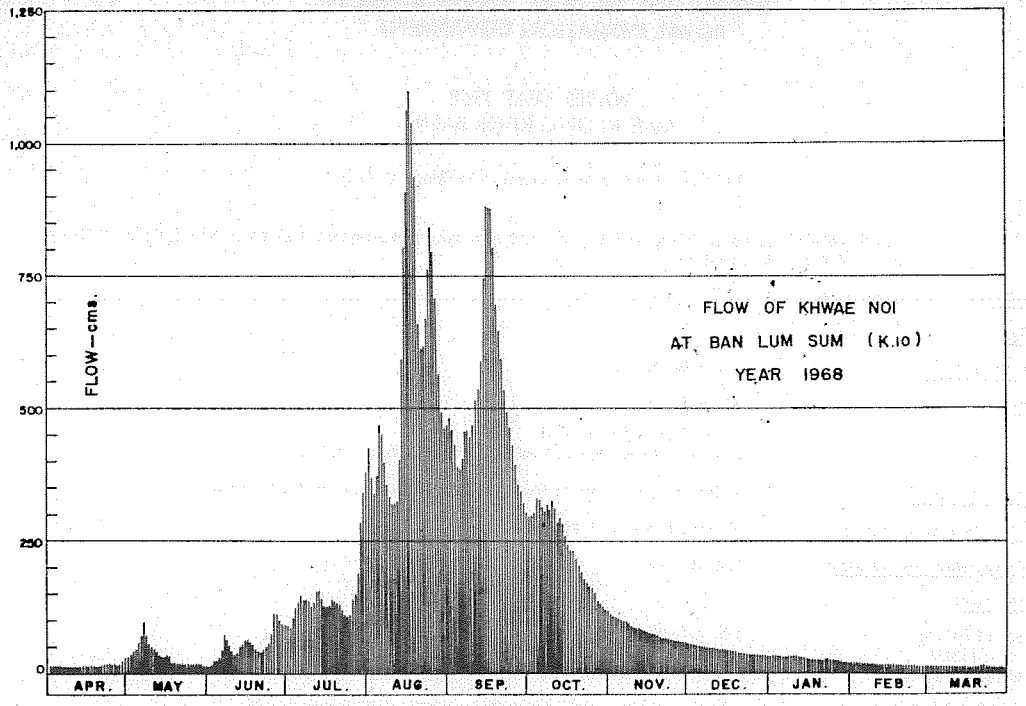
Overbank Flow Conditions: No overbank flow.

General Description: Records good. Stage-discharge relationship used is defined by discharge measurements made during 1968. No upstream state diversions for irrigation except those built by local residents. No adjustment made for virgin flow.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	31.07	31.37	31.07	32.26	36.20	36.75	34.86	32.58	31.76	31.42	31.21	31.05
2	.07	.45	.12	.17	35.82	.54	.90	.51	.73	.41	.20	.05
3	.08	.53	.22	.42	.29	.21	.95	.48	.72	.41	.19	.04
4	.07	.52	.25	.71	.48	35.80	35.25	.43	.71	.41	.19	.04
5	.06	.74	.32	.86	36.63	.67	.22	.40	.69	.41	.18	.03
6	31.06	32.01	31.59	33.03	36.43	36.03	35.07	32.36	31.68	31.39	31.18	31.03
7	.06	.24	32.02	32.96	35.85	.55	34.98	.34	.67	.38	.17	.03
8	.05	31.88	31.87	.99	.42	.47	35.12	.30	.65	.38	.16	.02
9	.05	.77	.61	.92	.11	.34	34.94	.23	.64	.38	.15	.01
10	.04	.68	.48	.77	.12	.61	35.20	.20	.63	.40	.15	.01
11	31.04	31.62	31.44	32.77	35.21	37.11	34.88	32.17	31.61	31.39	31.14	31.01
12	.03	.53	.52	33.10	36.25	.33	.78	.18	.60	.36	.13	.00
13	.03	.45	.69	.16	38.54	.79	.86	.14	.59	.34	.13	30.99
14	.04	.41	.73	32.95	39.90	39.04	.64	.10	.58	.33	.13	.99
15	.07	.34	.86	.79	40.51	.97	.31	.08	.57	.32	.13	.99
16	31.08	31.28	31.89	32.78	41.06	39.95	34.20	32.06	31.56	31.31	31.12	30.99
17	.07	.25	.76	.78	.22	.27	.08	.06	.54	.30	.11	.99
18	.06	.20	.66	.96	40.77	38.66	.07	.01	.53	.29	.11	.99
19	.09	.18	.57	.91	39.60	.48	33.87	31.98	.52	.29	.10	31.02
20	.10	.17	.53	.88	38.49	.09	.74	.95	.50	.28	.09	.02
21	31.11	31.14	31.51	32.76	37.94	37.54	33.56	31.93	31.50	31.29	31.08	31.08
22	.16	.12	.59	.66	38.00	.09	.40	.90	.49	.33	.08	.07
23	.12	.11	.68	.55	.50	36.84	.30	.88	.48	.32	.08	.03
24	.14	.10	.72	.47	39.26	.51	.26	.86	.47	.28	.08	.00
25	.13	.10	32.10	.55	.70	.16	.20	.85	.46	.27	.07	30.99
26	31.16	31.10	32.58	32.95	39.25	35.79	33.07	31.83	31.45	31.26	31.07	30.98
27	.10	.12	.54	33.09	38.26	.48	32.94	.81	.44	.25	.06	.97
28	.13	.10	.37	.61	37.48	.36	.84	.80	.43	.24	.06	.97
29	.23	.09	.29	34.85	36.92	.11	.76	.79	.43	.23	–	.96
30	.35	.08	.28	35.40	.55	34.98	.70	.78	.43	.22	–	.95
31	–	.07	–	.67	.62	–	.64	–	.42	.21	–	.95
Mean	31.09	31.38	31.73	33.06	37.66	36.98	34.12	32.10	31.56	31.32	31.13	31.01
Max.	31.35	32.24	32.58	35.67	41.22	39.97	35.25	32.58	31.76	31.42	31.21	31.08
Min.	31.03	31.07	31.07	32.17	35.11	34.98	32.64	31.78	31.42	31.21	31.06	30.95

WATER YEAR 1968 : Max. 41.22 m. Min. 30.95 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	15	32	15	91	425	480	294	114	57	35	23	14
2	15	37	18	85	387	459	298	109	55	35	22	14
3	16	42	23	102	334	426	302	107	55	35	21	14
4	15	42	25	123	353	385	330	103	54	35	21	14
5	15	56	29	133	468	372	327	101	53	35	21	13
6	15	74	46	146	448	408	313	98	52	33	21	13
7	15	90	74	138	390	460	305	97	51	33	20	13
8	14	65	64	143	347	452	318	94	50	33	20	13
9	14	58	48	138	317	439	302	89	50	33	19	12
10	14	52	39	127	318	466	325	87	49	34	19	12
11	14	48	37	127	326	516	296	85	48	33	19	12
12	13	42	42	152	430	538	282	86	47	32	18	12
13	13	37	53	157	681	591	294	83	46	30	18	12
14	14	35	55	140	869	742	275	80	46	30	18	12
15	15	30	64	128	963	879	249	79	45	29	18	12
16	16	37	66	128	1,063	876	240	77	44	29	18	12
17	15	25	57	128	1,094	774	230	77	43	28	17	12
18	15	22	51	141	1,009	695	230	74	42	27	17	12
19	16	21	45	137	824	674	214	72	42	27	17	13
20	17	20	42	135	675	627	203	70	40	27	16	13
21	17	19	41	126	609	561	189	68	40	27	16	16
22	20	18	46	119	616	514	176	66	40	30	16	15
23	18	17	52	111	676	489	168	65	39	29	16	13
24	19	17	55	106	772	456	165	64	38	27	16	12
25	18	17	80	111	839	421	160	63	38	26	15	12
26	20	17	114	140	771	384	150	62	37	26	15	11
27	17	18	111	151	647	353	139	61	37	25	15	11
28	18	17	99	193	554	341	132	60	36	24	15	11
29	24	16	93	295	497	317	126	59	36	24	–	11
30	31	16	93	345	460	305	122	59	36	23	–	10
31	–	15	–	372	467	–	118	–	35	23	–	10
Total	498	1,052	1,677	4,666	18,630	15,400	7,272	2,409	1,361	917	507	386
Mean	16.6	33.9	55.9	150	601	513	235	80.3	44.5	29.6	18.1	12.4
Max.	31	90	114	372	1,094	879	330	114	57	35	23	16
Min.	13	15	15	85	317	305	118	59	35	23	15	10
Runoff – mcm.	43.027	90.893	144.893	403.142	1,609.632	1,330.560	628.301	208.138	119.318	79.229	43.805	33.350

WATER YEAR 1968 : Max. 1,094 Min. 10 Mean 150 Annual Runoff 4,734.288 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Aug. 17, 68	06.00	41.28	1,106				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
MAE KLONG RIVER BASIN

Mae Klong River at Wang Khanai, Kanchanaburi (K.11)

Location: Lat. 13°-56'-55" N., Long. 99°-38'-42" E., on right bank about 3 kilometers downstream from district office of Amphoe Tha Muang, Kanchanaburi.

Drainage Area: 26,449 sq.km.

Type of Gage: Staff gage

Zero Gage at Bottom at: +11.93 m. (M.S.L.)

Bench Mark: B.M. – H.S.

Location: on left bank along the gage line.
Elevation: BM.1 +22.097 m. (M.S.L.) and B.M. 2 +22.224 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 to date
Rated by Float: –
Rated by Current Meter: 1965-70, 1973 to date.

Stability of Channel Regimes: Unstable, shifting adjustment is included for flow computation.

Overbank Flow Conditions: No overbank flow.

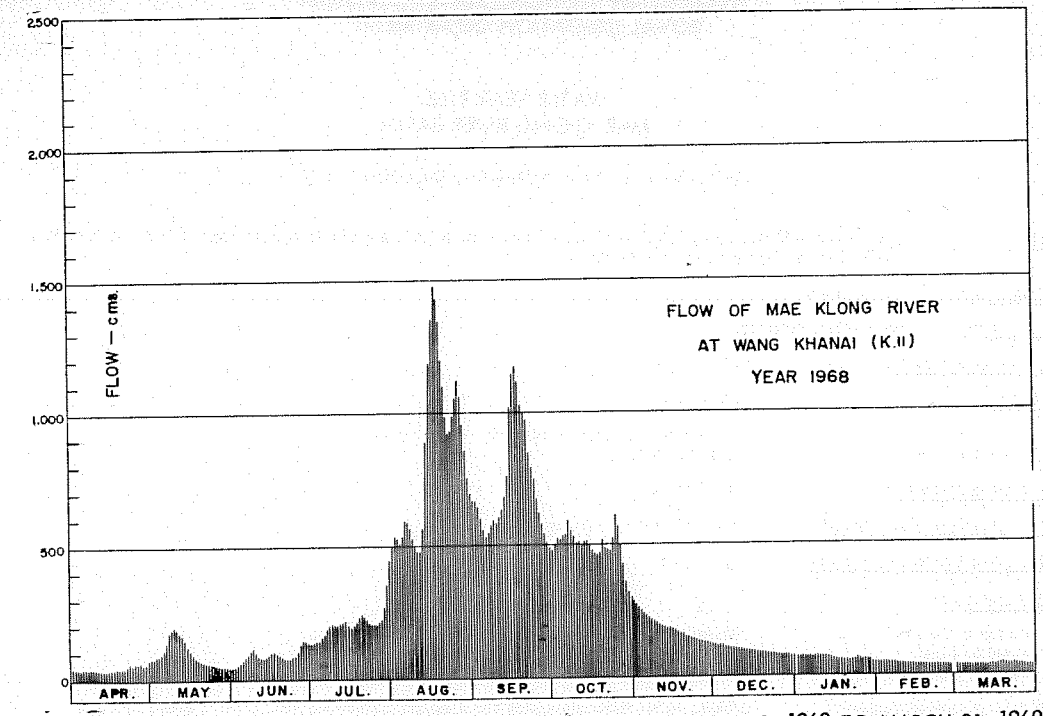
General Description: Records good. Stage-discharge relationship used is defined by discharge measurements made during 1968. Upstream state diversion for irrigation of about 2,960 hectares at Tha Lo Project about 12 kilometers above gage site. No adjustment made for virgin flow.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	12.45	12.79	12.47	13.21	15.10	15.77	15.21	14.09	13.18	12.81	12.60	12.42
2	.44	.79	.47	.22	.28	.78	.13	.01	.16	.80	.59	.42
3	.43	.85	.54	.22	.23	.68	.24	13.95	.14	.79	.58	.42
4	.43	.86	.62	.27	.13	.52	.21	.90	.12	.79	.57	.41
5	.44	.94	.72	.39	.25	.36	.28	.84	.11	.78	.56	.40
6	12.46	13.03	12.82	13.45	15.51	15.28	15.29	13.80	13.09	12.77	12.56	12.40
7	.43	.31	.91	.61	.49	.37	.35	.76	.07	.76	.55	.39
8	.49	.57	13.02	.65	.34	.51	.33	.73	.06	.75	.54	.39
9	.46	.59	.05	.69	.20	.54	.27	.68	.05	.76	.53	.38
10	.43	.64	12.93	.69	.06	.50	.16	.64	.04	.77	.53	.38
11	12.41	13.57	12.83	13.66	15.03	15.57	15.20	13.61	13.01	12.79	12.52	12.38
12	.42	.48	.79	.68	.06	.74	.12	.59	.00	.77	.52	.37
13	.40	.37	.79	.75	.52	.90	.19	.58	12.99	.75	.51	.37
14	.39	.19	.86	.77	16.42	16.20	.21	.57	.98	.73	.51	.36
15	.43	.07	.94	.69	17.22	.71	.15	.54	.97	.71	.50	.35
16	12.44	12.97	12.96	13.61	17.66	17.15	15.04	13.50	12.95	12.70	12.49	12.35
17	.43	.88	.99	.61	18.09	.23	.00	.47	.94	.70	.49	.39
18	.45	.81	.95	.71	.30	.02	14.96	.45	.93	.66	.49	.41
19	.45	.75	.88	.86	.04	16.78	15.00	.41	.92	.67	.48	.49
20	.49	.70	.82	.91	17.51	.72	.21	.38	.91	.66	.48	.45
21	12.47	12.67	12.78	13.88	16.97	16.62	15.07	13.36	12.90	12.66	12.47	12.42
22	.59	.64	.77	.81	.67	.47	.07	.33	.88	.67	.46	.43
23	.65	.61	.78	.73	.66	.27	.02	.31	.87	.69	.45	.45
24	.60	.57	.84	.68	.79	.15	.19	.29	.86	.73	.45	.43
25	.68	.55	.87	.66	17.09	15.95	.57	.27	.85	.70	.45	.39
26	12.63	12.53	12.99	13.68	17.27	15.77	15.37	13.25	12.85	12.68	12.44	12.37
27	.69	.53	13.20	.75	.08	.59	.01	.23	.84	.66	.44	.36
28	.61	.51	.28	.87	16.68	.44	14.68	.21	.84	.65	.43	.35
29	.60	.49	.27	14.08	.29	.32	.46	.20	.83	.61	–	.34
30	.70	.49	.24	.58	.02	.24	.31	.19	.82	.59	–	.33
31	–	.48	–	.91	15.84	–	.20	–	.81	.61	–	.32
Mean	12.50	12.91	12.88	13.72	16.28	15.97	15.08	13.54	12.97	12.71	12.51	12.39
Max.	12.70	13.64	13.28	14.91	18.30	17.23	15.57	14.09	13.18	12.81	12.60	18.49
Min.	12.39	12.48	12.47	13.21	15.03	15.24	14.20	13.19	12.81	12.59	12.43	12.32

WATER YEAR 1968 : Max. 18.30 m. Min. 12.32 m.

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	41	79	43	133	495	667	481	279	129	81	56	38
2	40	79	43	135	539	670	502	264	126	80	55	38
3	39	86	50	135	526	643	529	253	124	79	54	38
4	39	87	58	142	502	599	521	244	121	79	53	37
5	40	97	70	160	531	551	539	234	119	78	52	36
6	42	109	82	169	597	531	541	227	117	76	52	36
7	39	148	93	195	591	554	596	220	114	75	51	35
8	45	188	108	201	554	589	551	215	113	74	50	35
9	42	191	111	208	519	597	536	207	111	76	49	34
10	39	200	96	208	485	586	509	200	110	76	49	34
11	37	188	84	203	478	613	519	195	106	79	48	34
12	38	174	79	207	485	659	500	191	105	76	48	34
13	36	157	79	218	599	703	517	190	104	74	47	34
14	35	131	87	222	854	789	521	188	102	72	47	33
15	39	114	97	208	1,106	1,005	507	183	101	69	46	32
16	40	101	100	195	1,251	1,148	481	177	98	68	45	32
17	39	90	104	195	1,398	1,175	471	172	97	68	45	35
18	41	81	98	212	1,476	1,106	462	169	96	66	45	37
19	41	74	90	237	1,380	1,028	471	163	95	64	44	45
20	45	68	82	246	1,201	1,008	521	159	93	63	44	41
21	43	64	77	241	1,024	976	488	156	92	63	43	38
22	55	61	76	229	930	848	488	151	90	64	42	39
23	62	57	77	215	927	789	476	148	88	67	41	41
24	56	53	85	207	967	754	517	145	87	72	41	39
25	66	51	88	203	1,063	697	613	142	86	68	41	35
26	60	49	104	207	1,122	621	561	139	86	66	40	34
27	67	49	132	218	1,060	574	473	136	85	63	40	33
28	57	47	144	239	933	536	399	133	85	62	39	32
29	56	45	142	277	815	507	352	132	84	57	–	31
30	68	45	138	377	737	488	321	131	82	55	–	30
31	–	44	–	450	686	–	300	–	81	57	–	30
Total	1,387	3,007	2,717	6,692	25,831	22,011	15,223	5,543	3,121	2,167	1,307	1,100
Mean	46.2	97.0	90.6	216	833	734	491	185	101	69.9	46.7	35.5
Max.	68	200	144	450	1,476	1,175	613	279	129	81	56	45
Min.	35	44	43	133	495	488	300	131	81	55	39	30
Runoff – MCM.	119.837	259.805	234.749	578.189	2,231.798	1,901.750	1,315.267	478.915	270.173	187.229	112.925	95.040

WATER YEAR 1968 : Max. 1,476 Min. 30 Mean 247 Annual Runoff 7,785.677 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Aug. 18	12.00	18.35	1,494				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
MAE KLONG 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 of 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 readings.

Period of Available Gage Records: 1965 to date

Rating Operation:

Period of Rating: 1965-69
Rated by Float: -
Rated by Current Meter: 1965-69

Stability of Channel Regimes: Stable, no shifting adjustment for flow computation for year without actual ratings.

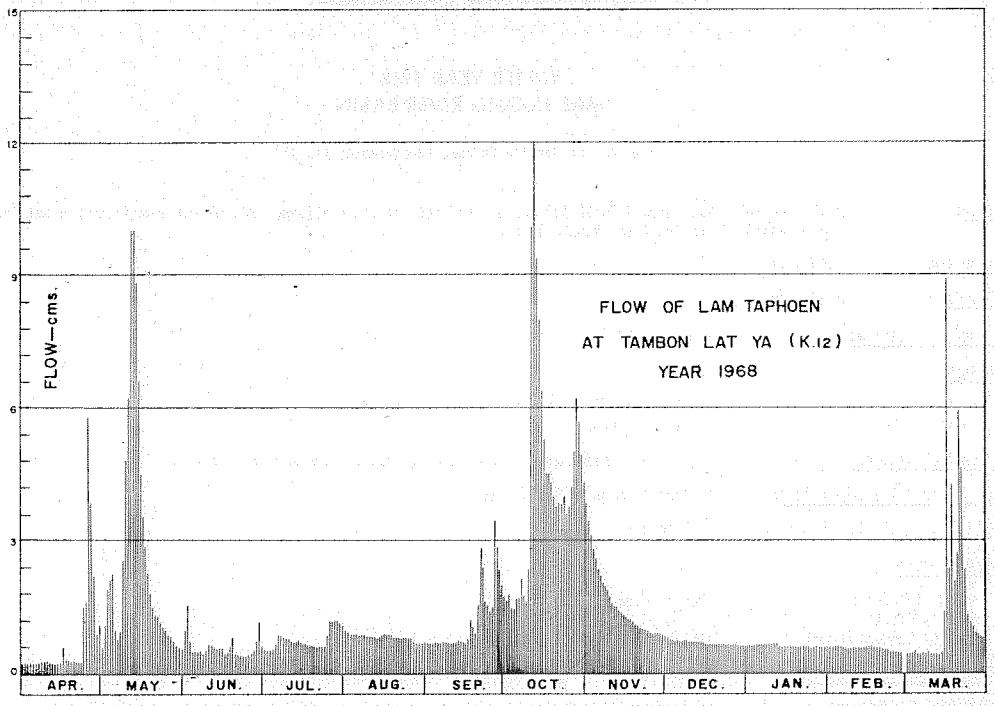
Overbank Flow Conditions: No overbank flow.

General Description: Records fair. Stage-discharge relationship used is defined by discharge measurements made during 1967. No upstream state diversions for irrigation except those built by local residents. No adjustment made for virgin flow.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.36	0.53	0.65	0.51	0.68	0.59	0.89	1.41	0.63	0.56	0.55	0.47
2	.37	.55	.87	.51	.67	.58	.94	.32	.62	.56	.55	.48
3	.37	.98	.57	.51	.66	.59	.85	.23	.62	.56	.55	.47
4	.37	1.03	.49	.52	.66	.59	.84	.17	.61	.56	.55	.48
5	.36	0.78	.49	.57	.66	.59	.92	.11	.61	.57	.55	.46
6	0.37	0.67	0.48	0.65	0.66	0.59	0.92	1.05	0.61	0.57	0.55	0.46
7	.37	.61	.48	.65	.65	.60	1.03	.01	.61	.58	.54	.48
8	.38	.69	.47	.63	.65	.60	0.93	0.98	.61	.57	.52	.46
9	.38	1.01	.50	.63	.64	.60	0.85	.95	.60	.57	.53	.48
10	.38	.54	.58	.62	.64	.59	1.15	.91	.60	.57	.54	.46
11	0.36	1.88	0.55	0.61	0.64	0.59	2.50	0.87	0.60	0.57	0.54	0.45
12	.36	2.45	.53	.60	.64	.60	.69	.85	.60	.57	.54	.44
13	.36	.49	.51	.60	.63	.61	.31	.83	.60	.54	.54	.45
14	.36	.10	.54	.62	.64	.60	.11	.81	.60	.54	.54	.48
15	.36	1.70	.52	.57	.66	.60	1.87	.80	.59	.55	.54	.52
16	0.55	1.42	0.47	0.57	0.66	0.59	1.67	0.78	0.57	0.55	0.55	2.20
17	.42	.25	.46	.56	.65	.67	.50	.77	.57	.55	.54	0.84
18	.40	.10	.55	.56	.65	.77	.56	.76	.58	.55	.53	1.51
19	.38	0.95	.63	.56	.63	.65	.46	.74	.57	.54	.53	0.95
20	.39	.86	.46	.56	.63	.69	.41	.72	.58	.54	.53	1.17
21	0.38	0.80	0.45	0.54	0.63	1.01	1.43	0.71	0.57	0.55	0.52	1.82
22	.38	.78	.45	.55	.63	1.21	.39	.70	.57	.55	.52	1.36
23	.37	.74	.45	.55	.63	0.90	.46	.69	.57	.54	.51	0.98
24	.88	.72	.44	.55	.63	.87	.38	.68	.57	.54	.49	.81
25	.46	.68	.44	.64	.63	.82	.37	.66	.57	.54	.50	.74
26	1.80	0.65	0.47	0.76	0.62	0.88	1.50	0.66	0.57	0.55	0.48	0.72
27	.20	.62	.50	.76	.59	1.35	.57	.66	.57	.55	.48	.67
28	0.87	.59	.59	.76	.59	.16	.87	.65	.56	.55	.47	.65
29	.63	.56	.74	.76	.59	.08	.77	.65	.56	.55	-	.63
30	.74	.54	.53	.73	.58	0.98	.62	.64	.56	.55	-	.62
31	-	.52	-	.69	.59	-	.51	-	.55	.55	-	.60
Mean	0.51	1.02	0.53	0.61	0.63	0.75	1.46	0.86	0.59	0.55	0.53	0.75
Max.	1.80	2.49	0.87	0.76	0.68	1.35	2.69	1.41	0.63	0.58	0.55	2.20
Min.	0.36	0.52	0.44	0.51	0.58	0.58	0.84	0.64	0.55	0.54	0.47	0.44

WATER YEAR 1968 : Max. 2.69 m. Min. 0.36 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.22	0.56	0.85	0.52	0.94	0.68	1.57	3.75	0.79	0.62	0.60	0.44
2	0.24	0.60	1.51	0.52	0.91	0.66	1.76	3.30	0.76	0.62	0.60	0.46
3	0.24	1.92	0.64	0.52	0.88	0.68	1.45	2.92	0.76	0.62	0.60	0.44
4	0.24	2.12	0.48	0.54	0.88	0.68	1.42	2.68	0.73	0.62	0.60	0.46
5	0.22	1.24	0.48	0.64	0.88	0.68	1.68	2.44	0.73	0.64	0.60	0.42
6	0.24	0.91	0.48	0.85	0.88	0.68	1.68	2.20	0.73	0.64	0.60	0.42
7	0.24	0.73	0.48	0.85	0.85	0.70	2.12	2.04	0.73	0.66	0.58	0.46
8	0.26	0.97	0.44	0.79	0.85	0.70	1.72	1.92	0.73	0.64	0.54	0.42
9	0.26	2.04	0.50	0.79	0.82	0.70	1.45	1.80	0.70	0.64	0.56	0.46
10	0.26	4.40	0.66	0.76	0.82	0.68	2.60	1.64	0.70	0.64	0.58	0.42
11	0.22	6.28	0.60	0.73	0.82	0.68	10	1.51	0.70	0.64	0.58	0.40
12	0.22	10	0.56	0.70	0.82	0.70	12	1.45	0.70	0.64	0.58	0.38
13	0.22	10	0.52	0.70	0.79	0.73	9.17	1.39	0.70	0.58	0.58	0.40
14	0.22	7.70	0.58	0.76	0.82	0.70	7.77	1.33	0.70	0.58	0.58	0.46
15	0.22	5.25	0.54	0.64	0.88	0.70	6.22	1.30	0.68	0.60	0.58	0.54
16	0.60	3.80	0.44	0.64	0.88	0.68	5.08	1.24	0.64	0.60	0.60	8.40
17	0.34	3.00	0.42	0.62	0.85	0.91	4.20	1.21	0.64	0.60	0.58	1.42
18	0.30	2.40	0.60	0.62	0.85	1.21	4.50	1.18	0.66	0.60	0.56	4.25
19	0.26	1.80	0.79	0.62	0.79	0.85	4.00	1.12	0.64	0.58	0.56	1.80
20	0.28	1.48	0.42	0.62	0.79	0.97	3.75	1.06	0.66	0.58	0.56	2.68
21	0.26	1.30	0.40	0.58	0.79	2.04	3.85	1.03	0.64	0.60	0.54	5.92
22	0.26	1.24	0.40	0.60	0.79	2.84	3.65	1.00	0.64	0.60	0.54	3.50
23	0.24	1.12	0.40	0.60	0.79	1.60	4.00	0.97	0.64	0.58	0.52	1.92
24	1.54	1.06	0.38	0.60	0.79	1.51	3.60	0.94	0.64	0.58	0.48	1.33
25	0.42	0.94	0.38	0.82	0.79	1.36	3.55	0.88	0.64	0.58	0.50	1.12
26	5.80	0.85	0.44	1.18	0.76	1.54	4.20	0.88	0.64	0.60	0.46	1.06
27	2.80	0.76	0.50	1.18	0.68	3.45	4.55	0.88	0.64	0.60	0.46	0.91
28	1.51	0.68	0.68	1.18	0.68	2.64	6.22	0.85	0.62	0.60	0.44	0.85
29	0.79	0.62	1.12	1.18	0.68	2.32	5.63	0.85	0.62	0.60	–	0.79
30	1.12	0.58	0.56	1.09	0.66	1.92	4.81	0.82	0.62	0.60	–	0.76
31	–	0.54	–	0.97	0.68	–	4.25	–	0.60	0.60	–	0.70
Total	20.04	76.89	17.25	23.41	25.09	36.19	132.45	46.58	21.02	18.88	15.56	43.99
Mean	0.67	2.48	0.57	0.75	0.81	1.21	4.27	1.55	0.68	0.61	0.55	1.42
Max.	5.80	10	1.51	1.18	0.94	3.45	12	3.75	0.79	0.66	0.60	8.40
Min.	0.22	0.54	0.38	0.52	0.66	0.66	1.42	0.82	0.60	0.59	0.44	0.38
Runoff - mcm.	1.731	6.643	1.490	2.023	2.168	3.127	11.444	4.024	1.816	1.631	1.344	3.801

WATER YEAR 1958 : Max. 12 Min. 0.22 Mean 1.31 Annual Runoff 41.243 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Oct. 12	12.00	2.74	12				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
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 left 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 left bank 75 meters downstream from measuring line.
Elevation: +97.200 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 to date
Rated by Float: –
Rated by Current Meter: 1965 to date

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

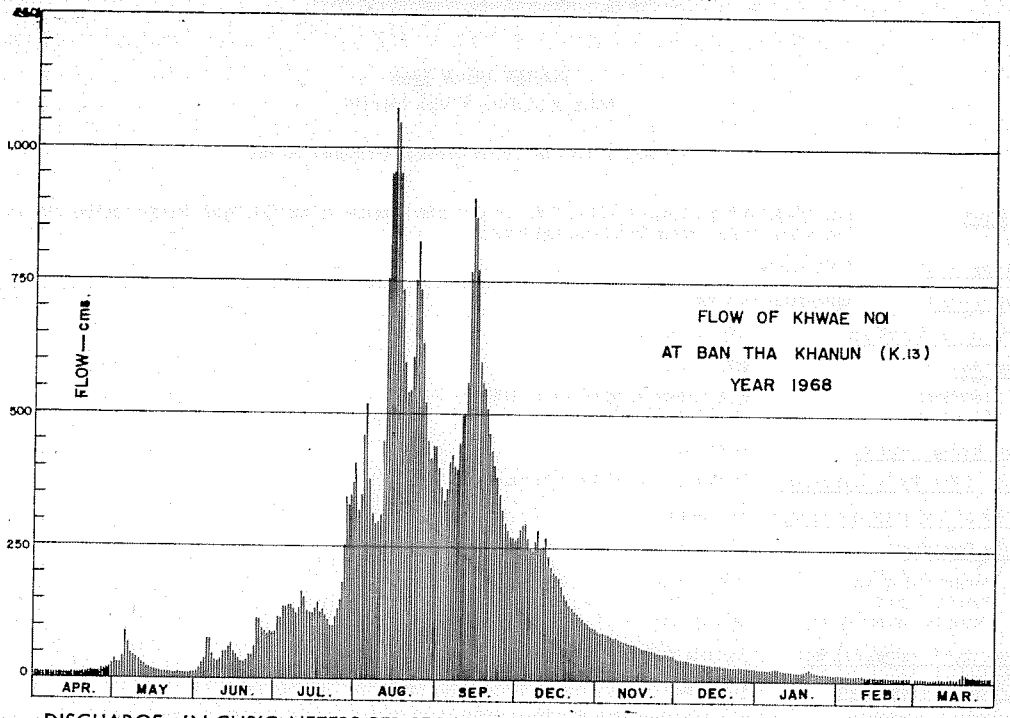
Overbank Flow Conditions: No overbank flow.

General Description: Records good. Stage-discharge relationship used is defined by discharge measurements made during 1968. No upstream state diversions for irrigation except those built by local residents. No adjustment made for virgin flow.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	75.75	76.17	75.80	76.77	79.19	79.75	78.53	76.85	76.24	75.99	75.83	75.70
2	.74	.06	.91	77.11	78.88	.47	.70	.81	.22	.98	.82	.69
3	.74	.03	76.08	.10	79.58	.22	.80	.81	.22	.99	.81	.69
4	.74	.25	.14	.31	80.23	.18	.82	.78	.21	.98	.81	.68
5	.73	.77	.61	.31	79.62	.71	.59	.78	.20	.97	.80	.68
6	75.73	76.49	76.65	77.34	79.21	79.90	78.38	76.74	76.19	75.96	75.80	75.68
7	.73	.21	.24	.32	78.93	.73	.38	.70	.18	.99	.80	.68
8	.72	.25	.10	.23	.77	.64	.55	.69	.17	76.01	.79	.67
9	.72	.20	.07	.10	.89	80.06	.69	.65	.16	.00	.79	.67
10	.71	.13	.11	.29	79.02	.42	.38	.63	.15	75.96	.79	.66
11	75.71	76.07	76.33	77.58	80.06	80.47	78.44	76.62	76.14	75.94	75.79	75.66
12	.70	.04	.33	.40	82.06	.87	.59	059	.13	.93	.78	.65
13	.70	75.97	.41	.18	83.16	82.19	.25	.58	.12	.93	.78	.65
14	.70	.91	.54	.18	.18	.91	.08	.56	.11	.92	.77	.65
15	.73	.88	.38	.16	.82	.59	77.94	.54	.10	.91	.77	.65
16	75.75	75.86	76.27	77.25	83.64	81.70	77.92	76.53	76.10	75.90	75.76	75.65
17	.74	.84	.20	.39	82.98	80.94	.85	.49	.09	.90	.76	.65
18	.73	.82	.11	.17	81.70	.82	.65	.48	.08	.89	.75	.73
19	.73	.80	.11	.27	80.98	.73	.56	.46	.07	.93	.75	.86
20	.77	.79	.13	.10	.72	.26	.45	.46	.07	.95	.74	.83
21	75.80	75.78	76.30	77.06	80.73	79.99	77.36	76.44	76.06	75.96	75.74	75.79
22	.81	.77	.28	76.92	81.20	.87	.31	.42	.06	.92	.73	.75
23	.80	.76	.48	.95	82.11	.57	.26	.40	.05	.90	.73	.74
24	.79	.78	77.07	77.18	.45	.38	.21	.38	.05	.88	.73	.74
25	.77	.80	.04	.35	81.73	.06	.13	.37	.04	.88	.72	.73
26	75.81	75.76	76.83	77.64	80.83	78.87	77.08	76.36	76.04	75.87	75.72	75.72
27	.89	.76	.78	78.25	.41	.79	.03	.35	.03	.86	.71	.72
28	.87	.75	.71	79.27	79.99	.63	76.99	.35	.02	.85	.71	.72
29	.95	.75	.81	.11	.77	.59	.94	.33	.01	.84		.71
30	76.02	.77	.80	.50	80.00	.56	.91	.31	.00	.84		.71
31		.77		.76	.00		.89		76.00	.84		.71
Mean	75.77	75.96	76.38	77.53	80.76	80.06	77.86	76.55	76.11	75.92	75.77	75.70
Max.	76.02	76.77	77.07	79.76	83.82	82.91	78.82	76.85	76.24	76.01	75.83	75.86
Min.	75.70	75.75	75.80	76.77	78.77	78.56	76.89	76.31	76.00	75.84	75.71	75.65

WATER YEAR 1968 : Max. 83.82 m. Min. 75.65 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	12	38	14	87	335	404	262	94	43	25	16	10
2	12	30	21	118	301	369	281	91	42	25	15	9.60
3	12	28	32	117	382	338	292	91	42	25	15	9.60
4	12	44	36	137	469	334	294	88	41	25	15	9.20
5	11	87	74	137	387	399	269	88	40	24	14	9.20
6	11	64	77	140	337	423	246	85	39	24	14	9.20
7	11	41	43	138	306	401	246	81	39	25	14	9.20
8	11	44	33	130	289	390	264	81	38	27	14	8.80
9	11	40	31	117	302	445	280	77	37	26	14	8.80
10	10	35	34	136	316	496	246	76	36	24	14	8.40
11	10	31	50	164	445	503	252	75	36	22	14	8.40
12	10	29	50	146	756	563	269	72	35	22	13	8.00
13	10	24	57	125	949	778	232	71	34	22	13	8.00
14	10	21	68	125	952	904	214	70	34	21	13	8.00
15	11	19	54	123	1,073	846	200	68	33	21	13	8.00
16	12	18	46	132	1,039	695	198	67	33	20	12	8.00
17	12	16	40	145	916	574	191	64	32	20	12	8.00
18	11	15	34	124	695	555	171	63	32	19	12	11
19	11	14	34	134	580	541	162	61	31	22	12	18
20	13	14	35	117	540	473	151	61	31	23	12	16
21	14	13	48	114	541	436	142	59	30	24	12	14
22	15	13	46	101	614	419	137	58	30	21	11	12
23	14	12	63	103	765	381	133	56	29	20	11	12
24	14	13	115	125	822	358	128	54	29	19	11	12
25	13	14	112	141	700	321	120	54	29	19	11	11
26	15	12	93	170	557	300	116	53	29	18	11	11
27	19	12	88	232	494	291	111	52	28	18	10	10
28	18	12	82	344	436	273	107	52	27	17	10	11
29	23	12	91	326	406	269	103	50	27	16		10
30	27	13	90	372	437	266	100	49	26	16		10
31		13		405	437		98		26	16		10
Total	395	791	1,691	5,025	17,578	13,745	6,015	2,061	1,038	666	358	317.40
Mean	13.2	25.5	56.3	162	567	458	194	68.7	33.5	21.5	12.8	10.2
Max.	27	87	115	405	1,073	904	294	94	43	27	16	18
Min.	10	12	14	87	289	266	98	49	26	16	10	8.00
Runoff - MCM.	34.128	68.342	146.102	434.160	1,518.739	1,187.568	519.696	178.070	89.683	57.542	30.931	27.423

WATER YEAR 1968 : Max. 1,073 Min. 8.00 Mean 136 Annual Runoff 4,292.386 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Aug. 15	11.00	83.90	1,088				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
MAE KLONG RIVER BASIN

Lam Phachi at Frontier Police Station, 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 Chom Bung, Ratchaburi.

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: on left bank along measuring line.
Elevation: +10.540 m. (A.D.)

Gage Reading Frequency: Recording

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

Period of Available Gage Records: 1966 to date

Rating Operation:

Period of Rating: 1966 to date
Rated by Float: -
Rated by Current Meter: 1966 to date

Stability of Channel Regimes: Unstable shifting adjustment is included flow computation.

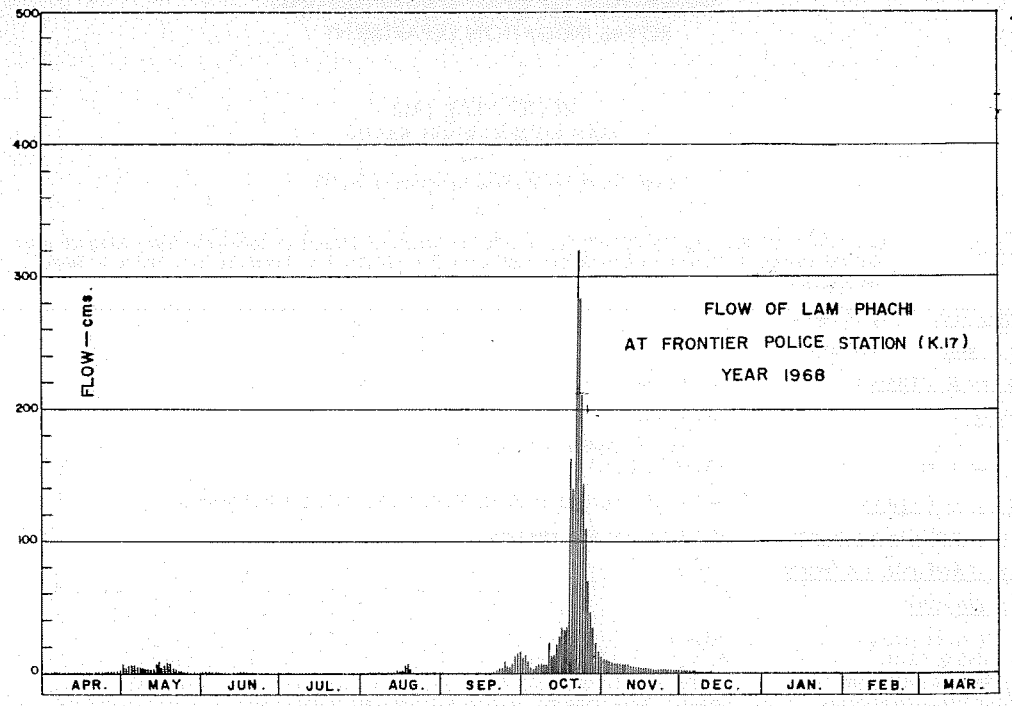
Overbank Flow Conditions: No overbank flow.

General Description: Records good. Stage-discharge relationship used is defined by discharge measurements made during 1968. No upstream state diversions for irrigation except those built by local residents. No adjustment made for virgin flow.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	-0.01	0.99	0.27	0.13	0.17	0.11	1.29	1.32	0.58	0.42	0.34	0.31
2	-0.01	.66	.38	.15	.15	.12	.42	.24	.57	.42	.34	.31
3	-0.01	.73	.37	.17	.13	.14	.25	.19	.56	.42	.34	.31
4	-0.02	.88	.36	.17	.12	.13	0.99	.14	.55	.42	.33	.30
5	0.16	.77	.35	.15	.11	.13	.87	.09	.54	.41	.35	.30
6	0.12	0.67	0.31	0.13	0.11	0.11	0.76	1.05	0.54	0.41	0.35	0.30
7	.03	.74	.28	.13	.10	.10	.83	.03	.53	.41	.35	.30
8	.02	.70	.23	.13	.09	.12	.87	0.99	.52	.41	.35	.30
9	.13	.62	.20	.12	.08	.16	.75	.95	.51	.41	.34	.30
10	.08	.62	.18	.11	.07	.15	.83	.92	.50	.41	.33	.30
11	0.04	0.59	0.18	0.10	0.07	0.14	1.44	0.90	0.50	0.41	0.33	0.29
12	.05	.58	.19	.09	.08	.13	.36	.87	.49	.40	.32	.29
13	.12	.69	.19	.08	.09	.15	.64	.86	.48	.39	.31	.28
14	.06	.90	.19	.08	.19	.17	.83	.85	.48	.40	.31	.27
15	.09	.94	.18	.07	.44	.18	.93	.83	.48	.39	.32	.41
16	0.08	0.67	0.16	0.07	0.48	0.18	2.08	0.81	0.48	0.39	0.33	0.32
17	.06	.77	.19	.11	.69	.19	.00	.79	.47	.38	.34	.40
18	.04	.80	.23	.17	.69	.25	.16	.76	.47	.37	.34	.41
19	.04	.93	.19	.15	.55	.27	3.65	.74	.47	.37	.32	.40
20	.05	.63	.18	.14	.40	.27	.44	.71	.46	.38	.31	.44
21	0.08	0.48	0.16	0.18	0.32	0.59	2.56	0.70	0.46	0.39	0.30	0.40
22	.17	.40	.15	.16	.28	.81	4.55	.68	.46	.39	.30	.37
23	.17	.34	.14	.13	.28	.81	4.74	.67	.46	.40	.30	.36
24	.23	.33	.13	.11	.28	1.22	3.61	.65	.46	.37	.30	.34
25	.31	.31	.13	.09	.25	0.98	2.90	.64	.45	.37	.30	.33
26	0.31	0.29	0.12	0.09	0.22	1.05	2.44	0.63	0.44	0.37	0.32	0.31
27	.37	.35	.11	.14	.19	.31	.10	.62	.43	.37	.32	.31
28	.49	.30	.11	.29	.16	.52	1.84	.61	.43	.36	.31	.35
29	.41	.26	.11	.26	.14	.53	.66	.60	.42	.35	-	.34
30	.45	.23	.12	.23	.13	.56	.51	.59	.42	.35	-	.32
31	-	.28	-	.20	.12	-	.39	-	.42	.34	-	.31
Mean	0.14	0.59	0.20	0.14	0.21	0.35	1.95	0.85	0.48	0.39	0.32	0.33
Max.	0.49	0.99	0.38	0.29	0.69	1.56	4.74	1.32	0.58	0.42	0.35	0.44
Min.	-0.02	0.23	0.11	0.07	0.07	0.10	0.75	0.59	0.42	0.34	0.30	0.27

WATER YEAR 1968 : Max. 4.74 m. Min. -0.02 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.16	7.75	1.40	0.60	0.87	0.52	11	12	2.14	1.00	0.63	0.50
2	0.16	3.30	2.07	0.69	0.75	0.54	14	11	2.07	1.00	0.63	0.50
3	0.16	4.09	2.00	0.75	0.63	0.58	10	10	2.00	1.00	0.63	0.50
4	0.12	6.12	1.94	0.75	0.56	0.56	5.98	9.60	1.94	1.00	0.60	0.48
5	0.52	6.40	1.88	0.69	0.52	0.56	4.35	8.75	1.88	0.95	0.58	0.48
6	0.44	5.00	1.64	0.63	0.50	0.52	6.40	8.07	1.88	0.95	0.58	0.48
7	0.26	5.98	1.46	0.63	0.46	0.50	7.45	7.75	1.76	0.95	0.58	0.48
8	0.24	5.42	1.20	0.63	0.38	0.72	8.07	7.15	1.70	0.95	0.58	0.48
9	0.46	4.35	1.05	0.60	0.36	0.84	6.26	7.00	1.64	0.95	0.56	0.48
10	0.36	4.35	0.95	0.58	0.34	0.81	7.45	6.55	1.58	0.95	0.54	0.48
11	0.28	3.96	0.95	0.56	0.34	0.78	22	6.26	1.58	0.95	0.54	0.46
12	0.30	3.83	1.00	0.54	0.36	0.75	11	5.84	1.52	0.87	0.52	0.46
13	0.44	5.28	1.00	0.52	0.38	0.81	19	5.42	1.46	0.84	0.50	0.44
14	0.32	8.41	0.95	0.56	0.95	0.87	25	5.28	1.46	0.87	0.50	0.42
15	0.38	9.09	0.90	0.34	2.49	0.90	29	5.00	1.35	0.84	0.52	0.75
16	0.36	5.00	0.84	0.34	2.80	0.90	35	4.74	1.35	0.84	0.54	0.58
17	0.32	6.40	0.95	0.42	5.38	0.95	31	4.48	1.30	0.81	0.56	0.81
18	0.28	6.85	1.15	0.75	5.28	1.25	38	4.09	1.30	0.78	0.56	0.84
19	0.28	8.92	0.95	0.69	3.50	1.35	163	3.83	1.30	0.78	0.52	0.81
20	0.30	4.48	0.90	0.66	2.21	1.35	142	3.50	1.25	0.81	0.50	0.95
21	0.36	2.80	0.81	0.66	1.70	3.83	69	3.40	1.30	0.84	0.48	0.81
22	0.54	2.21	0.75	0.72	1.46	5.56	287	3.20	1.30	0.81	0.48	0.72
23	0.54	1.82	0.66	0.63	1.46	4.74	319	2.80	1.30	0.84	0.48	0.69
24	0.69	1.76	0.58	0.48	1.46	10	159	2.63	1.30	0.75	0.48	0.63
25	0.95	1.64	0.56	0.44	1.30	5.84	94	2.56	1.25	0.75	0.48	0.60
26	0.95	1.52	0.52	0.44	1.15	6.85	61	2.49	1.20	0.75	0.52	0.56
27	1.25	1.88	0.50	0.81	1.00	11	42	2.42	1.15	0.75	0.52	0.56
28	1.94	1.58	0.50	1.46	0.87	17	30	2.35	1.15	0.72	0.50	0.66
29	1.46	1.35	0.50	1.35	0.58	17	21	2.28	1.00	0.67	–	0.63
30	1.70	1.20	0.54	1.20	0.56	18	17	2.21	1.00	0.69	–	0.58
31	–	1.46	–	1.05	0.54	–	14	–	1.00	0.66	–	0.56
Total	16.52	134.20	31.10	20.97	41.04	115.88	1,708.96	162.65	45.41	26.34	15.11	18.38
Mean	0.55	4.33	1.04	0.68	1.32	3.86	55.1	5.42	1.46	0.85	0.54	0.59
Max.	1.94	9.09	2.07	1.46	5.28	18	319	12	2.14	1.00	0.63	0.95
Min.	0.12	1.20	0.50	0.34	0.34	0.50	4.35	2.21	1.00	0.66	0.48	0.42
Runoff – mcm.	1.427	11.894	2.687	1.811	3.545	10.012	147.654	14.052	3.923	2.275	1.305	1.588

WATER YEAR 1968 : Max. 319 Min. 0.12 Mean 6.40 Annual Runoff 201.878 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Oct. 22	21.00	7.28	954				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
MAE KLONG RIVER BASIN

Khwae Yai at Ban Ong Kha, Kanchanaburi (K. 19)

Location: Lat. 14°-52'-11" N., Long. 99°-03'-50" E., on left bank about 4.5 kilometers downstream from conference with Huai Kha Khaeng, 2 kilometers upstream from confluence with Huai Ong Kha, Tambon Na Suan, Amphoe Si Sawat, Kanchanaburi.

Drainage Area: 8,437 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 along gage line.
Elevation: +14.385 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: 1966-72

Rating Operation:

Period of Rating: 1966-71
Rated by Float:
Rated by Current Meter: 1966-71

Stability of Channel Regimes: Stable, shifting adjustment is included for flow computation.

Overbank Flow Conditions: No overbank flow.

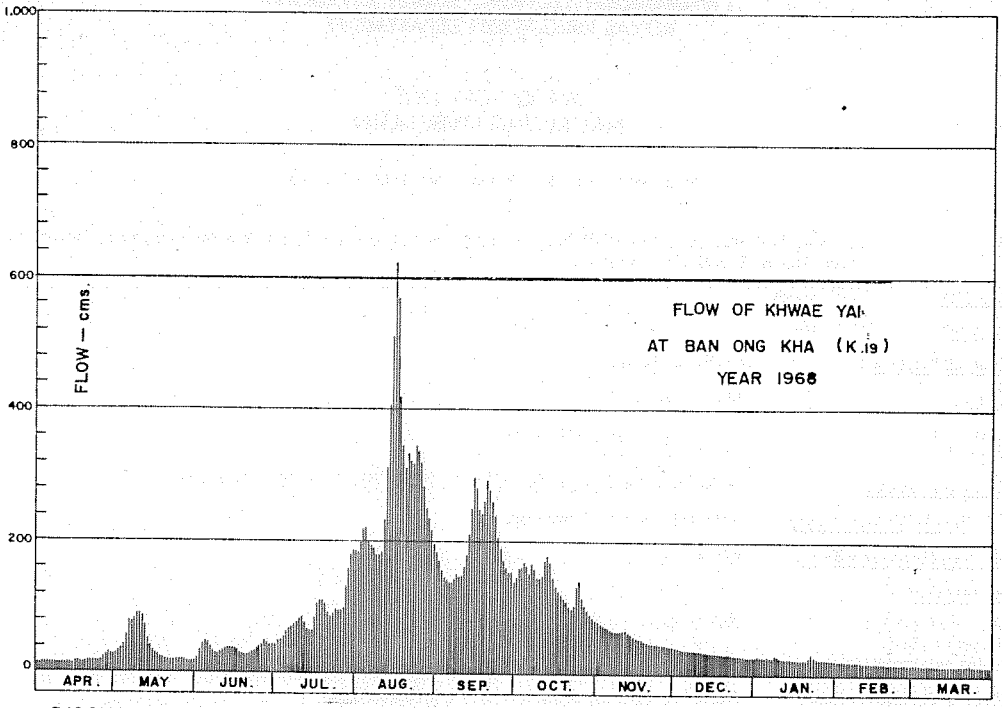
General Description: Records fair. Stage-discharge relationship used is defined by discharge measurements made during 1968. No upstream state diversions for irrigation except those built by local residents. No adjustment made for virgin flow.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	1.29	1.53	1.45	1.73	3.39	3.34	3.05	2.23	1.74	1.53	1.42	1.28
2	.29	.61	.62	.85	.40	.21	.19	.19	.73	.53	.41	.28
3	.28	.68	.75	.90	.59	.09	.20	.17	.72	.52	.41	.28
4	.28	.74	.82	.93	.63	.02	.29	.14	.72	.51	.40	.27
5	.28	2.10	.87	2.11	.47	.01	.21	.11	.71	.51	.39	.26
6	1.27	2.27	1.74	2.14	3.39	2.94	3.05	2.09	1.70	1.51	1.39	1.26
7	.27	.20	.64	.20	.43	3.02	.25	.06	.69	.51	.38	.26
8	.27	.28	.56	.25	.28	.11	.13	.04	.69	.55	.37	.25
9	.26	.39	.54	.26	.29	.09	.02	.02	.68	.57	.37	.25
10	.26	.44	.59	.37	.21	.06	.04	.03	.67	.53	.36	.25
11	1.25	2.37	1.63	2.39	3.42	3.23	3.15	2.04	1.66	1.52	1.36	1.24
12	.25	.05	.66	.26	4.15	.44	.32	.04	.65	.50	.35	.24
13	.25	1.89	.70	.12	.50	.86	.37	.00	.64	.49	.35	.24
14	.25	.73	.71	.08	5.29	4.05	.19	1.97	.64	.49	.34	.23
15	.31	.64	1.69	.10	.75	.27	2.98	.96	.63	.48	.34	.23
16	1.36	1.56	1.63	2.32	6.11	4.08	2.87	1.94	1.63	1.47	1.33	1.23
17	.30	.51	.56	.62	5.64	3.90	.81	.93	.62	.46	.33	.23
18	.29	.47	.52	.67	4.66	.88	.75	.90	.61	.45	.32	.26
19	.28	.45	.51	.67	.44	4.05	.72	.89	.60	.46	.32	.26
20	.33	.42	.51	.56	.38	.25	.68	.88	.59	.46	.31	.30
21	1.36	1.41	1.54	2.43	4.54	4.08	2.60	1.87	1.59	1.52	1.31	1.32
22	.34	.39	.58	.37	.45	.00	.52	.85	.58	.60	.31	.28
23	.31	.38	.59	.47	.48	3.84	.56	.84	.58	.54	.30	.26
24	.31	.39	.68	.54	.62	.60	.87	.83	.57	.50	.30	.24
25	.30	.39	.71	.53	.53	.40	.96	.82	.56	.49	.30	.23
26	1.37	1.38	1.76	2.51	4.24	3.26	2.70	1.80	1.55	1.49	1.30	1.23
27	.50	.35	.86	.56	.00	.18	.55	.79	.55	.48	.29	.22
28	.61	.33	.77	3.04	3.85	.12	.44	.78	.54	.46	.29	.21
29	.51	.33	.74	.30	.70	.12	.36	.77	.54	.44		.21
30	.51	.33	.78	.40	.50	2.97	.32	.76	.53	.43		.20
31		.33		.46	.39		.26		.53	.43		.20
Mean	1.32	1.69	1.66	2.42	4.12	3.48	2.88	1.96	1.63	1.50	1.34	1.25
Max.	1.61	2.44	1.87	3.46	6.11	4.27	3.37	2.23	1.74	1.60	1.42	1.32
Min.	1.25	1.33	1.45	1.73	3.21	2.94	2.26	1.76	1.53	1.43	1.29	1.20

WATER YEAR 1968 : Max. 6.11 m. Min. 1.20 m.

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	15	29	23	42	180	174	145	79	39	27	21	16
2	15	34	33	50	192	161	159	76	39	27	21	16
3	15	38	41	50	216	149	160	74	38	26	21	16
4	15	42	45	52	221	142	169	72	38	26	21	15
5	15	66	49	65	200	141	161	70	37	25	21	15
6	15	79	40	67	191	135	145	68	37	25	21	15
7	15	74	34	71	196	142	165	66	36	25	20	15
8	15	80	30	75	179	151	153	65	36	27	20	15
9	14	89	28	76	180	149	142	64	36	28	20	15
10	14	93	31	85	171	146	144	64	35	25	19	15
11	14	87	34	86	194	163	155	65	34	25	19	14
12	14	63	36	77	277	185	172	65	34	24	19	14
13	14	52	40	66	328	238	178	62	33	23	19	14
14	14	41	40	64	461	263	159	60	33	23	19	14
15	16	36	39	65	548	294	138	59	33	23	19	14
16	18	31	36	82	620	267	128	52	33	22	18	14
17	16	28	31	106	527	243	123	52	32	22	18	14
18	15	25	29	110	354	240	117	50	31	21	18	15
19	15	24	28	110	319	263	113	49	31	22	18	15
20	17	23	28	99	305	291	109	48	30	23	17	17
21	18	22	30	89	330	267	102	47	30	25	17	17
22	17	21	33	84	316	256	96	46	30	30	17	17
23	16	21	33	92	320	235	104	45	30	26	17	15
24	16	21	39	98	342	204	132	45	29	24	17	14
25	16	21	40	97	328	181	140	44	28	23	17	14
26	21	21	43	95	285	166	117	43	28	23	17	14
27	27	20	50	101	252	158	103	42	28	23	17	13
28	34	18	44	144	246	152	94	42	27	22	17	13
29	28	18	42	170	226	152	90	41	27	21		13
30	28	18	45	181	200	137	86	40	27	21		13
31		18		188	188		82		27	21		13
Total	522	1,253	1,094	2,837	8,892	5,845	4,081	1,695	1,006	748	525	454
Mean	17.4	40.4	36.5	91.5	287	195	132	56.5	32.4	24.1	18.7	14.6
Max.	34	93	50	188	620	294	178	79	39	30	21	17
Min.	14	18	23	42	171	135	82	40	27	21	17	13
Runoff - MCM.	45.101	108.259	94.522	245.117	768.269	505.008	352.598	146.448	86.918	64.627	45.360	39.226

WATER YEAR 1968 : Max. 620 Min. 13 Mean 79.1 Annual Runoff 2,501.453 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Aug. 16	16.00	6.32	662				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
MAE KLONG RIVER BASIN

Khwae Yai at Khao Wang Masang, Kanchanaburi (K. 20)

Location: Lat. 14°-20'-52" N., Long. 99°-10'-45" E., on right bank 500 meters upstream from Ban Kaeng Khab, Tambon Tha Kradan, Amphoe Si Sawat, Kanchanaburi.

Drainage Area: 11,184 sq.km.

Type of Gage: Staff gage

Zero Gage at Bottom at: +44.50 m. (M.S.L.)

Bench Mark: B.M. – H.S. K. 20

Location: on right bank along gage line.
Elevation: +60.932 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: Stable, no shifting adjustment for flow computation.

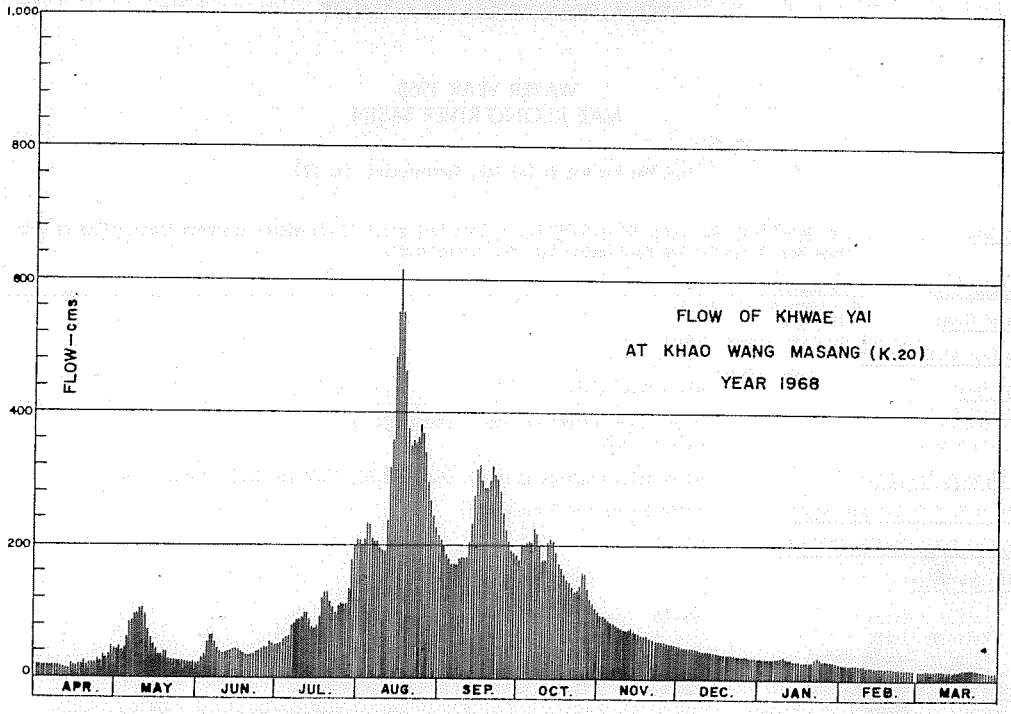
Overbank Flow Conditions: No overbank flow.

General Description: Records good. Stage-discharge relationship used is defined by discharge measurements made during 1968. No upstream state diversions for irrigation except those built by local residents. No adjustment made for virgin flow.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	45.35	45.68	45.42	45.83	47.49	47.52	47.16	46.36	45.82	45.59	45.48	45.34
2	.35	.77	.54	.83	.41	.46	.41	.33	.81	.59	.47	.33
3	.35	.66	.59	.91	.46	.30	.41	.29	.80	.58	.46	.33
4	.35	.74	.82	.95	.71	.23	.44	.26	.79	.58	.45	.33
5	.34	.90	.95	.99	.67	.14	.47	.23	.78	.57	.45	.32
6	45.34	46.21	45.98	46.14	47.50	47.15	47.40	46.20	45.77	45.57	45.45	45.32
7	.33	.25	.81	.18	.45	.13	.64	.18	.76	.57	.44	.32
8	.34	.36	.71	.23	.45	.22	.53	.15	.75	.58	.44	.31
9	.33	.37	.65	.28	.37	.24	.37	.12	.74	.61	.43	.31
10	.33	.45	.63	.27	.34	.23	.21	.10	.73	.62	.43	.31
11	45.32	46.45	45.65	46.37	47.31	47.22	47.19	46.10	45.73	45.59	45.42	45.30
12	.32	.30	.69	.37	.72	.39	.44	.12	.72	.57	.42	.30
13	.31	.06	.70	.24	48.48	.72	.48	.11	.71	.56	.41	.30
14	.43	45.90	.73	.12	.88	48.06	.46	.07	.70	.55	.40	.29
15	.34	.78	.75	.10	49.60	.37	.27	.06	.69	.54	.40	.32
16	45.36	45.69	45.74	46.16	50.07	48.46	47.14	46.04	45.68	45.53	45.39	45.30
17	.41	.58	.69	.37	.48	.23	.10	.01	.68	.52	.39	.32
18	.39	.59	.62	.63	49.72	.15	46.99	45.99	.67	.52	.39	.36
19	.47	.55	.59	.70	.16	.16	.92	.97	.67	.51	.38	.38
20	.37	.52	.59	.70	48.80	.23	.87	.96	.66	.51	.37	.34
21	45.38	45.49	45.60	46.57	48.61	48.42	46.80	45.94	45.65	45.53	45.37	45.33
22	.42	.47	.61	.47	.72	.32	.72	.93	.65	.61	.36	.36
23	.43	.46	.65	.37	.67	.26	.73	.91	.64	.63	.36	.33
24	.53	.45	.69	.49	.77	.04	.80	.90	.64	.57	.36	.31
25	.43	.45	.74	.56	.89	47.80	47.03	.89	.63	.55	.35	.30
26	45.61	45.45	45.77	46.51	48.64	47.58	47.00	45.88	45.62	45.54	45.35	45.30
27	.53	.43	.76	.55	.31	.44	46.77	.87	.61	.54	.35	.29
28	.60	.41	.86	.74	.09	.34	.62	.86	.61	.53	.34	.28
29	.77	.40	.82	.19	47.88	.30	.53	.85	.61	.51	–	.27
30	.74	.44	.79	.37	.72	.27	.46	.84	.60	.50	–	.27
31	–	.39	–	.48	.59	–	.40	–	.60	.49	–	.27
Mean	45.42	45.75	45.70	46.31	48.29	47.71	47.31	46.13	45.69	45.56	45.40	45.31
Max.	45.77	46.45	45.98	46.74	50.48	48.46	47.64	46.36	45.82	45.63	45.48	45.38
Min.	45.31	45.39	45.42	45.83	48.31	47.13	46.40	45.84	45.60	45.49	45.34	45.27

WATER YEAR 1968 : Max. 50.48 m. Min. 45.27 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	19	40	23	52	211	214	175	97	52	33	26	16
2	19	48	31	52	202	208	202	95	51	33	25	16
3	19	39	35	59	208	190	202	91	50	33	24	16
4	19	45	53	62	235	182	205	88	49	33	23	16
5	19	58	64	65	231	173	209	86	48	32	23	15
6	19	84	65	78	212	174	201	83	48	32	23	15
7	18	87	52	81	206	172	227	81	47	32	23	15
8	19	97	44	86	206	181	217	78	46	33	23	15
9	18	98	39	90	195	183	198	76	45	35	22	15
10	18	105	37	89	194	182	180	74	44	36	22	15
11	15	105	39	98	191	181	178	74	44	33	21	14
12	15	92	40	98	236	200	205	76	44	32	21	14
13	14	71	41	87	326	236	210	75	43	31	21	14
14	23	60	44	75	379	275	208	72	42	30	20	13
15	17	50	45	74	481	312	187	71	41	30	20	15
16	18	43	44	79	551	324	173	69	40	29	19	14
17	21	34	40	98	614	296	169	67	40	28	19	15
18	20	35	37	122	499	286	158	65	40	28	19	18
19	26	40	35	129	418	287	151	64	40	28	19	19
20	19	38	35	129	368	296	146	63	39	28	18	16
21	21	28	36	116	343	319	139	61	38	29	18	16
22	23	27	36	107	358	306	131	60	38	35	18	18
23	23	26	40	98	351	299	132	59	37	36	18	16
24	30	26	43	109	364	273	139	58	37	32	18	15
25	23	26	44	115	381	245	162	57	36	30	17	14
26	35	26	47	111	347	221	159	56	36	30	17	14
27	29	24	46	114	305	205	136	56	35	30	17	13
28	34	23	56	133	279	194	121	55	35	29	16	13
29	48	22	52	178	254	190	113	54	35	28	–	12
30	45	25	49	198	236	187	106	53	34	27	–	12
31	–	21	–	210	222	–	101	–	34	26	–	12
Total	686	1,543	1,292	3,192	9,603	6,991	5,240	2,114	1,288	961	570	461
Mean	22.8	49.7	43.0	103	310	233	169	70.4	41.5	31.0	20.3	14.9
Max.	48	105	65	210	614	324	227	97	52	36	26	19
Min.	14	21	23	52	191	172	101	53	34	26	16	12
Runoff – mcm.	59.270	133.315	111.628	275.788	829.699	604.022	452.736	182.264	111.283	83.030	49.248	39.830

WATER YEAR 1968 : Max. 614 Min. 12 Mean 93.0 Annual Runoff 2,932.502 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Aug. 17	17.00	50.56	627				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
MAE KLONG RIVER BASIN

Huai Mae Nam Noi at Sai Yok, Kanchanaburi (K. 22)

Location: Lat. 14°-27'-35" N., Long. 98°-46'-25" E., on left bank about 12 kilometers upstream from confluence with Khwae Noi at Ban Mae Nam Noi, Amphoe Sai Yok, Kanchanaburi.

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./R.I.D.

Location: on left bank infront of camp of station K. 22.
Elevation: +8.00 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: 1966-68

Rating Operation:

Period of Rating: 1966-68
Rated by Float: -
Rated by Current Meter: 1966-68

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

Overbank Flow Conditions: No overbank flow.

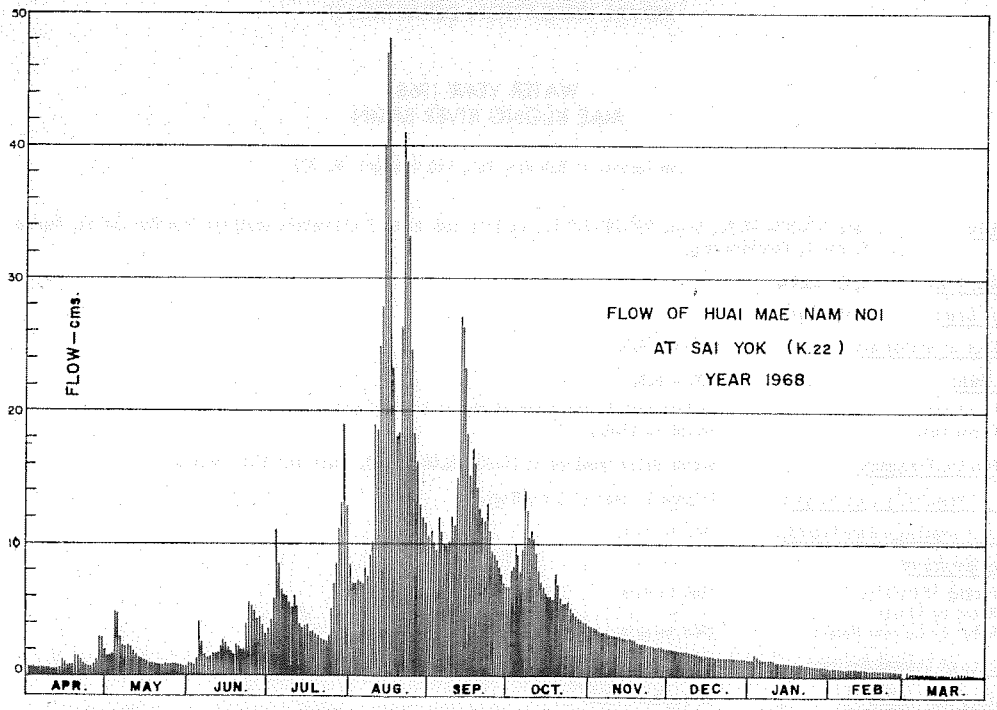
General Description: Records fair. Stage-discharge relationship used is defined by discharge measurements made during 1968. No upstream state diversions for irrigation except those built by local residents. No adjustment made for virgin flow.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.15	0.26	0.20	0.49	0.89	0.96	0.73	0.51	0.35	0.25	0.17	0.12
2	.15	.28	.18	.61	.79	.97	.83	.50	.34	.25	.17	.11
3	.15	.28	.17	.66	.75	.93	.85	.49	.34	.30	.16	.11
4	.14	.60	.29	.99	.79	.90	.95	.48	.33	.27	.16	.11
5	.14	.58	.54	.78	.78	1.04	.77	.48	.33	.25	.16	.11
6	0.14	0.40	0.35	0.73	0.76	0.93	0.92	0.47	0.33	0.25	0.16	0.11
7	.14	.34	.28	.70	.84	.93	1.12	.47	.33	.25	.16	.11
8	.13	.34	.25	.61	.78	.93	.04	.46	.32	.25	.16	.11
9	.13	.37	.25	.55	.89	1.03	0.95	.45	.32	.24	.16	.11
10	.13	.34	.30	.60	.93	.00	1.00	.45	.31	.24	.16	.11
11	0.13	0.30	0.30	0.70	1.31	1.04	0.91	0.44	0.31	0.23	0.15	0.10
12	.13	.28	.29	.63	.30	.23	.84	.44	.31	.23	.15	.10
13	.13	.25	.36	.52	.56	.59	.77	.43	.30	.23	.15	.10
14	.24	.24	.41	.49	.63	.55	.74	.43	.30	.22	.15	.10
15	.20	.22	.38	.51	2.12	.32	.71	.42	.30	.22	.14	.10
16	0.17	0.21	0.35	0.52	2.14	1.18	0.69	0.43	0.29	0.22	0.14	0.10
17	.17	.20	.31	.47	1.65	.10	.69	.42	.29	.21	.14	.10
18	.18	.20	.28	.47	.38	.25	.66	.41	.28	.21	.13	.10
19	.27	.20	.38	.45	.27	.11	.81	.39	.28	.21	.13	.11
20	.27	.18	.34	.44	.29	.05	.70	.39	.28	.21	.13	.11
21	0.23	0.18	0.33	0.42	1.35	1.03	0.65	0.39	0.28	0.21	0.13	0.11
22	.19	.17	.35	.41	.98	0.99	.65	.39	.27	.20	.13	.11
23	.17	.20	.35	.40	.88	1.06	.67	.38	.27	.20	.13	.10
24	.15	.19	.65	.41	.77	0.95	.64	.37	.27	.20	.13	.09
25	.15	.18	.64	.58	.48	.89	.60	.37	.27	.19	.13	.09
26	0.18	0.18	0.61	0.72	1.30	0.89	0.58	0.37	0.26	0.19	0.12	0.09
27	.24	.19	.55	.82	.19	.85	.57	.37	.26	.18	.12	.08
28	.42	.17	.56	1.00	.09	.82	.56	.37	.26	.18	.12	.08
29	.42	.16	.50	.06	.03	.77	.54	.36	.26	.18		.08
30	.32	.15	.45	.33	.03	.75	.53	.35	.25	.18		.08
31		.17		.06	0.99		.52		.25	.17		.08
Mean	0.19	0.26	0.38	0.65	1.26	1.03	0.75	0.42	0.29	0.22	0.14	0.10
Max.	0.42	0.60	0.65	1.33	2.14	1.59	1.12	0.51	0.35	0.30	0.17	0.12
Min.	0.13	0.15	0.17	0.40	0.75	0.75	0.52	0.35	0.25	0.17	0.12	0.08

WATER YEAR 1968 : Max. 2.14 m. Min. 0.08 m.

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.62	1.42	0.96	3.61	9.03	10	6.53	3.84	2.18	1.34	0.76	0.42
2	0.62	1.57	0.83	5.00	7.34	11	7.99	3.72	2.09	1.34	0.76	0.36
3	0.62	1.57	0.76	5.63	6.80	9.83	8.33	3.61	2.09	1.72	0.69	0.36
4	0.56	4.88	1.64	11	7.34	9.20	10	3.50	2.00	1.49	0.69	0.36
5	0.56	4.65	4.18	7.20	7.20	12	7.07	3.50	2.00	1.34	0.69	0.36
6	0.56	2.64	2.18	6.53	6.93	9.83	9.62	3.40	2.00	1.34	0.69	0.36
7	0.56	2.09	1.57	6.13	8.16	9.83	14	3.40	2.00	1.34	0.69	0.36
8	0.49	2.09	1.34	5.00	7.20	9.83	12	3.29	1.90	1.34	0.69	0.36
9	0.49	2.36	1.34	4.30	9.03	12	10	3.18	1.90	1.26	0.69	0.36
10	0.49	2.09	1.72	4.88	9.83	11	11	3.18	1.81	1.26	0.69	0.36
11	0.49	1.72	1.72	6.13	19	12	9.41	3.07	1.81	1.19	0.62	0.29
12	0.49	1.57	1.64	5.25	18	17	8.16	3.07	1.81	1.19	0.62	0.29
13	0.49	1.34	2.27	3.95	26	27	7.07	2.96	1.72	1.19	0.62	0.29
14	1.26	1.26	2.75	3.61	28	26	6.67	2.96	1.72	1.11	0.62	0.29
15	0.96	1.11	2.46	3.84	47	19	6.26	2.86	1.72	1.11	0.56	0.29
16	0.76	1.04	2.18	3.95	48	15	6.00	2.96	1.64	1.11	0.56	0.29
17	0.76	0.96	1.81	3.40	29	14	6.00	2.86	1.64	1.04	0.56	0.29
18	0.83	0.96	1.57	3.40	21	17	5.63	2.75	1.57	1.04	0.49	0.29
19	1.49	0.96	2.46	3.18	18	14	7.64	2.55	1.57	1.04	0.49	0.36
20	1.49	0.83	2.09	3.07	18	12	6.13	2.55	1.57	1.04	0.49	0.36
21	1.19	0.83	2.00	2.86	20	12	5.50	2.55	1.57	1.04	0.49	0.36
22	0.89	0.76	2.18	2.75	41	11	5.50	2.55	1.49	0.94	0.49	0.36
23	0.76	0.96	4.30	2.64	37	13	5.75	2.46	1.49	0.96	0.49	0.29
24	0.62	0.89	5.50	2.75	33	10	5.38	2.36	1.49	0.96	0.49	0.23
25	0.62	0.83	5.38	4.65	24	9.03	4.88	2.36	1.49	0.89	0.49	0.23
26	0.83	0.83	5.00	6.40	18	9.03	4.65	2.36	1.42	0.89	0.42	0.23
27	1.26	0.89	4.30	7.82	16	8.33	4.53	2.36	1.42	0.83	0.42	0.17
28	2.86	0.76	4.42	11	13	7.82	4.42	2.36	1.42	0.83	0.42	0.17
29	1.86	0.69	3.72	13	12	7.07	4.18	2.27	1.42	0.83		0.17
30	1.90	0.62	3.18	19	12	6.80	4.07	2.18	1.34	0.83		0.17
31		0.76		13	11		3.95		1.34	0.76		0.17
Total	28.38	45.93	77.45	184.93	587.86	371.60	218.32	87.02	52.63	34.61	16.38	9.25
Mean	0.95	1.48	2.58	5.96	19.0	12.4	7.04	2.90	1.70	1.12	0.585	0.298
Max.	2.86	4.88	5.50	19	48	27	14	3.84	2.18	1.72	0.76	0.42
Min.	0.49	0.62	0.76	2.64	6.80	6.80	3.95	2.18	1.34	0.76	0.42	0.17
Runoff – mcm.	2.452	3.968	6.692	15.978	50.791	32.106	18.863	7.518	4.547	2.990	1.415	0.799

WATER YEAR 1968 : Max. 48 Min. 0.17 Mean 4.70 Annual Runoff 148.121 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Aug. 16	10.00	2.28	54				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
MAE KLONG 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: Staff gage

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

Bench Mark: B.M. – H.S.

Location: on left bank in the fence of meteorological unit.
Elevation: +6.250 m. (A.D.)

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

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

Period of Available Gage Records: 1968 to date

Rating Operation:

Period of Rating: 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 fair except those for drought period which are poor. Stage-discharge relationship used is defined by discharge measurements made during 1968. No upstream state diversions for irrigation except those built by local residents. No adjustment made for virgin flow.

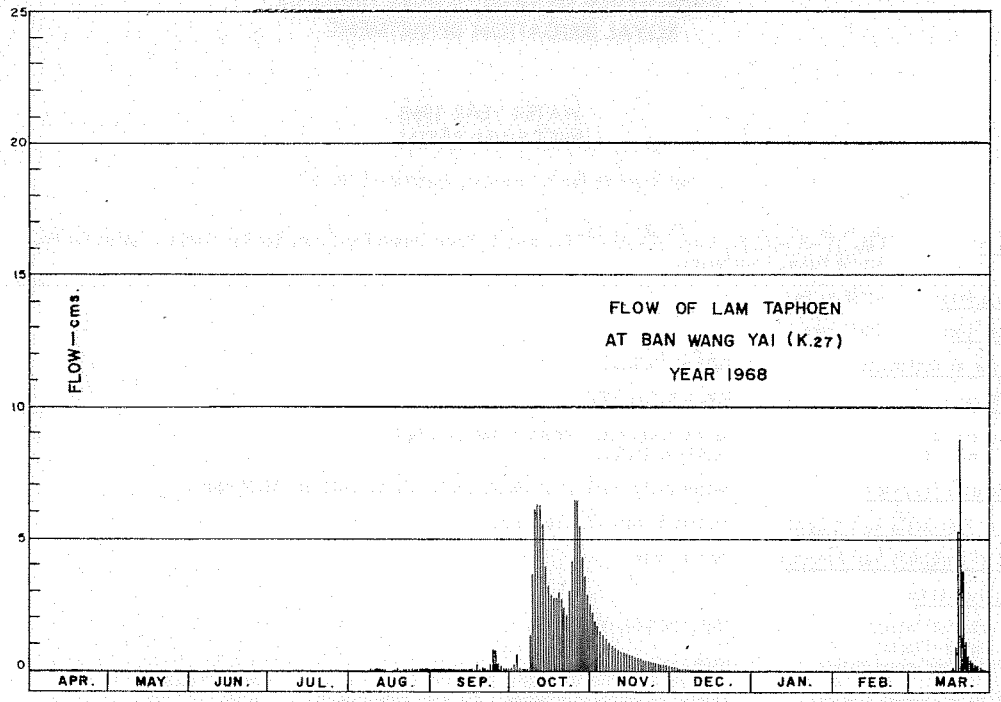
Remarks: Stream gaging began on July 8, 1968. Records for period of no flow are omitted.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1					0.20		0.57	1.26	0.65	0.07		
2					.19		.75	.19	.61	.07		
3					.18		.99	.15	.60	.07		
4					.16		.69	.11	.59	.07		
5					.15		.63	.07	.59	.07		
6					0.14		0.59	1.05	0.58	0.06		
7					.13		.58	.02	.57	.05		
8				0.30	.11		.59	0.97	.56	.04		
9				.29	.10		1.41	.95	.52	.04		
10				.28	.09		2.02	.92	.47	.03		
11				0.27	0.08		2.06	0.91	0.43	0.02		
12				.26	.07		.05	.89	.40	.01		
13				.25	.07		1.92	.87	.39	.01		
14				.24	.05		.60	.86	.37			
15				.23	.05		.48	.85	.34			
16				0.23	0.04		1.42	0.84	0.32			
17				.23	.03		.40	.82	.29			
18				.29	.02	0.82	.40	.80	.27			0.99
19				.54	.02	.65	.45	.79	.26			2.41
20				.58	.01	.74	.38	.77	.25			1.67
21				0.50		0.69	1.31	0.76	0.24			1.08
22				.45		.64	.26	.74	.23			0.89
23				.41		.60	.28	.73	.22			.80
24				.36		1.04	.52	.72	.21			.73
25				.33		.01	2.09	.71	.20			.68
26				0.31		0.75	2.09	0.70	0.19			0.65
27				.29		.77	1.87	.69	.18			.62
28				.27		.64	.70	.68	.16			.58
29				.24		.64	.55	.67	.15			.50
30				.22		.61	.44	.66	.14			.45
31				.21			.33		.13			.40
Mean				0.24		0.32	1.37	0.87	0.36			0.40
Max.				0.58		1.04	2.09	1.26	0.65			2.41
Min.				0.21		0.00	0.57	0.66	0.13			0.50

WATER YEAR 1968 : Max. m. Min. m.

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1							0.02	2.10	0.18			
2							0.15	1.80	0.12			
3							0.64	1.64	0.10			
4							0.08	1.48	0.09			
5							0.05	1.33	0.09			
6							0.03	1.26	0.08			
7							0.02	1.15	0.07			
8							0.03	0.98	0.06			
9							2.79	0.92	0.02			
10							6.07	0.82				
11							6.34	0.79				
12							6.27	0.73				
13							5.48	0.68				
14							3.72	0.65				
15							3.12	0.62				
16							2.84	0.59				
17							2.74	0.54				
18						0.26	2.74	0.48				1.05
19				0.04		0.06	2.98	0.46				8.78
20				0.08		0.14	2.65	0.41				4.09
21						0.08	2.33	0.39				1.37
22						0.05	2.10	0.35				0.73
23						0.03	2.19	0.33				0.48
24						0.82	3.32	0.30				0.33
25						0.71	6.53	0.28				0.23
26						0.15	6.53	0.26				0.18
27						0.18	5.19	0.24				0.13
28						0.05	4.25	0.23				0.08
29						0.05	3.47	0.21				0.000
30						0.04	2.93	0.20				0.00
31							2.42					0.00
Total				0.12		2.62	90.02	22.22				17.45
Mean				0.004		0.087	2.90	0.741				0.563
Max.				0.08		0.82	6.53	2.10				8.78
Min.				0.00		0.00	0.02	0.20				0.00
Runoff - MCM.				0.010		0.226	7.778	1.920				1.508

WATER YEAR 1968 : Max. 8.78 Min. 0.00 Mean 0.365 Annual Runoff 11.512 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
May.19	12.00	2.61	10				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
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. - R.I.D. 075

Location: at the cross road infront of Wang 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, 1967-69, 1971.
Rated by Float: -
Rated by Current Meter: 1965, 1967-69, 1971.

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

Overbank Flow Conditions: No overbank flow.

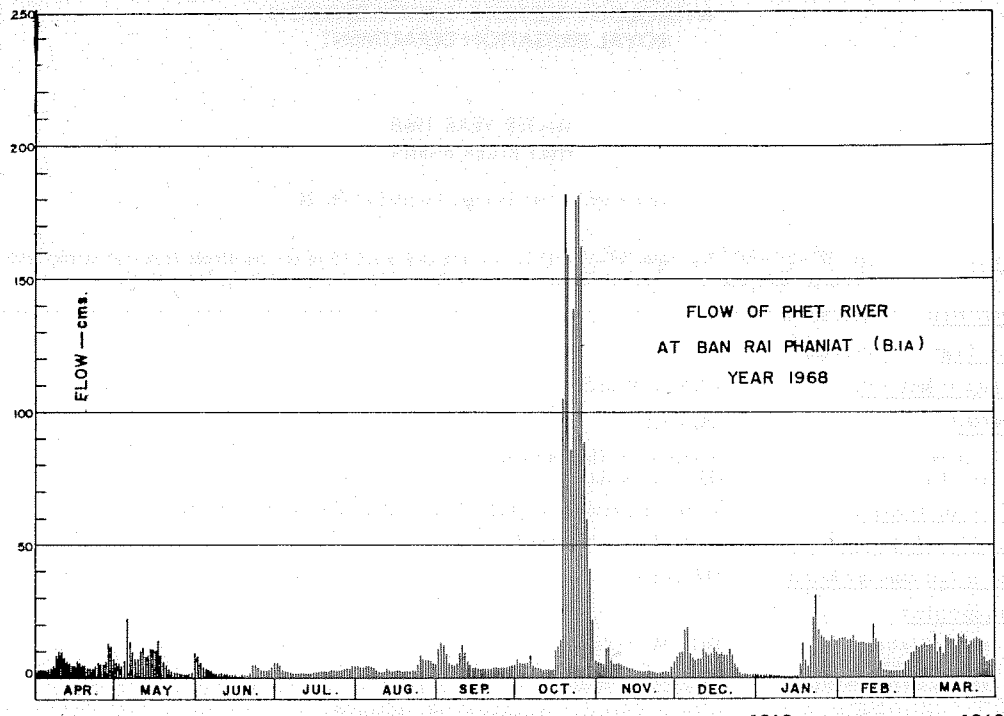
General Description: Records fair. Stage-discharge relationship used is defined by discharge measurements made during 1968. Flow regulated by Kaneg Krachan Reservoir and Phet Diversion Dam at above gage site, diversion for irrigation of about 27,800 hectares. The data presented is from actual observation at gage site, no adjustment made for virgin flow.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	1.01	1.30	1.38	1.27	1.17	1.57	1.35	1.29	1.43	0.85	1.72	1.58
2	.03	.25	.17	.18	.15	.63	.25	.24	.52	.84	.72	.54
3	.04	.13	.09	.03	.17	.58	.24	.23	.47	.84	.71	.60
4	1.00	.29	.08	1.00	.18	.41	.26	.53	.82	.83	.69	.62
5	.09	2.00	.04	0.97	.20	.25	.46	.57	.87	.83	.67	.60
6	1.12	1.57	0.98	0.96	1.18	1.21	1.45	1.27	1.41	0.85	1.75	1.60
7	.21	.51	.86	.95	.15	.19	.20	.24	.37	.87	.69	.58
8	.44	.38	.87	.93	.04	.27	.10	.22	.32	.85	.65	.77
9	.52	.32	.90	.94	1.00	.44	.08	.26	.36	.83	.65	.44
10	.47	.52	.88	.95	0.96	.59	.04	.21	.38	.82	.64	.54
11	1.34	1.55	0.88	0.94	0.98	1.37	1.05	1.17	1.53	0.81	1.65	1.38
12	.30	.36	.84	.94	1.11	.27	.10	.13	.46	.81	.64	.74
13	.31	.43	.83	.94	.03	.20	.10	.12	.44	.80	.64	.72
14	.20	.54	.82	.95	0.99	.10	.08	.08	.46	.81	.91	.66
15	.16	.57	.83	.96	1.00	.09	.12	.01	.54	.81	.67	.67
16	1.32	1.50	0.78	0.96	1.04	1.06	1.65	1.00	1.47	0.83	1.41	1.56
17	.24	.67	.80	.97	1.00	.05	.53	1.00	.45	1.32	.10	.74
18	.22	.37	.83	.99	0.99	.07	.86	0.99	.48	.64	.06	.72
19	.20	.30	.80	.98	.98	.06	4.62	.97	.43	.28	.03	.74
20	.08	.17	.78	1.00	.99	.07	5.09	.98	.43	.17	.02	.69
21	1.08	1.02	0.96	0.99	1.00	1.10	4.33	0.98	1.54	1.59	1.02	1.61
22	.10	0.97	1.22	1.02	.02	.14	3.58	.96	.36	2.04	.01	.67
23	.16	.96	.20	.03	1.00	.13	5.07	.94	.20	2.28	.02	.67
24	.28	.92	.10	.02	.24	.14	5.08	.93	.04	1.80	.01	.50
25	.23	.90	.04	.05	.43	.14	5.09	.96	0.95	1.76	.01	.48
26	1.24	0.90	1.02	1.03	1.35	1.13	4.38	0.97	0.92	1.73	1.28	1.41
27	.31	.87	.02	.07	.32	.15	3.35	.97	.90	.68	.26	.27
28	.63	.86	.03	.09	.32	.16	2.75	.97	.89	.67	.48	.28
29	.53	.90	.15	.11	.30	.17	2.57	1.12	.89	.74	.47	.32
30	.31	.93	.28	.16	.27	.23	1.41	1.30	.88	.69	-	.34
31	-	1.46	-	.16	.09	-	1.30	-	.86	.66	-	.30
Mean	1.24	1.27	0.98	1.02	1.09	1.23	2.34	1.12	1.32	1.24	1.43	1.56
Max.	1.63	2.00	1.38	1.27	1.43	1.63	5.09	1.57	1.87	2.28	1.75	1.77
Min.	1.00	0.86	0.78	0.93	0.98	1.05	1.04	0.93	0.86	0.80	1.01	1.27

WATER YEAR 1968 : Max. 5.09 m. Min. 0.78 m.

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	2.50	6.00	7.25	5.55	4.17	11	6.95	5.85	8.50	1.15	15	12
2	2.70	5.25	4.17	4.28	3.95	13	5.25	5.10	10	1.10	15	11
3	2.80	3.73	3.30	2.70	4.17	12	5.10	4.95	9.30	1.10	15	12
4	2.40	5.85	3.20	2.40	4.28	8.10	5.40	11	18	1.05	14	13
5	3.30	22	2.80	2.10	4.50	5.25	5.40	11	19	1.05	14	12
6	3.62	11	2.20	2.00	4.28	4.65	8.90	5.55	8.10	1.15	16	12
7	4.65	10	1.20	1.90	3.95	4.39	4.50	5.10	7.33	1.25	14	12
8	8.70	7.52	1.25	1.70	2.80	5.55	3.40	4.80	6.38	1.15	13	16
9	10	6.38	1.40	1.80	2.40	8.70	3.20	5.40	7.14	1.05	13	8.70
10	9.30	10	1.30	1.90	2.00	12	2.80	4.65	7.52	1.00	13	11
11	6.76	11	1.30	1.80	2.20	7.33	2.90	4.17	11	0.95	13	7.52
12	6.00	7.14	1.10	1.80	3.51	5.55	3.40	3.73	9.10	0.95	13	16
13	6.19	8.50	1.05	1.80	2.70	4.50	3.40	3.62	8.70	0.90	13	15
14	4.50	11	1.00	1.90	2.30	3.40	3.20	3.20	9.10	0.95	20	14
15	4.06	11	1.05	2.00	2.40	3.30	3.62	2.50	11	0.95	14	14
16	6.38	9.90	0.81	2.00	2.80	3.00	13	2.40	9.30	1.05	8.10	11
17	5.10	14	0.90	2.10	2.40	2.90	11	2.40	8.90	6.38	3.40	16
18	4.80	7.33	1.05	2.30	2.30	3.10	19	2.30	9.50	13	3.00	15
19	4.50	6.00	0.90	2.20	2.20	3.00	148	2.10	8.50	5.70	2.70	16
20	3.20	4.17	0.81	2.40	2.30	3.10	181	2.20	8.50	4.17	2.60	14
21	3.20	2.60	2.00	2.30	2.40	3.40	129	2.20	11	12	2.60	12
22	3.40	2.10	4.80	2.60	2.60	3.84	84	2.00	7.14	23	2.50	14
23	4.06	2.00	4.50	2.70	2.40	3.73	179	1.80	4.50	31	2.60	14
24	5.70	1.60	3.40	2.60	5.10	3.84	180	1.70	2.80	17	2.50	9.90
25	4.95	1.40	2.80	2.90	8.50	3.84	181	2.00	1.90	16	2.50	9.50
26	5.10	1.40	2.60	2.70	6.95	3.73	132	2.10	1.60	15	5.70	8.10
27	6.19	1.25	2.60	3.10	6.38	3.95	73	2.10	1.40	14	5.40	5.55
28	13	1.20	2.70	3.30	6.38	4.06	48	2.10	1.35	14	9.50	5.70
29	11	1.40	3.95	3.51	6.00	4.17	40	3.62	1.35	16	9.30	6.38
30	6.19	1.70	5.70	4.06	5.55	4.95	8.10	6.00	1.30	14	–	6.76
31	–	9.10	–	4.06	3.30	–	6.00	–	1.20	14	–	6.00
Total	164.25	203.52	73.09	80.46	117.17	163.33	1,499.52	117.64	230.41	232.05	277.40	356.11
Mean	5.48	6.57	2.44	2.60	3.78	5.44	48.4	3.92	7.43	7.48	9.56	11.49
Max.	13.00	22	7.25	5.55	8.50	13	181	11	19	23	20	16
Min.	2.40	1.20	0.81	1.70	2.00	2.90	2.80	2.00	1.20	0.90	2.50	5.55
Runoff – mcm.	14.191	17.584	6.314	6.951	10.123	14.111	129.558	10.164	19.907	20.049	23.967	30.767

WATER YEAR 1968 : Max. 181 Min. 0.81 Mean 9.60 Annual Runoff 303.691 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Oct. 20	01.00	5.10	182				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
PHET RIVER BASIN

Phet River at Phet Barrage, Phetchaburi (B. 2A)

Location: Lat. 12°-54'-44" N., Long. 99°-51'-31" E., on left bank about 50 meters downstream from Phet Barrage and discharge measurements are made at 500 meters at downstream side, 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: 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: 1961, 1965 to date.
Rated by Float: -
Rated by Current Meter: 1961, 1965 to date.

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

Overbank Flow Conditions: No overbank flow.

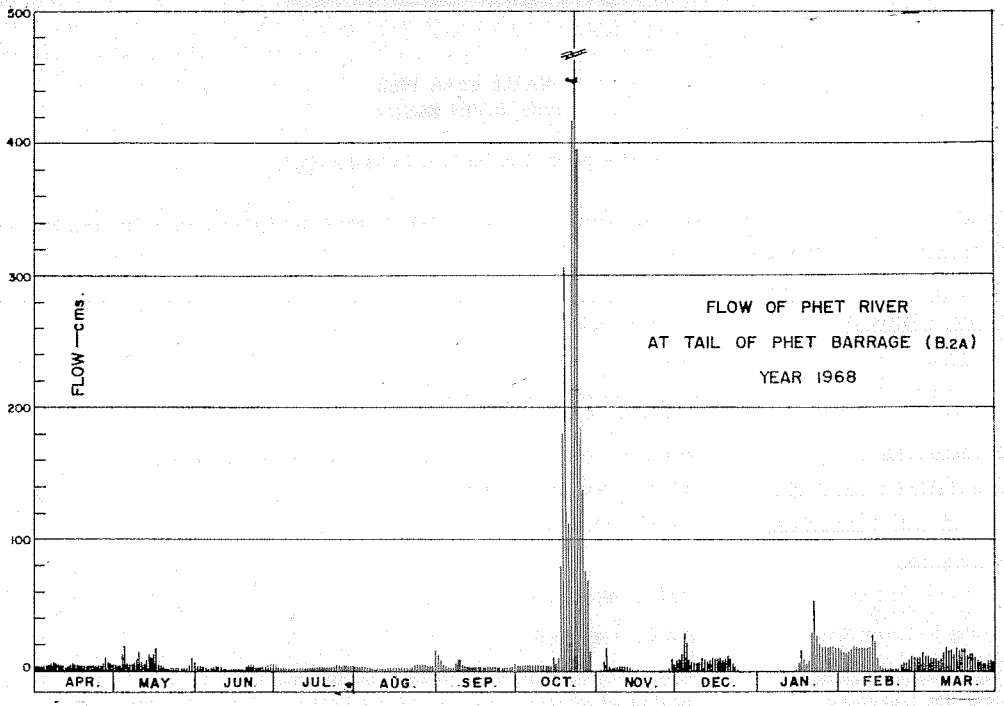
General Description: Records good. Stage-discharge relationship used is defined by discharge measurements made during 1968. Flow regulated by storage and diversion dam for irrigation of about 27,800 hectares at above gage site. No adjustment made for virgin flow.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	12.13	12.16	12.12	12.14	12.10	12.34	12.12	12.05	12.32	12.05	12.42	12.27
2	.13	.13	.12	.08	.10	.25	.12	.05	.27	.05	.36	.28
3	.13	.12	.12	.07	.10	.17	.12	.22	.49	.05	.36	.38
4	.13	.51	.12	.07	.10	.12	.17	.45	.68	.04	.37	.29
5	.14	.18	.10	.07	.10	.12	.13	.11	.30	.04	.44	.33
6	12.17	12.18	12.08	12.07	12.09	12.12	12.08	12.16	12.21	12.04	12.47	12.28
7	.20	.15	.13	.07	.07	.15	.08	.10	.19	.04	.45	.49
8	.22	.15	.14	.07	.05	.20	.08	.11	.20	.04	.45	.28
9	.16	.27	.13	.07	.06	.29	.08	.11	.20	.04	.45	.21
10	.15	.39	.13	.07	.06	.16	.08	.11	.29	.04	.45	.23
11	12.15	12.15	12.10	12.07	12.07	12.13	12.08	12.11	12.26	12.04	12.45	12.37
12	.15	.19	.08	.07	.07	.12	.08	.11	.23	.04	.45	.46
13	.11	.26	.06	.07	.07	.12	.08	.08	.24	.03	.64	.37
14	.16	.36	.05	.07	.07	.12	.09	.05	.29	.03	.51	.42
15	.18	.27	.06	.07	.07	.12	.32	.05	.24	.03	.26	.30
16	12.15	12.46	12.10	12.07	12.07	12.12	12.17	12.05	12.26	12.19	12.11	12.46
17	.15	.15	.09	.08	.07	.10	.28	.05	.31	.43	.10	.40
18	.14	.15	.06	.08	.07	.10	14.25	.05	.25	.25	.10	.43
19	.12	.10	.06	.08	.07	.10	16.15	.05	.25	.15	.10	.43
20	.12	.08	.17	.08	.07	.10	15.01	.05	.32	.23	.10	.30
21	12.12	12.08	12.18	12.08	12.07	12.10	13.50	12.05	12.27	12.61	12.10	12.35
22	.15	.08	.16	.08	.07	.11	15.46	.05	.18	13.08	.10	.35
23	.16	.08	.12	.08	.15	.10	17.48	.05	.10	12.62	.10	.27
24	.15	.08	.12	.08	.17	.10	.10	.05	.05	.51	.17	.23
25	.15	.08	.12	.08	.15	.10	15.12	.05	.05	.43	.18	.22
26	12.17	12.08	12.12	12.08	12.15	12.10	13.69	12.05	12.05	12.47	12.19	12.15
27	.32	.08	.12	.08	.15	.10	.19	.05	.05	.45	.24	.16
28	.21	.08	.14	.10	.15	.10	.34	.08	.05	.46	.32	.22
29	.17	.13	.18	.10	.13	.11	12.05	.28	.05	.48	-	.21
30	.17	.30	.18	.10	.09	.18	.05	.15	.05	.45	-	.19
31	-	.18	-	.10	.43	-	.05	-	.05	.45	-	.19
Mean	12.16	12.18	12.11	12.08	12.11	12.14	12.12	12.10	12.22	12.25	12.30	12.31
Max.	12.32	12.51	12.18	12.14	12.43	12.34	17.48	12.45	12.68	13.08	12.64	12.49
Min.	12.12	12.08	12.05	12.07	12.05	12.10	12.05	12.05	12.05	12.03	12.10	12.15

WATER YEAR 1969 : Max. 17.48 m. Min. 12.03 m.

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	4.55	5.60	4.20	4.90	3.50	13	4.20	1.75	12	1.75	16	9.80
2	4.55	4.55	4.20	2.80	3.50	9.00	4.20	1.75	9.80	1.75	14	10
3	4.55	4.20	4.20	2.45	3.50	5.95	4.20	7.80	19	1.75	14	15
4	4.55	20	4.20	2.45	3.50	4.20	5.95	18	29	1.40	14	11
5	4.90	6.30	3.50	2.45	3.50	4.20	4.55	3.85	11	1.40	17	12
6	5.95	6.30	2.80	2.45	3.15	4.20	2.80	3.50	7.40	1.40	19	10
7	7.00	5.25	4.55	2.45	2.45	5.25	2.80	3.50	6.65	1.40	18	19
8	7.80	5.25	4.90	2.45	1.75	7.00	2.80	3.85	7.00	1.40	18	10
9	5.60	9.80	4.55	2.45	2.10	11	2.80	3.85	7.00	1.40	18	7.40
10	5.25	15	4.55	2.45	2.10	5.60	2.80	3.85	11	1.40	18	8.20
11	5.25	5.25	3.50	2.45	2.45	4.55	2.80	3.85	9.40	1.40	18	14
12	5.25	6.65	2.80	2.45	2.45	4.20	2.80	3.85	8.20	1.40	18	18
13	3.85	9.40	2.10	2.45	2.45	4.20	2.80	2.80	8.60	1.05	27	14
14	5.60	14	1.75	2.45	2.45	4.20	3.15	1.75	11	1.05	20	16
15	6.30	9.80	2.10	2.45	2.45	4.20	12	1.75	8.60	1.05	9.40	11
16	5.25	18	3.50	2.45	2.45	4.20	5.95	1.75	9.40	6.65	3.85	18
17	5.25	5.25	3.15	2.80	2.45	3.50	10	1.75	11	17	3.50	15
18	4.90	5.25	2.10	2.80	2.45	3.50	131	1.75	9.00	9.00	3.50	17
19	4.20	3.50	2.10	2.80	2.45	3.50	305	1.75	9.00	5.25	3.50	17
20	4.20	2.80	5.95	2.80	2.45	3.50	190	1.75	12	8.20	3.50	11
21	4.20	2.80	6.30	2.80	2.45	3.50	78	1.75	9.80	25	3.50	13
22	5.25	2.80	5.60	2.80	2.45	3.85	227	1.75	6.30	53	3.50	13
23	5.60	2.80	4.20	2.80	5.25	3.50	568	1.75	3.50	26	3.50	9.80
24	5.25	2.80	4.20	2.80	5.95	3.50	479	1.75	1.75	20	9.95	8.20
25	5.25	2.80	4.20	2.80	5.25	3.50	199	1.75	1.75	17	6.30	7.80
26	5.95	2.80	4.20	2.80	5.25	3.50	91	1.75	1.75	19	6.65	5.25
27	12	2.80	4.20	2.80	5.25	3.50	59	1.75	1.75	18	8.60	5.60
28	7.40	2.80	4.90	3.50	5.25	3.50	68	2.80	1.75	18	12	7.80
29	5.95	4.55	6.30	3.50	4.55	3.85	1.75	10	1.75	19	–	7.40
30	5.95	11	6.30	3.50	3.15	6.30	1.75	5.25	1.75	18	–	6.65
31	–	6.30	–	3.50	17	–	1.75	–	1.75	18	–	6.65
Total	167.55	206.40	121.10	86.80	115.35	147.45	2,475.85	104.75	249.65	318.10	326.25	354.55
Mean	5.58	6.66	4.04	2.80	3.72	4.91	79.9	3.49	8.05	10.3	11.6	11.4
Max.	12	20	6.30	4.90	17	13	568	18	29	53	27	19
Min.	4.20	2.80	1.75	2.45	1.75	3.50	1.75	1.75	1.75	1.05	3.50	5.25
Runoff – MCM.	14.476	17.833	10.463	7.499	9.966	12.740	214.000	9.050	21.570	27.484	28.188	30.633

WATER YEAR 1968 : Max. 568 Min. 1.05 Mean 12.8 Annual Runoff 403.903 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Oct. 23, 68	05.00	17.64	609				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
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 Tambon 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: on left bank near the upper gage.
Elevation: +48.632 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: 1930-42, 1954 to date

Rating Operation:

Period of Rating: 1954-59, 1968 to date
Rated by Float: –
Rated by Current Meter: 1954-59, 1968 to date

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

Overbank Flow Conditions: No overbank flow.

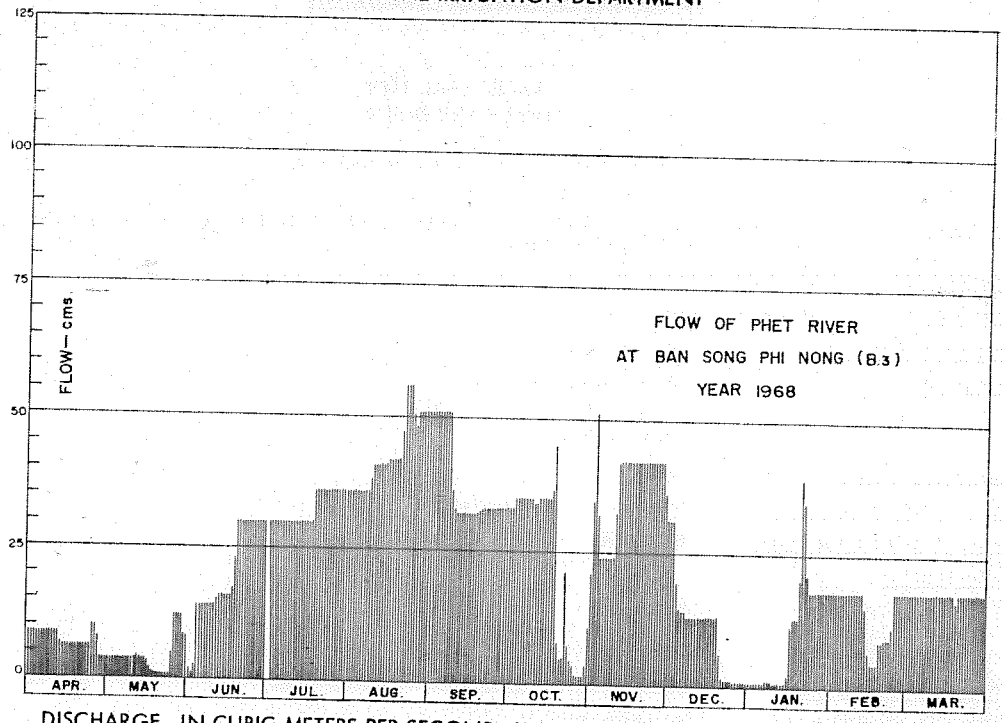
General Description: Records fair. Stage-discharge relationship used is defined by discharge measurements made during 1968. Flow regulated by Kaeng Kracnan Reservoir. No adjustment made for virgin flow.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	42.00	41.81	41.65	42.47	42.58	42.78	42.53	42.24	42.49	41.62	42.25	42.25
2	.00	.81	.65	.47	.58	.78	.53	.49	.49	.61	.25	.25
3	.00	.81	.80	.47	.58	.78	.55	.78	.49	.62	.25	.25
4	.00	.81	42.16	.47	.58	.78	.55	.36	.20	.62	.25	.25
5	.00	.81	.16	.47	.58	.78	.55	.36	.15	.61	.25	.25
6	42.00	41.81	42.16	42.47	42.58	42.78	42.55	42.36	42.15	41.61	42.25	42.25
7	.00	.81	.16	.47	.58	.78	.55	.36	.13	.64	.25	.25
8	.00	.81	.16	.47	.58	.78	.55	.36	.13	.64	.25	.25
9	.00	.81	.16	.47	.60	.55	.55	.36	.13	.62	.25	.25
10	.00	.81	.16	.47	.65	.51	.54	.36	.13	.61	.25	.24
11	42.00	41.81	42.18	42.47	42.65	42.51	42.54	42.54	42.13	41.61	42.25	42.24
12	.00	.83	.21	.47	.65	.51	.55	.67	.13	.61	.25	.24
13	41.92	.82	.21	.47	.65	.51	.55	.67	.13	.61	.25	.24
14	.92	.81	.21	.47	.65	.51	.55	.67	.13	.67	.15	.24
15	.92	.81	.21	.47	.65	.55	.55	.67	.13	.70	41.86	.24
16	41.92	41.78	42.21	42.47	42.66	42.51	42.55	42.67	42.13	42.10	41.85	42.24
17	.92	.69	.21	.47	.66	.51	.55	.67	.13	.13	.85	.24
18	.92	.64	.30	.47	.66	.51	.71	.67	.13	.13	.85	.24
19	.92	.63	.47	.58	.66	.51	.01	.67	.13	.13	42.01	.20
20	.92	.62	.47	.58	.66	.53	41.86	.67	.01	.30	.01	.24
21	41.92	41.62	42.47	42.58	42.66	42.53	41.77	42.67	41.69	42.62	42.02	42.24
22	.92	.60	.47	.58	.75	.53	42.34	.67	.66	.51	.02	.24
23	.92	.60	.47	.58	.85	.53	41.98	.67	.64	.25	.02	.24
24	.92	.60	.47	.58	.85	.53	.85	.67	.64	.25	.11	.24
25	42.04	.74	.47	.58	.78	.53	.81	.67	.63	.25	.24	.24
26	42.04	42.09	42.47	42.58	42.74	42.53	41.70	42.67	41.63	42.25	42.24	42.24
27	41.98	.10	.47	.58	.79	.53	.69	.67	.63	.25	.24	.24
28	.81	.10	.47	.58	.79	.53	.69	.67	.62	.25	.25	.24
29	.81	.10	.47	.58	.78	.53	.69	.67	.62	.25	–	.24
30	.81	41.98	.47	.58	.78	.53	.67	.49	.62	.25	–	.24
31	–	.70	–	.58	.78	–	42.07	–	.62	.25	–	.24
Mean	41.95	41.80	42.25	42.52	42.68	42.59	42.26	42.57	42.34	41.95	42.14	42.24
Max.	42.04	42.10	42.47	42.58	42.85	42.78	42.71	42.78	42.49	42.62	42.25	42.25
Min.	41.81	41.60	41.65	42.47	42.58	42.51	41.67	42.36	41.62	41.61	41.85	42.24

WATER YEAR 1968 : Max. 42,85 m. Min. 41.60 m.

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	8.60	3.73	1.23	30	36	51	33	18	31	0.88	18	18
2	8.60	3.73	1.23	30	36	51	33	31	31	0.77	18	18
3	8.60	3.73	3.50	30	36	51	35	51	31	0.88	18	18
4	8.60	3.73	14	30	36	51	35	24	16	0.88	18	18
5	8.60	3.73	14	30	36	51	35	24	14	0.77	18	18
6	8.60	3.73	14	30	36	51	35	24	14	0.77	18	18
7	8.60	3.73	14	30	36	51	35	24	13	1.11	18	18
8	8.60	3.73	14	30	36	51	35	24	13	1.11	18	18
9	8.60	3.73	14	30	38	35	35	24	13	0.88	18	18
10	8.60	3.73	14	30	41	32	34	24	13	0.77	18	18
11	8.60	3.73	15	30	41	32	34	34	13	0.77	18	18
12	8.60	4.19	16	30	41	32	35	42	13	0.77	18	18
13	6.36	3.96	16	30	41	32	35	42	13	0.77	18	18
14	6.36	3.73	16	30	41	32	35	42	13	0.77	14	18
15	6.36	3.73	16	30	41	32	35	42	13	1.80	4.88	18
16	6.36	3.16	16	30	42	32	35	42	13	12	4.65	18
17	6.36	1.69	16	30	42	32	35	42	13	13	4.65	18
18	6.36	1.11	21	30	42	32	45	42	13	13	4.65	18
19	6.36	0.99	30	36	42	32	8.94	42	13	13	8.94	16
20	6.36	0.88	30	36	42	33	4.88	42	8.94	21	8.94	18
21	6.36	0.88	30	36	42	33	2.99	42	1.69	39	9.28	18
22	6.36	0.65	30	36	48	33	21	42	1.34	32	9.28	18
23	6.36	0.65	30	36	56	33	8.04	42	1.11	18	9.28	18
24	6.36	0.65	30	36	56	33	4.65	42	1.11	18	12	18
25	9.96	2.48	30	36	51	33	3.73	42	0.99	18	18	18
26	9.96	12	30	36	48	33	1.80	42	0.99	18	18	18
27	8.04	12	30	36	51	33	1.69	42	0.99	18	18	18
28	3.73	12	30	36	51	33	1.69	42	0.88	18	18	18
29	3.73	12	30	36	51	33	1.69	42	0.88	18	–	18
30	3.73	8.04	30	36	51	33	1.69	31	0.88	18	–	18
31	–	8.04	–	36	51	–	11	–	0.88	18	–	18
Total	218.67	133.86	595.96	1,008	1,338	1,126	707.79	1,089	326.68	318.70	396.55	558
Mean	7.29	4.32	19.9	32.5	43.2	37.5	22.8	36.3	10.5	10.3	14.2	18.0
Max.	9.96	12	30	36	56	51	45	51	31	39	18	18
Min.	3.73	0.65	1.23	30	36	32	1.69	24	0.88	0.77	4.65	18
Runoff - MCM.	18.893	11.566	51.491	87.091	115.603	97.286	61.153	94.089	28.225	27.536	34.262	48.211

WATER YEAR 1968 : Max. 56 Min. 0.65 Mean 21.4 Annual Runoff 675.407 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Oct. 18, 68	06.00	43.09	76				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
PHET RIVER BASIN

Phet River at Takhian-Ha-Bat, 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 the camp of station B. 5
Elevation: +66.904 m. (M.S.L.)

Gage Reading Frequency: Recording

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

Period of Available Gage Records: 1962 to date

Rating Operation:

Period of Rating: 1962 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.

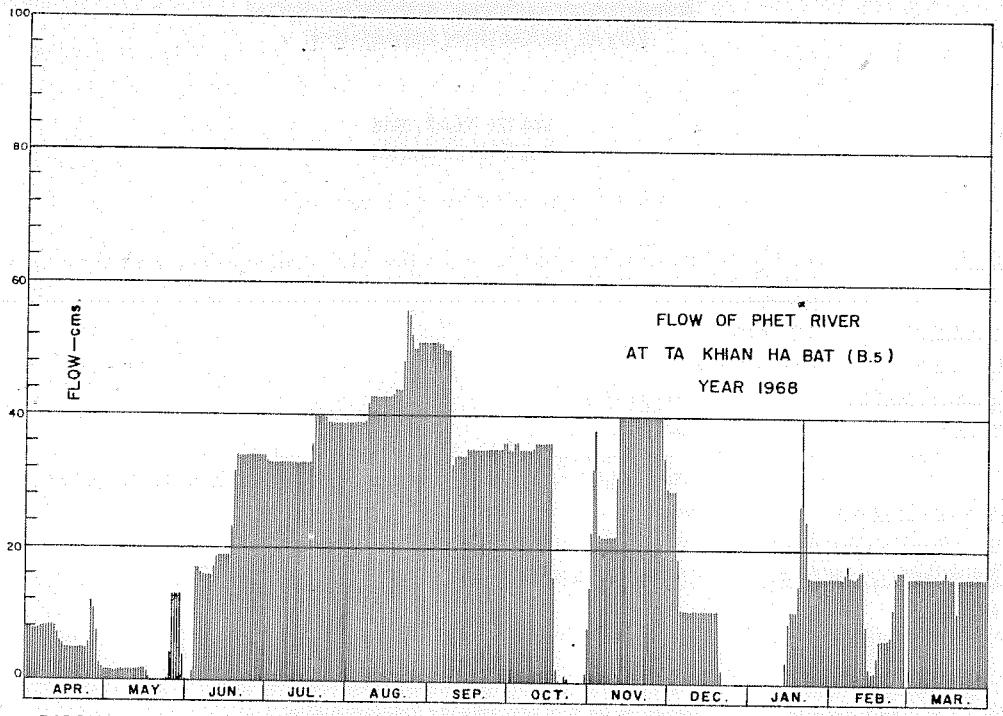
General Description: Records fair. Stage-discharge relationship used is defined by discharge measurements made during 1968. Flow regulated by Kaeng Krachan Reservoir. No adjustment made for virgin flow.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	48.88	48.42	47.97	49.71	49.83	50.05	49.75	49.30	49.61	47.96	49.25	49.25
2	.88	.41	.97	.71	.83	.05	.75	.70	.61	.96	.25	.25
3	.88	.41	48.64	.71	.83	.05	.76	.81	.61	.97	.25	.25
4	.88	.40	49.26	.71	.83	.05	.76	.42	.31	.97	.25	.25
5	.89	.41	.26	.71	.83	.05	.75	.42	.05	.97	.25	.25
6	48.91	48.42	49.25	49.71	49.83	50.04	49.75	49.42	49.05	47.97	49.27	49.25
7	.91	.42	.25	.71	.83	.04	.75	.42	.05	.97	.30	.25
8	.91	.42	.25	.71	.88	.04	.75	.42	.03	.97	.25	.25
9	.91	.42	.25	.71	.91	49.67	.75	.42	.03	.97	.25	.25
10	.91	.42	.25	.71	.91	.73	.75	.42	.03	.96	.25	.25
11	48.91	48.42	49.30	49.71	49.91	49.73	49.76	49.68	49.03	47.96	49.26	49.25
12	.87	.44	.34	.71	.91	.73	.76	.85	.03	.96	.27	.25
13	.76	.43	.34	.71	.91	.73	.76	.85	.03	.96	.27	.25
14	.69	.44	.34	.71	.91	.73	.76	.85	.03	.96	48.82	.25
15	.69	.44	.34	.71	.91	.74	.76	.85	.03	48.94	.42	.26
16	48.69	48.40	49.34	49.71	49.91	49.74	49.76	49.85	49.03	49.03	48.42	49.25
17	.69	.12	.34	.71	.91	.74	.77	.85	.03	.03	.43	.25
18	.69	47.99	.55	.74	.92	.74	.19	.85	.03	.03	.65	.25
19	.69	.97	.73	.84	.92	.75	48.47	.85	.03	.03	.82	48.75
20	.69	.97	.72	.84	.92	.75	.18	.85	48.53	.50	.82	49.24
21	48.69	47.97	49.72	49.84	49.92	49.75	48.05	49.85	48.01	49.84	48.82	49.24
22	.69	.97	.73	.84	50.05	.75	.35	.85	.00	.51	.82	.24
23	.69	.97	.72	.84	.13	.75	.31	.85	47.99	.25	.82	.24
24	.75	.97	.72	.83	.12	.75	.05	.85	.99	.25	49.07	.24
25	49.11	48.66	.72	.83	.04	.75	.01	.85	.99	.25	.25	.24
26	49.01	49.13	49.72	49.83	50.03	49.75	48.00	49.85	47.98	49.25	49.26	49.24
27	48.80	.13	.72	.83	.05	.75	47.99	.85	.97	.25	.27	.24
28	.51	.13	.72	.83	.05	.75	.99	.85	.97	.25	.27	.24
29	.42	.13	.72	.83	.05	.76	.99	.71	.97	.25		.24
30	.41	48.56	.72	.83	.05	.76	48.36	.61	.97	.25		.24
31		.01		.83	.05		49.09		.97	.25		.24
Mean	48.78	48.40	49.36	49.76	49.94	49.82	49.09	49.71	48.71	48.67	49.05	49.23
Max.	49.11	49.13	49.73	49.84	50.13	50.05	49.77	49.85	49.61	49.84	49.30	49.26
Min.	48.41	47.97	47.97	49.71	49.83	49.67	47.99	49.30	47.97	47.96	48.42	48.75

WATER YEAR 1968 : Max. 50.13 m. Min. 47.97 m.

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	7.70	1.70	0.00	33	39	51	35	18	19	0.00	16	16
2	7.70	1.60	0.00	33	39	51	35	33	29	0.00	16	16
3	7.70	1.60	4.10	33	39	51	36	38	29	0.00	16	16
4	7.70	1.50	17	33	39	51	36	22	18	0.00	16	16
5	7.85	1.60	17	33	39	51	35	22	11	0.00	16	16
6	8.20	1.70	16	33	39	50	35	22	11	0.00	17	16
7	8.20	1.70	16	33	39	50	35	22	11	0.00	18	16
8	8.20	1.70	16	33	42	50	35	22	11	0.00	16	16
9	8.20	1.70	16	33	43	32	35	22	11	0.00	16	16
10	8.20	1.70	16	33	43	34	35	22	11	0.00	16	16
11	8.20	1.70	18	33	43	34	36	32	11	0.00	17	16
12	7.55	1.90	19	33	43	34	36	40	11	0.00	17	16
13	5.90	1.80	19	33	43	34	36	40	11	0.00	17	16
14	4.85	1.90	19	33	43	34	36	40	11	0.00	6.80	16
15	4.85	1.90	19	33	43	35	36	40	11	8.80	1.70	17
16	4.85	1.50	19	33	43	35	36	40	11	11	1.70	16
17	4.85	0.10	19	33	43	35	36	40	11	11	1.80	16
18	4.85	0.00	26	35	44	35	15	40	11	11	4.25	16
19	4.85	0.00	34	40	44	35	2.20	40	11	11	6.80	5.75
20	4.85	0.00	34	40	44	35	0.40	40	2.80	24	6.80	16
21	4.85	0.00	34	40	44	35	0.00	40	2.80	40	6.80	16
22	4.85	0.00	34	40	51	35	1.20	40	0.00	25	6.80	16
23	4.85	0.00	34	40	56	35	0.96	40	0.00	16	6.80	16
24	5.75	0.00	34	39	55	35	0.00	40	0.00	16	11	16
25	12	4.40	34	39	50	35	0.00	40	0.00	16	16	16
26	10	13	34	39	50	35	0.00	40	0.00	16	17	16
27	6.50	13	34	39	51	35	0.00	40	0.00	16	17	16
28	2.60	13	34	39	51	35	0.00	40	0.00	16	17	16
29	1.70	13	34	39	51	36	0.00	33	0.00	16		16
30	1.60	3.10	34	39	51	36	1.26	19	0.00	16		16
31		0.00		39	51		12		0.00	16		16
Total	189.95	86.80	684.10	1,108	1,395	1,169	637.02	1,017	272.80	285.80	342.25	486.75
Mean	6.33	2.80	22.8	35.7	45.0	39.0	20.5	33.7	8.80	9.22	12.2	15.7
Max.	12	13	34	40	56	51	36	40	29	40	18	17
Min.	1.60	0.00	0.00	33	39	34	0.00	18	0.00	0.00	1.70	5.75
Runoff - MCM.	16.412	7.499	59.106	95.731	120.528	101.002	55.038	87.869	23.570	24.693	29.570	42.055

WATER YEAR 1968 : Max. 56 Min. 0.00 Mean 21.0 Annual Runoff 663.074 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Aug. 22	11.00	50.13	56				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
PHET RIVER BASIN

Huai Mae Prachan at Tha Yang, Phetchaburi (B. 6)

Location: Lat. 12°-55'-56" N., Long. 99°-47'-05" E., on left bank about 250 meters upstream from bridge on country road Khuan Phet – Ban Tha Yang about 11 kilometers at right side of Phet Kasem highway, 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./R.I.D.

- Location: on both bank along the gage line.
- Elevation: B.M. 1 +29.580 m. (M.S.L.) on right bank and B.M. 2 +30.223 m. (M.S.L.) in left bank.

Gage Reading Frequency: Recording

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

Period of Available Gage Records: 1942-48, 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.

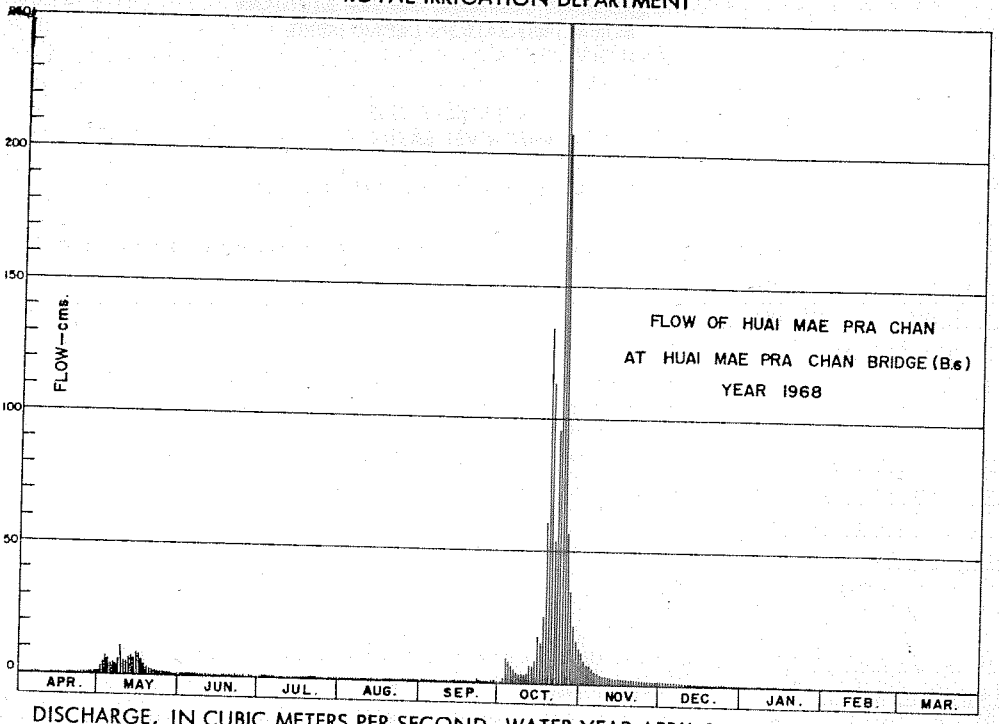
General Description: Records good. Stage-discharge relationship used is defined by discharge measurements made during 1968. No upstream state diversions for irrigation except those built by local residents. No adjustment made for virgin flow.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	23.23	23.85	23.60	23.55	23.44	23.32	23.56	24.74	24.05	23.93	23.85	23.76
2	.24	24.04	.66	.68	.42	.43	.81	.62	.04	.93	.85	.75
3	.25	.45	.65	.62	.41	.43	24.68	.54	.04	.92	.84	.74
4	.26	.54	.58	.58	.41	.34	.65	.44	.04	.92	.84	.74
5	.26	.08	.56	.54	.41	.32	.39	.40	.03	.92	.84	.74
6	23.27	24.19	23.54	23.51	23.41	23.31	24.26	24.37	24.03	23.95	23.83	23.73
7	.27	.29	.53	.49	.39	.31	.20	.33	.03	.94	.83	.74
8	.27	.10	.52	.48	.37	.29	.09	.29	.03	.94	.83	.74
9	.27	.75	.50	.47	.36	.29	.18	.26	.02	.93	.82	.73
10	.27	.37	.50	.45	.36	.29	.09	.24	.02	.92	.82	.73
11	23.26	24.26	23.56	23.45	23.34	23.29	24.17	24.21	24.02	23.91	23.82	23.73
12	.26	.45	.52	.43	.34	.29	.46	.20	.02	.90	.82	.73
13	.26	.51	.50	.43	.34	.28	.38	.18	.01	.90	.82	.73
14	.26	.37	.53	.43	.35	.28	.61	.17	.01	.90	.81	.73
15	.26	.61	.53	.48	.35	.28	25.04	.16	.00	.89	.81	.73
16	23.26	24.58	23.51	23.52	23.35	23.28	24.94	24.15	23.99	23.89	23.81	23.73
17	.26	.38	.49	.52	.34	.28	.94	.13	.99	.89	.81	.73
18	.26	.18	.47	.51	.35	.27	26.46	.12	.98	.88	.80	.79
19	.26	.06	.46	.49	.36	.27	27.67	.11	.98	.88	.79	.79
20	.25	23.99	.46	.48	.34	.33	.22	.11	.98	.88	.79	.76
21	23.25	23.91	23.45	23.55	23.33	23.71	26.22	24.09	23.97	23.88	23.79	23.75
22	.25	.84	.47	.61	.33	.60	.98	.09	.97	.87	.79	.73
23	.25	.84	.46	.67	.31	.44	29.15	.08	.96	.87	.78	.72
24	.25	.78	.44	.63	.30	.41	28.96	.07	.96	.87	.78	.72
25	.25	.72	.44	.59	.30	.37	27.22	.07	.95	.87	.78	.72
26	23.25	23.68	23.43	23.56	23.30	23.33	26.04	24.07	23.94	23.87	23.77	23.71
27	.31	.64	.45	.55	.30	.36	25.52	.07	.94	.86	.77	.71
28	.29	.62	.51	.50	.31	.69	.22	.06	.94	.86	.76	.71
29	.28	.60	.49	.47	.30	.52	.03	.06	.94	.86	–	.71
30	.28	.60	.47	.46	.29	.48	24.92	.05	.94	.86	–	.71
31	–	.60	–	.46	.28	–	.82	–	.93	.85	–	.71
Mean	23.26	24.09	23.51	23.52	23.35	23.37	25.35	24.22	23.99	23.89	23.81	23.73
Max.	23.31	24.75	23.66	23.68	23.44	23.71	29.15	24.74	24.05	23.95	23.85	23.79
Min.	23.23	23.60	23.43	23.43	23.28	23.27	23.56	24.05	23.93	23.85	23.76	23.71

WATER YEAR 1968 : Max. 29.15 m. Min. 23.23 m.

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.00	1.90	0.70	0.55	0.28	0.080	0.58	11	1.10	0.35	0.12	0.010
2	0.00	3.04	1.00	1.10	0.24	0.26	1.75	8.76	1.02	0.35	0.12	0.00
3	0.00	6.50	0.95	0.80	0.22	0.26	9.84	7.38	1.02	0.30	0.11	0.00
4	0.01	7.56	0.64	0.64	0.22	0.11	9.30	5.74	1.02	0.30	0.11	0.00
5	0.01	3.28	0.58	0.52	0.22	0.080	5.90	5.10	0.94	0.30	0.11	0.00
6	0.02	4.03	0.52	0.43	0.22	0.065	4.64	4.68	0.94	0.45	0.095	0.00
7	0.02	4.91	0.49	0.38	0.18	0.050	4.10	4.12	0.94	0.40	0.095	0.00
8	0.02	3.40	0.46	0.36	0.17	0.040	3.34	3.58	0.94	0.40	0.095	0.00
9	0.02	11	0.40	0.34	0.14	0.040	3.96	3.22	0.86	0.35	0.080	0.00
10	0.02	5.70	0.40	0.30	0.14	0.040	3.34	2.98	0.86	0.30	0.080	0.00
11	0.01	4.64	0.58	0.30	0.11	0.040	3.89	2.62	0.86	0.25	0.080	0.00
12	0.01	6.50	0.46	0.26	0.11	0.040	6.60	2.50	0.86	0.20	0.080	0.00
13	0.01	7.14	0.40	0.26	0.11	0.030	5.80	2.30	0.78	0.20	0.080	0.00
14	0.01	5.70	0.49	0.26	0.12	0.030	8.58	2.20	0.78	0.20	0.065	0.00
15	0.01	8.58	0.49	0.36	0.12	0.030	18	2.10	0.70	0.18	0.065	0.00
16	0.01	8.12	0.43	0.46	0.12	0.030	15	2.00	0.65	0.18	0.065	0.00
17	0.01	5.80	0.38	0.46	0.11	0.030	15	1.80	0.65	0.18	0.065	0.00
18	0.01	3.96	0.34	0.43	0.12	0.020	67	1.70	0.60	0.17	0.050	0.040
19	0.01	3.16	0.32	0.38	0.14	0.020	134	1.60	0.60	0.17	0.040	0.040
20	0.00	2.74	0.32	0.36	0.11	0.095	105	1.60	0.60	0.17	0.040	0.010
21	0.00	2.76	0.30	0.55	0.095	1.25	57	1.42	0.55	0.17	0.040	0.00
22	0.00	1.90	0.34	0.75	0.095	0.70	92	1.42	0.55	0.15	0.040	0.00
23	0.00	1.90	0.30	1.05	0.065	0.28	315	1.34	0.50	0.15	0.030	0.00
24	0.00	1.60	0.28	0.85	0.050	0.22	284	1.26	0.50	0.15	0.030	0.00
25	0.00	1.30	0.28	0.67	0.050	0.15	105	1.26	0.45	0.15	0.030	0.00
26	0.00	1.10	0.26	0.58	0.050	0.095	50	1.26	0.40	0.15	0.020	0.00
27	0.06	0.90	0.30	0.49	0.050	0.14	32	1.26	0.40	0.14	0.020	0.00
28	0.04	0.80	0.43	0.40	0.065	0.15	23	1.18	0.40	0.14	0.010	0.00
29	0.03	0.70	0.38	0.34	0.050	0.46	18	1.18	0.40	0.14	–	0.00
30	0.03	0.70	0.34	0.32	0.040	0.36	15	1.10	0.40	0.14	–	0.00
31	–	0.70	–	0.32	0.030	–	13	–	0.35	0.12	–	0.00
Total	0.37	121.52	13.56	15.27	3.84	6.20	1,429.62	89.66	21.62	7.00	1.865	0.100
Mean	0.012	3.92	0.452	0.492	0.124	0.207	46.1	2.99	0.697	0.226	0.067	0.003
Max.	0.06	11	1.00	1.10	0.28	1.25	315	11	1.10	0.45	0.12	0.040
Min.	0.00	0.70	0.26	0.26	0.030	0.020	0.58	1.10	0.35	0.12	0.010	0.00
Runoff – mcm.	0.032	10.499	1.171	1.319	0.331	0.535	123.519	7.746	1.867	0.604	0.161	0.086

WATER YEAR 1968 : Max. 315 Min. 0.00 Mean 4.69 Annual Runoff 147.798 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Oct. 23, 68	19.00	29.98	476				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
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, Petchaburi.

Drainage Area: 846 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 the office of gaging station B.7.

Elevation: +10.495 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:

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 fair. Stage-discharge relationship used is defined by discharge measurements made during 1968. No upstream state diversions for irrigations except those built by local residents. No adjustment made for virgin flow.

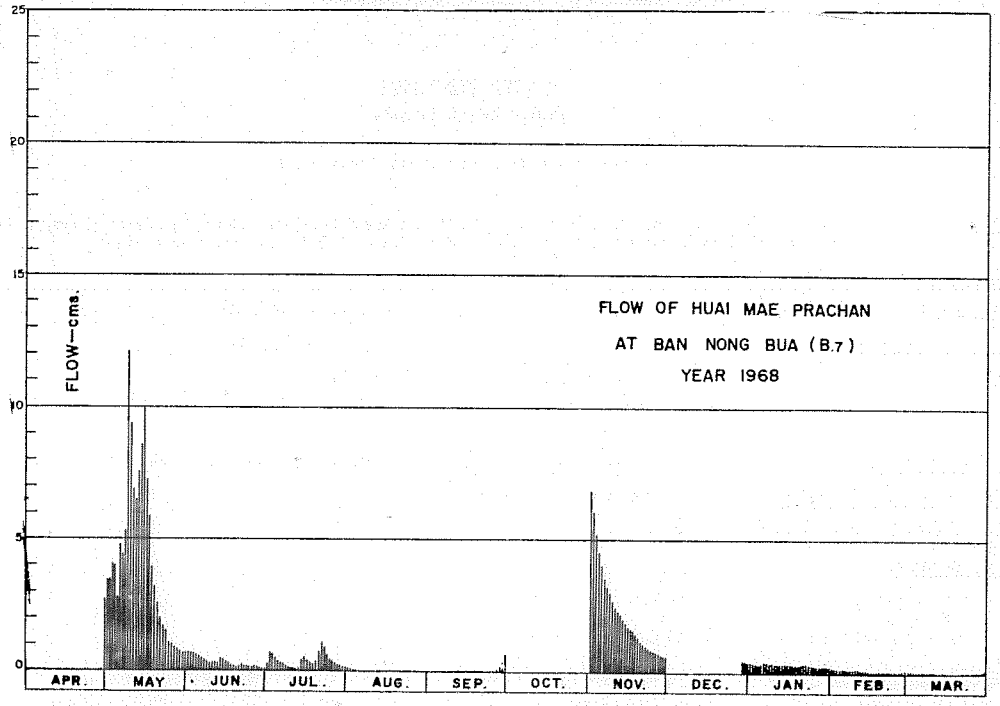
Remark: No record for periods October 1-31 and December 11-28.
Discharge record for periods of no flow are omitted.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.41	1.37	0.87	0.76	0.67	0.52		1.77	0.64	0.77	0.71	0.62
2	.39	.37	.87	.88	.65	.54		.66	.61	.77	.69	.61
3	.39	.45	.85	.86	.65	.53		.58	.60	.75	.68	.61
4	.38	.44	.84	.81	.63	.54		.50	.59	.75	.67	.61
5	.39	.21	.82	.77	.63	.54		.45	.58	.74	.68	.61
6	0.38	1.54	0.81	0.75	0.61	0.54		1.39	0.57	0.78	0.67	0.61
7	.38	.44	.79	.72	.61	.55		.35	.57	.78	.67	.61
8	.38	.66	.77	.70	.59	.53		.30	.56	.78	.67	.61
9	.37	2.29	.75	.69	.58	.52		.26	.55	.77	.67	.61
10	.36	1.58	.75	.68	.58	.51		.22	.55	.77	.67	.61
11	0.36	1.78	0.77	0.67	0.57	0.51		1.19		0.76	0.67	0.60
12	.35	.70	.74	.66	.57	.51		.17		.76	.66	.60
13	.35	.84	.81	.66	.57	.50		.15		.76	.65	.60
14	.35	.95	.80	.81	.57	.50		.12		.76	.65	.60
15	.35	2.08	.78	.82	.57	.51		.09		.76	.65	.59
16	0.34	1.79	0.75	0.81	0.58	0.51		1.07		0.76	0.64	0.59
17	.33	.62	.72	.77	.58	.51		.06		.75	.64	.60
18	.33	.38	.70	.74	.57	.51		.04		.75	.64	.61
19	.32	.30	.70	.75	.55	.50		.01		.75	.64	.63
20	.32	.21	.69	.87	.55	.52		0.98		.75	.64	.63
21	0.31	1.13	0.73	0.90	0.55	0.56		0.96		0.76	0.64	0.62
22	.31	.08	.70	.98	.56	.54		.94		.76	.63	.61
23	.34	.08	.70	.91	.55	.53		.93		.75	.63	.62
24	.35	0.99	.69	.85	.55	.53		.91		.74	.63	.65
25	.36	.94	.67	.81	.54	.53		.90		.73	.63	.65
26	0.35	0.94	0.69	0.78	0.54	0.55		0.89		0.73	0.63	0.63
27	.35	.91	.67	.75	.53	.66		.88		.73	.62	.62
28	.35	.90	.66	.73	.53	.69		.87		.73	.62	.61
29	.65	.88	.65	.71	.52	.78		.86	0.79	.72	–	.61
30	1.30	.87	.64	.70	.52	.86		.85	.77	.72	–	.66
31		.86		.69	.52				.77	.71	–	.70
Mean	0.40	1.37	0.75	0.77	0.57	0.55		1.14		0.75	0.63	0.62
Max.	1.30	2.29	0.87	0.98	0.67	0.86		1.77		0.78	0.71	0.70
Min.	0.31	0.86	0.64	0.66	0.52	0.50		0.85		0.71	0.62	0.60

WATER YEAR 1968 : Max. m. Min. m.

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1		3.49	0.69	0.35	0.14			6.83	0.08	0.37	0.22	0.04
2		3.49	0.69	0.73	0.10			5.84	0.02	0.37	0.18	0.02
3		4.10	0.62	0.66	0.10			5.14	0.00	0.32	0.16	0.02
4		4.02	0.59	0.48	0.060			4.50		0.32	0.14	0.02
5		2.46	0.52	0.37	0.060			4.10		0.30	0.16	0.02
6		4.82	0.48	0.32	0.020			3.63		0.40	0.14	0.02
7		4.02	0.42	0.25	0.020			3.35		0.40	0.14	0.02
8		5.84	0.37	0.20	0.000			3.00		0.40	0.14	0.02
9		12	0.32	0.18				2.76		0.37	0.14	0.02
10		5.14	0.32	0.16				2.52	0.00	0.37	0.14	0.02
11		6.92	0.37	0.14				2.34		0.39	0.14	0.09
12		6.20	0.30	0.12				2.22		0.35	0.12	
13		7.50	0.48	0.12				2.10		0.35	0.10	
14		8.60	0.45	0.48				1.92		0.35	0.10	
15		9.90	0.40	0.52				1.75		0.35	0.10	
16		7.01	0.32	0.48				1.63		0.35	0.08	
17		5.48	0.25	0.37				1.58		0.32	0.08	0.00
18		3.56	0.20	0.30				1.47		0.32	0.08	0.02
19		3.00	0.20	0.32				1.30		0.32	0.08	0.06
20		2.46	0.18	0.69				1.16		0.32	0.08	0.06
21		1.98	0.27	0.80				1.07		0.35	0.08	0.02
22		1.69	0.20	1.16				0.98		0.35	0.06	0.02
23		1.69	0.20	0.84				0.93		0.32	0.06	0.04
24		1.20	0.18	0.62				0.84		0.30	0.06	0.10
25		0.98	0.14	0.48				0.80		0.27	0.06	0.10
26		0.98	0.18	0.40				0.76		0.27	0.06	0.06
27		0.84	0.14	0.32		0.12		0.73		0.27	0.04	0.04
28		0.80	0.12	0.27		0.18		0.69		0.27	0.04	0.02
29	0.10	0.73	0.10	0.22		0.40		0.66	0.42	0.27		0.02
30	3.00	0.69	0.080	0.20		0.66		0.62	0.37	0.27		0.12
31		0.66		0.18					0.37	0.22		0.20
Total	3.10	122.25	9.78	12.73	0.500	1.36		67.22	1.26	10.16	2.98	19.15
Mean	0.103	3.94	0.326	0.411	0.016	0.045		2.24	0.04	0.33	0.11	0.62
Max.	3.00	12	0.69	1.16	0.14	0.66		6.83	0.42	0.40	0.22	0.20
Min.	0.000	0.66	0.080	0.12	0.000	0.00		0.62	0.00	0.22	0.04	0.00
Runoff - mcm.	0.268	10.562	0.845	1.100	0.043	0.117		5.807	0.109	0.878	0.257	1.654

WATER YEAR 1968 : Max. Min. 0.00 Mean Annual Runoff mcm.

Momentary Peak Discharge

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

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
PRAN RIVER BASIN

Pran River at Khao Noi, Prachuap Khiri Khan (Pr. 2)

Location: Lat. 12°-24'-41" N., Long. 99°-51'-01" E., on right bank about 16 kilometers from Phet Kasem Highway at Amphoe Pran Buri along the country road to Pran Buri Damsite, Amphoe Pran Buri, Prachuap Khiri Khan)

Drainage Area: 2,370 sq.km.

Type of Gage: Staff gage

Zero Gage at Bottom at: +2.56 m. (M.S.L.)

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

Location: on right bank infront of the camp of station Pr. 2
Elevation: +13.299 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: 1963-70

Rating Operation:

Period of Rating: 1963-70
Rated by Float: -
Rated by Current Meter: 1963-70

Stability of Channel Regimes: Unstable, shifting adjustment is included for flow computation.

Overbank Flow Conditions: No overbank flow.

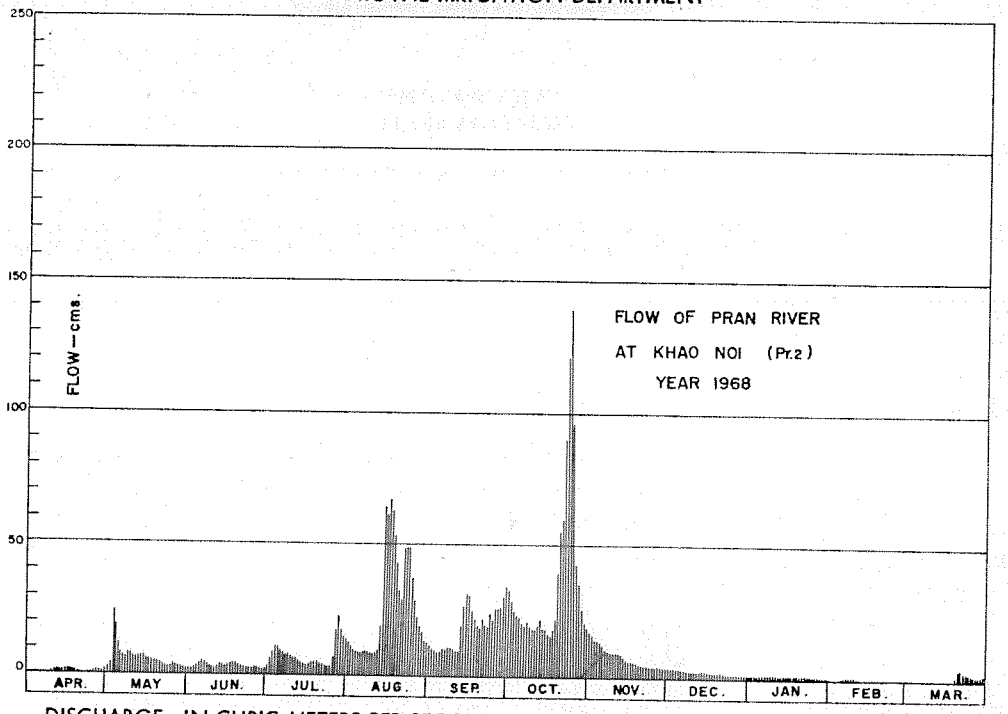
General Description: Records good. Stage-discharge relationship used is defined by discharge measurements made during 1968. No upstream state diversions for irrigation except those built by local residents. No adjustment made for virgin flow.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	4.37	4.82	4.79	4.90	5.83	5.66	7.12	5.98	4.91	4.62	4.48	4.39
2	.36	.87	.80	5.17	.65	.54	6.78	.86	.90	.60	.47	.39
3	.35	5.08	.80	.54	.51	.46	.48	.77	.88	.59	.47	.43
4	.35	6.59	.89	.67	.44	.42	.30	.69	.86	.59	.49	.43
5	.34	5.76	.96	.63	.44	.44	.25	.62	.84	.62	.52	.42
6	4.32	5.31	5.12	5.46	5.48	5.58	6.09	5.56	4.83	4.64	4.58	4.41
7	.32	.19	.01	.37	.54	.57	5.98	.49	.81	.65	.61	.39
8	.31	.18	4.96	.38	.49	.65	6.17	.43	.80	.63	.61	.39
9	.49	.33	.92	.37	.44	.63	.07	.38	.79	.69	.59	.37
10	.48	.31	.82	.27	.37	.54	5.94	.35	.78	.66	.56	.35
11	4.50	5.22	4.79	5.23	5.42	5.52	6.09	5.32	4.77	4.63	4.53	4.35
12	.54	.10	.95	.23	.59	.63	.17	.33	.77	.61	.51	.35
13	.52	.21	.98	.10	.79	6.44	.35	.28	.76	.60	.49	.31
14	.51	.22	.94	.01	7.06	.84	.08	.25	.75	.59	.48	.32
15	.51	.29	.90	4.94	9.05	7.03	.04	.21	.73	.58	.47	.34
16	4.64	5.15	4.91	4.93	8.82	6.99	5.95	5.17	4.74	4.58	4.46	4.34
17	.62	.10	5.00	.94	9.23	.61	.83	.15	.72	.58	.45	.39
18	.56	.14	.09	5.06	8.79	.38	6.07	.13	.71	.59	.42	.31
19	.51	.13	.03	.10	.17	.24	.45	.10	.71	.60	.45	.47
20	.47	.07	4.95	.10	7.28	.13	8.05	.07	.70	.60	.45	.95
21	4.45	4.97	4.87	5.01	6.74	6.41	8.53	5.04	4.68	4.60	4.45	4.96
22	.43	.87	.80	4.94	7.15	.23	.54	.02	.67	.62	.45	.80
23	.43	.82	.76	.88	8.11	.19	11.18	.00	.66	.61	.44	.82
24	.43	.77	.76	.84	.11	.55	.87	4.99	.65	.59	.42	.74
25	.44	.82	.78	.84	7.62	.37	10.03	.97	.64	.57	.42	.71
26	4.53	4.97	4.77	4.99	6.99	6.67	8.29	4.96	4.64	4.55	4.40	4.67
27	.56	.91	.81	5.91	.52	.71	7.39	.95	.63	.53	.40	.62
28	.57	.91	.81	6.58	.19	.69	6.87	.95	.62	.52	.39	.60
29	.54	.84	.78	.28	5.97	.94	.54	.94	.61	.51		.63
30	.54	.82	.76	.12	.82	7.20	.29	.92	.60	.50		.71
31		.81		.00	.75		.13		.61	.49		.68
Mean	4.47	5.12	4.88	5.31	6.62	6.17	7.03	5.36	4.73	4.59	4.48	4.52
Max.	4.64	6.59	5.12	6.58	9.23	7.20	11.87	5.98	4.91	4.69	4.61	4.96
Min.	4.31	4.77	4.76	4.90	5.37	5.42	5.83	4.92	4.60	4.49	4.39	4.31

WATER YEAR 1968 : Max. 11.87 m. Min. 4.31 m.

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.48	3.48	2.68	3.40	12	11	33	17	3.88	1.88	0.92	0.44
2	0.44	3.88	2.76	5.60	11	10	30	16	3.80	1.72	0.86	0.44
3	0.40	5.60	2.76	9.30	9.50	9.30	25	14	3.64	1.64	0.86	0.56
4	0.40	24	3.48	11	8.70	8.90	23	14	3.48	1.64	0.98	0.52
5	0.38	13	4.04	11	8.80	9.10	22	13	3.32	1.88	1.16	0.48
6	0.34	8.10	5.32	9.00	9.20	11	20	12	3.24	2.04	1.56	0.36
7	0.34	6.90	4.44	8.10	9.80	10	18	11	3.08	2.12	1.80	0.30
8	0.32	6.80	4.04	8.20	9.30	11	21	10	3.00	1.96	1.80	0.30
9	0.98	8.30	3.72	8.10	8.80	11	19	9.90	2.92	2.44	1.64	0.26
10	0.92	8.10	2.92	7.40	8.10	10	18	9.60	2.84	2.20	1.40	0.22
11	1.04	7.20	2.68	7.00	8.60	9.90	18	9.30	2.76	1.96	1.22	0.22
12	1.28	6.00	3.96	7.00	9.70	9.10	19	9.40	2.76	1.80	1.10	0.22
13	1.16	7.10	4.20	5.40	12	19	22	8.90	2.68	1.72	0.98	0.17
14	1.10	6.60	3.88	4.68	30	27	18	7.30	2.60	1.64	0.92	0.18
15	1.10	7.30	3.32	4.12	64	31	18	6.90	2.44	1.56	0.86	0.20
16	2.04	5.90	3.40	4.04	60	30	16	6.50	2.52	1.56	0.80	0.20
17	1.88	5.40	4.12	4.12	67	24	15	6.30	2.36	1.56	0.76	0.30
18	1.40	5.80	4.84	5.08	61	21	18	6.10	2.28	1.64	0.64	0.32
19	1.10	5.70	4.36	5.40	50	19	23	5.80	2.28	1.72	0.68	0.92
20	0.86	5.16	3.72	5.40	35	18	49	5.16	2.20	1.72	0.68	4.60
21	0.76	4.36	3.08	4.68	26	22	58	4.92	2.28	1.72	0.68	4.68
22	0.68	3.72	2.52	4.12	32	19	61	4.76	2.20	1.88	0.68	3.40
23	0.68	3.16	2.68	3.80	49	19	121	4.60	2.12	1.80	0.64	3.56
24	0.68	2.76	2.68	3.48	49	24	139	4.52	2.04	1.64	0.56	2.92
25	0.72	2.92	2.84	3.48	40	21	93	4.36	1.96	1.48	0.56	2.68
26	1.22	4.12	2.76	4.68	30	26	54	4.28	1.96	1.34	0.48	2.36
27	1.40	3.64	3.08	14	23	26	39	4.20	1.88	1.22	0.48	1.96
28	1.48	3.64	2.68	22	18	26	30	4.20	1.80	1.16	0.44	1.80
29	1.28	3.08	2.44	18	15	30	25	4.12	1.72	1.10		2.04
30	1.28	2.92	2.28	15	13	34	21	3.96	1.64	1.04		2.68
31		2.84		14	13		19		1.72	0.98		2.44
Total	28.14	187.48	101.68	240.58	800.50	556.30	1,105	242.08	79.40	51.76	26.14	41.73
Mean	0.94	6.05	3.46	7.76	25.8	18.5	35.6	8.07	2.56	1.67	0.93	1.35
Max.	2.04	24	5.32	22	67	34	139	17	3.88	2.44	1.80	4.68
Min.	0.38	2.76	2.28	3.40	8.10	8.90	15	3.96	1.64	0.98	0.44	0.17
Runoff - MCM.	2.431	16.198	8.958	20.786	69.163	48.064	95.472	20.916	6.860	4.472	2.258	3.605

WATER YEAR 1968 : Max. 139 Min. 0.17 Mean 9.48 Annual Runoff 299.012 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Oct. 24	03.00	12.21	149				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
PRAN RIVER BASIN

Pran River at Khao Tok Nam, Prachuap Khiri Khan (Pr. 3)

Location: Lat. 12°-28'-06" N., Long. 99°-48'-28" E., on left bank about 2 kilometers upstream from Pran River Project office, 30 kilometers from Phet Kasem Highway at Amphoe Pran Buri along the country road to Pran Buri Damsite, Amphoe Pran Buri, Prachuap Khiri Khan.

Drainage Area: 2,053 sq.km.

Type of Gage: Staff gage

Zero Gage at Bottom at: +18.72 m. (M.S.L.)

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

Location: on left bank near the camp of station Pr. 3.
Elevation: B.M. - R.I.D. No. 465 +30.273 m. (M.S.L.) and B.M. - R.I.D. No. 466 +30.283 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: 1965-69

Rating Operation:

Period of Rating: 1965-69
Rated by Float: -
Rated by Current Meter: 1965-69

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

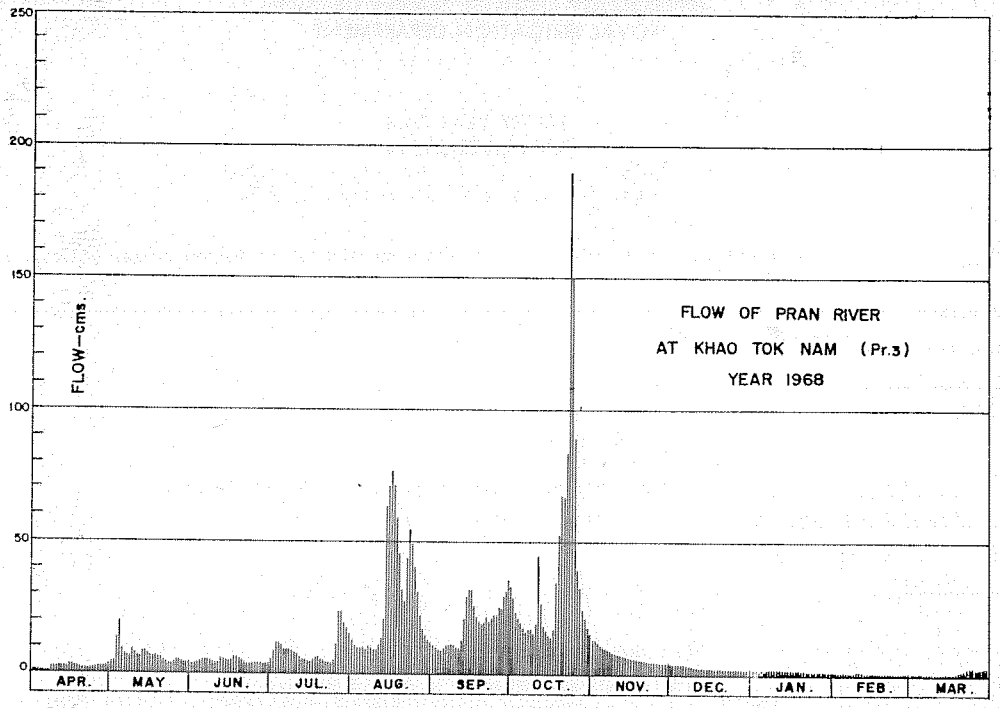
Overbank Flow Conditions: No overbank flow.

General Description: Records fair. Stage-discharge relationship used is defined by discharge measurements made during 1965-68. No upstream state diversions for irrigation except those built by local residents. No adjustment made for virgin flow.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	21.29	21.61	21.54	21.70	22.12	22.01	22.86	22.13	21.63	21.43	21.35	21.30
2	.28	.60	.58	.91	.02	21.95	.61	.10	.62	.43	.34	.31
3	.28	22.16	.60	22.05	21.96	.92	.47	.06	.61	.43	.33	.31
4	.27	.39	.64	.07	.93	.89	.41	.00	.60	.43	.35	.28
5	.25	21.93	.69	.00	.95	.91	.33	21.96	.59	.44	.35	.29
6	21.25	21.80	21.71	21.91	21.90	22.02	22.25	21.95	21.58	21.45	21.34	21.28
7	.23	.78	.67	.90	.98	.01	.29	.91	.56	.46	.34	.27
8	.43	.71	.63	.91	.96	.05	.33	.88	.55	.48	.35	.26
9	.41	.89	.59	.88	.92	.01	.23	.87	.55	.48	.41	.25
10	.40	.83	.57	.85	.89	21.97	.17	.85	.54	.47	.39	.27
11	21.46	21.75	21.59	21.82	21.99	22.00	22.33	21.84	21.53	21.47	21.38	21.27
12	.44	.74	.71	.77	22.08	.14	.58	.82	.52	.45	.36	.26
13	.43	.86	.68	.71	.28	.73	.28	.80	.51	.44	.35	.26
14	.43	.87	.65	.67	23.89	.88	.28	.78	.50	.43	.34	.25
15	.54	.82	.64	.65	24.10	.91	.16	.77	.49	.43	.34	.25
16	21.53	21.74	21.66	21.65	24.28	22.77	22.16	21.75	21.49	21.42	21.33	21.27
17	.47	.74	.76	.68	.10	.53	.30	.74	.48	.41	.32	.28
18	.43	.78	.73	.76	23.82	.40	23.04	.73	.48	.42	.31	.29
19	.40	.74	.70	.75	.25	.35	.67	.72	.47	.41	.31	.35
20	.38	.69	.64	.71	22.83	.36	24.02	.70	.47	.40	.30	.39
21	21.36	21.64	21.60	21.67	22.66	22.48	23.95	21.68	21.47	21.40	21.30	21.36
22	.34	.60	.56	.63	23.33	.40	24.52	.67	.46	.40	.30	.50
23	.34	.56	.57	.61	.64	.44	26.74	.67	.45	.42	.30	.49
24	.36	.54	.57	.60	.44	.52	25.19	.67	.45	.40	.29	.51
25	.40	.69	.57	.60	.06	.44	23.78	.66	.44	.38	.30	.47
26	21.47	21.64	21.58	21.92	22.70	22.63	23.12	21.65	21.43	21.38	21.28	21.46
27	.44	.67	.60	22.58	.46	.62	22.80	.64	.42	.38	.27	.43
28	.42	.61	.58	.55	.29	.81	.60	.64	.42	.37	.27	.44
29	.44	.58	.56	.37	.18	.88	.45	.64	.42	.36		.47
30	.55	.58	.56	.32	.12	.99	.32	.64	.42	.35		.49
31		.60		.23	.07		.21		.43	.35		.47
Mean	21.39	21.75	21.62	21.88	22.65	22.37	22.92	21.80	21.50	21.42	21.33	21.35
Max.	21.55	22.39	21.76	22.58	24.28	22.99	26.74	22.13	21.63	21.48	21.41	21.51
Min.	21.23	21.54	21.54	21.60	21.89	21.89	22.16	21.64	21.42	21.35	21.27	21.25

WATER YEAR 1968 : Max. 26.74 m. Min. 21.23 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.92	4.34	3.42	5.60	13	11	32	14	4.62	2.20	1.45	1.00
2	0.84	4.20	3.94	9.20	11	10	25	13	4.48	2.20	1.36	1.09
3	0.84	14	4.20	12	10	9.40	22	12	4.34	2.20	1.27	1.09
4	0.76	20	4.76	12	9.60	8.83	20	11	4.20	2.20	1.45	0.84
5	0.60	9.60	5.46	11	10	9.20	18	10	4.07	2.30	1.45	0.92
6	0.60	7.30	5.77	9.20	9.00	11	16	10	3.94	2.40	1.36	0.84
7	0.44	6.96	5.18	9.00	11	11	17	9.20	3.68	2.50	1.36	0.76
8	2.20	5.77	4.62	9.20	10	12	18	8.66	3.55	2.70	1.45	0.68
9	2.00	8.83	4.07	8.66	9.40	11	16	8.49	3.55	2.70	2.00	0.60
10	1.90	7.81	3.81	8.15	8.83	10	15	8.15	3.42	2.60	1.81	0.76
11	2.50	6.45	4.07	7.64	11	11	45	7.98	3.29	2.60	1.72	0.76
12	2.30	6.28	5.77	6.79	13	14	24	7.68	3.16	2.40	1.54	0.68
13	2.20	8.32	5.32	5.77	17	28	17	7.30	3.03	2.30	1.45	0.68
14	2.20	8.49	4.90	5.18	63	32	17	6.96	2.90	2.20	1.36	0.60
15	3.42	7.64	4.76	4.90	71	33	14	6.79	2.80	2.20	1.36	0.60
16	3.29	6.28	5.04	4.90	77	29	14	6.45	2.80	2.10	1.27	0.76
17	2.60	6.28	6.62	5.32	71	23	18	6.28	2.70	2.00	1.18	0.84
18	2.20	6.96	6.11	6.62	61	20	37	6.11	2.70	2.10	1.09	0.92
19	1.90	6.28	5.60	6.45	43	19	56	6.94	2.60	2.00	1.09	1.45
20	1.72	5.46	4.76	5.77	31	19	68	5.60	2.60	1.90	1.00	1.81
21	1.54	4.76	4.20	5.18	26	22	65	5.32	2.60	1.90	1.00	1.54
22	1.36	4.20	3.68	4.62	45	20	86	5.18	2.50	1.90	1.00	2.90
23	1.36	3.68	3.81	4.34	55	21	190	5.18	2.40	2.10	1.00	2.80
24	1.54	3.42	3.81	4.20	49	23	114	5.18	2.40	1.90	0.92	3.03
25	1.90	5.46	3.81	4.20	38	21	60	5.04	2.30	1.72	1.00	2.60
26	2.60	4.76	3.94	9.40	28	26	39	4.90	2.20	1.72	0.84	2.50
27	2.30	5.18	4.20	24	21	25	30	4.76	2.10	1.72	0.76	2.20
28	2.10	4.34	3.94	24	17	30	25	4.76	2.10	1.63	0.76	2.30
29	2.30	3.94	3.68	19	15	32	21	4.76	2.10	1.54		2.60
30	3.55	3.94	3.68	18	13	36	18	4.76	2.10	1.45		2.80
31		4.20		16	12		15		2.20	1.45		2.60
Total	55.98	205.13	136.93	286.29	878.83	587.43	1,172	221.39	93.43	64.83	35.30	45.55
Mean	1.87	6.62	4.56	9.23	28.3	19.60	37.8	7.38	3.01	2.09	1.26	1.47
Max.	3.55	20	6.62	24	77	36	190	14	4.62	2.70	2.00	3.03
Min.	0.44	3.42	3.42	4.20	8.83	8.83	14	4.76	2.10	1.45	0.76	0.60
Runoff — mcm.	4.837	17.723	11.831	24.735	75.931	50.754	101.261	19.128	8.072	5.601	3.050	3.935

WATER YEAR 1968 : Max. 190 Min. 0.44 Mean 10.4 Annual Runoff 326.859 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Oct. 23	16.00	27.07	208				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
PRAN RIVER BASIN

Pran River at Pran Headwork, Prachuap Khiri Khan (Pr. 3A)

Location: Lat. 12°-23'-59" N., Long. 99°-48'-37" E., on right bank downstream of Pran Damsite, Amphoe Pran Buri, Prachuap Khiri Khan.

Drainage Area: 2,039 sq.km.

Type of Gage: Staff gage

Zero Gage at Bottom at: +13.800 m. (M.S.L.)

Bench Mark: B.M. – H.S. Pr. 3A

Location: near automatic gage.
Elevation: +26.267 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: 1968 to date

Rating Operation:

Period of Rating: 1968 to date
Rated by Float:
Rated by Current Meter:

Stability of Channel Regimes: Unstable, shifting adjustment is included for flow computation.

Overbank Flow Conditions: No overbank flow.

General Description: Records good except those for period of no gage height record which are fair. Stage-discharge relationship used is defined by discharge measurements made during 1968. No upstream state diversions for irrigation except those built by local residents. No adjustment made for virgin flow.

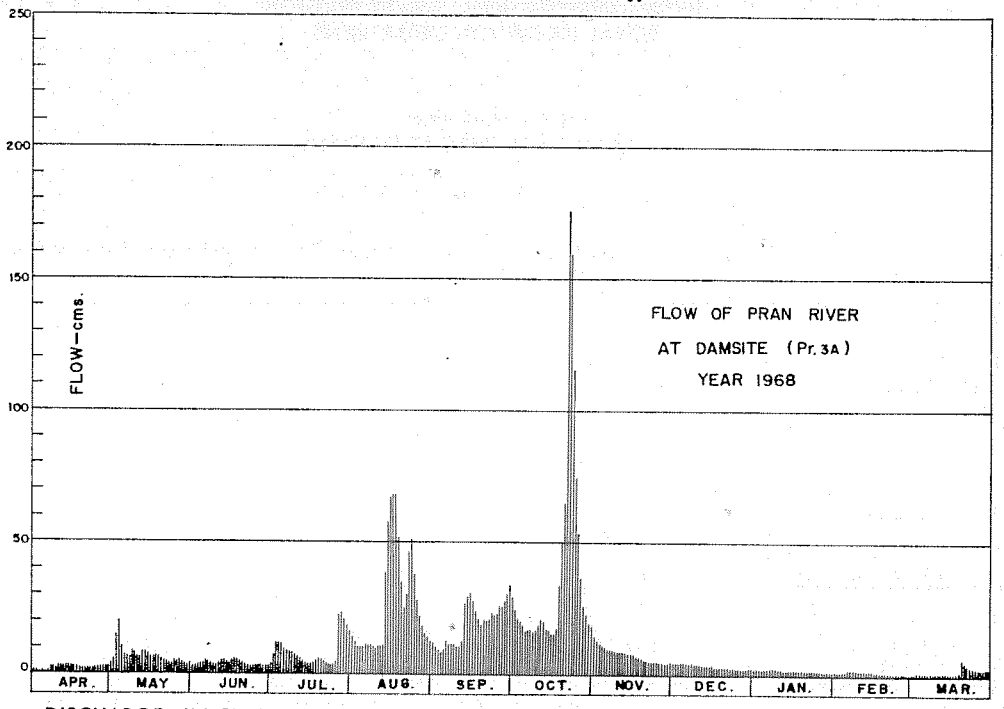
Remarks: April 1 – May 31 used flow at Pr. 3. Stream gaging began on June 1, 1968.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1			15.51	15.70	16.29	16.19	17.16	16.41	15.65	15.42	15.31	15.22
2			.57	16.01	.17	.11	16.91	.34	.64	.41	.30	.26
3			.60	.27	.06	.06	.74	.27	.63	.41	.30	.27
4			.66	.26	.04	.02	.67	.22	.62	.43	.32	.25
5			.73	.17	.07	.07	.62	.16	.60	.43	.36	.22
6			15.78	16.04	16.13	16.29	16.48	16.12	15.59	15.44	15.44	15.21
7			.75	.03	.12	.18	.52	.07	.58	.43	.43	.20
8			.68	.05	.09	.23	.53	.03	.58	.46	.42	.19
9			.60	15.99	.03	.19	.48	15.98	.57	.48	.39	.19
10			.56	.90	15.99	.13	.41	.97	.56	.45	.37	.30
11			15.57	15.90	16.11	16.15	16.39	15.96	15.55	15.43	15.35	15.29
12			.76	.84	.22	.32	.67	.95	.54	.41	.33	.26
13			.73	.74	.48	17.00	.65	.92	.53	.40	.32	.26
14			.68	.68	18.10	.16	.47	.89	.52	.40	.30	.25
15			.66	.64	.59	.21	.47	.86	.52	.40	.29	.28
16			15.69	15.65	18.63	17.08	16.38	15.84	15.51	15.39	15.28	15.31
17			.81	.70	.63	16.82	.36	.82	.50	.39	.27	.30
18			.80	.80	.25	.69	.33	.80	.49	.41	.27	.33
19			.75	.81	17.68	.60	17.24	.78	.49	.40	.26	.40
20			.66	.75	.15	.70	18.10	.76	.48	.41	.28	.83
21			15.59	15.68	16.94	16.75	18.33	15.74	15.47	15.43	15.27	15.66
22			.53	.63	17.64	.66	.92	.73	.47	.43	.26	.57
23			.50	.59	18.06	.76	21.47	.71	.46	.42	.24	.53
24			.54	.57	17.84	.82	19.20	.70	.45	.40	.23	.54
25			.53	.56	.41	.74	18.47	.69	.45	.38	.21	.51
26			15.55	15.94	17.02	16.98	17.68	15.68	15.44	15.37	15.22	15.47
27			.58	16.75	16.75	.92	.23	.68	.43	.36	.21	.43
28			.56	.78	.55	17.03	16.95	.67	.42	.36	.19	.43
29			.52	.59	.41	.17	.76	.67	.42	.34		.49
30			.55	.52	.32	.31	.60	.65	.41	.34		.50
31				.42	.26		.51		.44	.33		.47
Mean			15.63	15.97	16.90	16.61	17.16	15.90	15.51	15.40	15.30	15.37
Max.			15.78	16.78	18.63	17.31	21.47	16.41	15.65	15.48	15.44	15.83
Min.			15.50	15.56	15.99	16.02	16.36	15.65	15.41	15.33	15.19	15.19

WATER YEAR 1968 : Max. 21.47 m. Min. m.

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1			2.54	4.24	14	11	30	14	4.13	2.09	1.05	0.55
2			3.08	8.10	12	9.64	24	13	4.02	2.00	1.05	0.80
3			3.35	12	10	8.94	21	12	3.91	2.00	1.05	0.90
4			3.91	12	9.92	8.38	20	11	4.24	2.18	1.20	0.80
5			4.68	10	10	9.08	19	10	4.02	2.18	1.51	0.65
6			5.26	8.52	11	13	16	9.78	3.91	2.27	2.09	0.60
7			4.90	8.38	11	11	17	9.08	3.80	2.18	2.09	0.55
8			4.13	8.66	11	12	17	8.52	3.80	2.45	2.09	0.50
9			3.35	7.82	9.78	11	16	8.94	3.71	2.63	1.86	0.50
10			2.99	6.62	9.22	10	16	8.80	3.62	2.36	1.72	0.50
11			3.08	6.62	11	11	19	8.66	3.53	2.18	1.58	0.45
12			5.02	5.86	10	13	21	8.52	3.44	2.00	1.51	0.30
13			4.68	4.68	13	27	20	8.10	3.35	1.93	1.37	0.30
14			4.13	4.02	52	30	17	7.68	3.26	1.93	1.25	0.27
15			3.91	3.62	67	31	17	7.27	3.26	1.93	1.15	0.40
16			4.24	3.71	68	28	15	7.01	3.17	1.86	1.10	0.55
17			5.62	4.24	68	23	15	6.75	3.08	1.86	1.00	0.50
18			5.50	5.38	57	21	18	6.49	2.99	2.00	0.95	0.65
19			4.90	5.98	41	18	32	6.23	2.99	1.93	0.90	1.00
20			3.91	5.26	28	20	57	5.98	2.90	2.00	0.95	6.10
21			3.26	4.46	23	21	64	5.74	2.81	1.79	0.85	4.13
22			2.72	3.91	40	20	82	5.62	2.81	1.79	0.80	3.26
23			2.45	3.53	51	21	176	5.38	2.81	1.72	0.65	2.90
24			2.81	3.35	45	23	91	5.14	2.63	1.58	0.55	2.99
25			2.72	3.26	34	21	68	5.02	2.63	1.44	0.45	2.72
26			2.90	5.26	25	26	45	4.90	2.54	1.37	0.45	2.36
27			3.17	22	20	25	33	4.90	2.45	1.30	0.45	2.00
28			2.99	23	17	27	27	4.79	2.36	1.30	0.35	2.00
29			2.63	19	15	30	22	4.79	2.36	1.20		2.54
30			2.90	18	13	34	19	4.13	2.27	1.20		2.63
31				16	12		18		2.54	1.15		2.36
Total	39.67	193.10	111.73	257.48	817.92	574.04	1,072	228.22	99.34	57.80	32.02	46.76
Mean	1.32	6.23	3.72	8.30	26.4	19.1	34.6	7.61	3.20	1.86	1.14	1.51
Max.	2.95	20	5.62	23	68	34	176	14	4.24	2.63	2.09	6.10
Min.	0.27	2.82	2.45	3.26	9.22	8.38	15	4.13	2.27	1.15	0.35	0.27
Runoff - MCM.	3.427	16.684	9.653	22.246	70.668	49.597	92.621	22.822	8.583	4.994	2.766	4.040

WATER YEAR 1968 : Max. 176 Min. 0.27 Mean 9.67 Annual Runoff 304.999 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Oct. 23	18.00	21.85	190				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
KHLONG U-TA PHAO RIVER BASIN

Khlong Wat at Ton Nga Chang, Songkhla (X. 14)

Location: Lat. 6°-55'-00" N., Long. 100°-25'-00" E., on left bank 5 kilometers from Phet Kasem Highway at Ban Tha Rae, about 15 kilometers from Amphoe Hat Yai, Songkhla.

Drainage Area: 71 sq.km.

Type of Gage: Water-stage recorder.

Zero Gage at Bottom at: +109.50 m. (A.D.)

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

Location: on left bank near the rain gage.
Elevation: +114.598 m. (A.D.)

Gage Reading Frequency: Recording

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

Period of Available Gage Records: 1954-1971

Rating Operation:

Period of Rating: 1954-1971
Rated by Float: -
Rated by Current Meter: 1954-1971

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

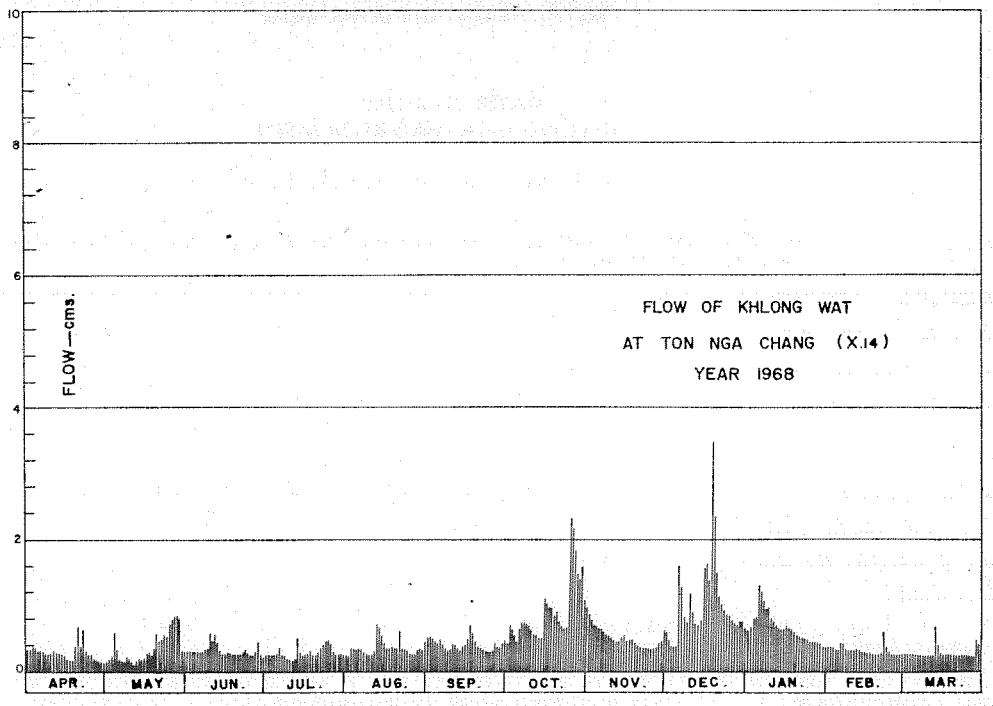
Overbank Flow Conditions: No overbank flow.

General Description: Records good. Stage-discharge relationship used is defined by discharge measurements made during 1968. No upstream state diversions for irrigation except those built by local residents. No adjustment made for virgin flow.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	109.67	109.59	109.66	109.64	109.64	109.73	109.70	109.83	109.76	109.76	109.69	109.65
2	.67	.62	.66	.64	.63	.73	.71	.82	.72	.76	.69	.65
3	.68	.62	.66	.64	.69	.72	.78	.79	.69	.79	.68	.65
4	.67	.75	.66	.64	.67	.71	.73	.77	.69	.81	.67	.65
5	.66	.65	.66	.64	.67	.70	.71	.77	.69	.80	.67	.65
6	109.66	109.62	109.66	109.69	109.69	109.72	109.77	109.76	109.96	109.91	109.71	109.65
7	.66	.61	.66	.64	.67	.68	.79	.76	.88	.87	.70	.65
8	.65	.59	.68	.64	.66	.67	.79	.74	.79	.83	.67	.64
9	.65	.64	.68	.62	.64	.66	.78	.73	.77	.84	.67	.64
10	.65	.61	.75	.62	.64	.70	.77	.73	.89	.80	.67	.64
11	109.66	109.59	109.70	109.61	109.64	109.71	109.75	109.72	109.85	109.79	109.67	109.64
12	.65	.58	.75	.61	.68	.68	.73	.71	.79	.78	.67	.64
13	.65	.62	.69	.73	.78	.67	.74	.71	.77	.76	.67	.77
14	.65	.62	.65	.65	.76	.67	.71	.73	.79	.76	.66	.69
15	.64	.62	.64	.64	.71	.70	.75	.74	.81	.76	.66	.65
16	109.62	109.64	109.66	109.64	109.68	109.70	109.87	109.71	109.96	109.78	109.66	109.64
17	.61	.66	.66	.65	.68	.78	.84	.72	.97	.76	.66	.64
18	.61	.64	.64	.67	.69	.75	.84	.72	.88	.76	.65	.64
19	.62	.64	.64	.64	.68	.70	.80	.71	110.19	.75	.65	.64
20	.77	.75	.65	.63	.67	.69	.83	.70	109.96	.74	.64	.64
21	109.62	109.72	109.64	109.66	109.76	109.68	109.80	109.69	109.88	109.73	109.64	109.64
22	.76	.71	.65	.67	.68	.67	.77	.68	.85	.73	.75	.64
23	.65	.74	.68	.70	.67	.67	.76	.68	.83	.72	.69	.64
24	.64	.72	.66	.71	.67	.66	.76	.68	.81	.72	.66	.64
25	.65	.78	.65	.72	.66	.66	.78	.68	.81	.71	.65	.64
26	109.62	109.79	109.64	109.69	109.65	109.67	110.07	109.67	109.86	109.71	109.65	109.64
27	.62	.81	.65	.66	.65	.71	.00	.67	.78	.71	.65	.63
28	.62	.81	.71	.55	.67	.68	109.94	.71	.78	.71	.65	.63
29	.60	.80	.64	.65	.68	.69	.92	.70	.77	.70		.72
30	.59	.67	.62	.65	.66	.72	.96	.74	.80	.69		.66
31		.66		.65	.71		.86		.77	.69		.68
Mean	109.65	109.67	109.66	109.65	109.68	109.70	109.81	109.72	109.83	109.76	109.67	109.65
Max.	109.77	109.81	109.75	109.73	109.78	109.78	110.07	109.83	110.19	109.91	109.75	109.77
Min.	109.59	109.58	109.62	109.61	109.63	109.66	109.70	109.67	109.69	109.69	109.64	109.64

WATER YEAR 1968 : Max. 110.19 m. Min. 109.58 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.33	0.13	0.30	0.25	0.25	0.53	0.41	0.94	0.64	0.64	0.38	0.27
2	0.33	0.19	0.30	0.25	0.22	0.53	0.45	0.89	0.49	0.64	0.38	0.27
3	0.36	0.19	0.30	0.25	0.38	0.49	0.72	0.76	0.78	0.76	0.36	0.27
4	0.33	0.60	0.30	0.25	0.33	0.45	0.53	0.68	0.38	0.85	0.33	0.27
5	0.30	0.27	0.30	0.25	0.33	0.41	0.45	0.68	0.38	0.80	0.33	0.27
6	0.30	0.19	0.30	0.38	0.38	0.49	0.68	0.64	3.59	1.31	0.45	0.27
7	0.30	0.17	0.30	0.25	0.33	0.36	0.76	0.64	1.17	1.12	0.41	0.27
8	0.27	0.13	0.36	0.25	0.30	0.33	0.76	0.57	0.76	0.94	0.33	0.25
9	0.27	0.25	0.36	0.19	0.25	0.30	0.72	0.53	0.68	0.98	0.33	0.25
10	0.27	0.17	0.60	0.19	0.25	0.41	0.68	0.53	1.21	0.80	0.33	0.25
11	0.30	0.13	0.41	0.17	0.25	0.45	0.60	0.49	1.03	0.76	0.33	0.25
12	0.27	0.11	0.60	0.17	0.36	0.36	0.53	0.45	0.76	0.72	0.33	0.25
13	0.27	0.19	0.38	0.53	0.72	0.33	0.57	0.45	0.68	0.64	0.33	0.68
14	0.27	0.19	0.27	0.27	0.64	0.33	0.45	0.53	0.76	0.64	0.30	0.38
15	0.25	0.19	0.25	0.25	0.45	0.41	0.60	0.57	0.85	0.64	0.30	0.27
16	0.19	0.25	0.30	0.25	0.36	0.41	1.12	0.45	1.59	0.72	0.30	0.25
17	0.17	0.30	0.30	0.27	0.36	0.72	0.98	0.49	1.64	0.64	0.30	0.25
18	0.17	0.25	0.25	0.33	0.38	0.60	0.98	0.49	1.17	0.64	0.27	0.25
19	0.19	0.25	0.25	0.25	0.36	0.41	0.80	0.45	3.49	0.60	0.27	0.25
20	0.68	0.60	0.27	0.22	0.33	0.38	0.94	0.41	1.59	0.57	0.25	0.25
21	0.19	0.49	0.25	0.30	0.64	0.36	0.80	0.38	1.17	0.53	0.25	0.25
22	0.64	0.45	0.27	0.33	0.36	0.33	0.68	0.36	1.05	0.53	0.60	0.25
23	0.27	0.57	0.36	0.41	0.33	0.33	0.64	0.36	0.94	0.49	0.38	0.25
24	0.25	0.49	0.30	0.45	0.33	0.30	0.64	0.36	0.85	0.49	0.30	0.25
25	0.27	0.72	0.27	0.49	0.30	0.30	0.72	0.36	0.85	0.45	0.27	0.25
26	0.19	0.76	0.25	0.38	0.27	0.33	2.33	0.33	0.80	0.45	0.27	0.25
27	0.19	0.85	0.27	0.60	0.27	0.45	1.81	0.33	0.72	0.45	0.27	0.22
28	0.19	0.85	0.45	0.27	0.33	0.36	1.48	0.45	0.72	0.45	0.27	0.22
29	0.14	0.80	0.25	0.27	0.36	0.38	1.37	0.41	0.68	0.41		0.49
30	0.13	0.33	0.19	0.27	0.30	0.49	1.59	0.57	0.80	0.38		0.30
31		0.30		0.27	0.45		1.08		0.68	0.38		0.36
Total	8.28	11.36	9.56	8.96	11.17	12.33	26.87	15.55	30.48	20.42	9.22	8.81
Mean	0.28	0.37	0.32	0.29	0.36	0.41	0.87	0.52	0.98	0.66	0.33	0.28
Max.	0.68	0.85	0.60	0.53	0.72	0.72	2.33	0.94	3.49	1.31	0.60	0.68
Min.	0.13	0.11	0.19	0.17	0.22	0.30	0.41	0.33	0.38	0.38	0.25	0.22
Runoff - MCM.	0.715	0.981	0.826	0.774	0.965	1.065	2.321	1.343	2.633	1.764	0.797	0.761

WATER YEAR 1968 : Max. 3.49 Min. 0.11 Mean 0.47 Annual Runoff 14.948 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Dec. 19	08.00	110.73	14				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
KHLONG U-TA PHAO RIVER BASIN

Khlong U-Ta Phao at Khok Samet Chum, Hat Yai (X. 44)

Location: Lat. 7°-00'-02" N., Long. 100°-27'-32" E., on left bank upstream side of bridge* on Patthalung – Hat Yai Highway, at Ban Kuan Luang, Amphoe Hat Yai, Songkhla.

Drainage Area: 1,441 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 staff gage.
Elevation: +6.985 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: 1967-72
Rated by Float: –
Rated by Current Meter: 1967-72

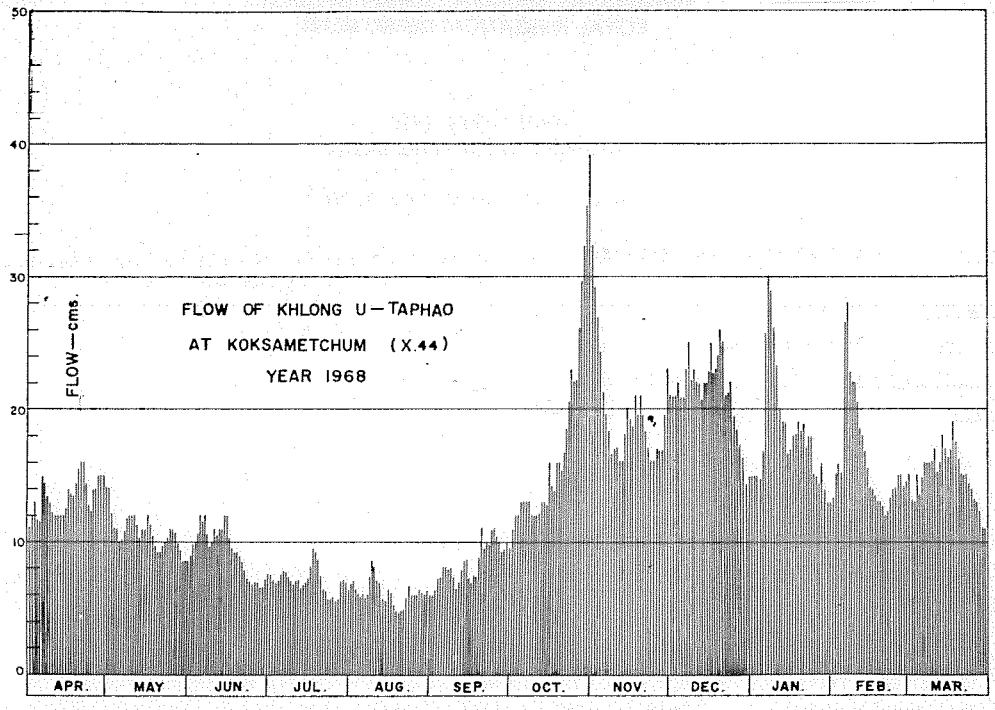
Stability of Channel Regimes: Stable, no shifting adjustment for flow computation.

Overbank Flow Conditions: Records fair, except those for period of tidal effected which are poor. Stage-discharge relationship used is defined by discharge measurements made during 1967. No upstream state diversions for irrigation except those built by local residents. No adjustment made for virgin flow.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.87	1.00	0.78	0.70	0.66	0.61	0.79	1.75	1.27	1.04	0.98	1.06
2	.94	0.91	.83	.68	.67	.61	.86	.62	.28	.07	1.00	.99
3	.96	.87	.82	.66	.62	.68	.94	.53	.28	.06	.09	.97
4	.87	.89	.87	.67	.62	.69	.93	.45	.33	.03	.00	1.04
5	.94	.84	.90	.69	.59	.67	.98	.35	.30	.06	1.09	0.99
6	1.04	0.83	0.86	0.71	0.62	0.73	0.98	1.24	1.26	1.18	1.47	1.05
7	.02	.86	.92	.71	.57	.71	.97	.23	.37	.52	.54	.09
8	0.98	.94	.80	.69	.67	.73	.96	.19	.43	.60	.34	.11
9	.96	.93	.81	.67	.75	.70	.91	.11	.31	.54	.31	.10
10	.94	.91	.85	.65	.72	.64	.93	.13	.37	.45	.32	.10
11	0.94	0.91	0.84	0.67	0.67	0.65	0.90	1.14	1.32	1.37	1.21	1.12
12	.91	.89	.87	.68	.66	.70	.94	.09	.32	.25	.18	.07
13	.93	.83	.86	.63	.57	.74	.97	.11	.25	.21	.16	.10
14	.94	.85	.90	.66	.50	.76	.97	.19	.33	.20	.08	.16
15	.97	.85	.93	.67	.63	.66	.94	.25	.34	.08	.05	.12
16	1.02	0.90	0.84	0.70	0.64	0.66	1.09	1.20	1.37	1.12	1.02	1.09
17	0.98	.89	.78	.80	.56	.70	.02	.18	.45	.17	.00	.13
18	1.01	.84	.78	.79	.54	.67	0.98	.27	.34	.18	0.95	.21
19	.05	.79	.79	.78	.51	.75	1.08	.20	.42	.20	.96	.14
20	.08	.78	.76	.69	.53	.87	.09	.27	.46	.19	.97	.09
21	1.08	0.79	0.74	0.64	0.54	0.76	1.07	1.22	1.45	1.23	0.94	1.05
22	.00	.82	.68	.63	.55	.82	.18	.17	.27	.15	.94	.04
23	0.97	.84	.67	.59	.66	.81	.23	.12	.27	.18	.99	.06
24	.92	.87	.65	.59	.61	.89	.35	.08	.33	.16	1.02	.01
25	1.03	.86	.67	.61	.62	.85	.33	.10	.24	.05	.00	.02
26	1.02	0.85	0.67	0.58	0.60	0.84	1.34	1.12	1.20	1.04	1.07	0.98
27	.06	.82	.65	.58	.64	.83	.45	.14	.18	.02	.04	.98
28	.06	.80	.64	.67	.63	.74	.57	.08	.13	.09	.01	.91
29	.04	.74	.66	.68	.59	.82	.66	.20	.09	.00	–	.88
30	.00	.75	.70	.67	.64	.72	.77	.37	.01	0.97	–	.88
31	–	.75	–	.62	.61	–	.90	–	.05	.97	–	.89
Mean	0.98	0.84	0.78	0.67	0.61	0.71	1.13	1.19	1.29	1.17	1.10	1.11
Max.	1.08	1.00	0.93	0.80	0.75	0.89	1.90	1.75	1.46	1.60	1.54	1.21
Min.	0.87	0.74	0.64	0.58	0.50	0.61	0.79	1.08	1.01	0.97	0.94	0.88

WATER YEAR 1968 : Max. 1.90 m. Min. 0.50 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	11	14	9.20	7.60	6.88	5.98	9.40	34	21	15	13	15
2	12	12	10	7.24	7.06	5.98	11	30	21	15	14	13
3	13	11	10	6.88	6.16	7.24	12	28	21	15	16	13
4	11	11	11	7.06	6.16	7.42	12	25	22	14	14	15
5	12	10	12	7.42	5.66	7.06	13	23	21	15	16	13
6	15	10	11	7.80	6.16	8.20	13	20	20	18	26	15
7	14	11	12	7.80	5.38	7.80	13	19	23	27	28	16
8	13	12	9.60	7.42	7.06	8.20	13	18	25	30	22	16
9	13	12	9.80	7.06	8.60	7.60	12	16	22	28	22	16
10	12	12	11	6.70	8.00	6.52	12	17	23	25	22	16
11	12	12	10	7.06	7.06	6.70	12	17	22	23	19	17
12	12	11	11	7.24	6.88	7.60	12	16	22	20	18	15
13	12	10	11	6.34	5.38	8.40	13	16	20	19	18	16
14	12	11	12	6.88	4.40	8.80	13	18	22	19	16	18
15	13	11	12	7.06	6.34	6.88	12	20	22	16	15	17
16	14	12	10	7.60	6.52	6.88	16	19	23	17	14	16
17	13	11	9.20	9.60	5.24	7.60	14	18	25	18	14	17
18	14	10	9.20	9.40	4.96	7.06	13	21	22	18	13	19
19	15	9.40	9.40	9.20	4.54	8.60	16	19	24	19	13	17
20	16	9.20	8.80	7.42	4.82	11	16	21	26	18	13	16
21	16	9.40	8.40	6.52	4.96	8.80	15	19	25	19	12	15
22	14	10	7.24	6.34	5.10	10	18	18	21	17	12	15
23	13	10	7.06	5.66	6.88	9.80	19	17	21	18	13	15
24	12	11	6.70	5.66	5.98	11	23	16	22	18	14	14
25	14	11	7.06	5.98	6.16	11	22	16	20	15	14	14
26	14	11	7.06	5.52	5.80	10	22	17	19	15	15	13
27	15	10	6.70	5.52	6.52	10	25	17	18	14	15	13
28	15	9.60	6.52	7.06	6.34	8.40	29	16	17	16	14	12
29	15	8.40	6.88	7.24	5.66	10	31	19	16	14	–	11
30	14	8.60	7.60	7.06	6.52	10	35	23	14	13	–	11
31	–	8.60	–	6.16	5.98	–	39	–	15	13	–	11
Total	401	329.20	279.42	219.50	189.16	250.52	535.40	593	655	561	445	460
Mean	13.4	10.6	9.31	7.08	6.10	8.35	17.3	19.8	21.1	18.1	16.2	14.8
Max.	16	14	12	9.60	8.60	11	39	34	26	30	28	19
Min.	11	8.40	6.52	5.52	4.40	5.98	9.40	16	14	13	12	11
Runoff - mcm.	34.646	28.443	24.142	18.965	16.343	21.645	46.258	51.235	56.592	48.470	39.312	39.744

WATER YEAR 1968 : Max. 39 Min. 4.40 Mean 13.5 Annual Runoff 425.796 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Oct.31,68	09.00	1.92	39				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
KHLONG DUSON RIVER BASIN

Khlong Duson at Thung Nui, Satun (X. 16A)

Location: Lat. 6°-48'-00" N., Long. 100°-07'-00" E., on right bank, 8 kilometers from the road Satun – Khuan Niang railway station at Ban Thung Nui along the local road to Panun Fall, Tambon Tone, Amphoe Muang Satun.

Drainage Area: 58 sq.km.

Type of Gage: Water-stage recorder.

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

Bench Mark: –

Location: –

Elevation: –

Gage Reading Frequency: Recordings

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

Period of Available Gage Records: 1959-71

Rating Operation:

Period of Rating: 1960

Rated by Float: –

Rated by Current Meter: 1960

Stability of Channel Regimes: Stable, no shifting adjustment for flow computation for year without actual ratings.

Overbank Flow Conditions: No overbank flow.

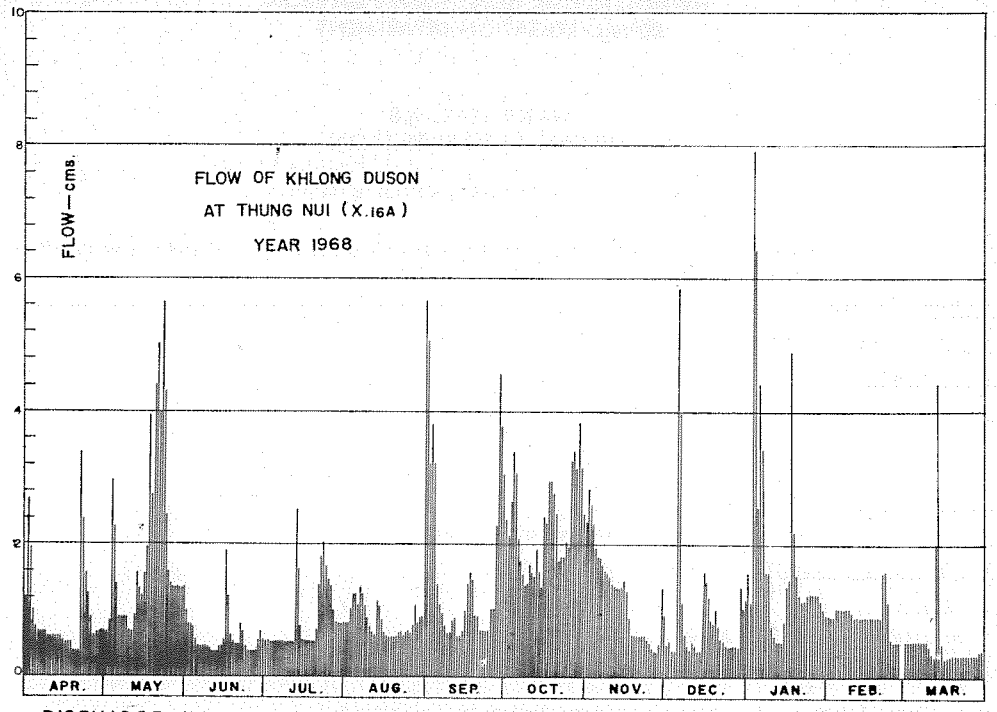
General Description: Records fair. Stage- discharge relationship used is defined by discharge measurements made during 1960. No upstream state diversions for irrigation except those built by local residents. No adjustment made for virgin flow.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.99	0.94	0.95	0.92	0.95	1.21	1.11	1.08	0.91	1.02	0.96	0.92
2	1.11	.94	.95	.92	.95	.13	.06	.12	.92	0.95	.96	.92
3	0.98	.96	.95	.92	.99	.19	.10	.08	.90	1.01	.96	.92
4	.95	1.13	.94	.92	1.00	.02	.16	.05	.90	.44	.97	.92
5	.95	.01	.91	.92	0.97	0.99	.13	.04	.90	.03	.97	.92
6	0.94	0.96	0.91	0.92	1.00	0.98	1.06	1.05	1.32	1.23	0.97	0.92
7	.04	.96	.91	.92	0.99	.95	.03	.04	.02	.16	.97	.92
8	.04	.96	.91	.92	.97	.95	.00	.02	0.93	.02	.97	.92
9	.93	.96	.91	.92	.95	.93	.01	.02	.91	.02	.97	.92
10	.93	.95	.90	.92	.94	.95	1.03	.01	.90	0.95	.96	.90
11	0.93	0.94	0.90	0.92	0.93	0.97	1.02	1.00	0.92	0.93	0.94	0.88
12	.93	.94	.91	.93	.94	.94	.00	.00	.91	.92	.94	.89
13	.93	1.03	.91	1.10	.98	.94	.05	.00	.90	.92	.94	1.23
14	.93	.00	.91	0.94	.96	.94	.03	.00	.90	.92	.94	0.96
15	.92	0.98	.92	.92	.94	.96	0.99	.01	.91	.96	.94	.88
16	0.92	1.02	1.05	0.93	0.93	1.00	1.10	0.99	1.02	1.00	0.94	0.88
17	.92	.03	0.97	.92	.93	.02	.08	.95	0.99	.00	.94	.89
18	.92	.20	.92	.92	.93	.01	.13	.93	.94	.26	.94	.89
19	.91	.07	.92	.92	.93	0.97	.12	.93	1.18	.04	.94	.89
20	.90	.22	.92	.92	.93	.96	.11	.93	0.97	.00	.94	.89
21	0.90	1.27	0.92	1.00	0.95	0.95	1.04	0.93	0.94	0.99	0.94	0.89
22	1.17	.18	.96	.03	.94	.94	.05	.93	.92	.98	1.02	.89
23	.02	.32	.92	.06	.93	.94	.05	.93	.92	.98	.02	.89
24	.02	.11	.90	.03	.94	.94	.06	.92	.91	.99	0.94	.89
25	0.96	.03	.90	.02	.95	.98	.02	.91	.91	.99	.92	.89
26	0.93	1.00	0.90	1.00	0.93	0.98	1.16	0.90	0.91	0.99	0.92	0.89
27	.93	.00	.90	0.96	.99	1.07	.17	.90	.91	.99	.92	.89
28	.94	.00	1.05	.95	.96	.11	.12	.90	.91	.99	.92	.89
29	.94	.00	0.94	.95	.97	.24	.19	.94	.91	.98	–	.90
30	.94	.00	.92	.95	.95	.14	.14	1.00	1.00	.97	–	.90
31	–	.00	–	.95	1.09	–	.09	–	0.95	.96	–	.90
Mean	1.15	1.00	0.92	0.95	0.96	1.01	1.08	0.99	0.95	1.02	0.95	0.91
Max.	1.17	1.32	1.05	1.10	1.09	1.24	1.19	1.12	1.32	1.44	1.02	1.23
Min.	0.90	0.94	0.90	0.92	0.93	0.93	0.99	0.90	0.90	0.92	0.92	0.88

WATER YEAR 1968 : Max. 1.44 m. Min. 0.88 m.

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	1.14	0.70	0.81	0.54	0.81	5.67	2.54	2.28	0.47	1.58	0.92	0.54
2	2.68	0.70	0.81	0.54	0.81	2.82	1.92	2.82	0.54	0.81	0.92	0.54
3	1.14	0.92	0.81	0.54	1.25	3.80	2.54	2.28	0.40	1.47	0.92	0.54
4	0.81	2.96	0.62	0.54	1.25	1.58	3.38	1.92	0.40	7.90	1.03	0.54
5	0.70	1.36	0.47	0.54	0.92	1.14	2.96	1.80	0.40	1.69	1.03	0.54
6	0.70	0.92	0.47	0.54	1.36	1.03	1.92	1.80	5.83	4.40	1.03	0.54
7	0.70	0.92	0.47	0.54	1.25	0.81	1.69	1.69	1.58	3.38	1.03	0.54
8	0.70	0.92	0.47	0.54	1.03	0.70	1.36	1.58	0.62	1.58	1.03	0.54
9	0.62	0.92	0.47	0.54	0.81	0.62	1.36	1.58	0.47	1.58	1.03	0.54
10	0.62	0.70	0.40	0.54	0.79	0.81	1.69	1.47	0.40	0.81	0.92	0.40
11	0.62	0.70	0.40	0.54	0.62	0.92	1.58	1.36	0.54	0.62	0.70	0.26
12	0.62	0.70	0.40	0.54	0.62	0.62	1.36	1.36	0.47	0.54	0.70	0.33
13	0.62	1.58	0.47	2.54	1.14	0.62	1.92	1.36	0.40	0.54	0.70	4.40
14	0.62	1.36	0.47	0.70	0.92	0.70	1.58	1.36	0.40	0.54	0.70	0.92
15	0.54	1.14	0.54	0.54	0.70	0.92	1.25	1.47	0.47	0.92	0.70	0.26
16	0.54	1.14	0.54	0.54	0.70	0.92	1.25	1.47	0.47	0.92	0.70	0.26
17	0.54	1.69	1.03	0.54	0.62	1.58	2.28	0.81	1.25	1.36	0.70	0.33
18	0.54	3.95	0.54	0.54	0.62	1.47	2.96	0.62	0.70	4.87	0.70	0.33
19	0.40	2.04	0.54	0.54	0.62	0.92	2.82	0.62	3.66	1.80	0.70	0.33
20	0.40	4.10	0.47	0.54	0.62	0.92	2.68	0.62	1.03	1.36	0.70	0.33
21	0.40	5.03	0.54	1.36	0.70	0.70	1.69	0.62	0.70	1.25	0.70	0.33
22	3.38	3.52	0.81	1.69	0.70	0.70	1.80	0.62	0.54	1.14	1.58	0.33
23	1.47	5.67	0.47	2.04	0.62	0.70	1.80	0.62	0.54	1.14	1.58	0.33
24	1.58	2.68	0.40	1.69	0.70	0.70	2.04	0.54	0.47	1.25	0.70	0.33
25	0.81	1.58	0.40	1.47	0.70	1.03	1.58	0.47	0.47	1.25	0.54	0.33
26	0.62	1.36	0.40	1.36	0.62	1.03	3.24	0.40	0.47	1.25	0.54	0.33
27	0.62	1.36	0.40	0.92	1.14	2.16	3.38	0.40	0.47	1.25	0.54	0.33
28	0.70	1.36	1.80	0.81	0.81	2.68	2.82	0.40	0.47	1.25	0.54	0.33
29	0.70	1.36	0.70	0.81	0.92	4.55	3.80	0.70	0.47	1.14	–	0.40
30	0.70	1.36	0.54	0.81	0.81	3.10	3.10	1.36	1.36	1.03	–	0.40
31	–	1.36	–	0.81	2.40	–	2.40	–	0.81	0.92	–	0.33
Total	26.23	56.50	19.04	26.93	27.41	46.36	69.84	36.18	28.38	51.98	25.58	16.78
Mean	0.87	1.82	0.63	0.86	0.88	1.54	2.25	1.21	0.91	1.68	0.84	0.54
Max.	3.38	5.67	1.92	2.54	2.40	5.67	3.38	2.82	5.83	7.90	1.58	4.40
Min.	0.40	0.70	0.40	0.54	0.62	0.62	1.25	0.40	0.40	0.54	0.54	0.26
Runoff - MCM.	2.266	4.882	1.645	2.309	2.368	4.005	6.034	3.126	2.452	4.491	2.037	1.450

WATER YEAR 1968 : Max. 7.90 Min. 0.26 Mean 1.17 Annual Runoff 37.066 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Jan.6	17.30	2.08	22				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
KHLONG AI TO RIVER BASIN

Khlong Ai To at Wat Mahanpawat, Phatthalung (X. 218)

Location: Lat. 7°-23'-09" N., Long. 100°-06'-27" E., on right bank at Wat Mahanpawat about 6 kilometers downstream from Tha Chiat weir, Ban Tha Madua, Amphoe Khao Chaison, Phatthalung.

Drainage Area: 330 sq.km.

Type of Gage: Water-stage recorder.

Zero Gage at Bottom at: +14.45 m. (M.S.L.)

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

Location: on right bank 50 meters along measuring line.
Elevation: +21.081 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: 1964-71

Rating Operation:

Period of Rating: 1964-71
Rated by Float:
Rated by Current Meter: 1964-71

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

Overbank Flow Conditions: No overbank flow.

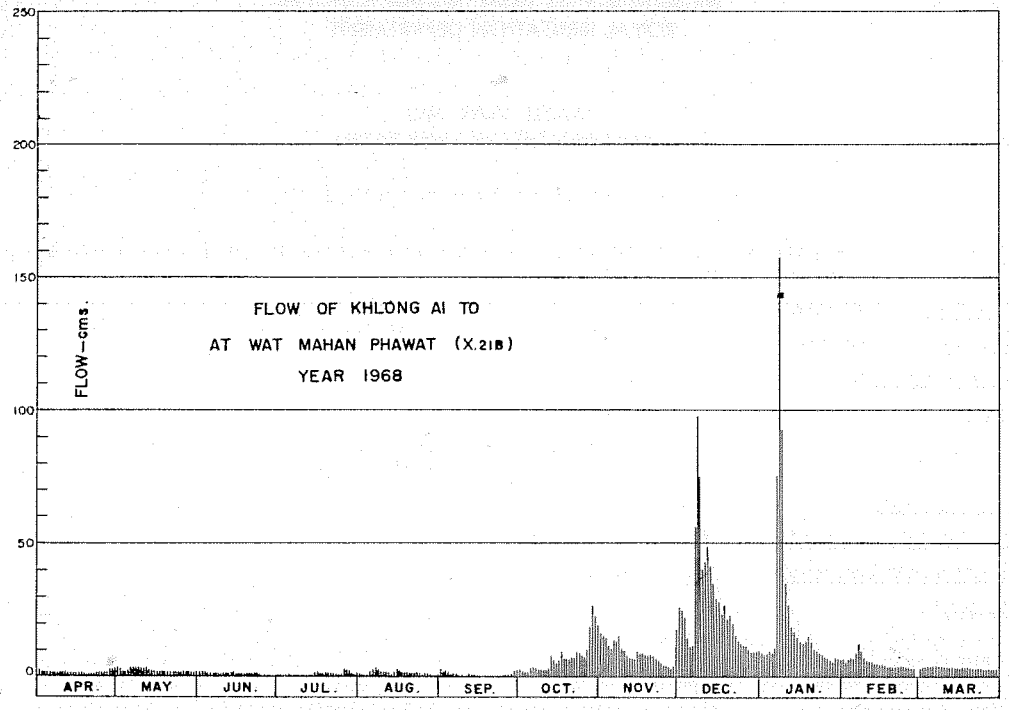
General Description: Records good, stage-discharge relationship used is defined by discharge measurements made during 1968. No upstream state diversions for irrigation except those built by local residents. No adjustment made for virgin flow.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	15.13	15.25	15.09	14.99	15.02	15.24	15.15	15.99	16.41	15.60	15.50	15.21
2	.11	.14	.09	.97	.00	.12	.13	.97	.36	.56	.38	.24
3	.10	.10	.09	.95	14.97	.22	.10	.89	.17	.63	.52	.27
4	.09	.10	.06	.96	.97	.10	.13	.78	15.77	.65	.52	.27
5	.09	.18	.04	.96	15.18	.07	.25	.71	.77	.62	.51	.27
6	15.09	15.32	15.04	14.96	15.23	15.03	15.26	15.92	15.82	15.74	15.64	15.27
7	.09	.25	.04	.96	.30	.00	.23	.85	17.61	18.24	.82	.27
8	.09	.25	.03	.96	.11	14.99	.18	.96	18.66	19.93	.62	.27
9	.09	.24	.04	.96	.16	.97	.15	.76	16.92	17.66	.50	.27
10	.09	.24	.04	.96	.12	.97	.16	.64	.99	16.72	.43	.27
11	15.09	15.24	15.05	14.95	15.08	14.99	15.21	15.56	17.28	16.42	15.40	15.26
12	.08	.24	.05	.96	.05	15.08	.19	.51	.06	.14	.39	.25
13	.07	.18	.05	.97	.06	.04	.55	.50	16.82	.01	.37	.24
14	.07	.17	.05	15.01	.19	.01	.47	.50	.57	15.94	.36	.23
15	.06	.17	.03	.08	.23	.01	.38	.66	.56	.86	.34	.23
16	15.05	15.13	15.05	15.08	15.17	15.00	15.47	15.63	16.37	15.80	15.32	15.23
17	.05	.13	.05	.06	.12	14.98	.64	.60	.28	.84	.30	.23
18	.05	.13	.04	.08	.12	.95	.44	.54	.45	.97	.29	.23
19	.05	.13	.05	.10	.12	.97	.51	.58	.24	.93	.28	.22
20	.05	.13	.08	.08	.06	.99	.50	.62	.31	.82	.26	.20
21	15.05	15.10	15.05	15.07	15.10	14.98	15.56	15.55	16.13	15.72	15.25	15.19
22	.06	.09	.04	.05	.11	.96	.51	.49	15.97	.65	.25	.19
23	.07	.09	14.92	.03	.08	.95	.68	.43	.87	.60	.27	.19
24	.08	.09	.84	.03	.03	.95	.62	.38	.80	.56	.27	.19
25	.08	.11	.80	.12	.02	.95	.56	.35	.75	.51	.24	.18
26	15.09	15.13	14.79	15.24	15.03	14.98	15.53	15.31	15.72	15.48	15.23	15.18
27	.09	.13	.81	.21	.03	15.04	.75	.24	.67	.44	.21	.18
28	.24	.10	.88	a13	.01	.08	16.24	.21	.62	.42	.20	.18
29	.20	.10	.93	.05	.00	.14	.47	.35	.64	.53	–	.18
30	.25	.10	.99	.02	14.99	.20	.29	16.08	.66	.47	–	.18
31	–	.10	–	.02	15.03	–	.10	–	.67	.46	–	.18
Mean	15.09	15.16	15.00	15.03	15.09	15.03	15.50	15.62	16.32	16.03	15.38	15.22
Max.	15.25	15.32	15.09	15.24	15.30	15.24	16.47	16.08	18.66	19.93	15.82	15.27
Min.	15.05	15.09	14.79	14.75	14.97	14.95	15.10	15.21	15.62	15.42	15.20	15.18

WATER YEAR 1968 : Max. 19.93 m. Min. 14.79 m.

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	2.00	3.30	1.62	0.84	1.06	3.18	2.20	16	26	8.20	6.60	2.82
2	1.80	2.10	1.62	0.72	0.90	1.90	2.00	15	24	7.56	4.94	3.18
3	1.70	1.70	1.62	0.60	0.72	2.94	1.70	14	20	8.74	6.92	3.54
4	1.62	1.70	1.38	0.66	0.72	1.70	2.00	11	11	9.10	6.92	3.54
5	1.62	2.50	1.22	0.66	2.50	1.46	3.30	10	11	8.56	6.76	3.54
6	1.62	4.16	1.22	0.66	3.06	1.14	3.42	14	12	11	8.92	3.54
7	1.62	3.30	1.22	0.66	3.90	0.90	3.06	13	60	82	12	3.54
8	1.62	3.30	1.14	0.66	1.80	0.84	2.50	15	98	157	8.56	3.54
9	1.62	3.18	1.22	0.66	2.30	0.72	2.20	11	39	62	6.60	3.54
10	1.62	3.18	1.22	0.66	1.90	0.72	2.30	8.92	41	34	5.62	3.54
11	1.62	3.18	1.30	0.60	1.54	0.84	2.82	7.56	50	26	5.20	3.42
12	1.54	3.18	1.30	0.66	1.30	1.54	2.60	6.76	43	19	5.07	3.30
13	1.46	2.50	1.30	0.72	1.38	1.22	7.40	6.60	36	16	4.81	3.18
14	1.46	2.40	1.30	0.98	2.60	0.98	6.18	6.60	30	15	4.68	3.06
15	1.38	2.40	1.30	1.54	3.06	0.98	4.94	9.28	29	13	4.42	3.06
16	1.30	2.00	1.30	1.54	2.40	0.90	6.18	8.74	75	12	4.16	3.06
17	1.30	2.00	1.30	1.38	1.90	0.78	8.92	8.20	22	13	3.90	3.06
18	1.30	2.00	1.22	1.54	1.90	0.60	5.76	7.24	27	15	3.78	3.06
19	1.30	2.00	1.30	1.70	1.90	0.72	6.76	7.88	21	14	3.66	2.94
20	1.30	2.00	1.54	1.54	1.38	0.84	6.60	8.56	23	12	3.42	2.70
21	1.30	1.70	1.30	1.46	1.70	0.78	7.56	7.40	19	10	3.30	2.60
22	1.38	1.62	1.22	1.30	1.80	0.66	6.76	6.46	15	9.10	3.30	2.60
23	1.46	1.62	0.42	1.14	1.54	0.60	9.64	5.62	13	8.20	3.54	2.60
24	1.54	1.62	0.12	1.14	1.14	0.60	8.56	4.94	12	7.56	3.54	2.60
25	1.54	1.80	0.00	1.90	1.06	0.60	7.56	4.55	11	6.76	3.18	2.50
26	1.62	2.00	0.00	3.18	1.14	0.78	7.08	4.03	10	6.32	3.06	2.50
27	1.62	2.00	0.030	2.82	1.14	1.22	11	3.18	9.46	5.76	2.82	2.50
28	3.18	1.70	0.24	2.00	0.98	1.54	21	2.82	8.56	5.48	2.72	2.50
29	2.70	1.70	0.48	1.30	0.90	2.10	27	4.55	8.92	7.08	–	2.50
30	3.30	1.70	0.84	1.06	0.84	2.70	23	18	9.28	6.18	–	2.50
31	–	1.70	–	1.06	1.14	–	18	–	9.46	6.04	–	2.50
Total	50.44	71.24	31.29	37.34	51.60	36.48	230.00	266.89	773.68	631.64	142.40	93.06
Mean	1.68	2.30	1.04	1.20	1.66	1.22	7.42	8.90	24.9	20.0	5.08	3.00
Max.	3.30	4.16	1.62	3.18	3.90	3.18	27	18	98	157	12	3.54
Min.	1.30	1.62	0.00	0.60	0.72	0.60	1.70	2.82	8.56	5.48	2.72	2.50
Runoff – mcm.	4.358	6.155	2.703	3.226	4.458	3.152	19.872	23.059	66.846	53.710	12.303	8.040

WATER YEAR 1968: Max. 157 Min. 0.00 Mean 6.59 Annual Runoff 207.883 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Jan. 8	08.00	20.50	190				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
KHLONG THEPHA RIVER BASIN

Khlong Thepha at Huai Prak Pring, Songkhla (X. 27)

Location: Lat. 6°-48'-04" N., Long. 100°-57'-28" E., on right bank at Ban Huai Prak Pring, 8 kilometers upstream from state railway bridge, Amphoe Thepha, Songkhla.

Drainage Area: 1,557 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 station X. 27.
Elevation: B.M.1 +8.595 m. (A.D.) and B.M.2 +5.388 m. (A.D.)

Gage Reading Frequency: Recording

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

Period of Available Gage Records: 1960 to date

Rating Operation:

Period of Rating: 1960-68
Rated by Float:
Rated by Current Meter: 1960-68

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

Overbank Flow Conditions: No overbank flow.

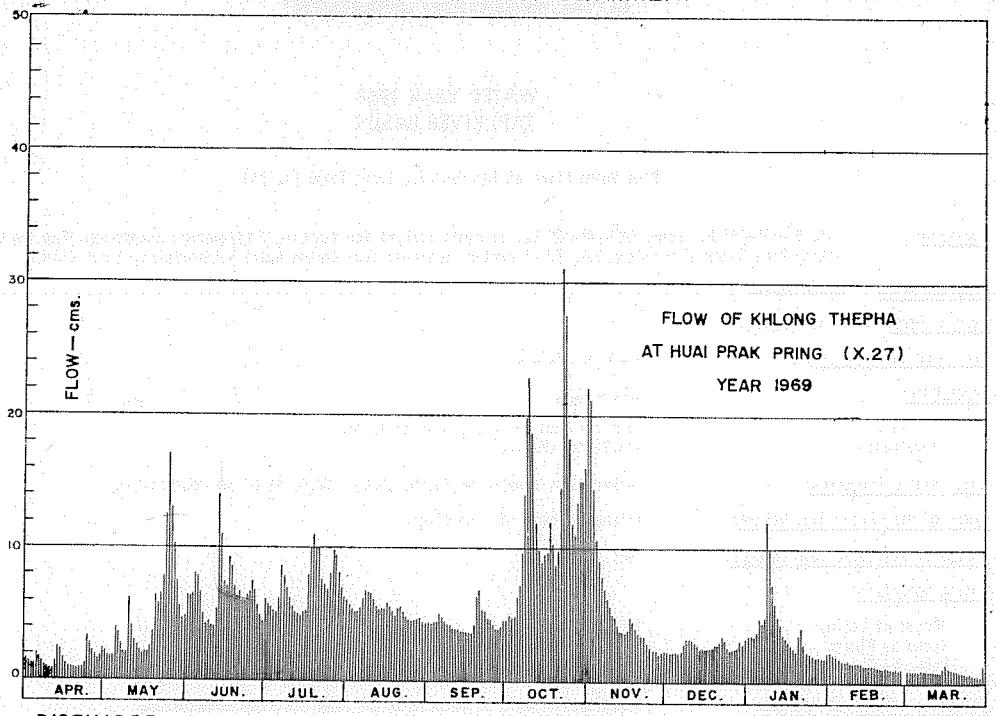
General Description: Records good, stage-discharge relationship used is defined by discharge measurements made during 1968. No upstream state diversions for irrigation except those built by local residents. No adjustment made for virgin flow.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.74	0.79	1.21	1.19	1.17	1.02	1.03	2.33	1.05	1.17	1.05	0.82
2	.70	.75	.20	.15	.14	.01	.09	.06	.03	.17	.01	.82
3	.68	.76	.21	.13	.11	.04	.04	1.87	.03	.15	0.99	.82
4	.70	.78	.35	.10	.09	.03	.10	.72	.04	.20	.97	.81
5	.78	.97	.33	.10	.11	.09	.26	.61	.03	.28	.95	.82
6	0.72	0.90	1.17	1.24	1.14	1.05	1.31	1.54	1.05	1.23	0.94	0.83
7	.69	.84	.06	.40	.20	.02	.71	.47	.12	.30	.94	.82
8	.67	.79	.00	.30	.25	.01	2.37	.40	.15	.87	.93	.82
9	.65	.79	.04	.26	.24	0.99	.31	.35	.15	.67	.92	.81
10	.64	1.19	.00	.18	.22	.98	.05	.31	.14	.47	.91	.81
11	0.63	0.95	0.99	1.13	1.16	0.98	1.71	1.25	1.12	1.37	0.91	0.81
12	.71	.88	1.13	.10	.13	.97	.57	1.21	.11	.27	.91	.80
13	.83	.85	.77	.08	.11	.96	.43	.19	.08	.22	.90	.80
14	.80	.81	.48	.06	.12	.96	.41	.18	.08	.17	.89	.80
15	.73	.78	.30	.10	.12	.95	.47	.20	.07	.14	.89	.91
16	0.69	0.80	1.22	1.11	1.16	0.95	1.42	1.23	1.08	1.11	0.88	0.87
17	.67	.80	.45	.36	.12	.94	.64	.29	.08	.09	.88	.84
18	.66	.86	.40	.51	.08	.96	.49	.24	.09	.06	.87	.83
19	.65	.98	.24	.56	.06	1.20	.37	.20	.11	.05	.86	.82
20	.64	1.21	.19	.51	.13	.25	.46	.17	.10	.19	.85	.81
21	0.63	1.14	1.25	1.52	1.14	1.13	1.72	1.16	1.17	1.22	0.85	0.80
22	.63	.21	.18	.32	.10	.10	2.83	.16	.16	.07	.85	.79
23	.71	.37	.16	.28	.07	.06	.64	.12	.10	.05	.84	.78
24	.91	.75	.21	.25	.05	.05	.15	.08	.06	.03	.84	.78
25	.81	2.02	.24	.25	.03	.01	1.91	.07	.05	.01	.84	.77
26	0.80	1.72	1.30	1.38	1.04	0.99	1.80	1.05	1.07	0.99	0.83	0.76
27	.75	.49	.19	.49	.04	.97	.76	.04	.08	.98	.83	.75
28	.72	.29	.13	.42	.06	1.00	2.01	.00	.13	.97	.83	.75
29	.77	.14	.04	.31	.04	.01	.03	.05	.10	.96	–	.74
30	0.82	.06	.02	.21	.02	.05	.06	.06	.11	.97	–	.83
31	–	.03	–	.19	.03	–	.39	–	.16	1.05	–	1.09
Mean	0.72	1.05	1.21	1.26	1.11	1.02	1.73	1.32	1.09	1.18	0.86	0.82
Max.	0.91	2.02	1.77	1.56	1.25	1.25	2.83	2.33	1.17	1.87	1.05	1.09
Min.	0.63	0.75	0.99	1.06	1.02	0.94	1.03	1.00	1.03	0.96	0.83	0.74

WATER YEAR 1968 : Max. 2.83 m. Min. 0.63 m.

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	1.64	2.10	6.45	6.23	6.01	4.40	4.50	21	2.34	3.51	2.34	0.96
2	1.32	1.72	6.34	5.79	5.68	4.30	5.13	16	2.22	3.51	2.10	0.96
3	1.16	1.80	6.45	5.57	5.35	4.60	4.60	12	2.22	3.30	1.98	0.96
4	1.32	2.00	8.08	5.24	5.13	4.50	5.24	10	2.28	3.84	1.86	0.90
5	2.00	3.90	7.84	5.24	5.35	5.13	7.00	8.80	2.22	4.72	1.74	0.96
6	1.48	3.20	6.04	6.78	5.68	4.70	7.60	7.84	2.34	4.17	1.68	1.02
7	1.24	2.60	4.80	8.72	6.34	4.40	13	6.93	3.00	4.94	1.68	0.96
8	1.08	2.10	4.20	7.48	6.89	4.30	23	6.08	3.30	12	1.62	0.96
9	0.94	2.10	4.60	7.00	6.78	4.10	22	5.49	3.30	9.64	1.56	0.90
10	0.88	6.23	4.20	6.12	6.56	4.00	18	5.05	3.20	6.93	1.50	0.90
11	0.83	3.70	4.10	5.57	5.90	4.00	13	4.39	3.00	5.72	1.50	0.90
12	1.40	3.00	5.57	5.24	5.57	3.90	11	3.95	2.90	4.61	1.50	0.84
13	2.50	2.70	14	5.02	5.35	3.80	9.11	3.73	2.60	4.06	1.44	0.84
14	2.20	2.30	9.76	4.80	5.46	3.80	8.85	3.62	2.60	3.51	1.38	0.84
15	1.56	2.00	7.48	5.24	5.46	3.70	9.63	3.84	2.50	3.20	1.38	1.50
16	1.24	2.20	6.56	5.35	5.90	3.70	8.98	4.17	2.60	2.90	1.32	1.20
17	1.08	2.20	9.37	8.20	5.46	3.60	12	4.83	2.60	2.70	1.32	1.08
18	1.00	2.80	8.72	10	5.02	3.80	9.89	4.28	2.70	2.40	1.26	1.02
19	0.94	4.00	6.78	11	4.80	6.34	8.33	3.84	2.90	2.34	1.20	0.96
20	0.88	6.45	6.23	10	5.57	6.89	9.50	3.51	2.80	3.73	1.14	0.90
21	0.83	5.68	6.89	10	5.68	5.57	13	3.40	3.51	4.06	1.14	0.84
22	0.83	6.45	6.12	7.72	5.24	5.24	31	3.40	3.40	2.50	1.14	0.78
23	1.40	8.33	5.90	7.24	4.91	4.80	27	3.00	2.80	2.34	1.08	0.72
24	3.30	13	6.45	6.89	4.70	4.70	17	2.60	2.40	2.22	1.08	0.72
25	2.30	17	6.78	6.89	4.50	4.30	13	2.50	2.34	2.10	1.08	0.66
26	2.20	13	7.48	8.46	4.60	4.10	11	2.34	2.50	1.98	1.02	0.60
27	1.72	9.89	6.23	9.89	4.60	3.90	11	2.28	2.60	1.92	1.02	0.56
28	1.48	7.36	5.57	8.98	4.80	4.20	15	2.04	3.10	1.86	1.02	0.56
29	1.90	5.68	4.60	7.60	4.60	4.30	15	2.34	2.80	1.80	–	0.52
30	2.40	4.80	4.40	6.45	4.40	4.70	16	2.40	2.90	1.86	–	1.02
31	–	4.50	–	6.23	4.50	–	22	–	3.40	2.34	–	2.70
Total	45.05	154.79	197.96	220.94	166.79	133.77	401.36	165.65	85.37	116.71	40.08	29.24
Mean	1.50	4.99	6.60	7.13	5.38	4.46	12.9	5.52	2.75	3.76	1.43	0.94
Max.	3.30	17	14	11	6.89	6.89	31	21	3.51	12	2.34	1.50
Min.	0.83	1.72	4.10	4.80	4.40	3.60	4.50	2.04	2.22	1.80	1.02	0.52
Runoff – mcm.	3.892	13.374	17.104	19.089	14.411	11.558	34.677	14.312	7.376	10.084	3.463	2.526

WATER YEAR 1968 : Max. 31 Min. 0.52 Mean 4.81 Annual Runoff 151.866 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Oct. 22	17.00	3.00	34				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
TAPI RIVER BASIN

Phum Duang River at Ban Yan Lon, Surat Thani (X. 38)

Location: Lat. 8°-53'-51" N., Long. 98°-52'-32" E., on right bank at Ban Yan Lon, 2 kilometers downstream from the confluence of Khlong Phra Saeng with Khlong Sok, 30 kilometers upstream from Amphoe Khiri Ratthanikhom, Surat Thani.

Drainage Area: 2,690 sq.km.

Type of Gage: Staff gage.

Zero Gage at Bottom at: +3.70 m. (M.S.L.)

Bench Mark: B.M. – H.S.

Location: near the camp of gaging station X. 38.
Elevation: +16.732 m. (M.S.L.)

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: 1963 to date.

Rating Operation:

Period of Rating: 1963 to date.
Rated by Float: –
Rated by Current Meter: 1963 to date.

Stability of Channel Regimes: Unstable, shifting adjustment is included for flow computation.

Overbank Flow Conditions: No overbank flow.

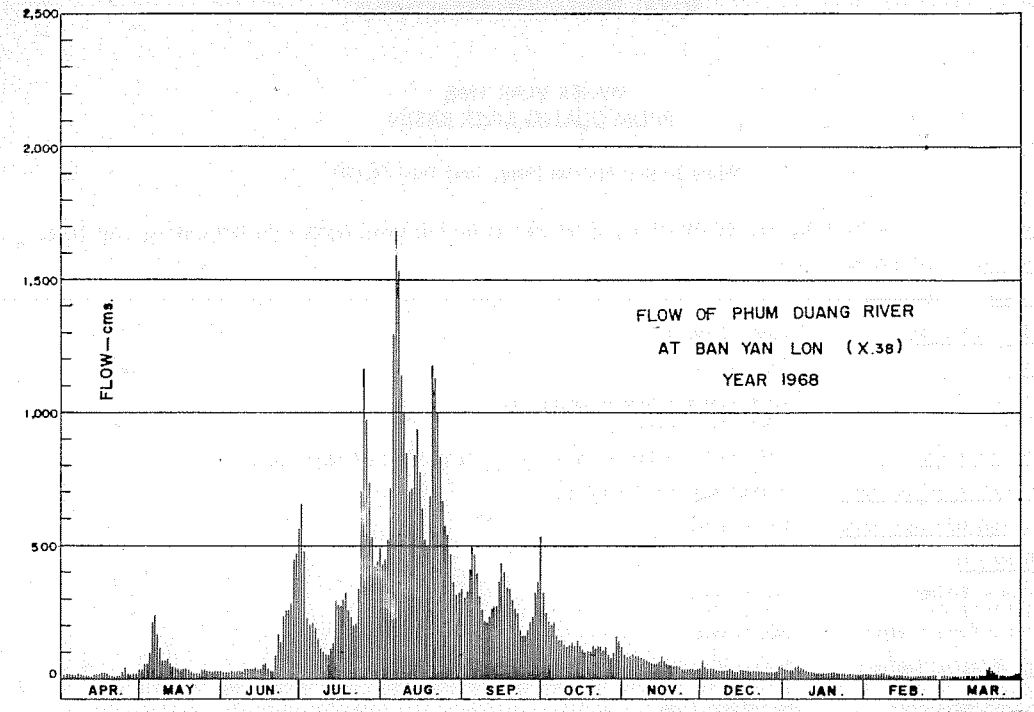
General Description: Records good, stage-discharge relationship used is defined by discharge measurements made during 1968. No upstream state diversions for irrigation except those built by local residents. No adjustment made for virgin flow.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	4.59	5.23	4.97	10.30	8.63	7.67	8.11	5.93	5.66	5.11	4.87	4.70
2	.80	.48	.96	8.40	9.00	.79	7.43	.81	5.29	.03	.87	.69
3	.72	.44	.96	7.15	.63	8.68	.05	.75	.19	.03	.84	.69
4	.79	6.00	.98	6.77	10.70	9.22	6.84	.83	.20	.05	.83	.68
5	.78	7.12	5.01	.85	13.68	.00	.99	.67	.16	.19	.90	.68
6	4.88	7.47	5.00	6.68	15.19	8.28	6.61	5.68	5.13	5.34	4.86	4.67
7	.92	6.82	4.98	.34	14.56	7.76	.46	.67	.13	.27	.89	.67
8	.77	.35	5.00	.06	12.64	.43	.50	.60	.16	.13	.94	.66
9	.74	5.67	.16	5.83	.19	.09	.29	.51	.13	.03	.85	.67
10	.69	.60	.18	.73	11.49	.19	.21	.47	.20	4.98	.80	.67
11	4.67	5.62	5.11	5.64	10.70	7.46	6.32	5.44	5.24	4.96	4.79	4.66
12	.65	.31	.19	6.04	.76	.61	.40	.41	.14	.93	.79	.66
13	.70	.23	.19	.18	11.46	.24	.17	.40	.09	.92	.79	.67
14	.74	.18	.05	7.46	.94	.77	.50	.42	.08	.91	.77	.69
15	.81	.19	.05	.33	.09	8.60	.33	.73	.21	.90	.76	.68
16	4.94	5.14	5.48	7.33	10.35	8.48	6.13	5.48	5.20	4.89	4.75	4.71
17	.88	.24	.47	7.65	9.42	.12	5.99	.37	.11	.88	.74	.74
18	.78	.24	.19	.67	.23	.09	6.06	.32	.08	.92	.74	5.18
19	.70	.05	.04	.17	10.77	7.67	.03	.30	.05	.99	.74	.07
20	.68	4.99	.05	6.87	12.78	.41	.32	.26	.14	.96	.73	4.94
21	4.69	4.93	5.86	6.55	12.51	7.26	6.19	5.23	5.06	4.91	4.72	4.80
22	.70	.97	6.42	.97	11.52	6.93	.29	.22	.02	.88	.72	.75
23	.73	.93	5.90	8.79	10.65	.71	.26	.20	.01	.86	.71	.71
24	5.29	5.16	7.03	11.35	9.95	.65	.05	.18	4.99	.85	.72	.68
25	.16	.17	.26	12.57	.43	.85	.23	.17	.98	.84	.74	.67
26	4.87	5.08	7.22	11.49	9.29	7.07	5.92	5.16	4.97	4.83	4.75	4.66
27	.77	.05	.46	10.40	8.69	.31	.82	.20	.76	.83	.74	.71
28	5.00	.06	8.65	9.36	.18	8.03	6.07	.19	.97	.82	.71	.78
29	4.96	.10	.78	8.65	7.90	.89	.68	.16	5.05	.81	–	.78
30	5.18	.06	9.61	8.88	.94	9.32	.42	.31	.29	.83	–	.83
31	–	.04	–	9.27	.99	–	.11	–	.18	.84	–	.83
Mean	4.82	5.45	6.21	7.86	10.65	7.79	6.48	5.43	5.13	4.96	4.79	4.74
Max.	5.29	7.47	9.61	12.57	15.19	9.32	8.11	5.93	5.66	5.34	4.94	5.18
Min.	4.59	4.93	4.96	5.64	7.90	6.65	5.82	5.16	4.96	4.81	4.71	4.66

WATER YEAR 1968 : Max. 15.19 m. Min. 4.64 m.

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	7.20	39	25	657	406	300	334	91	72	37	19	11
2	16	56	24	374	458	316	250	80	44	32	19	10
3	12	54	24	216	553	416	223	89	37	32	18	10
4	13	90	26	204	724	493	199	96	38	33	17	12
5	12	212	28	214	1,323	461	216	82	35	43	21	12
6	16	245	27	195	1,682	360	156	83	33	54	19	11
7	20	170	26	151	1,534	292	141	82	33	49	21	11
8	12	122	27	121	1,074	252	145	75	35	39	24	11
9	12	61	38	100	986	211	124	68	33	32	18	11
10	10	72	37	91	847	223	116	64	38	28	15	11
11	9.60	74	33	83	707	256	127	62	41	27	15	11
12	8.80	50	38	119	717	274	135	60	34	25	15	11
13	11	44	42	147	843	248	112	59	30	24	15	11
14	12	41	32	294	936	319	145	61	30	23	14	12
15	14	36	32	278	776	433	128	87	39	23	13	12
16	21	33	58	278	649	391	109	65	38	22	13	13
17	18	40	57	319	505	341	96	57	32	21	12	14
18	12	40	37	321	476	337	102	54	30	24	12	44
19	9.20	26	27	258	719	298	100	52	28	29	12	36
20	8.40	22	27	223	1,180	266	127	49	34	27	12	27
21	8.80	18	93	187	1,125	248	114	47	31	23	12	18
22	9.20	21	166	218	924	1919	125	47	28	21	12	15
23	10	18	113	457	760	167	121	38	28	20	12	13
24	46	34	235	918	643	160	102	37	26	19	12	12
25	37	35	263	1,167	551	182	118	36	26	19	12	11
26	17	28	258	946	539	207	89	35	25	18	13	11
27	12	26	287	680	431	235	81	38	24	18	12	13
28	23	27	448	511	354	324	103	37	25	18	11	16
29	20	30	466	409	317	332	164	35	30	17	–	16
30	35	27	591	441	323	535	137	46	50	18	–	16
31	–	26	–	497	342	–	107	–	42	19	–	19
Total	472.20	1,817	3,585	11,080	23,404	9,068	4,346	1,812	1,069	834	420	464
Mean	15.7	58.6	119	357	755	302	140	60.4	34.5	26.9	15.0	15.0
Max.	46	245	591	1,167	1,682	535	334	91	72	54	24	44
Min.	7.20	18	24	83	317	160	81	35	24	17	11	10
Runoff – MCM.	40.798	156.989	309.744	957.312	2,022.106	783.475	375.494	156.557	92.362	72.058	36.288	40.090

WATER YEAR 1968 : Max. 1,682 Min. 7.20 Mean 160 Annual Runoff 5,043.272 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Aug. 6	17.00	15.41	1.742				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
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 Khiri Ratthanikhom, Surat Thani.

Drainage Area: 1,437 sq.km.

Type of Gage: Staff gage

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: +21.625 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: 1969 to date
- Rated by Float: –
- Rated by Current Meter: 1969 to date

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

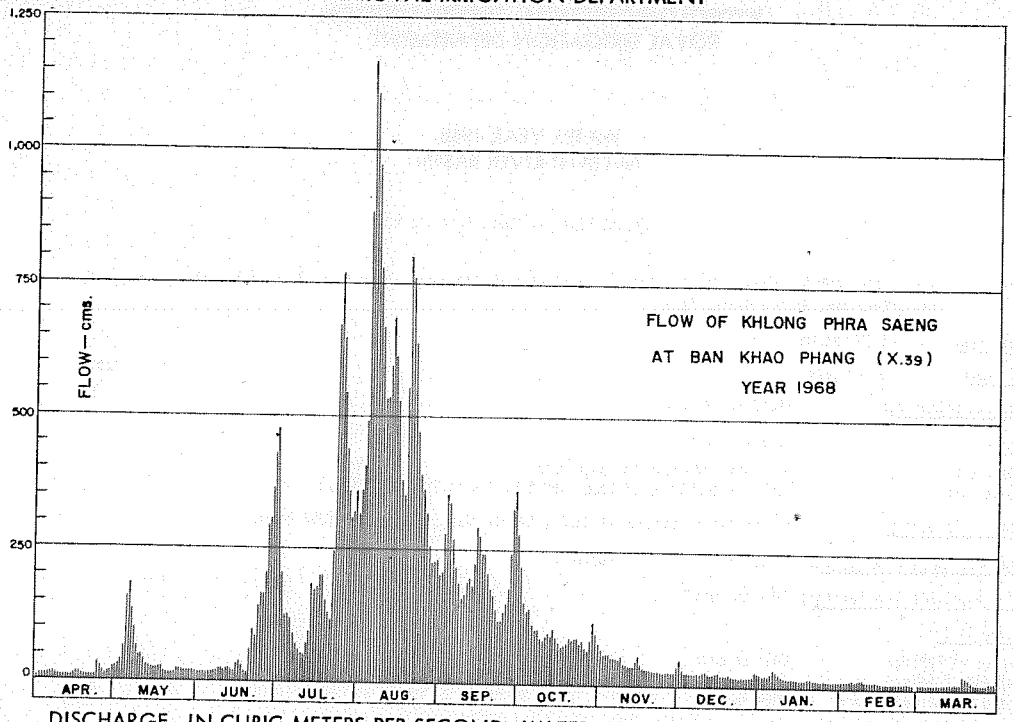
Overbank Flow Conditions: No overbank flow.

General Description: Records fair. Stage-discharge relationship used is defined by discharge measurements made during 1969-71. No upstream state diversions for irrigation except those built by local residents. No adjustment made for virgin flow.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	8.99	9.53	9.30	13.90	12.47	11.65	12.02	10.15	9.91	9.42	9.22	9.08
2	9.16	.75	.29	12.28	.79	.74	11.45	.05	.58	.35	.22	.07
3	.10	.72	.29	11.19	13.34	12.51	.11	9.99	.49	.35	.19	.07
4	.15	10.20	.30	10.86	14.26	.97	10.93	10.07	.50	.36	.18	.06
5	.14	11.17	.33	.93	16.84	.79	11.06	9.92	.46	.49	.24	.06
6	9.22	11.48	9.32	10.79	18.12	12.17	10.74	9.93	9.44	9.63	9.21	9.06
7	.26	10.91	.30	.49	17.58	11.72	.60	.92	.44	.56	.23	.06
8	.14	.50	.32	.25	15.94	.45	.64	.86	.46	.44	.27	.05
9	.11	9.92	.46	.07	.53	.14	.44	.98	.44	.35	.20	.06
10	.07	.86	.48	9.98	14.93	.23	.36	.74	.50	.30	.16	.06
11	9.06	9.88	9.43	9.90	14.26	11.47	10.47	9.72	9.54	9.29	9.15	9.05
12	.04	.60	.49	10.23	.31	.60	.55	.69	.45	.26	.15	.05
13	.08	.53	.49	.34	.90	.28	.33	.68	.40	.26	.14	.06
14	.11	.47	.36	11.47	15.33	.73	.64	.70	.39	.25	.14	.07
15	.17	.49	.36	.36	14.57	12.45	.48	.98	.51	.24	.13	.06
16	9.27	9.45	9.75	11.36	13.94	12.35	10.30	9.75	9.50	9.23	0.12	9.09
17	.22	.54	.74	.63	.14	.03	.19	.65	.42	.22	.11	.11
18	.14	.53	.49	.65	12.97	.00	.25	.61	.39	.26	.11	.48
19	.08	.36	.36	.20	14.32	11.65	.22	.59	.36	.31	.11	.38
20	.06	.31	.36	10.95	16.06	.43	.47	.55	.45	.29	.10	.27
21	9.07	9.26	10.09	10.68	15.82	11.29	10.34	9.53	9.37	9.25	9.10	9.16
22	.08	.30	.57	11.04	14.96	.01	.45	.52	.34	.22	.10	.12
23	.10	.26	.13	12.61	.21	10.81	.41	.50	.33	.21	.09	.09
24	.58	.46	11.09	14.80	13.61	.76	.24	.48	.31	.20	.10	.06
25	.46	.47	.29	15.87	.15	.93	.38	.47	.30	.19	.11	.06
26	9.22	9.39	11.26	14.93	13.02	11.13	10.14	9.46	9.30	9.18	0.12	9.05
27	.14	.36	.47	.05	12.52	.34	.06	.50	.29	.18	.11	.09
28	.32	.37	12.49	13.08	.08	.95	.26	.49	.30	.18	.09	.14
29	.29	.41	.60	12.49	11.83	12.70	.79	.46	.36	.17		.14
30	.48	.37	13.31	.69	.87	13.05	.57	.60	.58	.18		.18
31		.36		13.01	.91		.29		.48	.19		.18
Mean	9.18	9.72	10.08	11.81	14.21	11.74	10.55	9.72	9.44	9.29	9.15	9.11
Max.	9.58	11.48	13.31	15.87	18.12	13.05	12.02	10.15	9.91	9.63	9.27	9.48
Min.	8.99	9.26	9.29	9.90	11.83	10.76	10.06	9.46	9.29	9.17	9.09	9.05

WATER YEAR 1968 : Max. 18.12 m. Min. 8.99 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	5.78	28	17	476	295	202	243	66	50	22	14	8.40
2	11	40	17	273	334	212	182	59	30	19	14	8.10
3	9.00	38	17	156	402	300	148	55	25	19	13	8.10
4	11	70	17	123	526	355	130	61	26	19	12	7.80
5	11	154	18	130	932	334	143	51	24	25	15	7.80
6	14	185	18	117	1,164	260	113	51	23	33	13	7.80
7	15	128	17	91	1,062	210	100	51	23	29	14	7.80
8	11	92	18	73	780	182	104	47	24	23	16	7.50
9	9.40	51	24	61	716	151	87	55	23	19	13	7.80
10	8.10	47	25	55	625	160	81	39	26	17	11	7.80
11	7.80	48	22	49	526	184	90	38	28	17	11	7.50
12	7.20	31	25	72	533	197	96	36	23	15	11	7.50
13	8.40	28	25	80	621	165	79	36	21	15	11	7.80
14	9.40	24	19	184	685	211	104	37	21	15	11	8.10
15	12	25	19	173	571	293	90	55	26	15	10	7.80
16	16	23	40	173	482	281	77	40	26	14	9.80	8.70
17	14	28	39	200	376	244	69	34	22	14	9.40	9.40
18	11	28	25	202	355	241	73	32	21	15	9.40	25
19	8.40	19	19	157	535	202	71	31	19	17	9.40	20
20	7.80	17	19	132	800	180	90	29	23	17	9.00	16
21	8.10	15	62	107	761	166	80	28	20	15	9.00	11
22	8.40	17	98	141	630	138	88	27	19	14	9.00	9.80
23	9.00	15	65	312	519	119	85	26	18	13	8.70	8.70
24	30	24	146	606	437	114	73	25	17	13	9.00	7.80
25	24	24	166	769	378	130	83	24	17	13	9.40	7.80
26	14	21	163	625	361	150	66	24	17	12	9.80	7.50
27	11	19	184	494	301	171	60	26	17	12	9.40	8.70
28	18	20	298	369	250	235	74	25	17	12	8.70	11
29	17	21	311	298	222	323	117	24	19	12		11
30	25	20	398	322	227	365	98	31	30	12		12
31		19		360	231		76		25	13		12
Total	371.78	1,319	2,331	7,380	16,637	6,475	3,070	1,163	720	520	309.00	304.60
Mean	12.4	42.5	77.7	238	537	216	99.0	38.8	23.2	16.8	11.0	9.81
Max.	30	185	398	769	1,164	365	243	66	50	33	15	25
Min.	5.78	15	17	49	222	114	60	24	17	12	8.70	7.50
Runoff — mcm.	32.122	113.962	201.398	637.632	1,437.437	559.440	265.248	100.483	62.208	44.928	26.698	26.266

WATER YEAR 1968 : Max. 1,164 Min. 5.78 Mean 111 Annual Runoff 3,507.821 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Aug. 6	17.00	18.32	1,202				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
PATTANI RIVER BASIN

Pattani River at Muang Yala (X. 40)

Location: Lat. 6°-35'-00" N., Long. 101°-20'-00" E., on right bank 500 meters downstream from state railway bridge at Ban Streng Nok, Amphoe Muang, Yala.

Drainage Area: 3,295 sq.km.

Type of Gage: Staff gage

Zero Gage at Bottom at: +9.60 m. (M.S.L.)

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

Location: on right bank near the gage site.
Elevation: B.M. 1 + 14.009 m. (M.S.L.) and B.M. 2 + 14.240 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 to date
Rated by Float: -
Rated by Current Meter: 1964 to date

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

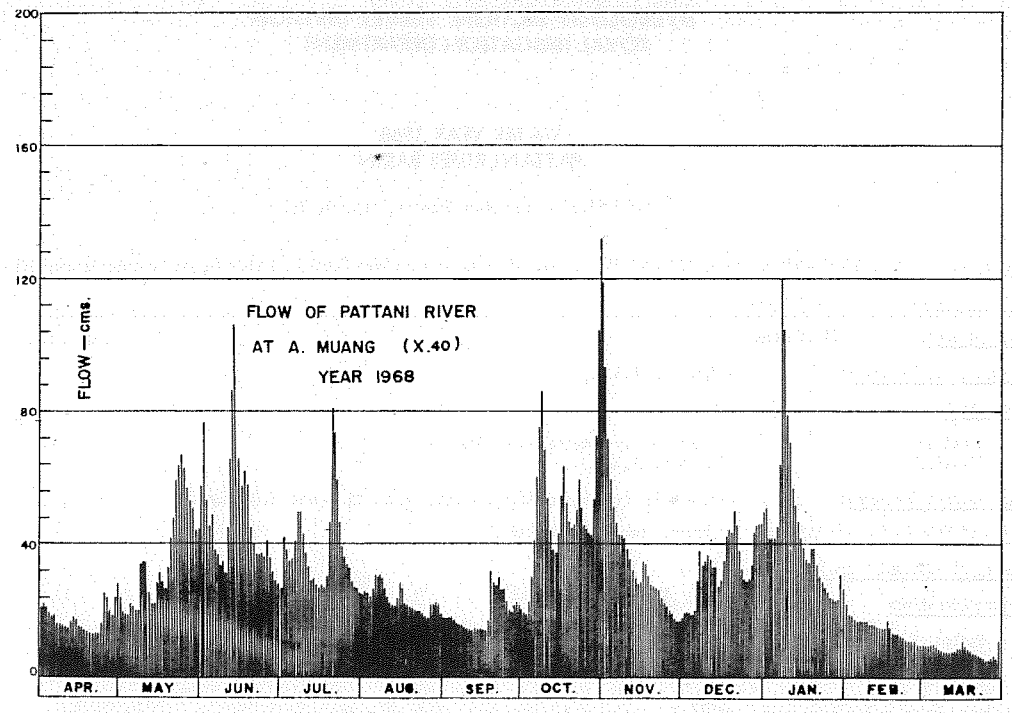
Overbank Flow Conditions: No overbank flow.

General Description: Records good. Stage-discharge relationship used is defined by discharge measurements made during 1968. No upstream state diversions for irrigation.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	10.53	10.53	11.44	10.60	10.56	10.42	10.47	11.72	10.44	11.03	10.52	10.22
2	.49	.45	.15	.89	.59	.42	.44	.46	.46	.03	.44	.22
3	.46	.45	10.98	.84	.56	.42	.47	.25	.46	10.88	.44	.24
4	.43	.42	.92	.76	.55	.43	.63	.09	.45	.88	.43	.23
5	.44	.51	11.00	.79	.60	.40	.74	.00	.44	.88	.41	.22
6	10.41	10.49	10.82	10.79	10.68	10.38	11.13	10.91	10.61	10.95	10.40	10.20
7	.38	.44	.80	11.01	.67	.37	.42	.87	.82	11.35	.40	.18
8	.37	.48	.73	.02	.68	.37	.57	.90	.72	12.02	.41	.18
9	.35	.76	.76	10.94	.62	.35	.30	.87	.77	11.56	.39	.17
10	.34	.76	.65	.81	.56	.34	.17	.80	.80	.44	.38	.17
11	10.34	10.62	10.99	10.74	10.53	10.33	10.95	10.74	10.80	11.25	10.38	10.17
12	.39	.53	11.56	.65	.51	.35	.89	.68	.73	.06	.37	.17
13	.42	.50	.85	.66	.49	.34	.81	.65	.74	.05	.36	.17
14	.39	.50	.35	.62	.52	.33	.80	.61	.62	10.93	.35	.21
15	.36	.64	.23	.61	.65	.34	.93	.65	.61	.88	.35	.19
16	10.34	10.70	11.12	10.62	10.62	10.33	11.27	10.76	10.70	10.83	10.35	10.24
17	.33	.61	.21	.61	.50	.33	.12	.74	.86	.77	.39	.20
18	.32	.56	.15	.63	.51	.42	.02	.65	.94	.77	.33	.19
19	.31	.71	10.95	.85	.49	.71	10.91	.62	.86	.84	.31	.17
20	.30	.90	10.89	11.34	.48	.63	.94	.61	.95	.84	.30	.16
21	10.30	11.00	10.83	11.50	10.46	10.63	10.99	10.61	11.02	10.74	10.29	10.15
22	.30	.19	.78	.19	.47	.66	11.18	.58	10.84	.68	.28	.14
23	.31	.26	.81	10.96	.47	.59	.05	.54	.73	.64	.27	.13
24	.49	.30	.80	.84	.45	.59	10.95	.50	.67	.60	.26	.11
25	.60	.21	.79	.79	.43	.50	.93	.48	.64	.58	.25	.11
26	10.52	11.13	10.86	10.75	10.43	10.46	10.90	10.46	10.66	10.55	10.25	10.11
27	.43	.09	.74	.73	.50	.47	.90	.44	.75	.54	.26	.14
28	.44	.05	.68	.65	.51	.51	11.12	.43	.92	.52	.23	.12
29	.57	10.96	.65	.61	.53	.53	.46	.41	.95	.53	-	.12
30	.63	.87	.62	.61	.50	.49	.90	.41	.95	.66	-	.26
31	-	.98	-	.57	.44	-	12.18	-	.96	.59	-	.60
Mean	10.41	10.86	10.97	10.80	10.53	10.45	11.05	10.75	10.74	10.90	10.35	10.19
Max.	10.63	11.30	11.85	11.50	10.68	10.71	12.18	11.72	11.02	12.02	10.52	10.60
Min.	10.30	10.42	10.62	10.57	10.43	10.33	10.44	10.41	10.44	10.52	10.23	10.11

WATER YEAR 1968 : Max. 12.18 m. Min. 10.11 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	23	23	77	27	25	18	20	96	19	51	23	10
2	21	19	58	42	26	18	19	78	20	51	19	10
3	20	19	48	39	25	18	20	63	20	42	19	11
4	18	18	44	35	24	18	28	54	19	42	18	10
5	19	22	49	36	27	17	34	49	19	42	17	10
6	17	21	38	36	31	16	57	44	27	46	17	9.00
7	16	19	37	50	30	16	75	42	38	70	17	8.20
8	16	21	33	50	31	16	86	43	33	120	17	8.20
9	15	35	35	45	28	15	67	41	35	85	17	7.80
10	15	35	29	38	25	15	59	37	37	77	16	7.80
11	15	28	48	34	23	14	46	34	37	63	16	7.80
12	17	23	85	29	22	15	42	31	33	53	16	7.80
13	18	22	106	30	21	15	38	29	34	52	15	7.80
14	17	22	70	28	23	14	37	27	28	45	15	9.40
15	15	29	62	27	29	15	45	29	27	42	15	8.60
16	15	32	56	28	28	14	64	35	32	39	15	11
17	14	27	62	27	22	14	56	34	41	35	17	9.00
18	14	25	58	28	22	18	50	29	45	35	14	8.60
19	13	32	46	40	21	32	44	28	41	39	13	7.80
20	13	43	42	70	21	28	45	27	46	39	13	7.40
21	13	49	39	81	20	28	48	27	50	34	13	7.00
22	13	60	36	60	22	30	60	26	39	31	12	6.60
23	13	64	38	47	20	26	52	24	33	29	12	6.20
24	21	67	37	39	19	26	46	22	30	27	11	5.40
25	27	62	36	36	18	22	45	21	29	26	11	5.40
26	23	57	41	34	18	20	43	20	30	24	11	5.40
27	18	54	34	33	22	20	43	19	34	24	11	6.60
28	19	52	31	29	22	22	56	18	44	23	10	5.80
29	25	47	29	27	23	23	78	17	46	23	–	5.80
30	28	41	28	27	22	21	110	17	46	30	–	11
31	–	48	–	25	19	–	132	–	47	26	–	27
Total	531	1,116	1,432	1,177	727	584	1,645	1,061	1,059	1,365	420	269.40
Mean	17.7	36.0	477	38.0	23.4	19.5	53.1	35.4	34.2	44.0	15	8.69
Max.	28	67	106	81	31	32	132	96	50	120	23	27
Min.	13	18	28	25	18	14	19	17	19	23	10	5.40
Runoff – RCM.	45.878	96.422	123.725	101.693	62.813	50.452	142.128	91.670	91.498	117.936	36.288	23.276

WATER YEAR 1968 : Max. 132 Min. 5.40 Mean 31.2 Annual Runoff 983.785 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Oct. 31	07.00	12.29	141				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
PATTANI RIVER BASIN

Pattani River at Bang Rang Damsite, Yala (X. 78)

Location: Lat. 6°-09'-16" N., Long. 101°-16'-34" E., on left bank at Bang Rang Damsite, Tambon Ba Jao, Amphoe Bannang Sata, Yala.

Drainage Area: 2,026 sq.km.

Type of Gage: Staff gage.

Zero Gage at Bottom at: +43.900 m. (M.S.L.)

Bench Mark: B.M. – H.S.

Location: in the fence of Meteorological Station
Elevation +59.599 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: 1967-73

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.

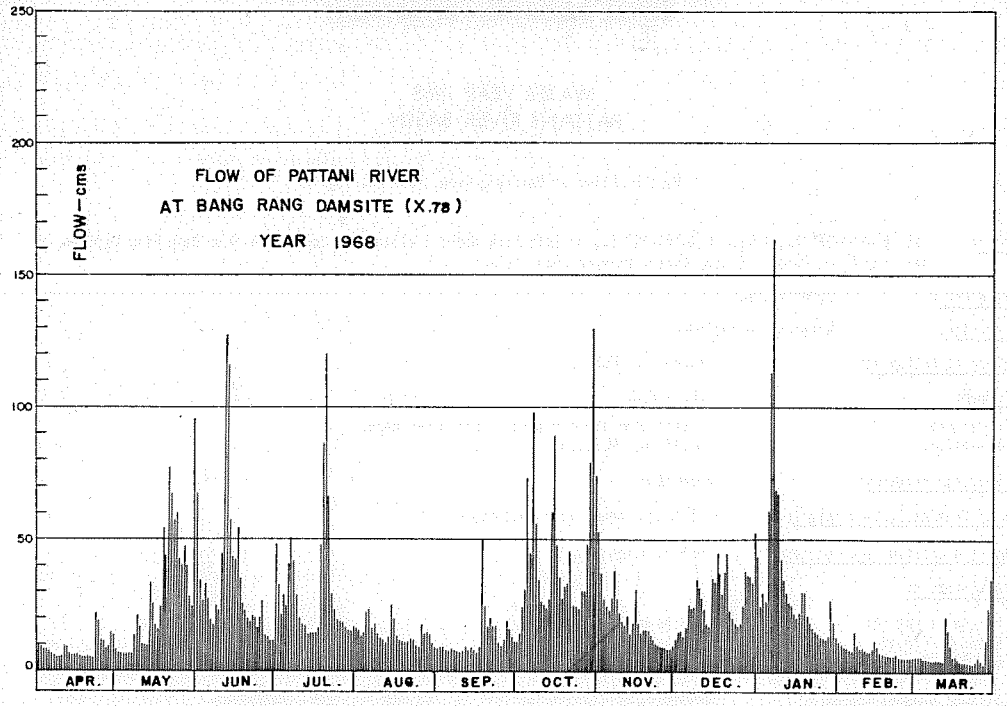
Overbank Flow Conditions: No overbank flow.

General Description: Records good. Stage-discharge relationship used is defined by discharge measurements made during 1967. No upstream state diversions.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	44.35	44.30	45.06	45.03	44.49	44.35	44.38	45.00	44.46	44.93	44.40	44.26
2	.37	.29	44.69	44.72	.47	.34	.43	44.79	.50	.60	.38	.26
3	.32	.28	.71	.53	.42	.36	.66	.74	.43	.77	.37	.25
4	.33	.28	.81	.75	.56	.32	.67	.69	.44	.67	.36	.23
5	.29	.29	.61	.65	.66	.31	45.32	.63	.58	.73	.34	.22
6	44.27	44.29	44.54	45.06	44.63	44.34	44.86	44.64	44.68	45.64	44.33	44.22
7	.26	.29	.50	44.99	.43	.33	45.59	.88	.64	46.19	.48	.21
8	.24	.52	.68	.82	.53	.31	.17	.72	.68	45.27	.36	.21
9	.23	.59	.57	.65	.46	.30	44.98	.62	.83	.26	.33	.21
10	.22	.39	.98	.55	.44	.29	.69	.56	.73	44.95	.35	.20
11	44.36	44.36	44.88	44.53	44.41	44.38	44.72	44.52	44.63	44.83	44.33	44.21
12	.35	.38	45.88	.51	.39	.33	.66	.59	.54	.75	.32	.22
13	.27	.35	.03	.45	.43	.31	.64	.46	.51	.69	.31	.60
14	.27	.81	44.98	.45	.69	.35	.95	.45	.50	.67	.34	.40
15	.26	.51	.88	.45	.57	.30	45.50	.79	.84	.60	.41	.24
16	44.29	44.54	45.10	44.45	44.48	44.30	45.03	44.54	44.82	44.57	44.35	44.27
17	.26	.44	44.95	.47	.42	.40	44.90	.45	.99	.63	.31	.22
18	.23	.74	.72	.69	.41	45.05	.72	.49	.71	.76	.29	.21
19	.23	45.10	.63	45.47	.40	44.50	.81	.49	.86	.76	.29	.19
20	.26	44.87	.58	.81	.39	.52	.74	.50	.98	.58	.28	.19
21	44.24	45.37	44.54	45.13	44.44	44.58	44.99	44.45	44.68	44.53	44.28	44.18
22	.21	.09	.59	44.82	.42	.52	.70	.41	.59	.50	.27	.18
23	.61	.18	.58	.68	.39	.52	.63	.39	.55	.48	.29	.16
24	.54	44.98	.48	.61	.37	.40	.68	.38	.52	.46	.26	.16
25	.37	.88	.71	.56	.35	.36	.63	.37	.52	.44	.26	.25
26	44.39	44.88	44.49	44.56	44.53	44.40	44.78	44.36	44.65	44.43	44.25	44.20
27	.27	45.01	.44	.53	.43	.55	.77	.35	.88	.42	.25	.17
28	.62	44.77	.43	.50	.48	.50	45.08	.34	.85	.46	.25	.46
29	.48	.69	.40	.47	.42	.43	.44	.34	.86	.72	–	.53
30	.37	.54	.41	.48	.37	.40	.90	.40	.78	.50	–	.84
31	–	45.57	–	.51	.35	–	.21	–	45.08	.43	–	.77
Mean	44.33	44.66	44.73	44.71	44.46	44.41	44.91	44.54	44.69	44.75	44.32	44.29
Max.	44.61	45.57	45.88	45.81	44.69	45.05	45.90	45.00	45.08	46.19	44.48	44.84
Min.	44.21	44.28	44.40	44.45	44.35	44.30	44.38	44.34	44.43	44.42	44.25	44.16

WATER YEAR 1968 : Max. 46.19 m. Min. 44.16 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	9.00	7.00	51	48	16	9.00	10	46	14	41	11	5.80
2	9.80	6.70	26	27	15	10	13	31	16	21	10	5.80
3	7.80	6.40	27	18	12	9.40	24	28	13	30	9.80	5.50
4	8.20	6.40	33	29	19	7.80	25	26	13	25	9.40	4.90
5	6.70	6.70	22	24	24	7.40	73	23	20	28	8.60	4.60
6	6.10	6.70	18	51	23	8.60	36	23	25	103	8.20	4.60
7	5.80	6.70	16	45	13	8.20	98	38	23	163	15	4.30
8	5.20	17	25	33	18	7.40	60	27	25	68	9.40	4.30
9	4.90	21	20	23	14	7.00	45	22	34	67	8.20	4.30
10	4.60	11	45	18	13	6.70	26	19	28	43	9.00	4.00
11	9.40	9.40	38	18	12	10	27	17	23	34	8.20	4.30
12	9.00	10	127	17	11	8.20	24	21	18	29	7.80	4.30
13	6.10	9.00	48	14	13	7.40	23	14	17	26	7.40	21
14	6.10	33	45	14	26	9.00	43	14	16	25	8.60	11
15	5.80	17	38	14	20	7.00	89	31	35	21	12	5.20
16	6.70	18	54	14	15	7.00	48	18	33	20	9.00	6.10
17	5.80	13	43	15	12	11	39	14	45	23	7.40	4.60
18	4.90	29	26	26	12	50	27	16	27	30	6.70	4.30
19	4.90	54	23	86	11	16	33	16	36	30	6.70	3.70
20	5.80	37	20	120	11	17	28	16	45	20	6.40	3.70
21	5.20	77	18	56	13	20	45	14	25	18	6.40	3.40
22	4.30	53	21	33	12	17	26	12	21	16	6.10	3.40
23	22	60	20	25	11	17	23	11	19	15	6.70	2.80
24	18	45	15	22	9.80	11	25	10	17	14	5.80	2.80
25	9.80	38	27	19	9.00	9.40	23	9.80	17	13	5.80	5.50
26	11	38	16	19	18	11	31	9.40	24	13	5.50	4.00
27	6.10	47	13	18	13	19	30	9.00	38	12	5.50	3.10
28	22	30	13	16	15	16	52	8.60	36	14	5.50	14
29	15	26	11	15	12	13	84	8.60	36	27	–	18
30	9.80	18	12	15	9.80	11	129	11	31	16	–	35
31	–	96	–	17	9.00	–	63	–	52	13	–	30
Total	255.80	853	911	909	441.60	368.50	1,322	563.40	822	1,018	226.10	238.30
Mean	8.53	27.5	30.4	29.3	14.2	12.3	42.6	18.8	26.5	32.8	8.08	7.68
Max.	22	96	127	120	26	50	129	46	52	163	15	35
Min.	4.30	6.40	11	14	9.00	7.00	10	8.60	13	12	5.50	2.80
Runoff - mcm.	22.101	73.699	78.710	78.538	38.154	31.838	114.221	48.678	71.021	87.955	19.535	20.589

WATER YEAR 1968 : Max. 163 Min. 2.80 Mean 21.7 Annual Runoff 685.040 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Jan.7	09.00	46.38	186				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
PATTANI RIVER BASIN

Pattani River at Ban Bang Rang, Yala (X. 78A)

Location: Lat. 6°-09'-52" N., Long. 101°-16'-19" E., on left bank about 2 kilometers downstream from Bang Rang Damsite, at Ban Bang Rang, Tambon Ba Jao, Amphoe Bannang Sata, Yala.

Drainage Area: 2,044 sq.km.

Type of Gage: Water-stage recorder.

Zero Gage at Bottom at: +42.403 m. (M.S.L.)

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

Location: on left bank about 6 meters from upper gage.
Elevation: +53.132 m. (M.S.L.)

Gage Reading Frequency: Recording

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

Period of Available Gage Records: 1967 to date

Rating Operation:

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

Stability of Channel Regimes: Unstable, shifting adjustment is included for flow computation.

Overbank Flow Conditions: No overbank flow.

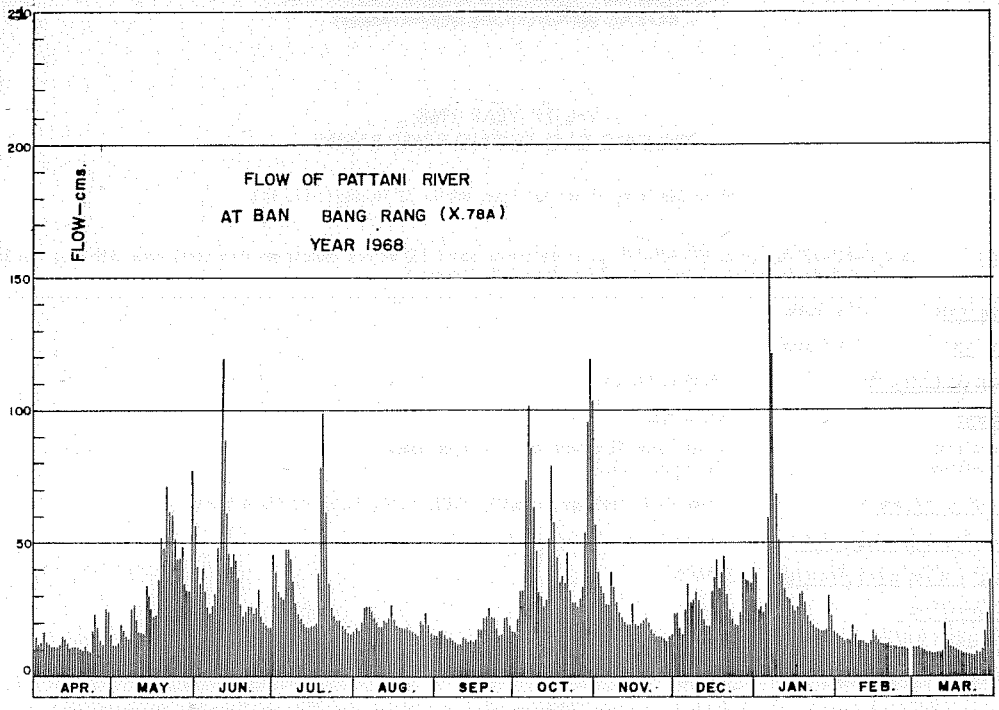
General Description: Records good. Stage-discharge relationship used is defined by discharge measurements made during 1968. No upstream state diversions for irrigation.

GAGE HEIGHT IN METER (M.S.L.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	43.23	43.17	43.67	43.66	43.34	43.24	43.25	43.73	43.37	43.65	43.27	43.14
2	.15	.17	.49	.53	.32	.27	.33	.59	.39	.47	.26	.15
3	.19	.19	.49	.39	.29	.27	.49	.52	.24	.51	.24	.13
4	.25	.31	.57	.49	.39	.23	.50	.50	.24	.47	.22	.11
5	.18	.23	.42	.46	.46	.21	.95	.44	.42	.51	.25	.10
6	43.17	43.24	43.37	43.71	43.45	43.23	43.73	43.45	43.56	43.96	43.22	43.09
7	.15	.20	.34	.71	.45	.21	44.18	.61	.43	44.61	.33	.08
8	.14	.42	.46	.61	.38	.19	43.84	.51	.47	43.97	.25	.08
9	.15	.41	.42	.48	.33	.18	.75	.43	.51	.88	.22	.08
10	.13	.26	.67	.40	.31	.18	.51	.38	.45	.72	.23	.08
11	43.23	43.25	43.74	43.37	43.29	43.24	43.51	43.36	43.41	43.60	43.21	43.09
12	.22	.26	44.38	.35	.34	.21	.46	.33	.35	.54	.19	.10
13	.18	.24	43.77	.33	.32	.20	.45	.32	.32	.49	.19	.32
14	.12	.52	.70	.32	.50	.22	.63	.31	.31	.49	.21	.19
15	.14	.41	.66	.35	.41	.20	44.01	.50	.51	.44	.27	.13
16	43.14	43.35	43.74	43.33	43.34	43.21	43.75	43.38	43.57	43.41	43.24	43.14
17	.13	.30	.66	.33	.30	.29	.65	.31	.65	.43	.20	.11
18	.11	.52	.50	.54	.29	.26	.53	.32	.48	.50	.18	.09
19	.10	.73	.43	44.06	.28	.36	.59	.34	.59	.52	.17	.08
20	.13	.62	.40	.24	.28	.33	.54	.36	.67	.41	.16	.07
21	43.13	43.92	43.38	43.84	43.31	43.41	43.70	43.32	43.46	43.32	43.16	43.06
22	.11	.83	.40	.61	.27	.35	.50	.28	.38	.34	.15	.05
23	.41	.82	.39	.49	.27	.35	.44	.26	.34	.32	.15	.05
24	.41	.73	.35	.44	.25	.27	.42	.24	.32	.31	.14	.04
25	.24	.65	.50	.41	.24	.24	.44	.24	.31	.30	.14	.09
26	43.17	43.61	43.39	43.40	43.34	43.25	43.44	43.23	43.40	43.29	43.13	43.08
27	.18	.68	.31	.37	.31	.35	.52	.22	.59	.29	.13	.06
28	.42	.48	.29	.35	.39	.35	.76	.20	.56	.30	.12	.26
29	.40	.47	.27	.32	.30	.29	44.11	.24	.56	.49		.36
30	.23	.37	.30	.33	.26	.27	.32	.26	.52	.35		.54
31		.96		.32	.26		.07		.69	.29		.61
Mean	43.20	43.46	43.51	43.50	43.33	43.26	43.66	43.37	43.45	43.52	43.18	43.15
Max.	43.42	43.96	44.38	44.24	43.50	43.41	44.32	43.73	43.69	44.61	43.33	43.61
Min.	43.10	43.17	43.27	43.32	43.24	43.18	43.25	43.20	43.24	43.29	43.12	43.04

WATER YEAR 1968 : Max. 44.61 m. Min. 43.04 m.

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	15	11	48	46	19	15	16	49	23	38	16	11
2	11	11	33	36	18	17	21	37	24	24	15	11
3	13	13	33	25	16	17	32	32	15	27	14	11
4	16	19	40	30	22	15	32	30	15	24	13	9.90
5	12	15	28	28	27	14	74	26	26	27	14	9.55
6	12	15	24	48	26	15	52	26	35	67	13	9.20
7	11	13	22	48	26	14	101	39	25	158	19	8.85
8	11	26	31	40	22	13	63	31	29	76	15	8.85
9	11	26	28	29	21	12	54	26	32	63	13	8.85
10	11	16	48	24	19	12	30	23	28	47	14	8.85
11	15	16	55	22	18	15	30	22	25	37	13	9.20
12	14	16	119	20	21	14	26	20	21	32	12	9.55
13	12	15	49	19	20	13	27	19	19	29	12	20
14	10	34	43	18	32	14	41	19	19	29	13	13
15	11	26	40	19	26	13	79	27	32	26	17	11
16	11	22	46	19	21	14	52	19	37	24	15	11
17	11	19	40	19	19	18	43	19	44	26	13	9.90
18	9.90	34	27	30	18	16	33	20	30	31	12	9.20
19	9.55	52	22	79	18	22	38	21	39	32	12	8.85
20	11	42	23	99	18	21	34	22	45	24	12	8.50
21	9.20	71	26	56	19	26	46	20	29	22	12	8.20
22	8.50	62	26	36	17	22	30	18	23	20	11	7.90
23	23	61	25	26	17	22	26	16	21	19	11	7.90
24	23	52	22	23	16	17	28	15	19	18	11	7.60
25	15	44	33	21	15	15	25	15	19	18	11	9.20
26	12	43	22	21	21	16	29	15	24	17	11	8.85
27	12	49	20	19	19	22	35	14	39	17	11	8.20
28	25	32	19	18	24	22	56	13	36	18	10	15
29	24	32	18	16	19	18	93	15	36	30		21
30	13	24	19	16	16	17	119	16	33	21		33
31		78		16	16		89		41	17		41
Total	402.15	989	1,029	966	626	501	1,454	684	883	1,058	365	375.10
Mean	13.4	31.9	34.3	31.2	20.6	16.7	46.9	22.8	28.5	34.1	13.0	12.1
Max.	25	78	119	99	32	26	119	49	45	158	19	41
Min.	8.50	11	18	16	15	12	16	13	15	17	10	7.60
Runoff - mcm.	34.746	85.450	88.906	83.462	54.086	43.286	125.626	59.098	76.291	91.411	31.536	32.408

WATER YEAR 1968 : Max. 158 Min. 7.60 Mean 25.6 Annual Runoff 806.306 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Jan. 7	05.00	45.05	228				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
KHLONG SAO THONG RIVER BASIN

Khlong Sao Thong at Wat Sai Ngam, Nakhon Si Thammarat (X. 41)

Location: Lat. 8°-21'-00" N., Long. 99°-48'-23" E., on left bank about 800 meters downstream from confluence with Huai Lan Saka, 1.5 kilometers southeast of Amphoe Lan Saka, Nakhon Si Thammarat.

Drainage Area: 149 sq.km.

Type of Gage: Staff gage

Zero Gage at Bottom at: +26.19 m. (A.D.)

Bench Mark: B.M. – H.S.

Location: on left bank 30 meters north of upper gage.
Elevation: +34.921 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: 1964-70

Rating Operation:

Period of Rating: 1966-70
Rated by Float: –
Rated by Current Meter: 1966-70

Stability of Channel Regimes: Stable, no shifting adjustment but mean hourly discharge are used for flashy flood.

Overbank Flow Conditions: No overbank flow.

General Description: Records good. Stage-discharge relationship used is defined by discharge measurements made during 1968. No upstream state diversions for irrigation except those built by local residents. No adjustment made for virgin flow.

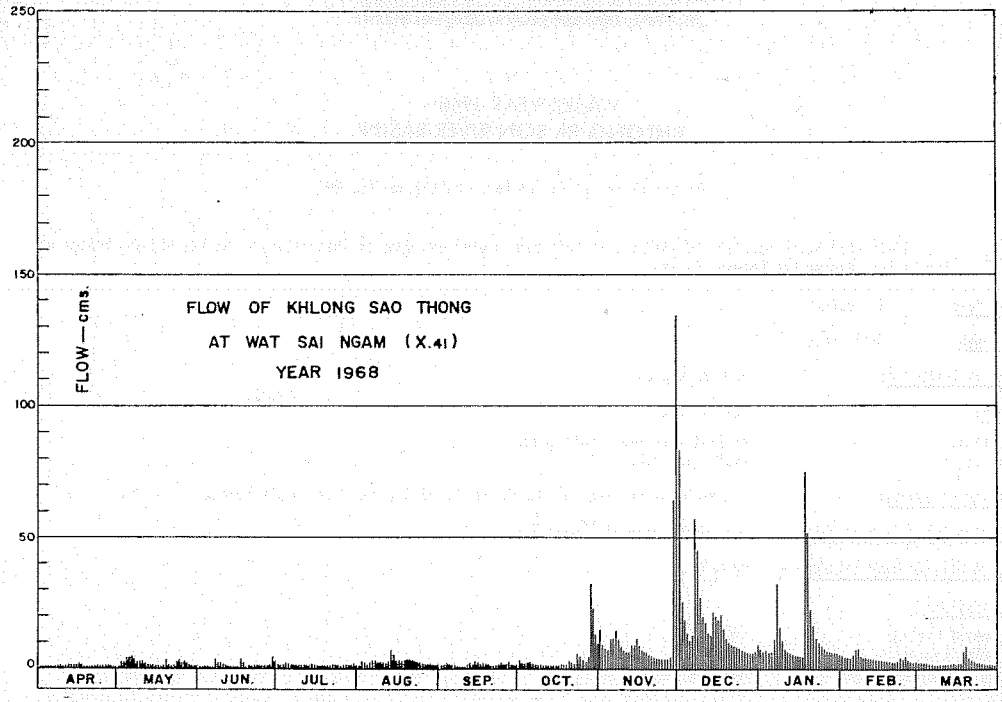
Remarks: * mean hourly gage height and discharge.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	26.39	26.37	26.39	26.45	26.44	26.47	26.62	27.27	*28.22	26.84	26.69	26.51
2	.39	.36	.38	.43	.51	.46	.51	26.91	*27.49	.77	.67	.50
3	.39	.51	.37	.44	.52	.53	.49	.88	* .33	.85	.68	.50
4	.39	.66	.42	.52	.47	.46	.53	.80	* .13	.77	.66	.50
5	.38	.65	.40	.47	.51	.47	.56	27.09	* .03	.79	.69	.49
6	26.38	26.71	26.37	26.43	26.59	26.44	26.51	27.05	27.11	26.81	26.86	26.48
7	.39	.61	.63	.42	.59	.43	.47	.24	28.40	27.81	.88	.48
8	.42	.51	.47	.41	.53	.43	.47	.09	27.80	.12	.70	.48
9	.41	.54	.53	.46	.55	.42	.48	26.91	.61	26.97	.66	.47
10	.40	.57	.47	.45	.55	.42	.47	.85	.43	.85	.65	.47
11	26.38	26.50	26.43	26.42	26.51	26.50	26.46	26.78	27.34	26.81	26.64	26.47
12	.44	.46	.39	.47	.55	.56	.45	.78	.19	.77	.63	.46
13	.45	.45	.38	.43	.86	.48	.45	.94	.08	.75	.61	.46
14	.45	.42	.38	.48	.74	.60	.44	.93	.51	.72	.59	.50
15	.43	.41	.38	.47	.57	.53	.45	27.07	.43	.70	.58	.48
16	26.53	26.41	26.37	26.43	26.60	26.49	26.48	26.89	27.32	26.67	26.57	26.50
17	.43	.40	.63	.47	.55	.51	.48	.85	.45	.67	.56	.48
18	.39	.39	.46	.46	.62	.48	.45	.80	.17	28.73	.55	.78
19	.39	.62	.38	.44	.61	.47	.47	.74	.07	27.76	.55	.93
20	.38	.48	.46	.46	.61	.45	.58	.71	.00	.44	.54	.63
21	26.39	26.40	26.43	26.45	26.61	26.43	26.50	26.68	26.96	27.16	26.54	26.58
22	.45	.42	.41	.44	.56	.43	.46	.65	.91	.02	.53	.52
23	.46	.57	.44	.45	.55	.50	.80	.63	.90	26.96	.65	.51
24	.39	.58	.42	.42	.53	.54	.66	.62	.86	.91	.62	.49
25	.39	.47	.41	.40	.51	.47	.59	.61	.84	.86	.72	.49
26	26.39	26.58	26.40	26.46	26.49	26.48	26.61	26.60	26.81	26.84	26.56	26.48
27	.38	.51	.41	.46	.48	.57	.50	.59	.78	.79	.54	.47
28	.44	.43	.46	.43	.52	.47	27.83	* .62	.77	.78	.53	.46
29	.37	.41	.68	.44	.48	.50	.49	*27.11	.75	.77		.46
30	.40	.40	.51	.51	.48	.49	.06	*29.38	.80	.79		.45
31		.39		.45	.48		26.97		.98	.73		.45
Mean	26.41	26.50	26.44	26.45	26.55	26.48	26.62	26.93	27.21	26.97	26.63	26.51
Max.	26.53	26.71	26.68	26.52	26.86	26.60	27.83	29.38	28.40	28.73	26.88	26.93
Min.	26.37	26.37	26.37	26.40	26.44	26.42	26.44	26.59	26.75	26.67	26.53	26.45

WATER YEAR 1968 : Max. 29.38 m. Min. 26.37 m.

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.94	0.82	0.94	1.60	1.48	1.84	3.88	16	*50	7.28	4.86	2.34
2	0.94	3.04	0.88	1.36	2.34	1.72	2.34	8.49	*22	6.12	4.58	2.20
3	0.94	2.34	0.82	1.48	2.48	2.62	2.08	7.96	*17	7.45	4.72	2.20
4	0.94	4.44	1.24	2.48	1.84	1.72	7.62	6.60	*13	6.12	4.44	2.20
5	0.88	4.30	1.00	1.84	2.34	1.84	3.04	12	*11	6.44	4.86	2.08
6	0.88	5.16	0.82	1.36	3.46	1.48	2.34	11	12	6.77	7.62	1.96
7	0.94	3.74	4.02	1.24	3.46	1.36	1.84	15	57	32	7.96	1.96
8	1.24	2.34	1.84	1.12	2.62	1.36	1.84	12	32	13	5.00	1.96
9	1.12	2.76	2.62	1.72	2.90	1.24	1.96	8.49	26	9.63	4.44	1.84
10	1.00	3.18	1.84	1.60	2.90	1.24	1.84	7.45	20	7.45	4.30	1.84
11	0.88	2.20	1.36	1.24	2.34	2.20	1.72	6.28	18	6.77	4.16	1.84
12	1.48	1.72	0.94	1.84	2.90	3.04	1.60	6.28	14	6.12	4.02	1.72
13	1.60	1.60	0.88	1.36	7.62	1.96	1.60	9.06	12	5.80	3.88	1.72
14	1.60	1.24	0.88	1.96	5.64	3.60	1.48	8.87	22	5.32	3.46	2.20
15	1.36	1.12	0.88	1.84	3.18	2.62	1.60	12	20	5.00	3.32	1.96
16	2.62	1.12	0.82	1.36	3.60	2.08	1.96	8.13	17	4.58	3.18	2.20
17	1.36	1.00	4.02	1.84	2.90	2.34	1.96	7.45	21	4.58	3.04	1.96
18	0.94	0.94	1.72	1.72	3.88	1.96	1.60	6.60	14	75	2.90	6.28
19	0.94	5.88	0.88	1.48	3.74	1.84	1.84	5.64	12	30	2.90	8.87
20	0.88	1.96	1.72	1.72	3.74	1.60	3.32	5.16	10	20	2.76	4.02
21	0.94	1.00	1.36	1.60	3.74	1.36	2.20	4.72	9.44	13	2.76	3.32
22	1.60	1.24	1.12	1.48	3.04	1.36	1.72	4.30	8.49	11	2.62	2.48
23	1.72	3.18	1.48	1.60	2.90	2.20	6.60	4.02	8.30	9.44	4.30	2.34
24	0.94	3.32	1.24	1.24	2.62	2.76	4.44	3.88	7.62	8.49	3.88	2.08
25	0.94	1.84	1.12	1.00	2.34	1.84	3.46	3.74	7.28	7.60	5.32	2.08
26	0.94	3.32	1.00	1.72	2.08	1.96	3.74	3.60	6.77	7.28	3.04	1.96
27	0.88	2.34	1.12	1.72	1.96	3.18	2.20	3.46	6.28	6.44	2.76	1.84
28	1.48	1.36	1.72	1.36	2.48	1.84	33	* 3.90	6.12	6.28	2.62	1.72
29	0.82	1.12	4.72	1.48	1.96	2.20	22	*14	5.80	6.12		1.72
30	1.00	1.00	2.34	2.34	1.96	2.08	11	*134	6.60	6.44		1.60
31		0.94		1.60	1.96		9.63		9.82	5.48		1.60
Total	34.74	69.56	47.34	49.30	92.40	60.44	142.45	360.08	502.52	353.02	113.70	76.09
Mean	1.16	2.24	1.58	1.59	2.98	2.01	4.59	12.0	16.2	11.4	4.06	2.45
Max.	2.62	5.16	4.72	2.48	7.62	3.60	33	134	57	75	7.96	8.87
Min.	0.82	0.82	0.82	1.00	1.48	1.24	1.48	3.46	5.80	4.58	2.62	1.60
Runoff - mcm.	3.001	6.010	4.090	4.259	7.983	5.222	12.308	31.111	43.418	30.501	9.824	6.574

WATER YEAR 1968 : Max. 134 Min. 0.82 Mean 5.21 Annual Runoff 164.302 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Nov. 30	12.00	29.85	183				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
KHLONG PA BON RIVER BASIN

Khlong Pa Bon at Ban Pa Bon, Phatthalung (X. 49)

Location: Lat. 7°-16'-35" N., Long. 100°-10'-01" E., on left bank downstream side of Phatthalung – Hat Yai highway bridge at Ban Pa Bon, Amphoe Pak Phayun, Hat Yai.

Drainage Area: 82 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 staff gage.
Elevation: +4.522 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: 1967-70

Rating Operation:

Period of Rating: 1967-70
Rated by Float: –
Rated by Current Meter: 1967-70

Stability of Channel Regimes: Stable, no shifting adjustment but periodic rating curve are used for flow computations.

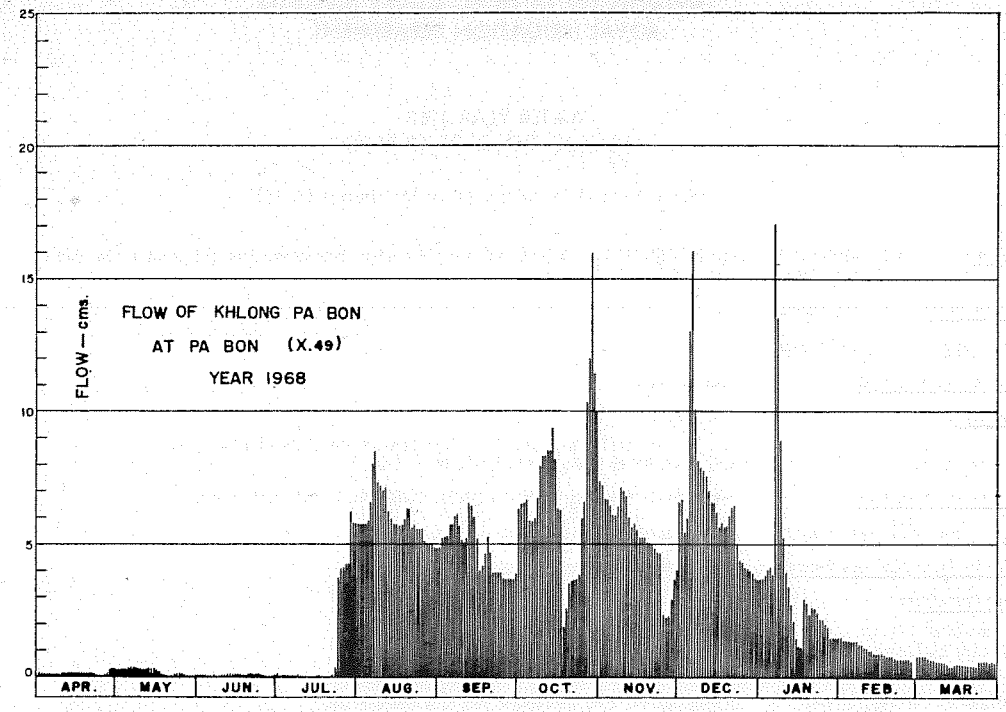
Overbank Flow Conditions: No overbank flow.

General Description: Records fair except those for period of back water effected by Pa Bon weir which are poor. Stage-discharge relationship used is defined by discharge measurements made during 1968. Flow effected by Pa Bon weir about 300 meters downstream from gage site.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.60	0.65	0.55	0.58	1.47	1.38	1.52	1.60	1.54	1.25	0.64	0.52
2	.60	.64	.54	.55	.47	.42	.54	.60	.55	.25	.63	.52
3	.58	.67	.54	.56	.47	.42	.54	.55	.44	.28	.63	.52
4	.58	.66	.56	.56	.47	.42	.55	.55	.32	.30	.63	.52
5	.58	.68	.56	.54	.50	.47	.48	.53	.88	.30	.62	.50
6	0.57	0.69	0.54	0.54	1.64	1.47	1.48	1.50	2.10	1.18	0.62	0.50
7	.57	.70	.53	.54	.69	.50	.48	.50	1.76	2.11	.62	.49
8	.58	.68	.54	.57	.60	.50	.53	.53	.67	1.92	.60	.48
9	.60	.66	.55	.54	.60	.42	.65	.59	.65	.60	.60	.48
10	.60	.65	.56	.52	.57	.40	.68	.58	.64	.40	.58	.48
11	0.60	0.66	0.57	0.52	1.59	1.42	1.68	1.56	1.64	1.25	0.58	0.46
12	.60	.66	.58	.51	.51	.54	.70	.49	.60	.20	.56	.45
13	.60	.68	.58	.52	.51	.53	.69	.45	.54	.10	.56	.42
14	.60	.67	.58	.54	.47	.50	.75	.47	.54	.00	.54	.42
15	.60	.67	.58	.54	.47	.42	.66	.45	.52	0.90	.54	.45
16	0.60	0.65	0.58	0.54	1.45	1.28	1.52	1.42	1.44	0.86	0.54	0.45
17	.60	.60	.58	.56	.47	.30	.52	.42	.48	.84	.54	.45
18	.59	.56	.56	.56	.47	.35	.80	.42	.46	.84	.52	.45
19	.60	.54	.56	.54	.52	.42	.00	.40	.46	.82	.52	.43
20	.60	.53	.59	.54	.52	.35	.23	.40	.50	.87	.52	.43
21	0.58	0.54	0.60	0.53	1.45	1.28	1.25	1.40	1.53	0.80	0.52	0.43
22	.56	.56	.58	.56	.47	.28	.25	.38	.53	.80	.50	.42
23	.55	.56	.60	.58	.45	.28	.25	.36	.36	.76	.50	.42
24	.55	.58	.60	1.25	.45	.28	.25	.36	.33	.74	.50	.48
25	.54	.58	.59	.30	.45	.25	.50	.08	.32	.74	.50	.48
26	0.54	0.58	0.56	1.30	1.40	1.25	1.55	1.06	1.30	0.72	0.50	0.48
27	.60	.56	.54	.32	.40	.25	.80	.06	.30	.70	.50	.48
28	1.19	.56	.56	.32	.40	.25	.90	.08	.28	.64	.48	.46
29	0.67	.56	.56	.50	.40	.28	2.10	.25	.28	.64		.46
30	.67	.55	.58	.47	.38		1.80	.30	.25	.64		.46
31		.55		.47	.38		.80		.24	.64		.46
Mean	0.61	0.61	0.57	0.76	1.49	1.37	1.54	1.41	1.50	1.03	0.56	0.47
Max.	1.19	0.70	0.60	1.50	1.69	1.54	2.10	1.60	2.10	2.11	0.64	0.52
Min.	0.54	0.53	0.53	0.51	1.38	1.25	1.00	1.06	1.24	0.64	0.48	0.42

WATER YEAR 1968 : Max. 2.11 m. Min. 0.51 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.15	0.27	0.075	0.12	5.73	4.86	6.33	7.25	6.56	3.70	1.46	0.76
2	0.15	0.25	0.060	0.075	5.78	5.26	6.56	7.25	6.67	3.70	1.39	0.76
3	0.12	0.32	0.060	0.090	5.78	5.26	6.56	6.67	5.47	3.94	1.39	0.76
4	0.12	0.30	0.090	0.090	5.78	5.26	6.67	6.67	4.29	4.10	1.39	0.76
5	0.12	0.35	0.090	0.060	6.10	5.78	5.89	6.44	11	4.10	1.33	0.65
6	0.10	0.37	0.060	0.060	7.79	5.78	5.89	6.10	16	3.15	1.33	0.65
7	0.10	0.40	0.045	0.060	8.46	6.10	5.89	6.10	9.53	17	1.33	0.61
8	0.12	0.35	0.060	0.10	7.25	6.10	6.44	6.44	8.19	12	1.20	0.58
9	0.15	0.30	0.075	0.060	7.25	5.26	7.92	7.13	7.92	7.25	1.20	0.58
10	0.15	0.27	0.090	0.030	6.90	5.05	8.33	7.02	7.79	5.05	1.09	0.58
11	0.15	0.30	0.10	0.030	7.13	5.26	8.33	6.79	7.79	3.70	1.09	0.51
12	0.15	0.30	0.12	0.015	6.21	6.56	8.60	5.99	7.25	3.30	0.98	0.47
13	0.15	0.35	0.12	0.030	6.21	6.44	8.46	5.57	6.56	2.55	0.98	0.37
14	0.15	0.32	0.12	0.060	5.78	6.10	9.37	5.18	6.56	1.90	0.87	0.37
15	0.15	0.32	0.12	0.060	5.78	5.26	8.06	5.57	6.33	1.30	0.87	0.47
16	0.15	0.27	0.12	0.060	5.57	3.94	6.33	5.26	5.47	1.12	0.87	0.47
17	0.15	0.15	0.12	0.090	5.78	4.10	6.33	5.26	5.89	1.03	0.87	0.47
18	0.13	0.090	0.090	0.090	5.78	4.57	1.90	5.26	5.68	2.96	0.76	0.47
19	0.15	0.060	0.090	0.060	6.33	5.26	1.90	5.05	5.68	2.78	0.76	0.40
20	0.15	0.045	0.13	0.060	6.33	4.57	3.54	5.05	6.10	3.23	0.76	0.40
21	0.12	0.060	0.15	0.045	5.57	3.94	3.70	5.05	6.44	2.60	0.76	0.40
22	0.09	0.090	0.12	0.090	5.78	3.94	3.70	4.86	6.44	2.60	0.65	0.37
23	0.075	0.090	0.15	0.12	5.57	3.94	3.70	4.67	4.67	2.30	0.65	0.37
24	0.075	0.12	0.15	3.70	5.57	3.94	3.70	4.67	4.38	2.15	0.65	0.58
25	0.060	0.12	0.13	4.10	5.57	3.70	6.10	2.42	4.29	2.15	0.65	0.58
26	0.060	0.12	0.090	4.10	5.05	3.70	6.67	2.29	4.10	2.00	0.65	0.58
27	0.15	0.090	0.060	4.29	5.05	3.70	10	2.29	4.10	1.85	0.65	0.58
28	3.22	0.090	0.090	4.29	5.05	3.70	12	2.42	3.94	1.46	0.58	0.51
29	0.32	0.090	0.090	6.10	5.05	3.70	16	3.70	3.94	1.46		0.51
30	0.32	0.075	0.12	5.78	4.86	3.94	10	4.10	3.70	1.46		0.51
31		0.075		5.78	4.86		10		3.62	1.46		0.51
Total	7.25	6.405	2.985	39.695	185.75	144.97	214.87	159.12	196.35	109.35	27.16	16.59
Mean	0.24	0.21	0.099	1.28	5.99	4.83	6.93	5.30	6.33	3.53	0.97	0.53
Max.	3.22	0.40	0.15	6.10	8.46	6.56	16	7.25	16	17	1.46	0.76
Min.	0.060	0.045	0.045	0.015	4.86	3.70	1.90	2.29	3.62	1.03	0.58	0.37
Runoff - MCM.	0.626	0.553	0.258	3.430	16.049	12.525	18.565	13.748	16.965	9.448	2.347	1.433

WATER YEAR 1968 : Max. 17 Min. 0.015 Mean 3.04 Annual Runoff 95.947 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Dec. 5	15.00	2.50	34				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
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 45 meters downstream from 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: B.M. 1 near staff gage, B.M. 2 on right bank at the abutment of bridge.
Elevation: B.M. 1 +3.798 m. (A.D.), B.M. 2 +6.706 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: 1967-71
Rated by Float:
Rated by Current Meter: 1967-71

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

Overbank Flow Conditions: No overbank flow.

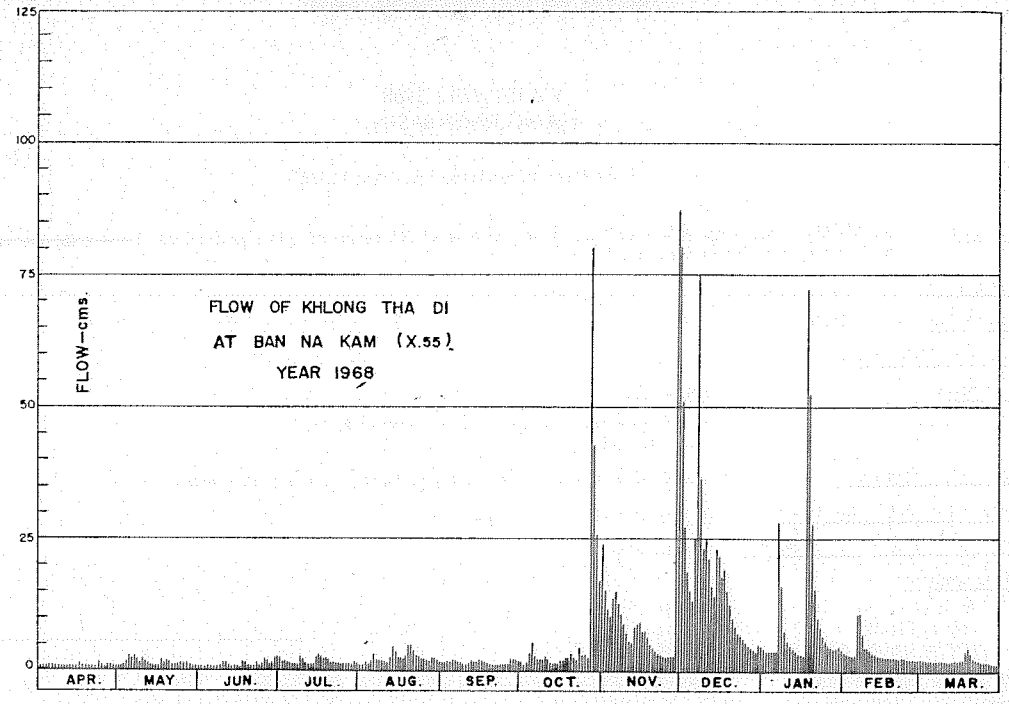
General Description: Records good. Stage-discharge relationship used is defined by discharge measurements made during 1968. No upstream state diversions for irrigation except those built by local residents. No adjustment made for virgin flow.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.35	0.36	0.37	0.47	0.40	0.43	0.46	1.67	3.26	0.64	0.59	0.48
2	.35	.36	.36	.44	.41	.43	.41	.15	1.80	.60	.58	.47
3	.35	.41	.36	.46	.43	.47	.43	.05	.36	.61	.57	.46
4	.35	.58	.38	.43	.41	.45	.62	0.93	.27	.60	.55	.46
5	.35	.52	.37	.43	.46	.49	.73	1.19	.05	.60	.55	.46
6	0.39	0.50	0.36	0.41	0.56	0.46	0.53	1.25	1.44	0.61	1.04	0.46
7	.37	.55	.36	.42	.50	.43	.47	.16	3.30	1.83	.05	.46
8	.36	.44	.37	.39	.48	.42	.48	.00	1.85	0.96	0.76	.46
9	.35	.43	.43	.55	.47	.41	.46	0.86	.56	.78	.66	.45
10	.35	.50	.43	.48	.45	.42	.53	.78	.68	.73	.66	.45
11	0.35	0.42	0.41	0.41	0.43	0.44	0.47	0.72	1.51	0.67	0.61	0.45
12	.35	.43	.39	.41	.44	.49	.44	.72	.25	.64	.59	.45
13	.36	.40	.37	.42	.68	.43	.43	.88	.13	.61	.57	.46
14	.36	.39	.40	.41	.58	.47	.43	.92	.62	.50	.55	.47
15	.36	.39	.37	.52	.51	.47	.42	.95	.56	.58	.55	.46
16	0.43	0.38	0.37	0.56	0.51	0.45	0.46	0.82	1.33	0.56	0.54	0.48
17	.37	.50	.46	.54	.47	.43	.46	.85	.45	.56	.53	.45
18	.35	.42	.42	.49	.57	.42	.52	.78	.22	3.23	.52	.62
19	.34	.47	.39	.51	.71	.41	.50	.70	.08	2.13	.52	.66
20	.34	.43	.39	.45	.66	.41	.57	.65	0.96	1.40	.51	.51
21	0.34	0.40	0.39	0.43	0.57	0.39	0.48	0.62	0.87	1.09	0.50	0.48
22	.34	.41	.44	.44	.55	.40	.44	.59	.82	0.95	.49	.46
23	.45	.41	.40	.43	.55	.40	.67	.56	.81	.85	.51	.45
24	.40	.43	.41	.42	.50	.39	.54	.54	.25	.78	.50	.44
25	.37	.39	.48	.41	.48	.41	.55	.53	.71	.73	.50	.43
26	0.35	0.46	0.46	0.43	0.47	0.42	0.52	0.53	0.68	0.69	0.49	0.43
27	.40	.40	.42	.43	.46	.43	.49	.54	.65	.66	.49	.42
28	.40	.39	.44	.41	.51	.43	3.39	.54	.64	.63	.48	.42
29	.37	.38	.53	.41	.47	.47	2.18	1.86	.62	.65	-	.42
30	.36	.38	.53	.44	.46	.45	1.47	3.59	.70	.67	-	.41
31	-	.37	-	.41	.44	-	.23	-	.70	.62	-	.41
Mean	0.36	0.43	0.41	0.45	0.50	0.43	0.70	0.96	1.28	0.88	0.59	0.46
Max.	0.45	0.58	0.53	0.56	0.57	0.49	3.39	3.59	3.26	3.23	1.05	0.66
Min.	0.35	0.36	0.86	0.41	0.40	0.39	0.41	0.53	0.62	0.56	0.48	0.41

WATER YEAR 1958 : Max. 3.59 m. Min. 0.36 m.

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.80	0.88	0.96	2.04	1.20	1.56	1.92	24	74	4.16	3.48	2.16
2	0.80	0.88	0.88	1.68	1.32	1.56	1.32	13	28	3.60	3.36	2.04
3	0.80	1.32	0.88	1.92	1.56	2.04	1.56	11	17	3.74	3.24	1.92
4	0.80	3.36	1.04	1.56	1.32	1.80	3.88	8.94	15	3.60	3.00	1.92
5	0.80	2.64	0.96	1.56	1.92	2.28	5.51	14	11	3.60	3.00	1.92
6	1.12	2.40	0.88	1.32	3.12	1.92	2.76	15	19	3.74	11	1.92
7	0.96	3.00	0.88	1.44	2.40	1.56	2.04	13	75	28	11	1.92
8	0.88	1.68	0.96	1.12	2.16	1.44	2.16	10	29	9.48	6.02	1.92
9	0.80	1.56	1.56	3.00	2.04	1.32	1.92	7.72	22	6.36	4.44	1.80
10	0.80	2.40	1.56	2.16	1.80	1.44	2.76	6.36	25	5.51	4.44	1.80
11	0.80	1.44	1.32	1.32	1.56	1.68	2.04	5.34	21	4.58	3.74	1.80
12	0.80	1.56	1.12	1.32	1.68	2.28	1.68	5.34	15	4.16	3.48	1.80
13	0.88	1.20	0.96	1.44	4.72	1.56	1.56	8.06	13	3.74	3.24	1.92
14	0.88	1.12	1.20	1.32	3.36	2.04	1.56	8.76	23	3.48	3.00	2.04
15	0.88	1.12	0.96	2.64	2.52	2.04	1.44	9.30	22	3.36	3.00	1.80
16	1.56	1.04	0.96	3.12	2.52	1.80	1.92	7.04	17	3.12	2.88	2.16
17	0.96	2.40	1.92	2.88	2.04	1.56	1.92	7.55	19	3.12	2.76	1.80
18	0.80	1.44	1.44	2.28	3.24	1.44	2.64	6.36	14	72	2.64	3.88
19	0.72	2.04	1.12	2.52	5.17	1.32	2.40	5.00	12	35	2.64	4.44
20	0.72	1.56	1.12	1.80	4.44	1.32	3.24	4.30	9.48	18	2.52	2.52
21	0.72	1.20	1.12	1.56	3.24	1.12	2.16	3.88	7.89	12	2.40	2.16
22	0.72	1.32	1.68	1.68	3.00	1.20	1.68	3.48	7.04	9.30	2.28	1.92
23	1.80	1.32	1.20	1.56	3.00	1.20	4.58	3.12	6.87	7.55	2.52	1.80
24	1.20	1.56	1.32	1.44	2.40	1.12	2.88	2.88	5.85	6.36	2.40	1.68
25	0.96	1.12	2.16	1.32	2.16	1.32	3.00	2.76	5.17	5.51	2.40	1.56
26	0.80	1.92	1.92	1.56	2.04	1.44	2.64	2.76	4.72	4.86	2.28	1.56
27	1.20	1.20	1.44	1.56	1.92	1.56	2.28	2.88	4.30	4.44	2.28	1.44
28	1.20	1.12	1.68	1.32	2.52	1.56	80	2.88	4.16	4.02	2.16	1.44
29	0.96	1.04	2.76	1.32	2.04	2.04	37	29	3.88	4.30	–	1.44
30	0.88	1.04	2.76	1.68	1.92	1.80	20	91	5.00	4.58	–	1.32
31	–	0.96	–	1.32	1.68	–	15	–	5.00	3.88	–	1.32
Total	28.00	48.84	40.72	54.76	76.01	48.32	217.45	334.71	540.36	289.15	101.60	61.12
Mean	0.933	1.57	1.36	1.77	2.45	1.61	7.01	11.1	17.4	9.33	3.63	1.97
Max.	1.80	3.36	2.76	3.12	5.17	2.28	80	91	74	72	11	3.88
Min.	0.80	0.88	0.88	1.12	1.20	1.12	1.32	2.76	3.88	3.12	2.16	1.32
Runoff - MCM.	2.419	4.220	3.518	4.731	6.567	4.175	18.788	28.919	46.687	24.982	8.778	5.281

WATER YEAR 1968 : Max. 91 Min. 0.80 Mean 5.04 Annual Runoff 159.066 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Nov. 30	14.00	3.88	113				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
TRANG RIVER BASIN

Trang River at Ban Pradu Tai, Trang (X. 56)

Location: Lat. 7°-45'-45" N., Long. 99°-32'-25" E., on left bank about 200 meters at left side from Huai Yot – Krabi highway, 16 kilometers from Amphoe Huai Yot, 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 X. 56.
Elevation: +8.855 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: 1966-69
Rated by Float: –
Rated by Current Meter: 1966-69

Stability of Channel Regimes: Unstable, shifting adjustment is included for flow computed.

Overbank Flow Conditions: No overbank flow.

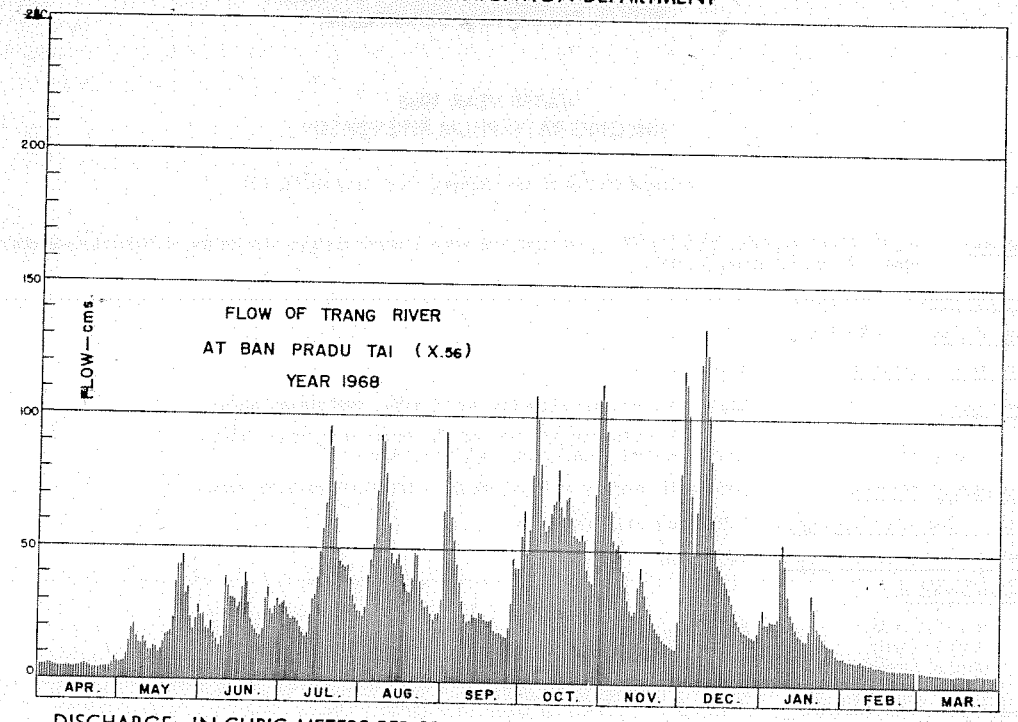
General Description: Records good. Stage-discharge relationship used is defined by discharge measurements made during 1968. No upstream state diversions for irrigation.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	1.47	1.54	2.43	2.54	2.41	3.38	3.73	5.44	4.95	2.59	1.87	1.60
2	.51	.62	.47	.65	.42	4.73	4.03	.07	5.42	.38	.85	.59
3	.51	.63	.21	.60	.73	.32	3.38	4.40	.22	.35	.83	.58
4	.53	.83	.19	.43	3.19	3.78	.64	3.99	4.60	.45	.82	.57
5	.54	2.13	.34	.36	.25	.48	4.31	.60	3.87	.40	.80	.36
6	1.49	2.39	2.09	2.38	3.51	3.20	5.16	3.46	3.35	2.41	1.79	1.56
7	.47	.18	.00	.34	4.21	2.98	4.90	.58	.86	.47	.81	.55
8	.46	.01	1.90	.31	.89	.71	.35	.47	5.39	3.36	.83	.54
9	.46	1.93	2.13	.19	.88	.51	3.89	.19	.86	.48	.80	.53
10	.46	2.12	3.02	.08	.47	.37	.73	2.92	.78	2.95	.77	.53
11	1.46	1.99	2.89	2.10	3.98	2.32	3.79	2.74	5.22	2.65	1.76	1.53
12	.45	.87	.72	.40	.49	.48	.97	.60	4.48	.49	.75	.52
13	.45	.85	.71	.72	.32	.44	4.09	.55	3.84	.37	.73	.52
14	.45	.93	.66	.71	.39	.41	.15	.69	.45	.28	.72	.51
15	.47	.91	.50	.90	.28	.53	.52	3.08	.35	.19	.71	.51
16	1.48	1.82	2.72	3.31	3.07	2.48	4.01	3.21	3.29	2.12	1.70	1.52
17	.55	.89	.93	.57	2.97	.41	3.87	.87	.09	.09	.68	.52
18	.56	2.07	3.10	.88	.80	.39	.92	.68	.01	.09	.67	.50
19	.49	.12	2.69	4.28	.70	.33	.96	.57	2.89	.35	.66	.50
20	.46	.18	.36	.85	.90	.25	.86	.47	.74	.82	.65	.49
21	1.45	2.24	2.22	4.49	3.31	2.20	3.73	2.37	2.59	2.51	1.64	1.52
22	.44	.78	.12	3.82	.26	.19	.67	.26	.48	.33	.63	.51
23	.43	3.32	.06	.45	2.91	.21	.63	.20	.40	.22	.65	.48
24	.44	.28	.07	.31	.61	.13	.74	.14	.31	.15	.67	.48
25	.46	.41	.46	.20	.54	.11	.59	.09	.26	.09	.64	.47
26	1.47	2.76	2.89	3.19	2.56	2.26	3.26	2.03	2.22	2.03	1.62	1.46
27	.45	.85	.56	.22	.39	.70	.06	.02	.17	.00	.63	.45
28	.53	.39	.40	2.97	.31	3.30	.05	.00	.14	1.97	.61	.46
29	.74	.17	.54	.68	.43	.14	4.13	.00	.14	.92		.48
30	.64	.38	.67	.55	.46	.10	5.05	.79	.25	.90		.54
31		.58		.51	.47		.38		.50	.89		.52
Mean	1.49	2.23	2.47	2.97	3.13	2.76	3.92	3.08	3.52	2.36	1.72	1.52
Max.	1.74	3.32	3.10	4.85	4.89	4.73	5.38	5.44	5.86	3.48	1.87	1.60
Min.	1.43	1.54	1.90	2.08	2.31	2.11	3.05	2.00	2.14	1.89	1.61	1.45

WATER YEAR 1968 : Max. 5.86 m. Min. 1.45 m.

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	4.70	5.60	24	28	24	51	56	113	97	29	11	5.90
2	5.15	6.80	25	30	25	94	65	100	118	23	10	5.75
3	5.15	6.95	19	29	32	80	46	77	111	23	9.80	5.60
4	5.45	11	19	25	45	63	58	65	89	25	9.60	5.45
5	5.60	17	22	23	47	54	78	54	59	24	9.20	5.30
6	4.90	22	17	24	54	46	108	50	44	24	9.00	5.30
7	4.70	18	15	23	75	39	94	53	66	26	9.40	5.15
8	4.60	14	13	22	93	33	75	50	117	50	9.80	5.00
9	4.60	13	17	19	93	26	62	41	134	53	9.20	4.90
10	4.60	16	39	17	78	23	57	34	125	38	8.60	4.90
11	4.60	14	36	17	64	22	59	30	105	30	8.40	4.90
12	4.50	11	31	24	49	26	64	26	79	26	8.20	4.80
13	4.50	11	31	31	44	25	68	27	60	23	7.85	4.80
14	4.50	13	30	31	46	24	69	30	48	21	7.70	4.70
15	4.70	12	26	36	48	27	81	40	45	19	7.55	4.70
16	4.80	10	31	47	42	26	65	44	44	18	7.40	4.80
17	5.75	12	37	55	39	24	61	35	40	17	7.10	4.80
18	5.90	16	41	64	35	23	70	30	38	17	6.95	4.60
19	4.90	17	31	76	32	24	71	27	35	23	6.80	4.60
20	4.60	18	23	96	37	20	60	25	31	34	6.65	4.50
21	4.50	19	20	80	49	19	56	22	28	27	6.50	4.80
22	4.40	32	18	60	48	19	55	20	25	22	6.35	4.70
23	4.30	44	17	49	38	19	53	19	23	20	6.65	4.40
24	4.40	43	17	45	30	18	57	17	21	18	6.95	4.40
25	4.60	47	26	44	28	17	52	16	20	17	6.50	4.30
26	4.70	30	36	43	29	20	42	15	20	16	6.20	4.20
27	4.50	35	28	44	25	31	37	15	19	15	6.35	4.10
28	5.45	23	24	37	23	47	37	14	18	15	6.05	4.20
29	8.80	18	28	30	26	43	68	14	16	12		4.40
30	7.10	23	31	27	26	41	99	32	20	11		5.00
31		28		27	27		110		26	11		4.80
Total	150.96	606.35	772	1,203	1,351	1,024	2,033	1,135	1,723	727	221.75	149.75
Mean	5.03	19.5	25.7	38.3	43.6	34.1	65.6	37.8	55.6	23.4	7.93	4.83
Max.	8.80	44	41	96	93	94	110	113	134	53	11	5.90
Min.	4.30	5.60	13	17	23	17	37	14	18	11	6.05	4.10
Runoff - MCM.	13.042	52.389	66.701	103.939	116.726	88.474	175.651	98.064	148.867	62.813	19.159	12.938

WATER YEAR 1968 : Max. 134 Min. 4.10 Mean 30.4 Annual Runoff 958.763 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Dec. 9	21.00	5.90	135				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
KHLONG RATTAPHUM RIVER BASIN

Khlong Rattaphum at Ban Kamphaeng Phet, Songkhla (X. 67)

Location: Lat. 7°-08'-39" 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.1 9 meters from right bank and 17 meters from highway bridge.

Location: B.M.2 32 meters from left bank and 17.5 meters from highway bridge.
Elevation: B.M.1 +3.415 m. (A.D.), B.M.2 +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: 1967-72
Rated by Float: -
Rated by Current Meter: 1967-72

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

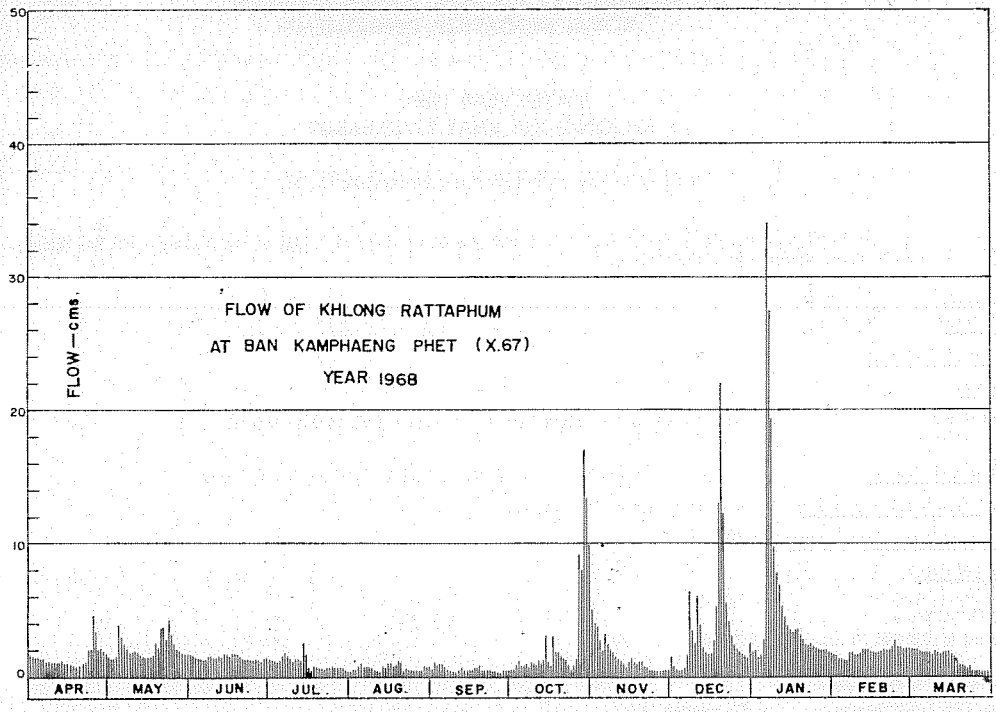
Overbank Flow Conditions: No overbank flow.

General Description: Records good. Stage-discharge relationship used is defined by discharge measurements made during 1968. No upstream state diversions for irrigation except those built by local residents. No adjustment made for virgin flow.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.11	0.06	0.11	0.06	-0.20	-0.13	-0.15	0.44	0.10	0.16	0.12	0.19
2	.08	.04	.09	0.04	-0.10	+0.02	-0.12	.37	-0.04	.18	.11	.18
3	.07	.06	.07	.03	-0.11	-0.02	-0.02	.36	-0.10	.07	.09	.17
4	.08	.10	.06	.02	-0.06	0.00	0.06	.25	-0.16	.12	.08	.16
5	.06	.38	.06	.05	+0.02	0.00	-0.04	.13	-0.10	.15	.04	.15
6	0.05	0.25	0.05	0.11	-0.09	-0.13	-0.01	0.30	-0.05	0.46	0.05	0.15
7	.04	.23	.04	.16	-0.03	-0.12	0.01	.21	+1.15	2.03	.16	.14
8	.03	.18	.09	.07	-0.05	-0.16	-0.12	.19	0.61	1.51	.15	.14
9	.02	.12	.09	.05	-0.10	-0.20	0.03	.14	0.31	0.98	.11	.13
10	.02	.16	.06	.03	-0.15	-0.21	-0.01	.09	0.22	.74	.11	.17
11	0.02	0.16	0.07	0.06	-0.18	-0.18	-0.01	0.04	0.58	0.64	0.14	0.14
12	.01	.12	.07	.06	-0.16	-0.07	0.04	.01	.36	.53	.20	.12
13	.02	.11	.07	.03	-0.02	-0.16	-0.01	-0.02	.20	.45	.19	.14
14	.01	.09	.13	.24	-0.04	-0.18	0.30	-0.05	.14	.39	.17	.15
15	-0.01	.09	.07	.11	0.03	-0.16	-0.02	0.19	.12	.36	.15	.18
16	-0.02	0.08	0.08	-0.11	0.00	-0.17	-0.15	0.07	0.12	0.32	0.15	0.13
17	-0.02	.09	.14	-0.12	-0.03	-0.07	0.29	.02	.25	.35	.15	.12
18	-0.03	.13	.13	-0.03	-0.01	-0.09	.12	.00	.36	.36	.15	.04
19	-0.03	.24	.10	-0.06	+0.04	-0.01	.16	.04	.89	.32	.16	-0.01
20	-0.03	.15	.06	-0.08	.03	-0.13	.08	.03	1.53	.27	.18	-0.01
21	-0.01	0.36	0.05	-0.10	-0.20	-0.17	0.06	-0.06	0.76	0.23	0.18	-0.02
22	0.02	.36	.05	-0.11	-0.07	-0.15	.02	-0.08	.54	.23	.18	-0.08
23	.17	.23	.07	-0.06	-0.12	-0.17	-0.02	-0.12	.41	.24	.21	-0.02
24	.20	.42	.07	-0.05	-0.16	-0.20	-0.12	-0.12	.30	.22	.28	-0.14
25	.47	.27	.05	0.02	-0.18	-0.20	-0.02	-0.15	.24	.20	.22	-0.18
26	0.25	0.21	0.08	0.09	-0.17	-0.23	0.03	-0.16	0.19	0.18	0.22	-0.18
27	.13	.17	.05	.05	-0.19	-0.22	.82	-0.16	.14	.17	.20	-0.18
28	.20	.13	.02	-0.07	-0.15	-0.12	.64	-0.15	.11	.17	.20	-0.18
29	.16	.13	.07	-0.09	-0.03	-0.17	1.30	-0.08	.10	.17	-	-0.18
30	.11	.14	.09	-0.19	-0.06	-0.13	1.06	-0.11	.07	.15	-	-0.18
31	-	.14	-	-0.20	-0.07	-	0.78	-	.26	.13	-	-0.10
Mean	0.07	0.17	0.07	-0.03	-0.08	-0.13	0.16	0.05	0.31	0.40	0.15	0.04
Max.	0.47	0.42	0.14	0.24	0.04	0.02	1.30	0.44	1.53	2.03	0.28	0.19
Min.	-0.03	0.04	0.02	-0.20	-0.20	-0.23	-0.15	-0.16	-0.16	0.07	0.04	-0.18

WATER YEAR 1968 : Max. 2.03 m. Min. -0.03 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	1.66	1.36	1.66	1.36	0.40	0.54	0.50	4.50	1.60	1.96	1.72	2.14
2	1.48	1.24	1.54	1.24	0.60	1.12	0.56	3.80	0.78	2.08	1.66	2.08
3	1.42	1.36	1.42	1.18	0.58	0.84	0.84	3.70	0.60	1.42	1.54	2.02
4	1.48	1.60	1.36	1.12	0.72	1.00	1.36	2.65	0.48	1.72	1.48	1.96
5	1.36	3.90	1.36	1.30	1.12	1.00	0.78	1.78	0.60	1.90	1.24	1.90
6	1.30	2.65	1.30	1.66	0.63	0.54	0.81	3.10	0.75	4.70	1.30	1.90
7	1.24	2.47	1.24	1.96	0.81	0.56	1.00	2.29	1.90	34	1.96	1.84
8	1.18	2.08	1.54	1.42	0.75	0.48	0.56	2.14	6.43	21	1.90	1.84
9	1.12	1.72	1.54	1.30	0.60	0.40	1.18	1.84	3.20	10	1.66	1.78
10	1.12	1.96	1.36	1.18	0.50	0.38	0.87	1.54	2.38	8.12	1.66	2.02
11	1.12	1.96	1.42	1.36	0.44	0.44	0.87	1.24	6.06	6.82	1.84	1.84
12	1.06	1.72	1.42	1.36	0.48	0.69	1.24	1.06	3.70	5.46	2.20	1.72
13	1.12	1.66	1.42	1.18	0.84	0.46	0.87	0.84	2.20	4.60	2.14	1.84
14	1.06	1.54	1.78	2.56	0.78	0.44	3.10	0.75	1.84	4.00	2.02	1.90
15	0.87	1.54	1.42	1.66	1.18	0.48	0.84	2.14	1.72	3.70	1.90	2.08
16	0.84	1.48	1.48	0.58	1.00	0.46	0.50	1.42	1.72	3.30	1.90	1.78
17	0.84	1.54	1.84	0.56	0.81	0.69	3.01	1.12	2.65	3.60	1.90	1.72
18	0.81	1.78	1.78	0.81	0.87	0.63	1.72	1.00	3.70	3.70	1.90	1.24
19	0.81	2.56	1.60	0.72	1.27	0.87	1.96	1.24	10	3.30	1.96	0.87
20	0.81	1.90	1.36	0.66	1.18	0.54	1.48	1.18	22	2.83	2.08	0.87
21	0.87	3.70	1.30	0.60	0.40	0.46	1.36	0.72	8.38	2.47	2.08	0.84
22	1.12	3.70	1.30	0.58	0.69	0.50	1.12	0.66	5.58	2.47	2.08	0.66
23	2.02	2.47	1.42	0.72	0.56	0.46	0.84	0.56	4.20	2.56	2.29	0.84
24	2.20	4.30	1.42	0.75	0.48	0.40	0.56	0.56	3.10	2.38	2.92	0.52
25	4.80	2.83	1.30	0.84	0.44	0.40	0.84	0.50	2.56	2.20	2.38	0.44
26	2.65	2.29	1.48	0.63	0.46	0.34	1.18	0.48	2.14	2.08	2.29	0.44
27	1.78	2.02	1.30	0.75	0.42	0.36	9.18	0.48	1.84	2.02	2.20	0.44
28	2.20	1.78	1.12	0.69	0.50	0.56	6.82	0.50	1.66	2.02	2.20	0.44
29	1.96	1.78	1.42	0.63	0.81	0.46	17	0.66	1.60	2.02	–	0.44
30	1.66	1.84	1.54	0.42	0.72	0.54	13	0.58	1.42	1.90	–	0.44
31	–	1.84	–	0.40	0.69	–	8.64	–	2.74	1.78	–	0.60
Total	43.96	66.57	43.44	32.18	21.70	17.06	84.59	45.03	109.53	152.11	54.40	41.44
Mean	1.46	2.15	1.45	1.04	0.70	0.57	2.73	1.50	3.53	4.91	1.94	1.34
Max.	4.80	4.30	1.84	2.56	1.27	1.12	17	4.50	22	34	2.92	2.14
Min.	0.81	1.24	1.12	0.40	0.40	0.34	0.50	0.48	0.48	1.42	1.24	0.44
Runoff - MCM.	3.798	5.751	3.753	2.780	1.874	1.473	7.308	3.890	9.463	13.142	4.700	3.580

WATER YEAR 1968 : Max. 34 Min. 0.38 Mean 1.95 Annual Runoff 61.517 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Jan.7, 69	18.00	2.26	40				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
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 bridge of Phatthalung – Hat Yai highway, at Ban 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: about 2 meters from right bank and 15 meters from 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: 1967-72
Rated by Float: –
Rated by Current Meter: 1967-72

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

Overbank Flow Conditions: No overbank flow.

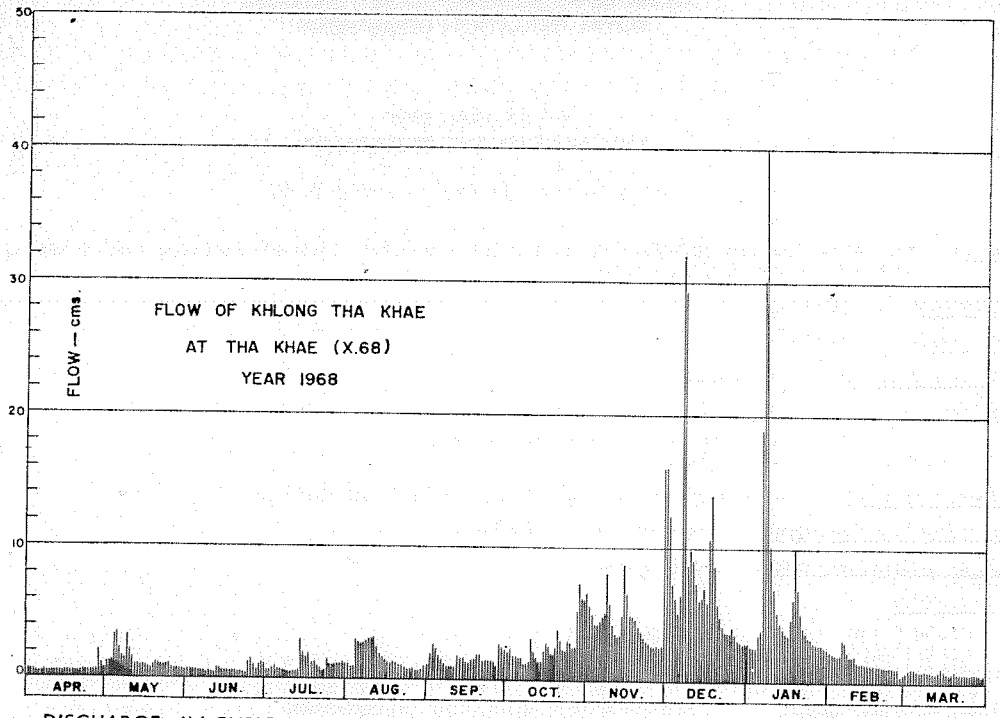
General Description: Records good. Stage-discharge relationship used is defined by discharge measurements made during 1968. No upstream state diversions for irrigation except those built by local residents. No adjustment made for virgin flow.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.55	0.69	0.59	0.60	0.65	0.75	0.85	1.26	1.96	0.93	0.87	0.61
2	.55	.69	.59	.58	.63	.88	.89	.25	.66	.90	.85	.64
3	.54	.72	.59	.63	.66	.93	.80	.14	.36	.92	.83	.66
4	.53	1.01	.56	.64	.99	.87	.80	.11.	.32	.90	.82	.64
5	.53	.04	.55	.60	.95	.78	.78	.14	.21	1.06	.81	.63
6	0.54	0.81	0.55	0.60	0.94	0.70	0.79	1.19	1.26	1.09	1.00	0.63
7	.55	.76	.55	.56	.97	.66	.70	.21	2.74	3.05	.98	.63
8	.52	.74	.52	.55	.97	.62	.69	.47	1.78	2.55	.86	.63
9	.53	1.01	.59	.54	1.00	.65	.73	.24	.46	1.82	.82	.62
10	.53	0.83	.54	.55	0.98	.66	.99	.12	.60	.52	.83	.61
11	0.53	0.73	0.54	0.56	1.01	0.66	0.83	1.05	1.53	1.32	0.80	0.61
12	.54	.67	.63	.56	0.90	.80	.76	.02	.39	.22	.75	.60
13	.53	.65	.60	.58	.82	.77	.73	.03	.30	.15	.75	.63
14	.53	.64	.58	.98	.79	.76	.74	.19	.31	.10	.74	.70
15	.54	.67	.58	.78	.73	.73	.91	.53	.38	.06	.73	.63
16	0.54	0.63	0.56	0.78	0.71	0.70	0.95	1.27	1.24	1.03	0.73	0.60
17	.54	.60	.56	.84	.71	.73	.86	.18	.72	.09	.71	.59
18	.53	.63	.55	.71	.72	.74	.85	.19	.89	.30	.71	.60
19	.53	.67	.56	.72	.72	.82	.85	.16	.41	.65	.71	.65
20	.53	.71	.54	.66	.68	.82	1.07	.09	.25	.31	.70	.60
21	0.54	0.67	0.55	0.61	0.67	0.79	0.96	1.05	1.16	1.15	0.70	0.59
22	.55	.65	.54	.57	.65	.71	.88	.01	.10	.09	.69	.58
23	.55	.65	.53	.59	.61	.72	.88	0.97	.06	.05	.68	.58
24	.55	.67	.70	.76	.59	.74	.99	.95	.05	.02	.68	.57
25	.55	.67	.75	.67	.62	.74	.95	.93	.05	.00	.68	.56
26	0.55	0.59	0.64	0.70	0.62	0.70	0.89	0.92	1.09	0.97	0.67	0.56
27	.56	.60	.58	.67	.58	.67	.92	.94	.00	.95	.66	.56
28	.84	.60	.67	.70	.58	.96	1.41	.90	.00	.93	.54	.56
29	.67	.59	.69	.70	.61	.89	.36	.89	0.96	.95	–	.55
30	.57	.57	.66	.71	.64	.86	.26	1.96	.95	.92	–	.55
31	–	.57	–	.69	.67	–	.35	–	.96	.89	–	.55
Mean	0.55	0.70	0.59	0.66	0.75	0.76	0.92	1.14	1.36	1.22	0.76	0.60
Max.	0.84	1.04	0.75	0.98	1.01	0.96	1.41	1.96	2.74	3.05	1.00	0.70
Min.	0.52	0.57	0.52	0.54	0.58	0.62	0.69	0.89	0.95	0.89	0.54	0.55

WATER YEAR 1968 : Max. 3.05 m. Min. 0.52 m.

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.60	1.25	0.76	0.80	1.05	1.57	2.17	5.66	16	2.71	2.30	0.85
2	0.60	1.25	0.76	0.72	0.95	2.37	2.43	5.55	11	2.50	2.17	1.00
3	0.56	1.41	0.76	0.95	1.10	2.71	1.85	4.46	6.76	2.64	2.04	1.10
4	0.52	3.29	0.64	1.00	3.13	2.30	1.85	4.19	6.32	2.50	1.98	1.00
5	0.52	3.56	0.60	0.80	2.85	1.74	1.74	4.46	5.11	3.74	1.91	0.95
6	0.56	1.91	0.60	0.80	2.78	1.30	1.79	4.91	5.66	4.01	3.20	0.95
7	0.60	1.63	0.60	0.64	2.99	1.10	1.30	5.11	32	40	3.06	0.95
8	0.48	1.52	0.48	0.60	2.99	0.90	1.25	8.04	12	28	2.24	0.95
9	0.52	3.29	0.76	0.56	3.20	1.05	1.46	5.44	7.92	13	1.98	0.90
10	0.52	2.04	0.56	0.60	3.06	1.10	3.13	4.28	9.80	8.68	2.04	0.85
11	0.52	1.46	0.56	0.64	3.29	1.10	2.04	3.65	8.82	6.32	1.85	0.85
12	0.56	1.15	0.95	0.64	2.50	1.85	1.63	3.38	7.09	5.22	1.57	0.80
13	0.52	1.05	0.80	0.72	1.98	1.68	1.46	3.47	6.10	4.55	1.57	0.95
14	0.52	1.00	0.72	3.06	1.79	1.63	1.52	4.91	6.21	4.10	1.52	1.30
15	0.56	1.15	0.72	1.74	1.46	1.46	2.57	8.82	6.98	3.74	1.46	0.95
16	0.56	0.95	0.64	1.74	1.35	1.30	2.85	5.77	5.44	3.47	1.46	0.80
17	0.56	0.80	0.64	2.11	1.35	1.46	2.24	4.82	11	4.01	1.35	0.76
18	0.52	0.95	0.60	1.35	1.41	1.52	2.17	4.91	14	6.10	1.35	0.80
19	0.52	1.15	0.64	1.41	1.41	1.98	2.17	4.64	7.32	10	1.35	1.05
20	0.52	1.35	0.56	1.10	1.20	1.98	3.83	4.01	5.55	6.21	1.30	0.80
21	0.56	1.15	0.60	0.85	1.15	1.79	2.92	3.65	4.64	4.55	1.30	0.76
22	0.60	1.05	0.56	0.68	1.05	1.41	2.37	3.29	4.10	4.01	1.25	0.72
23	0.60	1.05	0.52	0.76	0.85	1.41	2.37	2.99	3.74	3.65	1.20	0.72
24	0.60	1.15	1.30	1.63	0.76	1.52	3.13	2.85	3.65	3.38	1.20	0.68
25	0.60	1.15	1.57	1.15	0.90	1.52	2.85	2.71	3.65	3.20	1.20	0.64
26	0.60	0.76	1.00	1.30	0.90	1.30	2.43	2.64	4.01	2.99	1.15	0.64
27	0.64	0.80	0.72	1.15	0.72	1.15	2.64	2.78	3.20	2.85	1.10	0.64
28	2.11	0.80	1.15	1.30	0.72	2.92	7.32	2.50	3.20	2.71	0.56	0.64
29	1.15	0.76	1.25	1.30	0.85	2.43	6.76	2.43	2.92	2.85	–	0.60
30	0.68	0.68	1.10	1.35	1.00	2.24	5.66	16	2.85	2.64	–	0.60
31	–	0.68	–	1.25	1.15	–	6.65	–	2.92	2.43	–	0.60
Total	18.98	42.19	23.12	34.70	51.89	49.79	86.55	142.32	229.96	196.76	46.66	25.80
Mean	0.63	1.36	0.77	1.12	1.67	1.66	2.79	4.74	7.42	6.35	1.67	0.83
Max.	2.11	3.56	1.57	3.06	3.29	2.92	7.32	16	32	40	3.20	1.30
Min.	0.48	0.68	0.48	0.56	0.72	0.90	1.25	2.43	2.85	2.43	0.56	0.60
Runoff – MCM.	1.640	3.645	1.997	2.998	4.483	4.302	7.478	12.296	19.868	17.000	4.031	2.229

WATER YEAR 1968 : Max. 40 Min. 0.48 Mean 2.60 Annual Runoff 81.969 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Jan. 7, 69	18.00	3.70	59				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
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 bridge of 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 500 meters from Para tree.
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: 1967-72
Rated by Float: –
Rated by Current Meter: 1967-72

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

Overbank Flow Conditions: No overbank flow.

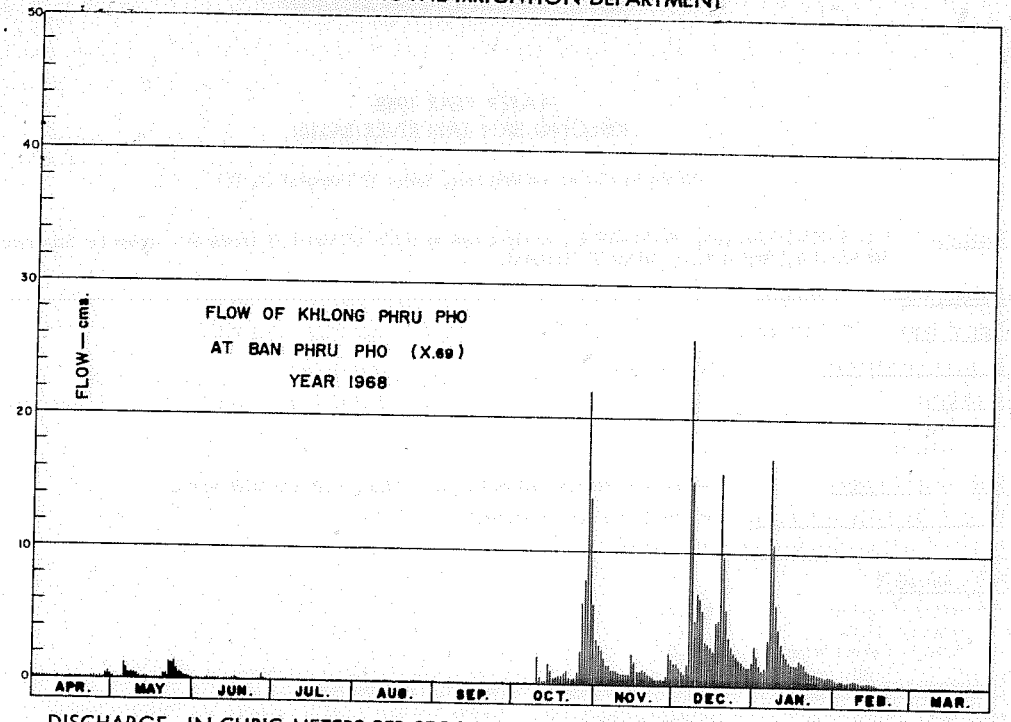
General Description: Records good. Stage-discharge relationship used is defined by discharge measurements made during 1968. No upstream state diversions for irrigation.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.67	0.67	0.69	0.55	0.54	0.54	0.56	1.17	0.98	1.15	0.78	0.64
2	.66	.66	.67	.55	.54	.53	.64	.15	.97	0.97	.78	.64
3	.65	.66	.66	.60	.55	.54	.64	.09	.92	.93	.77	.63
4	.65	.67	.66	.58	.56	.55	.65	.99	.88	.89	.77	.63
5	.65	.92	.67	.58	.57	.55	.64	.94	.85	.93	.74	.62
6	0.65	0.80	0.67	0.57	0.58	0.54	0.63	0.93	0.91	1.17	0.76	0.62
7	.64	.76	.66	.57	.58	.54	.63	.88	2.74	2.29	.78	.61
8	.64	.79	.67	.57	.57	.55	.57	.89	1.58	1.68	.77	.61
9	.64	.78	.66	.56	.57	.55	.64	.87	.28	.45	.75	.61
10	.64	.74	.65	.54	.57	.55	1.03	.85	.55	.29	.74	.60
11	0.63	0.71	0.65	0.54	0.56	0.55	0.76	0.84	1.51	1.17	0.73	0.60
12	.63	.68	.67	.54	.55	.55	.70	.83	.30	.10	.73	.59
13	.63	.71	.69	.54	.55	.56	.68	.83	.17	.05	.73	.59
14	.63	.72	.69	.56	.55	.56	.94	.82	.17	.01	.72	.60
15	.63	.69	.69	.57	.55	.56	.84	1.06	.13	.98	.72	.61
16	0.62	0.67	0.73	0.57	0.56	0.56	0.76	0.93	1.08	0.96	0.71	0.59
17	.62	.66	.69	.57	.57	.55	.79	.87	.35	.97	.69	.58
18	.62	.68	.69	.57	.57	.57	.82	.88	.37	1.02	.68	.58
19	.63	.68	.68	.57	.57	.63	.79	.90	2.19	.00	.68	.60
20	.67	.75	.66	.57	.57	.63	.85	.87	1.60	0.94	.67	.58
21	0.68	0.71	0.65	0.56	0.56	0.59	0.86	0.84	1.32	0.91	0.67	0.57
22	.64	.94	.65	.56	.56	.60	.78	.82	.19	.89	.66	.57
23	.67	.90	.65	.56	.56	.58	.75	.80	.12	.87	.68	.56
24	.65	.95	.65	.55	.55	.57	.74	.78	.07	.87	.68	.56
25	.65	.82	.65	.55	.55	.58	.85	.78	.06	.85	.67	.56
26	0.65	0.79	0.75	0.56	0.56	0.58	0.86	0.78	1.02	0.84	0.66	0.55
27	.64	.75	.70	.56	.57	.58	1.47	.76	0.98	.83	.65	.55
28	.76	.73	.62	.55	.56	.55	.21	.83	.95	.82	.65	.55
29	.78	.71	.55	.55	.55	.54	2.56	1.08	.93	.83	–	.55
30	.73	.69	.55	.55	.54	.55	1.77	.00	.94	.81	–	.54
31	–	.69	–	.54	.53	–	.37	–	1.00	.81	–	.58
Mean	0.65	0.74	0.66	0.56	0.56	0.56	0.90	0.90	1.23	1.04	0.71	0.59
Max.	0.78	0.95	0.75	0.60	0.58	0.63	2.56	1.17	2.74	2.29	0.78	0.64
Min.	0.62	0.66	0.55	0.54	0.53	0.53	0.56	0.76	0.85	0.81	0.65	0.54

WATER YEAR 1968 : Max. 2.74 m. Min. 0.53 m.

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.15	0.15	0.18	0.025	0.020	0.020	0.030	3.21	1.77	3.05	0.56	0.11
2	0.14	0.14	0.15	0.025	0.020	0.015	0.11	3.05	1.70	1.70	0.56	0.11
3	0.12	0.14	0.14	0.050	0.025	0.020	0.11	2.57	1.38	1.44	0.51	0.095
4	0.12	0.15	0.14	0.040	0.030	0.025	0.12	1.83	1.13	1.19	0.51	0.095
5	0.12	1.38	0.15	0.040	0.035	0.025	0.12	1.51	0.95	1.44	0.38	0.080
6	0.12	0.65	0.15	0.035	0.040	0.020	0.095	1.44	1.31	3.21	0.47	0.080
7	0.11	0.47	0.14	0.035	0.040	0.020	0.095	1.13	26	17	0.56	0.065
8	0.11	0.60	0.15	0.035	0.035	0.025	0.035	1.19	7.28	8.50	0.51	0.065
9	0.11	0.56	0.14	0.030	0.035	0.025	0.11	1.07	4.17	5.87	0.42	0.065
10	0.11	0.38	0.12	0.020	0.035	0.025	2.12	0.95	6.95	4.26	0.38	0.050
11	0.095	0.24	0.12	0.020	0.030	0.025	0.47	0.89	6.51	3.21	0.33	0.050
12	0.095	0.17	0.15	0.020	0.025	0.025	0.20	0.83	4.35	2.65	0.33	0.045
13	0.095	0.24	0.18	0.020	0.025	0.030	0.17	0.83	3.21	2.27	0.33	0.045
14	0.095	0.29	0.18	0.030	0.025	0.030	1.51	0.77	3.21	1.97	0.29	0.050
15	0.095	0.18	0.18	0.035	0.025	0.030	0.89	2.35	2.89	1.77	0.29	0.065
16	0.080	0.15	0.33	0.035	0.030	0.030	0.47	1.44	2.50	1.64	0.24	0.045
17	0.080	0.14	0.18	0.035	0.035	0.025	0.60	1.07	4.85	1.70	0.18	0.040
18	0.080	0.17	0.18	0.035	0.035	0.035	0.77	1.13	5.05	2.05	0.17	0.040
19	0.095	0.17	0.17	0.035	0.035	0.095	0.60	1.25	16	1.90	0.17	0.050
20	0.15	0.42	0.14	0.035	0.035	0.095	0.95	1.07	7.50	1.51	0.15	0.040
21	0.17	0.24	0.12	0.030	0.030	0.045	1.01	0.89	4.55	1.31	0.15	0.035
22	0.11	1.51	0.12	0.030	0.030	0.050	0.56	0.77	3.37	1.19	0.14	0.035
23	0.15	1.25	0.12	0.030	0.030	0.040	0.42	0.65	2.81	1.07	0.17	0.030
24	0.12	1.57	0.12	0.025	0.025	0.035	0.38	0.56	2.42	1.07	0.17	0.030
25	0.12	0.77	0.12	0.025	0.025	0.040	0.95	0.56	2.35	0.95	0.15	0.030
26	0.12	0.60	0.42	0.030	0.030	0.040	1.01	0.56	2.05	0.89	0.14	0.025
27	0.11	0.42	0.20	0.030	0.035	0.040	6.08	0.47	1.77	0.83	0.12	0.025
28	0.47	0.33	0.080	0.025	0.030	0.025	3.54	0.83	1.57	0.77	0.12	0.025
29	0.56	0.24	0.025	0.025	0.025	0.020	22	2.50	1.44	0.83	–	0.025
30	0.33	0.18	0.025	0.025	0.020	0.025	9.62	1.90	1.51	0.71	–	0.020
31	–	0.18	–	0.020	0.015	–	5.05	–	1.90	0.71	–	0.040
Total	4.430	14.08	4.620	0.930	0.910	1.000	60.185	39.27	134.45	78.66	8.50	1.605
Mean	0.15	0.45	0.15	0.030	0.029	0.033	1.94	1.31	4.34	2.54	0.30	0.052
Max.	0.56	1.57	0.42	0.050	0.040	0.095	22	3.21	26	17	0.56	0.11
Min.	0.08	0.14	0.025	0.020	0.015	0.015	0.030	0.47	0.95	0.71	0.12	0.020
Runoff – RCM.	0.383	1.216	0.399	0.080	0.079	0.086	5.200	3.393	11.616	6.796	0.734	0.139

WATER YEAR 1968 : Max. 26 Min. 0.015 Mean 0.95 Annual Runoff 30.122 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Dec. 7, 68	09.00	2.97	30				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
KHLONG BAN TAN RIVER BASIN

Khlong Ban Tan at Ban Wang Kong, Nakhon Si Thammarat (X. 70)

Location: Lat. 8°-25'-35" N., Long. 99°-51'-53" E., on right bank at bridge of Nakhon Si Thammarat – Amphoe Lan Saka road, at Ban Wang Kong, 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:

Location: –
Elevation: –

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: 1967-71
Rated by Float: –
Rated by Current Meter: 1967-71

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

Overbank Flow Conditions: No overbank flow.

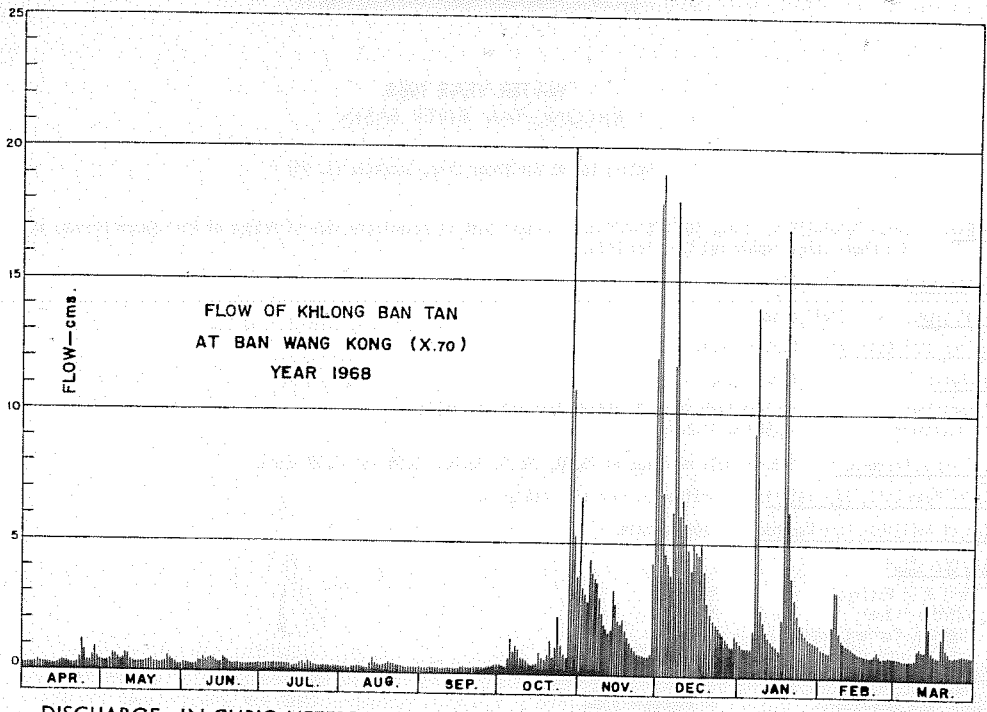
General Description: Records good. Stage-discharge relationship used is defined by discharge measurements made during 1968. No upstream state diversions for irrigation except hose built by local residents. No adjustment made for virgin flow.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.15	0.18	0.15	0.15	0.12	0.12	0.16	1.22	2.49	0.37	0.34	0.26
2	.15	.18	.17	.14	.13	.12	.15	0.71	1.26	.34	.32	.26
3	.15	.18	.15	.14	.12	.12	.14	.68	0.92	.33	.32	.25
4	.15	.18	.15	.14	.12	.13	.21	.57	.90	.33	.30	.25
5	.15	.24	.15	.14	.12	.13	.39	.89	.71	.33	.34	.25
6	0.18	0.25	0.15	0.14	0.14	0.13	0.27	0.75	0.91	0.33	0.72	0.25
7	.17	.22	.19	.14	.14	.12	.33	.79	2.40	2.01	.72	.25
8	.15	.19	.17	.14	.13	.11	.29	.65	1.30	0.63	.46	.25
9	.15	.19	.23	.14	.13	.11	.23	.53	.05	.58	.40	.34
10	.15	.26	.18	.14	.12	.11	.23	.48	.20	.51	.39	.35
11	0.15	0.24	0.20	0.14	0.12	0.11	0.19	0.44	1.03	0.45	0.37	0.32
12	.14	.20	.23	.14	.14	.12	.16	.41	0.86	.41	.35	.33
13	.14	.18	.19	.13	.23	.11	.16	.57	.74	.38	.33	.65
14	.15	.17	.18	.13	.18	.12	.16	.71	.98	.36	.32	.33
15	.16	.16	.16	.13	.15	.12	.18	.54	.94	.34	.31	.30
16	0.18	0.16	0.17	0.16	0.15	0.14	0.28	0.46	0.90	0.33	0.30	0.29
17	.16	.16	.23	.19	.14	.14	.22	.52	.90	.31	.30	.26
18	.14	.16	.18	.15	.15	.12	.20	.45	.80	2.31	.29	.37
19	.14	.19	.17	.20	.18	.12	.23	.39	.68	1.25	.28	.50
20	.14	.20	.16	.16	.17	.12	.37	.36	.60	0.97	.28	.35
21	0.14	0.17	0.16	0.15	0.16	0.13	0.25	0.33	0.55	0.73	0.27	0.31
22	.14	.18	.16	.14	.15	.13	.21	.31	.51	.61	.33	.28
23	.37	.16	.15	.13	.14	.13	.53	.28	.49	.54	.29	.28
24	.27	.18	.15	.13	.14	.13	.36	.27	.45	.49	.27	.30
25	.18	.17	.15	.13	.14	.12	.29	.26	.43	.46	.28	.30
26	0.16	0.25	0.15	0.14	0.13	0.13	0.25	0.26	0.40	0.44	0.27	0.31
27	.21	.19	.14	.13	.13	.13	.23	.25	.37	.41	.28	.31
28	.32	.17	.14	.13	.13	.14	2.55	.27	.35	.39	.27	.30
29	.22	.16	.15	.13	.13	.14	1.41	1.26	.34	.37	–	.30
30	.19	.16	.16	.13	.13	.18	0.84	2.32	.43	.37	–	.29
31	–	.15	–	.13	.13	–	.71	–	.38	.36	–	.29
Mean	0.17	0.19	0.17	0.14	0.14	0.13	0.39	0.60	0.85	0.58	0.35	0.31
Max.	0.37	0.25	0.23	0.20	0.23	0.18	2.55	2.32	2.49	2.31	0.72	0.65
Min.	0.14	0.15	0.14	0.13	0.12	0.11	0.14	0.25	0.34	0.31	0.27	0.25

WATER YEAR 1968 : Max. 2.55 m. Min. 0.11 m.

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1968

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.27	0.38	0.27	0.27	0.17	0.17	0.31	6.79	19	1.24	1.09	0.71
2	0.27	0.38	0.34	0.24	0.20	0.17	0.27	3.16	7.12	1.09	0.98	0.71
3	0.27	0.38	0.27	0.24	0.17	0.17	0.24	2.98	4.54	1.04	0.98	0.66
4	0.27	0.38	0.27	0.24	0.17	0.20	0.49	2.33	4.40	1.04	0.88	0.66
5	0.27	0.62	0.27	0.24	0.17	0.20	1.35	4.33	3.16	1.04	1.09	0.66
6	0.38	0.66	0.27	0.24	0.24	0.20	0.75	3.42	4.47	1.04	3.23	0.66
7	0.34	0.54	0.41	0.24	0.24	0.17	1.04	3.68	18	14	3.23	0.66
8	0.27	0.41	0.34	0.24	0.20	0.13	0.84	2.80	7.45	2.68	1.73	0.66
9	0.27	0.41	0.58	0.24	0.20	0.13	0.58	2.11	5.47	2.39	1.40	1.09
10	0.27	0.71	0.38	0.24	0.17	0.13	0.58	1.84	6.62	2.00	1.35	1.14
11	0.27	0.62	0.45	0.24	0.17	0.13	0.41	1.62	5.32	1.67	1.24	0.98
12	0.24	0.45	0.58	0.24	0.24	0.17	0.31	1.45	4.14	1.45	1.14	1.04
13	0.24	0.38	0.41	0.20	0.58	0.13	0.31	2.33	3.36	1.30	1.04	2.80
14	0.27	0.34	0.38	0.20	0.38	0.17	0.31	3.16	4.96	1.19	0.98	1.04
15	0.31	0.31	0.31	0.20	0.27	0.17	0.38	2.17	4.68	1.09	0.93	0.88
16	0.38	0.31	0.34	0.31	0.27	0.24	0.79	1.73	4.40	1.04	0.88	0.84
17	0.31	0.31	0.58	0.41	0.24	0.24	0.54	2.06	5.03	0.93	0.88	0.71
18	0.24	0.31	0.38	0.27	0.27	0.17	0.45	1.67	3.75	17	0.84	1.24
19	0.24	0.41	0.34	0.45	0.38	0.17	0.60	1.35	2.98	7.03	0.79	1.95
20	0.24	0.45	0.31	0.31	0.34	0.17	1.24	1.19	2.50	4.89	0.79	1.14
21	0.24	0.34	0.31	0.27	0.31	0.20	0.66	1.04	2.22	3.29	0.75	0.93
22	0.24	0.38	0.31	0.24	0.27	0.20	0.49	0.93	2.00	2.56	1.04	0.79
23	1.24	0.31	0.27	0.20	0.24	0.20	2.11	0.79	1.89	2.17	0.84	0.79
24	0.75	0.38	0.27	0.20	0.24	0.20	1.19	0.75	1.67	1.89	0.75	0.88
25	0.38	0.34	0.27	0.20	0.24	0.17	0.84	0.71	1.56	1.73	0.79	0.88
26	0.31	0.66	0.27	0.24	0.20	0.20	0.66	0.71	1.40	1.62	0.75	0.93
27	0.49	0.41	0.24	0.20	0.20	0.20	0.58	0.66	1.24	1.45	0.79	0.93
28	0.98	0.34	0.24	0.20	0.20	0.24	20	0.75	1.14	1.35	0.75	0.88
29	0.54	0.31	0.27	0.20	0.20	0.24	8.39	7.12	1.56	1.24	–	0.88
30	0.41	0.31	0.31	0.20	0.20	0.38	4.01	17	1.56	1.24	–	0.84
31	–	0.27	–	0.20	0.17	–	3.16	–	1.30	1.19	–	0.84
Total	11.20	12.81	10.24	7.61	7.54	5.66	53.88	82.63	138.89	84.88	31.93	29.80
Mean	0.37	0.41	0.34	0.24	0.24	0.19	1.74	2.75	4.48	2.74	1.14	0.96
Max.	1.24	0.71	0.58	0.45	0.58	0.38	20	17	19	17	3.23	2.80
Min.	0.24	0.27	0.24	0.20	0.17	0.13	0.24	0.66	1.14	0.93	0.75	0.66
Runoff – mcm.	0.968	1.107	0.885	0.657	0.651	0.489	4.655	7.139	12.000	7.334	2.759	2.575

WATER YEAR 1968 : Max. 20 Min. 0.13 Mean 1.31 Annual Runoff 41.219 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Oct. 28, 68	18.00	5.08	55				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
KHLONG TAM RIVER BASIN

Khlong Tam at Ban Khuan Lang, Songkhla (X. 71)

Location: Lat. 6°-59'-33" N., Long. 100°-25'-57" E., on right bank at 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: 1967-72.
Rated by Float:
Rated by Current Meter: 1967-72.

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

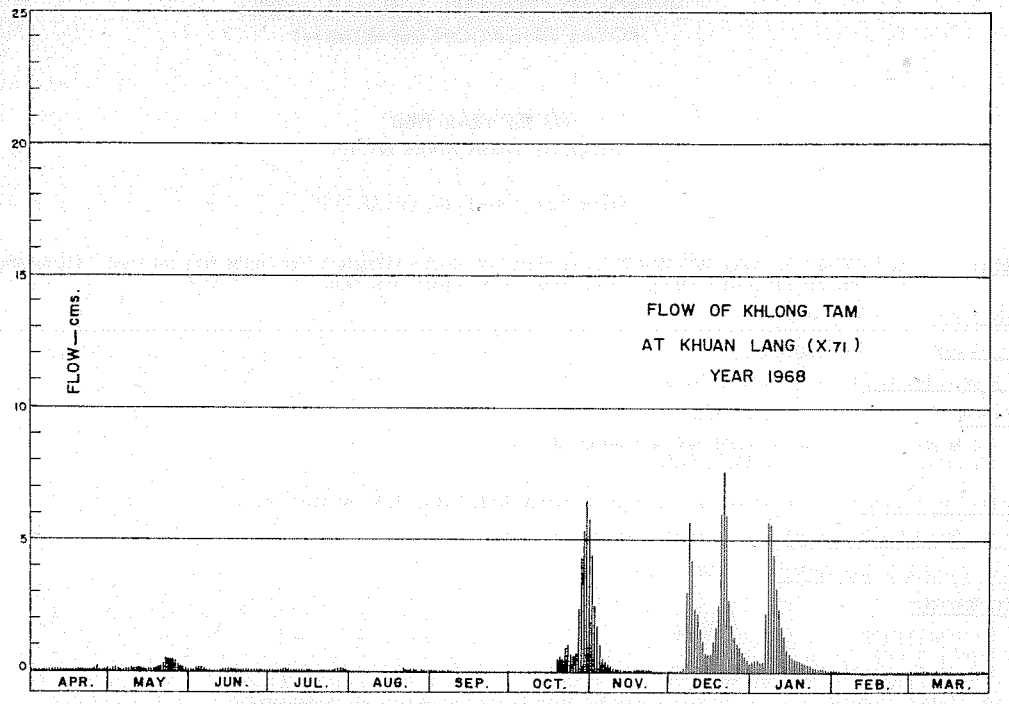
Overbank Flow Conditions: No overbank flow.

General Description: Records good. Stage-discharge relationship used is defined by discharge measurements made during 1968. No upstream state diversions for irrigation except those built by local residents. No adjustment made for virgin flow.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	1.37	1.47	1.48	1.38	1.45	1.35	1.33	2.71	1.46	1.70	1.42	1.33
2	.37	.52	.47	.37	.42	.34	.32	.40	.47	.73	.44	.32
3	.37	.52	.56	.42	.41	.41	.34	.18	.45	.73	.43	.32
4	.37	.44	.56	.40	.40	.39	.36	.04	.46	.67	.42	.32
5	.36	.46	.55	.39	.38	.36	.45	1.81	.45	.68	.43	.32
6	1.37	1.48	1.55	1.43	1.38	1.34	1.43	1.70	1.54	2.25	1.44	1.31
7	.37	.55	.44	.52	.38	.34	.40	.64	2.49	3.05	.45	.31
8	.36	.56	.41	.45	.40	.34	.42	.59	3.05	.04	.43	.30
9	.36	.57	.42	.42	.40	.33	.44	.56	2.64	2.87	.41	.31
10	.36	.56	.41	.41	.42	.33	.42	.50	.37	.60	.39	.31
11	1.35	1.55	1.47	1.38	1.43	1.34	1.41	1.50	2.34	2.36	1.39	1.31
12	.35	.56	.50	.36	.42	.34	.38	.50	.21	.16	.38	.30
13	.35	.55	.52	.44	.40	.33	.38	.47	1.98	.01	.39	.30
14	.35	.54	.53	.42	.38	.33	.40	.47	.88	1.91	.40	.31
15	.35	.50	.52	.43	.38	.32	.36	.47	.84	.84	.40	.32
16	1.36	1.49	1.54	1.42	1.37	1.33	1.45	1.51	1.88	1.76	1.38	1.33
17	.36	.53	.47	.45	.36	.34	.40	.50	2.07	.72	.37	.34
18	.36	.53	.45	.47	.35	.35	.44	.49	.19	.74	.37	.33
19	.36	.56	.42	.46	.34	.33	.76	.47	.47	.72	.36	.32
20	.36	.59	.48	.45	.34	.33	.82	.46	3.10	.67	.36	.33
21	1.36	1.64	1.46	1.46	1.34	1.33	1.72	1.45	3.33	1.65	1.36	1.33
22	.37	.77	.46	.44	.33	.33	.96	.43	2.82	.63	.35	.34
23	.37	.75	.45	.42	.34	.32	2.03	.43	.34	.62	.34	.34
24	.37	.72	.42	.41	.34	.32	1.85	.43	.15	.55	.35	.34
25	.36	.75	.41	.42	.33	.32	.78	.43	.05	.53	.35	.34
26	1.59	1.70	1.42	1.50	1.33	1.32	1.91	1.41	2.00	1.55	1.34	1.35
27	.39	.63	.43	.54	.33	.32	2.45	.39	1.89	.52	.33	.34
28	.45	.58	.41	.53	.33	.31	.88	.39	.83	.50	.32	.33
29	.42	.55	.39	.54	.33	.31	3.02	.43	.75	.49		.33
30	.46	.52	.38	.53	.33	.32	.17	.42	.70	.48		.33
31		.50		.48	.33		.06		.66	.46		.32
Mean	1.38	1.57	1.47	1.44	1.37	1.33	1.76	1.61	2.09	1.88	1.38	1.32
Max.	1.59	1.77	1.56	1.54	1.45	1.41	3.17	2.71	3.33	3.05	1.45	1.35
Min.	1.35	1.44	1.38	1.36	1.33	1.31	1.32	1.39	1.45	1.46	1.32	1.30

WATER YEAR 1968 : Max. 3.33 m. Min. 1.30 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.06	0.08	0.09	0.06	0.08	0.05	0.05	3.80	0.08	0.04	0.07	0.05
2	0.06	0.13	0.09	0.06	0.07	0.05	0.05	2.45	0.09	0.46	0.08	0.05
3	0.06	0.13	0.19	0.07	0.06	0.06	0.05	1.68	0.08	0.46	0.07	0.05
4	0.06	0.08	0.19	0.06	0.06	0.06	0.06	1.22	0.08	0.35	0.07	0.05
5	0.06	0.08	0.17	0.06	0.06	0.06	0.08	0.62	0.08	0.37	0.07	0.05
6	0.06	0.09	0.17	0.07	0.06	0.05	0.07	0.40	0.16	1.92	0.08	0.05
7	0.06	0.17	0.08	0.13	0.06	0.05	0.06	0.31	2.76	5.70	0.08	0.05
8	0.06	0.19	0.06	0.08	0.06	0.05	0.07	0.23	5.70	5.64	0.07	0.05
9	0.06	0.20	0.07	0.07	0.06	0.05	0.08	0.19	3.45	4.63	0.06	0.05
10	0.06	0.19	0.06	0.06	0.07	0.05	0.07	0.10	2.34	3.25	0.06	0.05
11	0.05	0.17	0.09	0.06	0.07	0.05	0.06	0.10	2.24	2.31	0.06	0.05
12	0.05	0.19	0.10	0.06	0.07	0.05	0.06	0.10	1.78	1.61	0.06	0.05
13	0.05	0.17	0.13	0.08	0.06	0.05	0.06	0.09	1.04	1.31	0.06	0.05
14	0.05	0.16	0.14	0.07	0.06	0.05	0.06	0.09	0.76	0.83	0.06	0.05
15	0.05	0.10	0.13	0.07	0.06	0.05	0.06	0.09	0.68	0.68	0.06	0.05
16	0.06	0.10	0.16	0.07	0.06	0.05	0.08	0.11	0.76	0.52	0.06	0.05
17	0.06	0.14	0.09	0.08	0.06	0.05	0.06	0.10	1.31	0.44	0.06	0.05
18	0.06	0.14	0.08	0.09	0.05	0.05	0.08	0.10	1.71	0.48	0.06	0.05
19	0.06	0.19	0.07	0.08	0.05	0.05	0.52	0.09	2.69	0.44	0.06	0.05
20	0.06	0.23	0.09	0.08	0.05	0.05	0.64	0.08	6.00	0.35	0.06	0.05
21	0.06	0.31	0.08	0.08	0.05	0.05	0.44	0.08	7.51	0.32	0.06	0.05
22	0.06	0.54	0.08	0.08	0.05	0.05	0.98	0.07	4.36	0.29	0.05	0.05
23	0.06	0.05	0.08	0.07	0.05	0.05	1.19	0.07	2.24	0.28	0.05	0.05
24	0.06	0.44	0.07	0.06	0.05	0.05	0.70	0.07	1.57	0.17	0.05	0.05
25	0.06	0.50	0.06	0.07	0.05	0.05	0.56	0.07	1.19	0.14	0.05	0.05
26	0.23	0.40	0.07	0.10	0.05	0.05	0.83	0.06	1.10	0.17	0.05	0.05
27	0.06	0.29	0.07	0.16	0.05	0.05	2.62	0.06	0.78	0.13	0.05	0.05
28	0.08	0.22	0.06	0.14	0.05	0.05	4.96	0.06	0.66	0.10	0.05	0.05
29	0.07	0.17	0.06	0.16	0.05	0.05	5.52	0.07	0.50	0.10		0.05
30	0.08	0.13	0.06	0.14	0.05	0.05	6.45	0.07	0.40	0.09		0.05
31		0.10		0.09	0.05		5.76		0.34	0.08		0.05
Total	1.97	6.53	2.94	2.61	1.78	1.53	32.06	12.63	54.44	34.02	1.72	1.55
Mean	0.06	0.21	0.10	0.08	0.06	0.05	1.03	0.42	1.76	1.10	0.06	0.05
Max.	0.23	0.54	0.19	0.16	0.08	0.06	6.45	3.80	7.51	5.70	0.05	0.05
Min.	0.05	0.08	0.06	0.06	0.05	0.05	0.05	0.06	0.08	0.04	0.05	0.05
Runoff - MCM.	0.170	0.564	0.254	0.225	0.154	0.132	2.770	1.091	4.704	2.939	0.149	0.134

WATER YEAR 1968 : Max. 7.51 Min. 0.05 Mean 0.42 Annual Runoff 13.286 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
Dec. 21	06.00	3.40	8.00				

HYDROLOGY SECTION, SURVEY DIVISION
ROYAL IRRIGATION DEPARTMENT

WATER YEAR 1968
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 and about 3 kilometers downstream from confluence with Khlong Ba Tae, at Ban La Ae, Amphoe Yaha, Yala.

Drainage Area: 358 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 measuring line.
Elevation: +7.109 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: 1967-69
Rated by Float:
Rated by Current Meter: 1967-69

Stability of Channel Regimes: Unstable shifting adjustment is included for flow computation.

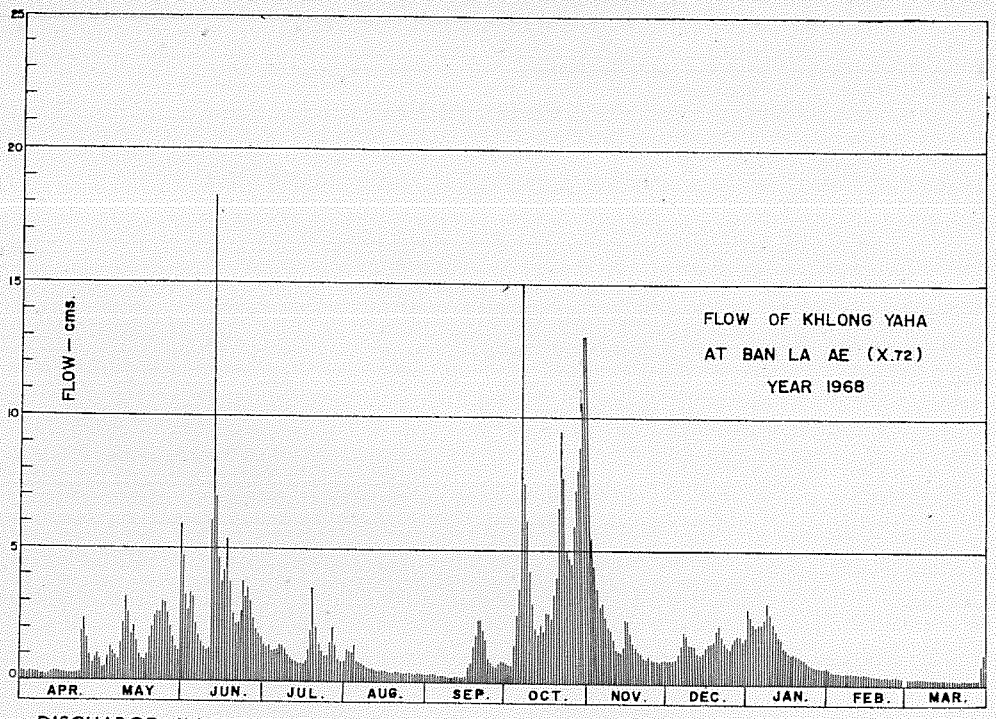
Overbank Flow Conditions: No overbank flow.

General Description: Records good. Stage-discharge relationship used is defined by discharge measurements made during 1968. No upstream state diversions except those built by local residents. No adjustment made for virgin flow.

GAGE HEIGHT IN METER (A.D.), WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	1.21	1.30	1.80	1.49	1.33	1.20	1.30	2.31	1.32	1.71	1.26	1.15
2	.27	.32	.66	.50	.31	.22	.29	.07	.32	.64	.26	.14
3	.21	.38	.81	.51	.30	.21	.29	1.91	.32	.58	.25	.14
4	.20	.46	.79	.46	.35	.21	.48	.81	.34	.59	.24	.14
5	.19	.41	.64	.47	.35	.21	.72	.72	.36	.62	.24	.14
6	1.18	1.37	1.54	1.48	1.38	1.19	1.84	1.67	1.45	1.59	1.23	1.14
7	.16	.31	.47	.52	.36	.18	2.84	.62	.55	.65	.24	.14
8	.15	.50	.43	.50	.34	.18	.21	.58	.52	.74	.24	.14
9	.15	2.43	.42	.46	.32	.17	.08	.54	.46	.68	.23	.14
10	.14	1.80	.42	.41	.31	.16	1.83	.50	.45	.63	.23	.13
11	1.15	1.65	1.50	1.39	1.30	1.18	1.67	1.48	1.45	1.58	1.23	1.13
12	.16	.54	2.87	.38	.29	.18	.58	.45	.41	.54	.22	.13
13	.16	.63	.08	.37	.27	.17	.52	.43	.38	.52	.22	.13
14	.18	.53	1.96	.35	.28	.17	.62	.44	.38	.48	.22	.13
15	.16	.42	.83	.37	.28	.17	.55	.61	.41	.45	.21	.13
16	1.15	1.38	1.93	1.33	1.27	1.16	1.70	1.60	1.46	1.42	1.21	1.12
17	.14	.37	2.06	.42	.24	.18	.70	.55	.47	.41	.20	.11
18	.14	.44	1.85	.56	.24	1.35	.59	.50	.47	.42	.19	.11
19	.13	.58	.71	.88	.25	.43	.79	.47	.51	.41	.19	.10
20	.12	.65	.63	.69	.27	.56	.88	.43	.59	.39	.18	.10
21	1.13	1.73	1.60	1.55	1.25	1.56	2.29	1.43	1.54	1.37	1.18	1.10
22	.15	.75	.67	.47	.23	.45	.46	.40	.49	.37	.18	.10
23	.55	.75	.87	.47	.23	.40	.12	.37	.46	.34	.17	.11
24	.64	.79	.76	.42	.23	.34	1.95	.36	.43	.32	.17	.10
25	.50	.78	.84	.43	.22	.30	.93	.34	.42	.31	.18	.10
26	1.37	1.68	1.72	1.53	1.22	1.28	1.88	1.33	1.49	1.30	1.17	1.09
27	.32	.60	.63	.65	.21	.26	2.19	.32	.52	.29	.16	.09
28	.40	.52	.58	.41	.24	.31	.37	.31	.53	.29	.15	.10
29	.46	.45	.54	.38	.24	.34	.36	.33	.51	.28	–	.15
30	.36	.44	.51	.37	.21	.32	.68	.33	.48	.28	–	.42
31	–	2.12	–	.37	.21	–	.67	–	.54	.28	–	.47
Mean	1.24	1.58	1.74	1.47	1.27	1.27	1.91	1.54	1.45	1.47	1.21	1.14
Max.	1.64	2.43	2.87	1.88	1.38	1.56	2.24	2.31	1.59	1.74	1.26	1.47
Min.	1.12	1.30	1.42	1.35	1.21	1.16	1.29	1.31	1.32	1.28	1.15	1.09

WATER YEAR 1968 : Max. 2.87 m. Min. 1.31 m.



DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR APRIL 1, 1968 TO MARCH 31, 1969

Day	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0.36	0.49	3.30	1.30	1.25	0.28	0.70	7.36	0.86	2.81	0.49	0.24
2	0.28	0.55	2.40	1.35	1.15	0.32	0.67	5.90	0.86	2.40	0.49	0.22
3	0.36	0.94	3.37	1.40	1.10	0.30	0.67	4.48	0.86	2.10	0.46	0.22
4	0.34	1.30	3.23	1.15	1.35	0.30	1.50	3.72	0.94	2.15	0.43	0.22
5	0.32	1.06	2.30	1.20	0.67	0.30	2.74	3.09	1.02	2.30	0.43	0.22
6	0.30	0.90	1.80	1.25	0.78	0.26	3.58	2.74	1.45	2.15	0.40	0.22
7	0.26	0.67	1.45	1.45	0.70	0.24	15	3.09	1.95	2.45	0.43	0.22
8	0.24	1.50	1.25	1.35	0.64	0.24	6.81	2.25	1.80	3.02	0.43	0.22
9	0.24	9.03	1.20	1.15	0.58	0.22	5.52	2.05	1.50	2.60	0.40	0.22
10	0.22	3.16	1.20	0.94	0.55	0.20	3.51	1.85	1.45	2.35	0.40	0.20
11	0.30	2.25	1.60	0.86	0.52	0.24	2.45	1.40	1.45	2.10	0.40	0.20
12	0.32	1.55	16	0.82	0.49	0.24	2.00	1.25	1.25	1.75	0.38	0.80
13	0.32	2.00	5.52	0.78	0.43	0.22	1.70	1.15	1.10	1.65	0.38	0.20
14	0.36	1.50	4.48	0.70	0.46	0.22	2.20	1.20	1.10	1.45	0.38	0.20
15	0.32	0.98	3.51	0.78	0.46	0.22	1.85	2.45	1.25	1.30	0.36	0.20
16	0.30	0.82	4.24	0.64	0.43	0.58	2.60	2.40	1.50	1.15	0.36	0.19
17	0.28	0.78	5.34	0.98	0.06	0.64	2.60	1.75	1.55	1.10	0.34	0.18
18	0.28	1.06	3.65	1.65	0.36	1.35	2.05	1.50	1.55	1.15	0.32	0.18
19	0.26	1.75	2.67	3.51	0.38	1.75	3.23	1.25	1.75	1.10	0.32	0.17
20	0.24	2.10	2.25	2.15	0.43	2.40	3.86	1.15	2.15	1.02	0.30	0.17
21	0.26	2.50	2.10	1.60	0.38	2.40	7.47	1.15	1.90	0.94	0.30	0.17
22	0.30	2.60	2.45	1.20	0.34	1.85	9.42	1.02	1.65	0.94	0.30	0.17
23	1.85	2.60	3.79	1.20	0.34	1.60	5.70	0.90	1.50	0.82	0.28	0.18
24	2.30	3.02	3.02	0.98	0.34	0.86	4.80	1.02	1.35	0.74	0.28	0.17
25	1.45	2.95	3.58	1.02	0.32	0.70	4.64	0.94	1.30	0.70	0.30	0.17
26	0.70	2.35	2.74	1.50	0.32	0.64	4.24	0.90	1.65	0.67	0.28	0.16
27	0.55	1.95	2.25	2.10	0.30	0.58	7.14	0.86	1.80	0.64	0.26	0.16
28	0.82	1.55	2.00	0.94	0.36	0.74	9.11	0.82	1.85	0.64	0.24	0.17
29	1.06	1.20	1.80	0.82	0.36	0.86	9.03	0.90	1.75	0.61	–	0.24
30	0.74	1.15	1.65	0.78	0.30	0.78	13	0.90	1.60	0.61	–	1.06
31	–	5.90	–	0.78	0.30	–	13	–	1.90	0.61	–	1.30
Total	15.93	62.16	96.14	38.33	16.75	21.53	152.84	61.54	45.59	46.02	10.14	8.04
Mean	0.53	2.00	3.20	1.24	0.54	0.72	4.93	2.05	1.47	1.48	0.36	0.26
Max.	2.30	9.03	16	3.51	1.35	2.40	15	7.36	2.15	3.02	0.49	1.30
Min.	0.22	0.49	1.20	0.64	0.30	0.20	0.67	0.82	0.86	0.61	0.24	0.16
Runoff – mcm.	1.376	5.370	8.306	3.311	1.447	1.860	13.205	5.317	3.938	3.976	0.876	0.694

WATER YEAR 1968 : Max. 16 Min. 0.16 Mean 1.57 Annual Runoff 49.680 mcm.

Momentary Peak Discharge

Date	Time	Gage-Height	Discharge	Date	Time	Gage-Height	Discharge
June 21	9.00	3.40	25				