

**12452500 CHELAN RIVER AT CHELAN, WA**

Upper Columbia Basin  
Lake Chelan Subbasin

LOCATION.--Lat 47°50'05", long 120°00'43" referenced to North American Datum of 1927, in SE ¼ NE ¼ sec.30, T.27 N., R.23 E., Chelan County, WA, Hydrologic Unit 17020009, on right bank downstream from control dam at outlet of Lake Chelan, 0.4 mi south of Chelan, and at mile 4.1.

DRAINAGE AREA.--924 mi<sup>2</sup>.

**SURFACE-WATER RECORDS**

PERIOD OF RECORD.--November 1903 to current year. Published as "below Chelan Lake" 1904-05. Adjusted records for October 1903 to September 1911, published in WSP 482, 492, and 870 are unreliable and should not be used.

REVISED RECORDS.--WSP 482: 1904-13. WSP 612: 1924. WSP 1246: 1951. WSP 1286: 1952. WSP 1933: Drainage area. See also PERIOD OF RECORD.

GAGE.--Water-stage recorder and watt-hour meters on each turbine. Datum of gage is 1,074.66 ft above NGVD of 1912. To convert to NGVD of 1929, subtract 1.62 ft. See WSP 1933 for history of changes prior to Mar. 20, 1939. Mar. 20, 1939, to Sept. 30, 1981, gage at site 1.7 mi downstream from the Lake Chelan gage, at same datum, and published as the gage of record, used to determine head and spill discharge.

COOPERATION.--Records partially furnished by Public Utility District No. 1 of Chelan County.

REMARKS.--Daily discharge determined from flow through turbines computed from relation between loading and head, plus flow through two irrigation pipes which divert water from the penstock just above the turbines, plus spill discharge. Unmeasured water that is diverted for irrigation upstream from station is a small percentage of total runoff. Public Utility District No. 1 of Chelan County diverts water at Chelan to develop about 40,000 kW and to irrigate 900 acres near Chelan. This quantity is included in records of daily discharge. Diversions for irrigation of about 6,280 acres with an annual depletion of about 11,000 acre-ft, 1946 estimate. Flow regulated by Lake Chelan (station 12452000).

AVERAGE DISCHARGE FOR PERIOD OF RECORD.--102 years (water years 1905-2006), 2,044 ft<sup>3</sup>/s, 30.04 in/yr, 1,481,000 acre-ft/yr, adjusted for storage since October 1911.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 18,400 ft<sup>3</sup>/s, June 3, 1968; no flow part of day, Jan. 30, 1917, when lake outlet was blocked with ice, and at other times owing to artificial regulation.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 8,260 ft<sup>3</sup>/s, Jun 14; minimum daily discharge, 13 ft<sup>3</sup>/s, Aug 12, 13, and 20.

## 12452500 CHELAN RIVER AT CHELAN, WA—Continued

**DISCHARGE, CUBIC FEET PER SECOND**  
**WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006**  
**DAILY MEAN VALUES**

| Day   | Oct     | Nov     | Dec     | Jan     | Feb     | Mar     | Apr     | May     | Jun     | Jul     | Aug    | Sep    |
|---|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|--------|--------|
| 1   | 1,820   | 2,210   | 2,210   | 760     | 2,210   | 2,200   | 2,210   | 2,190   | 2,210   | 2,750   | 2,210  | 1,470  |
| 2   | 2,210   | 2,210   | 2,210   | 1,050   | 2,210   | 2,200   | 2,210   | 2,210   | 2,210   | 2,760   | 1,480  | 470    |
| 3   | 2,210   | 2,210   | 2,210   | 1,570   | 2,210   | 2,200   | 2,210   | 2,210   | 2,210   | 2,870   | 1,400  | 66     |
| 4   | 2,210   | 2,210   | 2,210   | 2,210   | 2,210   | 2,200   | 2,210   | 2,210   | 2,210   | 3,700   | 1,010  | 449    |
| 5   | 2,210   | 2,210   | 2,210   | 2,210   | 2,210   | 2,200   | 2,210   | 2,210   | 2,900   | 4,440   | 393    | 1,430  |
| 6   | 2,210   | 2,210   | 2,210   | 2,210   | 2,210   | 2,200   | 2,210   | 2,210   | 5,770   | 4,590   | 14     | 2,200  |
| 7   | 2,210   | 2,210   | 2,210   | 2,210   | 2,210   | 2,200   | 2,210   | 2,210   | 6,380   | 5,040   | 956    | 1,540  |
| 8   | 2,210   | 2,210   | 2,210   | 2,210   | 2,210   | 2,200   | 2,210   | 2,210   | 7,320   | 4,880   | 1,120  | 1,220  |
| 9   | 2,210   | 2,210   | 2,210   | 2,210   | 2,210   | 2,200   | 2,210   | 2,210   | 8,070   | 3,410   | 1,070  | 857    |
| 10  | 2,210   | 2,210   | 2,210   | 2,210   | 2,210   | 2,200   | 2,210   | 2,210   | 8,070   | 2,750   | 1,570  | 111    |
| 11  | 2,210   | 2,210   | 2,210   | 2,210   | 2,210   | 2,200   | 2,210   | 2,210   | 8,070   | 2,890   | 905    | 1,120  |
| 12  | 2,210   | 2,210   | 2,210   | 2,210   | 2,210   | 2,200   | 2,210   | 2,210   | 8,100   | 3,060   | 13     | 1,140  |
| 13  | 2,210   | 2,210   | 2,210   | 2,210   | 2,210   | 2,200   | 2,210   | 2,210   | 8,180   | 2,980   | 13     | 1,240  |
| 14  | 2,210   | 2,210   | 2,210   | 2,210   | 2,210   | 2,200   | 2,210   | 2,210   | 8,260   | 2,980   | 680    | 531    |
| 15  | 2,210   | 2,210   | 2,210   | 2,210   | 2,210   | 2,200   | 2,210   | 2,210   | 8,240   | 2,980   | 501    | 748    |
| 16  | 2,210   | 2,210   | 2,210   | 2,210   | 2,210   | 2,200   | 2,210   | 2,210   | 7,520   | 2,830   | 392    | 1,320  |
| 17  | 2,210   | 2,210   | 2,210   | 2,210   | 2,210   | 2,200   | 2,210   | 2,210   | 7,210   | 2,450   | 609    | 1,640  |
| 18  | 2,210   | 2,210   | 2,210   | 2,210   | 2,210   | 2,200   | 2,210   | 2,210   | 7,810   | 2,280   | 584    | 1,390  |
| 19  | 2,210   | 2,210   | 2,210   | 2,210   | 2,210   | 2,200   | 2,210   | 2,210   | 6,920   | 2,290   | 576    | 1,520  |
| 20  | 2,210   | 2,210   | 2,210   | 2,210   | 2,210   | 2,200   | 2,210   | 2,210   | 4,040   | 2,280   | 13     | 1,770  |
| 21  | 2,210   | 2,210   | 2,210   | 2,210   | 2,210   | 2,200   | 2,210   | 2,210   | 3,290   | 2,280   | 909    | 1,680  |
| 22  | 2,210   | 2,210   | 2,210   | 2,210   | 2,210   | 2,200   | 2,210   | 2,210   | 3,160   | 2,280   | 1,290  | 1,460  |
| 23  | 2,210   | 2,210   | 2,210   | 2,210   | 2,210   | 2,060   | 2,210   | 2,210   | 3,170   | 2,250   | 1,480  | 1,460  |
| 24  | 2,210   | 2,210   | 2,210   | 2,210   | 2,210   | 2,200   | 2,210   | 2,210   | 2,930   | 1,790   | 1,580  | 630    |
| 25  | 2,210   | 2,210   | 2,210   | 2,210   | 2,210   | 2,200   | 2,210   | 2,210   | 2,970   | 2,290   | 1,490  | 1,530  |
| 26  | 2,210   | 2,210   | 723     | 2,210   | 2,210   | 2,200   | 2,210   | 2,210   | 2,770   | 2,280   | 1,510  | 1,560  |
| 27  | 2,210   | 2,210   | 1,490   | 2,210   | 2,210   | 2,200   | 2,210   | 2,210   | 2,730   | 2,240   | 683    | 1,580  |
| 28  | 2,210   | 2,210   | 1,490   | 2,210   | 2,200   | 2,200   | 2,210   | 2,210   | 2,740   | 2,220   | 1,440  | 1,510  |
| 29  | 2,210   | 2,210   | 1,310   | 2,210   | ---     | 2,200   | 2,210   | 2,210   | 2,740   | 2,210   | 1,430  | 1,390  |
| 30  | 2,210   | 2,210   | 1,650   | 2,210   | ---     | 2,200   | 2,210   | 2,210   | 2,750   | 2,210   | 33     | 526    |
| 31  | 2,210   | ---     | 1,260   | 2,210   | ---     | 2,200   | ---     | 2,210   | ---     | 2,210   | 1,400  | ---    |
| <b>Total</b>  | 68,120  | 66,300  | 63,173  | 65,260  | 61,870  | 68,060  | 66,300  | 68,490  | 150,950 | 88,470  | 28,754 | 35,558 |
| <b>Mean</b>   | 2,197   | 2,210   | 2,038   | 2,105   | 2,210   | 2,195   | 2,210   | 2,209   | 5,032   | 2,854   | 928    | 1,185  |
| <b>Max</b>  | 2,210   | 2,210   | 2,210   | 2,210   | 2,210   | 2,200   | 2,210   | 2,210   | 8,260   | 5,040   | 2,210  | 2,200  |
| <b>Min</b>  | 1,820   | 2,210   | 723     | 760     | 2,200   | 2,060   | 2,210   | 2,190   | 2,210   | 1,790   | 13     | 66     |
| <b>Ac-ft</b>  | 135,100 | 131,500 | 125,300 | 129,400 | 122,700 | 135,000 | 131,500 | 135,800 | 299,400 | 175,500 | 57,030 | 70,530 |
| <b>Mean adjusted for change in contents in Lake Chelan</b>  | 764     | 711     | 806     | 1,143   | 780     | 737     | 2,345   | 7,527   | 7,916   | 3,185   | 740    | 510    |
| <b>CFSM adjusted for change in contents in Lake Chelan</b>  | 0.83    | 0.77    | 0.87    | 1.24    | 0.84    | 0.80    | 2.54    | 8.15    | 8.57    | 3.45    | 0.80   | 0.55   |
| <b>In. adjusted for change in contents in Lake Chelan</b>   | 0.95    | 0.86    | 1.01    | 1.43    | 0.88    | 0.92    | 2.83    | 9.39    | 9.56    | 3.98    | 0.92   | 0.62   |
| <b>AC-FT adjusted for change in contents in Lake Chelan</b> | 47,000  | 42,300  | 49,600  | 70,300  | 43,300  | 45,300  | 139,500 | 462,900 | 470,900 | 195,900 | 45,530 | 30,330 |

12452500 CHELAN RIVER AT CHELAN, WA—Continued

|   | Calendar Year 2005 | Water Year 2006 |
|---|--------------------|-----------------|
| <b>Total</b>  | 570,172.5          | 831,305         |
| <b>Mean</b>   | 1,562              | 2,278           |
| <b>Max</b>  | 4,380              | 8,260           |
| <b>Min</b>  | 3.6                | 13              |
| <b>Ac-ft</b>  | 1,131,000          | 1,649,000       |
| <b>Mean adjusted for change in contents in Lake Chelan</b>  | 1,468              | 2,269           |
| <b>CFSM adjusted for change in contents in Lake Chelan</b>  | 1.59               | 2.46            |
| <b>In. adjusted for change in contents in Lake Chelan</b>   | 21.57              | 33.34           |
| <b>AC-FT adjusted for change in contents in Lake Chelan</b> | 1,063,000          | 1,643,000       |

