

14243000 COWLITZ RIVER AT CASTLE ROCK, WA

Lower Columbia Basin
Lower Cowlitz Subbasin

LOCATION.--Lat 46°16'30", long 122°54'48" referenced to North American Datum of 1927, in SW ¼ SE ¼ sec.10, T.9 N., R.2 W., Cowlitz County, WA, Hydrologic Unit 17080005, on left bank 40 ft downstream from Arkansas Valley Road bridge in Castle Rock, 2.7 mi downstream from Toutle River, and at mile 17.3.

DRAINAGE AREA.--2,238 mi². A large debris avalanche generated by the eruption of Mount St. Helens on May 18, 1980 blocked tributaries in the upper North Fork Toutle River valley. As a result, from May 19, 1980 to July 7, 1981, approximately 40 mi² was noncontributing. From July 7, 1981 to October 1981, the Coldwater Lake release, approximately 21 mi², was noncontributing. From October 1981 to November 1982, the Castle Lake release, approximately 19.7 mi², was noncontributing. Since November 1982, all areas, including the Spirit Lake release, are effectively contributing.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--December 1926 to current year; October 1985 to April 2000 (seasonal records).

REVISED RECORDS.--WSP 1218: Drainage area. WSP 1638: 1947(P), 1951.

GAGE.--Water-stage recorder. Datum of gage is NAVD of 1988. Prior to Dec. 18, 1933, nonrecording gage at site 2 mi upstream at datum 38.58 ft higher. Dec. 18, 1933, to June 13, 1934, nonrecording gage, and June 14 to Sept. 30, 1934, water-stage recorder, at present site at datum 28.65 ft higher. Oct. 1, 1934, to May 21, 1980, water-stage recorder, on right bank at datum 23.65 ft higher. May 23, 1980, to July 29, 1997, water-stage recorder at present site at datum 23.65 higher.

REMARKS.--No estimated daily discharges. Records good. Flow regulated by Riffe Lake (station 14234800) at mile 65.5, and Mayfield Reservoir (station 14237800) at mile 52.0. Minor diversions for domestic and farm use upstream from station. U.S. Geological Survey satellite telemeter at station.

AVERAGE DISCHARGE FOR PERIOD OF RECORD.--65 years (water years 1928-85, 2001-07), 9,140 ft³/s, 55.46 in/yr, 6,622,000 acre-ft/yr, adjusted for storage in Mayfield Reservoir since April 1962, and Riffe Lake since April 1968.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge observed, 139,000 ft³/s Dec. 23, 1933, gage height, 55.25 ft present datum, from rating curve extended above 80,000 ft³/s; maximum gage height, 55.76 ft Feb. 8, 1996; minimum discharge, 998 ft³/s Nov. 7, 8, 1935.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 77,300 ft³/s, Nov. 7, gage height, 49.78 ft; minimum discharge, 2,940 ft³/s, Sept. 9, 27, gage height, 31.47 ft.

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DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007
DAILY MEAN VALUES

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	3,770	3,860	16,800	11,900	9,480	12,500	12,300	8,280	6,280	4,190	3,150	3,030
2	3,760	3,930	13,200	13,900	9,380	11,800	13,900	9,340	5,760	3,470	3,140	3,030
3	3,760	4,740	12,800	22,800	8,250	12,900	15,200	8,700	5,490	3,400	3,120	3,030
4	3,770	6,330	12,600	21,800	7,740	11,900	16,400	7,600	5,480	3,350	3,120	3,040
5	3,770	10,900	12,600	20,100	7,690	11,500	16,600	7,130	5,410	3,340	3,120	3,040
6	3,790	31,600	12,300	25,000	7,590	11,000	15,600	6,870	5,600	3,320	3,130	3,020
7	3,790	73,300	12,200	24,900	7,620	11,900	14,100	6,870	5,580	3,290	3,140	3,020
8	3,800	49,900	12,200	26,200	7,700	13,400	13,600	6,890	5,280	3,290	3,150	3,010
9	3,800	35,900	11,800	21,400	7,650	13,300	15,900	7,370	5,270	3,280	3,140	3,000
10	3,780	36,800	11,700	19,600	7,570	14,700	18,500	7,250	5,390	3,300	3,120	3,020
11	3,780	40,600	13,600	17,800	7,730	17,200	18,400	6,830	5,380	3,330	3,100	3,010
12	3,780	37,900	17,100	16,500	8,000	19,600	18,400	6,760	5,240	3,290	3,090	3,000
13	3,780	38,800	20,100	15,300	7,550	18,500	18,300	6,720	5,350	3,280	3,120	3,020
14	3,780	37,800	23,500	14,100	7,410	16,800	16,900	6,700	5,380	3,260	3,100	3,020
15	3,850	35,500	32,800	13,700	8,500	15,500	15,600	6,590	5,120	3,260	3,070	3,020
16	4,220	29,800	24,800	13,900	11,200	14,700	14,400	6,980	4,910	3,250	3,070	3,040
17	4,140	23,200	20,700	13,500	10,200	12,600	13,400	7,000	4,620	3,320	3,080	3,110
18	3,970	20,500	18,100	12,600	10,000	11,900	13,300	6,600	4,590	3,330	3,070	3,100
19	4,060	19,300	16,800	12,500	10,000	12,600	12,100	6,510	4,540	3,420	3,140	3,080
20	4,230	19,300	16,200	11,900	17,500	14,800	11,600	6,550	4,660	3,350	3,150	3,060
21	4,030	21,200	17,200	11,800	17,200	14,400	11,000	6,800	4,810	3,400	3,160	3,050
22	3,940	24,500	17,300	11,600	14,900	14,200	10,800	6,670	4,480	3,370	3,130	3,030
23	3,890	24,700	16,100	11,400	13,600	14,100	10,500	6,750	4,460	3,350	3,100	3,040
24	3,900	27,500	15,500	10,000	13,000	15,900	9,960	6,730	4,490	3,340	3,100	3,060
25	3,970	24,000	18,300	9,390	13,300	25,500	10,200	6,360	4,580	3,300	3,080	3,030
26	3,920	21,900	17,500	9,080	13,300	23,400	9,770	6,400	4,500	3,260	3,080	3,030
27	3,900	21,100	20,800	8,610	12,600	21,700	8,770	6,420	4,570	3,220	3,090	3,280
28	3,880	19,300	17,100	8,250	12,700	20,600	8,240	6,430	4,790	3,200	3,080	4,270
29	3,880	18,000	15,200	8,240	---	18,400	8,190	6,340	4,560	3,210	3,070	4,110
30	3,910	17,700	13,400	8,520	---	15,300	8,250	6,580	4,590	3,220	3,050	4,130
31	3,870	---	12,400	8,510	---	12,900	---	6,660	---	3,170	3,020	---
Total	120,470	779,860	512,700	454,800	289,360	475,500	400,180	215,680	151,160	103,360	96,280	94,730
Mean	3,886	26,000	16,540	14,670	10,330	15,340	13,340	6,957	5,039	3,334	3,106	3,158
Max	4,230	73,300	32,800	26,200	17,500	25,500	18,500	9,340	6,280	4,190	3,160	4,270
Min	3,760	3,860	11,700	8,240	7,410	11,000	8,190	6,340	4,460	3,170	3,020	3,000
Ac-ft	239,000	1,547,000	1,017,000	902,100	573,900	943,200	793,800	427,800	299,800	205,000	191,000	187,900
Mean adjusted for change in contents in Riffe Lake and Mayfield Reservoir	1,581	26,620	15,910	13,870	11,230	18,950	10,240	8,413	6,378	3,540	2,096	1,721
CFSM adjusted for change in contents in Riffe Lake and Mayfield Reservoir	0.71	11.89	7.11	6.20	5.02	8.47	4.58	3.76	2.85	1.58	0.94	0.77
In. adjusted for change in contents in Riffe Lake and Mayfield Reservoir	0.81	13.27	8.20	7.15	5.23	9.76	5.11	4.34	3.18	1.82	1.08	0.86
Ac-ft adjusted for change in contents in Riffe Lake and Mayfield Reservoir	97,200	1,584,000	978,500	852,700	623,500	1,165,000	609,500	517,300	379,500	217,700	128,900	102,400

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	Calendar Year 2006	Water Year 2007
Total	3,981,380	3,694,080
Mean	10,910	10,120
Max	73,300	73,300
Min	3,140	3,000
Ac-ft	7,897,000	7,327,000
Mean adjusted for change in contents in Riffe Lake and Mayfield Reservoir	11,000	10,020
CFSM adjusted for change in contents in Riffe Lake and Mayfield Reservoir	4.92	4.48
In. adjusted for change in contents in Riffe Lake and Mayfield Reservoir	66.74	60.79
Ac-ft adjusted for change in contents in Riffe Lake and Mayfield Reservoir	7,965,000	7,257,000

