

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 ft 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.--70 years (water years 1928-85, 2001-12), 9,196 ft³/s, 55.80 in/yr, 6,663,000 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, 36,900 ft³/s, Nov. 23, gage height, 41.74 ft; minimum discharge, 2,860 ft³/s, Sept. 5, gage height, 31.59 ft.

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DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012
DAILY MEAN VALUES

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	4,930	5,720	13,300	12,700	17,300	16,300	20,100	17,600	13,100	9,100	4,930	4,140
2	4,670	5,710	11,800	10,800	15,600	15,400	18,900	17,400	11,700	8,880	4,930	4,120
3	5,010	7,010	11,000	10,500	14,700	15,200	19,700	17,900	10,300	8,770	4,900	3,510
4	5,470	6,060	10,800	10,600	14,200	15,200	19,100	19,900	10,900	9,090	4,660	3,090
5	5,560	5,840	11,100	11,400	13,800	15,600	18,800	18,400	13,500	9,050	4,360	3,070
6	5,580	5,770	11,900	10,800	13,500	15,800	17,200	17,100	13,000	8,290	4,450	3,070
7	5,570	5,690	12,400	10,600	13,200	15,100	14,400	16,200	13,100	8,020	5,800	4,000
8	5,600	5,620	12,400	10,300	13,200	14,700	13,700	15,600	13,700	7,940	5,860	4,060
9	5,580	5,600	12,400	10,600	13,200	14,500	13,600	14,800	14,100	9,010	5,640	4,050
10	5,570	5,620	11,300	11,300	13,400	14,500	13,800	14,100	12,500	10,400	5,600	4,090
11	5,950	5,640	9,620	11,500	13,500	15,800	14,900	13,200	11,900	10,400	5,590	4,100
12	6,330	5,820	9,880	12,200	12,900	17,000	15,600	12,800	12,400	10,600	5,210	4,060
13	5,970	6,080	10,600	12,700	12,600	20,400	15,300	12,600	12,200	11,000	4,510	4,060
14	5,770	6,540	11,800	12,900	12,500	19,300	14,700	13,200	11,300	10,300	6,390	4,050
15	5,660	6,500	11,000	13,100	12,300	27,800	14,300	14,100	11,600	10,100	5,190	4,020
16	5,590	6,290	8,810	13,100	12,100	31,200	14,900	13,900	10,800	9,770	4,680	4,020
17	5,570	7,890	7,950	13,600	12,100	25,800	15,400	13,300	9,690	10,800	6,050	4,540
18	5,550	8,400	7,930	15,500	14,800	20,800	15,600	12,300	9,720	9,460	5,370	5,360
19	5,510	7,940	7,920	20,700	15,600	18,700	15,800	12,000	11,900	7,940	4,160	5,360
20	5,500	7,100	6,950	27,000	14,100	18,200	19,300	11,900	15,300	7,690	4,020	5,370
21	5,500	6,860	6,900	32,600	15,300	18,600	19,500	12,900	15,900	6,760	4,120	5,340
22	5,590	13,200	6,840	26,800	27,900	18,600	17,400	14,000	15,300	6,460	4,110	4,940
23	6,040	32,600	6,250	23,100	25,300	15,700	17,400	14,500	13,400	6,640	4,010	4,500
24	6,000	22,000	5,870	20,500	21,000	13,200	17,300	14,400	12,000	7,150	3,460	5,120
25	5,780	17,300	5,940	22,400	21,100	12,500	18,000	14,200	13,300	7,110	3,380	5,130
26	5,680	13,600	6,120	20,300	20,200	12,100	19,400	12,000	13,100	7,070	3,360	5,130
27	5,610	12,300	6,330	17,900	18,900	11,400	18,100	11,800	11,900	6,330	4,010	5,110
28	5,600	14,100	13,100	16,200	17,700	12,600	16,200	11,800	12,300	5,240	4,160	5,080
29	5,670	15,100	20,000	15,000	16,300	15,500	15,600	12,800	12,300	4,530	4,160	5,070
30	5,650	14,600	22,600	19,500	---	27,000	16,400	13,000	9,820	4,430	4,160	5,080
31	5,790	---	16,500	18,500	---	22,400	---	12,800	---	4,590	4,140	---
Total	173,850	288,500	327,310	494,700	458,300	546,900	500,400	442,500	372,030	252,920	145,370	132,640
Mean	5,608	9,617	10,560	15,960	15,800	17,640	16,680	14,270	12,400	8,159	4,689	4,421
Max	6,330	32,600	22,600	32,600	27,900	31,200	20,100	19,900	15,900	11,000	6,390	5,370
Min	4,670	5,600	5,870	10,300	12,100	11,400	13,600	11,800	9,690	4,430	3,360	3,070
Ac-ft	344,800	572,200	649,200	981,200	909,000	1,085,000	992,500	877,700	737,900	501,700	288,300	263,100
Mean adjusted for change in contents in Riffe Lake and Mayfield Reservoir	3,311	9,871	9,293	16,490	16,840	17,330	18,680	16,620	13,610	7,964	3,263	2,041
CFSM adjusted for change in contents in Riffe Lake and Mayfield Reservoir	1.48	4.41	4.15	7.37	7.52	7.74	8.35	7.43	6.08	3.56	1.46	0.92
1In. adjusted for change in contents in Riffe Lake and Mayfield Reservoir	1.71	4.92	4.79	8.50	8.12	8.93	9.31	8.56	6.78	4.10	1.68	1.02
Ac-ft adjusted for change in contents in Riffe Lake and Mayfield Reservoir	203,600	587,200	571,500	1,014,000	968,900	1,066,000	1,111,000	1,022,000	809,600	489,800	200,700	121,400

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	Calendar Year 2011	Water Year 2012
Total	3,998,670	4,135,420
Mean	10,960	11,300
Max	37,600	32,600
Min	4,180	3,070
Ac-ft	7,931,000	8,203,000
Mean adjusted for change in contents in Riffe Lake and Mayfield Reservoir	10,920	11,250
CFSM adjusted for change in contents in Riffe Lake and Mayfield Reservoir	4.88	5.03
In. adjusted for change in contents in Riffe Lake and Mayfield Reservoir	66.26	68.41
Ac-ft adjusted for change in contents in Riffe Lake and Mayfield Reservoir	7,909,000	8,166,000

