

Water-Data Report 2013

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.--71 years (water years 1928-85, 2001-13), 9,207 ft³/s, 55.87 in/yr, 6,670,000 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, 47,000 ft³/s, Nov. 19, gage height, 43.89 ft; minimum discharge, 3,160 ft³/s, Aug. 23, gage height, 31.75 ft.

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DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2012 TO SEPTEMBER 2013
DAILY MEAN VALUES

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	5,110	13,100	22,300	12,900	14,600	12,800	7,690	10,700	9,520	7,700	3,480	3,380
2	5,120	10,900	23,300	13,100	11,800	10,800	7,700	11,100	9,160	8,100	3,490	3,350
3	4,840	9,720	24,300	13,800	10,600	10,500	7,670	11,100	9,430	7,370	3,480	4,080
4	4,800	9,510	25,800	12,500	9,800	9,940	8,100	10,600	11,200	5,910	3,460	4,290
5	4,780	9,070	26,300	10,900	9,350	10,800	10,400	8,790	9,690	5,440	3,580	4,330
6	4,680	8,920	23,000	10,300	9,290	11,700	14,400	11,700	9,070	5,080	4,270	7,470
7	4,770	9,100	22,700	11,100	9,260	12,200	16,700	12,400	8,460	5,020	4,270	6,140
8	4,930	8,860	22,500	12,200	8,780	10,300	16,600	10,800	7,720	6,210	4,270	4,930
9	5,140	8,630	21,200	15,200	8,420	8,870	14,400	10,800	7,330	6,920	3,670	4,710
10	5,220	8,430	20,100	16,200	8,180	10,300	14,200	10,300	7,260	6,260	3,440	5,230
11	5,240	8,310	18,400	13,200	9,010	10,100	12,800	9,220	7,650	5,040	3,420	5,180
12	5,270	10,100	18,300	12,400	7,910	10,000	12,400	9,270	7,730	4,810	3,470	4,770
13	5,450	12,600	17,600	13,100	7,940	9,130	12,500	8,560	7,270	4,740	4,080	4,310
14	5,530	12,300	17,300	14,000	7,840	8,850	11,700	8,640	7,200	4,710	4,080	3,970
15	5,870	12,200	17,300	13,900	7,660	9,020	11,800	8,040	7,040	4,970	4,120	3,760
16	6,610	12,700	18,800	13,700	7,550	9,160	12,600	7,500	6,950	6,140	4,270	3,810
17	6,080	14,200	26,800	13,600	7,570	9,570	12,600	7,510	6,940	6,420	3,870	3,830
18	5,730	15,200	23,600	12,500	7,380	9,190	12,100	7,480	7,520	5,530	3,390	3,790
19	5,910	29,400	21,200	12,000	7,200	10,200	11,100	7,480	7,470	4,660	3,380	3,720
20	6,350	35,200	28,600	11,900	7,350	14,200	12,400	7,690	6,940	4,580	3,470	3,660
21	6,500	26,100	24,100	11,900	9,110	13,800	12,000	7,880	7,070	4,590	4,030	3,670
22	6,270	22,700	19,800	13,000	9,360	11,400	15,100	9,030	7,030	4,590	4,180	3,770
23	6,280	21,000	18,400	12,700	10,900	11,100	14,500	11,000	6,960	5,020	3,630	4,210
24	6,170	23,400	18,400	12,000	10,200	11,700	13,200	10,000	7,630	6,760	3,340	4,150
25	6,140	21,000	18,200	11,800	10,000	12,700	12,100	8,870	7,960	6,350	3,340	4,250
26	6,030	19,400	18,100	9,600	10,800	12,100	10,900	8,320	7,350	5,250	3,540	4,770
27	6,080	18,300	17,000	9,490	11,600	10,100	8,760	8,620	7,280	3,850	4,200	5,700
28	7,750	17,500	16,100	9,850	11,800	8,100	8,580	10,900	7,290	3,530	4,240	8,450
29	11,000	17,100	15,500	15,000	---	7,470	10,500	10,800	7,510	3,530	4,280	15,800
30	12,000	17,500	15,100	16,300	---	7,370	11,100	11,200	7,450	3,500	4,360	18,700
31	13,500	---	14,300	18,800	---	7,480	---	10,100	---	3,480	3,490	---
Total	195,150	462,450	634,400	398,940	261,260	320,950	356,600	296,400	235,080	166,060	117,590	162,180
Mean	6,295	15,420	20,460	12,870	9,331	10,350	11,890	9,561	7,836	5,357	3,793	5,406
Max	13,500	35,200	28,600	18,800	14,600	14,200	16,700	12,400	11,200	8,100	4,360	18,700
Min	4,680	8,310	14,300	9,490	7,200	7,370	7,670	7,480	6,940	3,480	3,340	3,350
Ac-ft	387,100	917,300	1,258,000	791,300	518,200	636,600	707,300	587,900	466,300	329,400	233,200	321,700
Mean adjusted for change in contents in Riffe Lake and Mayfield Reservoir	5,421	14,810	18,340	10,920	9,446	10,330	15,980	13,620	9,215	4,439	2,494	5,206
CFSM adjusted for change in contents in Riffe Lake and Mayfield Reservoir	2.42	6.62	8.19	4.88	4.22	4.62	7.14	6.09	4.12	1.98	1.11	2.33
In. adjusted for change in contents in Riffe Lake and Mayfield Reservoir	2.79	7.38	9.45	5.63	4.39	5.32	7.96	7.02	4.59	2.29	1.29	2.59
Ac-ft adjusted for change in contents in Riffe Lake and Mayfield Reservoir	333,400	881,200	1,128,000	671,700	524,500	635,100	950,500	837,900	548,200	273,000	153,400	309,700

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	Calendar Year 2012	Water Year 2013
Total	4,637,760	3,607,060
Mean	12,670	9,882
Max	35,200	35,200
Min	3,070	3,340
Ac-ft	9,199,000	7,155,000
Mean adjusted for change in contents in Riffe Lake and Mayfield Reservoir	12,600	10,010
CFSM adjusted for change in contents in Riffe Lake and Mayfield Reservoir	5.63	4.47
In. adjusted for change in contents in Riffe Lake and Mayfield Reservoir	76.63	60.72
Ac-ft adjusted for change in contents in Riffe Lake and Mayfield Reservoir	9,146,000	7,247,000

