

## COWLITZ RIVER BASIN

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14243000 COWLITZ RIVER AT CASTLE ROCK, WA

LOCATION.--Lat 46°16'28", long 122°54'45", in SW  $\frac{1}{4}$  SE  $\frac{1}{4}$  sec.10, T.9 N., R.2 W., Cowlitz County, 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 mi<sup>2</sup>. 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 mi<sup>2</sup> was noncontributing. From July 7, 1981 (Coldwater Lake, station 14240446, release) to October 1981, the noncontributing portion was approximately 21 mi<sup>2</sup>. From October 1981 (Coldwater Lake release) to November 1982, the noncontributing portion was approximately 19.7 mi<sup>2</sup>. Since November 1982 (Spirit Lake, station 14240304, release), effectively all areas are contributing.

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.--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.--60 years (water years 1928-85, 2001-02), 9,213 ft<sup>3</sup>/s, 55.90 in/yr, 6,675,000 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 ft<sup>3</sup>/s Dec. 23, 1933, gage height, 55.25 ft present datum, from rating curve extended above 80,000 ft<sup>3</sup>/s; maximum gage height, 55.76 ft Feb. 8, 1996; minimum discharge, 998 ft<sup>3</sup>/s Nov. 7, 8, 1935.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 51,400 ft<sup>3</sup>/s Dec. 17, gage height, 44.78 ft; minimum discharge, 2,900 ft<sup>3</sup>/s Oct. 7.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3050	5310	26100	9040	14300	11700	8440	11800	13300	11600	3700	3500
2	3040	4830	24000	10000	10800	10600	8360	12000	11900	12200	3680	3630
3	3030	4420	21000	9700	10200	8720	8190	11100	12500	11400	3670	4690
4	2970	4110	21400	9330	10700	7800	9010	9250	12600	9830	3680	5110
5	2960	4070	21000	9140	11200	7650	9910	8540	12400	7850	3730	5110
6	2960	4620	19700	9740	11300	7980	9010	10200	12400	6590	3750	5050
7	2980	4790	18700	21500	12900	7820	8550	11700	12200	6560	3680	4010
8	3010	4660	14300	33800	15000	7610	9680	11600	12200	7570	3650	3590
9	3030	4580	13000	25600	12200	7490	10300	11500	12000	8100	3640	4230
10	3040	4510	13200	21300	10700	7860	12000	10400	12200	7200	3620	5080
11	3210	4460	14500	19300	10200	13500	12800	8720	12600	7160	3620	5090
12	3140	4470	14500	18900	9330	18000	13000	7550	12600	6740	4190	5080
13	3240	4760	18400	18300	8820	15000	13400	9480	12700	6400	4900	5070
14	3230	14500	31500	17500	8390	13500	19600	11600	12800	6380	4900	4150
15	3250	14700	24400	17000	8080	12000	17400	11500	12200	6320	4900	3540
16	3170	11400	31000	16700	8070	11300	16400	11500	12600	6260	4890	4210
17	3160	8150	41600	17000	7980	12400	15300	10700	12800	5360	4160	5130
18	3130	7000	27500	16600	7870	12600	14500	9030	13400	4970	3580	5130
19	3110	7510	24200	17200	8590	15600	13700	8010	12700	4930	4130	5090
20	3100	11300	21600	17900	8820	17300	12300	10300	12000	4270	4860	5070
21	3110	12900	19600	18800	11200	15900	10500	12000	10200	4000	4870	4240
22	3210	15400	18200	18300	13600	15100	11200	10500	9410	4540	4870	3540
23	3950	17800	14600	18000	14100	13200	13200	9520	10000	4780	4820	4110
24	4190	13700	13500	19400	14000	11200	13400	8660	11100	4780	3810	e4900
25	3870	11400	10400	31300	12100	12000	12400	7790	13000	4770	3540	e4200
26	3730	12100	9670	25900	13500	12600	11200	7660	13100	4470	4090	3710
27	3770	14800	9360	21400	12700	12400	9590	7750	12400	3810	4850	3690
28	3940	18000	9430	19500	12100	12300	8350	9440	11700	3780	4860	3570
29	3680	23100	9130	18100	---	11100	9790	13400	12400	3780	4850	3560
30	3740	22600	8880	14700	---	9230	11800	14700	11500	3750	4840	3740
31	5050	---	8890	14400	---	8530	---	15900	---	3720	4050	---
TOTAL	104050	295950	573260	555350	308750	359990	353280	323800	364910	193870	130380	130820
MEAN	3356	9865	18490	17910	11030	11610	11780	10450	12160	6254	4206	4361
MAX	5050	23100	41600	33800	15000	18000	19600	15900	13400	12200	4900	5130
MIN	2960	4070	8880	9040	7870	7490	8190	7550	9410	3720	3540	3500
AC-FT	206400	587000	1137000	1102000	612400	714000	700700	642300	723800	384500	258600	259500
MEAN†	2942	12620	18670	17260	12110	11550	15330	12250	13000	5762	2514	1875
CFMS†	1.31	5.64	8.34	7.71	5.41	5.16	6.85	5.47	5.81	2.57	1.12	0.84
IN.†	1.52	6.29	9.62	8.89	5.64	5.95	7.64	6.31	6.48	2.97	1.30	0.93
AC-FT†	180900	750900	1148000	1061000	672300	710400	912200	753100	773800	354300	154600	111600

CAL YR 2001 TOTAL 2208160 MEAN 6050 MAX 41600 MIN 2890 AC-FT 4380000 MEAN† 6926 CFMS† 3.09 IN.† 42.02 AC-FT† 5014000  
WTR YR 2002 TOTAL 3694410 MEAN 10120 MAX 41600 MIN 2960 AC-FT 7328000 MEAN† 10480 CFMS† 4.68 IN.† 63.58 AC-FT† 7584000

† Adjusted for change in contents in Riffe Lake and Mayfield Reservoir.

e Estimated