

WILLAPA RIVER BASIN

12013500 WILLAPA RIVER NEAR WILLAPA, WA

LOCATION.--Lat 46°39'04", long 123°39'05", in SW 1/4 SW 1/4 sec.35, T.14 N., R.8 W., Pacific County, Hydrologic Unit 17100106, on right bank 2,150 ft downstream from Mill Creek, 1.8 mi southeast of Willapa, and at mile 17.8.

DRAINAGE AREA.--130 mi².

PERIOD OF RECORD.--August to October 1947, July 1948 to December 1954, water years 1955-56, 1958-59 (annual maximum), April 1961 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 3.57 ft above NGVD of 1929. Aug. 26 to Oct. 16, 1947, water-stage recorder at site 2,060 ft upstream at different datum. July 28, 1948, to Dec. 2, 1954, water-stage recorder, water years 1955-56, 1958-59, nonrecording gage, and Apr. 1, 1961, to Apr. 14, 1974, water-stage recorder at site 2,000 ft upstream at datum 2.12 ft higher.

REMARKS.--Records good. Some diversion for domestic use and irrigation upstream from station. No regulation. U.S. Geological Survey satellite telemeter at station. Chemical analyses October 1965 to September 1986.

AVERAGE DISCHARGE.--47 years (water years 1949-1954, 1962-2002), 641 ft³/s, 66.97 in/yr, 464,200 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 14,800 ft³/s Dec. 20, 1994, from rating curve extended above 8,000 ft³/s, gage height, 27.28 ft; minimum discharge, 13 ft³/s Aug. 20, 1967.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 5,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov. 15	0000	9,140	20.58	Dec. 17	0200	*11,000	23.17
Nov. 22	1500	5,090	13.92	Dec. 17	0300	--	*23.18
Dec. 01	2100	7,730	18.40	Jan. 07	2100	9,100	20.52
Dec. 14	0000	7,190	17.53	Jan. 25	0800	7,680	18.33

Minimum discharge, 18 ft³/s Sept. 24-28.

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	53	659	6690	483	1950	552	428	303	167	175	41	23
2	52	533	5520	592	1590	502	392	290	150	144	41	24
3	51	412	3120	567	1480	459	360	276	139	125	40	26
4	48	337	2720	595	1270	423	336	258	133	116	41	26
5	46	317	2410	577	1160	407	318	273	133	114	51	23
6	45	277	2100	1490	1320	396	318	291	136	102	64	24
7	47	240	1770	7670	1670	369	324	274	121	92	52	25
8	50	218	1510	6540	1990	358	296	244	117	90	45	25
9	50	205	1360	3340	1760	370	347	230	116	86	42	28
10	55	190	1210	2140	1520	896	694	217	107	79	39	28
11	94	178	1200	1590	1350	3120	667	206	100	73	39	26
12	78	177	1170	1840	1110	2950	836	196	95	71	36	24
13	119	260	3430	1630	959	2440	1210	191	90	69	33	23
14	114	5640	5610	1360	827	2150	2950	199	85	67	30	23
15	108	6250	3520	1130	730	1730	2320	182	85	64	28	22
16	91	3550	7130	971	710	1480	2170	171	82	62	28	24
17	85	2180	8450	863	634	1280	1880	167	85	61	27	27
18	76	1480	4340	751	599	1210	1480	160	111	60	27	27
19	74	1370	3190	813	819	1700	1170	156	111	60	28	25
20	79	2730	2370	1450	745	2030	963	162	91	60	27	23
21	76	3310	1800	1520	1500	1610	803	160	82	55	28	23
22	121	4450	1420	1390	1480	1280	694	158	77	52	30	23
23	363	3980	1140	1320	1290	1070	603	149	73	49	29	21
24	272	2470	942	3550	1110	911	534	139	72	48	28	19
25	307	1700	801	6790	925	787	481	132	67	47	27	18
26	260	1270	697	4100	797	685	449	128	64	48	27	19
27	299	1020	625	2550	693	641	437	127	62	48	27	18
28	298	2250	606	1810	616	615	383	179	83	46	25	19
29	246	4250	534	1410	---	561	347	354	493	47	24	22
30	217	3510	486	1300	---	509	323	245	244	46	24	60
31	695	---	458	2060	---	466	---	192	---	44	23	---
TOTAL	4569	55413	78329	64192	32604	33957	24513	6409	3571	2300	1051	738
MEAN	147	1847	2527	2071	1164	1095	817	207	119	74.2	33.9	24.6
MAX	695	6250	8450	7670	1990	3120	2950	354	493	175	64	60
MIN	45	177	458	483	599	358	296	127	62	44	23	18
AC-FT	9060	109900	155400	127300	64670	67350	48620	12710	7080	4560	2080	1460
CFSM	1.13	14.2	19.4	15.9	8.96	8.43	6.29	1.59	0.92	0.57	0.26	0.19
IN.	1.31	15.86	22.41	18.37	9.33	9.72	7.01	1.83	1.02	0.66	0.30	0.21

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1949 - 2002, BY WATER YEAR (WY)

	MEAN	MAX	MIN	(WY)
MEAN	273	1001	1509	1417
MAX	1187	2270	2844	3115
(WY)	1998	1984	1995	1953
MIN	25.6	65.1	240	213
(WY)	1988	1994	1977	1993

SUMMARY STATISTICS

	FOR 2001 CALENDAR YEAR	FOR 2002 WATER YEAR	WATER YEARS 1949 - 2002
ANNUAL TOTAL	228406	307646	
ANNUAL MEAN	626	843	641
HIGHEST ANNUAL MEAN			1048
LOWEST ANNUAL MEAN			294
HIGHEST DAILY MEAN	8450	Dec 17	12800
LOWEST DAILY MEAN	39	Aug 20	14
ANNUAL SEVEN-DAY MINIMUM	41	Aug 15	16
ANNUAL RUNOFF (AC-FT)	453000	610200	464200
ANNUAL RUNOFF (CFSM)	4.81	6.48	4.93
ANNUAL RUNOFF (INCHES)	65.36	88.03	66.97
10 PERCENT EXCEEDS	1200	2210	1630
50 PERCENT EXCEEDS	337	290	300
90 PERCENT EXCEEDS	62	27	37