



Figure 10. Location of surface-water stations in the Quinault, Queets, Hoh, and Quillayute River Basins.

12039500 QUINAULT RIVER AT QUINAULT LAKE, WA

LOCATION.--Lat 47°27'28", long 123°53'17", in SW¼NE¼, sec.25, T.23 N., R.10 W., Grays Harbor County, Hydrologic Unit 17100102, Quinault Indian Reservation, on left bank at outlet of Quinault Lake, 50 ft downstream from Olympic Highway bridge on U.S. Highway 101, 2.0 mi southwest of Quinault, and at mile 33.4.

DRAINAGE AREA.--264 mi².

PERIOD OF RECORD.--October 1911 to current year. Monthly discharge for some months during the 1923-25, 1933 water years, published in WSP 1316.

REVISED RECORDS.--WSP 442: Drainage area. WSP 1286: 1915-16(M), 1934, 1936-39(M). WSP 1316: 1923, 1925, 1933. WSP 1635: 1917.

GAGE.--Water-stage recorder. Datum of gage is 178.44 ft above NGVD of 1929. Prior to Sept. 30, 1916, nonrecording gages at sites within 4 mi northeast of present site, at different datum. Oct. 1, 1916, to May 2, 1935, water-stage recorder at site 300 ft downstream from present site at datum 0.36 ft higher than present datum.

REMARKS.--Records good except estimated daily discharges, which are fair. Flow affected by natural storage in Quinault Lake. No diversions upstream from station. Chemical analyses July 1959 to June 1960, October 1962 to September 1970 (partial-record station), October 1971 to September 1974. U.S. Geological Survey satellite telemeter at station.

AVERAGE DISCHARGE.--93 years (water years 1912-2004), 2,865 ft³/s, 147.37 in/yr, 2,076,000 acre-ft/yr. Includes mean discharges for water years 1923-25, 1933, which were estimated for WSP 1316.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 50,200 ft³/s, Nov. 4, 1955, gage height, 20.51 ft; minimum daily discharge, 250 ft³/s, Oct. 29, 30, 1987.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in November 1909 reached a stage of approximately 22 ft, present datum, discharge, 52,600 ft³/s.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 12,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct 17	2100	35,800	16.70	Nov 19	0500	28,000	14.44
Oct 21	0200	*41,200	*18.21	Nov 29	0800	12,700	9.52

Minimum daily discharge, 350 ft³/s, Oct. 5.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e370	2,360	5,960	2,240	6,650	2,020	2,880	1,960	2,510	1,450	612	e1,300
2	e365	2,180	4,720	2,080	5,180	1,890	2,570	2,090	2,320	1,410	597	e1,300
3	e360	2,010	5,310	1,950	4,420	1,810	2,340	2,190	2,180	1,370	589	e1,100
4	e355	1,870	4,770	1,810	3,920	1,790	2,210	2,210	2,140	1,310	585	e1,000
5	e350	1,740	4,940	1,680	3,470	1,930	2,120	2,220	2,260	1,250	582	e900
6	e380	1,640	e7,600	1,610	3,250	2,090	2,030	2,100	2,660	1,210	637	e860
7	420	1,550	7,300	1,690	3,380	2,670	1,960	1,960	2,750	1,180	1,050	e820
8	513	1,480	5,790	2,960	3,140	3,840	1,900	1,940	2,540	1,140	1,160	e800
9	874	1,420	4,660	4,510	2,840	3,990	1,850	1,910	2,430	1,090	1,110	832
10	1,180	1,430	e3,900	5,830	2,590	3,690	1,830	1,830	2,330	1,050	1,020	840
11	1,200	1,960	e3,400	6,030	2,390	3,210	1,870	1,760	2,210	1,040	935	1,920
12	2,400	2,060	e3,300	5,060	2,250	2,820	2,000	1,720	2,050	1,010	870	2,260
13	4,110	1,900	e3,200	5,060	2,140	2,520	2,030	1,680	2,340	978	820	2,120
14	3,290	1,750	e3,100	7,160	2,160	2,290	2,030	1,640	2,620	955	782	2,310
15	2,570	1,710	e3,000	10,300	2,680	2,110	1,990	1,630	2,530	938	752	2,600
16	9,090	2,070	3,160	8,610	3,330	1,970	1,910	1,610	2,340	923	728	2,930
17	34,500	3,870	4,080	6,310	3,830	1,850	1,810	1,590	2,190	907	712	3,190
18	25,900	16,200	3,900	5,260	4,460	1,850	1,730	1,600	2,140	887	702	3,360
19	15,300	24,500	3,460	4,890	4,750	1,980	1,690	1,700	2,100	873	700	3,110
20	20,400	13,700	3,350	4,340	4,090	1,920	1,960	1,750	2,030	881	700	2,700
21	34,700	8,120	3,440	3,740	3,470	1,840	2,170	1,790	1,980	857	712	2,330
22	18,600	5,620	3,200	3,270	2,990	1,810	2,150	1,820	1,980	833	780	2,050
23	12,100	4,460	2,920	3,050	2,650	1,870	2,050	1,830	1,980	792	848	1,860
24	8,260	4,200	3,280	2,920	2,450	2,180	1,970	1,770	1,960	757	892	1,690
25	6,070	4,160	4,160	2,770	2,530	2,900	1,860	1,710	1,900	778	1,190	1,550
26	4,740	4,120	4,040	2,700	2,510	3,830	1,830	1,770	1,820	767	2,860	1,430
27	3,930	3,680	3,600	2,850	2,420	4,180	1,980	2,040	1,710	693	e2,500	1,340
28	3,470	5,290	3,270	3,620	2,290	3,830	2,070	2,490	1,610	678	e2,000	1,250
29	3,220	11,900	2,920	5,030	2,160	3,360	1,990	2,510	1,530	661	e1,700	1,170
30	2,900	8,530	2,600	10,900	---	3,270	1,910	2,540	1,490	644	e1,550	1,120
31	2,600	---	2,400	9,160	---	3,200	---	2,680	---	628	e1,450	---
TOTAL	224,517	147,480	124,730	139,390	94,390	80,510	60,690	60,040	64,630	29,940	32,125	52,042
MEAN	7,242	4,916	4,024	4,496	3,255	2,597	2,023	1,937	2,154	966	1,036	1,735
MAX	34,700	24,500	7,600	10,900	6,650	4,180	2,880	2,680	2,750	1,450	2,860	3,360
MIN	350	1,420	2,400	1,610	2,140	1,790	1,690	1,590	1,490	628	582	800
AC-FT	445,300	292,500	247,400	276,500	187,200	159,700	120,400	119,100	128,200	59,390	63,720	103,200
CFSM	27.4	18.6	15.2	17.0	12.3	9.84	7.66	7.34	8.16	3.66	3.93	6.57
IN.	31.64	20.78	17.58	19.64	13.30	11.34	8.55	8.46	9.11	4.22	4.53	7.33

QUINALT RIVER BASIN

12039500 QUINALT RIVER AT QUINALT LAKE, WA—Continued

DISCHARGE, CUBIC FEET PER SECOND—CONTINUED
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP		
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1912 - 2004, BY WATER YEAR (WY)														
MEAN	2,325	4,227	4,890	4,320	3,811	2,988	2,662	2,815	2,741	1,787	941	1,006		
MAX	7,242	11,220	10,390	11,390	8,244	7,752	4,484	4,575	5,116	3,775	2,491	3,573		
(WY)	(2004)	(1991)	(1980)	(1953)	(1961)	(1972)	(1943)	(1948)	(1956)	(1999)	(1999)	(1920)		
MIN	266	410	1,676	1,177	673	1,162	1,182	1,635	982	585	422	367		
(WY)	(1988)	(1937)	(1986)	(1937)	(1929)	(1912)	(1912)	(1920)	(1992)	(1926)	(1944)	(1998)		
SUMMARY STATISTICS														
	FOR 2003 CALENDAR YEAR					FOR 2004 WATER YEAR			WATER YEARS 1912 - 2004					
ANNUAL TOTAL	1,244,554					1,110,484								
ANNUAL MEAN	3,410					3,034			2,869					
HIGHEST ANNUAL MEAN									4,072					
LOWEST ANNUAL MEAN									1,785					
HIGHEST DAILY MEAN	34,700					Oct 21			34,700		Oct 21		42,600	Mar 19, 1997
LOWEST DAILY MEAN	350					Oct 5			350		Oct 5		250	Oct 29, 1987
ANNUAL SEVEN-DAY MINIMUM	364					Sep 29			371		Oct 1		254	Oct 24, 1987
ANNUAL RUNOFF (AC-FT)	2,469,000					2,203,000			2,079,000					
ANNUAL RUNOFF (CFSM)	12.9					11.5			10.9					
ANNUAL RUNOFF (INCHES)	175.37					156.48			147.67					
10 PERCENT EXCEEDS	7,510					5,040			5,520					
50 PERCENT EXCEEDS	2,070					2,100			2,170					
90 PERCENT EXCEEDS	444					833			663					

e Estimated

12040500 QUEETS RIVER NEAR CLEARWATER, WA

LOCATION.--Lat 47°32'17", long 124°18'52", in NE ¼ SW ¼ sec.36, T.24 N., R.13 W., Jefferson County, Hydrologic Unit 17100102, Quinault Indian Reservation, on right bank 2.4 mi downstream from mouth of Clearwater River, 0.8 mi east of Queets, and at mile 4.6.

DRAINAGE AREA.--445 mi².

PERIOD OF RECORD.--September 1930 to November 1949, water years 1950-67 (annual maximum), April 1974 to current year.

REVISED RECORDS.--WSP 1316: 1931-49(m).

GAGE.--Water-stage recorder. Datum of gage is 14.5 ft above NGVD of 1929 (river-profile survey). Sept. 15, 1930, to Jan. 22, 1935, at datum 4.0 ft higher.

REMARKS.--No estimated daily discharges. Records good. No regulation or diversion upstream from station. U.S. Geological Survey satellite telemeter at station. Chemical analyses October 1977 to September 1993.

AVERAGE DISCHARGE.--49 years (water years 1931-49, 1975-2004), 4,364 ft³/s, 133.24 in/yr, 3,161,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 133,000 ft³/s Dec. 15, 1999, gage height, 27.18 ft, minimum discharge, 300 ft³/s Oct. 21-25, 29, 1987.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 42,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct 17	0330	*83,300	*23.69	Nov 18	0630	57,500	20.50
Oct 21	0030	80,800	23.41	Nov 28	1900	68,100	21.88

Minimum discharge, 384 ft³/s, Oct. 4, 5, 6, gage height, 6.23 ft.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	415	2,710	7,080	3,290	8,930	2,390	3,350	1,600	2,260	1,200	603	1,220
2	402	2,540	6,760	2,890	7,300	2,190	2,910	1,690	2,100	1,180	590	1,290
3	397	2,320	9,130	2,670	6,380	2,280	2,640	1,660	1,870	1,200	597	1,120
4	392	2,140	6,010	2,410	5,870	2,940	2,510	1,650	1,820	1,110	656	1,010
5	386	2,000	10,000	2,180	4,870	4,690	2,320	1,760	2,040	1,020	626	942
6	490	1,880	15,200	2,280	5,930	4,300	2,160	1,460	3,760	1,040	848	880
7	1,540	1,790	9,660	6,220	6,010	11,900	2,070	1,350	3,010	1,070	2,470	830
8	1,420	1,720	7,010	13,300	4,900	9,280	1,970	1,480	2,330	967	1,030	821
9	2,550	1,640	5,550	9,580	4,140	6,190	1,870	1,520	2,240	926	787	1,060
10	2,600	2,050	4,710	11,700	3,620	4,640	1,830	1,390	2,060	929	700	991
11	1,750	6,110	4,280	8,080	3,240	3,730	1,860	1,320	1,900	982	657	6,750
12	8,060	3,330	6,030	6,730	3,020	3,220	1,930	1,290	1,750	904	622	2,990
13	5,960	2,610	4,930	7,560	2,780	2,840	1,800	1,240	4,500	867	605	3,040
14	2,940	2,290	5,270	11,500	3,120	2,610	1,780	1,200	3,640	885	591	3,800
15	2,260	3,080	5,760	13,700	5,810	2,390	1,760	1,230	2,790	864	582	5,490
16	37,200	7,550	7,920	8,690	6,110	2,190	1,660	1,170	2,330	864	573	4,550
17	58,100	11,500	8,120	6,230	5,970	2,070	1,600	1,150	2,120	835	556	6,850
18	21,300	44,400	5,580	6,870	9,640	2,680	1,500	1,190	2,070	828	539	5,340
19	22,200	32,400	4,710	7,480	7,430	2,940	1,610	1,320	1,960	834	530	4,130
20	39,300	12,400	5,630	5,750	5,470	2,590	2,790	1,280	1,780	923	520	3,070
21	40,400	7,850	5,130	4,670	4,400	2,300	3,140	1,290	1,720	856	570	2,510
22	16,000	5,820	4,050	4,020	3,710	2,220	2,240	1,280	1,720	775	1,270	2,210
23	13,000	5,460	3,780	4,390	3,340	2,230	2,010	1,290	1,690	749	876	2,130
24	8,370	6,770	6,840	4,260	3,470	3,720	1,890	1,200	1,650	739	910	1,850
25	6,280	9,340	7,410	3,870	4,650	5,910	1,680	1,160	1,570	729	6,130	1,680
26	5,040	8,260	5,670	4,500	3,560	8,460	1,690	1,530	1,450	691	7,590	1,540
27	4,220	6,280	5,600	6,640	3,110	8,230	1,870	2,030	1,330	660	3,130	1,420
28	4,440	34,800	5,180	13,400	2,850	5,890	1,710	2,920	1,270	652	2,110	1,340
29	4,190	24,300	4,200	15,300	2,620	4,550	1,520	2,300	1,240	649	1,740	1,270
30	3,470	10,100	3,590	25,000	---	4,910	1,480	3,270	1,230	640	1,490	1,190
31	2,990	---	3,480	11,900	---	4,110	---	3,020	---	617	1,310	---
TOTAL	318,062	265,440	194,270	237,060	142,250	130,590	61,150	49,240	63,200	27,185	41,808	73,314
MEAN	10,260	8,848	6,267	7,647	4,905	4,213	2,038	1,588	2,107	877	1,349	2,444
MAX	58,100	44,400	15,200	25,000	9,640	11,900	3,350	3,270	4,500	1,200	7,590	6,850
MIN	386	1,640	3,480	2,180	2,620	2,070	1,480	1,150	1,230	617	520	821
AC-FT	630,900	526,500	385,300	470,200	282,200	259,000	121,300	97,670	125,400	53,920	82,930	145,400
CFSM	23.1	19.9	14.1	17.2	11.0	9.47	4.58	3.57	4.73	1.97	3.03	5.49
IN.	26.59	22.19	16.24	19.82	11.89	10.92	5.11	4.12	5.28	2.27	3.49	6.13

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1931 - 2004, BY WATER YEAR (WY)

	3,569	7,512	8,273	7,575	6,752	5,370	4,112	3,126	2,421	1,587	1,038	1,374
MEAN	3,569	7,512	8,273	7,575	6,752	5,370	4,112	3,126	2,421	1,587	1,038	1,374
MAX	10,260	20,100	18,140	23,500	14,040	13,360	7,093	6,263	4,642	4,543	4,396	4,531
(WY)	(2004)	(1991)	(1980)	(1935)	(1999)	(1997)	(1937)	(1948)	(1997)	(1997)	(1991)	(1997)
MIN	348	754	2,435	1,787	1,818	1,876	1,546	1,588	980	682	469	439
(WY)	(1988)	(1937)	(1986)	(1937)	(1993)	(1992)	(1998)	(2004)	(1992)	(1992)	(1938)	(1993)

QUEETS RIVER BASIN

12040500 QUEETS RIVER NEAR CLEARWATER, WA—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1931 - 2004	
ANNUAL TOTAL	1,820,899		1,603,569			
ANNUAL MEAN	4,989		4,381		4,364	
HIGHEST ANNUAL MEAN					6,595	
LOWEST ANNUAL MEAN					2,872	
HIGHEST DAILY MEAN	58,100	Oct 17	58,100	Oct 17	91,100	Mar 19, 1997
LOWEST DAILY MEAN	386	Oct 5	386	Oct 5	300	Oct 22, 1987
ANNUAL SEVEN-DAY MINIMUM	407	Sep 29	553	Aug 15	303	Oct 19, 1987
ANNUAL RUNOFF (AC-FT)	3,612,000		3,181,000		3,161,000	
ANNUAL RUNOFF (CFSM)	11.2		9.85		9.81	
ANNUAL RUNOFF (INCHES)	152.22		134.05		133.24	
10 PERCENT EXCEEDS	10,000		8,290		9,310	
50 PERCENT EXCEEDS	2,270		2,390		2,530	
90 PERCENT EXCEEDS	495		829		714	

12041200 HOH RIVER AT U.S. HIGHWAY 101, NEAR FORKS, WA

LOCATION.--Lat 47°48'25", long 124°14'59", in NE¼NE¼ sec.33, T.27 N., R.12 W., Jefferson County, Hydrologic Unit 17100101, on left bank 250 ft downstream from U.S. Highway 101, 1.0 mi downstream from Hell Roaring Creek, 11.5 mi southeast of Forks, and at mile 15.4.

DRAINAGE AREA.--253 mi².

PERIOD OF RECORD.--October 1960 to current year.

GAGE.--Water-stage recorder. Datum of gage is 163.64 ft above NGVD of 1929.

REMARKS.--Records fair, except for estimated daily discharges, which are poor. No regulation or diversion upstream from station. Chemical analyses July 1960 to September 1961, November 1961 to September 1970 (partial-record station), October 1971 to September 1974. U.S. Geological Survey satellite telemeter at station. Water temperatures November 1970 to April 1971.

AVERAGE DISCHARGE.--44 years (water years 1961-2004), 2,545 ft³/s, 136.70 in/yr, 1,844,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 62,100 ft³/s, Oct. 17, 2003, gage height, 20.20 ft, from rating curve extended above 46,000 ft³/s on basis of slope-area measurement at gage height 17.74 ft; minimum discharge, 249 ft³/s, Oct. 23, 1987, gage height, 2.13 ft.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 16,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct 17	0500	*62,100	(a) *20.20	Nov 19	0300	29,900	13.16
Oct 19	0900	16,100	9.25	Nov 28	2200	21,600	10.92
Oct 20	2330	46,400	17.01	Jan 30	0500	16,800	9.45

Minimum discharge, 465 ft³/s, Oct. 6.

(a) From floodmark.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	631	e2,250	4,180	e1,900	4,620	e1,400	1,990	e1,410	1,850	e1,450	e850	e1,280
2	565	e1,900	3,920	e1,700	3,820	e1,330	1,770	e1,550	1,830	e1,410	e830	e1,360
3	530	e1,600	4,920	e1,550	3,530	e1,500	1,650	e1,600	e1,660	e1,510	e800	e1,210
4	518	e1,450	3,720	1,920	3,230	e1,740	1,600	e1,580	1,740	e1,440	e810	e1,090
5	508	e1,300	5,350	1,980	2,750	e2,000	1,520	e1,670	2,080	e1,400	e790	e1,030
6	547	e1,200	7,440	2,150	3,250	1,820	e1,530	e1,420	2,840	e1,420	e1,030	e970
7	1,300	e1,150	5,050	3,030	3,330	4,270	e1,500	e1,300	2,180	e1,510	e2,010	e910
8	1,350	e1,150	4,040	5,190	2,750	4,060	e1,480	e1,370	1,810	e1,480	e1,220	e900
9	1,990	e1,300	3,530	4,430	2,400	3,280	e1,470	e1,390	1,930	e1,500	e1,060	e1,050
10	1,570	1,890	3,190	5,800	2,170	2,620	e1,470	e1,220	1,850	e1,530	e950	e950
11	1,110	3,550	3,020	e4,000	2,000	2,160	e1,520	e1,150	1,680	e1,540	e890	4,340
12	4,810	2,480	3,470	e3,300	1,920	1,910	e1,570	1,100	1,530	e1,460	e860	2,440
13	3,740	2,160	3,270	e3,600	1,810	1,730	e1,450	1,090	2,670	e1,420	e840	2,610
14	1,890	2,060	3,610	6,710	1,800	1,610	e1,490	1,080	2,520	e1,500	e820	3,240
15	1,560	2,270	e3,500	7,190	2,410	1,520	e1,480	1,140	2,020	e1,490	e800	3,380
16	e28,000	3,330	4,330	4,710	2,650	e1,490	e1,430	1,160	1,790	e1,530	e780	2,940
17	e40,000	5,400	4,840	3,430	2,710	e1,430	e1,390	1,250	1,790	e1,540	e760	4,210
18	14,100	20,500	3,830	3,360	3,970	1,660	e1,360	1,390	e1,900	e1,530	e740	3,070
19	12,500	18,900	3,610	3,370	3,300	1,820	e1,390	1,450	e2,050	e1,510	e710	2,480
20	24,700	7,860	3,930	2,760	2,600	1,560	e1,550	1,440	e2,000	e1,620	e680	e1,960
21	22,700	5,290	e3,200	2,370	2,230	e1,460	e1,680	1,470	1,790	e1,440	e730	e1,500
22	9,950	4,180	e2,700	2,130	1,990	e1,420	e1,490	1,460	1,940	e1,360	e1,160	e1,380
23	8,040	3,770	3,010	2,130	1,850	e1,430	e1,450	1,460	2,120	e1,250	e1,020	e1,310
24	5,160	4,000	4,230	2,110	1,910	2,160	e1,390	1,430	2,280	e1,210	e1,130	e1,270
25	e4,300	4,740	4,440	1,940	2,090	2,780	e1,330	1,450	2,320	e1,170	5,170	e1,270
26	e3,700	4,230	3,640	2,120	1,800	3,370	e1,330	1,650	2,310	e1,120	5,360	e1,210
27	e3,300	3,700	e3,300	2,650	1,650	3,240	e1,400	2,090	2,100	e1,050	2,670	e1,120
28	e3,600	11,300	e2,700	4,490	e1,570	2,610	e1,390	2,420	e1,840	e990	2,090	e1,050
29	e3,550	11,700	2,720	5,880	e1,510	2,260	e1,340	1,980	e1,780	e940	e1,700	1,030
30	e2,950	5,620	2,470	12,100	---	2,670	e1,300	2,170	e1,500	e930	e1,460	957
31	e2,600	---	e2,300	6,120	---	2,360	---	2,270	---	e870	e1,340	---
TOTAL	211,769	142,230	117,460	116,120	73,620	66,670	44,710	46,610	59,700	42,120	42,060	53,517
MEAN	6,831	4,741	3,789	3,746	2,539	2,151	1,490	1,504	1,990	1,359	1,357	1,784
MAX	40,000	20,500	7,440	12,100	4,620	4,270	1,990	2,420	2,840	1,620	5,360	4,340
MIN	508	1,150	2,300	1,550	1,510	1,330	1,300	1,080	1,500	870	680	900
AC-FT	420,000	282,100	233,000	230,300	146,000	132,200	88,680	92,450	118,400	83,550	83,430	106,200
CFSM	27.0	18.7	15.0	14.8	10.0	8.50	5.89	5.94	7.87	5.37	5.36	7.05
IN.	31.14	20.91	17.27	17.07	10.82	9.80	6.57	6.85	8.78	6.19	6.18	7.87

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1961 - 2004, BY WATER YEAR (WY)

MEAN	2,202	3,983	4,175	3,823	3,365	2,710	2,116	2,020	2,099	1,689	1,250	1,157
MAX	6,831	10,690	8,701	6,780	6,214	5,697	3,248	2,915	3,117	2,820	2,557	2,266
(WY)	(2004)	(1991)	(1980)	(1974)	(1982)	(1972)	(1981)	(1997)	(1964)	(1999)	(1991)	(1969)
MIN	381	1,022	1,282	992	1,121	1,261	925	1,392	1,285	1,012	760	603
(WY)	(1988)	(1994)	(1986)	(1979)	(1993)	(1992)	(1975)	(2003)	(1992)	(1992)	(1994)	(1993)

HOH RIVER BASIN

12041200 HOH RIVER AT U.S. HIGHWAY 101, NEAR FORKS, WA—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1961 - 2004	
ANNUAL TOTAL	1,091,378		1,016,586			
ANNUAL MEAN	2,990		2,778		2,545	
HIGHEST ANNUAL MEAN					3,452	
LOWEST ANNUAL MEAN					1,645	
HIGHEST DAILY MEAN	40,000	Oct 17	40,000	Oct 17	40,000	Oct 17, 2003
LOWEST DAILY MEAN	435	Sep 17	508	Oct 5	252	Oct 23, 1987
ANNUAL SEVEN-DAY MINIMUM	551	Sep 21	657	Oct 1	259	Oct 19, 1987
ANNUAL RUNOFF (AC-FT)	2,165,000		2,016,000		1,844,000	
ANNUAL RUNOFF (CFSM)	11.8		11.0		10.1	
ANNUAL RUNOFF (INCHES)	160.47		149.47		136.70	
10 PERCENT EXCEEDS	5,210		4,460		4,650	
50 PERCENT EXCEEDS	1,700		1,820		1,810	
90 PERCENT EXCEEDS	715		1,040		880	

e Estimated

12043000 CALAWAH RIVER NEAR FORKS, WA

LOCATION.--Lat 47°57'37", long 124°23'30", in NW¼SW¼, sec.4, T.28 N., R.13 W., Clallam County, Hydrologic Unit 17100101, on left bank 30 ft downstream from U.S. Highway 101 bridge, 0.8 mi northwest of Forks, and at mile 6.6.

DRAINAGE AREA.--129 mi².

PERIOD OF RECORD.--November 1897 to December 1901, October to December 1975 (discharge measurements and peak discharges), January 1976 to September 1980, March 1984 to current year. Monthly and peak discharge only, November 1897 and August 1898, published in WSP 1316. Published as Calowa River at Forks, November 1897 to December 1899; as Calowa River near Forks, 1900; and as Kalawa River near Forks, 1901.

REVISED RECORDS.--WSP 1316: 1898-1902. WSP 1736: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 201.58 ft above NGVD of 1929. November 1897 to December 1901, nonrecording gage at same site but at different datum; October to December 1975, nonrecording gage and crest-stage gage at same site and datum.

REMARKS.--No estimated daily discharges. Records good. No regulation or diversion upstream from station. Chemical analyses October 1976 to September 1978. U.S. Geological Survey satellite telemeter at station.

AVERAGE DISCHARGE.--27 years (water years 1899-1901, 1977-80, 1985-2004), 1,043 ft³/s, 109.85 in/yr, 755,600 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 37,100 ft³/s, Oct. 16, 2003, gage height, 21.27 ft, from rating curve extended above 10,000 ft³/s on basis of step-backwater analysis; minimum discharge, 15 ft³/s, Sept. 28, 1899.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 10,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct 16	2115	*37,100	*21.27	Nov 28	1745	16,500	14.89
Oct 20	1815	20,100	16.22	Jan 30	0300	11,000	12.55
Nov 18	2300	14,900	14.25				

Minimum discharge, 39 ft³/s, Oct. 4, 5, 6, gage height, 2.38 ft.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	42	579	1,720	806	2,320	575	865	215	305	141	67	204
2	41	538	1,550	723	2,010	535	747	206	257	140	65	199
3	41	497	1,710	665	1,900	555	663	201	224	150	71	172
4	40	465	1,390	586	1,760	698	596	208	202	137	78	158
5	40	438	2,170	545	1,420	1,140	541	227	223	130	69	150
6	53	414	3,430	556	1,940	1,190	495	198	466	136	96	139
7	263	396	2,450	1,420	2,100	2,580	463	191	392	138	130	131
8	272	380	1,790	3,220	1,600	2,340	429	195	319	134	86	132
9	430	364	1,390	2,590	1,250	1,570	402	201	277	130	73	165
10	341	513	1,160	3,190	1,040	1,150	379	195	255	123	67	174
11	223	1,090	1,040	2,140	901	937	361	185	237	166	63	1,100
12	1,960	704	1,300	1,760	806	800	346	174	227	134	61	529
13	1,050	589	1,250	1,750	733	696	333	168	625	118	59	608
14	503	523	1,620	2,350	716	635	327	165	512	110	57	761
15	488	845	1,890	2,840	877	568	322	159	430	107	56	1,120
16	15,900	2,150	2,510	2,030	1,110	521	311	156	366	102	54	933
17	14,000	3,730	2,370	1,460	1,240	494	314	153	318	98	53	1,160
18	4,790	11,300	1,570	1,270	1,970	623	295	147	282	94	52	899
19	6,070	7,940	1,300	1,270	1,770	662	300	142	255	103	51	680
20	10,900	3,080	1,490	1,090	1,330	621	383	138	235	128	50	541
21	6,690	1,940	1,360	946	1,060	599	384	135	219	119	64	454
22	3,410	1,420	1,100	843	888	585	316	140	206	100	179	406
23	2,950	1,330	999	821	789	550	312	137	196	91	110	389
24	1,920	1,580	1,490	775	780	830	293	130	190	86	185	340
25	1,400	2,280	1,860	708	816	1,380	272	129	183	82	991	312
26	1,090	2,040	1,500	836	713	2,050	260	168	175	79	1,270	289
27	900	1,630	1,340	1,330	671	2,290	252	186	166	76	521	271
28	916	8,630	1,200	2,900	652	1,730	243	262	159	74	357	255
29	821	5,220	1,020	4,040	617	1,300	232	224	153	72	305	242
30	702	2,490	894	7,080	---	1,240	223	348	146	69	253	230
31	626	---	876	3,230	---	1,030	---	401	---	68	218	---
TOTAL	78,872	65,095	48,739	55,770	35,779	32,474	11,659	5,884	8,200	3,435	5,811	13,143
MEAN	2,544	2,170	1,572	1,799	1,234	1,048	389	190	273	111	187	438
MAX	15,900	11,300	3,430	7,080	2,320	2,580	865	401	625	166	1,270	1,160
MIN	40	364	876	545	617	494	223	129	146	68	50	131
AC-FT	156,400	129,100	96,670	110,600	70,970	64,410	23,130	11,670	16,260	6,810	11,530	26,070
CFSM	19.7	16.8	12.2	13.9	9.56	8.12	3.01	1.47	2.12	0.86	1.45	3.40
IN.	22.74	18.77	14.05	16.08	10.32	9.36	3.36	1.70	2.36	0.99	1.68	3.79

QUILLAYUTE RIVER BASIN

12043000 CALAWAH RIVER NEAR FORKS, WA—Continued

DISCHARGE, CUBIC FEET PER SECOND—CONTINUED
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1898 - 2004, BY WATER YEAR (WY)												
MEAN	762	1,943	2,158	1,894	1,786	1,466	992	632	417	212	154	209
MAX	2,544	4,706	4,395	3,428	3,782	3,583	1,532	1,161	1,128	788	766	812
(WY)	(2004)	(1991)	(1980)	(1997)	(1999)	(1997)	(1997)	(1984)	(1900)	(1997)	(1991)	(1978)
MIN	49.3	439	585	476	405	419	389	190	124	95.9	62.9	59.0
(WY)	(1988)	(1994)	(1986)	(1979)	(1993)	(1992)	(2004)	(2004)	(1995)	(1995)	(2003)	(1998)

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1898 - 2004	
ANNUAL TOTAL	452,230		364,861			
ANNUAL MEAN	1,239		997		1,043	
HIGHEST ANNUAL MEAN					1,555	
LOWEST ANNUAL MEAN					665	
HIGHEST DAILY MEAN	18,100	Mar 13	15,900	Oct 16	22,900	Dec 14, 1979
LOWEST DAILY MEAN	40	Oct 4	40	Oct 4	15	Sep 28, 1899
ANNUAL SEVEN-DAY MINIMUM	41	Sep 29	53	Aug 14	26	Sep 22, 1899
ANNUAL RUNOFF (AC-FT)	897,000		723,700		755,600	
ANNUAL RUNOFF (CFSM)	9.60		7.73		8.08	
ANNUAL RUNOFF (INCHES)	130.41		105.22		109.85	
10 PERCENT EXCEEDS	2,740		2,110		2,420	
50 PERCENT EXCEEDS	538		500		550	
90 PERCENT EXCEEDS	58		97		94	