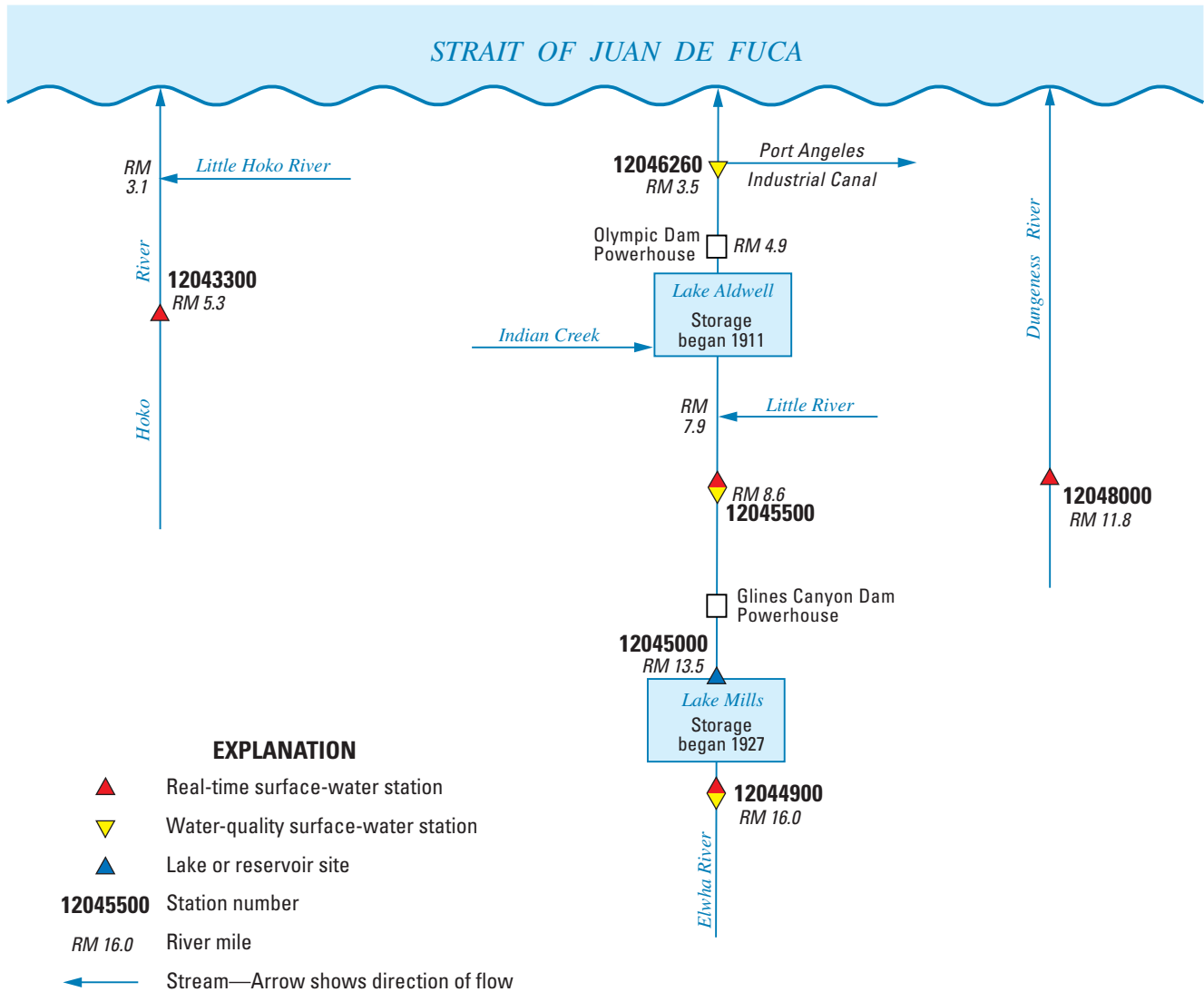


Figure 14. Location of surface-water stations in the Hoko, Elwha, and Dungeness River Basins.



**Figure 15.** Schematic diagram showing surface-water stations in the Hoko, Elwha, and Dungeness River Basins.

HOKO RIVER BASIN

12043300 HOKO RIVER NEAR SEKIU, WA

LOCATION.--Lat 48°14'30", long 124°22'57", in NE¼SW¼ sec.28, T.32 N., R.13 W., Clallam County, Hydrologic Unit 17110021, on right bank 2.2 mi upstream from Little Hoko River, 4.0 mi southwest of Sekiu, and at mile 5.3.

DRAINAGE AREA.--51.2 mi².

PERIOD OF RECORD.--July 1962 to September 1974, water years 1976-78 (annual maximum), June 1983 to September 1995 (seasonal records), October 1995 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 50 ft above NGVD of 1929, from topographic map.

REMARKS.--No estimated daily discharges. Records good, except Apr. 21 to May 22 and flows above 2,000 cfs, which are fair. No regulation or diversion upstream from station.

AVERAGE DISCHARGE.--22 years (water years 1963-74, 1996-2005), 399 ft³/s, 105.99 in/yr, 289,300 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 19,400 ft³/s, Dec. 15, 1999, gage height, 16.75 ft, from rating curve extended above 2,100 ft³/s, on basis of slope-area measurement at gage height, 12.49 ft; minimum discharge, 10 ft³/s, Sept. 5, 6, 2003.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 4,400 ft³/s and maximum (\*):

Date	Time	Discharge (ft³/s)	Gage height (ft)	Date	Time	Discharge (ft³/s)	Gage height (ft)
Nov 24	2015	*8,570	*10.99	Jan 17	2100	7,310	10.13
Dec 10	2030	6,480	9.52	Sep 29	1800	4,650	8.06

Minimum discharge, 16 ft³/s, Sept. 24-28, gage height, 0.74 ft.

DISCHARGE, CUBIC FEET PER SECOND  
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	81	575	306	213	325	151	774	120	136	51	44	29
2	75	1,850	270	192	311	190	669	140	122	53	42	26
3	71	737	257	176	273	172	797	124	112	50	40	25
4	68	476	505	163	518	142	669	130	104	47	38	26
5	82	361	462	151	501	133	544	140	101	60	37	25
6	218	397	399	144	489	137	485	113	101	210	36	23
7	156	835	421	151	464	157	421	104	93	132	35	22
8	740	591	712	141	377	150	379	101	87	365	34	21
9	853	430	760	128	316	188	317	99	82	313	33	21
10	698	344	4,910	118	275	170	285	91	79	218	33	21
11	459	284	2,280	115	246	156	424	88	85	193	33	21
12	334	243	905	165	252	144	347	84	77	204	33	20
13	261	219	642	155	243	134	363	84	81	175	31	20
14	218	205	1,520	138	238	125	331	83	84	151	29	19
15	190	520	1,070	132	212	119	301	116	76	134	29	20
16	225	461	662	384	195	158	928	119	69	124	29	18
17	218	427	493	3,730	178	156	800	110	101	110	35	18
18	384	499	427	3,510	166	135	637	200	86	99	34	18
19	501	421	374	1,760	156	141	480	292	74	90	29	20
20	438	345	339	2,120	145	1,200	383	298	66	82	28	20
21	328	291	313	1,130	137	861	322	263	63	76	27	18
22	299	287	287	2,060	130	518	276	321	74	70	26	18
23	270	383	255	1,710	122	370	241	529	67	66	25	17
24	246	4,470	233	826	118	294	219	409	59	62	25	17
25	260	2,620	474	553	113	250	200	306	58	58	24	16
26	296	988	556	436	108	635	179	244	57	55	23	16
27	241	707	408	381	104	750	161	201	61	52	23	17
28	213	505	333	320	103	582	141	171	56	50	28	18
29	197	412	298	286	---	626	134	152	54	48	41	1,640
30	401	367	267	298	---	523	129	136	52	47	44	791
31	308	---	234	362	---	429	---	143	---	45	33	---
TOTAL	9,329	21,250	21,372	22,148	6,815	9,896	12,336	5,511	2,417	3,490	1,001	3,001
MEAN	301	708	689	714	243	319	411	178	80.6	113	32.3	100
MAX	853	4,470	4,910	3,730	518	1,200	928	529	136	365	44	1,640
MIN	68	205	233	115	103	119	129	83	52	45	23	16
AC-FT	18,500	42,150	42,390	43,930	13,520	19,630	24,470	10,930	4,790	6,920	1,990	5,950
CFSM	5.88	13.8	13.5	14.0	4.75	6.23	8.03	3.47	1.57	2.20	0.63	1.95
IN.	6.78	15.44	15.53	16.09	4.95	7.19	8.96	4.00	1.76	2.54	0.73	2.18

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1962 - 2005, BY WATER YEAR (WY)

MEAN	316	716	846	868	632	537	325	175	107	67.6	43.4	72.6
MAX	907	1,706	1,376	1,414	1,410	1,140	625	383	373	296	288	322
(WY)	(1968)	(1996)	(1967)	(1997)	(1999)	(1997)	(1970)	(1974)	(1997)	(1997)	(1991)	(1968)
MIN	13.0	200	464	427	243	177	113	56.8	35.3	22.0	14.6	14.6
(WY)	(1988)	(2001)	(2001)	(1963)	(2005)	(1965)	(2004)	(2004)	(1972)	(1967)	(1967)	(1998)

## 12043300 HOKO RIVER NEAR SEKIU, WA—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1962 - 2005	
ANNUAL TOTAL	109,492		118,566			
ANNUAL MEAN	299		325		399	
HIGHEST ANNUAL MEAN					585	
LOWEST ANNUAL MEAN					231	
HIGHEST DAILY MEAN	4,910	Dec 10	4,910	Dec 10	9,320	Dec 15, 1999
LOWEST DAILY MEAN	15	Aug 19	16	Sep 25	11	Oct 10, 1987
ANNUAL SEVEN-DAY MINIMUM	16	Aug 14	17	Sep 21	11	Oct 10, 1987
ANNUAL RUNOFF (AC-FT)	217,200		235,200		289,300	
ANNUAL RUNOFF (CFSM)	5.84		6.34		7.80	
ANNUAL RUNOFF (INCHES)	79.55		86.15		105.99	
10 PERCENT EXCEEDS	629		665		967	
50 PERCENT EXCEEDS	193		171		196	
90 PERCENT EXCEEDS	31		29		29	

## 12044900 ELWHA RIVER ABOVE LAKE MILLS, NEAR PORT ANGELES, WA

LOCATION.--Lat 47°58'21", long 123°35'25", in NE¼NE¼ sec.32, T.29 N., R.7 W., Clallam County, Hydrologic Unit 17110020, Olympic National Park, on right bank 30 ft upstream from Cat Creek, 2.5 mi above Glines Canyon Dam, 12.5 mi southwest of Port Angeles, and at mile 16.0.

DRAINAGE AREA.--198 mi<sup>2</sup>.

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--March 1994 to May 1998, February 2004 to current year.

GAGE.--Water-stage recorder. Elevation of gage 580 ft above NGVD of 1929 from topographic map. Prior to February 2004, gage on left bank 0.2 mi upstream, at different datum, 580.00 ft above NGVD of 1929.

REMARKS.--Records fair except for flows above 700 ft<sup>3</sup>/s, which are poor. No regulation or diversion upstream from station. U.S. Geological Survey satellite telemeter at station.

AVERAGE DISCHARGE.--4 years (water years 1995-97, 2005), 1,433 ft<sup>3</sup>/s, 98.33 in/yr, 1,038,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 17,400 ft<sup>3</sup>/s, Nov. 8, 1995, gage height, 21.16 ft; minimum discharge, 187 ft<sup>3</sup>/s, Sept. 25, 27, 28, 2005.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 12,000 ft<sup>3</sup>/s, Dec. 10, gage height, 17.72 ft; minimum discharge, 187 ft<sup>3</sup>/s, Sept. 25, 27, 28.

DISCHARGE, CUBIC FEET PER SECOND  
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	374	1,300	1,380	1,130	1,940	1,030	2,430	1,760	1,770	633	412	268
2	360	4,310	1,300	1,060	1,880	953	2,030	1,920	1,550	588	384	267
3	349	2,070	1,230	1,000	1,750	881	1,930	1,870	1,450	561	370	256
4	337	1,630	1,290	951	1,980	819	1,710	1,870	1,350	562	372	247
5	353	1,410	1,240	917	1,770	794	1,570	1,830	1,260	586	377	243
6	504	1,370	1,160	902	1,660	771	1,610	1,780	1,150	884	377	241
7	365	1,560	1,140	903	1,550	989	1,630	1,640	1,100	592	370	239
8	1,210	1,350	1,540	879	1,460	915	1,580	1,480	1,060	945	363	242
9	1,410	1,190	1,540	839	1,390	1,120	1,420	1,440	1,010	748	361	237
10	1,090	1,080	8,440	801	1,340	968	1,320	1,870	1,010	591	356	227
11	794	998	6,780	776	1,290	910	1,440	1,710	1,050	618	341	224
12	686	938	3,970	767	1,260	896	1,310	1,600	951	644	340	223
13	628	913	3,590	736	1,210	798	1,240	1,550	980	570	339	222
14	578	1,040	5,400	707	1,140	756	1,170	1,660	922	543	335	223
15	544	1,330	3,890	712	1,080	729	1,170	2,030	838	542	333	221
16	594	1,160	e3,200	855	1,040	782	2,680	1,690	809	539	326	223
17	713	1,050	e2,900	5,120	1,020	748	1,860	1,400	1,060	522	360	221
18	760	1,360	2,920	7,450	993	701	1,490	1,940	886	519	324	216
19	876	1,180	2,750	5,750	963	745	1,330	3,120	817	506	308	216
20	812	1,030	2,350	4,800	917	2,120	1,280	2,820	825	481	307	210
21	689	986	e2,050	3,930	889	1,590	1,390	2,340	866	472	302	204
22	721	1,000	1,930	5,540	865	1,250	1,630	2,520	867	480	296	200
23	661	972	1,790	5,230	844	1,110	1,830	2,350	758	465	285	197
24	600	3,150	1,680	3,980	819	1,010	2,040	2,110	723	446	277	194
25	610	3,910	1,730	3,420	808	938	2,160	1,960	720	436	271	193
26	671	2,260	1,650	3,150	789	2,130	2,300	1,980	695	429	271	194
27	604	1,920	1,470	2,960	770	2,200	2,450	2,140	674	427	275	194
28	568	1,670	1,380	2,580	828	1,820	2,220	2,260	645	433	291	189
29	546	1,550	1,330	2,330	---	1,710	1,970	2,230	688	427	314	1,280
30	1,000	1,470	1,270	2,190	---	1,580	1,830	2,090	687	414	273	987
31	790	---	1,190	2,170	---	1,510	---	1,980	---	411	268	---
TOTAL	20,797	47,157	75,480	74,535	34,245	35,273	52,020	60,940	29,171	17,014	10,178	8,498
MEAN	671	1,572	2,435	2,404	1,223	1,138	1,734	1,966	972	549	328	283
MAX	1,410	4,310	8,440	7,450	1,980	2,200	2,680	3,120	1,770	945	412	1,280
MIN	337	913	1,140	707	770	701	1,170	1,400	645	411	268	189
AC-FT	41,250	93,540	149,700	147,800	67,920	69,960	103,200	120,900	57,860	33,750	20,190	16,860
CFSM	3.39	7.94	12.3	12.1	6.18	5.75	8.76	9.93	4.91	2.77	1.66	1.43
IN.	3.91	8.86	14.18	14.00	6.43	6.63	9.77	11.45	5.48	3.20	1.91	1.60

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1994 - 2005, BY WATER YEAR (WY)

MEAN	951	1,698	2,146	2,193	1,868	1,437	1,290	1,735	1,494	962	509	469
MAX	2,179	3,636	3,039	2,787	2,843	2,286	1,734	2,572	2,294	1,628	755	915
(WY)	(1998)	(1996)	(1996)	(1997)	(1995)	(1997)	(2005)	(1997)	(1997)	(1997)	(1997)	(1997)
MIN	438	684	1,354	1,921	1,223	1,071	763	1,171	972	549	328	283
(WY)	(1995)	(1995)	(1997)	(1996)	(2005)	(1996)	(1998)	(1996)	(2005)	(2005)	(2005)	(2005)

## 12044900 ELWHA RIVER ABOVE LAKE MILLS, NEAR PORT ANGELES, WA—Continued

SUMMARY STATISTICS	FOR 2005 WATER YEAR		WATER YEARS 1994 - 2005	
ANNUAL TOTAL	465,308			
ANNUAL MEAN	1,275		1,433	
HIGHEST ANNUAL MEAN			1,610	1997
LOWEST ANNUAL MEAN			1,275	2005
HIGHEST DAILY MEAN	8,440	Dec 10	14,300	Mar 19, 1997
LOWEST DAILY MEAN	189	Sep 28	189	Sep 28, 2005
ANNUAL SEVEN-DAY MINIMUM	194	Sep 22	194	Sep 22, 2005
ANNUAL RUNOFF (AC-FT)	922,900		1,038,000	
ANNUAL RUNOFF (CFSM)	6.44		7.24	
ANNUAL RUNOFF (INCHES)	87.42		98.33	
10 PERCENT EXCEEDS	2,280		2,670	
50 PERCENT EXCEEDS	998		1,090	
90 PERCENT EXCEEDS	294		356	

e Estimated

## 12044900 ELWHA RIVER ABOVE LAKE MILLS, NEAR PORT ANGELES, WA—Continued

## WATER-QUALITY RECORDS

## PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: April 1994 to May 1998, February 2004 to September 2005 (discontinued).

TURBIDITY: December 2003 to September 2005 (discontinued).

SUSPENDED SEDIMENT DISCHARGE: March 1994 to December 1997.

INSTRUMENTATION.--Water-quality monitor since December 2003. Temperature and turbidity sensors interfaced with an electronic data logger, with 15-minute logging interval.

## REMARKS.--

WATER TEMPERATURE: Records excellent except Nov. 14 to May 31 and June 12-19, which are good.

TURBIDITY: Records good except Mar. 11-29, which are fair.

## EXTREMES FOR PERIOD OF RECORD.--

WATER TEMPERATURE: Maximum 16.1°C, Aug. 19, 2004; minimum, 0.0°C, Jan. 30, 31, Dec. 26, 27, 29, 30, 1996, Jan. 11, 12, 1998.

TURBIDITY: Maximum 1,040 FNU, Nov. 2, Dec. 10, and Sept. 29, 2004; minimum, 0.0 FNU, July 21, 2004, Aug. 19-27, 30-31, and Sept. 6-29, 2005.

SUSPENDED SEDIMENT CONCENTRATION (March 1994 to December 1997): Maximum daily, 4,130 mg/L, Nov. 8, 1995; minimum, 1 mg/L on many days during each year.

SUSPENDED SEDIMENT DISCHARGE (April 1994 to September 1995): Maximum daily, 158,000 tons, Nov. 8, 1995; minimum daily, 0.56 tons, Oct. 13, 16, 1994 (estimated).

## EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum, 15.8°C, Aug. 15, minimum, 1.0°C, Jan. 15.

TURBIDITY: Maximum, 1,040 FNU, Nov. 2, Dec. 10, and Sept. 29; minimum, 0.0 FNU, Aug. 19-27, 30-31, and Sept. 6-29.

TEMPERATURE, WATER, DEGREES CELSIUS  
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	---	---	---	6.1	5.4	5.7	4.9	4.6	4.8	4.1	3.9	4.0
2	---	---	---	6.2	5.5	6.0	5.0	4.7	4.9	3.9	3.5	3.7
3	---	---	---	5.9	4.8	5.3	5.3	4.4	4.8	3.5	2.8	3.0
4	---	---	---	5.4	4.4	4.9	5.5	5.2	5.4	2.9	2.0	2.4
5	---	---	---	5.4	4.7	5.1	5.3	4.2	4.6	2.0	1.5	1.8
6	10.3	9.2	9.6	6.6	5.3	5.9	4.6	4.1	4.3	2.9	1.9	2.4
7	---	---	---	7.6	6.6	7.2	4.7	4.1	4.4	3.0	2.2	2.6
8	---	---	---	7.4	6.8	7.1	4.9	4.5	4.7	2.6	2.0	2.3
9	9.0	8.3	8.6	7.3	6.8	7.1	5.1	4.2	4.6	2.5	2.1	2.3
10	9.2	8.1	8.6	7.3	6.4	7.0	5.2	4.1	4.8	2.4	2.1	2.3
11	9.6	8.4	9.0	6.4	5.6	5.9	5.3	4.5	4.9	2.4	1.6	2.0
12	9.9	8.9	9.3	6.4	5.3	5.8	4.8	4.2	4.5	3.1	2.4	2.8
13	10.1	8.9	9.5	6.8	6.4	6.6	6.0	4.8	5.4	2.9	2.0	2.3
14	10.0	8.9	9.5	7.4	6.6	7.0	5.9	5.6	5.7	2.3	1.4	2.0
15	10.2	9.2	9.7	7.3	6.7	7.1	5.6	4.9	5.3	2.1	1.0	1.4
16	10.1	9.4	9.7	6.7	5.7	6.1	---	5.1	---	3.4	2.1	3.0
17	9.4	8.1	8.6	5.9	4.9	5.3	6.4	---	---	3.7	3.0	3.4
18	8.1	7.4	7.8	5.6	5.3	5.5	6.5	6.3	6.4	5.1	3.6	4.5
19	8.1	7.5	7.8	5.3	4.5	4.8	6.6	5.4	6.3	5.9	5.0	5.5
20	8.5	7.8	8.2	5.0	4.1	4.6	5.4	4.3	4.9	6.1	5.6	5.8
21	8.2	7.2	7.7	5.9	4.8	5.3	5.0	4.2	---	6.3	5.3	5.7
22	8.0	7.3	7.6	6.3	5.7	6.0	4.9	4.3	4.5	6.4	6.2	6.3
23	7.4	6.4	6.8	6.5	5.7	6.1	4.5	4.2	4.3	6.6	6.2	6.4
24	6.6	5.9	6.3	6.5	6.3	6.4	5.2	4.4	4.8	6.4	6.0	6.3
25	6.9	6.3	6.6	6.4	5.4	6.0	5.4	5.1	5.3	6.5	5.8	6.1
26	7.0	6.3	6.6	5.4	4.6	5.0	5.2	4.5	4.7	6.6	6.0	6.3
27	6.7	5.9	6.3	5.0	4.3	4.7	4.6	4.0	4.4	6.4	5.8	6.1
28	6.4	5.7	6.0	4.3	3.6	3.8	4.3	3.8	4.0	5.8	4.9	5.4
29	6.8	5.9	6.4	4.2	3.2	3.7	5.1	4.3	4.7	5.8	5.2	5.5
30	6.8	6.1	6.5	4.8	4.1	4.4	5.1	4.3	4.5	6.3	5.7	5.9
31	6.1	5.2	5.6	---	---	---	4.3	3.8	4.0	6.3	5.5	6.1
MONTH	---	---	---	7.6	3.2	5.7	---	---	---	6.6	1.0	4.1

## 12044900 ELWHA RIVER ABOVE LAKE MILLS NEAR PORT ANGELES, WA—Continued

TEMPERATURE, WATER, DEGREES CELSIUS—CONTINUED  
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	FEBRUARY			MARCH			APRIL			MAY		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	5.5	4.7	5.1	6.0	4.8	5.4	6.0	4.3	5.3	8.8	6.7	7.8
2	5.9	5.4	5.6	6.0	5.0	5.6	5.7	4.2	4.9	8.2	7.2	7.6
3	6.3	5.2	5.7	5.5	4.2	5.0	6.2	5.0	5.5	9.2	6.8	7.9
4	6.3	5.3	6.1	5.7	4.5	5.1	6.3	4.5	5.4	8.6	7.2	7.9
5	5.3	4.4	4.7	5.9	4.6	5.3	5.8	4.7	5.3	9.6	6.8	8.2
6	4.5	3.8	4.1	6.2	4.8	5.6	7.0	5.3	6.1	9.5	7.1	8.4
7	4.4	3.9	4.2	7.3	6.2	6.6	6.6	5.9	6.3	8.5	6.6	7.7
8	4.3	3.8	4.0	6.9	5.6	6.3	6.5	4.8	5.8	8.4	6.8	7.6
9	4.2	3.6	3.9	7.1	6.4	6.7	6.4	4.2	5.4	9.0	7.3	8.0
10	4.1	3.3	3.8	7.4	6.1	6.8	6.2	4.4	5.3	8.6	7.7	8.1
11	4.2	3.3	3.8	7.5	6.1	6.9	6.4	5.1	5.7	9.6	7.3	8.4
12	5.2	4.2	4.7	7.2	5.9	6.6	5.4	4.2	4.8	9.9	7.6	8.8
13	4.7	4.0	4.2	6.1	4.6	5.5	6.1	4.0	5.1	9.3	7.8	8.6
14	4.0	3.1	3.6	6.0	4.4	5.3	6.2	4.5	5.4	9.5	8.3	9.0
15	3.1	2.4	2.8	6.4	4.7	5.6	6.1	5.0	5.5	9.4	8.2	8.8
16	2.7	2.1	2.5	6.0	5.2	5.7	6.0	5.1	5.7	8.8	7.2	8.1
17	3.1	2.2	2.7	5.8	4.4	5.2	6.5	4.7	5.5	8.2	6.5	7.5
18	3.2	2.3	2.8	5.5	4.2	5.0	7.4	5.0	6.1	8.4	7.1	7.6
19	3.1	2.3	2.8	5.1	3.8	4.6	7.4	4.7	6.1	7.3	6.7	6.9
20	3.1	2.2	2.7	5.3	4.6	5.1	8.0	5.0	6.6	7.7	6.2	6.9
21	3.1	2.1	2.7	5.1	3.8	4.5	8.4	5.7	7.1	7.7	6.2	6.9
22	3.4	2.2	2.9	5.7	4.3	5.0	8.7	6.1	7.4	7.1	6.4	6.8
23	3.7	2.5	3.2	5.5	4.0	4.9	7.9	6.1	7.1	8.1	5.9	7.0
24	4.1	2.8	3.5	5.7	4.3	5.0	8.6	6.6	7.6	9.2	6.2	7.7
25	4.5	3.4	4.0	5.9	4.3	5.2	8.9	6.6	7.7	9.9	6.5	8.1
26	4.6	3.4	4.0	5.6	5.3	5.4	9.2	6.2	7.7	10.7	7.3	9.0
27	4.9	3.6	4.3	6.3	5.2	5.7	8.9	6.5	7.7	11.2	8.0	9.6
28	5.6	4.5	5.0	6.2	5.2	5.6	8.4	6.4	7.3	11.7	8.5	10.1
29	---	---	---	5.3	4.6	4.8	7.4	6.6	7.0	11.6	8.9	10.2
30	---	---	---	6.3	4.2	5.1	8.4	6.6	7.5	11.2	8.9	10.0
31	---	---	---	6.0	4.9	5.5	---	---	---	10.2	8.7	9.3
MONTH	6.3	2.1	3.9	7.5	3.8	5.5	9.2	4.0	6.2	11.7	5.9	8.2
DAY	JUNE			JULY			AUGUST			SEPTEMBER		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	9.3	7.7	8.5	12.4	9.8	11.2	15.3	12.9	13.9	13.9	11.2	12.4
2	9.7	7.9	8.8	11.6	10.2	10.8	14.3	11.3	12.8	14.2	11.7	12.7
3	10.6	7.8	9.1	12.4	9.2	10.8	14.2	10.9	12.6	13.6	11.4	12.2
4	9.4	7.8	8.7	13.0	10.2	11.5	14.6	11.4	13.0	12.5	11.3	11.8
5	8.9	7.6	8.3	11.9	10.5	11.2	15.4	11.9	13.6	12.8	10.3	11.5
6	9.1	7.1	8.1	12.1	10.5	11.3	15.6	12.6	14.0	12.8	10.0	11.2
7	9.1	7.3	8.2	12.3	9.6	11.0	15.3	12.4	13.9	12.7	10.0	11.3
8	8.7	7.9	8.3	11.4	10.4	10.8	15.4	12.3	13.8	13.4	10.5	11.7
9	9.7	7.9	8.7	11.3	9.3	10.4	15.4	12.4	13.8	12.7	10.5	11.4
10	9.5	8.0	8.8	10.7	9.5	10.2	14.9	12.5	13.6	11.8	10.4	11.0
11	9.9	8.3	9.1	11.5	9.7	10.6	14.9	12.7	13.6	12.1	10.3	11.1
12	10.6	7.8	9.1	12.1	10.0	11.0	15.0	12.2	13.5	12.6	10.2	11.2
13	10.3	8.3	9.3	13.8	10.3	11.9	15.3	12.2	13.7	12.6	10.0	11.1
14	9.6	8.1	8.9	13.4	10.2	11.9	15.6	12.5	13.9	12.6	10.1	11.2
15	10.8	7.7	9.3	12.2	10.9	11.3	15.8	12.9	14.2	12.2	10.1	11.0
16	10.4	8.5	9.4	14.0	10.6	12.1	15.4	12.8	14.0	11.8	10.5	11.0
17	10.6	8.7	9.6	14.1	10.6	12.4	15.3	13.1	14.0	11.8	9.8	10.6
18	10.2	8.9	9.6	14.5	11.2	12.9	15.4	12.3	13.7	11.9	9.9	10.8
19	11.9	8.6	10.1	14.0	11.0	12.7	14.6	11.9	13.3	12.4	10.5	11.1
20	12.6	8.9	10.7	14.0	11.0	12.6	15.1	12.1	13.4	11.7	9.5	10.5
21	11.7	10.0	11.0	14.2	11.1	12.8	14.8	12.0	13.4	10.8	8.8	9.7
22	11.6	10.2	10.8	14.3	12.0	13.0	14.9	12.3	13.5	10.6	8.4	9.3
23	12.1	8.7	10.4	14.1	11.2	12.7	14.3	11.5	12.8	10.1	7.8	8.8
24	12.1	9.6	10.9	14.1	11.1	12.7	14.1	11.0	12.4	9.9	7.4	8.6
25	13.2	9.9	11.5	14.2	11.1	12.7	13.9	10.7	12.1	10.3	7.9	8.9
26	11.7	10.0	10.4	14.3	11.2	12.8	14.0	10.8	12.3	10.7	8.2	9.3
27	10.7	9.6	10.1	14.7	11.5	13.1	14.4	11.5	12.8	10.8	8.6	9.6
28	13.1	9.3	11.0	15.2	12.1	13.6	13.7	12.2	12.8	10.4	8.3	9.3
29	13.0	10.2	11.6	14.8	12.0	13.4	13.1	11.4	12.1	10.9	9.8	10.3
30	13.3	10.6	11.8	15.0	11.9	13.5	11.9	11.2	11.5	10.8	9.9	10.5
31	---	---	---	15.0	12.1	13.7	13.9	11.2	12.2	---	---	---
MONTH	13.3	7.1	9.7	15.2	9.2	12.0	15.8	10.7	13.2	14.2	7.4	10.7



## ELWHA RIVER BASIN

12044900 ELWHA RIVER ABOVE LAKE MILLS NEAR PORT ANGELES, WA—Continued

TURBIDITY, WATER, UNFILTERED, FIELD, NEPHELOMETRIC TURBIDITY UNITS  
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN
1	1.9	0.7	1.3	740	1.0	4.2	16	6.5	9.3	7.8	4.7	6.6
2	1.5	0.7	1.3	1,040	190	630	10	4.5	7.1	7.5	4.0	5.7
3	1.5	0.4	1.1	200	44	98	9.3	4.2	6.1	6.1	3.1	5.0
4	1.2	0.4	0.6	52	25	36	11	4.3	6.4	5.4	3.4	4.4
5	5.7	0.3	0.9	29	13	21	9.1	3.8	5.8	4.6	2.3	3.8
6	19	1.8	4.7	29	12	15	6.3	2.9	4.4	4.9	2.5	3.5
7	2.1	0.7	1.4	30	14	22	14	2.8	4.5	3.9	2.1	3.4
8	220	1.0	76	20	11	14	31	4.4	18	4.2	2.3	3.1
9	67	16	31	12	6.3	10	180	7.8	12	3.5	2.2	3.1
10	31	5.7	11	8.4	5.8	7.3	1,040	170	1,030	4.0	1.8	2.8
11	8.0	3.5	4.8	7.1	4.8	5.9	1,030	610	960	3.4	1.6	2.5
12	4.6	2.2	3.3	5.7	3.9	4.8	640	280	400	3.4	1.9	2.5
13	3.6	1.8	2.6	5.0	3.5	4.1	570	200	240	3.0	1.8	2.3
14	3.1	1.7	2.3	12	3.4	5.7	770	440	580	2.8	1.4	2.1
15	2.7	1.5	2.1	38	6.4	16	470	200	300	2.3	1.4	2.0
16	5.5	1.9	3.2	21	7.1	9.5	---	---	---	8.3	2.1	4.5
17	7.7	2.0	3.5	35	4.1	6.2	---	---	---	990	4.0	840
18	7.9	2.1	3.5	35	8.7	13	100	84	94	980	560	830
19	9.8	2.1	4.1	10	4.5	6.4	94	67	79	910	340	550
20	7.1	2.0	3.5	5.6	3.4	4.3	74	44	56	380	250	320
21	2.9	1.3	2.3	4.4	2.6	3.6	---	---	---	290	140	190
22	4.5	1.4	2.2	4.1	3.0	3.5	39	26	31	820	140	350
23	3.2	1.1	1.8	5.0	2.6	3.2	29	19	24	630	240	370
24	2.1	0.6	1.4	980	3.0	210	24	17	19	260	130	180
25	8.0	0.6	1.6	980	150	370	29	16	19	160	92	120
26	2.5	0.9	1.6	160	61	94	23	13	17	110	65	84
27	---	---	---	71	32	46	16	12	13	78	41	58
28	---	---	---	38	16	25	13	8.7	11	54	28	38
29	13	0.3	1.0	24	10	17	12	6.4	9.3	37	18	27
30	18	3.4	8.1	18	7.4	13	15	5.9	8.3	35	17	22
31	4.3	1.5	2.4	---	---	---	12	6.0	7.7	33	14	20
MAX	---	---	---	1,040	190	630	---	---	---	990	560	840
MIN	---	---	---	4.1	1.0	3.2	---	---	---	2.3	1.4	2.0
	FEBRUARY			MARCH			APRIL			MAY		
1	28	12	18	21	2.4	7.0	52	9.7	30	14	6.1	10
2	21	11	15	5.3	1.9	2.7	19	7.4	12	17	6.6	11
3	18	8.0	12	2.7	1.0	1.8	12	6.3	9.7	17	7.1	11
4	45	8.0	20	3.9	0.9	1.3	8.7	3.7	6.2	28	5.9	9.9
5	25	8.8	14	1.7	0.4	1.2	6.9	3.8	4.8	16	7.5	10
6	32	7.6	13	1.4	0.6	1.0	6.4	3.5	4.7	12	7.0	9.0
7	13	6.5	9.3	4.3	0.9	2.9	7.1	3.3	4.9	12	5.4	7.6
8	9.8	4.5	7.7	3.4	1.0	1.9	7.0	3.0	3.9	8.7	4.9	6.2
9	10	5.2	7.2	5.9	2.9	4.2	4.1	2.5	3.2	7.1	4.0	5.2
10	9.1	3.1	6.4	4.1	1.3	2.3	3.3	1.7	2.7	18	4.6	11
11	7.0	3.4	5.6	2.4	1.0	1.7	12	2.5	3.5	13	5.6	8.6
12	6.8	3.5	5.2	7.1	1.3	2.1	6.1	1.9	2.8	9.0	4.9	6.6
13	7.5	3.2	4.7	2.2	0.8	1.3	4.2	1.9	2.5	8.4	4.5	5.9
14	5.6	2.5	4.4	1.7	0.6	1.0	2.9	1.5	2.1	9.8	4.4	6.6
15	8.0	2.1	3.8	1.5	0.4	0.9	5.0	1.6	2.2	26	6.4	18
16	3.8	1.8	3.1	3.5	0.6	1.5	170	4.2	70	20	5.9	9.7
17	4.2	2.1	2.8	2.0	0.4	0.9	53	12	23	8.6	4.0	6.0
18	3.2	1.9	2.5	1.1	0.3	0.7	17	6.5	11	62	4.6	11
19	3.1	1.5	2.3	22	0.4	0.8	10	5.4	8.4	110	55	83
20	5.8	1.8	2.3	85	11	37	9.6	3.0	7.3	84	38	49
21	2.9	1.3	2.2	37	5.7	12	12	3.1	7.2	45	22	31
22	3.3	1.5	2.0	9.8	3.2	5.5	16	6.3	11	46	22	32
23	4.3	1.2	2.0	5.4	2.8	3.6	18	5.9	13	41	22	26
24	5.5	1.2	2.0	3.7	1.8	2.8	22	11	15	26	15	20
25	5.6	1.5	2.1	2.9	1.6	2.2	32	12	16	20	12	15
26	5.2	1.4	2.1	120	1.9	53	36	12	22	18	11	13
27	2.3	0.9	1.6	46	11	20	39	17	27	22	11	16
28	37	1.1	2.5	16	7.1	11	38	14	21	29	14	19
29	---	---	---	22	6.0	9.1	21	10	15	32	14	21
30	---	---	---	8.6	3.4	5.6	17	7.0	11	25	12	17
31	---	---	---	10	3.1	4.5	---	---	---	19	11	15
MAX	45	12	20	120	11	53	170	17	70	110	55	83
MIN	2.3	0.9	1.6	1.1	0.3	0.7	2.9	1.5	2.1	7.1	4.0	5.2

## 12044900 ELWHA RIVER ABOVE LAKE MILLS NEAR PORT ANGELES, WA—Continued

TURBIDITY, WATER, UNFILTERED, FIELD, NEPHELOMETRIC TURBIDITY UNITS—CONTINUED  
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	JUNE			JULY			AUGUST			SEPTEMBER		
	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN
1	16	7.4	12	2.4	0.9	1.8	3.0	1.2	2.1	5.1	0.3	1.7
2	11	5.5	7.7	2.1	0.8	1.3	2.5	0.2	1.2	6.2	0.6	2.0
3	8.0	4.6	6.1	1.6	0.6	1.2	1.5	0.2	0.7	4.8	0.2	1.4
4	6.6	3.5	4.8	1.9	0.6	1.4	1.9	0.1	0.7	2.2	0.4	1.1
5	5.5	2.4	3.8	5.0	0.7	1.7	2.9	0.3	1.0	2.3	0.6	1.6
6	4.7	1.9	3.0	23	3.8	13	2.7	0.5	1.3	1.6	0.0	0.1
7	7.1	1.6	3.1	8.7	1.4	2.4	2.1	0.3	1.0	1.9	0.0	0.1
8	3.8	1.5	2.4	34	1.3	3.8	2.3	0.2	1.1	2.2	0.0	0.2
9	---	---	---	21	2.3	4.9	3.1	0.2	1.0	2.2	0.0	0.3
10	---	---	---	3.2	1.1	1.9	2.1	0.3	1.0	1.8	0.0	0.0
11	---	---	---	2.6	1.0	1.7	2.0	0.2	0.7	0.4	0.0	0.0
12	---	---	---	2.8	1.1	1.7	3.6	0.5	1.9	0.7	0.0	0.0
13	---	---	---	2.3	0.6	1.4	3.2	0.5	1.6	0.3	0.0	0.0
14	---	---	---	3.8	0.6	1.1	3.1	0.5	1.3	2.2	0.0	0.0
15	2.8	1.7	2.2	2.1	0.5	1.3	3.7	0.4	1.8	0.7	0.0	0.0
16	2.5	1.5	2.0	2.3	0.8	1.3	3.1	0.4	1.6	0.7	0.0	0.0
17	7.9	1.9	4.8	2.4	0.5	1.3	6.0	1.5	3.3	0.1	0.0	0.0
18	4.5	1.8	3.0	3.9	0.8	1.6	3.6	0.2	1.4	0.1	0.0	0.0
19	2.9	1.4	2.3	7.0	1.1	1.9	2.0	0.0	0.6	0.0	0.0	0.0
20	3.4	1.5	2.4	2.7	0.8	1.5	2.2	0.0	0.9	0.2	0.0	0.0
21	3.8	2.0	2.8	2.3	0.5	1.4	2.2	0.0	0.5	0.8	0.0	0.0
22	3.6	1.8	2.6	6.1	0.8	1.5	2.0	0.0	0.5	0.0	0.0	0.0
23	2.8	1.8	2.1	2.4	0.6	1.4	1.6	0.0	0.4	0.4	0.0	0.0
24	2.4	1.2	2.0	2.1	0.4	1.3	1.4	0.0	0.1	0.0	0.0	0.0
25	2.4	1.0	1.9	1.6	0.5	1.1	1.0	0.0	0.1	0.0	0.0	0.0
26	2.8	1.1	1.8	5.5	0.6	1.1	1.5	0.0	0.1	0.0	0.0	0.0
27	2.6	0.9	1.7	2.7	0.6	1.4	2.0	0.0	0.2	0.0	0.0	0.0
28	2.2	1.0	1.6	3.2	0.6	1.7	2.1	0.2	0.8	0.4	0.0	0.0
29	7.5	1.1	2.0	3.3	1.1	1.8	2.2	0.1	0.9	1,040	0.0	280
30	36	1.4	2.2	3.0	0.7	1.7	1.2	0.0	0.1	990	20	100
31	---	---	---	3.4	0.7	1.7	2.5	0.0	0.5	---	---	---
MAX	---	---	---	34	3.8	13	6.0	1.5	3.3	1,040	20	280
MIN	---	---	---	1.6	0.4	1.1	1.0	0.0	0.1	0.0	0.0	0.0

## 12045500 ELWHA RIVER AT MCDONALD BRIDGE, NEAR PORT ANGELES, WA

LOCATION.--Lat 48°03'18", long 123°34'55", in NE $\frac{1}{4}$ NW $\frac{1}{4}$ , sec.33, T.30 N., R.7 W., Clallam County, Hydrologic Unit 17110020, Olympic National Forest, on right bank near the site of the McDonald Bridge (removed), 0.7 mi upstream from Little River, 1.1 mi upstream of highway 101 Bridge, 4.9 mi below Glines Canyon Dam, 8 mi southwest of Port Angeles, and at mile 8.6.

DRAINAGE AREA.--269 mi.

PERIOD OF RECORD.--October 1897 to December 1901, October 1918 to current year. Published as "at McDonald" October 1897 to December 1901.

REVISED RECORDS.--WSP 1246: Drainage area. WSP 1286: 1898, 1899(M), 1900-1902, 1919, 1920-31(M), 1932, 1933(M). WSP 1566: 1957(M).

GAGE.--Water-stage recorder. Datum of gage is 200.00 ft above NGVD of 1929. Oct. 1, 1897, to Dec. 31, 1901, nonrecording gage at McDonald Bridge at different datum. Dec. 9, 1918, to May 1, 1936, water-stage recorder under McDonald Bridge at datum 7.4 ft higher.

REMARKS.--Records good, except for estimated daily discharges, which are fair. Water is diverted through Glines Canyon powerhouse and returned to river upstream from gage. Flow partly regulated by Lake Mills 4.9 mi upstream (station 12045000). Chemical analyses July 1959 to June 1960, July 1960 to September 1970 (partial-record station), October 1971 to September 1986. Water temperatures April 1976 to August 1977, October 1994 to April 1998. Suspended sediment discharge April 1994 to September 1995. Miscellaneous sediment measurements October 1995 to September 1997. Prior to 1962, published as Elwha River near Port Angeles. October 1971 to September 1974 published as Elwha River below Little River, near Port Angeles. U.S. Geological Survey satellite telemeter at station.

AVERAGE DISCHARGE.--91 years (water years 1898-1901, 1919-2005), 1,507 ft<sup>3</sup>/s, 76.08 in/yr, 1,091,800 acre-ft/yr, adjusted for storage since April 1927.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 41,600 ft<sup>3</sup>/s, Nov. 18, 1897, gage height, 14.5 ft, from graph based on gage readings, site and datum then in use, from rating curve extended above 3,300 ft<sup>3</sup>/s, on basis of two determinations of flow over dam at discharge 26,700 ft<sup>3</sup>/s and 30,100 ft<sup>3</sup>/s, referred to 1897 datum; minimum daily discharge, 10 ft<sup>3</sup>/s, Oct. 3, 1938.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 14,700 ft<sup>3</sup>/s, Dec. 10, gage height, 19.03 ft; minimum discharge, 203 ft<sup>3</sup>/s, Feb. 12, gage height, 9.71 ft.

DISCHARGE, CUBIC FEET PER SECOND  
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	453	1,170	1,060	951	1,420	843	1,950	1,600	1,550	708	476	352
2	438	4,800	986	898	1,420	700	1,620	1,740	1,370	647	464	353
3	429	1,820	928	840	1,300	737	1,490	1,700	1,280	653	427	310
4	440	1,330	976	821	1,470	650	1,340	1,670	1,210	624	404	295
5	414	1,120	942	800	1,380	643	1,210	1,680	1,150	660	451	304
6	572	1,100	881	789	1,250	643	1,240	1,590	1,090	885	459	282
7	455	1,240	855	e800	1,190	757	1,260	1,490	1,040	696	437	289
8	1,140	1,090	1,260	e770	1,090	748	1,230	1,410	1,020	805	427	289
9	1,310	940	1,240	e750	1,050	855	1,110	1,310	967	835	410	308
10	1,050	841	9,880	e720	1,020	767	1,040	1,640	960	700	438	259
11	754	787	7,300	e700	971	765	1,130	1,550	967	630	404	260
12	656	780	3,670	e700	966	744	1,020	1,450	960	724	399	269
13	640	727	3,040	e680	935	667	995	1,420	910	640	399	270
14	587	810	5,070	e650	889	656	912	1,450	938	610	399	256
15	578	1,030	3,690	e660	820	662	921	1,830	861	616	399	274
16	591	920	2,860	742	809	652	2,310	1,540	799	598	399	273
17	649	842	2,460	4,620	827	661	1,860	1,330	1,030	587	407	257
18	726	1,140	2,510	7,190	771	622	1,480	1,590	905	584	420	257
19	754	987	2,350	5,090	777	599	1,400	2,760	816	588	368	237
20	749	848	1,960	4,000	756	1,620	1,240	2,540	812	536	377	269
21	650	816	1,740	3,050	717	1,230	1,330	2,080	884	519	382	288
22	651	838	1,590	4,690	680	977	1,560	2,230	881	555	328	285
23	622	811	1,450	4,520	706	857	1,760	2,120	799	523	334	258
24	607	3,180	1,400	3,180	667	812	1,890	1,860	769	523	371	283
25	585	4,290	1,370	2,630	684	759	1,960	1,740	749	485	356	260
26	629	2,080	1,360	2,340	621	1,730	2,100	1,720	750	502	354	273
27	584	1,620	1,210	2,200	673	1,770	2,220	1,830	737	478	352	268
28	583	1,360	1,110	1,900	632	1,430	2,070	1,900	707	498	354	267
29	552	1,230	1,110	1,720	---	1,350	1,790	1,920	726	492	355	781
30	886	1,150	1,050	1,620	---	1,230	1,680	1,780	759	485	354	1,040
31	732	---	997	1,610	---	1,170	---	1,680	---	476	352	---
TOTAL	20,466	41,697	68,305	62,631	26,491	28,306	45,118	54,150	28,396	18,862	12,256	9,666
MEAN	660	1,390	2,203	2,020	946	913	1,504	1,747	947	608	395	322
MAX	1,310	4,800	9,880	7,190	1,470	1,770	2,310	2,760	1,550	885	476	1,040
MIN	414	727	855	650	621	599	912	1,310	707	476	328	237
AC-FT	40,590	82,710	135,500	124,200	52,540	56,140	89,490	107,400	56,320	37,410	24,310	19,170
CAL YR	2004	TOTAL 467,744	MEAN 1,278	MAX 9,880	MIN 414	AC-FT 927,800						
WTR YR	2005	TOTAL 416,344	MEAN 1,141	MAX 9,880	MIN 237	AC-FT 825,800						

† Adjusted for change in contents in Lake Mills.

e Estimated

## 12045500 ELWHA RIVER AT MCDONALD BRIDGE, NEAR PORT ANGELES, WA

## WATER-QUALITY RECORDS

## PERIOD OF RECORD.--

WATER TEMPERATURE: October 1994 to April 1998, April 2004 to current year.

TURBIDITY: August 2003 to current year.

SUSPENDED SEDIMENT DISCHARGE: April 1994 to September 1995. Miscellaneous sediment measurements October 1995 to September 1997.

INSTRUMENTATION.--Water-quality monitor since October 1994 to April 1998, July 2003. Temperature and turbidity sensors interfaced to an electronic data logger, with 15-minute logging interval.

## REMARKS.--

WATER TEMPERATURE: Records good.

TURBIDITY: Records good except Dec. 23-27 and Jan. 26, 27, which are fair.

## EXTREMES FOR PERIOD OF RECORD.--

WATER TEMPERATURE: Maximum 19.7°C, Aug. 24, 2005; minimum, 2.2°C, Jan. 11, 15, 2005.

TURBIDITY: Maximum, 1,030 FNU, Nov. 19, 2003; minimum, 0.0 FNU, Jul. 27, 31, Aug. 1, 16-29, 31, and Sept. 22-29, 2005.

SUSPENDED SEDIMENT CONCENTRATION (April 1994 to September 1995): Maximum daily, 233 mg/L, Dec. 20 1994; minimum 1 mg/L, Oct. 3, 14, June 30, 1995.

SUSPENDED SEDIMENT DISCHARGE (April 1994 to September 1995): Maximum daily, 7,960 tons, Dec. 20, 1994; minimum daily, 0.76 tons, Sept. 28-30, Oct. 3, 14, June 30, 1995.

## EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum, 19.7°C, Aug. 24; minimum, 2.2°C, Jan. 11 and 15.

TURBIDITY: Maximum, 840 FNU, Dec. 11; minimum, 0.0 FNU, July 27, 31, Aug. 1, 16-29, 31, and Sept. 22-29.

TEMPERATURE, WATER, DEGREES CELSIUS  
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	13.2	10.8	11.6	9.3	8.4	8.8	5.8	5.1	5.4	5.0	4.7	4.8
2	13.3	10.9	11.7	9.0	7.9	8.3	5.9	5.3	5.5	4.9	4.3	4.6
3	13.2	10.8	11.6	8.1	7.5	7.8	5.7	5.2	5.5	4.7	4.1	4.4
4	13.2	10.7	11.5	7.8	7.0	7.4	5.6	5.2	5.5	4.5	3.9	4.1
5	12.0	10.7	11.3	7.8	6.9	7.2	5.4	4.9	5.1	4.3	3.8	3.9
6	12.8	11.3	11.7	7.3	6.9	7.1	5.4	4.8	5.1	4.3	3.7	4.0
7	12.2	10.7	11.4	7.5	6.9	7.2	5.3	5.0	5.1	3.9	2.9	3.3
8	11.8	11.0	11.4	7.7	7.1	7.3	5.3	5.1	5.2	3.8	3.0	3.5
9	12.2	11.2	11.4	7.4	7.2	7.3	5.3	4.9	5.1	3.6	3.0	3.3
10	11.8	10.9	11.2	7.9	7.0	7.3	5.3	5.2	5.2	3.4	2.8	3.1
11	11.9	10.8	11.1	7.8	6.8	7.1	5.4	5.1	5.3	3.0	2.2	2.7
12	12.2	10.7	11.2	7.3	6.8	7.0	5.1	4.8	5.0	3.5	2.8	3.1
13	12.3	10.7	11.1	7.6	6.7	7.1	5.3	4.8	5.1	3.2	2.5	2.8
14	12.4	10.6	11.1	7.9	7.0	7.4	5.5	5.3	5.4	3.1	2.6	2.8
15	11.8	10.8	11.1	7.7	7.0	7.5	5.6	5.2	5.5	2.6	2.2	2.5
16	11.7	10.8	11.1	7.4	6.8	7.1	5.7	5.4	5.5	3.2	2.5	2.9
17	11.0	10.6	10.8	7.3	6.5	6.8	5.8	5.6	5.7	3.5	2.8	3.1
18	11.3	10.3	10.7	7.1	6.6	6.9	6.0	5.7	5.9	4.1	3.5	3.8
19	11.2	10.3	10.6	7.0	6.2	6.5	6.2	5.8	6.0	4.8	4.1	4.5
20	11.2	10.3	10.6	6.9	6.1	6.4	6.0	5.6	5.8	5.5	4.8	5.2
21	11.2	9.9	10.3	6.8	6.1	6.4	6.1	5.6	5.8	5.6	5.3	5.5
22	11.1	9.9	10.5	7.1	6.3	6.6	5.9	5.5	5.7	5.9	5.5	5.7
23	10.8	9.6	10	6.8	6.2	6.5	5.6	5.2	5.4	6.1	5.6	5.9
24	10.4	9.4	9.7	7.1	6.5	6.8	5.6	5.3	5.5	6.5	6.0	6.2
25	10.3	9.4	9.8	6.6	6.3	6.5	5.5	5.3	5.4	6.4	6.1	6.2
26	10.2	9.0	9.6	6.5	6.1	6.3	5.4	5.1	5.2	6.5	6.2	6.3
27	10.2	8.8	9.2	6.4	5.8	6.1	5.4	4.9	5.2	6.5	6.2	6.3
28	9.5	8.7	9.1	6.1	5.6	5.8	5.2	4.8	5.0	6.3	6.0	6.2
29	9.7	8.7	9.1	5.9	5.4	5.6	5.3	5.0	5.1	6.5	6.1	6.2
30	9.7	8.6	9.1	5.6	5.2	5.5	5.2	5.0	5.1	6.4	6.1	6.2
31	9.4	8.4	8.7	---	---	---	5.1	4.6	4.9	6.7	6.0	6.2
MONTH	13.3	8.4	10.6	9.3	5.2	6.9	6.2	4.6	5.4	6.7	2.2	4.5

## ELWHA RIVER BASIN

12045500 ELWHA RIVER AT MCDONALD BRIDGE, NEAR PORT ANGELES, WA—Continued

TEMPERATURE, WATER, DEGREES CELSIUS—CONTINUED  
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	6.4	5.8	6.0	5.4	4.2	4.6	6.9	6.0	6.3	9.6	7.8	8.5
2	6.5	5.9	6.1	5.7	4.2	4.7	6.7	5.9	6.3	8.7	8.0	8.4
3	6.4	5.9	6.1	6.1	4.3	4.8	6.5	5.8	6.1	9.7	8.0	8.6
4	6.2	5.9	6.0	5.7	4.5	5.0	7.3	5.6	6.2	9.0	8.1	8.6
5	6.2	5.6	5.9	6.0	4.6	5.1	6.6	5.9	6.2	---	8.3	---
6	6.0	5.6	5.7	8.6	4.7	5.3	7.2	6.0	6.4	10.2	8.3	9.0
7	6.1	5.2	5.5	6.7	5.0	5.4	7.0	6.0	6.4	9.8	8.4	9.0
8	5.8	5.0	5.3	6.6	---	---	7.6	6.0	6.5	9.6	8.5	8.9
9	5.9	5.0	5.2	---	---	---	7.6	5.8	6.4	---	---	---
10	5.8	4.9	5.2	---	---	---	7.3	5.9	6.4	---	---	---
11	5.7	4.7	5.0	7.1	5.1	6.0	7.5	6.1	6.6	---	---	---
12	5.4	4.8	5.0	7.8	5.1	6.0	7.4	5.8	6.3	---	---	---
13	5.4	4.7	5.0	8.1	5.2	6.2	7.2	5.7	6.2	---	---	---
14	5.6	4.4	4.8	8.0	5.5	6.3	7.3	5.5	6.2	---	---	---
15	5.4	4.2	4.6	7.6	5.4	6.2	7.0	5.8	6.3	---	---	---
16	5.3	4.1	4.4	7.0	5.7	6.4	7.0	6.2	6.5	---	---	---
17	5.3	4.0	4.3	7.9	5.9	6.6	6.9	6.0	6.3	10.1	---	---
18	5.3	3.9	4.3	7.9	5.5	6.3	7.8	5.9	6.5	10.3	9.1	9.5
19	5.1	3.8	4.2	6.9	5.5	6.1	8.0	5.9	6.6	9.7	9.1	9.4
20	5.0	3.6	4.0	6.4	6.0	6.2	8.5	6.1	6.9	9.4	8.7	9.0
21	5.0	3.5	4.0	6.7	5.7	6.1	8.3	6.3	7.0	9.0	8.5	8.7
22	5.1	3.4	4.0	7.2	5.6	6.1	8.6	6.4	7.4	8.9	8.3	8.6
23	5.2	3.5	4.0	7.7	5.6	6.3	8.4	7.0	7.6	8.9	7.8	8.2
24	5.3	3.5	4.1	7.4	5.8	6.3	8.6	7.1	7.7	9.3	7.8	8.4
25	5.3	3.7	4.2	7.6	5.5	6.2	8.6	7.4	7.9	9.9	7.8	8.7
26	5.5	3.6	4.1	6.3	6.0	6.1	9.3	7.4	---	10.2	8.2	9.0
27	5.2	3.7	4.2	6.8	6.0	6.2	9.3	7.8	8.4	10.6	8.7	9.4
28	5.4	3.9	4.4	7.0	6.0	6.3	9.2	7.9	8.4	10.7	9.2	9.8
29	---	---	---	6.8	6.1	6.3	8.6	7.9	8.2	10.9	9.6	10
30	---	---	---	7.8	6.0	6.5	8.5	7.8	8.2	11.2	9.7	10.2
31	---	---	---	7.0	6.2	6.5	---	---	---	10.6	9.9	10.2
MONTH	6.5	3.4	4.8	---	---	---	9.3	5.5	6.8	---	---	---
	JUNE			JULY			AUGUST			SEPTEMBER		
1	10.9	9.9	10.3	13.9	11.2	12.3	17.2	14.1	15.2	18.8	15.4	16.6
2	11.1	9.8	10.3	13.4	11.7	12.4	17.4	13.6	15.0	18.5	15.3	16.5
3	11.5	9.6	10.4	14.7	11.6	12.8	18.0	13.5	15.2	16.8	14.6	15.5
4	10.9	9.8	10.2	15.0	11.8	12.9	18.3	13.8	15.5	16.5	14.8	15.3
5	11.2	9.9	10.3	13.4	11.9	12.6	18.4	14.2	15.7	17.6	14.1	15.4
6	11.2	9.8	10.2	13.6	12.2	12.9	18.2	14.4	15.7	17.7	14.0	15.3
7	11.2	9.9	10.3	14.2	12.1	13.0	18.1	14.2	15.7	17.7	14.0	15.3
8	10.3	9.9	10.1	13.3	12.3	12.7	18.3	14.2	15.8	17.7	14.2	15.4
9	10.9	9.9	10.3	14.7	12.3	13.2	18.4	14.3	15.8	16.9	14.3	15.2
10	11.3	9.9	10.3	13.6	12.2	12.9	17.4	14.6	15.6	16.6	14.2	15.1
11	11.0	9.8	10.3	14.1	12.4	13.1	17.8	14.9	15.7	17.3	14.3	15.2
12	12.0	9.7	10.5	14.5	12.4	13.3	18.6	14.5	16.0	17.3	14.0	15.1
13	11.3	9.8	10.4	15.9	12.6	13.7	18.8	14.6	16.2	17.1	13.8	15.0
14	11.2	10.0	10.5	15.9	12.3	13.7	19.0	14.9	16.4	17.0	13.7	15.0
15	12.4	9.7	10.7	13.7	12.5	13.0	18.9	15.0	16.4	15.9	13.7	14.6
16	11.7	10.0	10.6	16.4	12.6	13.8	18.3	14.9	16.1	15.9	14.0	14.7
17	12.1	10.2	10.8	16.1	12.5	13.9	18.5	15.3	16.3	15.9	13.5	14.5
18	11.4	10.2	10.8	16.6	12.7	14.1	18.8	15.0	16.4	16.2	13.6	14.6
19	13.1	10.2	11.2	16.2	12.4	13.8	18.9	14.8	16.3	15.6	13.9	14.5
20	13.2	10.2	11.4	16.5	12.5	13.9	18.7	14.9	16.3	16.2	13.1	14.2
21	12.4	10.4	11.2	16.7	12.6	14.1	18.9	15.0	16.4	15.4	12.9	13.8
22	12.1	10.6	11.1	16.4	13.2	14.8	18.8	15.2	16.6	15.6	12.7	13.7
23	13.4	10.2	11.5	16.6	12.7	14.1	19.5	15.6	17.0	15.7	12.3	13.5
24	13.4	10.6	11.6	16.7	12.7	14.3	19.7	15.9	17.2	15.6	12.2	13.4
25	14.1	10.8	11.9	17.1	13.0	14.5	19.3	15.6	17.0	15.6	12.5	13.5
26	11.8	10.8	11.3	17.2	13.1	14.6	19.6	15.9	17.2	15.7	12.4	13.6
27	12.3	11.1	11.6	17.5	13.3	14.9	19.6	15.9	17.2	15.4	12.5	13.6
28	14.2	11.3	12.3	17.6	13.5	14.9	17.6	16.0	16.8	14.3	12.3	13.1
29	14.6	11.4	12.5	17.3	13.4	14.8	17.6	15.6	16.4	14.1	13.1	13.5
30	13.8	11.5	12.2	17.7	13.5	15.1	16.6	15.6	16.1	13.6	12.7	13.2
31	---	---	---	17.8	13.8	15.2	18.8	15.6	16.6	---	---	---
MONTH	14.6	9.6	10.9	17.8	11.2	13.7	19.7	13.5	16.2	18.8	12.2	14.6

## 12045500 ELWHA RIVER AT MCDONALD BRIDGE, NEAR PORT ANGELES, WA—Continued

TURBIDITY, WATER, MONOCHROME NEAR INFRA-RED LED LIGHT, 780-900 NM, DETECTION ANGLE 90 +/- 2.5 DEGREES, FNU  
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN
1	1.9	0.8	1.3	45	0.9	1.4	87	58	73	72	31	45
2	1.9	0.7	1.2	180	39	130	85	56	71	70	27	40
3	1.6	0.4	1.0	180	89	130	74	47	63	68	27	41
4	1.6	0.5	0.8	130	70	93	70	43	55	63	27	38
5	1.3	0.5	0.9	120	66	83	54	34	44	60	24	34
6	2.2	0.7	1.4	99	52	69	44	28	38	49	20	30
7	2.7	0.6	1.3	89	48	70	43	26	36	67	16	26
8	28	0.3	2.4	76	43	56	52	27	35	44	13	23
9	17	1.7	3.5	62	39	47	44	23	30	34	14	19
10	14	5.2	8.8	52	34	43	690	44	200	37	10	15
11	18	3.6	6.5	49	32	39	840	660	740	20	9.0	12
12	6.9	2.9	5.2	40	24	33	750	440	600	24	9.3	12
13	5.9	2.7	4.6	38	22	27	560	390	470	27	10	18
14	5.3	2.6	3.9	33	21	25	500	380	430	30	12	19
15	4.4	2.4	3.2	40	18	25	460	310	390	26	10	14
16	3.6	1.6	2.7	32	16	20	370	240	300	29	11	14
17	3.5	1.8	2.4	29	15	19	310	210	260	190	9.7	56
18	3.5	1.5	2.3	28	16	20	260	170	210	390	180	270
19	3.9	1.5	2.1	22	13	18	210	140	180	500	330	410
20	2.5	1.3	1.9	19	11	15	190	110	160	500	310	380
21	21	1.3	1.8	16	11	13	180	110	140	350	240	300
22	2.1	1.1	1.6	15	11	13	160	99	140	340	220	280
23	2.0	0.8	1.3	14	9.5	12	150	88	120	370	250	310
24	1.7	0.9	1.3	100	10	25	150	77	100	320	220	260
25	1.7	0.5	1.1	160	54	120	120	64	86	260	160	210
26	1.6	0.6	1.1	160	93	120	99	44	64	240	140	170
27	1.4	0.6	1.0	160	97	130	73	42	56	190	120	150
28	1.6	0.6	1.0	140	93	120	81	41	51	150	100	130
29	1.5	0.4	0.9	120	60	98	73	42	55	150	89	120
30	14	0.6	1.4	100	60	80	81	38	48	130	77	100
31	2.1	0.9	1.2	---	---	---	75	33	46	120	55	86
MAX	28	5.2	8.8	180	97	130	840	660	740	500	330	410
MIN	1.3	0.3	0.8	14	0.9	1.4	43	23	30	20	9.0	12
	FEBRUARY			MARCH			APRIL			MAY		
1	82	46	64	14	6.4	9.0	12	5.4	8.7	11	6.5	8.6
2	87	46	69	11	6.0	7.7	8.7	5.5	7.3	10	6.5	8.1
3	88	47	58	9.9	5.4	6.9	9.3	6.0	7.5	9.4	5.7	7.3
4	83	40	57	8.4	4.6	5.8	9.2	5.2	7.1	7.9	5.3	6.8
5	60	32	41	8.3	4.6	5.8	9.0	5.0	6.5	8.2	5.4	6.3
6	63	28	42	7.5	4.2	5.4	7.9	5.6	6.5	7.1	4.8	5.8
7	82	29	42	9.5	4.3	5.9	7.9	5.4	6.5	15	4.5	5.5
8	61	27	37	---	---	---	7.8	5.5	6.6	6.2	3.6	5.0
9	60	29	38	---	---	---	8.1	5.9	6.9	5.8	3.6	4.5
10	54	27	37	---	---	---	8.1	5.4	6.7	5.9	3.5	4.6
11	51	23	30	6.6	2.9	4.3	8.1	5.5	6.7	4.9	2.9	4.0
12	83	19	27	6.1	2.8	4.1	7.9	5.0	6.7	4.9	3.3	3.8
13	44	20	30	6.0	2.6	3.8	7.3	5.6	6.3	4.9	2.9	3.5
14	44	18	26	40	2.5	3.8	8.0	6.0	6.8	150	2.9	3.5
15	41	17	24	4.7	2.1	3.1	9.4	6.3	8.0	5.3	3.0	3.6
16	29	16	21	4.3	1.8	2.6	18	8.7	11	4.0	2.4	3.2
17	30	16	20	3.8	1.7	2.4	23	9.8	14	4.3	2.5	3.4
18	28	14	19	3.6	1.6	2.5	25	9.4	20	6.2	2.3	3.8
19	27	14	18	3.3	1.4	2.3	11	6.8	8.5	12	4.0	5.9
20	24	12	17	18	2.2	3.9	11	5.8	7.9	18	9.5	14
21	23	11	15	5.2	2.2	3.0	10	6.1	7.4	22	12	15
22	21	10	14	7.7	3.6	5.3	10	6.1	7.3	20	13	16
23	20	9.9	13	7.0	3.3	5.1	8.4	6.1	7.1	21	14	17
24	18	9.3	12	6.6	3.2	4.8	9.3	6.2	7.0	20	14	17
25	17	7.7	11	6.4	3.3	4.5	8.7	6.4	7.0	19	12	16
26	15	6.7	9.5	16	3.5	6.4	10	6.9	7.9	16	11	14
27	14	6.9	9.5	9.3	4.5	6.2	10	7.6	8.7	18	11	13
28	13	6.4	8.4	11	4.0	7.0	13	8.1	9.9	14	10	12
29	---	---	---	8.6	6.0	7.3	12	8.6	10	13	10	12
30	---	---	---	9.6	5.7	7.6	12	7.8	10	14	10	12
31	---	---	---	10	5.3	6.9	---	---	---	13	8.8	11
MAX	88	47	69	---	---	---	25	9.8	20	150	14	17
MIN	13	6.4	8.4	---	---	---	7.3	5.0	6.3	4.0	2.3	3.2

## ELWHA RIVER BASIN

12045500 ELWHA RIVER AT MCDONALD BRIDGE, NEAR PORT ANGELES, WA—Continued

TURBIDITY, WATER, MONOCHROME NEAR INFRA-RED LED LIGHT, 780-900 NM, DETECTION ANGLE 90 +/- 2.5 DEGREES, FNU—  
CONTINUED

DAY	JUNE			JULY			AUGUST			SEPTEMBER		
	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN
1	11	7.2	9.4	1.7	0.7	1.3	0.7	0.0	0.4	0.6	0.2	0.4
2	11	6.7	8.2	1.8	0.6	1.3	1.2	0.1	0.5	1.0	0.2	0.5
3	19	6.1	7.1	1.8	0.9	1.3	1.2	0.6	0.9	0.9	0.2	0.5
4	8.4	5.3	6.4	1.8	0.6	1.3	1.3	0.6	0.9	1.0	0.3	0.6
5	6.8	4.7	5.8	1.7	0.8	1.3	1.3	0.6	0.9	1.9	0.5	0.7
6	6.2	3.9	5.1	6.5	0.9	1.5	1.3	0.6	0.9	1.2	0.5	0.7
7	6.1	3.7	4.7	1.8	0.9	1.3	1.5	0.6	0.9	1.1	0.6	0.8
8	6.2	3.1	4.2	3.2	0.8	1.5	1.3	0.8	1.0	1.1	0.7	0.9
9	5.0	3.1	3.7	2.2	0.9	1.5	1.4	0.7	1.0	1.3	0.8	0.9
10	4.3	2.8	3.5	2.3	1.1	1.7	1.4	0.8	1.1	1.4	0.8	1.0
11	4.1	2.3	3.1	2.6	0.9	1.6	1.5	0.8	1.0	2.0	0.8	1.0
12	4.1	2.1	2.8	2.3	1.1	1.7	1.4	0.8	1.0	1.1	0.6	0.8
13	3.6	1.8	2.5	2.3	0.9	1.5	2.0	0.7	1.0	1.1	0.7	0.8
14	3.4	1.8	2.3	2.2	0.9	1.4	1.7	0.7	1.0	1.5	0.7	0.8
15	4.1	1.6	2.0	2.0	0.8	1.3	1.5	0.8	1.0	1.0	0.6	0.8
16	2.3	1.4	1.8	1.9	0.8	1.3	1.4	0.0	0.9	1.3	0.7	0.9
17	24	1.4	2.1	2.5	0.9	1.3	0.9	0.0	0.4	1.4	0.8	0.9
18	2.1	1.2	1.6	1.7	0.9	1.2	1.5	0.0	0.4	1.2	0.5	0.9
19	1.9	1.2	1.6	1.7	0.8	1.2	0.6	0.0	0.3	1.3	0.8	0.9
20	1.9	1.0	1.5	1.7	0.8	1.2	0.8	0.0	0.4	1.4	0.8	0.9
21	2.0	1.0	1.4	1.6	0.8	1.1	0.6	0.0	0.3	1.4	0.7	0.9
22	1.7	1.0	1.4	4.4	0.9	1.3	1.1	0.0	0.3	1.2	0.0	0.9
23	1.8	0.9	1.3	1.6	0.7	1.1	0.8	0.0	0.4	0.6	0.0	0.2
24	1.7	0.9	1.2	1.6	0.8	1.0	0.5	0.0	0.3	0.6	0.0	0.3
25	2.2	0.8	1.2	1.6	0.7	1.0	0.6	0.0	0.3	0.5	0.0	0.2
26	1.5	0.7	1.1	13	0.7	1.1	1.1	0.0	0.3	0.7	0.0	0.3
27	1.5	0.6	1.2	1.4	0.0	0.9	0.6	0.0	0.3	0.7	0.0	0.4
28	1.5	0.7	1.2	5.0	0.3	0.6	0.6	0.0	0.3	0.7	0.0	0.2
29	1.5	0.8	1.0	9.2	0.3	0.5	0.7	0.0	0.3	9.0	0.0	0.9
30	3.2	0.7	1.2	0.8	0.1	0.5	0.6	0.1	0.3	92	3.5	64
31	---	---	---	0.8	0.0	0.4	1.2	0.0	0.4	---	---	---
MAX	24	7.2	9.4	13	1.1	1.7	2.0	0.8	1.1	92	3.5	64
MIN	1.5	0.6	1.0	0.8	0.0	0.4	0.5	0.0	0.3	0.5	0.0	0.2

## 12046260 ELWHA RIVER AT DIVERSION, NEAR PORT ANGELES, WA

LOCATION.--Lat 48°06'44", long 123°33'03", in NE $\frac{1}{4}$ NW $\frac{1}{4}$  sec.10, T.30 N., R.7 W., Clallam County, Hydrologic Unit 17110020, 5.5 mi west of Port Angeles, on right bank 3.5 mi upstream from mouth.

DRAINAGE AREA.--318 mi<sup>2</sup>.

## WATER-QUALITY RECORDS

## PERIOD OF RECORD.--

WATER TEMPERATURE: April 2004 to September 2005 (discontinued).

TURBIDITY: August 2003 to September 2005 (discontinued).

INSTRUMENTATION.--Water-quality monitor since August 2003. Temperature and turbidity sensors interfaced to an electronic data logger, with 15-minute logging interval.

## REMARKS.--

WATER TEMPERATURE: Records good.

TURBIDITY: Records good except Jan. 15-23, Mar. 14, 15, June 14-30, which are fair, and Jan. 24-27, Mar. 16-23, which are poor.

## EXTREMES FOR PERIOD OF RECORD.--

WATER TEMPERATURE: Maximum, 19.3°C, Aug. 21, 2005; minimum, 3.0°C, Jan. 17, 2005.

TURBIDITY: Maximum, >1,080 FNU, Jan. 17, 18, and 22, 2005; minimum, 0.0 FNU, Aug. 16, Sept. 2-5, and 15, 2005.

## EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum, 19.3°C, Aug. 21, minimum, 3.0°C, Jan. 17.

TURBIDITY: Maximum, >1,080 FNU, Jan. 17, 18, and 22; minimum, 0.0 FNU, Aug. 16, Sept. 2-5, and 15.

TEMPERATURE, WATER, DEGREES CELSIUS  
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	13.7	13.0	13.3	9.2	9.0	9.2	5.9	5.8	5.8	5.4	5.3	5.4
2	13.6	12.9	13.1	9.1	8.6	8.9	5.8	5.7	5.8	5.4	5.2	5.3
3	13.4	12.6	12.9	8.7	8.2	8.5	5.8	5.7	5.7	5.2	5.0	5.1
4	13.4	12.6	12.8	8.2	7.9	8.1	5.8	5.7	5.8	5.0	4.7	4.8
5	13.3	12.6	12.8	8.0	7.8	7.9	5.8	5.7	5.7	4.7	4.4	4.6
6	12.9	12.5	12.7	7.8	7.6	7.7	5.8	5.7	5.7	4.4	4.1	4.3
7	12.9	12.4	12.6	7.6	7.5	7.6	5.8	5.5	5.7	4.1	3.6	3.9
8	12.6	12.2	12.4	7.7	7.4	7.6	5.6	5.5	5.5	3.9	3.4	3.8
9	12.4	12.1	12.3	7.7	7.5	7.6	5.5	5.4	5.5	3.8	3.5	3.7
10	12.2	11.9	12.1	7.8	7.5	7.6	5.8	5.5	5.6	3.7	3.5	3.6
11	12.4	11.9	12.1	7.7	7.4	7.5	5.8	5.6	5.7	3.7	3.3	3.5
12	12.4	11.8	12.1	7.5	7.4	7.4	5.7	5.4	5.5	3.7	3.3	3.5
13	12.5	11.8	12.1	7.5	7.3	7.4	5.4	5.3	5.4	3.5	3.3	3.4
14	12.6	11.8	12.1	7.5	7.2	7.3	5.9	5.3	5.6	3.4	3.2	3.3
15	12.4	11.9	12.1	7.6	7.2	7.4	5.9	5.8	5.9	3.4	3.2	3.2
16	12.4	11.9	12.1	7.6	7.3	7.4	5.9	5.8	5.9	3.4	3.1	3.2
17	12.0	11.7	11.8	7.4	7.2	7.3	6.0	5.8	5.9	3.3	3.0	3.1
18	11.8	11.3	11.6	7.3	7.1	7.2	6.2	6.0	6.1	4.3	3.3	3.8
19	11.5	11.2	11.4	7.1	6.9	7.0	6.3	6.2	6.3	4.8	4.3	4.5
20	11.5	11.2	11.3	7.0	6.7	6.8	6.4	6.2	6.3	5.3	4.8	5.1
21	11.3	10.9	11.1	6.9	6.6	6.8	6.3	6.1	6.2	5.8	5.3	5.6
22	11.2	10.9	11.1	6.9	6.6	6.8	6.1	6.0	6.0	6.2	5.7	5.9
23	11.0	10.5	10.8	6.9	6.6	6.7	6.0	5.9	6.0	6.2	6.1	6.2
24	10.7	10.4	10.5	7.0	6.7	6.8	6.0	5.9	6.0	6.5	6.2	6.4
25	10.5	10.3	10.4	7.2	6.7	7.0	5.9	5.8	5.9	6.7	6.4	6.6
26	10.4	10.0	10.2	6.8	6.6	6.7	5.9	5.8	5.9	6.8	6.6	6.6
27	10.2	9.8	10.0	6.6	6.3	6.4	5.9	5.7	5.8	6.8	6.6	6.7
28	10.0	9.8	9.9	6.4	6.2	6.3	5.8	5.7	5.7	6.7	6.6	6.7
29	9.9	9.6	9.8	6.2	6.0	6.1	5.7	5.5	5.6	6.7	6.5	6.6
30	9.7	9.4	9.6	6.0	5.8	5.9	5.6	5.4	5.5	6.6	6.4	6.5
31	9.5	9.2	9.3	---	---	---	5.5	5.4	5.4	6.7	6.4	6.5
MONTH	13.7	9.2	11.6	9.2	5.8	7.3	6.4	5.3	5.8	6.8	3.0	4.9







## ELWHA RIVER BASIN

12046260 ELWHA RIVER AT DIVERSION, NEAR PORT ANGELES, WA—Continued

TURBIDITY, WATER, UNFILTERED, FIELD, NEPHELOMETRIC TURBIDITY UNITS—CONTINUED  
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	JUNE			JULY			AUGUST			SEPTEMBER		
	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN
1	8.4	7.6	7.9	0.8	0.4	0.6	240	0.2	0.4	1.1	0.1	0.3
2	7.8	7.0	7.5	31	0.3	0.5	100	0.2	0.4	0.3	0.0	0.1
3	24	6.4	7.4	3.6	0.3	0.6	0.6	0.2	0.3	0.3	0.0	0.1
4	23	6.2	6.9	1.1	0.5	0.7	0.5	0.2	0.3	0.4	0.0	0.1
5	38	5.5	6.7	1.0	0.3	0.4	16	0.2	0.3	0.8	0.0	0.1
6	5.7	4.7	5.1	1.4	0.4	0.7	8.1	0.2	0.4	0.6	0.1	0.2
7	5.0	4.2	4.5	1.0	0.4	0.6	0.6	0.2	0.4	0.4	0.1	0.2
8	4.5	3.6	4.0	38	0.6	0.9	1.4	0.2	0.4	0.5	0.1	0.3
9	3.9	3.3	3.6	55	1.0	1.4	12	0.2	0.4	1.8	0.1	0.2
10	3.7	3.0	3.2	17	3.3	5.9	3.0	0.3	0.4	0.7	0.1	0.3
11	4.7	2.7	3.2	19	0.4	8.3	0.9	0.4	0.5	0.7	0.1	0.2
12	3.2	2.4	2.6	0.9	0.4	0.6	1.7	0.3	0.4	4.0	0.1	0.2
13	3.0	2.2	2.4	1.3	0.5	0.7	12	0.3	0.5	0.5	0.1	0.2
14	2.4	1.8	2.1	28	0.5	0.6	3.2	0.3	0.4	0.6	0.1	0.2
15	58	1.9	2.6	5.6	0.5	0.6	1.5	0.4	0.5	0.6	0.0	0.3
16	210	1.6	2.3	17	0.6	0.7	1.3	0.0	0.5	0.7	0.2	0.3
17	2.7	1.4	1.8	30	0.6	0.8	1.8	0.4	0.5	0.9	0.2	0.4
18	5.7	1.3	2.6	1.4	0.6	0.8	0.8	0.3	0.5	1.0	0.2	0.5
19	6.0	1.6	2.0	2.2	0.7	0.9	1.5	0.4	0.5	2.7	0.2	0.6
20	32	1.3	1.7	7.5	0.6	0.9	0.8	0.3	0.5	1.9	0.1	0.6
21	2.1	1.2	1.5	---	---	---	0.7	0.4	0.5	0.9	0.1	0.5
22	1.7	1.2	1.4	---	---	---	2.5	0.3	0.4	5.5	0.2	0.5
23	2.6	1.1	1.4	---	---	---	3.5	0.3	0.5	1.9	0.2	0.4
24	4.0	1.0	1.2	---	---	---	270	0.4	0.6	0.7	0.1	0.4
25	2.6	0.8	1.4	---	---	---	1.0	0.4	0.5	1.2	0.1	0.4
26	2.9	0.4	0.8	---	---	---	4.3	0.3	0.5	1.8	0.1	0.4
27	2.0	0.4	0.7	---	---	---	3.9	0.3	0.4	0.7	0.1	0.3
28	9.0	0.3	0.5	0.6	0.2	0.3	1.6	0.2	0.4	0.9	0.1	0.3
29	1.3	0.3	0.6	0.9	0.3	0.4	2.4	0.2	0.4	7.5	0.4	1.6
30	1.4	0.4	0.6	12	0.2	0.4	25	0.2	0.3	2.1	0.6	1.1
31	---	---	---	1.3	0.4	0.6	0.5	0.3	0.4	---	---	---
MAX	210	7.6	7.9	---	---	---	270	0.4	0.6	7.5	0.6	1.6
MIN	1.3	0.3	0.5	---	---	---	0.5	0.0	0.3	0.3	0.0	0.1

&gt; Actual value is known to be greater than the value shown

## 12048000 DUNGENESS RIVER NEAR SEQUIM, WA

LOCATION.--Lat 48°00'52", long 123°07'53", in NW $\frac{1}{4}$ NE $\frac{1}{4}$  sec.13, T.29 N., R.4 W., Clallam County, Hydrologic Unit 17110020, on right bank 1.0 mi upstream from Canyon Creek, 4.8 mi southwest of Sequim, and at mile 11.8.

DRAINAGE AREA.--156 mi<sup>2</sup>.

PERIOD OF RECORD.--June 1923 to September 1930, June 1937 to current year. July 1897 to July 1898 at site downstream from Canyon Creek, published as "near Sequim," records not equivalent.

REVISED RECORDS.--WSP 1316: 1924-25(M), 1927(M). WSP 1932: 1957, 1958-59(M), 1960.

GAGE.--Water-stage recorder. Datum of gage is 569.3 ft above NGVD of 1929 (river-profile survey). June 8, 1923, to Sept. 30, 1930, nonrecording gage just above fish-hatchery diversion 0.5 mi downstream at different datum. June 19 to Aug. 12, 1937, nonrecording gage at present site and datum.

REMARKS.--No estimated daily discharges. Records good. No regulation or diversion upstream from station. Water temperatures July 1968 to September 1969, October 1970 to December 1970, January 2000 to September 2001. Suspended sediment discharge November 1999 to September 2001. U.S. Geological Survey satellite telemeter at station.

AVERAGE DISCHARGE.--75 years (water years 1924-30, 1938-2005), 382 ft<sup>3</sup>/s, 33.26 in/yr, 276,700 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,610 ft<sup>3</sup>/s, Jan. 7, 2002, gage height, 8.37 ft; maximum gage height, 8.58 ft, Nov. 27, 1949; minimum discharge, 61 ft<sup>3</sup>/s, Nov. 23, 1993, result of freezeup.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,700 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec 10	2130	*3,620	*6.50	Jan 18	2230	2,480	5.73

Minimum discharge, 71 ft<sup>3</sup>/s, Sept. 27-29, gage height, 2.34 ft.

DISCHARGE, CUBIC FEET PER SECOND  
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	121	160	195	224	357	174	283	379	442	272	154	99
2	117	867	182	210	341	168	265	429	385	254	147	98
3	117	474	175	193	326	163	251	472	357	237	139	98
4	116	319	173	185	337	157	233	452	350	233	134	98
5	117	259	167	183	318	153	215	457	341	239	134	97
6	123	240	154	184	306	152	208	437	319	274	136	93
7	117	323	152	189	292	164	221	417	299	246	135	90
8	169	307	190	189	275	169	230	378	307	246	133	89
9	223	254	183	181	267	202	210	360	298	245	132	89
10	186	222	2,130	170	256	197	197	540	296	227	132	87
11	165	201	2,080	163	250	187	196	540	330	219	128	86
12	152	186	953	161	244	185	184	453	338	221	124	85
13	147	177	706	156	237	172	180	431	308	212	124	83
14	141	176	808	151	223	161	176	472	297	201	120	83
15	136	196	647	153	211	154	171	563	287	199	119	83
16	135	185	530	159	207	156	305	510	276	200	119	91
17	174	169	459	920	209	153	314	401	377	194	129	92
18	189	186	472	1,910	204	148	276	443	350	192	122	85
19	239	168	499	1,690	198	148	251	591	325	193	116	83
20	233	153	448	1,220	188	259	244	565	314	184	113	83
21	190	152	396	987	184	231	258	470	332	177	112	81
22	173	153	360	1,130	181	188	303	432	337	178	109	79
23	162	149	332	1,200	179	174	340	398	306	176	108	77
24	152	232	313	861	177	163	398	379	289	169	104	75
25	147	734	302	679	173	155	457	376	284	160	100	75
26	164	399	288	592	172	366	502	410	274	157	98	73
27	152	307	271	532	168	441	524	476	274	154	99	71
28	143	247	256	470	171	353	507	539	263	156	103	71
29	139	223	251	427	---	302	425	550	267	157	129	76
30	174	212	242	405	---	260	391	532	273	154	109	123
31	156	---	229	387	---	236	---	503	---	152	103	---
TOTAL	4,869	8,030	14,543	16,261	6,651	6,291	8,715	14,355	9,495	6,278	3,764	2,593
MEAN	157	268	469	525	238	203	290	463	316	203	121	86.4
MAX	239	867	2,130	1,910	357	441	524	591	442	274	154	123
MIN	116	149	152	151	168	148	171	360	263	152	98	71
AC-FT	9,660	15,930	28,850	32,250	13,190	12,480	17,290	28,470	18,830	12,450	7,470	5,140
CFSM	1.01	1.72	3.01	3.36	1.52	1.30	1.86	2.97	2.03	1.30	0.78	0.55
IN.	1.16	1.91	3.47	3.88	1.59	1.50	2.08	3.42	2.26	1.50	0.90	0.62

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1923 - 2005, BY WATER YEAR (WY)

MEAN	215	355	432	409	382	295	324	558	696	488	263	171
MAX	640	1,099	1,034	1,075	1,042	819	519	893	1,465	1,235	868	364
(WY)	(2004)	(1991)	(1980)	(1968)	(1924)	(1972)	(1925)	(1956)	(1999)	(1999)	(1999)	(1954)
MIN	80.6	84.9	117	74.3	106	133	171	292	289	179	121	86.4
(WY)	(1988)	(1988)	(1977)	(1979)	(1929)	(1962)	(1975)	(1977)	(1926)	(1926)	(2005)	(2005)

## DUNGENESS RIVER BASIN

12048000 DUNGENESS RIVER NEAR SEQUIM, WA—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1923 - 2005	
ANNUAL TOTAL	115,188		101,845			
ANNUAL MEAN	315		279		382	
HIGHEST ANNUAL MEAN					696	
LOWEST ANNUAL MEAN					197	
HIGHEST DAILY MEAN	2,130	Dec 10	2,130	Dec 10	5,280	Nov 24, 1990
LOWEST DAILY MEAN	116	Oct 4	71	Sep 27	65	Jan 31, 1979
ANNUAL SEVEN-DAY MINIMUM	118	Oct 1	74	Sep 23	65	Jan 29, 1979
ANNUAL RUNOFF (AC-FT)	228,500		202,000		276,700	
ANNUAL RUNOFF (CFSM)	2.02		1.79		2.45	
ANNUAL RUNOFF (INCHES)	27.47		24.29		33.26	
10 PERCENT EXCEEDS	522		473		728	
50 PERCENT EXCEEDS	270		202		293	
90 PERCENT EXCEEDS	153		109		132	