

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

Puget Sound Basin
Dungeness-Elwha Subbasin

LOCATION.--Lat 48°03'18", long 123°34'55" referenced to North American Datum of 1927, in NE ¼ NW ¼ sec.33, T.30 N., R.7 W., Clallam County, WA, 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 mi².

SURFACE-WATER RECORDS

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.--No estimated daily discharges. Records good. 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, April 2004 to September 2006. Turbidity August 2003 to September 2006. 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 FOR PERIOD OF RECORD.--97 years (water years 1898-1901, 1919-2011), 1,510 ft³/s, 76.23 in/yr, 1,094,000 acre-ft/yr, adjusted for storage since April 1927.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 41,600 ft³/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 ft³/s, on basis of two determinations of flow over dam at discharge 26,700 ft³/s and 30,100 ft³/s, referred to 1897 datum; minimum daily discharge, 10 ft³/s, Oct. 3, 1938.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 22,300 ft³/s, Dec. 12, gage height, 20.88 ft; minimum discharge, 163 ft³/s, Nov. 21, gage height, 9.85 ft; minimum daily discharge, 453 ft³/s, Oct. 7,8.

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DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011
DAILY MEAN VALUES

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	609	2,970	1,460	1,500	1,590	898	2,550	865	1,930	2,980	2,110	821
2	583	3,330	1,160	1,410	1,470	1,080	2,160	926	2,050	2,770	1,910	780
3	556	2,200	1,020	1,310	1,570	990	1,840	948	2,040	2,960	1,880	749
4	494	2,010	928	1,250	2,390	943	1,690	939	2,050	3,080	1,890	725
5	501	1,890	866	1,270	2,130	1,030	1,640	1,020	2,290	2,980	1,900	733
6	470	1,690	835	1,710	1,850	929	1,560	1,160	2,780	3,220	1,880	711
7	453	2,150	1,060	2,110	1,850	888	1,410	1,180	4,060	3,700	1,810	757
8	453	1,670	1,990	1,910	1,620	849	1,290	1,170	2,760	3,440	1,710	721
9	761	1,440	3,680	1,610	1,530	1,270	1,230	1,130	3,350	2,950	1,640	752
10	2,430	1,310	3,070	1,460	1,410	2,140	1,230	1,260	4,020	2,660	1,560	743
11	1,030	1,140	2,490	1,330	1,340	1,920	1,580	1,560	3,480	2,560	1,440	717
12	775	1,140	14,300	1,850	1,670	1,780	1,340	1,630	3,110	2,610	1,410	734
13	661	1,080	8,990	2,780	1,830	2,250	1,240	1,460	2,970	2,710	1,390	701
14	521	1,260	5,520	4,230	2,430	3,390	1,250	1,450	2,990	2,630	1,340	657
15	515	1,390	3,930	4,020	2,560	3,360	1,160	2,820	2,830	2,450	1,260	621
16	511	1,750	3,130	6,460	2,110	3,440	1,140	2,820	2,640	2,500	1,200	608
17	494	1,690	2,640	7,260	1,770	2,540	1,080	2,230	2,550	2,690	1,150	572
18	494	1,540	2,340	4,440	1,620	2,100	1,020	2,030	2,650	2,480	1,130	590
19	492	1,250	2,090	3,380	1,440	1,770	952	1,880	2,890	2,370	1,110	614
20	623	1,120	1,850	2,890	1,310	1,560	942	2,000	2,980	2,340	1,070	559
21	726	847	1,760	3,050	1,270	1,480	903	2,230	3,000	2,380	1,070	526
22	779	1,040	1,710	2,730	1,200	1,290	957	2,210	3,220	2,550	1,210	704
23	764	930	1,580	2,450	1,160	1,230	1,120	2,150	3,460	2,170	1,440	894
24	1,770	878	1,940	2,720	1,080	1,170	1,140	2,010	3,170	2,160	1,200	781
25	2,930	863	4,130	2,360	1,020	1,190	1,130	2,050	2,860	2,500	1,170	785
26	2,680	949	3,230	2,220	976	1,120	1,100	2,140	2,660	2,390	1,120	1,670
27	1,930	968	2,600	2,070	990	1,060	965	2,020	2,650	2,130	1,050	2,420
28	1,530	871	2,370	2,030	1,010	1,030	983	1,880	3,080	2,040	1,040	1,300
29	1,260	946	2,030	2,000	---	1,000	903	1,810	3,500	2,130	1,030	889
30	1,040	1,380	1,800	1,870	---	1,340	872	1,910	3,370	2,130	982	743
31	1,340	---	1,650	1,710	---	2,820	---	1,960	---	2,200	893	---
Total	30,175	43,692	88,149	79,390	44,196	49,857	38,377	52,848	87,390	80,860	42,995	24,577
Mean	973	1,456	2,844	2,561	1,578	1,608	1,279	1,705	2,913	2,608	1,387	819
Max	2,930	3,330	14,300	7,260	2,560	3,440	2,550	2,820	4,060	3,700	2,110	2,420
Min	453	847	835	1,250	976	849	872	865	1,930	2,040	893	526
Ac-ft	59,850	86,660	174,800	157,500	87,660	98,890	76,120	104,800	173,300	160,400	85,280	48,750
Mean adjusted for change in contents in Lake Mills	908	1,459	2,938	2,561	1,578	1,608	1,246	1,704	2,910	2,556	1,377	819
CFSM adjusted for change in contents in Lake Mills	3.38	5.42	10.92	9.52	5.87	5.98	4.63	6.33	10.82	9.50	5.12	3.04
In. adjusted for change in contents Lake Mills	3.89	6.05	12.60	10.98	6.11	6.89	5.16	7.30	12.07	10.96	5.90	3.40
Ac-ft adjusted for change in contents Lake Mills	55,820	86,800	180,700	157,500	87,630	98,890	74,100	104,800	173,100	157,200	84,700	48,720

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	Calendar Year 2010	Water Year 2011
Total	615,788	662,506
Mean	1,687	1,815
Max	14,300	14,300
Min	453	453
Ac-ft	1,221,000	1,314,000
Mean adjusted for change in contents in Lake Mills	1,686	1,809
CFSM adjusted for change in contents in Lake Mills	6.27	6.72
In. adjusted for change in contents Lake Mills	85.11	91.31
Ac-ft adjusted for change in contents Lake Mills	1,221,000	1,310,000

