12193400 BAKER RIVER AT HENRY THOMPSON BRIDGE AT CONCRETE, WA

Puget Sound Basin
Upper Skagit Subbasin

LOCATION.--Lat 48°32′26″, long 121°44′32″ referenced to North American Datum of 1927, in NW ¼ NW ¼ sec.11, T.35 N., R.8 E., Skagit County, WA, Hydrologic Unit 17110005, on left bank 50 ft downstream from Henry Thompson Bridge, 0.2 mi northeast of Concrete, 0.3 mi downstream from Baker River powerplant and mile 0.7.

DRAINAGE AREA.--297 mi^2.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--September 1910 to March 1915, September 1943 to September 2008 (published as Baker River at Concrete, 12193500), October 2008 to current year.

REVISED RECORDS.--WSP 1286: 1911-13(M), 1945-46, drainage area.

GAGE.--Water-stage recorder. Datum of gage is NGVD of 1929. Prior to Mar. 5, 1915, non-recording gage at site 0.2 mi downstream at different datum. Sept. 1, 1943, to Jan. 22, 1958, water-stage recorder at site 700 ft upstream at datum 172.6 ft above NGVD of 1929 (from river-profile survey). Jan. 23 to June 11, 1958, powerplant record. Supplementary water-stage recorder on left bank about 40 ft downstream from fish barrier and on tailrace of powerhouse at same datum. Recording gage installed on October 1, 2007, 300 ft upstream of concrete weir at same datum.

COOPERATION.--Puget Sound Energy provided streamflow data from dam upstream during period of backwater.

REMARKS.--No estimated daily discharges. Records fair, except flows below 200 ft^3/s, which are poor. All diversions returned to river upstream from gage; at times, power generation is shut down for maintenance at Baker River or the fish-barrier dam causing the stage to drop below the control. Water is released through a valve-controlled pipe to the fish ladder located on the left bank just downstream from the gage and control. Flow regulated by Baker Lake (station 12191600) since July 1959 and Shannon Lake (station 12193000) since November 1925. U.S. Geological Survey satellite telemeter at station.

AVERAGE DISCHARGE FOR PERIOD OF RECORD.--72 years (water years 1911-14, 1944-2011), 2,654 ft^3/s, 121.35 in/yr, 1,922,823 acre-ft/yr, adjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 36,600 ft^3/s Nov. 19, 1962, elevation, 186.6 ft, computation of peak flow over dam; minimum daily discharge, 30 ft^3/s Mar. 21-26, 1973, Apr. 26-28, May 7-9, 11, 1983, Apr. 20, 24-28, 1986.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 10,400 ft^3/s, July 1, gage height, 7.44 ft; minimum daily discharge, 101 ft^3/s, Oct. 22.

Suggested citation: U.S. Geological Survey, 2012, Water-resources data for the United States, Water Year 2011: U.S. Geological Survey Water-Data Report WDR-US-2011, site 12193400, accessed at http://wdr.water.usgs.gov/wy2011/pdfs/12193400.2011.pdf

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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	3,870	3,350	3,260	4,440	2,480	1,810	119	148	5,850	8,120	5,020	1,520
2	434	4,640	3,270	4,440	2,580	115	113	147	4,490	6,530	5,040	2,120
3	402	4,570	3,260	4,410	2,530	118	108	147	4,590	6,550	5,090	2,060
4	480	2,180	3,260	4,340	3,350	2,280	112	148	4,750	6,130	5,090	1,660
5	436	3,330	3,230	3,510	4,560	971	111	147	5,640	5,790	5,090	2,260
6	434	3,320	3,220	2,540	4,560	1,140	112	790	5,720	5,700	5,070	3,330
7	532	4,650	2,680	3,490	4,510	1,130	119	4,300	7,030	5,740	5,060	3,340
8	395	4,750	2,690	2,000	4,490	1,160	123	4,300	6,580	5,410	5,000	3,360
9	344	4,600	2,820	4,590	4,420	1,240	122	4,350	5,530	5,650	4,960	3,370
10	4,450	3,340	3,300	4,360	4,390	1,260	123	4,350	4,660	4,730	4,940	3,360
11	4,630	2,410	3,310	4,220	4,350	2,000	128	483	4,980	3,010	4,930	3,340
12	4,560	3,240	3,400	4,460	4,320	1,110	128	234	5,340	1,580	4,890	3,330
13	1,520	2,420	2,300	4,380	4,300	2,770	127	235	4,560	2,150	4,850	3,310
14	4,430	3,320	3,140	4,480	4,300	2,090	131	237	5,660	1,420	4,820	3,140
15	4,390	3,330	3,120	4,570	4,300	855	131	239	4,950	3,060	4,610	496
16	3,310	3,310	3,210	4,450	4,300	371	131	245	4,610	3,800	3,450	524
17	3,310	3,300	3,170	4,620	4,290	1,310	132	1,260	3,750	4,810	4,450	579
18	3,320	3,320	782	4,620	4,290	2,760	134	3,300	3,410	4,000	4,390	512
19	1,950	3,310	3,270	4,590	4,330	136	134	1,800	3,670	3,700	4,310	483
20	2,200	3,300	3,270	4,590	4,400	1,240	133	1,840	3,170	4,060	4,360	503
21	2,450	3,320	1,920	4,610	4,370	136	134	1,820	4,800	5,060	4,500	499
22	101	3,330	1,730	4,680	4,390	1,040	135	1,790	4,780	5,020	4,470	484
23	2,020	3,340	3,240	4,650	4,380	1,170	136	2,700	4,720	5,070	4,410	2,930
24	2,460	3,300	3,300	4,610	4,350	350	136	3,170	5,220	5,160	4,330	4,280
25	2,700	3,280	3,330	4,620	4,290	1,020	137	3,150	4,850	5,210	2,910	1,740
26	2,750	3,250	3,250	4,610	4,360	974	139	1,770	4,240	5,240	4,380	2,530
27	2,890	3,260	3,320	4,600	4,330	120	139	2,870	3,820	5,110	3,070	4,290
28	3,370	3,250	3,310	4,590	4,010	103	141	3,320	4,740	4,500	2,950	4,250
29	3,070	3,260	3,290	4,580	---	105	144	3,110	5,040	5,030	2,900	4,090
30	2,400	3,210	3,300	4,570	---	113	147	3,080	6,610	5,030	3,000	649
31	3,340	---	3,290	4,580	---	125	---	3,490	---	5,030	1,920	---
Total	72,948	102,790	93,242	133,800	115,530	31,122	3,859	58,970	147,760	147,400	134,260	68,339
Mean	2,353	3,426	3,008	4,316	4,126	1,004	129	1,902	4,925	4,755	4,331	2,278
Max	4,630	4,750	3,400	4,680	4,560	2,770	147	4,350	7,030	8,120	5,090	4,290
Ac-ft	144,700	203,900	184,900	265,400	229,200	61,730	7,650	117,000	293,100	292,400	266,300	135,600

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1911 - 2011, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	2,448	3,430	2,861	2,821	2,485	2,053	1,907	2,715	3,684	3,285	2,206	1,803
Max	5,034	7,511	5,525	5,104	4,861	4,398	3,970	5,571	7,309	6,866	4,331	4,105
(WY)	(1968)	(1991)	(1976)	(2006)	(1951)	(2007)	(1972)	(1949)	(1974)	(1971)	(2011)	(2004)

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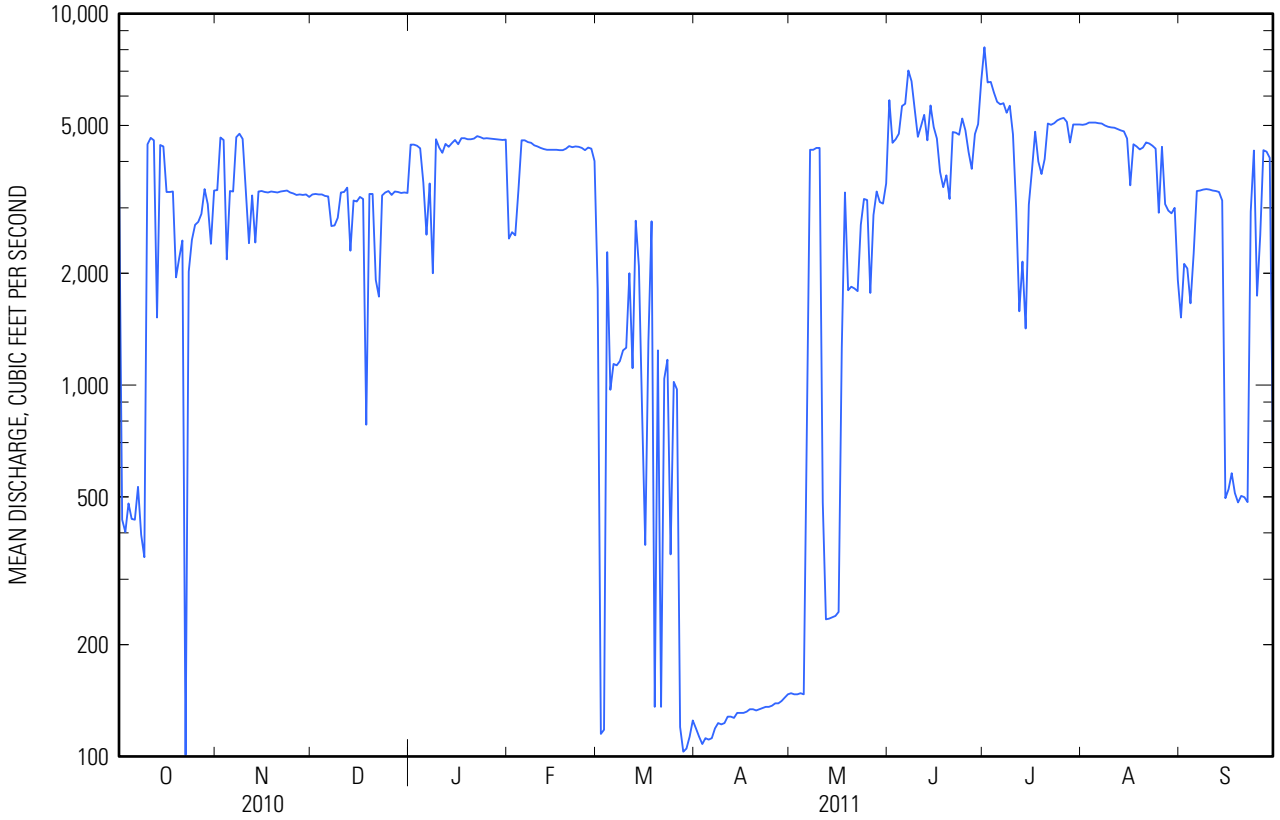
SUMMARY STATISTICS

	Calendar Year 2010		Water Year 2011		Water Years 1911 - 2011	
Annual total	977,991		1,110,020			
Annual mean	2,679		3,041		2,649	
Highest annual mean					3,543	1974
Highest daily mean	11,000	Jan 15	8,120	Jul 1	28,000	Feb 10, 1951
Lowest daily mean	72	Sep 2	101	Oct 22	30	Mar 21, 1973
Annual seven-day minimum	130	Apr 11	112	Mar 28	30	Mar 20, 1973
Annual runoff (ac-ft)	1,940,000		2,202,000		1,919,000	
10 percent exceeds	4,320		5,020		4,190	
50 percent exceeds	3,040		3,310		2,460	
90 percent exceeds	149		139		690