

12472800 COLUMBIA RIVER BELOW PRIEST RAPIDS DAM, WA

Upper Columbia Basin
Upper Columbia-Priest Rapids Subbasin

LOCATION.--Lat 46°37'44", long 119°51'49" referenced to North American Datum of 1927, in SE ¼ NW ¼ sec.7, T.13 N., R.24 E., Grant County, WA, Hydrologic Unit 17020016, on left bank 2.6 mi downstream from Priest Rapids Dam, 14.7 mi south of Beverly, and at mile 394.5.

DRAINAGE AREA.--96,000 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--January 1917 to current year. January 1917 to September 1930, at site 3.4 mi downstream, published as "at Vernita." October 1930 to July 27, 1959, at site 46.5 mi upstream, published as "at Trinidad."

REVISED RECORDS.--WSP 1933: Drainage area. WDR WA-82-2: 1965(m), 1971(m).

GAGE.--Water-stage recorder. Datum of gage is 390 ft above NGVD of 1929. Prior to Oct. 1, 1930, nonrecording gages at site 3.4 mi downstream at datum 388.7 ft above sea level. Oct. 1, 1930, to July 27, 1959, water-stage recorder at site 46.5 mi upstream at datum 499.3 ft above NGVD of 1929 (river-profile survey).

REMARKS.--Records good except. Diversions for irrigation of about 600,000 acres upstream from station. Flow regulated by 10 major reservoirs and numerous smaller reservoirs and powerplants. U.S. Geological Survey satellite telemeter at station. Water temperatures March 1980 to April 1993. Temperature records for site "at Vernita Bridge, near Priest Rapids Dam" (station 12472900) for period July 1974 to September 1980 are equivalent.

AVERAGE DISCHARGE FOR PERIOD OF RECORD.--94 years (water years 1918-2011), 118,500 ft³/s, 85,820,000 acre-ft/yr, unadjusted. 52 years (water years 1960-2011), 117,900 ft³/s, 85,420,000 acre-ft/yr, regulated period.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 692,600 ft³/s, June 12, 1948, gage height, 59.35 ft, site and datum then in use; minimum discharge, 4,120 ft³/s, Feb. 10, 1932, due to construction at Rock Island Dam, site and datum then in use; minimum daily discharge prior to construction of Rock Island Dam (1932), 22,000 ft³/s, Feb. 1-7, 1930, site and datum then in use; minimum daily discharge after completion of Rock Island Dam (1932), 20,000 ft³/s, Jan. 31 to Feb. 10, 1937, site and datum then in use; minimum discharge since completion of Priest Rapids Dam (1959), 16,300 ft³/s, Nov. 7, 1998, due to emergency flow reduction from Priest Rapids Dam.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 7, 1894, reached a discharge of about 740,000 ft³/s, based on a rating extension for a Weather Bureau gage at Wenatchee.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 375,000 ft³/s, June 5, gage height, 420.75 ft; minimum discharge, 38,000 ft³/s, Nov. 14, gage height, 396.66 ft, minimum daily discharge, 46,500 ft³/s, Sept. 18.

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

[$\times 10^6$, million]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	62,900	66,300	105,000	108,000	152,000	145,000	169,000	145,000	333,000	267,000	171,000	134,000
2	78,100	80,100	103,000	108,000	145,000	135,000	153,000	149,000	308,000	267,000	159,000	82,800
3	47,800	99,500	104,000	123,000	143,000	144,000	168,000	152,000	323,000	274,000	165,000	63,300
4	81,600	95,700	96,800	128,000	142,000	140,000	191,000	142,000	328,000	243,000	158,000	65,000
5	77,900	89,500	85,200	132,000	105,000	135,000	175,000	143,000	339,000	237,000	147,000	69,600
6	86,200	88,000	99,900	129,000	103,000	144,000	159,000	140,000	329,000	280,000	144,000	92,600
7	77,600	75,100	94,500	90,200	131,000	137,000	127,000	144,000	296,000	268,000	162,000	96,500
8	81,700	82,300	102,000	101,000	152,000	129,000	170,000	156,000	310,000	273,000	145,000	107,000
9	83,200	83,600	102,000	70,100	153,000	135,000	171,000	158,000	286,000	253,000	148,000	81,300
10	57,700	90,900	105,000	102,000	152,000	138,000	174,000	125,000	267,000	248,000	155,000	81,100
11	88,100	76,300	94,500	127,000	182,000	138,000	166,000	177,000	305,000	251,000	155,000	74,700
12	98,300	83,400	69,200	140,000	153,000	145,000	161,000	207,000	322,000	235,000	168,000	70,100
13	109,000	75,900	79,500	119,000	135,000	141,000	162,000	201,000	286,000	239,000	141,000	67,900
14	97,600	53,500	69,700	92,000	162,000	132,000	149,000	203,000	312,000	243,000	142,000	80,000
15	66,100	60,100	60,900	83,000	149,000	133,000	139,000	209,000	317,000	232,000	150,000	76,000
16	69,800	79,200	59,400	68,900	154,000	120,000	150,000	211,000	309,000	204,000	150,000	71,400
17	67,100	113,000	92,900	68,600	151,000	126,000	142,000	208,000	286,000	206,000	157,000	68,500
18	79,600	106,000	98,600	73,100	137,000	113,000	145,000	217,000	297,000	219,000	152,000	46,500
19	77,600	95,200	76,000	128,000	147,000	87,400	134,000	226,000	302,000	199,000	155,000	80,800
20	62,400	99,400	99,500	126,000	128,000	88,400	140,000	245,000	272,000	218,000	145,000	80,500
21	52,000	79,100	112,000	142,000	137,000	105,000	143,000	276,000	281,000	193,000	141,000	69,900
22	59,800	99,600	95,600	150,000	127,000	122,000	147,000	284,000	272,000	195,000	133,000	79,700
23	54,600	108,000	88,400	144,000	133,000	135,000	152,000	290,000	282,000	186,000	161,000	82,800
24	69,300	123,000	103,000	138,000	140,000	142,000	150,000	266,000	281,000	204,000	150,000	88,400
25	66,400	104,000	74,300	136,000	155,000	137,000	133,000	258,000	248,000	190,000	142,000	58,900
26	64,400	105,000	70,500	155,000	156,000	126,000	144,000	254,000	254,000	167,000	130,000	79,300
27	80,600	77,600	82,100	171,000	156,000	118,000	152,000	291,000	235,000	185,000	145,000	78,800
28	75,000	93,600	112,000	159,000	144,000	114,000	139,000	310,000	242,000	169,000	116,000	68,300
29	63,300	109,000	99,600	156,000	---	127,000	145,000	324,000	264,000	184,000	126,000	84,600
30	67,600	119,000	99,600	150,000	---	138,000	146,000	337,000	231,000	172,000	112,000	73,700
31	61,500	---	133,000	147,000	---	142,000	---	320,000	---	147,000	110,000	---
Total	2,264,800	2,710,900	2,867,700	3,764,900	4,024,000	4,011,800	4,596,000	6,768,000	8,717,000	6,848,000	4,535,000	2,354,000
Mean	73,060	90,360	92,510	121,400	143,700	129,400	153,200	218,300	290,600	220,900	146,300	78,470
Max	109,000	123,000	133,000	171,000	182,000	145,000	191,000	337,000	339,000	280,000	171,000	134,000
Min	47,800	53,500	59,400	68,600	103,000	87,400	127,000	125,000	231,000	147,000	110,000	46,500
Ac-ft	4,492,000	5,377,000	5,688,000	7,468,000	7,982,000	7,957,000	9,116,000	13.42 $\times 10^6$	17.29 $\times 10^6$	13.58 $\times 10^6$	8,995,000	4,669,000

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1960 - 2011, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	79,950	89,040	100,900	107,000	108,700	106,100	117,000	161,200	202,700	154,000	109,600	78,420
Max	118,300	121,200	163,800	168,400	195,000	201,800	189,100	271,700	461,400	294,300	191,000	126,700
(WY)	(1998)	(1991)	(1996)	(1996)	(1996)	(1983)	(1996)	(1997)	(1961)	(1964)	(1976)	(1976)
Min	60,870	56,100	52,570	55,070	72,700	58,170	57,920	61,840	78,810	56,650	66,740	56,720
(WY)	(2010)	(1964)	(1962)	(1964)	(1964)	(1962)	(1993)	(2001)	(1977)	(2001)	(1985)	(2009)

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SUMMARY STATISTICS

	Calendar Year 2010		Water Year 2011		Water Years 1960 - 2011	
Annual total	34,389,100		53,462,100		117,900	
Annual mean	94,220		146,500		165,600	
Highest annual mean					80,650	
Lowest annual mean					533,000	
Highest daily mean	246,000	Jun 22	339,000	Jun 5	533,000	Jun 10, 1961
Lowest daily mean	38,500	Sep 11	46,500	Sep 18	36,400	Jan 1, 1962
Annual seven-day minimum	49,400	Sep 9	61,300	Oct 20	44,600	May 14, 2001
Annual runoff (ac-ft)	68,210,000		106,000,000		85,420,000	
10 percent exceeds	138,000		267,000		186,000	
50 percent exceeds	83,300		138,000		104,000	
90 percent exceeds	61,500		70,300		64,600	

