

## 12436500 COLUMBIA RIVER AT GRAND COULEE DAM, WA

Upper Columbia Basin  
Chief Joseph Subbasin

LOCATION.--Lat 47°57'56", long 118°58'54" referenced to North American Datum of 1927, in SW ¼ SE ¼ sec.36, T.29 N., R.30 E., Okanogan County, WA, Hydrologic Unit 17020005, in pier 3 on west side of bridge on State Highway 155, 3,200 ft downstream from Grand Coulee Dam, 14.2 mi upstream from Nespelem River, and at mile 596.3.

DRAINAGE AREA.--74,700 mi<sup>2</sup>.

### SURFACE-WATER RECORDS

PERIOD OF RECORD.--April 1913 to June 1923 (monthly discharge only), July to December 1923, January 1924 to May 1928 (monthly discharge only), June 1928 to current year. Published as "at Grand Coulee near Nespelem" prior to 1936 and as "at Grand Coulee" 1936-42.

REVISED RECORDS.--WSP 1286: 1942, 1947. WSP 1933: Drainage area.

GAGE.--Daily discharge determined from flow through turbines plus spillway flow when present. Datum of gage is NGVD of 1929, adjustment of 1937 (Bureau of Reclamation datum). June 27 to Dec. 31, 1923, June 12, 1928, to Mar. 31, 1931, nonrecording gage at site 0.5 mi upstream at datum 2.4 ft lower. Apr. 1, 1931, to Dec. 31, 1935, water-stage recorder 850 ft downstream at present datum. Jan. 1, 1936, to June 11, 1955, water-stage recorder at present site and datum. June 12, 1955, to July 18, 1988, water-stage recorder at present site and datum with auxiliary water-stage recorder 5.3 mi downstream at datum 1.42 ft lower.

COOPERATION.--Discharge records provided by Bureau of Reclamation at Grand Coulee Dam through the Corps of Engineers, Northwestern Division, Reservoir Control Center. The U.S. Geological Survey made three discharge measurements at this site during the year.

REMARKS.--Flow is regulated by numerous reservoirs. Feeder Canal diversion (station 12435500) for Columbia Basin project is used to irrigate approximately 600,000 acres in the United States. An additional 66,500 acres in Canada are irrigated by other diversions.

AVERAGE DISCHARGE FOR PERIOD OF RECORD.--95 years (water years 1914-2008), 108,000 ft<sup>3</sup>/s, 78,250,000 acre-ft/yr, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 637,800 ft<sup>3</sup>/s, June 12, 1948, elevation, 987.90 ft; minimum discharge, 14,900 ft<sup>3</sup>/s, Dec. 17, 1956, elevation, 934.37 ft; minimum daily discharge, 15,300 ft<sup>3</sup>/s, Feb. 1, 1937.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in June 1894 reached a discharge of 725,000 ft<sup>3</sup>/s, estimated.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 215,000 ft<sup>3</sup>/s, June 3; minimum daily discharge, 32,400 ft<sup>3</sup>/s, April 6.

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**DISCHARGE, CUBIC FEET PER SECOND**  
**WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008**  
**DAILY MEAN VALUES**  
 [×10<sup>6</sup>, million]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	59,100	72,200	79,600	75,000	110,000	78,100	88,800	101,000	160,000	186,000	70,500	68,900
2	71,200	78,800	64,000	122,000	70,900	61,700	90,600	98,300	193,000	176,000	79,200	65,400
3	66,900	42,100	61,400	131,000	77,800	93,000	95,700	98,200	215,000	170,000	73,200	79,300
4	71,100	36,300	60,500	106,000	103,000	82,800	85,300	63,500	207,000	146,000	88,900	61,100
5	62,300	64,600	55,300	94,100	92,700	92,000	52,900	106,000	188,000	154,000	91,700	51,400
6	42,000	73,400	65,600	95,900	103,000	95,200	32,400	107,000	183,000	154,000	83,500	67,100
7	37,100	62,200	93,800	125,000	93,900	90,400	82,200	112,000	182,000	175,000	91,500	48,900
8	68,800	72,600	84,000	124,000	89,800	53,500	62,400	118,000	180,000	175,000	76,200	65,000
9	74,900	98,500	95,500	113,000	61,900	64,300	75,700	140,000	206,000	146,000	74,500	57,700
10	67,100	76,300	97,600	97,000	78,300	90,600	98,700	121,000	206,000	136,000	79,900	52,200
11	70,700	78,500	97,600	82,300	91,600	57,400	92,900	124,000	209,000	132,000	99,700	74,700
12	61,300	92,900	72,600	69,500	90,800	78,300	68,300	155,000	206,000	146,000	71,700	54,200
13	53,500	98,100	102,000	78,700	89,100	87,100	70,000	135,000	182,000	74,200	91,800	50,800
14	51,600	115,000	78,600	120,000	104,000	83,100	83,400	129,000	155,000	137,000	99,100	45,200
15	71,700	84,500	50,600	113,000	106,000	89,600	89,200	131,000	176,000	120,000	83,300	86,000
16	69,400	63,300	63,600	105,000	83,100	51,200	72,300	113,000	194,000	124,000	78,800	57,700
17	69,900	50,800	94,500	118,000	87,500	87,200	65,700	113,000	198,000	114,000	55,600	59,100
18	57,400	59,900	101,000	114,000	95,000	85,800	78,900	102,000	192,000	120,000	72,300	52,200
19	68,800	77,900	109,000	69,600	99,700	84,800	69,000	121,000	194,000	114,000	78,500	59,500
20	37,700	79,400	104,000	69,600	84,600	81,700	52,300	95,300	179,000	80,300	86,400	36,500
21	37,100	82,700	117,000	130,000	108,000	84,100	107,000	120,000	132,000	123,000	101,000	37,700
22	72,700	53,400	97,000	120,000	77,500	66,800	108,000	149,000	148,000	90,400	106,000	56,900
23	62,000	78,900	72,200	126,000	71,300	54,100	106,000	178,000	178,000	113,000	98,700	66,600
24	63,100	85,000	61,100	121,000	69,100	99,600	113,000	213,000	170,000	128,000	71,200	69,100
25	76,100	81,000	80,300	113,000	89,600	102,000	117,000	205,000	201,000	121,000	90,700	61,500
26	78,200	116,000	123,000	92,900	96,600	88,600	113,000	185,000	212,000	91,900	81,000	45,000
27	56,400	89,300	127,000	79,200	67,400	78,600	113,000	190,000	210,000	74,400	80,900	50,900
28	37,500	104,000	97,700	77,400	60,000	72,300	116,000	192,000	197,000	132,000	101,000	39,700
29	61,000	91,300	79,900	105,000	63,900	80,600	99,700	184,000	181,000	106,000	107,000	54,400
30	70,700	96,400	70,100	94,000	---	58,900	78,800	191,000	181,000	107,000	66,300	71,100
31	76,800	---	90,000	94,800	---	77,800	---	179,000	---	110,000	74,000	---
<b>Total</b>	1,924,100	2,355,300	2,646,100	3,176,000	2,516,100	2,451,200	2,578,200	4,269,300	5,615,000	3,976,200	2,604,100	1,745,800
<b>Mean</b>	62,070	78,510	85,360	102,500	86,760	79,070	85,940	137,700	187,200	128,300	84,000	58,190
<b>Max</b>	78,200	116,000	127,000	131,000	110,000	102,000	117,000	213,000	215,000	186,000	107,000	86,000
<b>Min</b>	37,100	36,300	50,600	69,500	60,000	51,200	32,400	63,500	132,000	74,200	55,600	36,500
<b>Ac-ft</b>	3,816,000	4,672,000	5,249,000	6,300,000	4,991,000	4,862,000	5,114,000	8,468,000	11.14×10 <sup>6</sup>	7,887,000	5,165,000	3,463,000

	Calendar Year 2007	Water Year 2008
<b>Total</b>	37,995,300	35,857,400
<b>Mean</b>	104,100	97,970
<b>Max</b>	183,000	215,000
<b>Min</b>	36,300	32,400
<b>Ac-ft</b>	75,360,000	71,120,000

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