

Figure 48. Location of surface-water stations in the Pend Oreille River Basin.

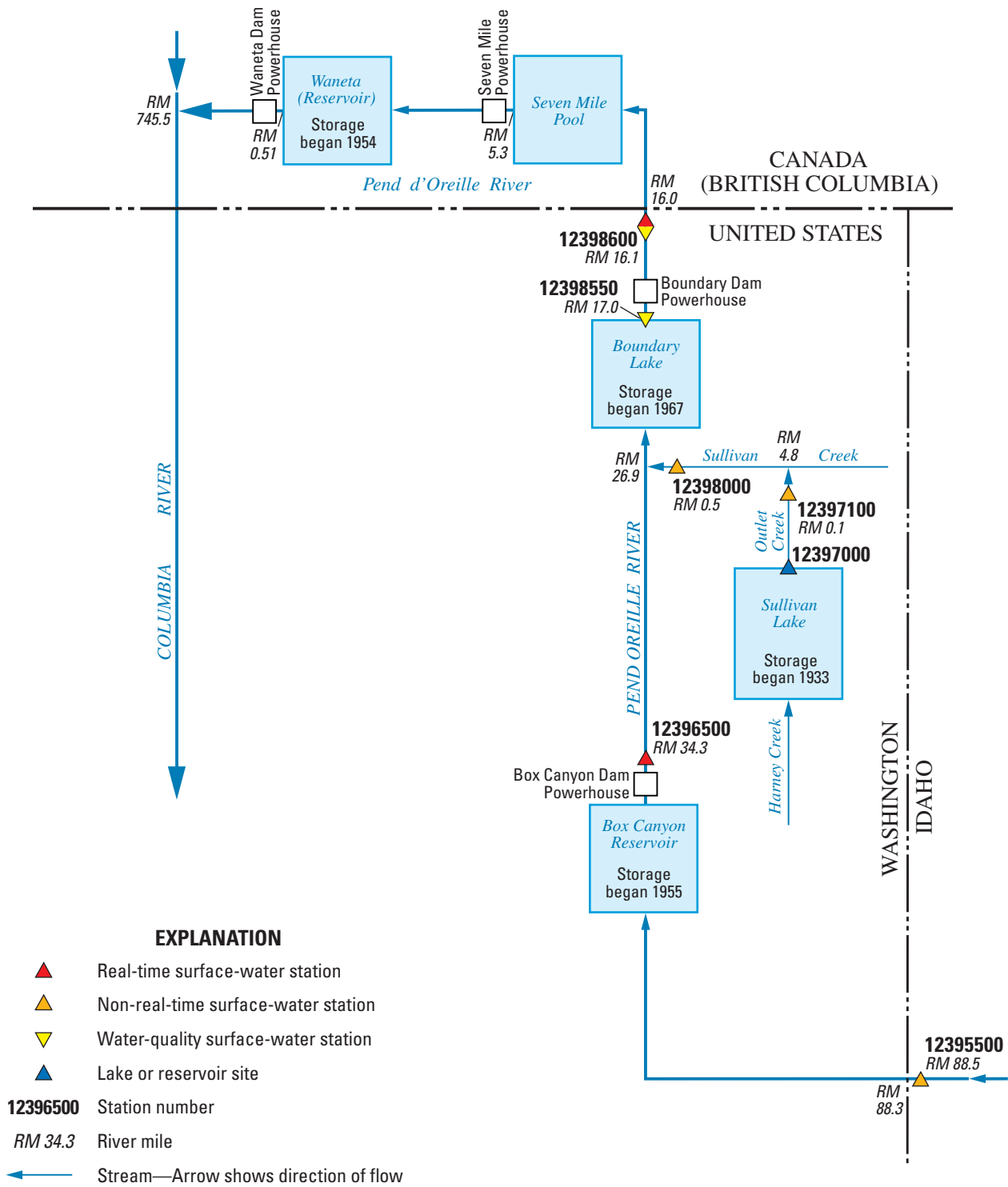


Figure 49. Schematic diagram showing surface-water stations in the Pend Oreille River Basin.

12395500 PEND OREILLE RIVER AT NEWPORT, WA

LOCATION.--Lat 48°10'56", long 117°02'00", (NAD27), in SE<sup>1</sup>/<sub>4</sub>SE<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub> sec.24, T.56 N., R.6 W. (Boise Meridian), Bonner County, Newport quad., Hydrologic Unit 17010216, on left bank, at Newport, 0.2 mi upstream from bridge on U.S. Highway 2, 0.2 mi east of Idaho-Washington State line, 1.6 mi downstream from Albeni Falls Dam, and at mile 88.5.

DRAINAGE AREA.--24,200 mi<sup>2</sup>, approximately.

PERIOD OF RECORD.--June 1903 to September 1912, October 1929 to October 1941, October 1952 to current year. Prior to October 1921, published as "Clark Fork at Newport, Wash.," October 1921 to September 1937, as "Clark Fork at Priest River, Idaho," and October 1937 to September 1941, as "Pend Oreille River at Priest River, Idaho."

REVISED RECORDS.--WSP 532: 1903-11.

GAGE.--Water-stage recorder. Datum of gage is 1,999.7 ft above NGVD of 1929. Prior to Sept. 22, 1928, nonrecording gages at Priest River, Newport, or Metaline Falls at various datums (see description, WSP 532, p. 92). Sept. 22, 1928, to Sept. 30, 1935, at datum 40.44 ft higher, and Oct. 1, 1935, to Sept. 30, 1941, water-stage recorder at datum 0.30 ft higher. Since December 1952, auxiliary water-stage recorder 2.74 mi downstream from base gage.

REMARKS.--Records good except for estimated daily discharges, which are fair. Flow regulated at Albeni Falls Dam and affected by storage in Pend Oreille Lake (see sta 12392500), Flathead Lake, Hungry Horse Reservoir, and several smaller reservoirs. Diversions above station for irrigation of about 354,000 acres. Stage-discharge relation affected by backwater from Box Canyon dam 54 mi downstream. Discharge computed from slope and conveyance of reach between base and auxiliary gage.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 136,000 ft<sup>3</sup>/s June 15, 1933, June 21, 1933, June 12, 1972; minimum, 1,280 ft<sup>3</sup>/s Sept. 1, 1961,

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 1894 reached a stage of about 64.0 ft, present site and datum, (from water surface profiles) discharge, about 200,000 ft<sup>3</sup>/s.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 74,500 ft<sup>3</sup>/s June 9, gage height, 44.20 ft; minimum daily, 4,620 ft<sup>3</sup>/s Sept. 11.

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	26400	24200	17800	16300	17300	13900	16000	25700	30400	34800	16000	8180
2	26200	24000	16000	16500	15700	14000	14900	26200	33900	32700	16400	8140
3	26300	21900	15400	16600	14900	13800	14100	28900	38900	29700	16300	8100
4	26600	20300	15500	16500	14700	13300	15000	26900	41100	31900	15800	8060
5	26700	19100	15500	15000	14500	13000	17800	25100	41200	32500	14300	8040
6	26700	17100	16300	13400	15400	12300	17600	24700	48100	29500	12300	8090
7	26700	15900	17700	13600	15700	12100	16400	24400	57400	28500	11500	7310
8	24300	15800	19000	12700	16300	10500	16500	24900	66800	26100	12100	6900
9	22400	15900	19600	12600	16500	8200	17400	29100	71100	23600	12400	6290
10	22600	15800	19200	e12800	15100	7770	17900	32200	69000	23400	12400	4840
11	22800	15500	19000	e12600	13900	7600	17800	34200	63000	22100	12500	4620
12	22700	15400	25800	11600	13800	8420	17700	35100	55300	21500	11900	6580
13	20900	15500	26100	11600	14200	9280	18300	36100	50300	22800	11000	7340
14	19800	15200	25400	e12000	15400	10400	18000	36200	50500	22500	10100	7230
15	19800	14400	25500	e12000	15800	11700	17200	40100	48900	20800	10000	7130
16	19900	13800	25400	e12000	15500	12100	16900	42800	48000	19600	11900	7120
17	19700	13900	24500	e13000	14400	12000	16700	42900	44700	19100	12300	6900
18	19900	13300	23800	e19000	13800	12500	18300	44900	43500	19100	11400	6960
19	19900	12700	23700	19500	13800	13000	20400	48400	46000	18000	10400	6960
20	19700	12800	21500	19300	13700	12800	21200	51200	48000	16700	10000	10300
21	20600	12900	19000	19400	13700	12400	20500	52700	47800	13700	10700	13200
22	21300	12500	19500	19400	13800	11900	20100	52800	46600	13400	11900	13500
23	21000	12500	23800	19400	13900	12000	20200	53000	42500	14300	13400	12400
24	21100	16700	20700	20400	13900	11700	21000	51500	38400	14200	14600	11000
25	21100	18800	17800	21400	13800	11800	24000	48300	39500	13700	13000	11000
26	22500	14800	17200	21600	13800	11600	25900	42100	36700	13100	11700	11000
27	23100	13000	16700	21800	13800	11700	27800	36500	34800	13300	11100	12200
28	23800	15200	16900	24400	13900	16300	31200	34200	34800	13400	10800	13100
29	23500	16700	17500	25300	---	18000	36500	32300	35000	14600	10800	14300
30	23300	18500	18900	23000	---	18600	32600	30700	35000	15400	10400	15700
31	24100	---	18000	20700	---	16700	---	30500	---	15600	8670	---
TOTAL	705400	484100	618700	525400	411000	381370	605900	1144600	1387200	649600	378070	272490
MEAN	22750	16140	19960	16950	14680	12300	20200	36920	46240	20950	12200	9083
MAX	26700	24200	26100	25300	17300	18600	36500	53000	71100	34800	16400	15700
MIN	19700	12500	15400	11600	13700	7600	14100	24400	30400	13100	8670	4620
AC-FT	1399000	960200	1227000	1042000	815200	756400	1202000	2270000	2752000	1288000	749900	540500

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1903 - 2005, BY WATER YEAR (WY)

	17680	18320	16310	15480	16330	18970	27220	49140	61220	31740	14070	13440
MEAN	17680	18320	16310	15480	16330	18970	27220	49140	61220	31740	14070	13440
MAX	31330	32280	36790	40010	41290	42260	56940	97850	114900	73730	45210	21990
(WY)	1960	1960	1996	1934	1996	1996	1956	1997	1933	1907	1907	1907
MIN	6208	6049	5987	4271	4380	6622	5507	15320	15220	7295	5875	6353
(WY)	1932	1937	1937	1937	1936	1937	1977	1977	1977	1977	1988	1931

SUMMARY STATISTICS

	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1903 - 2005	
ANNUAL TOTAL	7462190		7563830			
ANNUAL MEAN	20390		20720		24940	
HIGHEST ANNUAL MEAN					38600	
LOWEST ANNUAL MEAN					12920	
HIGHEST DAILY MEAN	49800		71100		135000	
LOWEST DAILY MEAN	7830		4620		2420	
ANNUAL SEVEN-DAY MINIMUM	8350		6260		3280	
ANNUAL RUNOFF (AC-FT)	14800000		15000000		18070000	
10 PERCENT EXCEEDS	34600		36600		51900	
50 PERCENT EXCEEDS	17900		16900		18700	
90 PERCENT EXCEEDS	11400		10900		8640	

e Estimated

## 12396500 PEND OREILLE RIVER BELOW BOX CANYON, NEAR IONE, WA

LOCATION.--Lat 48°46'52", long 117°24'55", in SE¼NE¼ sec.19 T.38 N., R.43 E., Pend Oreille County, Hydrologic Unit 17010216, on left bank 1,000 ft downstream from Box Canyon Dam, 2.8 mi north of Ione, and at mile 34.3.

DRAINAGE AREA.--24,900 mi<sup>2</sup>, approximately.

PERIOD OF RECORD.--October 1952 to current year.

REVISED RECORDS.--WSP 1933: Drainage area. WDR WA-81-2: 1976.

GAGE.--Water-stage recorder. Datum of gage is NGVD of 1929. Prior to Mar. 29, 1954, nonrecording gage at site 300 ft upstream at same datum. Mar. 29 to Aug. 25, 1954, nonrecording gage at present site and datum. Since Aug. 20, 1967, auxiliary water-stage recorder 1.2 mi downstream at same datum.

REMARKS.--No estimated daily discharges. Records fair except those below 10,000 ft<sup>3</sup>/s, which are poor. Flow regulated by Box Canyon Reservoir, 1,000 ft upstream, since June 1955 and by Pend Oreille Lake, Flathead Lake, Hungry Horse Reservoir, and by several smaller reservoirs and powerplants. Numerous diversions upstream from station for irrigation. U.S. Geological Survey satellite telemeter at station.

AVERAGE DISCHARGE.--53 years (water years 1953-2005), 26,260 ft<sup>3</sup>/s, 19,030,000 acre-ft/yr, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 136,000 ft<sup>3</sup>/s, June 13, 14, 1972; maximum daily elevation, 2,015.44 ft, June 5, 7, 1997 (mean of surge), (backwater from Boundary Dam); minimum daily discharge, 82 ft<sup>3</sup>/s, Oct. 5, 1985 (result of regulation).

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 1948 reached an elevation of 2,018.00 ft, from floodmarks, discharge, 167,000 ft<sup>3</sup>/s.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 86,300 ft<sup>3</sup>/s, June 9; maximum elevation, 2,004.08, June 9, backwater from Boundary Dam; minimum daily discharge, 5,220 ft<sup>3</sup>/s, Sept. 11, result of regulation.

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	26,500	24,500	19,100	18,700	21,000	13,900	17,900	31,100	31,800	35,400	15,800	9,410
2	26,600	25,100	17,300	17,200	17,700	14,200	17,200	27,700	31,500	35,000	16,100	8,180
3	26,300	24,400	16,300	17,600	16,000	14,200	15,100	29,200	35,800	32,600	16,500	8,210
4	26,500	22,600	16,700	18,100	15,900	14,200	15,500	29,600	39,400	31,100	16,400	7,910
5	26,700	21,000	16,200	18,000	15,300	13,900	17,300	28,000	40,600	33,700	15,500	9,030
6	27,100	19,300	16,000	15,100	14,900	13,300	18,900	26,800	42,400	32,800	13,800	9,560
7	27,100	16,600	17,100	14,100	16,000	12,200	18,100	26,200	51,900	30,100	12,200	9,110
8	26,600	16,500	18,000	13,900	16,800	11,900	17,500	25,500	59,900	29,100	12,400	8,000
9	23,700	16,400	20,000	12,800	17,300	10,900	17,800	27,500	70,700	26,600	12,400	6,960
10	22,700	16,100	20,700	13,300	17,900	10,400	19,000	30,900	71,100	24,800	12,500	6,050
11	23,000	16,200	19,900	13,300	15,500	8,090	19,200	33,200	66,300	24,300	12,600	5,220
12	23,700	16,100	22,700	12,300	14,700	7,780	18,900	34,800	59,300	23,100	12,600	6,550
13	22,900	15,500	25,800	12,300	14,200	9,060	19,000	35,700	51,700	22,300	11,800	8,260
14	20,700	15,600	26,100	12,000	15,100	11,400	19,500	35,800	50,500	23,600	10,700	8,410
15	20,200	15,800	26,000	12,700	16,400	11,300	18,700	37,700	50,400	22,500	10,700	7,720
16	20,500	15,500	25,900	12,800	16,700	12,300	18,500	41,700	48,900	21,600	10,100	7,960
17	20,900	14,500	25,800	12,800	16,000	13,100	18,100	42,500	48,300	20,300	11,900	7,830
18	21,200	14,100	25,300	15,000	15,400	12,900	17,800	43,500	45,200	19,800	12,000	7,810
19	20,500	13,600	24,800	18,500	14,900	13,700	20,600	46,400	44,800	19,800	11,000	8,650
20	20,400	13,900	24,300	19,500	13,700	13,600	22,100	49,700	47,100	17,800	9,990	9,500
21	21,300	13,800	22,600	20,000	14,400	13,600	22,700	52,500	47,900	16,300	9,390	11,700
22	21,900	13,500	19,400	20,500	14,300	12,300	21,900	52,700	48,100	13,600	10,600	13,200
23	22,000	12,700	21,700	20,600	14,000	12,500	21,800	53,500	46,300	14,400	12,300	13,300
24	21,600	14,000	23,800	21,200	14,100	12,500	21,800	53,300	41,500	14,100	13,600	12,200
25	21,700	19,000	20,200	22,400	14,700	12,100	23,800	51,200	39,100	14,600	13,900	11,500
26	22,200	18,500	18,800	22,700	15,300	12,900	27,000	47,800	39,300	13,800	11,900	11,500
27	23,300	14,400	17,700	22,900	14,200	12,300	27,800	41,200	36,800	13,200	11,600	11,500
28	24,400	13,800	17,200	23,400	14,300	16,000	30,300	36,500	35,900	13,500	10,700	12,800
29	24,400	16,200	18,200	26,400	---	17,800	33,700	34,800	35,700	13,500	10,800	13,700
30	24,300	17,100	18,900	25,200	---	19,400	36,000	32,400	35,700	14,900	11,000	15,100
31	24,400	---	20,000	23,900	---	19,200	---	31,300	---	15,200	10,000	---
TOTAL	725,300	506,300	642,500	549,200	436,700	402,930	633,500	1,170,700	1,393,900	683,400	382,680	286,830
MEAN	23,400	16,880	20,730	17,720	15,600	13,000	21,120	37,760	46,460	22,050	12,340	9,561
MAX	27,100	25,100	26,100	26,400	21,000	19,400	36,000	53,500	71,100	35,400	16,500	15,100
MIN	20,200	12,700	16,000	12,000	13,700	7,780	15,100	25,500	31,500	13,200	9,390	5,220
AC-FT	1,439,000	1,004,000	1,274,000	1,089,000	866,200	799,200	1,257,000	2,322,000	2,765,000	1,356,000	759,000	568,900
CAL YR	2004	TOTAL 7,635,930	MEAN 20,860	MAX 49,900	MIN 8,200	AC-FT 15,150,000						
WTR YR	2005	TOTAL 7,813,940	MEAN 21,410	MAX 71,100	MIN 5,220	AC-FT 15,500,000						

12397000 SULLIVAN LAKE NEAR METALINE FALLS, WA

LOCATION.--Lat 48°50'21", long 117°17'15", in SW¼NE¼ sec.31, T.39 N., R.44 E., Pend Oreille County, Hydrologic Unit 17010216, Colville National Forest, 200 ft south of dam at outlet, and 4.0 mi southeast of Metaline Falls.

DRAINAGE AREA.--51.2 mi<sup>2</sup>.

PERIOD OF RECORD.--May 1912 to September 1923, January 1959 to current year (fragmentary).

REVISED RECORDS.--WSP 1933: Drainage area.

GAGE.--Nonrecording gage. Datum of gage is NGVD of 1929 (levels by Pend Oreille County Public Utility District). Prior to Sept. 30, 1923, nonrecording gage on dam at outlet of lake at different datum.

REMARKS.--Lake elevation is controlled by concrete dam. Top of gates is at 2,588.7 ft, bottom of gates is at 2,584.7 ft. Bottom of sluiceway is at 2,564 ft. Some small diversions for domestic use.

COOPERATION.--Elevation record furnished by Public Utility District No. 1 of Pend Oreille County, supplemented by U.S. Geological Survey readings during the year.

EXTREMES FOR PERIOD OF RECORD.--Maximum elevation observed, 2,589.94 ft, July 15, 1975; minimum elevation observed, 2,564.00 ft, on many days during period Jan. 6 to Mar. 25, 1970, and Feb. 11, 2002.

EXTREMES FOR CURRENT YEAR.--Maximum elevation observed, 2,585.05 ft, Oct. 1; minimum elevation observed, 2,565.20 ft, Jan. 11.

ELEVATION ABOVE NGVD 1929, FEET  
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005  
DAILY INSTANTANEOUS VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2,585.05	2,574.30	2,566.03	---	2,565.45	---	2,565.45	---	---	2,584.02	---	---
2	---	---	---	---	---	2,565.22	---	2,572.35	2,580.55	---	2,584.77	2,584.37
3	---	---	---	---	---	---	2,566.72	---	---	---	---	---
4	2,584.40	---	---	---	---	---	---	---	---	---	---	---
5	2,583.92	2,573.21	---	---	---	---	---	---	---	2,584.25	---	---
6	2,583.75	---	2,565.51	---	---	---	2,566.92	2,573.45	2,581.15	---	---	2,584.25
7	---	---	---	---	---	---	---	---	---	---	---	---
8	2,582.90	---	---	---	2,565.40	---	2,567.45	---	---	---	2,584.67	---
9	---	2,571.98	---	---	---	---	---	2,574.38	2,581.45	---	---	---
10	---	---	---	---	---	2,565.25	---	---	---	---	---	---
11	2,581.72	---	---	2,565.20	---	---	2,567.40	---	---	2,584.54	---	---
12	---	---	---	---	---	---	2,567.60	2,575.31	---	---	---	2,584.31
13	---	---	---	---	---	---	---	---	2,581.89	---	---	---
14	---	---	2,565.55	---	---	---	---	---	---	---	---	2,584.18
15	2,580.07	2,570.24	---	---	---	---	2,567.86	---	2,582.15	---	2,584.63	---
16	---	---	---	---	---	---	---	2,576.62	2,582.31	---	---	---
17	---	---	---	---	2,565.25	---	---	---	---	---	---	---
18	---	2,569.36	---	---	---	---	2,568.40	---	---	---	2,584.55	---
19	2,578.85	---	---	---	---	---	---	2,577.95	---	---	---	---
20	---	---	---	2,565.27	---	---	2,568.84	---	2,583.01	---	---	---
21	---	---	2,565.40	---	---	---	---	---	---	2,584.81	---	---
22	2,578.15	2,568.36	---	---	---	2,565.31	---	---	---	---	2,584.55	2,584.00
23	---	---	---	---	---	---	---	---	---	---	---	---
24	---	2,567.82	---	---	2,565.21	---	---	---	---	---	---	---
25	2,576.72	---	---	2,565.47	---	---	2,569.91	2,579.36	---	2,584.80	---	---
26	---	---	---	---	---	---	---	---	---	---	---	2,584.02
27	---	---	---	---	---	---	2,570.85	2,579.70	2,583.58	---	---	---
28	2,575.65	---	2,565.33	---	---	---	2,571.36	---	---	---	---	---
29	---	2,566.75	---	---	---	---	2,571.62	---	---	2,584.80	2,584.42	---
30	---	---	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	2,580.24	---	---	---	---

## 12397100 OUTLET CREEK NEAR METALINE FALLS, WA

LOCATION.--Lat 48°50'42", long 117°17'12", in SW $\frac{1}{4}$ SE $\frac{1}{4}$  sec.30, T.39 N., R.44 E., Pend Oreille County, Hydrologic Unit 17010216, Colville National Forest, on right bank 0.1 mi upstream from mouth, 0.4 mi downstream from Sullivan Lake Dam, and 4 mi east of Metaline Falls.

DRAINAGE AREA.--51.5 mi<sup>2</sup>.

PERIOD OF RECORD.--January 1959 to current year.

REVISED RECORDS.--WSP 1933: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 2,540.2 ft above NGVD of 1929.

REMARKS.--Records good except for estimated daily discharges, which are fair. Flow regulated by Sullivan Lake 0.4 mi upstream (station 12397000). No diversions upstream from station.

AVERAGE DISCHARGE.--46 years (water years 1960-2005), 73.5 ft<sup>3</sup>/s, 53,210 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 924 ft<sup>3</sup>/s, May 31, 1969, gage height, 12.26 ft; minimum discharge, 1.5 ft<sup>3</sup>/s part or all of each day Mar. 4-10, 1990; minimum gage height, 8.76 ft, part of each day Apr. 9-12, 1973, and Mar. 4-10, 1980.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 299 ft<sup>3</sup>/s, Oct. 9, gage height, 10.65 ft, result of regulation; minimum discharge, 7.5 ft<sup>3</sup>/s, May 19-22, gage height, 9.04 ft, result of regulation.

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	93	236	120	43	62	38	34	10	14	14	16	17
2	170	232	104	42	62	38	12	10	14	14	16	17
3	169	228	91	42	62	38	12	10	14	15	16	17
4	210	224	85	e40	61	37	12	10	14	15	16	17
5	244	235	79	e38	61	37	12	11	14	15	16	17
6	264	242	72	e36	61	36	12	12	15	15	16	17
7	276	239	66	36	59	36	12	12	15	15	16	17
8	272	235	64	35	58	36	12	12	15	15	16	17
9	281	229	61	35	56	37	12	13	15	16	16	17
10	291	224	62	35	55	37	12	13	15	16	17	17
11	287	219	60	34	53	38	12	13	16	16	18	17
12	282	215	63	34	52	38	12	12	16	16	18	16
13	278	211	63	e33	52	39	13	12	13	16	18	16
14	272	205	63	e33	50	40	13	12	12	16	18	16
15	267	202	64	e32	49	40	11	13	12	16	18	16
16	263	197	63	e33	47	41	9.0	13	12	16	18	16
17	260	191	61	e33	46	43	8.9	13	13	16	18	16
18	258	192	60	e34	45	43	9.9	14	13	16	18	16
19	276	196	58	e36	44	43	11	11	13	16	18	16
20	283	191	56	38	43	44	11	7.5	13	16	18	16
21	280	186	54	40	42	45	11	7.5	13	16	18	16
22	277	181	53	43	41	44	10	7.7	13	16	18	16
23	274	175	51	47	40	43	11	8.0	13	16	18	16
24	269	169	49	51	40	43	10	8.2	13	16	18	16
25	265	165	49	53	39	43	10	11	13	16	17	16
26	259	160	49	55	39	43	10	17	13	16	17	16
27	253	154	48	58	39	50	10	15	13	16	17	16
28	248	149	47	60	38	62	9.9	13	14	16	17	16
29	246	141	46	61	---	69	9.9	13	14	16	17	16
30	243	132	46	62	---	72	10	14	14	16	17	16
31	239	---	45	62	---	72	---	14	---	16	17	---
TOTAL	7,849	5,955	1,952	1,314	1,396	1,365	354.6	361.9	411	486	532	491
MEAN	253	198	63.0	42.4	49.9	44.0	11.8	11.7	13.7	15.7	17.2	16.4
MAX	291	242	120	62	62	72	34	17	16	16	18	17
MIN	93	132	45	32	38	36	8.9	7.5	12	14	16	16
AC-FT	15,570	11,810	3,870	2,610	2,770	2,710	703	718	815	964	1,060	974

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1959 - 2005, BY WATER YEAR (WY)

MEAN	208	203	81.2	42.3	30.8	32.1	23.3	36.9	140	43.8	23.5	26.2
MAX	395	343	382	201	130	323	132	239	437	133	63.1	157
(WY)	(1991)	(1985)	(1960)	(1984)	(1984)	(1959)	(1974)	(1961)	(1974)	(1999)	(1999)	(1965)
MIN	15.7	18.0	16.2	13.4	8.15	2.07	1.93	3.60	5.51	6.58	6.93	6.99
(WY)	(1974)	(1962)	(1976)	(1979)	(1981)	(1990)	(1973)	(1977)	(1977)	(1977)	(1977)	(1977)

12397100 OUTLET CREEK NEAR METALINE FALLS, WA—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1959 - 2005	
ANNUAL TOTAL	19,357.6		22,467.5			
ANNUAL MEAN	52.9		61.6		73.5	
HIGHEST ANNUAL MEAN					132	1974
LOWEST ANNUAL MEAN					42.7	1993
HIGHEST DAILY MEAN	291	Oct 10	291	Oct 10	842	Jun 2, 1997
LOWEST DAILY MEAN	5.6	Apr 25	7.5	May 20	1.5	Mar 5, 1990
ANNUAL SEVEN-DAY MINIMUM	7.6	Apr 21	8.7	May 19	1.5	Mar 4, 1990
ANNUAL RUNOFF (AC-FT)	38,400		44,560		53,210	
10 PERCENT EXCEEDS	224		224		241	
50 PERCENT EXCEEDS	14		32		25	
90 PERCENT EXCEEDS	10		12		6.4	

e Estimated





12398000 SULLIVAN CREEK AT METALINE FALLS, WA—Continued

SUMMARY STATISTICS	FOR 2005 WATER YEAR		WATER YEARS 1954 - 2005	
ANNUAL TOTAL	70,488			
ANNUAL MEAN	193		237	
HIGHEST ANNUAL MEAN			386	1997
LOWEST ANNUAL MEAN			121	2001
HIGHEST DAILY MEAN	656	May 16	4,020	Jun 1, 1997
LOWEST DAILY MEAN	83	Aug 14	27	Jan 1, 1958
ANNUAL SEVEN-DAY MINIMUM	84	Sep 20	30	Dec 31, 1957
ANNUAL RUNOFF (AC-FT)	139,800		171,500	
ANNUAL RUNOFF (CFSM)	1.36		1.67	
ANNUAL RUNOFF (INCHES)	18.47		22.65	
10 PERCENT EXCEEDS	317		540	
50 PERCENT EXCEEDS	162		118	
90 PERCENT EXCEEDS	85		57	

e Estimated

## 12398550 BOUNDARY DAM RESERVOIR NEAR METALINE FALLS, WA

LOCATION.--Lat 48°59'20", long 117°20'55", in NE $\frac{1}{4}$ NE $\frac{1}{4}$  sec.10, T.40 N., R.43 E., Pend Oreille County, Hydrologic Unit 17010216, at Boundary Dam 1.0 mi upstream from international boundary, 8.8 mi north of Metaline Falls, and at mile 17.

DRAINAGE AREA.--25,200 mi<sup>2</sup>, approximately.

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--April 1999 to current year.

REVISED RECORDS.--WDR WA-03-1: Revised figures of maximum, minimum, and mean of total partial pressure for 1999 and 2000 water years.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: April 1999 to current year.

TOTAL DISSOLVED GAS: April 1999 to current year.

INSTRUMENTATION.--Water-quality monitor since April 1999.

REMARKS.--Temperature records rated excellent. Total dissolved gas records rated good, except for Oct. 13, 17, 20, Nov. 20, 21, Jan. 8, 21, Feb. 8, Apr. 17, May 16, June 8, 17, 30, Aug. 18-20, and Sept. 26., which are fair, and Jan. 7, July 15, and Sept. 13, which are poor.

EXTREMES FOR PERIOD OF RECORD.--

WATER TEMPERATURE: Maximum recorded, 25.2°C, Aug. 5, 2003, but may have been higher during periods of missing record; minimum recorded, 0.0°C, at times during winter periods.

TOTAL DISSOLVED GAS: Maximum recorded, 137 percent saturation, June 22, 2002; minimum, 90 percent saturation, Sept. 2, 2003, but may have been lower during periods of missing record.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum, 24.6°C, Aug. 14, 15; minimum, 0.0°C, several days during January.

TOTAL DISSOLVED GAS: Maximum, 130 percent saturation, June 11, 12; minimum, 94 percent saturation, Jan. 15, 23, 24.

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	16.4	16.2	16.2	9.4	9.1	9.3	5.5	5.1	5.3	3.2	3.0	3.1
2	16.3	16.0	16.1	9.1	8.7	8.9	5.1	4.8	5.0	3.1	2.8	3.0
3	16.1	15.9	16.0	8.7	8.2	8.5	4.8	4.7	4.8	2.9	2.7	2.8
4	15.9	15.8	15.9	8.2	7.9	8.0	4.7	4.6	4.6	2.7	2.4	2.6
5	15.9	15.7	15.8	7.9	7.8	7.8	4.6	4.6	4.6	2.5	1.8	2.2
6	15.7	15.6	15.7	7.8	7.8	7.8	4.6	4.4	4.5	1.9	1.1	1.5
7	15.6	15.4	15.5	7.8	7.7	7.8	4.4	4.2	4.3	1.1	---	---
8	15.4	15.3	15.3	7.8	7.7	7.7	4.2	4.1	4.1	0.7	0.4	0.5
9	15.3	15.1	15.2	7.7	7.7	7.7	4.2	4.1	4.1	0.4	0.2	0.3
10	15.1	14.8	15.0	7.9	7.6	7.7	4.1	4.0	4.0	0.4	0.2	0.3
11	14.8	14.7	14.8	7.9	7.7	7.7	4.1	3.8	4.0	0.3	0.1	0.2
12	14.7	14.4	14.5	7.9	7.7	7.8	3.9	3.7	3.8	0.2	0.0	0.1
13	14.4	14.2	14.3	7.8	7.6	7.7	4.0	3.8	3.9	0.1	0.0	0.0
14	14.3	14.2	14.3	7.6	7.4	7.6	4.1	3.9	4.0	0.0	0.0	0.0
15	14.3	14.3	14.3	7.4	7.3	7.4	4.0	3.9	4.0	0.0	0.0	0.0
16	14.3	14.2	14.3	7.3	7.1	7.2	4.1	3.9	4.0	0.0	0.0	0.0
17	14.2	14.1	14.2	7.2	7.0	7.1	4.5	4.1	4.3	0.0	0.0	0.0
18	14.1	13.7	13.9	7.0	7.0	7.0	4.6	4.5	4.6	0.0	0.0	0.0
19	13.7	13.3	13.5	7.0	6.8	6.9	4.6	4.3	4.5	0.0	0.0	0.0
20	13.3	13.1	13.2	6.8	---	---	4.3	4.0	4.2	0.0	0.0	0.0
21	13.1	12.7	12.9	6.7	6.5	6.6	4.2	4.0	4.1	0.0	0.0	0.0
22	12.7	12.5	12.6	6.5	6.2	6.4	4.3	4.2	4.2	0.0	0.0	0.0
23	12.5	12.2	12.4	6.2	5.9	6.1	4.2	4.0	4.1	0.0	0.0	0.0
24	12.2	11.9	12.1	6.0	5.6	5.8	4.0	3.8	3.9	0.0	0.0	0.0
25	11.9	11.2	11.6	5.6	5.5	5.6	3.8	3.4	3.7	0.0	0.0	0.0
26	11.3	10.5	10.9	5.6	5.4	5.5	3.5	3.3	3.4	0.0	0.0	0.0
27	10.5	10.0	10.2	5.6	5.5	5.6	3.3	3.2	3.3	---	0.0	---
28	10.0	9.6	9.7	5.6	5.5	5.5	3.3	3.2	3.2	0.9	0.0	0.3
29	9.6	9.4	9.4	5.7	5.5	5.6	3.3	3.1	3.2	1.7	0.8	1.3
30	9.5	9.3	9.4	5.7	5.4	5.6	3.3	3.1	3.2	2.2	1.7	1.9
31	9.5	9.4	9.4	---	---	---	3.2	3.2	3.2	2.5	2.1	2.3
MONTH	16.4	9.3	13.5	9.4	---	---	5.5	3.1	4.1	---	---	---

12398550 BOUNDARY DAM RESERVOIR NEAR METALINE FALLS, 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	2.7	2.4	2.5	2.7	2.4	2.6	5.1	4.9	5.0	11.6	11.0	11.1
2	2.9	2.6	2.7	2.9	2.4	2.7	5.2	5.0	5.1	11.3	10.8	10.9
3	2.9	2.7	2.9	3.1	2.5	3.0	5.6	5.1	5.2	11.5	11.0	11.3
4	3.0	2.9	3.0	3.4	3.0	3.2	5.7	5.1	5.2	11.7	11.5	11.6
5	3.1	2.8	3.0	3.6	3.1	3.4	5.6	5.2	5.4	11.8	11.2	11.4
6	3.0	2.6	2.9	4.0	3.4	3.7	5.9	5.5	5.6	11.9	11.2	11.4
7	2.9	2.8	2.9	4.4	3.9	4.1	7.0	5.8	6.1	11.8	11.5	11.7
8	2.8	2.5	2.7	4.6	4.2	4.3	6.5	6.1	6.3	12.3	11.6	11.8
9	2.7	2.4	2.6	4.7	4.4	4.5	7.2	6.4	6.6	12.1	11.8	11.9
10	2.6	2.2	2.4	5.5	4.6	4.8	7.1	6.6	6.7	12.0	11.6	11.8
11	2.3	2.0	2.2	5.1	4.8	4.9	7.0	6.7	6.9	12.0	11.6	11.8
12	2.1	1.8	2.0	5.2	5.0	5.1	7.2	7.0	7.1	12.8	12.0	12.4
13	2.0	1.9	2.0	5.9	5.2	5.4	8.2	7.1	7.4	13.2	12.4	12.7
14	2.0	1.8	2.0	6.0	5.4	5.5	7.9	7.3	7.5	13.4	12.7	13.1
15	2.0	1.8	2.0	5.9	5.4	5.6	7.7	7.5	7.6	13.8	13.3	13.6
16	2.0	1.9	1.9	5.9	5.6	5.8	7.8	7.7	7.7	13.6	13.0	13.4
17	2.0	1.9	1.9	6.3	5.9	6.1	8.1	7.7	7.8	13.0	12.5	12.8
18	2.0	1.8	1.9	6.6	6.1	6.2	8.1	7.7	7.7	12.9	12.5	12.8
19	1.9	1.7	1.8	6.2	6.1	6.2	8.0	7.7	7.8	13.2	12.9	13.1
20	1.8	1.5	1.7	6.5	6.1	6.2	8.1	7.8	7.9	13.2	12.7	13.0
21	1.8	1.6	1.7	6.3	6.0	6.2	8.5	8.0	8.1	12.7	12.2	12.4
22	1.8	1.7	1.7	6.0	5.9	5.9	9.2	8.2	8.5	12.5	12.2	12.3
23	1.9	1.7	1.8	6.0	5.8	5.9	9.0	8.6	8.7	12.8	12.5	12.6
24	2.0	1.8	1.9	6.0	5.8	5.9	9.7	8.8	9.1	12.5	12.3	12.4
25	2.1	1.8	2.0	6.1	5.8	5.9	10.2	9.2	9.7	12.8	12.5	12.7
26	2.2	2.0	2.1	5.8	5.8	5.8	10.9	10.0	10.4	13.5	12.7	12.9
27	2.4	2.2	2.3	5.9	5.8	5.8	11.5	10.6	10.9	13.8	13.0	13.3
28	2.5	2.3	2.4	6.0	5.7	5.8	11.7	11.0	11.3	14.1	13.4	13.8
29	---	---	---	5.7	5.5	5.6	11.8	11.4	11.5	15.0	14.0	14.6
30	---	---	---	5.5	5.2	5.4	11.6	11.1	11.3	15.8	14.9	15.4
31	---	---	---	5.2	4.9	5.1	---	---	---	16.1	15.6	15.9
MONTH	3.1	1.5	2.2	6.6	2.4	5.1	11.8	4.9	7.7	16.1	10.8	12.6
	JUNE			JULY			AUGUST			SEPTEMBER		
1	16.1	16.0	16.0	18.7	18.0	18.3	23.3	22.9	23.1	21.6	20.8	21.1
2	16.5	16.0	16.1	18.8	18.4	18.6	23.6	23.1	23.3	21.5	20.7	21.0
3	16.2	15.8	15.9	18.9	18.5	18.7	23.6	23.2	23.3	20.8	20.6	20.7
4	16.3	15.8	15.9	19.0	18.3	18.5	23.6	23.1	23.3	20.6	20.5	20.6
5	16.4	15.7	16.0	18.9	18.3	18.5	23.6	23.0	23.2	20.7	20.5	20.6
6	15.8	14.3	15.0	19.4	18.7	19.1	24.0	23.0	23.2	20.6	20.3	20.4
7	14.3	14.2	14.2	19.8	19.3	19.5	24.2	22.9	23.1	21.0	19.8	20.3
8	14.8	14.3	14.6	19.9	19.4	19.6	24.1	23.0	23.2	20.6	19.6	20.0
9	14.7	14.0	14.4	19.6	19.3	19.4	24.2	23.1	23.3	19.7	19.5	19.6
10	14.2	14.0	14.1	19.8	19.3	19.4	24.1	23.3	23.6	19.5	19.4	19.4
11	14.5	14.2	14.3	19.9	19.5	19.6	24.1	23.6	23.7	19.4	19.3	19.4
12	14.7	14.4	14.6	19.9	19.5	19.6	24.1	23.7	23.8	19.3	19.2	19.3
13	14.8	14.6	14.7	20.1	19.5	19.6	24.2	23.6	23.8	---	---	---
14	14.8	14.6	14.7	20.4	19.7	19.9	24.6	23.6	23.9	---	---	---
15	14.7	14.4	14.6	20.6	20.1	20.3	24.6	23.5	23.8	18.8	18.3	18.6
16	14.4	14.1	14.3	20.8	20.5	20.6	24.2	23.5	23.6	18.4	18.1	18.2
17	14.7	14.2	14.5	20.9	20.6	20.7	23.6	23.2	23.4	18.8	17.9	18.0
18	15.0	14.7	14.8	21.8	20.7	20.9	23.7	23.1	23.3	17.9	17.8	17.9
19	15.6	14.9	15.1	21.2	20.8	20.9	23.8	22.9	23.1	18.1	17.6	17.8
20	15.3	15.0	15.1	22.1	21.0	21.3	23.9	---	---	17.9	17.5	17.7
21	16.2	15.2	15.9	22.2	21.2	21.4	23.6	22.5	22.7	17.6	17.2	17.4
22	16.9	16.2	16.5	21.8	21.6	21.7	23.1	22.4	22.6	17.2	17.0	17.0
23	16.9	16.4	16.7	22.5	21.7	22.0	22.5	22.4	22.4	17.2	16.9	17.0
24	17.4	16.9	17.2	22.5	21.9	22.1	23.3	22.2	22.4	17.0	16.8	16.9
25	17.6	17.1	17.4	22.4	22.0	22.1	22.5	22.0	22.2	17.2	16.7	16.9
26	18.0	17.4	17.7	22.5	22.0	22.1	22.6	21.9	22.1	16.9	16.4	16.6
27	17.8	17.4	17.7	23.3	22.0	22.2	22.4	21.9	22.0	16.6	16.1	16.3
28	17.4	17.0	17.1	23.1	21.8	22.3	22.5	21.8	22.0	16.2	15.9	16.1
29	17.9	17.0	17.3	23.2	22.1	22.4	21.8	21.4	21.6	16.0	15.5	15.8
30	18.3	17.4	17.8	23.0	22.4	22.6	21.8	21.3	21.4	15.6	15.4	15.5
31	---	---	---	23.5	22.6	22.9	21.7	21.0	21.2	---	---	---
MONTH	18.3	14.0	15.7	23.5	18.0	20.5	24.6	---	---	---	---	---

## 12398550 BOUNDARY DAM RESERVOIR NEAR METALINE FALLS, WA—Continued

TOTAL PARTIAL PRESSURE OF DISSOLVED GASES, WATER, UNFILTERED, PERCENT OF SATURATION  
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	103	100	101	98	97	98	97	96	96	99	97	98
2	104	101	102	98	97	98	97	96	96	98	96	97
3	103	101	102	97	96	97	98	96	97	97	96	97
4	103	101	102	97	97	97	99	98	99	97	96	97
5	103	101	101	98	97	97	99	99	99	98	97	97
6	105	102	103	99	98	98	100	99	99	100	98	99
7	104	101	102	98	97	98	100	98	99	99	99	99
8	105	102	103	99	97	98	99	97	98	100	99	99
9	105	101	102	98	97	98	97	95	96	99	97	98
10	101	99	100	97	96	97	97	95	96	98	97	97
11	100	99	99	98	97	97	97	95	96	98	97	97
12	99	98	99	98	97	97	96	95	95	98	96	97
13	99	98	98	97	97	97	99	96	97	97	95	96
14	100	98	100	98	96	97	100	98	99	96	95	95
15	102	100	101	98	98	98	99	97	98	104	94	96
16	103	102	102	98	97	97	98	96	97	104	96	97
17	103	102	102	97	96	97	98	96	97	99	97	98
18	102	100	101	97	97	97	101	98	99	99	98	98
19	100	99	99	97	96	96	103	101	102	99	98	98
20	99	98	98	97	96	96	103	100	101	99	98	99
21	100	99	99	98	97	97	102	100	101	100	97	98
22	101	99	100	99	98	98	101	98	99	98	95	96
23	101	99	100	99	98	99	99	97	98	96	94	95
24	100	98	99	99	98	99	100	98	99	95	94	94
25	101	98	99	99	99	99	101	100	100	96	95	95
26	98	97	98	99	98	98	102	99	101	97	96	96
27	99	97	97	99	97	98	99	97	98	100	95	96
28	99	98	99	97	96	96	98	97	97	101	95	97
29	102	98	99	97	96	97	99	98	99	103	98	99
30	102	99	101	97	97	97	102	98	100	103	100	102
31	101	97	99	---	---	---	101	99	99	102	99	101
MONTH	105	97	100	99	96	97	103	95	98	104	94	97
DAY	FEBRUARY			MARCH			APRIL			MAY		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	100	99	99	103	103	103	102	100	101	114	112	113
2	102	100	101	103	102	103	102	100	101	113	108	111
3	100	100	100	103	102	103	103	101	102	108	106	107
4	102	100	101	103	102	103	103	102	102	110	107	108
5	101	101	101	103	102	103	102	101	101	112	109	110
6	101	100	101	104	103	103	103	101	102	111	109	110
7	101	100	101	105	103	104	106	103	104	111	108	109
8	100	100	100	105	103	104	105	104	105	109	107	108
9	100	99	99	104	103	104	105	104	104	110	107	109
10	100	98	99	106	103	104	105	103	104	109	106	107
11	101	100	100	106	104	105	106	104	105	111	107	109
12	102	100	101	105	104	105	105	104	104	115	109	112
13	101	101	101	106	104	105	106	103	104	117	112	114
14	101	101	101	107	105	106	105	104	104	117	114	115
15	101	99	100	107	105	106	104	103	104	117	113	115
16	100	99	99	107	106	106	105	104	105	119	115	116
17	101	99	100	106	105	105	106	105	105	121	117	119
18	102	100	101	106	105	105	105	104	105	120	117	119
19	103	101	102	105	104	105	105	104	104	122	119	121
20	102	101	101	105	104	105	106	104	105	122	120	121
21	101	100	100	104	103	103	105	104	104	124	120	123
22	100	100	100	104	102	103	107	104	105	125	122	124
23	100	100	100	103	102	103	108	106	107	123	122	123
24	101	100	100	102	101	102	110	107	108	124	123	124
25	101	100	101	102	101	101	---	---	---	125	123	124
26	102	101	101	102	101	101	---	---	---	125	122	124
27	102	101	101	103	102	103	---	---	---	124	120	122
28	103	102	103	103	102	103	---	---	---	123	118	121
29	---	---	---	102	101	102	111	108	109	118	115	117
30	---	---	---	101	99	101	114	108	111	116	114	115
31	---	---	---	100	99	100	---	---	---	115	113	113
MONTH	103	98	100	107	99	104	---	---	---	125	106	116

12398550 BOUNDARY DAM RESERVOIR NEAR METALINE FALLS, WA—Continued

TOTAL PARTIAL PRESSURE OF DISSOLVED GASES, WATER, UNFILTERED, PERCENT OF SATURATION—CONTINUED  
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	JUNE			JULY			AUGUST			SEPTEMBER		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	113	110	111	113	111	112	105	102	104	101	96	99
2	111	109	110	112	111	112	105	102	103	102	98	100
3	109	107	108	111	110	111	103	100	102	101	99	100
4	115	109	112	111	109	110	103	101	102	100	98	99
5	116	115	115	109	108	108	104	101	102	100	97	99
6	117	114	115	111	109	110	105	101	103	100	98	99
7	120	116	118	110	108	109	105	101	103	101	97	99
8	122	120	121	111	107	109	105	101	103	102	98	100
9	129	122	126	107	106	106	105	101	103	101	99	100
10	129	125	127	105	104	104	105	101	103	99	97	99
11	130	125	128	104	103	103	104	101	103	99	97	98
12	130	126	128	104	102	103	103	101	102	99	97	98
13	126	123	125	103	101	102	103	100	101	99	97	98
14	124	122	123	104	102	103	104	99	102	---	---	---
15	122	120	121	105	103	104	103	100	101	99	98	99
16	123	121	122	105	104	105	103	100	102	99	98	98
17	121	120	121	105	103	104	102	100	101	100	97	98
18	122	117	120	107	103	105	103	99	101	98	98	98
19	118	117	118	106	104	105	103	99	101	99	97	98
20	120	117	118	106	103	104	103	99	101	98	97	98
21	123	119	121	106	103	104	103	99	101	98	97	97
22	122	121	121	105	102	104	103	99	101	98	97	98
23	124	120	122	105	102	104	101	100	100	100	98	99
24	121	119	120	105	102	103	102	99	100	99	98	99
25	120	116	119	104	101	103	101	99	100	99	98	99
26	118	115	117	104	100	103	103	98	100	99	98	99
27	117	114	116	105	100	103	102	99	100	99	97	98
28	118	113	115	105	100	103	102	99	100	99	97	98
29	115	111	113	105	102	104	101	98	100	101	98	99
30	112	110	111	105	103	104	100	97	99	101	101	101
31	---	---	---	105	102	104	101	96	99	---	---	---
MONTH	130	107	119	113	100	105	105	96	101	---	---	---

## 12398600 PEND OREILLE RIVER AT INTERNATIONAL BOUNDARY

LOCATION.--Lat 48°59'56", long 117°21'09", in SW¼NE¼ sec.3, T.40 N., R.43 E., Pend Oreille County, Hydrologic Unit 17010216, on left bank 0.1 mi upstream from international boundary, 0.9 mi downstream from Boundary Dam, 6.0 mi downstream from Slate Creek, 9.7 mi north of Metaline Falls, and at mile 16.1.

DRAINAGE AREA.--25,200 mi<sup>2</sup>, approximately.

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--November 1908 to September 1910 (gage heights only), December 1912 to October 1995, October 1996 to current year. Prior to October 1928, published as "Clark Fork at Metaline Falls," October 1928 to September 1937 as "Clark Fork below Z Canyon, near Metaline Falls," and October 1938 to September 1964 as "below Z Canyon, near Metaline Falls." Concurrent records published for present site December 1962 to September 1964.

REVISED RECORDS.--WSP 442: 1913, WSP 1716: 1919.

GAGE.--Daily discharge determined from flow through turbines plus spillway flow when present. Datum of gage is 1,700.00 ft above NGVD of 1929 (City of Seattle Boundary Dam datum). Prior to Dec. 20, 1928, nonrecording gage at Metaline Falls at datum approximately 1,983.4 ft above NGVD of 1929. Dec. 20, 1928, to Sept. 30, 1964, water-stage recorder at site 1.3 mi upstream at datum 1,721.18 ft NGVD of 1929 (levels by Corps of Engineers).

REMARKS.--Flow regulated by Boundary Reservoir 0.9 mi upstream beginning April 1967, Box Canyon Reservoir beginning June 1955, Pend Oreille Lake beginning June 1952, Flathead Lake beginning April 1938, Hungry Horse Reservoir beginning September 1951, and by several smaller reservoirs and powerplants. In 1980 there were diversions for irrigation of 429,700 acres upstream from the station and there probably has not been any appreciable change since that time. Chemical analyses October 1973 to September 1986. Specific conductance records January 1974 to September 1981. Water temperature records April 1974 to September 1981.

COOPERATION.--Discharge records at Boundary Dam provided by Seattle City Light's Power Resources Branch. The U.S. Geological Survey made 6 discharge measurements at this site during the year.

AVERAGE DISCHARGE.--92 years (water years 1913-95, 1997-2005), 26,430 ft<sup>3</sup>/s, 19,150,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 171,300 ft<sup>3</sup>/s, June 13, 1948, gage height, 60.25 ft, site and datum then in use; minimum daily discharge, no flow Aug. 14, 21, 28, Sept. 4, 1988, Aug. 7, 1994, result of regulation.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 1894 reached a stage of 69.0 ft, from floodmarks, at site and datum 1.3 mi upstream.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 71,400 ft<sup>3</sup>/s, June 10; minimum daily discharge, 905 ft<sup>3</sup>/s, Sept. 11.

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	26,200	23,800	18,900	17,000	20,000	14,100	19,200	30,600	32,700	34,000	14,900	10,500
2	25,500	28,300	18,600	15,400	18,500	14,700	19,700	32,600	33,000	35,900	16,500	8,690
3	25,500	24,900	19,400	21,600	18,200	14,900	12,100	29,500	36,200	32,500	15,700	8,880
4	28,000	23,000	16,900	19,000	17,400	16,400	17,600	30,200	40,000	30,500	16,800	5,150
5	25,800	20,100	11,100	15,900	15,000	14,400	18,400	29,100	40,300	32,800	15,100	6,640
6	27,400	20,400	17,000	17,400	12,300	11,400	18,200	25,200	42,300	32,800	12,700	8,150
7	27,300	15,900	17,400	14,300	18,300	11,200	17,800	28,400	49,100	31,100	11,000	9,500
8	24,900	15,900	22,100	10,700	18,700	10,900	20,300	23,100	53,600	27,400	12,500	9,260
9	24,500	16,200	19,100	9,570	15,900	10,500	19,900	30,500	67,800	26,500	12,100	7,150
10	21,700	16,600	21,900	17,100	19,000	11,700	14,200	31,100	71,400	25,100	12,000	6,630
11	22,400	18,600	21,200	13,400	16,200	10,200	20,000	34,700	64,500	23,700	12,700	905
12	24,700	16,600	23,700	11,700	15,300	10,500	20,600	35,900	58,700	24,200	12,100	5,350
13	21,800	14,500	24,300	13,700	9,300	2,980	18,000	36,800	52,000	20,300	12,100	7,400
14	23,000	13,800	26,300	12,100	17,200	11,800	20,700	36,900	50,200	23,100	7,900	7,630
15	20,500	16,300	24,300	13,700	17,700	13,500	22,300	38,100	50,000	22,700	12,400	7,450
16	19,100	16,400	27,200	9,260	16,500	16,600	18,600	41,600	48,100	21,900	10,000	7,080
17	20,200	16,300	28,200	11,900	15,700	13,200	13,100	43,300	47,000	19,300	11,400	8,360
18	20,900	13,100	24,400	15,700	15,400	10,300	21,600	43,900	46,600	19,100	10,700	3,780
19	22,700	18,200	25,400	20,100	15,400	17,400	20,000	43,900	44,500	19,200	11,300	7,660
20	20,800	14,700	23,700	19,800	10,100	6,520	22,400	51,600	45,500	17,100	11,700	8,960
21	20,800	8,200	22,400	21,300	13,500	15,000	23,800	51,900	46,200	16,900	7,080	12,400
22	21,900	15,200	20,300	20,100	16,800	13,000	23,500	50,700	43,500	14,400	11,400	14,100
23	22,900	13,600	20,100	20,600	13,900	14,000	21,600	52,500	49,100	14,600	11,500	14,200
24	19,300	16,000	23,800	20,700	16,400	12,600	18,700	52,200	42,200	12,200	13,300	11,200
25	21,600	16,000	17,700	22,700	16,500	10,600	27,200	49,300	39,900	13,800	13,300	9,510
26	23,500	18,800	16,500	23,500	14,900	15,400	27,000	45,900	39,100	15,800	13,300	13,000
27	24,000	15,500	20,900	25,800	9,350	9,880	29,300	41,300	38,200	13,400	10,800	11,600
28	23,000	10,100	20,500	24,100	15,100	17,600	30,200	39,100	35,200	13,300	8,880	11,900
29	25,200	19,400	13,800	23,900	---	19,000	34,200	35,600	36,700	13,100	11,000	16,000
30	24,500	18,200	18,200	25,900	---	19,500	34,000	33,700	35,800	14,600	9,680	15,600
31	20,800	---	23,700	23,600	---	19,800	---	30,700	---	13,500	10,000	---
TOTAL	720,400	514,600	649,000	551,530	438,550	409,580	644,200	1,179,900	1,379,400	674,800	371,840	274,635
MEAN	23,240	17,150	20,940	17,790	15,660	13,210	21,470	38,060	45,980	21,770	11,990	9,154
MAX	28,000	28,300	28,200	25,900	20,000	19,800	34,200	52,500	71,400	35,900	16,800	16,000
MIN	19,100	8,200	11,100	9,260	9,300	2,980	12,100	23,100	32,700	12,200	7,080	905
AC-FT	1,429,000	1,021,000	1,287,000	1,094,000	869,900	812,400	1,278,000	2,340,000	2,736,000	1,338,000	737,500	544,700
CAL YR	2004	TOTAL	7,621,540	MEAN	20,820	MAX	48,600	MIN	4,160	AC-FT	15,120,000	
WTR YR	2005	TOTAL	7,808,435	MEAN	21,390	MAX	71,400	MIN	905	AC-FT	15,490,000	

12398600 PEND OREILLE RIVER AT INTERNATIONAL BOUNDARY, WA—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1974 to 1981 (National Stream-quality Accounting Network Station). Water-quality monitor April 1999 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: January 1974 to September 1981.

WATER TEMPERATURE: April 1974 to September 1981; April 1999 to current year.

TOTAL DISSOLVED GAS: May 1999 to current year.

INSTRUMENTATION.--Water-quality monitor April 1974 to September 1981; April 1999 to current year.

REMARKS.--Interruptions in the record were due to malfunctions of the instrument. Temperature records excellent, except the following days: Dec. 31, which is good, Sept. 11 is fair, and Oct. 21-27, 30, Nov. 1-15, Feb. 21, and June 13, 14, 17 are poor. Total dissolved gas records good except Oct. 20, 24, 31, Nov. 2, 16, Apr. 28, June 12, 14, 17, 24, July 15, 17, Aug. 4, which are fair, and Oct. 25, Nov. 1, 3, Dec. 30, May 26, an June 13, 15, 16, which are poor. In addition to the water-quality monitor record, samples were collected approximately once a month from 1974 to 1981.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 242 microsiemens, July 17, 1974; minimum, 62 microsiemens, Apr. 25, 1975.

WATER TEMPERATURE: Maximum, 24.5°C (rounded), July 28-30, 1975, (unrounded), Aug. 2, 4, 2003; minimum, 0.0°C, at times during winter periods.

TOTAL DISSOLVED GAS: Maximum, 142 percent saturation, Aug. 7, 15, 2000, and July 15, 2001, but may have been higher during periods of missing record; minimum, 92 percent saturation, Dec. 18, 20, 28, 2000, but may have been lower during periods of missing record.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum, 23.7°C, Aug. 11-13; minimum, 0.0°C, Jan. 13-17.

TOTAL DISSOLVED GAS: Maximum, 140 percent saturation, Aug. 22; minimum, 93 percent saturation, Jan. 23, 24, 27, but may have been lower during periods of missing record.

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	16.4	16.0	16.3	9.4	9.2	9.3	5.7	5.4	5.6	3.5	3.3	3.4
2	16.2	15.9	16.2	9.2	8.8	9.0	5.4	5.1	5.2	3.4	3.1	3.3
3	16.1	15.9	16.0	8.8	---	---	5.1	4.9	5.0	3.2	2.9	3.1
4	15.9	15.8	15.9	8.3	8.0	8.1	5.0	4.7	4.9	2.9	2.4	2.8
5	15.8	15.6	15.8	8.0	7.9	7.9	4.9	4.8	4.9	2.8	2.1	2.5
6	15.8	15.7	15.7	7.9	7.8	7.9	4.9	4.7	4.8	2.2	1.4	1.9
7	15.7	15.4	15.6	7.9	7.8	7.8	4.8	4.5	4.6	1.5	0.7	1.1
8	15.4	15.2	15.4	7.8	7.7	7.8	4.6	4.2	4.4	0.8	0.4	0.6
9	15.3	15.2	15.2	7.8	7.8	7.8	4.5	4.4	4.4	0.5	0.3	0.4
10	15.2	14.9	15.0	7.8	7.7	7.8	4.4	4.2	4.3	0.6	0.3	0.4
11	14.9	14.7	14.8	7.8	7.8	7.8	4.4	4.1	4.2	0.5	0.2	0.3
12	14.8	14.4	14.6	7.8	7.8	7.8	4.2	4.0	4.1	0.3	0.1	0.1
13	14.4	14.3	14.4	7.8	7.6	7.7	4.3	4.0	4.2	0.3	0.0	0.0
14	14.4	14.2	14.3	7.7	7.5	7.6	4.3	4.2	4.3	0.2	0.0	0.0
15	14.4	14.3	14.3	7.5	7.3	7.5	4.4	4.1	4.2	0.0	0.0	0.0
16	14.4	14.3	14.3	7.5	7.3	7.4	4.4	4.1	4.2	0.3	0.0	0.0
17	14.3	14.1	14.2	7.4	7.3	7.4	4.8	4.4	4.5	0.2	0.0	0.1
18	14.2	13.8	14.0	7.3	7.2	7.2	4.8	4.7	4.8	0.4	0.1	0.1
19	13.8	13.4	13.6	7.2	7.1	7.2	4.8	4.6	4.7	0.3	0.1	0.1
20	13.4	13.1	13.2	7.1	6.9	7.0	4.6	4.3	4.4	0.4	0.1	0.1
21	13.1	12.8	12.9	6.9	6.8	6.9	4.5	4.2	4.4	0.2	0.1	0.1
22	12.8	12.6	12.6	6.8	6.5	6.6	4.5	4.4	4.5	0.2	0.1	0.1
23	12.6	12.2	12.4	6.5	6.2	6.4	4.5	4.3	4.4	0.2	0.1	0.1
24	12.2	11.9	12.1	6.2	5.9	6.1	4.3	4.1	4.2	0.2	0.1	0.1
25	11.9	11.3	11.7	5.9	5.8	5.8	4.1	3.8	4.0	0.2	0.1	0.2
26	11.3	10.6	10.9	5.8	5.6	5.7	3.8	3.6	3.7	0.2	0.2	0.2
27	10.6	10.0	10.3	5.8	5.7	5.8	3.6	3.5	3.6	0.2	0.2	0.2
28	10.1	9.6	9.8	5.8	5.5	5.8	3.6	3.5	3.5	1.1	0.2	0.5
29	9.7	9.4	9.5	5.9	5.7	5.9	3.5	3.5	3.5	1.9	1.1	1.5
30	9.5	9.4	9.4	5.9	5.7	5.8	3.6	3.5	3.5	2.4	1.2	2.1
31	9.5	9.4	9.5	---	---	---	3.5	3.5	3.5	2.7	1.5	2.5
MONTH	16.4	9.4	13.5	9.4	---	---	5.7	3.5	4.3	3.5	0.0	0.9

## 12398600 PEND OREILLE RIVER AT INTERNATIONAL BOUNDARY, 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	2.9	2.7	2.8	2.9	2.8	2.8	5.2	5.1	5.2	11.4	11.2	11.3
2	3.1	2.9	3.0	3.1	2.8	3.0	5.3	5.0	5.2	11.2	11.0	11.1
3	3.2	3.0	3.1	3.3	2.9	3.2	5.3	5.2	5.3	11.6	11.0	11.4
4	3.2	3.1	3.2	3.6	3.1	3.4	5.5	5.2	5.4	11.8	11.5	11.7
5	3.3	3.2	3.2	3.8	3.4	3.6	5.7	5.3	5.5	11.7	11.4	11.6
6	3.2	3.1	3.2	4.1	3.6	3.9	5.9	5.6	5.8	11.6	11.3	11.5
7	3.2	3.0	3.1	4.4	4.1	4.2	6.3	5.8	6.1	11.9	11.6	11.8
8	3.0	2.9	3.0	4.6	4.2	4.4	6.6	6.3	6.4	12.1	11.8	11.9
9	2.9	2.5	2.8	4.8	4.5	4.7	6.8	6.4	6.7	12.2	12.0	12.1
10	2.9	2.1	2.7	5.0	4.7	4.9	7.0	6.6	6.8	12.1	11.8	12.0
11	2.3	2.0	2.2	5.2	4.9	5.1	7.1	6.8	7.0	12.2	11.7	11.9
12	---	---	---	5.3	5.0	5.2	7.3	7.1	7.2	12.7	11.9	12.4
13	---	---	---	5.6	5.1	5.4	7.5	7.2	7.4	12.9	12.6	12.8
14	---	---	---	5.7	5.3	5.6	7.7	7.3	7.6	13.5	12.8	13.2
15	---	---	---	5.9	5.4	5.7	7.8	7.5	7.7	13.9	13.5	13.7
16	---	---	---	6.1	5.7	5.9	7.9	7.8	7.9	13.7	13.2	13.6
17	---	---	---	6.3	6.0	6.2	8.0	7.9	8.0	13.2	12.7	13.0
18	---	---	---	6.4	6.1	6.3	8.0	7.8	7.9	13.1	12.7	12.9
19	---	---	---	6.4	6.2	6.3	8.1	7.7	8.0	13.3	13.1	13.2
20	---	---	---	6.4	6.1	6.3	8.2	7.8	8.1	13.4	12.8	13.2
21	1.9	1.7	1.8	6.4	6.2	6.3	8.4	8.1	8.2	12.8	12.4	12.6
22	1.9	1.6	1.8	6.2	5.9	6.1	8.8	8.3	8.6	12.6	12.4	12.5
23	1.9	1.7	1.9	6.1	5.9	6.1	9.0	8.6	8.8	12.8	12.6	12.8
24	2.0	1.8	2.0	6.1	5.9	6.0	9.4	8.9	9.1	12.7	12.5	12.6
25	2.3	1.7	2.1	6.2	5.9	6.0	10.2	9.4	9.7	12.9	12.6	12.8
26	2.4	2.1	2.3	6.0	5.9	6.0	10.8	10.0	10.5	13.1	12.9	13.0
27	2.6	2.2	2.5	6.1	6.0	6.0	11.3	10.5	11.0	13.5	13.1	13.4
28	2.8	2.4	2.6	6.1	5.9	6.0	11.6	11.2	11.4	14.2	13.5	13.9
29	---	---	---	5.9	5.7	5.8	11.8	11.5	11.7	15.0	14.2	14.7
30	---	---	---	5.8	5.4	5.6	11.6	11.3	11.5	15.8	15.0	15.5
31	---	---	---	5.4	5.1	5.3	---	---	---	16.2	15.7	16.0
MONTH	---	---	---	6.4	2.8	5.2	11.8	5.0	7.9	16.2	11.0	12.8
DAY	JUNE			JULY			AUGUST			SEPTEMBER		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	16.2	16.1	16.2	18.2	17.7	18.1	22.9	22.4	22.8	20.9	20.3	20.7
2	16.3	16.2	16.2	18.5	18.2	18.4	23.2	22.7	23.0	20.7	19.9	20.5
3	16.2	16.0	16.1	18.6	18.3	18.4	23.2	22.7	23.0	20.6	---	---
4	16.1	15.9	16.0	18.4	18.1	18.3	23.2	22.9	23.0	20.4	19.8	20.3
5	16.4	15.9	16.2	18.5	18.0	18.2	23.1	22.8	23.0	20.5	19.9	20.3
6	15.9	14.5	15.3	19.2	18.5	18.9	23.0	22.4	22.8	20.3	19.7	20.1
7	14.5	14.4	14.4	19.4	19.1	19.3	23.0	22.2	22.7	20.0	19.6	19.9
8	14.9	14.5	14.8	19.4	19.1	19.3	23.0	22.5	22.9	19.7	19.3	19.6
9	14.9	14.2	14.6	19.3	19.1	19.2	23.2	22.6	23.0	19.4	19.0	19.3
10	14.4	14.2	14.3	19.3	19.1	19.2	23.5	23.0	23.3	19.3	---	---
11	14.6	14.4	14.5	19.4	19.2	19.3	23.7	23.2	23.5	19.2	18.7	19.0
12	14.8	14.6	14.8	19.5	19.2	19.4	23.7	23.0	23.5	19.1	---	---
13	14.9	14.8	14.8	19.5	19.2	19.4	23.7	22.8	23.4	19.1	---	---
14	14.9	14.8	14.9	19.9	19.4	19.6	23.6	23.2	23.5	19.0	18.7	18.9
15	---	14.6	---	20.3	19.8	20.1	23.5	23.2	23.4	18.7	18.2	18.5
16	14.6	---	---	20.5	20.3	20.4	23.4	22.9	23.3	18.2	17.8	18.1
17	14.5	14.3	14.4	20.6	20.1	20.4	23.3	22.9	23.1	18.0	17.5	17.9
18	14.7	14.5	14.6	20.6	20.2	20.5	23.1	22.8	23.0	17.9	17.2	17.7
19	15.0	14.7	14.8	20.8	20.4	20.7	22.9	22.1	22.7	17.9	17.5	17.8
20	15.0	14.8	14.9	20.9	20.5	20.8	22.6	21.8	22.4	17.7	17.2	17.6
21	15.9	15.0	15.6	21.3	20.9	21.1	22.5	21.7	22.2	17.4	17.0	17.3
22	16.3	15.9	16.2	21.5	21.0	21.4	22.4	21.9	22.3	17.1	16.4	17.0
23	16.7	16.2	16.5	21.9	21.3	21.7	22.4	21.8	22.2	17.1	16.4	16.9
24	---	16.7	---	21.9	21.5	21.8	22.2	21.8	22.1	17.0	16.4	16.9
25	---	---	---	22.0	21.4	21.8	22.0	21.7	21.9	16.9	16.4	16.7
26	---	---	---	22.1	21.5	21.9	21.9	21.4	21.8	16.7	16.3	16.5
27	---	---	---	22.1	21.6	21.9	21.8	21.3	21.7	16.3	16.1	16.2
28	---	16.8	---	22.1	21.5	21.9	21.8	20.9	21.5	16.1	15.8	16.0
29	17.2	16.8	17.0	22.3	21.7	22.1	21.4	21.0	21.3	15.9	15.6	15.8
30	17.8	17.2	17.5	22.5	22.0	22.3	21.2	20.6	21.1	15.6	15.4	15.5
31	---	---	---	22.7	22.1	22.5	21.0	20.6	20.9	---	---	---
MONTH	---	---	---	22.7	17.7	20.3	23.7	20.6	22.6	20.9	---	---



12398600 PEND OREILLE RIVER AT INTERNATIONAL BOUNDARY, WA—Continued

TOTAL PARTIAL PRESSURE OF DISSOLVED GASES, WATER, UNFILTERED, PERCENT OF SATURATION  
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	104	100	101	99	97	98	99	96	96	99	97	98
2	105	101	102	99	97	98	99	95	96	100	97	98
3	106	101	102	97	97	97	98	96	97	102	96	98
4	103	100	101	---	---	---	99	97	98	99	96	97
5	103	100	101	---	---	---	101	98	99	102	97	98
6	104	101	103	---	---	---	101	98	99	102	97	99
7	104	101	102	---	---	---	101	98	99	103	99	100
8	104	101	103	---	---	---	101	97	98	101	99	100
9	104	100	102	---	---	---	98	95	96	101	98	99
10	101	99	100	---	---	---	98	95	96	100	97	98
11	100	98	99	---	---	---	100	94	96	99	97	98
12	100	98	99	---	---	---	96	94	95	99	97	97
13	99	98	98	---	---	---	99	96	96	---	---	---
14	100	99	99	---	---	---	100	97	98	---	---	---
15	102	100	101	---	---	---	100	96	97	---	---	---
16	103	101	102	98	96	97	99	96	96	---	---	---
17	103	102	102	98	95	96	98	96	97	---	---	---
18	102	100	101	97	96	96	101	97	98	99	96	97
19	100	99	99	100	95	96	103	100	102	98	96	97
20	101	98	99	97	95	96	103	99	101	99	97	97
21	---	---	---	97	96	96	103	99	101	99	95	97
22	---	---	---	99	97	97	102	97	99	99	94	96
23	---	---	---	100	98	99	100	97	98	97	93	94
24	100	98	99	101	98	99	105	98	98	96	93	94
25	99	98	99	100	98	99	101	99	100	97	94	95
26	---	---	---	98	97	97	102	99	100	100	95	96
27	99	97	97	99	96	97	101	97	98	97	93	95
28	100	97	98	98	96	97	98	96	97	99	94	95
29	102	98	99	97	95	96	101	98	99	100	96	97
30	103	100	101	100	96	97	101	99	100	103	99	100
31	101	97	99	---	---	---	101	98	99	103	98	99
MONTH	---	---	---	---	---	---	105	94	98	---	---	---
	FEBRUARY			MARCH			APRIL			MAY		
1	100	98	99	106	102	103	101	98	99	117	110	112
2	102	99	100	104	101	102	101	99	100	113	107	110
3	99	99	99	103	101	102	103	99	101	108	105	106
4	101	99	100	104	101	102	101	100	101	112	106	107
5	102	99	100	102	101	102	101	99	100	114	108	109
6	101	99	100	102	101	102	102	99	100	111	107	108
7	101	99	100	105	102	103	104	101	103	110	107	108
8	---	---	---	105	102	103	105	102	103	107	106	107
9	---	---	---	105	102	103	103	101	102	111	106	107
10	---	---	---	103	102	102	102	100	101	109	105	106
11	---	---	---	105	102	104	104	101	103	109	106	107
12	---	---	---	105	103	104	103	101	103	114	107	110
13	---	---	---	105	102	103	103	101	102	114	110	112
14	---	---	---	106	103	104	104	101	103	115	112	114
15	---	---	---	107	104	105	103	101	102	115	112	113
16	---	---	---	106	104	105	104	101	103	117	113	115
17	---	---	---	106	103	104	105	103	104	119	116	117
18	---	---	---	105	103	104	104	102	103	118	116	117
19	---	---	---	106	103	104	104	102	103	121	117	119
20	---	---	---	104	103	104	104	102	103	119	118	119
21	---	---	---	103	101	102	107	102	103	122	119	121
22	---	---	---	107	100	103	105	102	103	123	120	122
23	---	---	---	106	100	103	105	103	104	122	120	121
24	---	---	---	106	100	103	108	103	105	123	121	122
25	---	---	---	105	99	101	107	105	106	123	122	122
26	101	99	100	103	99	100	108	105	107	123	120	122
27	101	100	100	102	100	101	114	106	107	123	119	121
28	104	100	101	102	100	101	107	103	106	122	116	119
29	---	---	---	102	99	101	109	104	107	116	114	115
30	---	---	---	100	98	99	113	107	110	116	113	114
31	---	---	---	99	97	98	---	---	---	115	111	112
MONTH	---	---	---	107	97	102	114	98	103	123	105	114

## 12398600 PEND OREILLE RIVER AT INTERNATIONAL BOUNDARY, WA—Continued

TOTAL PARTIAL PRESSURE OF DISSOLVED GASES, WATER, UNFILTERED, PERCENT OF SATURATION—CONTINUED  
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	JUNE			JULY			AUGUST			SEPTEMBER		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	114	109	110	116	110	111	105	101	103	100	97	99
2	110	108	109	116	110	111	108	102	104	101	96	99
3	111	106	107	113	109	111	110	100	103	101	98	100
4	114	108	111	115	109	110	110	102	103	100	98	99
5	116	113	114	114	107	108	105	102	104	99	97	98
6	118	113	115	111	108	110	105	102	103	100	96	98
7	119	115	117	115	108	109	104	102	103	104	98	99
8	129	119	121	117	107	110	105	101	103	108	99	102
9	132	126	129	111	105	106	104	102	103	113	98	104
10	133	124	130	106	103	104	115	101	104	103	98	99
11	131	124	127	111	102	104	111	103	106	101	97	99
12	128	125	126	113	102	104	108	101	104	100	97	99
13	125	124	124	124	102	107	107	101	103	111	98	102
14	123	121	122	105	102	103	107	101	103	108	100	102
15	121	112	120	107	103	104	107	100	101	111	100	104
16	122	120	121	107	103	104	102	99	101	113	98	103
17	121	118	120	119	103	106	108	99	101	100	98	98
18	120	116	118	109	104	105	108	100	103	100	97	98
19	116	115	116	110	104	106	111	101	104	111	98	100
20	118	115	117	109	104	105	107	100	102	105	97	99
21	121	117	119	117	103	107	118	99	106	103	98	100
22	121	119	120	105	103	104	140	101	115	109	98	102
23	122	119	120	104	101	103	107	100	102	109	99	102
24	120	118	119	111	103	104	105	100	101	110	99	101
25	---	---	---	106	102	103	102	98	100	100	98	99
26	---	---	---	103	100	102	118	100	103	101	97	99
27	---	---	---	109	103	105	107	100	103	101	97	99
28	---	---	---	109	103	105	103	99	101	104	96	99
29	114	111	112	108	103	104	119	99	102	106	99	101
30	113	110	111	136	103	106	108	97	100	105	100	102
31	---	---	---	107	103	104	103	98	100	---	---	---
MONTH	---	---	---	136	100	106	140	97	103	113	96	100

12399500 COLUMBIA RIVER AT INTERNATIONAL BOUNDARY  
(International gaging station)

LOCATION.--Lat 49°00'03", long 117°37'42", in NE $\frac{1}{4}$ SE $\frac{1}{4}$  sec.4, T.40 N., R.41 E., Stevens County, Hydrologic Unit 17020001, on left bank at international boundary, 0.5 mi downstream from Pend Oreille River, and at mile 745.0.

DRAINAGE AREA.--59,700 mi<sup>2</sup>, approximately.

PERIOD OF RECORD.--October 1937 to current year. Prior to March 1938, monthly discharge only, published in WSP 1316.

REVISED RECORDS.--WSP 932: 1937(m), 1938(M), 1939(m).

GAGE.--Water-stage recorder. Datum of gage is NGVD of 1929 (Bureau of Reclamation datum). Prior to Apr. 27, 1939, nonrecording gage at same site and datum. Since May 31, 1942, auxiliary water-stage recorder and Jan. 1 to May 30, 1942, auxiliary nonrecording gage 2.2 mi downstream from base gage at same datum.

REMARKS.--No estimated daily discharges. Records good except for periods when the base gage height drops below 1,300 ft, which are fair. Flow regulated by numerous reservoirs. It was estimated that 436,400 acres were under irrigation in the United States in 1980 with diversions for irrigation of an additional 35,000 acres in Canada. U.S. Geological Survey satellite telemeter at station.

COOPERATION.--This station is maintained by the United States under agreement with Canada.

AVERAGE DISCHARGE.--68 years (water years 1938-2005), 99,210 ft<sup>3</sup>/s, 71,880,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 550,100 ft<sup>3</sup>/s, June 12, 1948, elevation, 1,338.13 ft; minimum discharge, 18,000 ft<sup>3</sup>/s, Feb. 7, 1954, elevation, 1,289.38 ft.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in June 1894 reached a stage of 1,346 ft, from information by Bureau of Reclamation, discharge, 680,000 ft<sup>3</sup>/s. A discharge of about 12,900 ft<sup>3</sup>/s occurred Jan. 30 or 31, 1937, based on information from other gaging stations, elevation, 1,287.9 ft, from rating curve extended below 1,291.6 ft and may have been as low in January 1930.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 175,000 ft<sup>3</sup>/s, June 10, elevation, 1,311.45 ft; minimum discharge, 39,600 ft<sup>3</sup>/s, Apr. 14.

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	79,800	90,700	113,000	92,800	84,300	64,500	63,900	82,900	119,000	136,000	118,000	91,200
2	78,900	92,200	107,000	96,500	82,700	62,500	61,400	82,100	129,000	137,000	117,000	86,600
3	75,900	93,700	106,000	101,000	81,800	65,500	54,100	85,500	138,000	137,000	119,000	81,900
4	78,900	92,800	108,000	101,000	74,100	68,600	58,700	84,500	135,000	132,000	117,000	76,000
5	80,300	87,500	114,000	96,900	74,800	65,800	58,300	86,100	143,000	133,000	120,000	81,900
6	79,300	83,400	111,000	92,200	72,900	56,900	59,700	82,300	140,000	141,000	117,000	83,500
7	77,500	80,500	111,000	97,600	79,600	58,100	58,800	90,000	145,000	141,000	108,000	86,200
8	77,100	82,300	113,000	88,100	82,300	52,600	61,400	91,300	144,000	138,000	112,000	89,100
9	76,500	80,700	112,000	86,600	70,100	51,000	61,500	97,700	164,000	135,000	106,000	89,000
10	78,200	81,300	102,000	91,600	80,100	52,400	56,500	102,000	167,000	138,000	108,000	82,100
11	78,800	84,800	97,600	86,600	81,800	58,200	62,600	105,000	162,000	145,000	110,000	81,600
12	78,500	84,200	102,000	79,800	75,300	57,000	60,000	106,000	158,000	141,000	109,000	75,000
13	76,400	78,500	108,000	91,100	71,700	52,800	61,400	106,000	151,000	137,000	102,000	75,700
14	76,000	78,100	120,000	94,700	76,600	55,500	58,200	112,000	148,000	136,000	103,000	79,600
15	74,500	77,400	117,000	92,500	79,700	56,600	59,900	119,000	149,000	136,000	108,000	77,300
16	73,300	80,400	114,000	81,900	79,100	61,100	60,500	129,000	143,000	141,000	103,000	81,000
17	71,900	80,300	119,000	86,500	79,300	66,300	53,500	133,000	147,000	141,000	99,900	79,200
18	72,800	77,500	119,000	87,000	79,400	60,700	61,300	129,000	152,000	141,000	99,400	73,700
19	73,600	82,300	112,000	92,600	64,300	65,600	66,200	132,000	153,000	136,000	101,000	81,900
20	75,000	81,200	117,000	90,600	57,200	53,400	61,000	131,000	154,000	138,000	102,000	83,200
21	74,300	73,100	104,000	94,900	65,200	61,900	67,000	133,000	155,000	135,000	97,200	88,100
22	73,800	82,300	95,600	90,600	65,000	64,400	67,700	132,000	156,000	128,000	103,000	88,700
23	73,600	81,500	95,400	88,800	66,800	60,800	69,100	135,000	155,000	128,000	103,000	89,000
24	73,300	80,100	98,800	90,100	66,800	58,600	64,100	133,000	156,000	127,000	96,000	80,600
25	74,200	81,000	92,100	99,200	67,300	54,900	76,700	133,000	149,000	128,000	99,400	71,700
26	76,600	85,400	93,400	96,500	65,900	62,200	82,200	133,000	142,000	123,000	101,000	84,800
27	74,300	85,800	99,500	90,100	58,400	56,000	86,500	129,000	146,000	127,000	98,000	84,100
28	78,800	85,400	102,000	104,000	65,000	64,000	87,800	119,000	139,000	120,000	91,900	86,400
29	76,000	94,800	102,000	97,200	---	64,100	94,900	125,000	136,000	120,000	94,600	84,900
30	81,900	97,900	89,000	92,600	---	66,000	91,000	113,000	138,000	116,000	88,900	84,400
31	89,400	---	96,600	92,500	---	69,100	---	113,000	---	117,000	89,300	---
TOTAL	2,379,400	2,517,100	3,291,000	2,864,100	2,047,500	1,867,100	1,985,900	3,484,400	4,413,000	4,129,000	3,241,600	2,478,400
MEAN	76,750	83,900	106,200	92,390	73,120	60,230	66,200	112,400	147,100	133,200	104,600	82,610
MAX	89,400	97,900	120,000	104,000	84,300	69,100	94,900	135,000	167,000	145,000	120,000	91,200
MIN	71,900	73,100	89,000	79,800	57,200	51,000	53,500	82,100	119,000	116,000	88,900	71,700
AC-FT	4,720,000	4,993,000	6,528,000	5,681,000	4,061,000	3,703,000	3,939,000	6,911,000	8,753,000	8,190,000	6,430,000	4,916,000
CAL YR	2004	TOTAL	31,910,100	MEAN	87,190	MAX	136,000	MIN	51,500	AC-FT	63,290,000	
WTR YR	2005	TOTAL	34,698,500	MEAN	95,060	MAX	167,000	MIN	51,000	AC-FT	68,820,000	

## KETTLE RIVER BASIN

12401500 KETTLE RIVER NEAR FERRY, WA  
(International gaging station)

LOCATION.--Lat 48°58'53", long 118°45'55", in SE $\frac{1}{4}$ NW $\frac{1}{4}$  sec.10, T.40 N., R.32 E., Ferry County, Hydrologic Unit 17020002, on right bank 0.5 mi upstream from Catherine Creek, 1.3 mi south of international boundary and Ferry, 3.2 mi upstream from Toroda Creek, and at mile 84.02.

DRAINAGE AREA.--2,200 mi<sup>2</sup>, approximately.

PERIOD OF RECORD.--August 1928 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,836.8 ft above NGVD of 1929. Prior to Nov. 23, 1928, nonrecording gage at same site and datum.

REMARKS.--Records excellent except for estimated daily discharges, which are good. Several small diversions upstream from station for irrigation. No regulation. U.S. Geological Survey satellite telemeter at station.

AVERAGE DISCHARGE.--77 years (water years 1929-2005), 1,543 ft<sup>3</sup>/s, 1,118,000 acre-ft/yr.

COOPERATION.--This station is maintained by the United States under agreement with Canada.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 21,200 ft<sup>3</sup>/s, May 29, 1948, gage height, 21.15 ft; minimum discharge, 14 ft<sup>3</sup>/s, discharge measurement, Jan. 23, 1930, but may have been less during period of ice effect Jan. 18-23, 1930.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 10,800 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)
Apr 27	1530	11,400	17.21	May 17	0330	*13,900	*18.32

Minimum discharge, 116 ft<sup>3</sup>/s, Sept. 28-30, gage height, 9.44 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	773	579	824	705	1,400	817	1,530	5,880	5,130	2,670	454	162
2	730	555	811	517	1,390	812	1,570	5,500	4,680	2,400	434	168
3	695	580	789	253	1,350	804	1,570	5,490	4,410	2,220	422	154
4	660	571	773	204	1,350	798	1,620	5,760	4,080	2,090	408	143
5	629	522	783	157	1,340	806	1,640	6,610	3,720	1,890	384	141
6	599	551	750	191	1,230	826	1,630	7,240	3,660	1,740	362	140
7	570	667	680	279	1,110	867	1,740	7,980	3,460	1,690	341	136
8	545	901	710	392	1,050	966	2,280	7,810	4,000	1,620	322	131
9	559	971	742	459	998	1,100	2,780	7,890	4,700	1,540	303	127
10	687	948	735	456	1,020	1,230	2,690	7,760	3,950	1,740	285	122
11	786	923	724	431	1,030	1,460	2,740	7,430	3,700	1,590	270	127
12	704	899	692	443	1,050	1,680	2,870	7,160	4,030	1,470	259	133
13	653	850	518	459	1,100	1,890	2,810	7,420	3,760	1,350	246	148
14	616	856	672	444	1,010	1,920	2,730	8,060	3,390	1,240	237	178
15	585	837	928	e200	929	1,900	2,630	8,830	3,180	1,160	227	188
16	572	813	919	e250	801	1,930	2,580	11,800	2,910	1,120	216	180
17	592	783	861	e340	740	1,880	2,870	12,500	2,790	1,090	214	169
18	717	747	809	e470	740	1,780	3,010	9,400	4,630	1,060	214	158
19	808	759	784	515	811	1,720	2,990	8,630	5,260	961	207	151
20	812	731	781	584	832	1,690	3,180	8,120	4,550	887	205	144
21	773	673	757	714	870	1,750	3,670	6,980	3,890	823	197	137
22	759	712	599	883	818	1,780	4,810	6,260	3,520	787	185	132
23	746	702	e520	1,030	809	1,700	6,420	5,720	3,310	797	175	129
24	715	709	460	1,130	823	1,640	7,660	5,140	2,950	806	170	128
25	677	724	520	1,240	817	1,590	8,500	4,710	2,920	739	168	127
26	647	971	597	1,320	820	1,540	9,400	4,580	3,040	677	170	125
27	627	1,010	684	1,380	815	1,540	10,600	4,660	2,700	632	167	121
28	590	937	724	1,410	802	1,590	9,740	4,960	3,110	591	158	117
29	577	856	663	1,440	---	1,650	7,880	5,380	3,510	554	153	116
30	597	822	592	1,450	---	1,610	6,630	5,500	3,040	517	153	116
31	583	---	700	1,390	---	1,550	---	5,370	---	483	155	---
TOTAL	20,583	23,159	22,101	21,136	27,855	44,816	122,770	216,530	111,980	38,934	7,861	4,248
MEAN	664	772	713	682	995	1,446	4,092	6,985	3,733	1,256	254	142
MAX	812	1,010	928	1,450	1,400	1,930	10,600	12,500	5,260	2,670	454	188
MIN	545	522	460	157	740	798	1,530	4,580	2,700	483	153	116
AC-FT	40,830	45,940	43,840	41,920	55,250	88,890	243,500	429,500	222,100	77,230	15,590	8,430

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1929 - 2005, BY WATER YEAR (WY)

MEAN	377	381	273	225	238	433	2,534	6,689	5,069	1,479	429	349
MAX	2,085	1,280	1,161	682	995	1,811	6,351	10,440	9,924	4,380	1,987	1,941
(WY)	(1942)	(1942)	(1942)	(2005)	(2005)	(1983)	(1934)	(1957)	(1974)	(1982)	(1948)	(1941)
MIN	90.9	84.3	78.2	40.3	72.5	110	300	2,222	1,338	346	97.3	79.9
(WY)	(1988)	(1930)	(1930)	(1930)	(1930)	(1930)	(1929)	(1930)	(1987)	(1934)	(2003)	(2003)

## 12401500 KETTLE RIVER NEAR FERRY, WA—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1929 - 2005	
ANNUAL TOTAL	581,760		661,973		1,543	
ANNUAL MEAN	1,590		1,814		2,543	
HIGHEST ANNUAL MEAN					1997	
LOWEST ANNUAL MEAN					1930	
HIGHEST DAILY MEAN	7,740	May 29	12,500	May 17	20,300	May 29, 1948
LOWEST DAILY MEAN	85	Jan 5	116	Sep 29	15	Jan 16, 1930
ANNUAL SEVEN-DAY MINIMUM	95	Jan 4	121	Sep 24	15	Jan 16, 1930
ANNUAL RUNOFF (AC-FT)	1,154,000		1,313,000		1,118,000	
10 PERCENT EXCEEDS	5,210		5,130		5,200	
50 PERCENT EXCEEDS	696		822		380	
90 PERCENT EXCEEDS	143		173		129	

e Estimated

## KETTLE RIVER BASIN

12404500 KETTLE RIVER NEAR LAURIER, WA  
(International gaging station)

LOCATION.--Lat 48°59'04", long 118°12'55", in SW<sup>1</sup>/<sub>4</sub>NW<sup>1</sup>/<sub>4</sub> sec.11, T.40 N., R.36 E., Ferry County, Hydrologic Unit 17020002, on right bank 1,000 ft downstream from Deep Creek, 1.1 mi south of international boundary, 1.1 mi southeast of Laurier, and at mile 29.71.

DRAINAGE AREA.--3,800 mi<sup>2</sup>, approximately.

PERIOD OF RECORD.--September 1929 to current year.

REVISED RECORDS.--WSP 737: 1930-31. WSP 862: 1937. WSP 882: 1938.

GAGE.--Water-stage recorder. Datum of gage is 1,425.5 above NGVD of 1929. Prior to Jan. 3, 1930, nonrecording gage at same site and datum.

REMARKS.--Records excellent, except for estimated daily discharges, which are good. Diversions for irrigation of about 720 acres in the United States (for 1946 from United States reports), and 2,090 acres in Canada from the Canada Year Book for 1940. U.S. Geological Survey satellite telemeter at station.

COOPERATION.--This station is maintained by the United States under agreement with Canada.

AVERAGE DISCHARGE.--76 years (water years 1930-2005), 2,924 ft<sup>3</sup>/s, 2,119,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 35,000 ft<sup>3</sup>/s, May 29, 1948, gage height, 17.25 ft; minimum daily discharge, 70 ft<sup>3</sup>/s, Jan. 11-31, 1930.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in May or June 1894 reached a stage of about 22 ft, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 18,100 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)
Apr 27	2330	18,200	11.97	May 17	0300	*22,500	*13.45

Minimum discharge, 238 ft<sup>3</sup>/s, Sept. 30, gage height, 2.66 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	1,380	1,040	1,530	1,450	2,720	1,600	3,050	10,300	9,790	4,960	933	306
2	1,300	1,050	1,540	1,270	2,710	1,610	3,080	9,630	8,770	4,530	878	306
3	1,240	1,060	1,500	e900	2,640	1,580	3,110	9,450	8,290	4,190	834	306
4	1,170	1,070	1,500	e720	2,620	1,570	3,180	9,760	7,900	3,970	808	297
5	1,120	1,030	1,530	e500	2,610	1,580	3,240	11,000	7,300	3,690	769	286
6	1,060	1,010	1,510	e620	2,490	1,620	3,220	12,500	6,940	3,400	725	277
7	1,010	1,110	1,440	e750	2,360	1,700	3,300	13,700	6,650	3,190	685	273
8	964	1,320	1,390	e900	2,190	1,870	3,900	13,800	6,660	3,120	649	266
9	958	1,520	1,420	e1,100	2,030	2,130	4,920	13,800	7,870	2,960	615	262
10	1,030	1,580	1,450	e1,200	2,070	2,400	5,010	13,700	7,230	3,000	583	254
11	1,190	1,570	1,420	e1,150	2,050	2,740	5,000	13,300	6,750	3,060	553	258
12	1,200	1,550	e1,350	e1,170	2,030	3,120	5,310	12,800	7,140	2,790	527	263
13	1,120	1,530	e1,000	e1,200	2,140	3,480	5,230	13,000	7,000	2,620	502	274
14	1,050	1,490	1,310	e1,160	2,040	3,610	5,050	14,300	6,350	2,420	483	286
15	1,000	1,500	1,590	e540	1,870	3,580	4,880	15,400	6,040	2,270	469	302
16	973	1,470	1,730	e650	1,760	3,600	4,790	18,900	5,620	2,170	453	316
17	985	1,430	1,690	e880	1,630	3,570	5,330	21,400	5,320	2,080	438	310
18	1,120	1,400	1,630	e1,220	1,570	3,420	5,670	17,100	7,110	2,010	429	298
19	1,260	1,370	1,580	e1,270	1,600	3,300	5,570	14,800	8,620	1,890	419	284
20	1,320	1,370	1,560	e1,410	1,630	3,230	5,660	14,500	8,140	1,760	406	276
21	1,290	1,290	1,540	e1,700	1,640	3,210	6,150	12,700	7,100	1,640	394	265
22	1,270	1,280	e1,250	1,980	1,660	3,330	7,450	11,500	6,540	1,570	379	259
23	1,270	1,300	e1,100	2,180	1,590	3,190	9,790	10,300	6,210	1,590	364	255
24	1,250	1,340	e970	2,320	1,610	3,100	12,100	9,410	5,650	1,560	351	251
25	1,200	1,360	1,120	2,380	1,610	3,010	13,900	8,620	5,310	1,480	341	246
26	1,160	1,560	1,240	2,480	1,600	2,930	15,300	8,300	5,530	1,360	335	249
27	1,120	1,790	1,390	2,580	1,600	2,920	17,100	8,420	5,060	1,280	329	248
28	1,090	1,740	1,420	2,620	1,590	3,000	16,900	8,920	5,290	1,200	321	243
29	1,050	1,640	e1,280	2,820	---	3,170	14,000	9,810	5,900	1,130	314	242
30	1,040	1,570	e1,170	2,830	---	3,160	11,800	10,300	5,570	1,060	310	241
31	1,050	---	1,370	2,820	---	3,090	---	10,200	---	997	307	---
TOTAL	35,240	41,340	43,520	46,770	55,660	85,420	212,990	381,620	203,650	74,947	15,903	8,199
MEAN	1,137	1,378	1,404	1,509	1,988	2,755	7,100	12,310	6,788	2,418	513	273
MAX	1,380	1,790	1,730	2,830	2,720	3,610	17,100	21,400	9,790	4,960	933	316
MIN	958	1,010	970	500	1,570	1,570	3,050	8,300	5,060	997	307	241
AC-FT	69,900	82,000	86,320	92,770	110,400	169,400	422,500	756,900	403,900	148,700	31,540	16,260

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1929 - 2005, BY WATER YEAR (WY)

MEAN	673	753	612	526	576	1,101	5,250	12,110	9,190	2,782	819	624
MAX	3,815	2,600	2,652	1,509	1,988	4,247	12,170	18,620	17,650	6,928	3,140	3,773
(WY)	(1942)	(1942)	(1942)	(2005)	(2005)	(1983)	(1934)	(1997)	(1974)	(1982)	(1976)	(1941)
MIN	176	202	154	76.5	97.9	212	1,478	4,246	2,888	759	216	145
(WY)	(1988)	(1930)	(1930)	(1930)	(1930)	(1930)	(1937)	(1930)	(1987)	(1934)	(2003)	(2003)

## 12404500 KETTLE RIVER NEAR LAURIER, WA—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1929 - 2005	
ANNUAL TOTAL	1,050,667		1,205,259			
ANNUAL MEAN	2,871		3,302		2,924	
HIGHEST ANNUAL MEAN					4,725	
LOWEST ANNUAL MEAN					1,251	
HIGHEST DAILY MEAN	13,200	May 5	21,400	May 17	34,200	May 29, 1948
LOWEST DAILY MEAN	130	Jan 5	241	Sep 30	70	Jan 11, 1930
ANNUAL SEVEN-DAY MINIMUM	147	Jan 1	246	Sep 24	70	Jan 11, 1930
ANNUAL RUNOFF (AC-FT)	2,084,000		2,391,000		2,119,000	
10 PERCENT EXCEEDS	9,220		9,120		9,600	
50 PERCENT EXCEEDS	1,270		1,590		803	
90 PERCENT EXCEEDS	310		339		290	

e Estimated

## 12409000 COLVILLE RIVER AT KETTLE FALLS, WA

LOCATION.--Lat 48°35'40", Long 118°03'41", in NE $\frac{1}{4}$ NE $\frac{1}{4}$  sec.30, T.36 N., R.38, E., Stevens County, Hydrologic Unit 17020003, on right bank 600 ft downstream from hydroelectric plant at foot of Meyers Falls, 1.0 mi south of town of Kettle Falls, and at mile 5.0.

DRAINAGE AREA.--1,007 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1922 to current year. Published as "at Meyer Falls" 1922-38.

REVISED RECORDS.--WSP 1316: 1938(M), 1941(M), 1948(M). WSP 1636: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 1,400 ft above NGVD of 1929, from topographic map. Prior to Oct. 21, 1932, nonrecording gage at site 500 ft upstream at different datum. Oct. 21, 1932, to Sept. 19, 1938, nonrecording gages at site 200 ft upstream at different datum. Sept. 20, 1938, to Mar. 20, 1949, nonrecording gage at present site and datum.

REMARKS.--Records good except for estimated daily discharges, which are fair. Several diversions upstream from station for irrigation. Regulation at low flow by powerplant. U.S. Geological Survey satellite telemeter at station.

AVERAGE DISCHARGE.--83 years (water years 1923-2005), 306 ft<sup>3</sup>/s, 221,600 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,440 ft<sup>3</sup>/s, Jan. 21, 1974, gage height, 9.84 ft; maximum gage height, 10.17 ft, Apr. 23, 1956; minimum discharge observed, 0.5 ft<sup>3</sup>/s, Aug. 15, 1930.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 731 ft<sup>3</sup>/s, Apr. 28, gage height, 7.01 ft, result of regulation; minimum discharge, 13 ft<sup>3</sup>/s, Aug. 10, result of regulation.

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	70	100	115	132	232	172	432	312	168	170	55	45
2	70	103	116	124	233	177	448	302	173	150	55	47
3	67	111	116	73	226	180	437	295	172	140	53	46
4	69	142	114	65	222	182	428	298	169	130	47	44
5	71	124	118	62	222	183	438	301	165	129	50	47
6	71	119	118	87	221	187	422	289	182	123	48	49
7	71	118	118	105	206	195	410	281	191	117	45	46
8	73	118	130	101	191	200	428	280	193	111	43	48
9	75	117	137	e103	182	213	432	279	190	114	41	50
10	75	111	141	e105	174	221	409	279	182	142	36	50
11	84	109	155	e107	176	225	402	271	181	169	38	53
12	82	110	190	e108	183	229	425	257	190	169	36	67
13	77	111	171	98	192	235	427	245	207	137	35	70
14	76	107	163	87	187	232	411	236	191	121	43	72
15	78	106	158	e85	169	228	391	241	203	106	48	74
16	80	106	149	e85	146	225	387	289	206	101	42	70
17	91	105	148	e90	142	223	431	354	196	104	39	64
18	122	109	145	99	149	221	439	326	214	101	49	63
19	157	113	145	134	154	218	414	301	223	95	57	71
20	135	115	145	174	165	222	399	289	215	81	56	57
21	110	112	138	206	160	234	389	275	188	76	50	52
22	118	106	120	223	151	242	379	269	172	76	45	44
23	130	108	84	249	157	233	374	259	157	78	44	52
24	142	115	111	258	158	223	371	246	146	81	45	57
25	117	125	115	246	160	215	373	235	141	81	46	55
26	114	139	128	225	164	214	364	224	133	72	52	56
27	107	140	125	222	166	243	354	210	141	67	48	57
28	104	121	120	227	168	420	327	197	172	63	44	57
29	103	112	130	232	---	512	324	185	191	61	44	56
30	95	110	121	232	---	492	319	169	188	58	48	57
31	103	---	126	229	---	459	---	166	---	58	48	---
TOTAL	2,937	3,442	4,110	4,573	5,056	7,655	11,984	8,160	5,440	3,281	1,430	1,676
MEAN	94.7	115	133	148	181	247	399	263	181	106	46.1	55.9
MAX	157	142	190	258	233	512	448	354	223	170	57	74
MIN	67	100	84	62	142	172	319	166	133	58	35	44
AC-FT	5,830	6,830	8,150	9,070	10,030	15,180	23,770	16,190	10,790	6,510	2,840	3,320

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

MEAN	118	154	183	210	284	500	838	684	353	156	87.9	96.3
MAX	301	401	783	1,374	970	1,410	2,168	1,744	1,035	467	258	241
(WY)	(1928)	(1928)	(1974)	(1974)	(1974)	(1983)	(1969)	(1948)	(1948)	(1948)	(1948)	(1997)
MIN	35.8	49.5	56.3	32.9	65.8	127	128	93.8	48.4	20.6	12.0	22.7
(WY)	(1932)	(1932)	(1932)	(1930)	(1937)	(1930)	(1930)	(1930)	(1926)	(1977)	(1931)	(1931)



## 12409000 COLVILLE RIVER AT KETTLE FALLS, WA—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1923 - 2005	
ANNUAL TOTAL	53,992		59,744			
ANNUAL MEAN	148		164		306	
HIGHEST ANNUAL MEAN					768	1974
LOWEST ANNUAL MEAN					70.5	1930
HIGHEST DAILY MEAN	323	Apr 22	512	Mar 29	3,360	Jan 20, 1974
LOWEST DAILY MEAN	26	Aug 5	35	Aug 13	0.50	Aug 15, 1930
ANNUAL SEVEN-DAY MINIMUM	29	Aug 11	39	Aug 8	5.3	Aug 14, 1930
ANNUAL RUNOFF (AC-FT)	107,100		118,500		221,600	
10 PERCENT EXCEEDS	273		315		720	
50 PERCENT EXCEEDS	130		139		174	
90 PERCENT EXCEEDS	56		51		65	

e Estimated