

Figure 9. Schematic diagram showing gaging stations in Kootenai River basin.

KOOTENAI RIVER BASIN

12304500 YAAK RIVER NEAR TROY, MT--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1963-73, 1975-85, May 1999 to current year.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Seasonal records 1963-73, 1975-85, April 2000 to current year.

INSTRUMENTATION.--Water temperature probe installed by U.S. Army Corps of Engineers.

REMARKS.--Prior to March 25, 1975, temperature records furnished by U.S. Army Corps of Engineers. Daily water temperature records good, except for June and July, which are fair. Unpublished records of instantaneous water temperature are available in files of the Montana District office.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE (seasonal records 1963-73, 1975-85, 2001-03): Maximum, 31.0°C, Aug. 11, 2001; minimum, 0.0°C on many days during winter periods.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: During period of seasonal operation, maximum, 27.0°C, July 30; minimum, 1.5°C on Apr. 2-7.

WATER QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Instantaneous discharge, cfs (00061)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unfltrd uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Nitrite + nitrate, water, fltrd, mg/L as N (00631)	Nitrite, water, fltrd, mg/L as N (00613)			
MAY 2003												
12...	1800	1200	7.8	66	15.0	8.5	.12	<.022	<.002			
JUN												
18...	0745	770	7.6	64	16.0	13.5	E.09	<.022	<.002			
JUL												
15...	0815	195	8.1	108	15.0	16.0	E.08	<.022	<.002			
AUG												
13...	0800	82	7.6	125	10.5	16.5	.11	<.022	<.002			
Date			Ortho-phosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, unfltrd mg/L (00665)	Suspended sediment, sieve diametr <.063mm percent (70331)	Suspended sediment concentration, mg/L (80154)	Suspended sediment load, tons/d (80155)					
MAY 2003												
12...			<.007	.004	86	1	3.2					
JUN												
18...			<.007	.005	74	2	4.2					
JUL												
15...			<.007	E.002	78	1	.53					
AUG												
13...			<.007	E.003	69	1	.22					
Date	Time	Hardness, water, unfltrd mg/L as CaCO3 (00900)	Calcium, water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	Sodium adsorption ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Alkalinity, wat flt lab, mg/L as CaCO3 (29801)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	
MAY 2003												
12...	1800	30	9.04	1.92	.56	.1	1.34	32	.25	<.17	10.3	
JUL												
15...	0815	47	13.9	2.94	.76	.1	1.97	53	.30	<.2	9.08	
Date			Residue water, fltrd, sum of constituents mg/L (70301)	Residue water, fltrd, tons/ acre-ft (70303)	Residue water, fltrd, tons/d (70302)	Arsenic, water, unfltrd ug/L (01002)	Cadmium, water, unfltrd ug/L (01027)	Chromium, water, unfltrd recover ug/L (01034)	Copper, water, unfltrd recover ug/L (01042)	Lead, water, unfltrd recover ug/L (01051)	Nickel, water, unfltrd recover ug/L (01067)	Zinc, water, unfltrd recover ug/L (01092)
MAY 2003												
12...	1.1	43	.06	141	<2	<.2	<.8	.9	.18	.25	E2	
JUL												
15...	1.3	62	.08	32.7	<2	<.04	<.8	.9	.10	.47	<2	

E Estimated

KOOTENAI RIVER BASIN
12304500 YAAK RIVER NEAR TROY, MT--Continued

WATER TEMPERATURE, DEGREES CELSIUS, APRIL 2003 TO SEPTEMBER 2003

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	6.0	2.0	3.0	10.0	5.5	7.5	10.5	7.0	9.0	18.5	14.5	17.0
2	3.5	1.5	2.5	9.0	5.5	7.0	11.0	8.0	9.5	20.0	15.0	17.5
3	4.0	1.5	2.5	7.0	5.0	6.0	12.0	7.0	9.5	18.5	13.0	16.0
4	3.5	1.5	2.5	6.5	5.0	6.0	12.0	7.0	9.5	18.5	14.0	16.5
5	3.5	1.5	2.5	7.0	4.5	5.5	14.0	8.0	10.5	20.5	15.0	17.0
6	5.5	1.5	3.0	8.0	4.0	6.0	13.5	9.5	11.5	19.5	15.0	17.5
7	6.0	1.5	4.0	7.5	5.0	6.0	14.0	9.0	11.5	19.0	16.0	18.0
8	9.0	3.0	5.5	7.5	4.5	6.0	15.0	9.5	12.0	18.5	15.0	17.0
9	8.5	4.0	6.0	8.5	4.0	6.5	14.5	10.0	12.0	20.5	15.5	18.0
10	7.0	2.5	5.0	9.0	4.0	6.5	13.0	10.5	12.0	22.5	17.0	19.5
11	7.0	4.5	5.5	10.5	4.5	7.0	13.0	9.0	11.0	23.0	17.5	20.0
12	6.0	3.0	4.5	9.0	5.5	7.0	14.5	9.5	11.5	23.5	19.0	21.0
13	6.5	3.0	4.5	10.5	7.0	8.5	14.5	9.5	12.0	21.0	18.5	20.0
14	6.5	3.5	4.5	10.5	6.5	8.0	15.0	9.5	12.0	21.0	16.0	18.0
15	6.5	3.5	5.0	9.0	7.0	8.0	15.0	9.0	12.0	21.5	16.0	18.0
16	7.0	3.5	5.0	7.5	5.5	6.5	16.0	10.5	13.0	23.0	18.0	19.5
17	8.0	3.5	4.5	7.0	4.5	5.5	17.5	11.0	14.0	23.5	18.0	20.5
18	7.0	3.5	5.0	6.5	4.5	5.5	20.0	14.0	17.0	25.0	17.0	20.5
19	6.5	2.5	4.5	8.0	4.0	5.5	20.0	16.5	18.5	24.5	18.0	20.5
20	7.0	2.5	4.5	8.5	4.5	6.5	19.5	13.5	16.0	24.5	19.0	21.0
21	10.0	4.5	7.0	8.5	6.0	7.0	13.5	12.0	12.5	25.5	18.5	21.5
22	8.0	4.5	6.5	8.0	6.5	7.5	13.0	10.5	11.5	26.5	20.0	22.5
23	7.5	6.0	6.5	12.5	7.0	9.5	15.0	10.5	12.5	26.5	19.5	23.0
24	7.0	5.0	5.5	14.0	8.0	11.0	16.5	11.0	14.0	25.5	20.5	22.5
25	6.5	5.0	5.5	12.0	8.0	9.0	17.0	11.0	14.0	25.5	19.0	21.5
26	7.0	4.0	5.5	9.0	6.5	7.5	18.0	12.5	15.5	25.0	19.0	21.5
27	6.5	3.5	5.0	11.5	7.0	9.0	20.0	14.0	17.0	25.5	19.0	22.0
28	7.0	3.0	5.0	12.0	7.5	9.5	20.0	14.5	17.5	26.0	19.5	22.5
29	7.0	4.0	5.5	13.0	8.5	10.5	21.5	15.5	19.0	26.0	19.5	22.5
30	9.0	4.5	6.5	11.5	7.0	9.0	21.5	16.5	19.0	27.0	19.5	22.5
31	---	---	---	10.0	7.5	8.5	---	---	---	26.0	19.0	22.0
MONTH	10.0	1.5	5.0	14.0	4.0	7.5	21.5	7.0	13.2	27.0	13.0	20.0

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN
1	26.0	19.0	22.0	20.5	13.0	16.5
2	23.5	18.5	21.0	20.5	13.0	16.5
3	21.5	19.5	20.5	20.5	13.0	16.5
4	25.0	19.0	21.5	20.5	14.0	17.0
5	22.0	17.5	19.5	21.0	14.0	17.5
6	24.0	17.0	20.0	20.0	14.0	17.0
7	24.5	18.0	21.0	20.0	15.0	17.5
8	24.5	17.5	20.5	18.0	15.0	16.0
9	26.5	17.5	21.0	16.5	13.0	14.5
10	25.0	18.0	21.0	14.5	11.5	13.0
11	25.0	17.5	20.5	16.0	12.0	14.0
12	24.5	16.5	20.5	14.0	11.0	12.5
13	24.5	16.0	20.0	15.0	9.0	11.5
14	24.5	16.0	20.0	15.0	9.0	12.0
15	22.5	16.0	19.5	15.5	11.0	13.0
16	21.0	18.0	19.0	14.0	11.0	12.0
17	22.0	16.5	19.0	13.5	9.5	11.5
18	24.5	16.0	20.0	13.0	8.0	10.5
19	24.5	17.0	20.0	13.0	10.0	11.0
20	23.5	17.5	20.5	15.0	10.0	12.0
21	22.5	15.5	19.0	14.5	9.0	11.5
22	20.0	16.5	17.5	14.5	8.0	11.0
23	20.5	16.5	18.0	14.0	9.5	11.0
24	21.0	15.5	17.5	14.5	8.0	10.5
25	21.5	13.5	17.0	15.5	9.0	11.5
26	21.5	14.0	17.5	16.5	10.0	12.5
27	21.0	15.0	18.0	15.0	9.0	12.0
28	20.5	14.5	17.0	14.5	8.0	11.0
29	20.0	14.0	17.0	14.5	9.5	11.5
30	19.5	12.5	16.0	13.5	8.0	10.5
31	20.0	12.5	16.0	---	---	---
MONTH	26.5	12.5	19.5	21.0	8.0	13.0

KOOTENAI RIVER BASIN

12305000 KOOTENAI RIVER AT LEONIA, ID

LOCATION.--Lat 48°37'04", long 116°02'47", in NW¹/₄NW¹/₄NW¹/₄ sec.20, T.33 N., R.34 W., principal Meridian, Lincoln County, Montana, Leonia quad., Hydrologic Unit 17010104, on right bank at Leonia, 450 ft east of Montana-Idaho State line, 0.5 mi upstream from Boulder Creek, and at mile 171.6.

DRAINAGE AREA.--11,740 mi², approximately.

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

GAGE.--Water-stage recorder. Datum of gage is 1,790.25 ft above NGVD of 1929. Prior to Oct. 1, 1970, at datum 90 ft lower. Prior to Nov. 13, 1928, nonrecording gage on bridge 250 ft upstream at datum 90.41 ft lower.

REMARKS.--No estimated daily discharges. Records good except for discharges October to January, which are fair. Station equipment includes satellite telemetry. Diversions above station for irrigation of about 14,600 acres. Flow regulated by Libby Dam and power plant since Mar. 21, 1972.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge (1929-71), 123,000 ft³/s May 28, 1948, gage height, 33.40 ft; minimum, 996 ft³/s Dec. 9, 1936, minimum gage height, 7.56 ft, Dec. 10, 1929.

Maximum discharge since regulation began in 1972, 62,000 ft³/s Jan. 16, 1974, gage height, 24.15 ft; maximum gage height, 25.06 ft, Feb. 9, 1996; minimum daily, 2,270 ft Dec. 9, 1972.

EXTREMES OUTSIDE PERIOD OF RECORD.--Floods of June 1894 and 1916 reached stages of 34.6 and 31.6 ft, respectively, present datum, from information by Great Northern Railway.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 31,000 ft³/s June 7, gage height, 19.25 ft; minimum daily, 4,370 ft³/s Jan. 11.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6620	5160	7560	5460	7780	5050	12200	9060	12500	20200	18200	14000
2	6600	5180	15600	4910	7850	5020	11300	9380	14100	20000	18200	12900
3	6600	5210	23000	4750	7020	5010	10200	9670	16300	19900	18100	11700
4	6580	5220	24700	4750	6530	4960	9420	9700	20200	19800	18200	11300
5	6570	5230	23400	4720	6160	4940	8850	9620	20000	19800	18200	10600
6	6560	5290	16300	4710	5900	4930	8420	9330	26600	17800	18200	9730
7	6560	5300	19000	4680	5730	4910	8030	8940	30700	16900	18200	8930
8	6550	5370	22800	4650	5680	4880	7760	8610	30000	15000	18200	8180
9	6540	5480	23500	4530	5580	4860	7930	8350	30600	14800	18200	10500
10	6540	5480	25000	4370	5460	4870	8580	8160	30400	14800	18200	11400
11	6560	5410	26900	4320	5360	5000	9070	8070	29900	14700	18200	10200
12	6540	5440	26900	4520	5260	5600	9860	8200	29600	14700	18200	9030
13	6540	5550	21900	4640	5190	6980	10200	8490	29300	14700	18100	8200
14	6880	5580	21800	4660	5180	8160	10400	8980	28900	14600	18000	7670
15	8810	5530	22500	4600	5170	8730	10400	9620	28400	14600	18000	7610
16	8760	5480	24500	4570	5160	8720	9980	9620	28100	14600	18100	7610
17	7640	5460	27900	4550	5190	8570	9700	9100	27900	14500	18100	7620
18	6520	5450	27600	4520	5180	8200	9410	8660	27800	14500	18100	7050
19	5310	5460	27400	4500	5140	7830	9080	8260	24200	14500	18100	6540
20	5230	5500	27400	4490	5130	7590	8850	7970	22100	14400	18000	6530
21	5210	5520	27300	4490	5160	7580	8870	7820	21700	17400	18000	6520
22	5200	5560	23600	4470	5160	8670	9380	7830	21300	18400	15400	6550
23	5210	5660	17700	4460	5070	11200	10300	8280	21100	17400	14100	6440
24	5190	5620	12500	4510	4900	10200	11100	9690	20800	18300	14100	6460
25	5180	5540	8840	4550	4870	9240	11600	13500	20700	18400	14100	6440
26	5190	7750	8100	5140	4970	8640	11600	14500	20600	18400	14000	6430
27	5200	7280	8120	6880	5060	8180	10800	12900	20600	18400	14000	6420
28	5270	6300	8070	6590	5080	7790	10000	12400	20500	18400	14000	6420
29	5260	5580	8060	6100	---	7490	9560	13100	16500	13900	14000	6380
30	5160	5450	7050	5820	---	7290	9220	12900	20200	18100	14000	5880
31	5130	---	6050	5910	---	8740	---	12000	---	18300	14000	---
TOTAL	191710	168040	591050	151820	155920	219830	292070	302710	711600	520200	522500	251240
MEAN	6184	5601	19070	4897	5569	7091	9736	9765	23720	16780	16850	8375
MAX	8810	7750	27900	6880	7850	11200	12200	14500	30700	20200	18200	14000
MIN	5130	5160	6050	4320	4870	4860	7760	7820	12500	13900	14000	5880
AC-FT	380300	333300	1172000	301100	309300	436000	579300	600400	1411000	1032000	1036000	498300

KOOTENAI RIVER BASIN

12305000 KOOTENAI RIVER AT LEONIA, ID--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1929 - 1971, BY WATER YEAR (WY) (UNREGULATED)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	6528	5705	4768	4049	4364	4898	14540	38860	45570	23050	10010	7045
MAX	15540	11280	13700	11330	10630	10390	39940	61770	74280	47510	16910	16560
(WY)	1948	1934	1934	1934	1951	1934	1934	1956	1967	1954	1954	1959
MIN	3532	2748	2477	1922	1994	2693	4334	18630	20630	9819	6142	4744
(WY)	1937	1937	1945	1937	1936	1944	1945	1944	1941	1944	1941	1936

SUMMARY STATISTICS

^a WATER YEARS 1929 - 1971

ANNUAL MEAN	14150
HIGHEST ANNUAL MEAN	19240
LOWEST ANNUAL MEAN	7416
HIGHEST DAILY MEAN	122000
LOWEST DAILY MEAN	1070
ANNUAL SEVEN-DAY MINIMUM	1310
ANNUAL RUNOFF (AC-FT)	10250000
10 PERCENT EXCEEDS	37800
50 PERCENT EXCEEDS	6750
90 PERCENT EXCEEDS	3240

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1972 - 2003, BY WATER YEAR (WY) (REGULATED, UNADJUSTED)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	14430	16320	16220	15270	12770	8877	11050	15370	17400	13090	11550	11090
MAX	31980	26400	28140	28610	24790	15160	25570	31670	39200	29740	20310	20960
(WY)	1973	1992	1991	1976	1990	1990	1996	1997	1972	2002	1976	1972
MIN	5635	5004	3423	3109	3724	4350	5588	8352	5374	4139	3956	5539
(WY)	1972	1972	1972	1972	1973	1973	2001	1977	1977	1988	1975	1994

SUMMARY STATISTICS

FOR 2002 CALENDAR YEAR

FOR 2003 WATER YEAR

^b WATER YEARS 1972 - 2003

ANNUAL TOTAL	5658660	4078690	
ANNUAL MEAN	15500	11170	13620
HIGHEST ANNUAL MEAN			20400
LOWEST ANNUAL MEAN			7466
HIGHEST DAILY MEAN	48400	Jul 2	30700
LOWEST DAILY MEAN	5130	Oct 31	4320
ANNUAL SEVEN-DAY MINIMUM	5180	Oct 30	4490
ANNUAL RUNOFF (AC-FT)	11220000		8090000
10 PERCENT EXCEEDS	29400		20900
50 PERCENT EXCEEDS	12500		8610
90 PERCENT EXCEEDS	5570		5020

a Unregulated

b Regulated, unadjusted.

KOOTENAI RIVER BASIN
12306500 MOYIE RIVER AT EASTPORT, ID
(International gaging station)

LOCATION.--Lat 48°59'58", long 116°10'43", in NW¹/₄NE¹/₄SE¹/₄ sec.10, T.65 N., R.2 E., Boundary County, Eastport quad., Hydrologic Unit 17010105, Idaho Panhandle National Forests, on left bank at Eastport, 1,000 ft downstream from international boundary, and at mile 25.0.

DRAINAGE AREA.--570 mi², approximately.

PERIOD OF RECORD.--January to December 1915, March to December 1916, August 1929 to current year in reports of Geological Survey. Monthly discharge only for some periods, published in WSP 1736.

GAGE.--Water-stage recorder. Datum of gage is 2,620.06 ft above NGVD of 1929. January 1915 to December 1916 nonrecording gage at site 0.2 mi upstream at different datum.

REMARKS.--Records good except for estimated daily discharges, which are poor. Station equipment includes satellite telemetry. No regulation or diversion above station.

COOPERATION.--This station is one of the international gaging stations maintained by the United States under agreement with Canada.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge observed, 10,600 ft³/s June 19, 1916; maximum gage height, 10.55 ft, May 20, 1954; minimum discharge, 23 ft³/s Nov. 7, 1936, gage height, 3.20 ft and Oct. 4-9, 2001, gage height, 3.15 ft.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,900 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
May 26	0130	*4,000	*7.56	No other peak greater than base discharge.			
Minimum daily, 35 ft ³ /s Sept. 30.							

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	73	e50	e60	79	126	94	900	1540	3290	415	85	41
2	67	e50	e60	81	124	91	835	1590	3150	386	82	40
3	64	e50	63	91	124	89	766	1650	2910	358	80	40
4	62	e50	61	90	e110	e85	704	1690	2610	335	77	40
5	61	e50	59	88	e100	e85	665	1670	2380	312	74	39
6	61	e55	58	85	e95	86	618	1610	2230	296	73	38
7	59	e60	57	82	e90	e75	582	1520	2080	281	74	37
8	59	e65	57	e65	e90	e65	553	1420	2010	265	72	41
9	57	67	56	e50	e90	e70	635	1350	1990	244	68	52
10	57	61	55	e44	e85	e75	760	1300	1930	233	66	51
11	57	58	57	e40	e85	e90	839	1290	1900	222	64	47
12	57	61	57	e50	e80	117	1020	1340	1780	210	61	47
13	57	68	63	e75	e75	275	1060	1440	1650	196	60	46
14	57	67	78	e80	e85	538	1160	1620	1500	187	58	44
15	57	63	125	e80	e90	526	1170	1860	1350	177	55	42
16	57	61	134	78	100	545	1130	1850	1220	169	57	41
17	55	66	109	77	108	564	1110	1720	1130	161	62	44
18	55	64	91	74	106	513	1080	1630	1050	152	59	46
19	56	70	85	73	104	485	1040	1500	976	147	55	45
20	55	72	e80	71	105	467	1030	1400	920	140	53	44
21	55	72	e80	71	107	465	1090	1340	864	133	51	44
22	55	73	e75	e65	105	621	1270	1340	807	128	50	42
23	53	74	e70	e70	e90	800	1590	1520	754	123	51	40
24	52	e65	e70	e75	e80	682	1790	2030	720	116	50	38
25	53	e60	e70	77	e80	596	2100	3560	672	110	48	38
26	e50	65	e70	94	e85	542	2110	3840	620	106	46	38
27	e50	63	e75	121	e85	503	2030	3660	574	103	44	37
28	e50	e60	e75	144	e90	469	1890	3630	535	99	43	37
29	e55	e60	e75	122	---	443	1750	3750	495	95	42	36
30	e50	e60	e75	117	---	447	1620	3560	456	92	43	35
31	e50	---	e75	119	---	691	---	3430	---	88	42	---
TOTAL	1756	1860	2275	2528	2694	11194	34897	62650	44553	6079	1845	1250
MEAN	56.6	62.0	73.4	81.5	96.2	361	1163	2021	1485	196	59.5	41.7
MAX	73	74	134	144	126	800	2110	3840	3290	415	85	52
MIN	50	50	55	40	75	65	553	1290	456	88	42	35
AC-FT	3480	3690	4510	5010	5340	22200	69220	124300	88370	12060	3660	2480
CFSM	0.10	0.11	0.13	0.14	0.17	0.63	2.04	3.55	2.61	0.34	0.10	0.07
IN.	0.11	0.12	0.15	0.16	0.18	0.73	2.28	4.09	2.91	0.40	0.12	0.08

KOOTENAI RIVER BASIN

12310100 KOOTENAI RIVER AT TRIBAL HATCHERY NEAR BONNERS FERRY, ID

LOCATION.--Lat 48°42'19", long 116°22'11", (NAD83), in NE $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 20, T. 62 N., R.1 E., Boundary County, Hydrologic Unit 17010104, on right bank, at Kootenai Tribal Hatchery dock, 0.8 mi upstream from mouth of Deep Creek, 2.8 mi west of Bonners Ferry, and at mile 150.

PERIOD OF RECORD.--October 2002 to September 2003.

GAGE.--Water-stage recorder and acoustic velocity meter. Datum of gage is 1,699.88 ft above NAVD 1988.

REMARKS.--Records fair except for estimated daily discharges and discharges above 20,000 cfs, which are poor. Station equipment includes satellite telemetry. Flow regulated by Libby dam and power plant.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 31,500 ft³/s June 9; minimum daily, 4,230 ft³/s Jan. 11.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e6800	5110	6780	5360	7340	e5000	13000	10500	15700	21100	19300	14600
2	e6800	5230	14000	5030	7790	e5000	12600	10700	17500	20900	19200	13600
3	e6800	5220	22400	4930	6950	e5000	11300	11200	19100	20900	18900	12100
4	e6800	5200	24700	4840	6460	e5000	10200	11300	22400	20700	19000	11600
5	e6800	5200	24500	4760	6050	e5000	9620	11200	22700	20600	19300	11100
6	e6800	5280	18200	4720	5750	e5000	9050	10800	27200	19400	19300	10000
7	e6800	5330	17600	4680	5570	e5000	8610	10400	31400	17800	e19400	8990
8	e6800	5440	23100	4610	5500	e5000	8280	9910	31200	16000	e19000	8240
9	6810	5510	23500	4550	5490	e5000	8400	9560	31500	15300	e19000	9970
10	6830	5570	24500	4350	5390	e5000	9170	9300	31300	15600	e19000	11700
11	6890	5540	26600	4230	5270	e5000	9690	9190	30800	15500	e19000	10800
12	6860	5500	27400	4480	5160	e5500	10700	9310	30900	15300	19200	9300
13	6840	5590	22900	4570	5110	6990	11400	9650	30200	15100	19200	8240
14	6850	5620	22400	4630	5180	8570	11700	10300	29900	15200	19200	7610
15	8790	5540	22900	4560	e5000	9290	11800	11200	29700	15200	19100	7530
16	8790	5520	23800	4500	e5000	9370	11200	11400	29300	15100	18800	7550
17	7720	5580	27400	4480	e5000	9300	10800	10800	29000	15000	18900	7520
18	6710	5570	27100	4450	e5000	8850	10500	10200	28900	15200	18800	7200
19	5630	5550	27400	4440	e5000	8390	10100	9680	26100	15100	18900	6570
20	5390	5560	27500	4450	e5000	8150	9760	9280	23200	15000	18700	6520
21	5380	5620	27200	4480	e5000	8100	9790	8990	22700	17300	18800	6490
22	5370	5620	25100	4500	e5000	9010	10400	8920	22500	19200	16600	6370
23	5300	5690	19000	4510	e5000	12500	11700	9370	22600	18800	14500	6370
24	5240	5640	13500	4460	e5000	11500	13000	11000	22300	18800	14500	6230
25	5240	5540	8990	4500	e5000	10100	13900	16200	22100	19400	14400	6280
26	5280	7230	7810	4980	e5000	9340	14200	19000	21900	19300	14500	6450
27	5280	7240	7880	6890	e5000	8800	13100	17300	22000	19300	14400	6240
28	5350	6390	7780	6600	e5000	8330	12100	16500	21800	19300	14500	6310
29	5350	5620	7810	6040	---	7990	11300	17100	17600	15300	14600	6340
30	5170	5480	6870	5770	---	7750	10800	17200	21000	18300	14600	5840
31	5140	---	5970	5790	---	8750	---	15400	---	19300	14500	---
TOTAL	196610	168730	592590	151140	153010	231580	328170	362860	754500	544300	547100	253660
MEAN	6342	5624	19120	4875	5465	7470	10940	11710	25150	17560	17650	8455
MAX	8790	7240	27500	6890	7790	12500	14200	19000	31500	21100	19400	14600
MIN	5140	5110	5970	4230	5000	5000	8280	8920	15700	15000	14400	5840
AC-FT	390000	334700	1175000	299800	303500	459300	650900	719700	1497000	1080000	1085000	503100

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2003 - 2003, BY WATER YEAR (WY)

	2003	2003	2003	2003	2003	2003	2003	2003	2003	2003	2003	2003
MEAN	6342	5624	19120	4875	5465	7470	10940	11710	25150	17560	17650	8455
MAX	6342	5624	19120	4875	5465	7470	10940	11710	25150	17560	17650	8455
(WY)	2003	2003	2003	2003	2003	2003	2003	2003	2003	2003	2003	2003
MIN	6342	5624	19120	4875	5465	7470	10940	11710	25150	17560	17650	8455
(WY)	2003	2003	2003	2003	2003	2003	2003	2003	2003	2003	2003	2003

SUMMARY STATISTICS

FOR 2003 WATER YEAR

ANNUAL TOTAL	4284250
ANNUAL MEAN	11740
HIGHEST DAILY MEAN	31500
LOWEST DAILY MEAN	4230
ANNUAL SEVEN-DAY MINIMUM	4470
ANNUAL RUNOFF (AC-FT)	8498000
10 PERCENT EXCEEDS	22400
50 PERCENT EXCEEDS	9300
90 PERCENT EXCEEDS	5000

e Estimated

KOOTENAI RIVER BASIN

12313000 MYRTLE CREEK NEAR BONNERS FERRY, ID

LOCATION.--Lat 48°42'28", long 116°24'56", in SW¹/₄NW¹/₄SW¹/₄ sec.24, T.62 N., R.1 W., Boundary County, Moravia quad., Hydrologic Unit 17010104, on right bank at upstream side of county road bridge, 2.2 mi upstream from the mouth, and 4.8 mi west of Bonners Ferry.

DRAINAGE AREA.--42.1 mi².

PERIOD OF RECORD.--May 1928 to September 1934 (no winter records), March to September 2002 (discontinued).

GAGE.--Water-stage recorder. Elevation of gage is 1,780 ft above NGVD of 1929, from topographic map. May 1928 to September 1934, gage at site approximately 500 ft upstream at different datum.

REMARKS.--No estimated daily discharges. Records fair. Diversion 0.75 mi upstream for municipal water supply for Bonners Ferry.

EXTREMES FOR CURRENT YEAR.--Maximum discharge during period March to September, 1,070 ft³/s May 29, gage height, 18.59 ft; minimum daily, 3.7 ft³/s Sept. 25.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	38	190	566	189	20	6.0
2	---	---	---	---	---	---	38	216	516	170	19	5.3
3	---	---	---	---	---	---	38	215	482	153	16	5.3
4	---	---	---	---	---	---	38	198	503	131	16	5.0
5	---	---	---	---	---	---	43	178	542	119	14	4.9
6	---	---	---	---	---	---	59	160	473	112	14	5.6
7	---	---	---	---	---	---	64	149	390	107	13	5.4
8	---	---	---	---	---	---	64	141	338	143	12	5.0
9	---	---	---	---	---	---	63	138	288	123	12	4.6
10	---	---	---	---	---	---	68	132	275	109	13	4.6
11	---	---	---	---	---	---	78	129	297	100	11	4.5
12	---	---	---	---	---	---	117	134	350	91	9.6	4.4
13	---	---	---	---	---	---	175	163	405	83	9.4	4.1
14	---	---	---	---	---	---	352	202	447	74	9.0	4.0
15	---	---	---	---	---	---	261	182	458	63	7.5	4.3
16	---	---	---	---	---	---	202	181	462	56	7.2	3.9
17	---	---	---	---	---	---	169	200	418	52	7.3	4.9
18	---	---	---	---	---	---	152	214	433	47	7.0	5.5
19	---	---	---	---	---	---	146	294	379	43	6.7	4.7
20	---	---	---	---	---	---	147	436	318	39	6.6	4.1
21	---	---	---	---	---	---	153	459	305	35	6.4	4.0
22	---	---	---	---	---	---	169	494	305	33	6.2	4.0
23	---	---	---	---	---	---	156	423	314	32	6.2	4.1
24	---	---	---	---	---	---	149	356	289	34	6.1	4.0
25	---	---	---	---	---	---	148	327	266	32	6.4	3.7
26	---	---	---	---	---	31	147	350	257	40	7.0	4.0
27	---	---	---	---	---	32	140	471	242	30	7.1	3.9
28	---	---	---	---	---	31	135	547	215	27	5.9	4.0
29	---	---	---	---	---	31	145	813	361	25	6.2	5.0
30	---	---	---	---	---	32	165	738	237	23	7.6	7.0
31	---	---	---	---	---	35	---	610	---	21	7.2	---
TOTAL	---	---	---	---	---	---	3819	9440	11131	2336	302.6	139.8
MEAN	---	---	---	---	---	---	127.3	304.5	371.0	75.35	9.761	4.660
MAX	---	---	---	---	---	---	352	813	566	189	20	7.0
MIN	---	---	---	---	---	---	38	129	215	21	5.9	3.7
AC-FT	---	---	---	---	---	---	7570	18720	22080	4630	600	277



High water on Crane Creek at mouth near Weiser, Idaho (Feb. 1982)

KOOTENAI RIVER BASIN

12321500 BOUNDARY CREEK NEAR PORTHILL, ID
(International gaging station)

LOCATION.--Lat 48°59'50", long 116°34'05", in SW¹/₄NW¹/₄SW¹/₄ sec.11, T.65 N., R.2 W., Boundary County, Smith Falls quad., Hydrologic Unit 17010104, on left bank near mouth of canyon, 0.2 mi south of international boundary, 3 mi west of Porthill, and at mile 3.5.

DRAINAGE AREA.--97 mi², approximately.

PERIOD OF RECORD.--May 1928 to current year (no winter records 1929, 1930).

GAGE.--Water-stage recorder. Elevation of gage is 1,770 ft above NGVD of 1929, from topographic map. Prior to Apr. 24, 1929, nonrecording gage at site 140 ft upstream at different datum. Prior to Jan. 1, 1998, at datum 10.00 ft lower.

REMARKS.--Records fair except for estimated daily discharges, which are poor. Diversion upstream from station was used during the year.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,780 ft³/s June 1, 1997 (from rating curve extended above 2,000 ft³/s), gage height, 5.88 ft; minimum discharge, 5.0 ft³/s occurred sometime between Nov. 10 and Dec. 3, 1936.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,300 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
May 25	0445	*2,100	*14.19	May 31	2000	1,980	14.02

Minimum daily, 13 ft³/s Oct. 30, 31, Nov. 1.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	34	e13	21	e36	84	49	255	442	1510	130	26	15
2	28	e14	24	e36	84	46	221	544	1390	120	25	15
3	26	e14	24	45	78	43	203	583	1120	110	25	15
4	24	e15	23	43	e65	42	189	577	989	103	26	15
5	23	e15	23	41	e50	42	176	544	959	97	25	15
6	23	e18	22	39	e48	42	164	502	999	91	25	14
7	22	e22	22	35	e48	41	157	435	956	84	29	14
8	21	28	22	e26	e48	40	152	405	1020	79	30	16
9	21	28	21	e22	e46	40	189	400	801	75	25	47
10	21	26	20	e18	e44	40	221	408	731	71	24	30
11	21	25	22	e20	e42	45	254	448	642	66	22	22
12	19	28	22	e30	e40	61	322	489	607	62	21	25
13	20	32	29	e42	e40	254	319	620	543	58	21	22
14	21	32	52	e42	e42	487	353	768	512	56	19	19
15	21	29	253	e36	e50	355	335	843	423	55	19	18
16	21	26	155	e34	53	320	310	648	400	52	20	18
17	21	26	93	32	55	274	305	518	392	50	22	24
18	20	25	73	32	53	227	297	437	374	47	21	24
19	20	30	59	31	51	207	288	400	347	45	20	22
20	20	41	43	31	52	192	289	397	294	43	19	20
21	20	46	37	31	52	182	326	402	304	41	18	19
22	20	46	e32	31	50	249	417	461	294	39	18	18
23	16	44	e30	e30	e38	324	568	767	295	38	18	17
24	15	22	e30	e28	e32	238	606	1110	245	35	18	16
25	e14	e20	e34	e30	e34	206	719	1870	218	33	17	16
26	e14	e24	e38	56	e46	187	615	1520	200	32	16	16
27	e14	28	43	91	e55	172	545	1380	186	31	16	16
28	e14	e20	42	117	55	161	474	1440	169	30	16	16
29	e16	e22	41	113	---	153	444	1570	155	29	16	16
30	e13	23	e38	93	---	155	414	1410	142	28	16	16
31	e13	---	e36	84	---	219	---	1580	---	27	16	---
TOTAL	616	782	1424	1375	1435	5093	10127	23918	17217	1857	649	576
MEAN	19.9	26.1	45.9	44.4	51.2	164	338	772	574	59.9	20.9	19.2
MAX	34	46	253	117	84	487	719	1870	1510	130	30	47
MIN	13	13	20	18	32	40	152	397	142	27	16	14
AC-FT	1220	1550	2820	2730	2850	10100	20090	47440	34150	3680	1290	1140
CFSM	0.20	0.27	0.47	0.46	0.53	1.69	3.48	7.95	5.92	0.62	0.22	0.20
IN.	0.24	0.30	0.55	0.53	0.55	1.95	3.88	9.17	6.60	0.71	0.25	0.22

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1988 - 2003, BY WATER YEAR (WY)

	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
MEAN	51.2	99.3	69.1	53.9	66.9	104	399	879	585	142	46.5	37.2				
MAX	222	290	260	118	201	213	611	1163	1127	453	96.1	145				
(WY)	1998	2000	1996	2002	1996	1995	1990	1997	1999	1999	1999	1997				
MIN	19.9	25.6	23.9	20.9	19.0	31.7	122	575	160	55.6	20.9	16.9				
(WY)	2003	1988	2001	2001	2001	2001	2001	1992	1992	2001	2003	2001				

SUMMARY STATISTICS

	FOR 2002 CALENDAR YEAR	FOR 2003 WATER YEAR	WATER YEARS 1988 - 2003
ANNUAL TOTAL	79486	65069	
ANNUAL MEAN	218	178	211
HIGHEST ANNUAL MEAN			324
LOWEST ANNUAL MEAN			104
HIGHEST DAILY MEAN	2080	1870	2570
LOWEST DAILY MEAN	13	13	13
ANNUAL SEVEN-DAY MINIMUM	14	14	14
ANNUAL RUNOFF (AC-FT)	157700	129100	153200
ANNUAL RUNOFF (CFSM)	2.25	1.84	2.18
ANNUAL RUNOFF (INCHES)	30.48	24.95	29.61
10 PERCENT EXCEEDS	659	514	651
50 PERCENT EXCEEDS	67	42	64
90 PERCENT EXCEEDS	21	17	24

e Estimated

KOOTENAI RIVER BASIN

12322000 KOOTENAI RIVER AT PORTHILL, ID
(International gaging station)

LOCATION.--Lat 48°59'47", long 116°30'27"(revised), (NAD83), in SE $\frac{1}{4}$ NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec.7, T.65 N., R.1 W., Boundary County, Smith Falls quad., Hydrologic Unit 17010104, on right bank 1,200 ft south of international boundary at Porthill, and at mile 105.8.

DRAINAGE AREA.--13,700 mi², approximately.

WATER-DISCHARGE RECORD

PERIOD OF RECORD.--May to July 1904 and October 1927 to March 1928 (elevations only), and April 1928 to current year in reports of Geological Survey. October 1924 to September 1927 (gage heights only) in reports of Water Survey of Canada, Department of Environment.

REVISED RECORDS.--SWD ID 1971-75(m).

GAGE.--Water-stage recorder. Datum of gage is 1,700.00 ft above Topographic Division Datum of 1928. Gage readings have been reduced to that datum. NGVD of 1929 and datum of Geodetic Survey of Canada are 0.03 ft higher (NAVD88 is 3.896 ft higher). Prior to May 17, 1928, nonrecording gages at approximately same site. Datum of gages prior to July 28, 1928, 38.34 ft higher, except in 1904 when different datum was used. Prior to March 27, 1996, at site 1,500 ft downstream at same datum.

REMARKS.--No estimated daily discharges. Records fair. Daily discharge represents entire flow passing international boundary, and is computed by adding tributary inflow for intervening area to flow at station near Copeland and correcting for channel storage between stations near Copeland and at Porthill. Since October 1989 the USGS Branch model has been used for this computation. Boundary dike of Reclamation Farm and U.S. Forest Service roadway dike (south side of Boundary Creek) remained intact and flow of river was confined throughout year to main channel on which gage is located. Elevations affected by backwater from Kootenay Lake. No drainage dike failed during year. Flow regulated by Libby Dam started on Mar. 21, 1972.

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

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge (1929-71), 125,000 ft³/s June 1, 1948; maximum elevation, 1,767.61 ft, June 7, 1961; minimum daily discharge, 1,380 ft³/s Feb. 8, 1936; minimum elevation, 1,738.21 ft, Apr. 3, 1944.

Maximum discharge since regulation began in 1972, 60,200 ft³/s June 1, 1972, maximum elevation, 1,758.84 ft, June 2, 1972; minimum daily, 2,610 ft Jan. 9, 1973.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum elevation known, 1,772.7 ft in June 1894, present datum.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 34,900 ft³/s June 8; maximum elevation, 1,751.61 ft, June 19; minimum daily, 4,800 ft³/s Jan. 11; minimum elevation, 1,739.75 ft, Mar. 11.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6790	5540	6220	6010	7450	5770	13500	12700	21300	21400	19000	15100
2	6760	5430	11000	5500	8390	5650	14300	13000	21700	21200	18900	14600
3	6740	5670	19200	5240	7570	5630	13200	13800	22500	21100	18900	13000
4	6710	5740	23300	5350	7160	5610	12000	13900	24900	21000	18800	12200
5	6740	5640	24000	5360	6680	5500	11300	13600	26000	20800	18800	11900
6	6720	5620	20300	5300	6400	5470	10700	13200	28400	20300	19000	10800
7	6740	5600	16200	5340	6220	5650	10200	12600	33600	18300	19000	9910
8	6750	5610	21500	5180	6100	5580	9750	12100	34900	17100	19000	8980
9	6720	5650	22500	5270	6070	5870	9690	11800	34800	16000	19000	9570
10	6490	5650	23800	4960	5970	5540	10500	11400	34700	16000	18900	11900
11	6710	5580	25300	4800	5830	5500	11200	11400	34200	15800	18900	11400
12	6700	5630	26100	4890	5740	6070	12300	11700	33800	15800	19000	10000
13	6630	5760	24100	5200	5690	7600	13100	12100	33100	15400	18900	9110
14	6600	5720	22100	5250	5600	10200	13500	13100	32700	15500	18900	8340
15	7870	5740	23000	5170	5640	10900	13700	14000	31800	15500	18900	8410
16	8380	5680	23500	5060	5560	10900	13400	14200	31200	15500	18900	8200
17	7780	5520	26700	5130	5680	10900	12800	13400	30800	15200	18900	8200
18	6910	5570	27300	5090	5760	10400	12500	12500	30500	15300	19000	8070
19	6030	5690	27100	5050	5730	9790	12100	12100	29400	15300	18900	7300
20	5660	5810	27000	4980	5650	9480	11700	11700	26400	15200	18800	7370
21	5630	5810	26700	4990	5720	9230	11800	11400	25500	16200	18900	7280
22	5680	5820	25800	4970	5800	9960	12400	11400	24200	18800	18100	7270
23	5540	5970	20500	4820	5740	13700	13700	12300	23900	19000	15000	7300
24	5530	5850	15200	4940	5490	13700	15100	14300	23400	18200	14700	7330
25	5510	5850	10500	5050	5470	12200	16300	19900	23000	18900	14800	7230
26	5530	6950	8180	5290	5610	11200	16700	24100	22700	19000	14800	7210
27	5520	7480	8290	7370	5780	10600	15900	23000	22500	19000	14600	7250
28	5610	6780	8010	7460	5700	9940	14800	21800	22300	19000	14700	7160
29	5720	6000	8200	6790	---	9480	13800	22200	19000	17200	14700	7280
30	5570	5820	7360	6410	---	9240	13200	22700	20900	16500	14700	6910
31	5680	---	6630	6340	---	9670	---	21600	---	18800	14700	---
TOTAL	197950	175180	585590	168560	170200	266930	385140	459000	824100	548300	548100	276580
MEAN	6385	5839	18890	5437	6079	8611	12840	14810	27470	17690	17680	9219
MAX	8380	7480	27300	7460	8390	13700	16700	24100	34900	21400	19000	15100
MIN	5510	5430	6220	4800	5470	5470	9690	11400	19000	15200	14600	6910
AC-FT	392600	347500	1162000	334300	337600	529500	763900	910400	1635000	1088000	1087000	548600

KOOTENAI RIVER BASIN

12322000 KOOTENAI RIVER AT PORTHILL, ID--Continued
(International gaging station)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1949-50, 1963 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1983 to September 1991 (discontinued).

WATER TEMPERATURE: January 1949 to September 1950, May 1963 to current year.

SUSPENDED SEDIMENT DISCHARGE: October 1983 to September 1991 (discontinued).

INSTRUMENTATION.--Water temperature recorder since May 23, 1963.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 303 microsiemens/cm, Feb. 3, 1985; minimum, 74 microsiemens/cm, Nov. 27, 1990.

WATER TEMPERATURE: Maximum, 23.5 °C July 27, 1975, July 29-31, 1988; minimum, 0.0 °C many days during winter months.

SEDIMENT CONCENTRATION: Maximum, 60 mg/L Nov. 27, 1986; minimum, 1 mg/L Dec. 28-29, 1985, Dec. 18, 1986.

SEDIMENT LOADS: Maximum, 3220 tons Nov. 25, 1986; minimum, 11 tons July 25-26, Aug. 5, 23, 1988.

EXTREMES FOR CURRENT PERIOD.--

WATER TEMPERATURE: Maximum recorded, 18.8 °C Aug. 12.

REMARKS.--Missing data due to equipment malfunction.

Temperature, water, degrees Celsius
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	JUNE			JULY			AUGUST			SEPTEMBER		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	11.4	10.8	11.1	15.3	14.4	14.8	17.2	16.6	16.9	17.4	16.7	16.9
2	11.4	10.8	10.9	15.0	14.7	14.8	17.4	16.7	17.1	17.5	17.2	17.4
3	11.4	10.3	10.7	14.8	13.7	14.4	17.2	16.9	17.1	17.5	17.4	17.4
4	12.0	11.4	11.7	14.5	13.7	14.1	17.2	16.7	17.1	17.5	17.2	17.4
5	11.5	11.1	11.3	14.3	13.9	14.0	16.7	16.4	16.6	17.2	16.9	17.0
6	11.7	11.0	11.2	14.1	13.6	13.9	16.4	16.1	16.3	17.0	16.4	16.7
7	12.0	11.1	11.6	14.2	13.7	13.9	16.1	15.3	15.7	17.2	16.4	16.8
8	13.0	11.6	12.2	13.9	13.6	13.7	16.3	15.2	15.6	17.2	16.6	16.8
9	12.7	11.9	12.3	14.8	13.7	14.1	17.5	16.3	16.9	16.9	16.6	16.7
10	12.3	11.7	12.0	15.3	14.2	14.7	18.0	17.5	17.7	16.6	15.9	16.4
11	12.5	11.7	12.0	15.9	15.3	15.5	18.7	17.7	18.2	15.9	15.3	15.7
12	12.3	11.9	12.1	16.4	15.6	15.9	18.8	18.3	18.5	15.3	14.5	14.7
13	12.7	12.0	12.3	16.6	15.9	16.2	18.3	17.7	18.0	14.5	14.2	14.3
14	12.5	11.9	12.1	16.6	16.1	16.4	17.7	16.9	17.3	14.5	14.4	14.4
15	11.9	11.3	11.5	16.9	16.3	16.5	17.0	16.6	16.8	14.8	14.4	14.6
16	12.0	11.3	11.7	16.9	16.1	16.4	16.6	16.4	16.6	14.7	14.2	14.4
17	12.3	11.4	11.9	16.6	15.8	16.2	16.7	16.4	16.6	14.2	13.6	13.9
18	12.8	11.9	12.2	16.6	15.9	16.3	17.7	16.4	16.8	13.7	13.4	13.7
19	13.1	12.3	12.7	16.9	16.3	16.5	18.3	17.7	18.0	14.1	13.6	13.8
20	14.7	13.0	13.5	16.9	16.1	16.6	18.2	17.9	18.0	14.2	13.7	14.0
21	14.7	13.9	14.3	17.4	16.6	16.9	17.9	17.5	17.7	14.4	13.9	14.1
22	13.9	12.6	13.3	17.7	16.9	17.3	17.5	15.6	16.7	14.2	13.9	14.1
23	12.6	11.9	12.1	17.7	16.9	17.3	15.8	15.3	15.6	14.5	13.9	14.2
24	11.9	11.6	11.7	17.0	16.6	16.8	16.1	15.3	15.7	14.7	14.2	14.5
25	12.2	11.4	11.9	16.9	16.4	16.6	16.4	15.6	16.0	15.0	14.7	14.8
26	12.8	12.0	12.3	16.9	16.2	16.6	17.0	16.4	16.7	15.0	14.5	14.8
27	13.5	12.8	13.1	16.3	15.8	16.1	17.0	16.4	16.6	14.8	14.4	14.6
28	14.1	13.5	14.0	16.3	15.6	16.0	16.7	16.3	16.4	14.7	14.4	14.6
29	14.7	14.1	14.4	16.6	16.1	16.4	16.6	15.9	16.3	14.7	14.3	14.5
30	14.8	14.5	14.6	17.2	16.3	16.7	16.7	15.9	16.3	14.3	13.9	14.1
31	---	---	---	17.4	16.7	17.0	16.7	16.1	16.4	---	---	---
MONTH	14.8	10.3	12.3	17.7	13.6	15.8	18.8	15.2	16.8	17.5	13.4	15.2

KOOTENAI RIVER BASIN

12322500 KOOTENAY LAKE AT KUSKONOOK, BRITISH COLUMBIA
(International gaging station)

LOCATION.--Lat 49°17'56", long 116°39'31", on east shore of Kootenay Lake at Kuskonook, British Columbia, and at mile 74.5.

PERIOD OF RECORD.--May 1936 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,735.20 ft above NGVD of 1929, which is the same at Porthill as datum of 1929, supplementary adjustment of 1947, and 0.03 ft higher than datum in use at station Kootenai River at Porthill. Prior to April 25, 1938, nonrecording gages at same site at datum 3.00 ft higher. Add 1,700 ft to published gage heights to obtain sea level.

REMARKS.--Elevation is subject to partial regulation by Corra Linn Dam on Kootenay River below outlet. Major inflow is from Kootenai River (see sta 12322000). Diversions for irrigation of about 14,600 acres above Kootenay Lake.

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

EXTREMES FOR PERIOD OF RECORD.--Maximum elevation 1,762.42 ft, June 9, 1961; minimum daily 1,737.86 ft, April 5, 6, 1944.

EXTREMES FOR CURRENT YEAR.--Maximum elevation, 1,749.47 ft, June 19; minimum, 1,739.58 ft, Mar. 31.

GAGE HEIGHT, in FEET, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	42.98	42.71	41.16	44.98	42.08	---	---	41.05	45.10	47.44	44.61	44.09
2	42.96	42.70	41.05	44.92	42.08	---	---	41.00	45.56	47.34	44.54	44.16
3	42.95	42.60	41.08	44.84	42.08	---	---	41.19	45.91	47.27	44.48	44.27
4	42.96	42.43	41.21	44.75	42.06	---	---	41.26	46.14	47.17	44.46	44.35
5	42.97	42.25	41.40	44.68	41.99	---	---	41.34	46.35	47.09	44.45	44.41
6	42.92	42.18	41.58	44.59	41.95	---	---	41.41	46.60	46.98	44.44	44.53
7	42.88	42.11	41.68	44.48	41.88	---	---	41.45	46.94	46.78	44.44	44.63
8	42.85	42.07	41.76	44.39	41.83	---	---	41.45	47.38	46.57	44.42	44.72
9	42.81	42.10	41.92	44.28	41.76	---	---	41.41	47.86	46.32	44.40	44.85
10	42.82	42.12	42.11	44.12	41.70	---	---	41.39	48.24	46.11	44.36	45.00
11	42.82	42.14	42.32	43.95	41.62	---	---	41.30	48.56	45.96	44.33	45.12
12	42.80	42.16	42.56	43.82	41.53	---	---	41.21	48.81	45.82	44.30	45.24
13	42.82	42.13	42.84	43.70	41.44	---	---	41.16	48.98	45.71	44.30	45.26
14	42.85	42.15	43.06	43.57	41.39	---	---	41.16	49.13	45.60	44.28	45.28
15	42.88	42.17	43.38	43.46	41.34	---	---	41.19	49.21	45.47	44.26	45.32
16	42.95	42.16	43.71	43.33	41.32	---	---	41.26	49.25	45.33	44.24	45.27
17	43.03	42.19	44.06	43.20	41.30	---	---	41.28	49.30	45.23	44.23	45.26
18	43.08	42.21	44.32	43.05	41.25	---	---	41.26	49.37	45.14	44.22	45.21
19	43.10	42.16	44.61	42.90	41.20	---	---	41.22	49.47	45.04	44.24	45.18
20	43.12	42.11	44.84	42.78	---	---	---	41.18	49.39	44.95	44.28	45.15
21	43.13	42.07	45.07	42.64	---	---	---	41.10	49.21	44.82	44.24	45.11
22	43.11	42.04	45.27	42.54	---	---	---	41.02	48.93	44.75	44.18	45.06
23	43.12	42.03	45.41	42.46	---	---	---	40.99	48.63	44.69	44.15	45.06
24	43.15	42.00	45.49	42.38	---	---	---	41.06	48.37	44.62	44.12	44.96
25	43.14	41.91	45.44	42.29	---	---	---	41.53	48.15	44.51	44.08	44.87
26	43.14	41.74	45.34	42.24	---	---	---	42.22	47.93	44.48	44.09	44.82
27	43.14	41.64	45.26	42.22	---	---	---	42.81	47.83	44.45	44.10	44.77
28	43.15	41.58	45.17	42.18	e40.04	---	---	43.28	47.77	44.44	44.08	44.70
29	43.15	41.45	45.13	42.16	---	---	---	43.79	47.67	44.48	44.05	44.61
30	43.06	41.30	45.08	42.13	---	---	e40.91	44.28	47.51	44.54	44.06	44.55
31	42.86	---	45.06	42.10	---	e39.58	---	44.69	---	44.65	44.08	---
MEAN	42.99	42.09	43.50	43.39	---	---	---	41.68	47.98	45.60	44.27	44.86
MAX	43.15	42.71	45.49	44.98	---	---	---	44.69	49.47	47.44	44.61	45.32
MIN	42.80	41.30	41.05	42.10	---	---	---	40.99	45.10	44.44	44.05	44.09

e Estimated

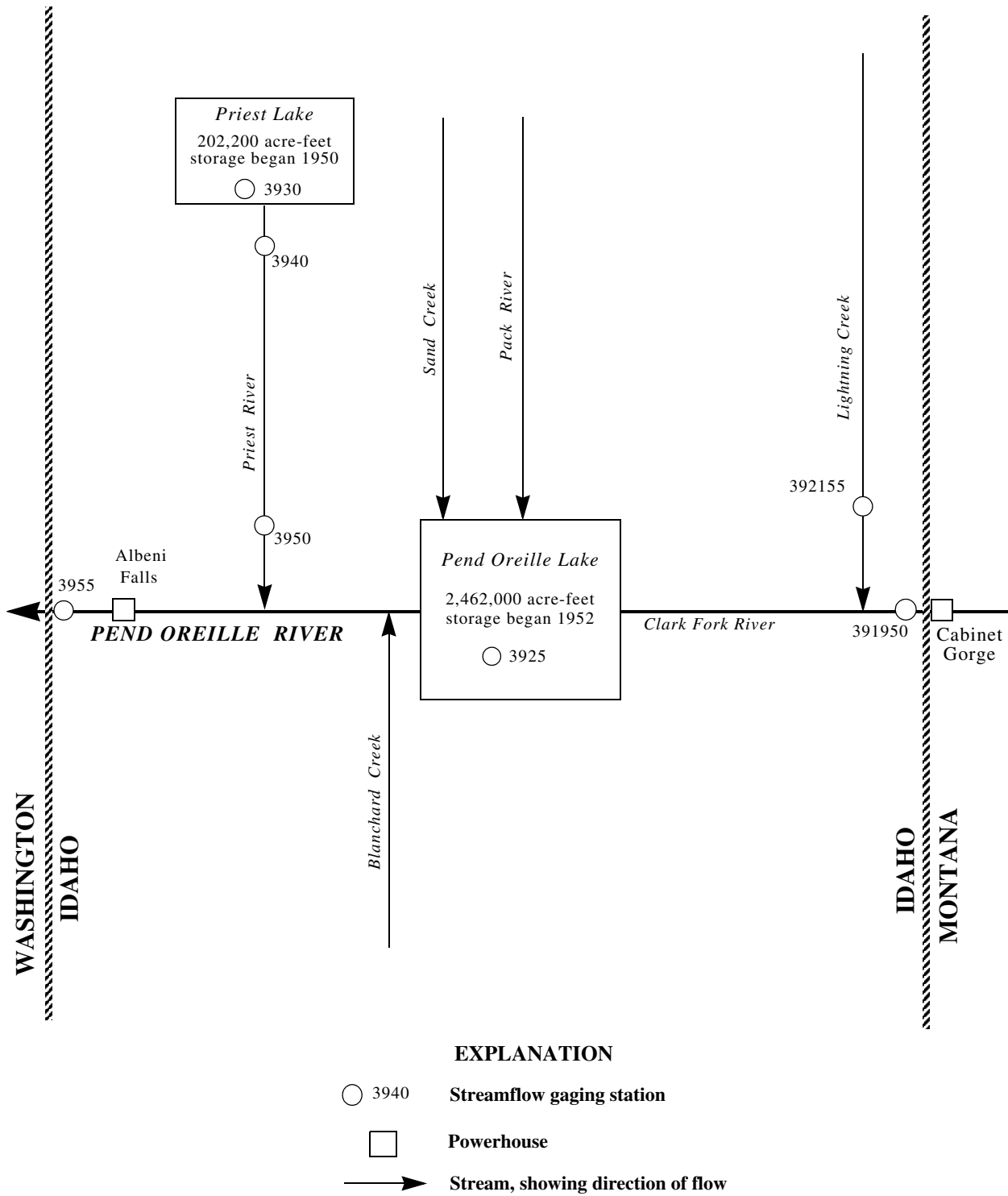


Figure 10. Schematic diagram showing gaging stations in Pend Oreille River Basin.

PEND OREILLE RIVER BASIN

12391950 CLARK FORK BELOW CABINET GORGE DAM, NEAR CABINET, ID

LOCATION.--Lat 48°05'18", long 116°04'16", in SW¹/₄SW¹/₄NW¹/₄ sec.27, T.55 N., R.3 E., Cabinet Quad., Bonner County, Hydrologic Unit 17010213, on right bank 0.7 mi downstream from Cabinet Gorge Dam at cableway, 2.1 mi downstream from Blue Creek, 6.1 mi southeast of Clark Fork, and at mile 149.2.

DRAINAGE AREA.--22,067 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1995 to current year.

GAGE.--Water-stage recorder. Datum of gage is 2,060.00 ft above NGVD of 1929 (levels by Washington Water Power Co). See WSP 1933 for history of changes made prior to Sept. 30, 1952. Water-stage recorder at site 0.4 mi upstream at datum 60.00 ft lower Oct. 1, 1952, to Sept. 30, 1964, and at present datum Oct. 1, 1964, to May 21, 1973.

REMARKS.--No estimated daily discharges. Records good. Flow regulated by Hungry Horse Reservoir, Flathead Lake, and Noxon Rapids Reservoir. Extreme diurnal fluctuation caused by powerplant at Cabinet Gorge Dam. Diversions above station for irrigation of about 354,000 acres.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 134,000 ft³/s May 18, 1997, gage height, 29.14 ft; minimum daily, 3,330 ft³/s Feb. 8, 1998.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 81,500 ft³/s June 2, gage height, 22.10 ft; minimum daily, 5,440 ft³/s Sept. 9.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8240	6970	7940	9990	15700	5460	20100	33700	70000	27100	12400	8920
2	7290	6670	15700	10800	15400	6640	23500	35200	73400	22600	6910	9660
3	6280	6030	10500	9060	14500	13200	27300	25200	66600	23300	7800	7660
4	6930	9660	12000	7370	16500	9600	23800	28400	65400	18200	9960	5840
5	6180	7460	12700	7280	11800	11200	17700	33100	63300	21800	13100	5590
6	6150	5690	12800	9400	12900	10700	13800	36200	59300	17600	11100	5650
7	6140	6830	12200	7080	11700	11800	23300	36300	55700	20400	9560	5650
8	5930	6170	13000	8670	6360	8610	21300	36300	53900	17700	9170	5460
9	8030	8490	14800	6720	8820	9070	20200	36300	53200	14800	6480	5440
10	6570	7380	15300	8010	11900	11300	24500	31700	48900	17800	8570	5560
11	7660	8370	13100	5780	10400	13200	24600	32700	44700	19200	11200	5650
12	6320	10500	13500	5500	13200	12900	17900	36100	43300	14100	7870	5560
13	6470	14900	14000	5490	14400	16300	21000	34900	45100	14700	7450	5520
14	7570	12300	10200	5510	13700	15900	26200	34200	43200	11200	8720	5630
15	6990	13800	12900	5870	6270	12400	28100	34000	39200	18100	9920	5660
16	6510	8850	13800	5890	7730	14200	32500	33200	43000	18200	6430	5640
17	6800	7730	15000	6390	11700	15100	32100	31100	40300	21400	8510	5710
18	7940	15200	17100	7830	13200	19700	30100	29900	41900	14500	7660	5710
19	6170	13900	14700	5590	13100	17600	24600	33100	42400	9670	8320	7000
20	5590	12900	14200	5530	12400	11700	29600	36000	36600	10400	8830	5810
21	6470	15900	12000	5790	12700	10700	26200	32600	34300	16900	8750	5820
22	7140	13500	7490	7300	5970	9760	26400	34000	34200	15200	9430	6510
23	6590	10400	14600	5540	7530	14300	28500	36200	36200	14500	7460	6740
24	8780	8500	15100	7030	14000	17800	29400	31900	36200	15300	7510	5760
25	9130	17200	10200	5950	13500	18000	36300	33900	33300	11600	12000	6010
26	5530	11600	16200	5710	17700	19600	34400	49800	35600	7190	6890	6510
27	7600	10800	12500	6410	9990	18300	36100	51300	30100	13300	5580	5760
28	6360	12400	12600	9420	7560	16600	35500	57200	23500	14800	7830	5480
29	8250	8650	11800	8780	---	8850	35700	62500	20000	13700	8120	5630
30	7720	10700	14500	11900	---	10700	32500	65100	27300	12900	6260	5490
31	7740	---	12700	8980	---	14400	---	69400	---	12700	6330	---
TOTAL	217070	309450	405130	226570	330630	405590	803200	1191500	1340100	500860	266120	183030
MEAN	7002	10320	13070	7309	11810	13080	26770	38440	44670	16160	8585	6101
MAX	9130	17200	17100	11900	17700	19700	36300	69400	73400	27100	13100	9660
MIN	5530	5690	7490	5490	5970	5460	13800	25200	20000	7190	5580	5440
AC-FT	430600	613800	803600	449400	655800	804500	1593000	2363000	2658000	993500	527800	363000
CAL YR 2002	TOTAL 8233640	MEAN 22560	MAX 94200	MIN 5350	AC-FT 16330000							
WTR YR 2003	TOTAL 6179250	MEAN 16930	MAX 73400	MIN 5440	AC-FT 12260000							

PEND OREILLE RIVER BASIN

12391950 CLARK FORK BELOW CABINET GORGE DAM, NEAR CABINET, ID--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--May 1984 to October 2002, July to September 2003.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: May to July 1998, April to September 2000, November 2001 to October 2002, July to September 2003 (discontinued).

INSTRUMENTATION.--Temperature recording data logger.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Maximum, 22.5 °C Aug. 11, 2003; minimum, 1.4°C Feb. 15, Mar. 22, 2002.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum, 22.5 °C Aug. 11; minimum, 16.5°C Sept. 30.

REMARKS.--Water-quality data previously published as Clark Fork at Whitehorse Rapids near Cabinet, ID (sta 12392000).

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Instantaneous discharge, cfs (00061)	Specific conductance, wat unfiltered, uS/cm 25 degC (00095)	pH, water, unfiltered, std units (00400)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Turbidity, wat unfiltered, Hach 2100AN NTU (99872)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	Fecal coliform, M-FC col/100 mL (31625)	Hardness, water, unfiltered, as CaCO3 (00900)	Calcium, water, filtered, mg/L (00915)	Magnesium, water, filtered, mg/L (00925)
JUL 09...	1115	7850	162	8.0	21.5	18.1	1.1	8.4	96	S1	--	--	--
AUG 12...	1200	7290	178	8.0	28.0	22.6	<1.0	7.3	91	S5	--	--	--
SEP 04...	1040	5390	185	7.5	18.0	20.7	1.0	8.1	98	S1	93	25.4	7.08

Date	Sodium, water, filtered, mg/L (00930)	Sodium, percent (00932)	Potassium, water, filtered, mg/L (00935)	Sulfate, water, filtered, mg/L (00945)	Chloride, water, filtered, mg/L (00940)	Fluoride, water, filtered, mg/L (00950)	Silica, water, filtered, mg/L (00955)	Ammonia, water, filtered, mg/L as N (00608)	Ammonia + org-N, water, unfiltered, mg/L as N (00625)	Nitrite + nitrate, water, filtered, mg/L as N (00631)	Orthophosphate, water, filtered, mg/L as P (00671)	Phosphorus, water, unfiltered, mg/L (00665)
JUL 09...	--	--	--	--	--	--	--	<.015	.12	<.022	<.007	.009
AUG 12...	--	--	--	--	--	--	--	<.015	.13	E.011	<.007	.013
SEP 04...	2.41	5	.78	5.0	1.18	<.2	7.5	<.015	.17	E.020	<.007	.024

Date	Suspended sediment concentration, mg/L (80154)	Suspended sediment load, tons/d (80155)
JUL 09...	1	21
AUG 12...	6	118
SEP 04...	1	15

< Less than
 E Estimated value
 S Most probable value

PEND OREILLE RIVER BASIN

12391950 CLARK FORK BELOW CABINET GORGE DAM NEAR CABINET, ID--Continued

Temperature, water, degrees Celsius															
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003															
DAY	MAX	MIN	MEAN	JUNE			JULY			AUGUST			SEPTEMBER		
				MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	---	---	---	---	---	---	22.0	20.1	21.4	21.0	19.9	20.3			
2	---	---	---	---	---	---	21.7	20.7	21.4	20.9	19.9	20.3			
3	---	---	---	---	---	---	22.0	21.0	21.3	20.7	19.9	20.2			
4	---	---	---	---	---	---	22.2	20.9	21.4	20.5	19.9	20.1			
5	---	---	---	---	---	---	22.2	20.5	21.4	20.4	19.7	20.0			
6	---	---	---	---	---	---	21.7	20.2	21.0	20.5	19.7	20.1			
7	---	---	---	---	---	---	21.7	20.4	21.0	20.2	19.9	20.1			
8	---	---	---	---	---	---	22.2	20.9	21.4	20.1	19.7	19.9			
9	---	---	---	---	---	---	22.4	20.9	21.6	20.4	19.4	19.8			
10	---	---	---	18.6	17.0	18.0	22.4	21.0	21.7	19.7	19.2	19.5			
11	---	---	---	18.8	17.3	18.4	22.5	21.2	21.8	19.4	18.9	19.1			
12	---	---	---	19.1	17.3	18.6	22.2	21.4	21.8	19.2	18.4	18.8			
13	---	---	---	19.1	17.8	18.7	22.2	20.9	21.6	18.9	18.1	18.5			
14	---	---	---	19.2	17.5	18.5	22.2	20.9	21.5	18.4	17.8	18.1			
15	---	---	---	19.2	17.6	18.8	22.0	20.9	21.4	18.3	17.8	17.9			
16	---	---	---	19.4	18.0	18.9	21.9	20.7	21.3	17.8	17.5	17.7			
17	---	---	---	19.7	18.0	19.2	21.7	20.4	21.3	18.0	17.5	17.6			
18	---	---	---	19.9	18.8	19.2	21.7	20.2	21.2	18.0	17.3	17.6			
19	---	---	---	20.1	18.8	19.3	21.9	20.7	21.2	17.5	17.1	17.4			
20	---	---	---	20.1	18.8	19.5	21.7	20.7	21.1	17.8	17.0	17.3			
21	---	---	---	20.4	18.9	19.8	21.7	20.5	21.1	17.6	17.1	17.3			
22	---	---	---	20.5	18.8	20.0	21.5	20.5	20.9	17.5	17.1	17.2			
23	---	---	---	20.7	19.4	20.2	21.4	20.5	20.9	17.6	17.0	17.2			
24	---	---	---	21.0	19.4	20.3	21.4	20.4	20.9	17.6	17.0	17.2			
25	---	---	---	21.0	19.6	20.3	21.4	20.2	20.8	17.6	17.0	17.2			
26	---	---	---	21.0	19.6	20.4	21.2	20.2	20.7	17.5	16.7	17.0			
27	---	---	---	21.4	19.7	20.7	21.0	20.1	20.6	17.5	16.7	17.0			
28	---	---	---	21.4	20.1	20.9	21.2	19.7	20.6	17.5	16.7	16.9			
29	---	---	---	21.4	20.1	20.8	21.4	20.2	20.7	17.3	16.7	16.9			
30	---	---	---	21.7	19.9	21.0	21.0	20.2	20.7	17.1	16.5	16.8			
31	---	---	---	21.9	20.5	21.2	20.9	20.4	20.7	---	---	---			
MONTH	---	---	---	---	---	---	22.5	19.7	21.2	21.0	16.5	18.4			

PEND OREILLE RIVER BASIN

12392000 CLARK FORK AT WHITEHORSE RAPIDS, NEAR CABINET, ID

LOCATION (Revised).--Lat 48°05'30", long 116°07'00", in NE¹/₄ sec.30, T.55 N., R.3 E., Cabinet Quad., Bonner County, Hydrologic Unit 17010213, on right bank 3.0 mi downstream from Cabinet Gorge Dam, 4.5 mi southeast of Clark Fork, and at mile 146.9.

DRAINAGE AREA.--22,073 mi².

PERIOD OF RECORD.--September 1928 to current year. Prior to October 1952, published as "near Heron, Mont."

REVISED RECORDS.--WSP 1182: 1936. WSP 1736: 1931, 1936(m), 1937. WRD-ID-1973-1: 1972(M).

REMARKS.--Flow regulated by Hungry Horse Reservoir, Flathead Lake, and Noxon Rapids Reservoir. Extreme diurnal fluctuation caused by powerplant at Cabinet Gorge Dam. Diversions above station for irrigation of about 354,000 acres. Discharge measurements made at Whitehorse Rapids indicate about 600 ft³/s ground-water inflow between the measuring cableway for Clark Fork River below Cabinet Gorge Dam (sta 12391950) and Whitehorse Rapids. Records given herein represent flow at Whitehorse Rapids, computed by adding this 600 ft³/s to observed flows at 12391950, and are considered comparable to records at former site near Heron, except for minor surface inflow from additional drainage area.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 153,000 ft³/s May 29 to June 1, 1948; maximum gage height, 50.97 ft, May 31, 1948, site and datum then in use; minimum observed, 270 ft³/s Aug. 12, 1952 (discharge measurement), at sites in use since October 1952, during filling of Cabinet Gorge Reservoir; minimum daily since reservoir filled, 762 ft³/s Sept. 2, 1962.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in June 1894 reached a discharge of 195,000 ft³/s from floodmark, elevation of 2,137.1 ft, at site about 4 mi upstream and 0.1 mi below "near Heron" site.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 74,000 ft³/s June 2; minimum daily, 6,040 ft³/s Sept. 9.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8840	7570	8540	10600	16300	6060	20700	34300	70600	27700	13000	9520
2	7890	7270	16300	11400	16000	7240	24100	35800	74000	23200	7510	10300
3	6880	6630	11100	9660	15100	13800	27900	25800	67200	23900	8400	8260
4	7530	10300	12600	7970	17100	10200	24400	29000	66000	18800	10600	6440
5	6780	8060	13300	7880	12400	11800	18300	33700	63900	22400	13700	6190
6	6750	6290	13400	10000	13500	11300	14400	36800	59900	18200	11700	6250
7	6740	7430	12800	7680	12300	12400	23900	36900	56300	21000	10200	6250
8	6530	6770	13600	9270	6960	9210	21900	36900	54500	18300	9770	6060
9	8630	9090	15400	7320	9420	9670	20800	36900	53800	15400	7080	6040
10	7170	7980	15900	8610	12500	11900	25100	32300	49500	18400	9170	6160
11	8260	8970	13700	6380	11000	13800	25200	33300	45300	19800	11800	6250
12	6920	11100	14100	6100	13800	13500	18500	36700	43900	14700	8470	6160
13	7070	15500	14600	6090	15000	16900	21600	35500	45700	15300	8050	6120
14	8170	12900	10800	6110	14300	16500	26800	34800	43800	11800	9320	6230
15	7590	14400	13500	6470	6870	13000	28700	34600	39800	18700	10500	6260
16	7110	9450	14400	6490	8330	14800	33100	33800	43600	18800	7030	6240
17	7400	8330	15600	6990	12300	15700	32700	31700	40900	22000	9110	6310
18	8540	15800	17700	8430	13800	20300	30700	30500	42500	15100	8260	6310
19	6770	14500	15300	6190	13700	18200	25200	33700	43000	10300	8920	7600
20	6190	13500	14800	6130	13000	12300	30200	36600	37200	11000	9430	6410
21	7070	16500	12600	6390	13300	11300	26800	33200	34900	17500	9350	6420
22	7740	14100	8090	7900	6570	10400	27000	34600	34800	15800	10000	7110
23	7190	11000	15200	6140	8130	14900	29100	36800	36800	15100	8060	7340
24	9380	9100	15700	7630	14600	18400	30000	32500	36800	15900	8110	6360
25	9730	17800	10800	6550	14100	18600	36900	34500	33900	12200	12600	6610
26	6130	12200	16800	6310	18300	20200	35000	50400	36200	7790	7490	7110
27	8200	11400	13100	7010	10600	18900	36700	51900	30700	13900	6180	6360
28	6960	13000	13200	10000	8160	17200	36100	57800	24100	15400	8430	6080
29	8850	9250	12400	9380	---	9450	36300	63100	20600	14300	8720	6230
30	8320	11300	15100	12500	---	11300	33100	65700	27900	13500	6860	6090
31	8340	---	13300	9580	---	15000	---	70000	---	13300	6930	---
TOTAL	235670	327490	423730	245160	347440	424230	821200	1210100	1358100	519490	284750	201070
MEAN	7602	10920	13670	7908	12410	13680	27370	39040	45270	16760	9185	6702
MAX	9730	17800	17700	12500	18300	20300	36900	70000	74000	27700	13700	10300
MIN	6130	6290	8090	6090	6570	6060	14400	25800	20600	7790	6180	6040
AC-FT	467500	649600	840500	486300	689100	841500	1629000	2400000	2694000	1030000	564800	398800

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1929 - 2003, BY WATER YEAR (WY)

MEAN	11890	13200	14380	14330	14820	15790	24820	49010	57110	26370	11670	10520
MAX	25670	21970	34850	28020	38150	36480	59140	93830	115800	57650	19680	18300
(WY)	1960	1996	1996	1934	1996	1996	1934	1997	1948	1950	1997	1985
MIN	5466	5008	4732	3527	4217	5122	6165	16450	15480	9214	6320	5448
(WY)	1937	1937	1937	1937	1936	1937	1977	1941	1977	1940	1994	1994

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1929 - 2003	
ANNUAL TOTAL	8452540		6398430			
ANNUAL MEAN	23160		17530		22000	
HIGHEST ANNUAL MEAN					34250	
LOWEST ANNUAL MEAN					10180	
HIGHEST DAILY MEAN	94800	Jun 4	74000	Jun 2	153000	May 30 1948
LOWEST DAILY MEAN	5950	Jan 1	6040	Sep 9	762	Sep 2 1962
ANNUAL SEVEN-DAY MINIMUM	7010	Oct 2	6150	Sep 8	2710	Feb 10 1936
ANNUAL RUNOFF (AC-FT)	16770000		12690000		15940000	
10 PERCENT EXCEEDS	59500		36600		48000	
50 PERCENT EXCEEDS	15000		12900		15600	
90 PERCENT EXCEEDS	7760		6460		7170	

PEND OREILLE RIVER BASIN

12392155 LIGHTNING CREEK AT CLARK FORK, ID

LOCATION.--Lat 48°09'04", long 116°10'56", in NE¹/₄NE¹/₄NE¹/₄ sec.3, T.55 N., R.2 E., Bonner County, Clark Fork quad., Hydrologic Unit 17010213, on left bank, at Clark Fork, 20 ft upstream from Idaho Highway 200 bridge, 1 mi upstream from mouth.

DRAINAGE AREA.--115 mi².

PERIOD OF RECORD.--October 1988 to September 1990, June 1991 to current year. Miscellaneous measurements made at this site 1974-78, 1987-88.

GAGE.--Water-stage recorder. Datum of gage is 2,093.66 ft above NGVD of 1929.

REMARKS.--No estimated daily discharges. Records fair.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,220 ft³/s May 25, 2003, gage height, 9.92 ft; maximum gage height, 10.81 ft, June 1, 1997; no flow Sept. 14 to Oct. 12, 2001.

EXTREMES OUTSIDE PERIOD OF RECORD.--Indirect determination for peak of May 27 or 28, 1948 was 5,100 ft³/s, 5 mi upstream. Indirect determination for peak of January 1974 was 5,530 ft³/s, 5 mi upstream.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 6,220 ft³/s May 25, gage height, 9.92 ft; minimum daily, 2.4 ft³/s Sept. 7.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.5	3.7	38	69	1630	142	911	804	1970	171	15	3.2
2	9.1	3.7	35	73	1110	136	742	999	1520	148	14	3.0
3	10	3.6	32	138	848	130	636	1050	1310	131	14	3.0
4	10	3.5	30	131	669	123	560	983	1200	118	15	2.8
5	9.8	3.4	28	223	558	121	498	876	1180	109	16	2.6
6	9.3	3.2	26	188	477	116	451	737	1230	98	15	2.5
7	9.4	3.2	25	161	427	112	409	639	1180	90	14	2.4
8	9.5	3.9	23	144	384	106	389	567	1190	85	13	3.4
9	9.6	4.7	22	125	351	106	520	551	1120	79	12	4.5
10	9.1	15	21	99	322	104	601	567	980	72	11	8.6
11	8.4	16	22	116	298	195	731	640	808	67	11	10
12	7.7	17	22	123	278	432	836	792	743	62	9.9	11
13	7.2	51	54	128	264	657	880	1030	724	58	9.2	11
14	6.7	49	213	121	249	767	951	1310	646	54	8.3	10
15	6.3	40	587	114	236	740	854	1390	563	49	7.8	10
16	5.8	29	448	106	254	772	759	1100	517	46	7.6	9.4
17	5.5	23	353	96	258	664	706	865	497	43	7.2	8.7
18	5.0	20	273	91	234	566	635	707	498	39	6.9	8.1
19	4.8	34	223	89	218	502	577	600	462	36	7.0	8.9
20	4.4	149	183	87	229	470	567	565	431	33	6.9	9.0
21	4.3	136	154	81	239	465	658	580	369	31	6.6	10
22	3.9	137	137	80	220	1190	869	670	383	28	6.5	11
23	3.9	139	119	81	182	1320	1100	1020	329	26	6.1	10
24	3.8	105	106	78	157	883	1140	1760	300	24	5.6	10
25	3.8	81	97	90	164	689	1230	4140	281	23	5.4	9.3
26	3.7	70	95	1190	166	590	1040	2590	273	21	5.1	8.6
27	3.7	58	94	1500	161	502	866	2060	260	21	4.7	8.0
28	3.9	50	84	938	150	438	783	2200	240	19	4.3	7.5
29	4.0	45	85	700	---	403	796	2450	217	18	4.1	6.9
30	3.8	41	74	614	---	397	756	1950	198	17	3.8	6.4
31	3.7	---	77	1200	---	806	---	2180	---	16	3.5	---
TOTAL	195.6	1337.9	3780	8974	10733	14644	22451	38372	21619	1832	276.5	219.8
MEAN	6.31	44.6	122	289	383	472	748	1238	721	59.1	8.92	7.33
MAX	10	149	587	1500	1630	1320	1230	4140	1970	171	16	11
MIN	3.7	3.2	21	69	150	104	389	551	198	16	3.5	2.4
AC-FT	388	2650	7500	17800	21290	29050	44530	76110	42880	3630	548	436

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1989 - 2003, BY WATER YEAR (WY)

	MEAN	MAX	(WY)	MIN	(WY)	MEAN	MAX	(WY)	MIN	(WY)	MEAN	MAX	(WY)	MIN	(WY)	MEAN	MAX	(WY)	MIN	(WY)																																	
	83.2	381	1998	6.31	2003	284	1374	1996	22.4	2001	233	1242	1996	9.21	2001	216	570	2002	8.60	2001	264	1133	1996	6.36	2001	302	539	1995	85.7	2001	807	1203	1997	400	1031	230	58.2	1992	210	1899	1999	58.2	1992	35.6	102	1993	8.92	2003	25.1	122	1997	0.89	2001

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1989 - 2003	
ANNUAL TOTAL	173249.6		124434.8			
ANNUAL MEAN	475		341		413	
HIGHEST ANNUAL MEAN					716	
LOWEST ANNUAL MEAN					194	
HIGHEST DAILY MEAN	4610		4140		4970	
LOWEST DAILY MEAN	3.2		2.4		0.00	
ANNUAL SEVEN-DAY MINIMUM	3.5		2.8		0.00	
ANNUAL RUNOFF (AC-FT)	343600		246800		299000	
10 PERCENT EXCEEDS	1380		981		1260	
50 PERCENT EXCEEDS	167		112		145	
90 PERCENT EXCEEDS	5.4		4.9		14	

PEND OREILLE RIVER BASIN

12392500 LAKE PEND OREILLE NEAR HOPE, ID

LOCATION.--Lat 48°16'35", long 116°20'47", in NW¹/₄SE¹/₄NW¹/₄ sec.21, T.57 N., R.1 E., Bonner County, Trout Creek quad., Hydrologic Unit 17010214, 0.5 mi southeast of Trestle Creek and 2.5 mi northwest of Hope.

DRAINAGE AREA.--22,900 mi², approximately (natural drainage area above mouth of lake at Sandpoint).

PERIOD OF RECORD.--March 1914 to current year. Published as "at Sandpoint" 1914-22. Records published for both sites September 1921 to September 1922. Published as "at Hope" September 1921 to December 1974.

REVISED RECORDS.--WSP 1122: 1946.

GAGE.--Water-stage recorder. Datum of gage is 2,000.00 ft above NGVD of 1929; gage readings have been reduced to elevations of that datum. Prior to Oct. 1, 1921, nonrecording gage at Sandpoint at datum 42.18 ft higher. Oct. 1, 1921, to Sept. 30, 1929, nonrecording gage "at Hope" site at datum 45.47 ft higher than present datum. Oct. 1, 1929, to Sept. 30, 1950, water-stage recorder "at Hope" site at datum 0.20 ft lower than present datum. Oct. 1, 1950, to Dec. 23, 1974, water-stage recorder "at Hope" site at present datum. Add 2,000 ft to gage heights to obtain elevations.

REMARKS.--Station equipment includes satellite telemetry. Regulation at Albeni Falls Dam beginning June 4, 1952. Contents shown is that above elevation 2,044.8 ft, but does not include storage in Pend Oreille River above Albeni Falls Dam.

COOPERATION.--Capacity table provided by U.S. Army Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum elevation, 2,071.62 ft, present datum, June 9, 1948, contents, 2,462,000 acre-ft; minimum, 2,046.27 ft, present datum, Feb. 17, 1936, contents, 117,700 acre-ft.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum elevation known, 2,075.88 ft, present datum, June 1894, contents, 2,905,000 acre-ft.

EXTREMES FOR CURRENT YEAR.--Maximum elevation, 2,062.52 ft, July 18, contents, 1,563,000 acre-ft; minimum elevation, 2,055.04 ft, Nov. 17, contents, 875,400 acre-ft.

Capacity table (elevation, in feet, and contents, in acre-feet)

2,055	871,800	2,060	1,327,000
2,056	961,600	2,062	1,514,000
2,058	1,143,000	2,063	1,609,000

GAGE HEIGHT, in FEET, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	60.92	56.40	55.19	55.44	56.01	55.34	55.40	55.71	59.07	62.39	62.48	62.38
2	60.84	56.22	55.30	55.48	56.02	55.29	55.55	55.94	59.51	62.38	62.39	62.45
3	60.68	56.03	55.30	55.50	55.92	55.36	55.66	55.97	59.69	62.34	62.31	62.50
4	60.53	55.94	55.34	55.49	55.84	55.36	55.66	56.04	59.81	62.26	62.31	62.43
5	60.40	55.84	55.40	55.44	55.76	55.33	55.52	56.15	59.92	62.29	62.34	62.41
6	60.25	55.68	55.41	55.45	55.77	55.41	55.33	56.23	60.01	62.23	62.36	62.34
7	60.11	55.56	55.40	55.45	55.81	55.57	55.34	56.23	60.05	62.25	62.33	62.29
8	59.98	55.52	55.37	55.46	55.74	55.57	55.35	56.20	60.17	62.33	62.33	62.36
9	59.92	55.43	55.39	55.46	55.72	55.64	55.40	56.21	60.43	62.27	62.30	62.37
10	59.82	55.36	55.43	55.49	55.75	55.67	55.53	56.10	60.63	62.28	62.30	62.36
11	59.71	55.26	55.42	55.51	55.71	55.74	55.61	56.02	60.78	62.40	62.35	62.28
12	59.61	55.26	55.43	55.53	55.71	55.81	55.54	56.07	60.93	62.37	62.33	62.17
13	59.51	55.30	55.51	55.51	55.79	55.81	55.52	56.06	61.18	62.39	62.30	62.07
14	59.43	55.21	55.48	55.54	55.85	55.77	55.57	56.04	61.36	62.26	62.31	62.00
15	59.31	55.19	55.45	55.54	55.75	55.65	55.53	56.00	61.43	62.29	62.38	61.91
16	59.14	55.16	55.50	55.54	55.73	55.58	55.54	55.98	61.56	62.41	62.40	61.89
17	58.98	55.10	55.48	55.56	55.78	---	55.58	55.91	61.71	62.51	62.41	61.77
18	58.84	55.17	55.46	55.61	55.82	55.61	55.56	55.79	61.85	62.42	62.45	61.73
19	58.66	55.24	55.34	55.60	55.83	55.84	55.43	55.78	62.09	62.29	62.42	61.67
20	58.46	55.25	55.32	55.59	55.80	55.83	55.44	55.84	62.16	62.17	62.42	61.57
21	58.27	55.35	55.36	55.60	55.87	55.83	55.39	55.83	62.18	62.22	62.38	61.52
22	58.08	55.40	55.27	55.67	55.72	55.95	55.38	55.90	62.19	62.28	62.40	61.44
23	57.89	55.39	55.32	55.67	55.57	56.00	55.46	56.06	62.21	62.31	62.36	61.36
24	57.77	55.30	55.40	55.70	55.57	55.97	55.59	56.18	62.20	62.33	62.30	61.24
25	57.64	55.31	55.37	55.67	55.58	55.88	55.81	56.37	62.19	62.33	62.37	61.14
26	57.42	55.24	55.48	55.76	55.67	55.84	55.83	56.82	62.30	62.29	62.32	61.03
27	57.25	55.21	55.45	55.79	55.60	55.73	55.77	57.12	62.37	62.32	62.25	60.89
28	57.04	55.26	55.39	55.80	55.49	55.60	55.73	57.39	62.34	62.39	62.24	60.78
29	56.87	55.22	55.35	55.81	---	55.38	55.68	57.74	62.26	62.44	62.28	60.64
30	56.72	55.24	55.39	55.79	---	55.25	55.63	58.11	62.34	62.46	62.29	60.50
31	56.57	---	55.45	55.86	---	55.24	---	58.59	---	62.48	62.29	---
MEAN	58.92	55.43	55.39	55.59	55.76	---	55.54	56.33	61.23	62.33	62.35	61.78
MAX	60.92	56.40	55.51	55.86	56.02	---	55.83	58.59	62.37	62.51	62.48	62.50
MIN	56.57	55.10	55.19	55.44	55.49	---	55.33	55.71	59.07	62.17	62.24	60.50
†	1013000	893300	913100	949000	915800	893300	928400	1197000	1546000	1559000	1541000	1374000
‡	-411000	-119700	19800	35900	-33200	-22500	35100	268600	349000	13000	-18000	-167000
CAL YR 2002	MEAN 56.92	MAX 62.52	MIN 51.11	‡ 376200								
WTR YR 2003		MAX 62.51	MIN 55.10	‡ -50000								

† Contents, in acre-feet, at end of month.

‡ Change in contents, in acre-feet.

PEND OREILLE RIVER BASIN

12393000 PRIEST LAKE AT OUTLET, NEAR COOLIN, ID

LOCATION.--Lat 48°29'36", long 116°52'58", in NE $\frac{1}{4}$ NE $\frac{1}{4}$ SW $\frac{1}{4}$ sec.5, T.59 N., R.4 W., Bonner County, Outlet Bay quad., Hydrologic Unit 17010215, 0.5 mi east of outlet, 1.8 mi northwest of Coolin, and 44 mi upstream from mouth of Priest River.

DRAINAGE AREA.--572 mi².

PERIOD OF RECORD.--June 1911 to September 1913 (fragmentary gage-height records at Coolin, published as part of records for "Priest River at outlet of Priest Lake, at Coolin"), April 1928 to July 1950 (gage-height record only), August 1950 to current year.

GAGE.--Water-stage recorder. Datum of gage is 2,434.64 ft above NGVD of 1929. June 18, 1911 to Sept. 30, 1913, nonrecording gages at Coolin at different datums. Apr. 21, 1928 to Oct. 18, 1939, nonrecording gage at site 400 ft north of lake outlet at present datum.

REMARKS.--Flow from Priest Lake is regulated to hold lake at heights desirable for recreation interests during summer months and storage is released for power use downstream during winter months. Storage began Aug. 9, 1950. Prior to Aug. 9, 1950, some regulation resulted from logging operations in the outlet channel. Figures given herein represent contents above gage height of about -2 ft. Capacity table is based on area measured from Priest Lake quadrangle (scale 1:250,000) and reconnaissance survey of marginal areas and is only approximate. New dam completed Nov. 27, 1978.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height, 6.68 ft, June 20, 1974, contents, 207,500 acre-ft; minimum, -0.46 ft Jan. 5, 6, 1977, Feb. 26, Mar. 2, 2001, contents, 37,500 acre-ft.

EXTREMES FOR CURRENT YEAR.--Maximum gage height, 3.93 ft, June 2, 3, contents, 141,400 acre-ft; minimum, -0.03 ft, Nov. 7, contents, 47,600 acre-ft.

Capacity table (gage height, in feet, and contents, in acre-feet)

-0.5	36,600	2.0	95,500
0.0	48,300	3.0	119,300
1.0	71,900	4.0	143,100

GAGE HEIGHT, in FEET, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.01	0.20	0.21	0.38	0.66	0.57	1.55	2.34	3.91	2.97	2.99	2.93
2	2.99	0.15	0.20	0.36	0.66	0.56	1.58	2.36	3.92	2.94	2.98	2.93
3	2.97	0.12	0.21	0.41	0.69	0.57	1.58	2.40	3.86	2.92	2.96	2.93
4	2.99	0.07	0.17	0.37	0.69	0.56	1.53	2.38	3.77	2.92	2.97	2.91
5	2.98	0.03	0.18	0.36	0.68	0.52	1.55	2.39	3.67	2.91	2.97	2.93
6	2.93	0.02	0.16	0.33	0.64	0.49	1.51	2.38	3.59	2.92	3.01	2.94
7	2.86	0.02	0.11	0.29	0.69	0.50	1.49	2.37	3.54	2.92	3.02	2.88
8	2.77	0.12	0.15	0.24	0.67	0.48	1.44	2.34	3.53	2.92	2.99	2.95
9	2.58	0.13	0.12	0.23	0.63	0.50	1.45	2.29	3.51	2.93	2.99	3.00
10	2.46	0.13	0.12	0.19	0.66	0.49	1.45	2.24	3.52	2.97	2.98	2.99
11	2.28	0.13	0.17	0.17	0.58	0.46	1.49	2.21	3.39	2.99	2.96	3.00
12	2.08	0.17	0.17	0.20	0.61	0.55	1.53	2.20	3.37	3.01	2.97	2.99
13	1.93	0.17	0.22	0.24	0.60	0.63	1.61	2.20	3.32	3.02	2.97	2.99
14	1.77	0.18	0.36	0.25	0.60	0.88	1.71	2.20	3.24	3.03	2.96	2.99
15	1.61	0.22	0.47	0.23	0.60	0.94	1.76	2.25	3.22	3.07	3.00	2.97
16	1.47	0.18	0.61	0.26	0.62	1.09	1.79	2.27	3.23	3.06	2.99	2.99
17	1.36	0.19	0.62	0.24	0.65	1.18	1.88	2.27	3.22	3.10	2.98	3.00
18	1.24	0.24	0.62	0.24	0.65	1.22	1.90	2.24	3.21	3.11	2.97	3.01
19	1.12	0.29	0.62	0.21	0.63	1.23	1.92	2.21	3.21	3.11	2.97	3.05
20	1.03	0.31	0.55	0.23	0.69	1.24	1.93	2.21	3.17	3.12	2.96	3.02
21	0.94	0.36	0.55	0.25	0.68	1.32	1.93	2.29	3.17	3.11	2.97	3.02
22	0.86	0.30	0.50	0.31	0.69	1.47	1.97	2.36	3.15	3.09	2.95	3.02
23	0.76	0.38	0.48	0.28	0.67	1.54	2.04	2.47	3.14	3.07	2.95	3.02
24	0.68	0.30	0.44	0.27	0.63	1.62	2.14	2.65	3.10	3.07	2.94	3.06
25	0.61	0.33	0.37	0.28	0.62	1.63	2.25	3.03	3.06	3.03	2.96	3.01
26	0.54	0.29	0.39	0.40	0.62	1.65	2.28	3.27	3.05	3.03	2.93	3.04
27	0.47	0.27	0.39	0.47	0.62	1.63	2.34	3.41	3.06	3.03	2.93	3.05
28	0.51	0.24	0.35	0.49	0.60	1.61	2.37	3.50	3.05	3.02	2.93	3.05
29	0.41	0.27	0.36	0.57	---	1.61	2.36	3.65	3.02	3.02	2.94	3.02
30	0.29	0.25	0.35	0.58	---	1.56	2.36	3.71	2.99	3.01	2.93	3.04
31	0.24	---	0.37	0.63	---	1.54	---	3.85	---	3.01	2.92	---
MEAN	1.64	0.20	0.34	0.32	0.64	1.03	1.82	2.58	3.34	3.01	2.97	2.99
MAX	3.01	0.38	0.62	0.63	0.69	1.65	2.37	3.85	3.92	3.12	3.02	3.06
MIN	0.24	0.02	0.11	0.17	0.58	0.46	1.44	2.20	2.99	2.91	2.92	2.88
†	53900	54200	57000	63100	62400	84600	104100	139500	119000	119500	117400	120200
‡	-65400	300	2800	6100	-700	22200	19500	35400	-20500	500	-2100	2800
CAL YR 2002	MEAN 1.74	MAX 4.52	MIN 0.02	‡ 5900								
WTR YR 2003	MEAN 1.75	MAX 3.92	MIN 0.02	‡ 900								

† Contents, in acre-feet, at end of month.

‡ Change in contents, in acre-feet.



Building the Kootenai River at Porthill gage house.

PEND OREILLE RIVER BASIN

12395000 PRIEST RIVER NEAR PRIEST RIVER, ID

LOCATION.--Lat 48°12'31", long 116°54'49", in NW¹/₄SW¹/₄NW¹/₄ sec.12, T.56 N., R.5 W., Bonner County, Priest River quad., Hydrologic Unit 17010215, on right bank, 500 ft downstream from Saddler Creek, 0.4 mi downstream from Lower West Branch, 2.7 mi north of Priest River, and at mile 3.8.

DRAINAGE AREA.--902 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1903 to April 1905, November 1910 to April 1911, May to December 1923, February 1929 to current year. Prior to October 1930, published as "at Priest River."

REVISED RECORDS.--WSP 572: 1903-5.

GAGE.--Water-stage recorder. Elevation of gage is 2,090 ft above NGVD of 1929, from river-profile map. Prior to May 15, 1929, and Sept. 18, 1929, to Apr. 28, 1930, nonrecording gages at site 3 mi downstream at elevation of about 40 ft lower. June 4 to Sept. 17, 1929, and Apr. 29 to Sept. 11, 1930, nonrecording gages at or near present site at present datum.

REMARKS.--Records good except for estimated daily discharges, which are fair. Station equipment includes satellite telemetry. Some regulation on tributaries and, since Aug. 9, 1950, flow partly regulated by Priest Lake (see sta 12393000).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge (1913-49), 10,500 ft³/s May 29, 30, 1948; maximum gage height, 8.97 ft, May 29, 1948; minimum daily, 191 ft³/s Jan 7, 1937. Maximum discharge since regulation (1950-2003), 10,800 ft³/s May 18, 1997, gage height, 9.13 ft; minimum, 150 ft³/s Nov. 29, 1979, gage height, 0.38 ft.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,770 ft³/s June 2, 3, gage height, 6.01 ft; minimum daily, 176 ft³/s Sept. 3, 6, 7.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	332	803	471	916	1480	947	3110	3620	5680	1320	343	179
2	332	769	469	945	1370	941	3110	3670	5660	1300	342	177
3	332	735	466	1080	1270	931	3090	3710	5730	1300	345	176
4	330	704	466	1110	1200	918	3030	3690	5590	1250	348	178
5	328	678	466	1150	1120	915	2950	3740	5430	822	298	177
6	328	443	466	1100	1060	913	2860	3690	5280	804	257	176
7	918	347	466	1050	1050	898	2780	3640	5140	681	256	176
8	1300	417	464	1000	1040	881	2700	3570	4420	653	258	201
9	1950	463	454	942	1010	890	2700	3490	4460	648	253	264
10	2100	418	400	e850	985	878	2710	3400	4500	532	244	231
11	2180	380	370	e850	971	894	2740	3340	4550	354	240	208
12	2660	373	382	624	938	1020	2810	3320	4320	335	239	204
13	2530	392	456	602	928	1450	2880	3400	3800	324	239	195
14	2370	389	608	589	942	1620	2970	3340	3740	323	238	192
15	2250	374	1150	579	921	2090	3160	3350	3470	319	239	191
16	2110	357	1360	561	1060	2580	3190	3370	2360	316	242	191
17	1970	350	1370	547	1210	2990	3250	3430	2310	307	257	198
18	1850	347	1260	540	1120	2900	3370	3420	2300	306	245	202
19	1730	407	1170	536	1060	2770	3320	3360	2270	306	239	195
20	1620	409	1100	532	1100	2710	3270	3150	2270	302	237	196
21	1520	384	1030	527	1240	2810	3240	1890	2270	476	229	192
22	1430	382	e1000	534	1190	3690	3250	1630	2300	549	199	191
23	1330	497	e1000	536	1080	4420	3310	1620	2270	549	201	189
24	1240	521	990	536	e950	4080	3390	1660	2240	546	193	188
25	1170	488	961	554	e950	3740	3540	2080	2210	544	191	188
26	1100	486	952	818	e950	3580	3630	2900	2050	541	189	186
27	1050	472	955	1150	988	3490	3670	3750	1390	384	186	184
28	1010	469	945	1070	969	3290	3710	4300	1360	357	185	184
29	977	471	950	957	---	3140	3690	4530	1340	355	183	182
30	898	471	918	934	---	3040	3660	4760	1330	351	182	180
31	847	---	937	1290	---	3030	---	5330	---	347	181	---
TOTAL	42092	14196	24452	25009	30152	68446	95090	104150	102040	17501	7478	5771
MEAN	1358	473	789	807	1077	2208	3170	3360	3401	565	241	192
MAX	2660	803	1370	1290	1480	4420	3710	5330	5730	1320	348	264
MIN	328	347	370	527	921	878	2700	1620	1330	302	181	176
AC-FT	83490	28160	48500	49610	59810	135800	188600	206600	202400	34710	14830	11450

PEND OREILLE RIVER BASIN
12395000 PRIEST RIVER NEAR PRIEST RIVER, ID--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1913 - 1949, BY WATER YEAR (WY) (UNREGULATED)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	448	642	812	806	734	1006	2486	4737	3632	1448	619	424
MAX	1230	1785	2574	2742	1884	2008	4452	7422	6635	2503	1117	721
(WY)	1948	1948	1942	1934	1934	1934	1934	1946	1948	1933	1948	1941
MIN	253	227	293	284	360	459	958	2712	1611	751	372	266
(WY)	1937	1937	1937	1937	1936	1937	1929	1930	1930	1940	1940	1931

SUMMARY STATISTICS ^a WATER YEARS 1913 - 1949

ANNUAL TOTAL	576217
ANNUAL MEAN	1503
HIGHEST ANNUAL MEAN	2217 1948
LOWEST ANNUAL MEAN	824 1930
HIGHEST DAILY MEAN	10400 May 29 1948
LOWEST DAILY MEAN	191 Jan 7 1937
ANNUAL SEVEN-DAY MINIMUM	215 Nov 30 1936
ANNUAL RUNOFF (AC-FT)	1089000
10 PERCENT EXCEEDS	3960
50 PERCENT EXCEEDS	780
90 PERCENT EXCEEDS	333

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1950 - 2003, BY WATER YEAR (WY) (REGULATED, UNADJUSTED)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1094	1288	1028	924	1028	1404	2655	4828	4206	1291	468	400
MAX	1768	2951	2612	2960	2794	3629	4250	8405	8528	3144	1026	1350
(WY)	1998	1984	1996	1974	1951	1982	1997	1997	1974	1974	1983	1959
MIN	426	473	357	310	350	374	810	1563	1167	399	206	173
(WY)	1950	2003	1993	1993	1985	2001	1977	1977	1992	1977	1994	2001

SUMMARY STATISTICS ^b WATER YEARS 1950 - 2003

	FOR 2002 CALENDAR YEAR	FOR 2003 WATER YEAR	
ANNUAL TOTAL	630709	536377	
ANNUAL MEAN	1728	1470	1719
HIGHEST ANNUAL MEAN			2947 1974
LOWEST ANNUAL MEAN			711 1977
HIGHEST DAILY MEAN	7130	Jun 1 5730	Jun 3 10700 May 18 1997
LOWEST DAILY MEAN	197	Sep 14 176	Sep 3 160 Feb 6 1989
ANNUAL SEVEN-DAY MINIMUM	201	Sep 10 177	Sep 1 163 Sep 15 2001
ANNUAL RUNOFF (AC-FT)	1251000	1064000	1245000
10 PERCENT EXCEEDS	4160	3570	4360
50 PERCENT EXCEEDS	1160	950	1070
90 PERCENT EXCEEDS	225	203	329

a Unregulated
b Regulated, unadjusted.
e Estimated

PEND OREILLE RIVER BASIN

12395000 PRIEST RIVER NEAR PRIEST RIVER, ID--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1988 to 1996, April to September 1998, April to September 2000, April to June 2002, July to September 2003 (discontinued).

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: May to September 1998, May to September 2000, August to September 2003 (discontinued)

INSTRUMENTATION.--Temperature recording data logger.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Maximum, 25.3 °C July 27, 1998.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum, 23.1 °C Aug. 14, minimum, 10.8 °C Sept. 18.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Instantaneous discharge, cfs (00061)	Specific conductance, wat unfltrd uS/cm 25 degC (00095)	pH, water, unfltrd field, std units (00400)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Turbidity, wat unfltrd lab, Hach 2100AN NTU (99872)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	Fecal coliform, M-FC 0.7u MF col/100 mL (31625)	Hardness, water, unfltrd mg/L as CaCO3 (00900)	Calcium, water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)
JUL 07...	1040	666	53	7.3	18.0	17.7	2.4	7.6	--	26	--	--	--
AUG 11...	1255	239	72	7.8	21.5	21.1	3.1	8.7	106	S11	--	--	--
SEP 04...	1405	176	82	8.1	31.5	19.0	1.9	9.5	111	S2	36	10.7	2.32

Date	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	Potassium, water, fltrd, mg/L (00935)	Sulfate, water, fltrd, mg/L (00945)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Ammonia, water, fltrd, mg/L as N (00608)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Nitrite + nitrate, water, fltrd, mg/L as N (00631)	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, unfltrd, mg/L (00665)
JUL 07...	--	--	--	--	--	--	--	<.015	E.07	<.022	<.007	.009
AUG 11...	--	--	--	--	--	--	--	<.015	.12	<.022	<.007	.010
SEP 04...	2.46	13	.83	2.6	.67	<.2	10.7	<.015	E.08	<.022	<.007	.008

Date	Suspended sediment concentration, mg/L (80154)	Suspended sediment load, tons/d (80155)
JUL 07...	7.2	4
AUG 11...	1.3	2
SEP 04...	.95	2

< Less than
 E Estimated value
 S Most probable value

PEND OREILLE RIVER BASIN
 12395000 PRIEST RIVER NEAR PRIEST RIVER, ID--Continued

Temperature, water, degrees Celsius
 WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MEAN	JUNE			JULY			AUGUST			SEPTEMBER		
				MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	---	---	---	---	---	---	---	---	---	20.0	16.3	18.3			
2	---	---	---	---	---	---	---	---	---	20.3	16.4	18.5			
3	---	---	---	---	---	---	---	---	---	20.1	16.8	18.7			
4	---	---	---	---	---	---	---	---	---	20.3	17.1	18.9			
5	---	---	---	---	---	---	---	---	---	20.6	17.2	19.1			
6	---	---	---	---	---	---	---	---	---	20.5	16.8	18.9			
7	---	---	---	---	---	---	---	---	---	20.0	17.9	19.0			
8	---	---	---	---	---	---	---	---	---	19.2	15.8	17.4			
9	---	---	---	---	---	---	---	---	---	16.4	14.5	15.5			
10	---	---	---	---	---	---	---	---	---	15.7	13.6	14.7			
11	---	---	---	---	---	---	---	---	---	15.3	14.1	14.7			
12	---	---	---	---	---	---	---	---	---	15.5	13.3	14.5			
13	---	---	---	---	---	---	---	---	---	22.8	18.5	20.9			
14	---	---	---	---	---	---	---	---	---	23.1	18.4	20.8			
15	---	---	---	---	---	---	---	---	---	22.5	18.7	20.7			
16	---	---	---	---	---	---	---	---	---	21.8	19.5	20.4			
17	---	---	---	---	---	---	---	---	---	21.8	18.2	19.7			
18	---	---	---	---	---	---	---	---	---	22.6	18.0	20.3			
19	---	---	---	---	---	---	---	---	---	22.9	18.7	21.0			
20	---	---	---	---	---	---	---	---	---	22.5	18.7	20.7			
21	---	---	---	---	---	---	---	---	---	22.1	18.0	20.2			
22	---	---	---	---	---	---	---	---	---	21.6	18.5	19.6			
23	---	---	---	---	---	---	---	---	---	19.8	17.4	18.6			
24	---	---	---	---	---	---	---	---	---	20.5	16.6	18.6			
25	---	---	---	---	---	---	---	---	---	20.6	16.4	18.6			
26	---	---	---	---	---	---	---	---	---	20.6	17.1	19.1			
27	---	---	---	---	---	---	---	---	---	20.3	17.6	19.2			
28	---	---	---	---	---	---	---	---	---	20.5	16.8	18.8			
29	---	---	---	---	---	---	---	---	---	20.1	16.4	18.5			
30	---	---	---	---	---	---	---	---	---	19.8	16.1	18.2			
31	---	---	---	---	---	---	---	---	---	19.6	16.0	18.1			
MONTH	---	---	---	---	---	---	---	---	---	20.6	10.8	15.1			

PEND OREILLE RIVER BASIN

12395500 PEND OREILLE RIVER AT NEWPORT, WA

LOCATION.--Lat 48°10'56", long 117°02'00", in SE $\frac{1}{4}$ SE $\frac{1}{4}$ SW $\frac{1}{4}$ 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 mi², approximately.

PERIOD OF RECORD.--June 1903 to September 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.--No estimated daily discharges. Records good. 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 ft³/s June 15, 1933, June 21, 1933, June 12, 1972; minimum, 1,280 ft³/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 ft³/s.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 70,000 ft³/s June 5, gage height, 43.66 ft; minimum, 4,720 ft³/s Nov. 18; minimum gage height, 30.97 ft, Sept. 1.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12600	16300	11800	13700	15800	13800	21100	36000	58600	24300	12600	5100
2	14100	16300	12000	13200	21000	12000	24400	32000	62600	25700	12300	5210
3	13900	16200	12100	12700	24200	11700	29300	31400	67300	25700	11700	6590
4	14200	15400	11900	12900	23500	11600	31100	32100	68500	23400	11500	8780
5	14200	14200	12100	12000	20500	10600	30900	34900	66200	21600	11500	7490
6	14000	14300	13000	11300	16500	10300	29300	38800	63600	20800	11200	6590
7	13800	14100	14300	10300	13500	10400	27500	42200	61700	19600	10700	6640
8	14000	14000	14500	9610	12900	10400	26300	42400	54800	17600	9450	6630
9	14100	14200	15200	9070	13100	10500	24800	42300	48900	16600	8700	6980
10	13900	14000	15400	8580	13700	12000	24600	42200	47500	16600	8800	7080
11	13900	13700	15300	8390	14700	13900	26300	42000	45100	15800	8660	7390
12	13800	13900	15600	8360	14900	14900	28300	42200	41400	15300	8740	9080
13	13900	14800	14900	7700	14200	20500	28500	42100	39700	15300	8660	9610
14	14100	17500	16800	7250	13400	25200	31400	42000	39800	16400	7740	9590
15	15300	16000	17400	7230	13600	25800	36100	41400	39900	16000	6430	9590
16	16800	13500	18200	7260	13600	25700	37700	41000	39600	15400	6290	9640
17	17000	12000	19900	7310	13500	24000	38300	40900	37100	15700	6810	9800
18	17000	13000	20400	7320	14400	20200	37600	40800	37100	18700	7090	9830
19	17400	14300	21000	7430	15900	17700	37100	39800	36000	18000	8840	9860
20	17100	13500	17900	7450	16200	17600	35100	38600	36100	16900	9730	9860
21	17100	13200	14200	7430	16000	17700	35000	37200	36200	13600	9790	9910
22	17200	13000	14000	7270	16000	21600	32500	34200	36200	13500	9650	10100
23	17400	13500	13900	7370	15900	24800	31000	32900	37400	14500	9500	11000
24	16800	14200	13900	8340	15900	28900	31100	32600	39400	14400	9560	11500
25	16800	16900	13800	9000	15900	31300	34100	33700	37200	12000	9410	11900
26	17100	16600	14500	9470	16000	31300	40900	37600	33200	10700	8920	12000
27	17400	12800	17600	12400	16000	30600	44700	45400	28800	11500	8570	11900
28	17300	12000	18400	14100	15500	29800	43900	53300	27200	11800	7690	11800
29	17100	11500	17400	15100	---	26300	44200	55100	27100	11700	6800	11800
30	16300	11900	16100	15900	---	23000	41800	57400	25300	12400	5650	11900
31	16200	---	14300	14700	---	21100	---	58100	---	12800	5150	---
TOTAL	481800	426800	477800	310140	446300	605200	984900	1262600	1319500	514300	278130	275150
MEAN	15540	14230	15410	10000	15940	19520	32830	40730	43980	16590	8972	9172
MAX	17400	17500	21000	15900	24200	31300	44700	58100	68500	25700	12600	12000
MIN	12600	11500	11800	7230	12900	10300	21100	31400	25300	10700	5150	5100
AC-FT	955700	846600	947700	615200	885200	1200000	1954000	2504000	2617000	1020000	551700	545800

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1903 - 2003, BY WATER YEAR (WY)

	1903	1904	1905	1906	1907	1908	1909	1910	1911	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
MEAN	17620	18340	16290	15510	16400	19080	27430	49500	61780	32020	14110	13420																																																																																									
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 2002 CALENDAR YEAR	FOR 2003 WATER YEAR	WATER YEARS 1903 - 2003
ANNUAL TOTAL	9528800	7382620	
ANNUAL MEAN	26110	20230	25070
HIGHEST ANNUAL MEAN			38600
LOWEST ANNUAL MEAN			12920
HIGHEST DAILY MEAN	95400	Jun 9	135000
LOWEST DAILY MEAN	9150	Sep 1	2420
ANNUAL SEVEN-DAY MINIMUM	10400	Aug 31	3280
ANNUAL RUNOFF (AC-FT)	18900000		18160000
10 PERCENT EXCEEDS	66900		52400
50 PERCENT EXCEEDS	16800		18800
90 PERCENT EXCEEDS	12600		8610