



Gage damage following high water at Clearwater River at Spalding, Idaho (Feb. 1928)

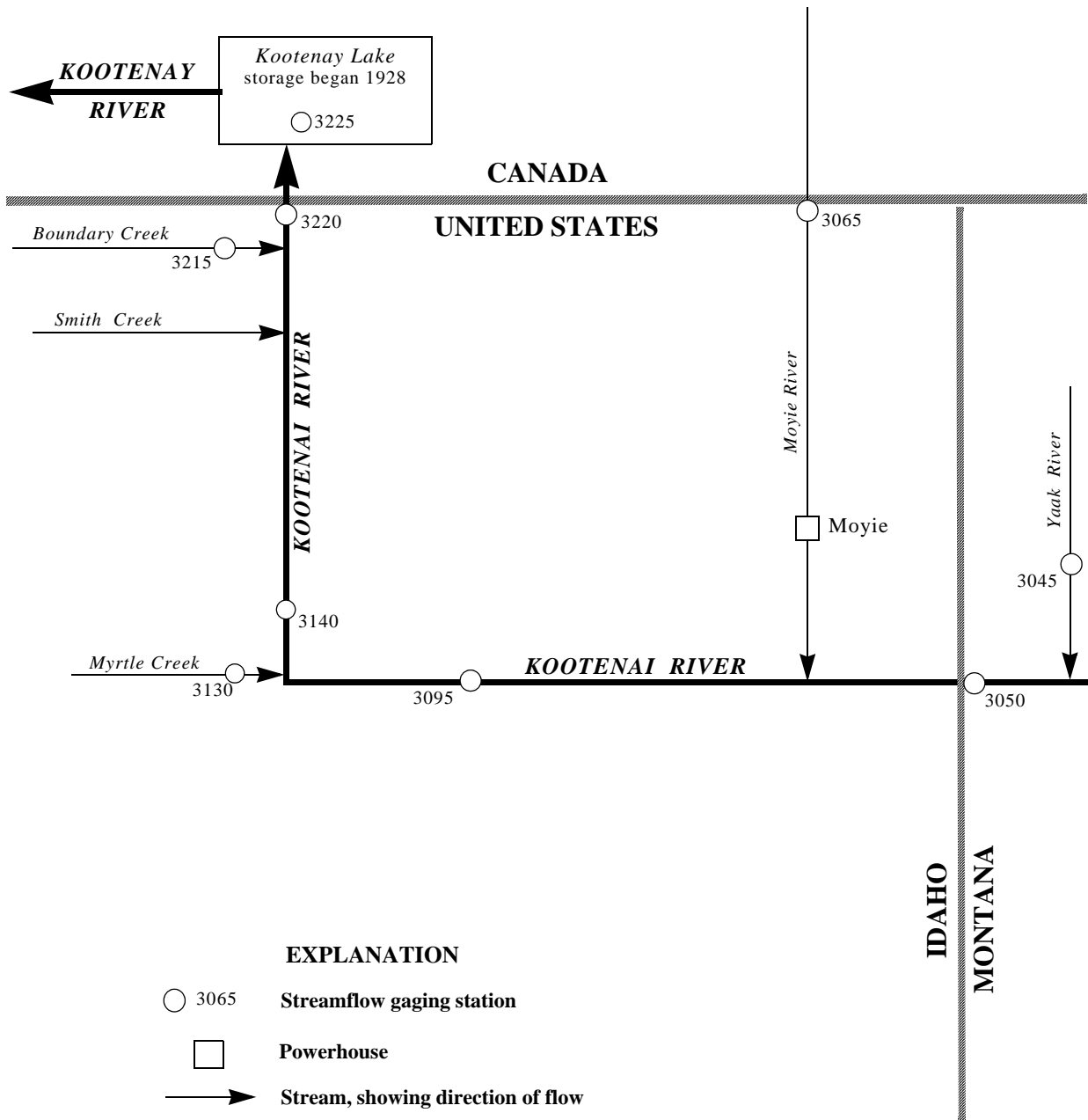


Figure 10. Schematic diagram showing gaging stations in Kootenai River basin.

KOOTENAI RIVER BASIN

12304500 YAAK RIVER NEAR TROY, MT

LOCATION.--Lat 48°33'43", long 115°58'09", in NE 1/4 SE 1/4 sec.5, T.32 N., R.34 W., Lincoln County, Montana, Hydrologic Unit 17010103, Kootenai National Forest, on right bank 500 ft upstream from bridge on U.S. Highway 2, 0.3 mi upstream from mouth, and 7.7 mi northwest of Troy.

DRAINAGE AREA.--766 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1910 to September 1916 (fragmentary record), March 1956 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,839.2 ft above NGVD of 1929. Oct. 15, 1910 to Sept. 30, 1916, nonrecording gage at several sites within 11 mi of present site at various datums.

REMARKS.--Records good. Diversions for irrigation upstream from station. U.S. Army Corps of Engineers satellite telemeter at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 12,600 ft³/s May 17, 1997, gage height, 9.58; maximum gage height, May 21, 1956, 9.70 ft in gage well, 10.8 ft from outside gage; minimum discharge, 47 ft³/s Sept. 22, 2001, gage height, 2.66 ft.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in May to June 1948 reached a stage of 11.0 ft, from floodmarks; discharge, 12,500 ft³/s. Flood in May 1954 reached a stage of 11.4 ft, from floodmarks; discharge, 13,400 ft³/s.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 12,100 ft³/s May 22, gage height, 9.37; minimum daily, 54 ft³/s Oct. 5-7.

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

Table with columns: DAY, OCT, NOV, DEC, JAN, FEB, MAR, APR, MAY, JUN, JUL, AUG, SEP. Rows include daily discharge values from day 1 to 31, and summary statistics (TOTAL, MEAN, MAX, MIN, AC-FT, CFSM, IN.)

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1957 - 2002, BY WATER YEAR (WY)

Table with columns: MEAN, MAX, (WY), MIN, (WY). Rows show monthly mean discharge statistics for water years 1957 through 2002.

SUMMARY STATISTICS FOR 2001 CALENDAR YEAR FOR 2002 WATER YEAR WATER YEARS 1957 - 2002

Table with columns: ANNUAL TOTAL, ANNUAL MEAN, HIGHEST ANNUAL MEAN, LOWEST ANNUAL MEAN, HIGHEST DAILY MEAN, LOWEST DAILY MEAN, ANNUAL SEVEN-DAY MINIMUM, ANNUAL RUNOFF (AC-FT), ANNUAL RUNOFF (CFSM), ANNUAL RUNOFF (INCHES), 10 PERCENT EXCEEDS, 50 PERCENT EXCEEDS, 90 PERCENT EXCEEDS.

e Estimated

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. Missing data for Aug. 29, due to equipment problems. 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): 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, 25.0°C, July 24; minimum, 0.5°C on May 9.

WATER QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	PH WATER FIELD (STANDARD UNITS) (00400)	SPECIFIC CONDUCTANCE (US/CM) (00095)	TEMPERATURE AIR (DEG C) (00020)	TEMPERATURE WATER (DEG C) (00010)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITROGEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITROGEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)
NOV 2001	05...	129	8.3	112	8.0	7.5	.12	<.013	<.002
APR 2002	16...	4910	7.8	46	10.0	4.0	.26	.044	<.002
MAY	15...	2570	7.5	52	10.0	5.5	.11	<.013	<.002
JUN	12...	2050	8.0	56	15.5	8.5	.11	<.013	<.002
JUL	17...	344	8.1	97	21.5	17.5	E.10	<.013	<.002

DATE	ORTHOPHOSPHATE, DIS-SOLVED (MG/L AS P) (00671)	SED. SUSP. PHOSPHORUS TOTAL (MG/L AS P) (00665)	SEDI-MENT, SIEVE DIAM. % FINER THAN .062 MM (70331)	SEDI-MENT, SUSPENDED (MG/L) (80154)	DIS-CHARGE, SUSPENDED (T/DAY) (80155)
NOV 2001	05...	<.007	E.003	70	4
APR 2002	16...	<.007	.031	76	29
MAY	15...	<.007	.006	85	3
JUN	12...	<.007	.005	80	3
JUL	17...	<.007	.004	88	1

DATE	TIME	HARDNESS TOTAL (MG/L AS CaCO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS Ca) (00915)	MAGNESIUM DIS-SOLVED (MG/L AS Mg) (00925)	POTASSIUM DIS-SOLVED (MG/L AS K) (00935)	SODIUM ADSORPTION RATIO (00931)	SODIUM, DIS-SOLVED (MG/L AS Na) (00930)	ALKALINITY WAT. DIS-FET LAB (MG/L CaCO3) (29801)	CHLORIDE, DIS-SOLVED (MG/L AS Cl) (00940)	FLUORIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SiO2) (00955)
NOV 2001	05...	52	15.4	3.21	.81	.1	2.42	58	.58	<.1	9.97
MAY 2002	15...	26	7.64	1.65	.51	.1	1.21	29	E.27	<.1	10.4

DATE	TIME	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	SOLIDS, DIS-SOLVED (TONS PER AC-FT) (70303)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	SOLIDS, SUM OF CONSTITUENTS, DIS-SOLVED (MG/L) (70301)	POTASSIUM TOTAL (UG/L AS AS) (01002)	CADMIUM WATER UNPLTRD TOTAL (UG/L AS Cd) (01027)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR) (01034)	COPPER, TOTAL RECOVERABLE (UG/L AS CU) (01042)	LEAD, TOTAL RECOVERABLE (UG/L AS PB) (01051)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI) (01067)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN) (01092)
NOV 2001	05...	1.9	.09	24	69	<4	<.1	<.8	.7	<1	<1	1
MAY 2002	15...	1.0	E.04	E207	E30	<2	<.1	<.8	3.1	<1	<1	4

E Estimated

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

WATER TEMPERATURE, DEGREES CELSIUS, APRIL 2002 TO SEPTEMBER 2002

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	10.5	5.5	7.5	9.0	3.0	5.5	11.0	6.0	8.5	16.5	11.0	14.0
2	6.5	2.0	4.5	9.5	3.5	6.5	11.5	8.5	10.0	17.5	11.5	14.5
3	11.0	3.0	6.5	7.5	2.0	5.5	13.0	8.5	10.5	17.5	11.5	15.0
4	11.5	3.5	6.5	5.5	3.0	4.0	13.0	8.5	11.0	17.0	12.5	14.5
5	11.0	3.0	6.5	3.5	1.5	2.5	13.0	8.0	10.0	18.5	11.5	15.0
6	10.5	5.5	8.0	7.5	2.5	4.0	11.5	6.5	8.5	19.0	12.0	15.0
7	8.0	5.0	7.0	5.0	2.5	3.5	11.0	6.0	8.0	18.0	13.0	15.5
8	8.0	5.0	6.5	4.0	1.0	2.5	8.5	4.5	5.5	18.0	12.0	14.0
9	8.0	4.0	5.5	6.5	0.5	3.5	9.5	4.0	7.0	20.5	11.5	16.0
10	10.5	6.0	8.0	7.5	1.5	4.5	9.5	6.0	8.0	22.0	14.5	18.0
11	9.0	4.5	6.5	8.5	2.0	5.5	12.0	6.5	8.5	23.0	15.5	19.5
12	7.5	4.5	5.5	9.5	4.0	6.5	12.5	6.5	9.5	24.0	17.5	21.0
13	8.0	4.5	6.0	11.0	5.5	8.0	15.0	9.0	12.0	24.0	18.0	21.5
14	7.5	5.0	7.0	9.5	6.5	8.0	16.0	11.0	13.5	24.0	20.0	22.5
15	6.5	4.5	5.5	9.0	4.5	7.0	14.5	9.5	12.5	24.0	18.5	21.5
16	8.0	4.0	5.5	9.0	5.0	7.5	15.5	10.0	12.5	22.5	17.0	20.0
17	8.5	6.5	7.5	7.5	5.5	6.5	14.0	9.0	12.0	23.5	17.5	20.0
18	10.5	5.0	7.5	6.5	3.0	5.0	14.0	8.0	10.5	24.5	19.0	22.0
19	10.5	6.0	8.0	9.5	4.0	6.5	10.5	8.0	9.5	23.0	19.0	20.5
20	10.5	6.0	8.0	8.0	5.0	6.5	12.5	6.0	9.0	22.5	17.0	20.0
21	9.5	7.0	8.0	7.0	2.5	3.5	17.0	9.5	12.5	22.0	16.5	19.5
22	8.0	5.0	6.5	5.0	1.0	3.0	17.0	9.5	13.0	22.0	17.0	19.5
23	5.5	3.0	4.5	4.5	1.0	2.0	18.5	11.0	14.5	22.5	18.5	20.5
24	5.5	1.5	3.5	4.5	2.0	3.0	17.0	12.5	14.5	25.0	20.0	22.0
25	6.0	2.0	4.0	7.5	3.0	4.5	18.5	10.5	14.0	24.5	20.0	22.5
26	8.0	3.0	5.0	7.0	3.5	5.0	20.5	15.0	17.0	24.0	20.5	22.5
27	9.5	3.0	5.0	10.0	5.0	7.0	19.5	13.0	16.0	23.0	18.0	20.5
28	9.5	3.0	6.0	7.0	5.0	6.0	18.0	13.0	15.5	19.5	16.0	18.0
29	8.5	3.5	6.0	9.0	4.5	6.5	16.0	12.0	13.5	20.0	16.0	18.0
30	7.0	4.5	5.5	9.0	5.0	6.5	16.0	9.0	12.5	19.5	14.5	17.0
31	---	---	---	10.0	6.5	8.5	---	---	---	19.0	14.0	16.5
MONTH	11.5	1.5	6.0	11.0	0.5	5.3	20.5	4.0	11.5	25.0	11.0	18.5

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN
1	19.0	12.5	16.0	20.0	15.5	17.5
2	21.0	14.5	17.0	19.5	14.0	16.5
3	19.5	13.5	16.0	20.0	14.5	17.0
4	18.0	14.0	16.0	20.5	13.0	16.5
5	19.5	13.0	16.5	18.0	16.0	17.0
6	17.5	14.0	16.0	19.0	15.0	16.5
7	20.0	13.5	16.0	20.0	15.0	17.0
8	19.5	13.0	15.5	17.0	14.0	15.5
9	21.0	15.0	17.5	19.5	13.5	16.0
10	22.0	15.0	18.5	20.5	14.5	17.0
11	23.5	16.5	19.0	20.0	13.5	17.0
12	23.5	15.0	19.0	21.0	14.0	16.5
13	24.0	15.0	19.0	21.0	14.5	17.5
14	23.5	16.0	19.5	20.5	14.5	17.0
15	23.0	16.0	18.5	18.5	14.5	16.5
16	21.5	16.0	17.5	16.5	14.5	15.5
17	20.5	13.5	16.5	18.0	14.5	16.0
18	21.5	14.5	17.5	18.5	14.0	16.0
19	21.0	13.5	17.0	18.5	12.5	15.0
20	21.5	14.5	17.0	17.0	12.0	15.0
21	19.0	14.0	16.5	16.0	10.0	12.5
22	21.5	13.0	16.5	15.5	9.0	12.0
23	22.5	14.5	18.0	15.5	10.0	12.0
24	22.0	15.5	18.5	17.5	9.0	12.5
25	22.0	15.5	18.0	17.0	11.5	13.5
26	21.5	16.5	18.5	15.0	12.0	13.5
27	20.0	13.5	16.5	15.5	11.5	13.0
28	22.5	14.0	17.0	15.0	9.5	11.5
29	18.5	---	17.0	14.0	11.0	12.0
30	20.0	16.0	17.5	12.5	10.0	11.5
31	21.5	14.0	17.5	---	---	---
MONTH	24.0	---	17.5	21.0	9.0	15.0

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, 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 May to September and daily discharges above 25,000 ft³/s, 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 (1972-2002), 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 ft³/s 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 daily discharge, 48,400 ft³/s July 2; minimum daily, 5,790 ft³/s Mar. 21.

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	6830	8030	10500	8910	15600	10900	7340	12400	25200	47000	20300	10700
2	6890	7600	10500	9330	15500	10600	7600	13200	23000	48400	21400	9340
3	6880	7440	10500	10700	15400	10400	7390	14200	22000	47600	20500	8330
4	6830	7290	10500	10800	15400	10400	7260	14100	21300	45000	20500	7350
5	6790	7240	10500	10800	17300	10300	7340	13000	23800	40300	21400	6870
6	6780	7240	10500	10800	22300	10200	8030	12000	28400	34800	23100	6850
7	6780	7130	10300	11600	25300	10000	9260	11100	29700	31600	22900	6890
8	6800	6990	10300	18400	25400	9440	10200	10400	28000	28100	22300	6830
9	6850	6900	10300	18300	21900	8710	10200	9900	27000	27400	19000	6820
10	6850	6840	10300	16500	16700	7980	10200	9500	26500	27800	18900	6870
11	6960	6780	10300	18100	13600	7350	11000	9210	27900	28300	18900	7030
12	6940	6730	10300	17500	11800	7870	12500	9210	30500	30100	18800	6780
13	6920	6700	10400	17100	10500	7400	16500	9830	35600	30900	17900	6720
14	6910	6940	10500	16700	9710	6850	29100	11600	36500	30800	17800	6700
15	6860	8030	10400	16400	9160	6580	30600	13700	37000	31600	17800	6690
16	6850	8190	10500	16300	9150	6500	21900	15700	37500	33100	17800	6680
17	6860	9010	10700	16100	9200	6310	16700	15700	37200	29000	17800	6780
18	6870	8550	10600	15900	9210	6190	14200	15800	36500	24600	15400	6740
19	6870	7990	10600	15900	9210	6170	13000	16400	35200	24300	17300	6720
20	6860	7690	10500	15900	9160	6080	12200	21600	34300	24200	17800	6690
21	6870	7560	10500	15900	9160	5790	12200	28500	33500	23500	17800	6680
22	6920	7530	10400	15800	10300	5830	12600	35700	33400	21400	17800	6670
23	7020	7490	10300	15600	17600	5840	12600	33100	33600	23800	17800	6670
24	7000	7400	9430	15700	15200	5800	11900	26100	33500	23800	17700	6680
25	6980	7290	8880	16000	12900	5820	11300	22600	32700	23800	17800	6680
26	6930	7210	8830	16200	12000	5880	11000	21400	37400	23800	17800	6670
27	6950	7140	8770	16000	11500	6120	10800	22900	40800	23800	16600	6690
28	7270	8010	8790	15700	11300	6240	10500	25700	39800	23700	15500	6660
29	7160	10400	8850	15600	---	6300	10600	29200	44500	23700	15400	6650
30	7140	10400	8840	15600	---	6350	11400	29800	45300	23600	14200	6650
31	7720	---	8840	15600	---	6610	---	27700	---	22100	12600	---
TOTAL	215140	229740	311430	465740	391460	232810	377420	561250	977600	921900	568600	211080
MEAN	6940	7658	10050	15020	13980	7510	12580	18100	32590	29740	18340	7036
MAX	7720	10400	10700	18400	25400	10900	30600	35700	45300	48400	23100	10700
MIN	6780	6700	8770	8910	9150	5790	7260	9210	21300	21400	12600	6650
AC-FT	426700	455700	617700	923800	776500	461800	748600	1113000	1939000	1829000	1128000	418700

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 - 2002, BY WATER YEAR (WY) (REGULATED, UNADJUSTED)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	14690	16660	16120	15600	13010	8934	11100	15550	17190	12970	11370	11180
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 2001 CALENDAR YEAR

FOR 2002 WATER YEAR

^b WATER YEARS 1972 - 2002

ANNUAL TOTAL	2683430	5464170	
ANNUAL MEAN	7352	14970	13700
HIGHEST ANNUAL MEAN			20400
LOWEST ANNUAL MEAN			7466
HIGHEST DAILY MEAN	15600	Feb 13	48400
LOWEST DAILY MEAN	4290	Mar 9	5790
ANNUAL SEVEN-DAY MINIMUM	4350	Mar 8	5860
ANNUAL RUNOFF (AC-FT)	5323000		10840000
10 PERCENT EXCEEDS	10500		29400
50 PERCENT EXCEEDS	6860		10700
90 PERCENT EXCEEDS	4700		6760
			9926000
			24400
			11900
			5040
			56200
			2270
			2420
			Dec 9 1972
			Dec 7 1972
			Jan 16 1974
			Jul 2
			Mar 21
			Mar 20

^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 NW $\frac{1}{4}$ NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec.10, T.65 N., R.2 E., Boundary County, 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)
Apr. 14	1500	4,170	7.67	May 21	2045	*9,310	*10.46

Minimum daily, 23 ft³/s Oct. 5-8.

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	27	69	104	e75	e135	e360	426	1840	5560	1430	177	77
2	26	50	100	e75	e135	e340	398	2060	5200	1270	170	75
3	24	45	98	e80	e130	e320	379	2300	4900	1150	164	79
4	24	44	97	e85	e130	e310	377	2240	4640	1050	159	77
5	23	43	93	e90	e130	e320	409	2090	4580	951	153	75
6	23	47	93	e95	e130	e300	571	1920	4390	865	146	76
7	23	44	e90	e100	143	e260	758	1770	4040	796	141	75
8	23	39	88	e400	140	e220	763	1620	3700	824	137	75
9	24	40	e85	421	138	e240	747	1490	3330	799	132	73
10	25	37	e85	333	135	e250	811	1380	2980	734	127	70
11	31	36	e85	302	131	e270	964	1290	2730	686	122	69
12	33	36	e80	293	e120	284	1160	1290	2650	631	118	67
13	30	39	e80	e250	e110	273	1810	1470	2690	583	114	66
14	28	46	e85	e230	e110	263	3510	1940	2780	544	110	63
15	28	108	e80	e210	e100	256	3290	2050	2860	494	106	63
16	27	108	e80	e190	e100	247	2650	2060	2900	457	105	62
17	27	148	e95	e170	e110	e230	2260	2100	2820	427	105	66
18	28	117	e90	e150	116	e220	1980	2190	2890	394	102	67
19	28	96	e95	e155	116	e210	1770	2540	2840	362	99	65
20	27	93	e90	e160	117	e200	1640	4100	2550	334	95	62
21	28	97	e85	e165	118	e180	1650	7260	2340	313	95	61
22	30	97	e85	e160	194	e180	1760	8650	2170	296	94	60
23	38	101	e80	e150	e650	e190	1720	7370	2100	277	90	59
24	37	98	e75	e160	e600	e200	1600	6070	2000	260	87	58
25	34	95	e70	e170	e480	223	1480	5290	1860	241	88	57
26	32	94	e65	e170	e420	247	1410	4870	1740	232	85	57
27	32	93	e60	e160	e400	272	1330	4780	1640	237	87	57
28	47	91	e60	e150	e380	273	1280	5280	1510	217	85	57
29	43	94	e65	e130	---	285	1330	5910	1590	202	82	59
30	37	95	e70	e120	---	289	1590	6110	1600	193	85	71
31	50	---	e70	e130	---	332	---	5960	---	185	80	---
TOTAL	937	2240	2578	5529	5718	8044	41823	107290	89580	17434	3540	1998
MEAN	30.23	74.67	83.16	178.4	204.2	259.5	1394	3461	2986	562.4	114.2	66.60
MAX	50	148	104	421	650	360	3510	8650	5560	1430	177	79
MIN	23	36	60	75	100	180	377	1290	1510	185	80	57
AC-FT	1860	4440	5110	10970	11340	15960	82960	212800	177700	34580	7020	3960
CFSM	0.05	0.13	0.15	0.31	0.36	0.46	2.45	6.07	5.24	0.99	0.20	0.12
IN.	0.06	0.15	0.17	0.36	0.37	0.52	2.73	7.00	5.85	1.14	0.23	0.13

KOOTENAI RIVER BASIN

12306500 MOYIE RIVER AT EASTPORT, ID--Continued
(International gaging station)

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1929 - 2002, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	141.1	223.7	213.5	164.6	180.7	291.1	1302	3111	1954	472.0	135.9	97.66
MAX	907	797	1062	647	926	871	3303	5130	4862	1204	374	382
(WY)	1948	2000	1942	1934	1951	1972	1934	1956	1974	1954	1993	1959
MIN	30.2	42.2	48.9	41.9	49.9	69.4	216	1174	429	127	58.1	31.1
(WY)	2002	1937	2001	1937	2001	1944	2001	1944	1992	1940	1936	2001

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR				FOR 2002 WATER YEAR				WATER YEARS 1929 - 2002			
ANNUAL TOTAL	91620				286711							
ANNUAL MEAN	251.0				785.5				692.3			
HIGHEST ANNUAL MEAN									1157			
LOWEST ANNUAL MEAN									244			
HIGHEST DAILY MEAN	2340				May 25				8650			
LOWEST DAILY MEAN	23				Oct 5				23			
ANNUAL SEVEN-DAY MINIMUM	23				Oct 3				23			
ANNUAL RUNOFF (AC-FT)	181700				568700				501500			
ANNUAL RUNOFF (CFSM)	0.44				1.38				1.21			
ANNUAL RUNOFF (INCHES)	5.98				18.71				16.50			
10 PERCENT EXCEEDS	796				2420				2270			
50 PERCENT EXCEEDS	72				153				180			
90 PERCENT EXCEEDS	31				44				67			

e Estimated

GAGE HEIGHT, in FEET, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.18	3.43	3.59	4.09	3.84	4.32	4.36	5.91	8.52	5.53	3.83	3.47
2	3.18	3.33	3.57	4.08	3.76	4.27	4.31	6.09	8.31	5.39	3.81	3.46
3	3.16	3.31	3.56	4.07	3.74	4.24	4.28	6.31	8.13	5.27	3.80	3.48
4	3.16	3.30	3.56	4.04	3.73	4.20	4.28	6.25	7.97	5.15	3.78	3.47
5	3.15	3.29	3.54	3.99	3.73	4.18	4.33	6.12	7.93	5.05	3.76	3.46
6	3.15	3.32	3.54	3.99	3.72	4.16	4.58	5.98	7.82	4.95	3.74	3.46
7	3.15	3.30	3.55	3.82	3.73	4.15	4.82	5.85	7.59	4.87	3.72	3.46
8	3.15	3.27	3.52	4.35	3.72	4.12	4.83	5.71	7.36	4.90	3.71	3.46
9	3.16	3.27	3.53	4.35	3.71	4.09	4.81	5.59	7.10	4.87	3.69	3.45
10	3.16	3.25	3.58	4.19	3.70	4.07	4.89	5.49	6.84	4.79	3.67	3.44
11	3.21	3.25	3.51	4.13	3.69	4.08	5.06	5.41	6.65	4.73	3.66	3.43
12	3.23	3.25	3.49	4.11	3.72	4.10	5.27	5.41	6.59	4.66	3.64	3.42
13	3.21	3.27	3.54	4.06	3.67	4.07	5.88	5.57	6.62	4.60	3.63	3.41
14	3.19	3.31	3.56	4.02	3.70	4.05	7.20	5.99	6.69	4.55	3.61	3.40
15	3.19	3.60	3.65	4.14	3.67	4.03	7.07	6.09	6.75	4.47	3.60	3.40
16	3.18	3.60	3.57	4.30	3.66	4.01	6.59	6.10	6.78	4.41	3.59	3.40
17	3.18	3.75	3.61	4.14	3.65	4.00	6.27	6.13	6.72	4.36	3.59	3.41
18	3.19	3.64	3.83	4.23	3.63	3.97	6.02	6.21	6.77	4.31	3.58	3.42
19	3.19	3.56	3.80	4.04	3.64	3.96	5.84	6.49	6.74	4.25	3.57	3.41
20	3.18	3.54	3.54	3.90	3.64	3.96	5.73	7.63	6.51	4.20	3.55	3.40
21	3.19	3.56	3.54	3.87	3.64	3.96	5.74	9.41	6.34	4.15	3.55	3.39
22	3.21	3.56	3.53	3.83	3.86	3.94	5.84	10.14	6.19	4.12	3.55	3.39
23	3.26	3.58	3.70	3.81	4.72	3.91	5.80	9.50	6.13	4.08	3.53	3.38
24	3.25	3.56	3.51	3.82	4.65	3.91	5.69	8.81	6.05	4.04	3.52	3.38
25	3.23	3.55	3.73	3.86	4.52	3.95	5.59	8.37	5.92	4.00	3.52	3.37
26	3.22	3.55	4.06	3.85	4.45	4.01	5.52	8.11	5.82	3.97	3.51	3.37
27	3.22	3.54	4.04	3.88	4.41	4.07	5.45	8.06	5.72	3.99	3.52	3.37
28	3.31	3.53	4.13	3.82	4.41	4.07	5.40	8.36	5.61	3.94	3.51	3.37
29	3.29	3.55	4.19	3.84	---	4.10	5.45	8.73	5.68	3.90	3.50	3.38
30	3.25	3.55	4.18	3.89	---	4.11	5.69	8.83	5.69	3.88	3.51	3.44
31	3.33	---	4.15	3.90	---	4.19	---	8.75	---	3.86	3.49	---
MEAN	3.20	3.45	3.69	4.01	3.88	4.07	5.42	7.01	6.78	4.49	3.62	3.42
MAX	3.33	3.75	4.19	4.35	4.72	4.32	7.20	10.14	8.52	5.53	3.83	3.48
MIN	3.15	3.25	3.49	3.81	3.63	3.91	4.28	5.41	5.61	3.86	3.49	3.37

CAL YR 2001 MEAN 3.78 MAX 6.33 MIN 3.15
WTR YR 2002 MEAN 4.42 MAX 10.14 MIN 3.15

KOOTENAI RIVER BASIN

12309500 KOOTENAI RIVER AT BONNERS FERRY, ID

LOCATION.--Lat 48°42'00", long 116°18'45", in NW $\frac{1}{4}$ SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec.27, T.62 N., R.1 E., Boundary County, Hydrologic Unit 17010104, on left bank 90 ft downstream from new highway bridge at Bonners Ferry, and at mile 152.8.

DRAINAGE AREA.--12,690 mi², approximately.

PERIOD OF RECORD.--May to October 1904, October 1927 to current year (elevations only prior to March 1928 and October 1960 to current year). Gage heights collected in this vicinity since 1904 are contained in reports of U.S. Weather Bureau.

REVISED RECORDS.--WSP 1716: Maximum elevation. WDR ID-78-2: 1975(m), 1976(M).

GAGE.--Water-stage recorder. Datum of gage is 1,700.00 ft with respect to U.S. Geological Survey benchmark V-3-1929 at elevation 1,777.08 ft. Gage heights have been reduced to that datum. NGVD of 1929 is 0.02 ft higher. May 1 to Oct. 15, 1904, nonrecording gage on railroad bridge 0.8 mi downstream at different datum. Oct. 1, 1927, to Nov. 30, 1929, nonrecording gage near left bank. Dec. 1, 1929, to June 12, 1933, nonrecording gages on old highway bridge 40 ft downstream. Nonrecording gage near right bank on downstream side of highway bridge at Bonners Ferry June 13, 1933, to Sept. 30, 1960. May 8, 1942, to present, recording gage on left bank downstream from highway bridge at present datum. Datum of gages Oct. 1, 1927, to Jan. 2, 1931, was about 0.23 ft lower.

REMARKS.--Elevations affected by backwater from Kootenay Lake. No drainage district dike failed during year. Flow regulated by Libby Dam since Mar. 21, 1972 (see sta 12305000). Add 1,700 ft to gage heights to obtain elevations.

EXTREMES FOR PERIOD OF RECORD.--Maximum elevation, 1,780.13 ft, May 29, 1961; minimum, 1,741.14 ft, Dec. 5, 1929, Dec. 29, 1930, datum then in use.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 1894 reached a stage of 1,777.2 ft, present datum.

EXTREMES FOR CURRENT YEAR.--Maximum elevation, 1,761.92 ft, July 2; minimum elevation, 1,745.15 ft, Mar. 21, 24.

GAGE HEIGHT, in FEET, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	46.80	46.68	47.32	46.20	49.50	47.07	45.45	48.16	58.71	61.67	52.72	48.32
2	46.87	46.50	47.33	46.22	49.38	46.85	45.51	48.67	57.93	61.84	53.15	47.53
3	46.86	46.44	47.38	46.77	49.25	46.74	45.46	49.34	57.50	61.70	52.79	47.02
4	46.82	46.34	47.26	46.80	49.21	46.65	45.45	49.47	57.13	61.15	52.63	46.58
5	46.77	46.25	47.21	46.80	49.41	46.59	45.46	49.04	57.29	60.36	52.59	46.24
6	46.75	46.28	47.12	46.78	50.99	46.54	45.59	48.47	58.50	59.08	53.21	46.14
7	46.75	46.19	47.02	46.92	52.34	46.43	45.94	48.01	58.94	58.09	53.16	46.06
8	46.70	46.11	46.95	49.50	52.61	46.27	46.25	47.54	58.52	57.05	53.09	46.00
9	46.71	46.03	46.96	50.89	52.09	46.04	46.30	47.18	58.00	56.74	52.05	45.97
10	46.72	45.98	46.97	49.80	50.41	45.84	46.31	46.92	57.43	56.65	51.72	45.95
11	46.81	45.92	46.96	50.34	48.82	45.66	46.60	46.73	57.44	56.51	51.71	46.04
12	46.74	45.87	46.90	50.23	47.91	45.75	47.11	46.67	57.58	56.80	51.67	45.93
13	46.81	45.80	46.94	50.14	47.19	45.67	48.77	46.90	58.89	57.04	51.43	45.90
14	46.84	45.83	46.95	50.01	46.82	45.54	52.82	47.72	59.46	57.03	51.25	45.86
15	46.74	46.26	46.99	49.87	46.47	45.47	55.76	48.65	59.81	57.11	51.20	45.81
16	46.65	46.41	46.93	49.79	46.39	45.44	53.50	49.76	60.13	57.47	51.23	45.75
17	46.63	46.80	47.13	49.75	46.37	45.38	51.14	49.91	60.20	56.87	51.19	45.80
18	46.56	46.71	47.14	49.68	46.32	45.35	49.60	50.11	60.13	55.64	50.48	45.78
19	46.50	46.42	47.07	49.70	46.27	45.33	48.72	50.43	60.09	55.15	50.78	45.75
20	46.50	46.28	47.07	49.69	46.25	45.30	48.23	52.60	59.79	55.05	51.02	45.78
21	46.44	46.22	47.05	49.72	46.21	45.22	48.07	55.51	59.39	54.96	51.05	45.75
22	46.40	46.24	47.01	49.72	46.44	45.22	48.29	59.46	59.20	54.17	51.03	45.72
23	46.38	46.26	46.94	49.62	49.26	45.21	48.46	59.96	59.17	54.53	51.03	45.72
24	46.38	46.29	46.71	49.57	49.60	45.18	48.12	57.84	59.23	54.58	51.02	45.72
25	46.35	46.28	46.37	49.75	48.35	45.19	47.73	56.10	59.00	54.47	51.06	45.72
26	46.30	46.23	46.29	49.94	47.72	45.19	47.52	55.34	59.50	54.37	51.08	45.71
27	46.25	46.20	46.24	49.90	47.40	45.24	47.33	55.61	60.30	54.33	50.85	45.72
28	46.46	46.30	46.24	49.80	47.25	45.26	47.15	56.75	60.36	54.23	50.30	45.68
29	46.38	47.25	46.25	49.67	---	45.27	47.13	58.44	60.93	54.18	50.13	45.65
30	46.36	47.33	46.21	49.60	---	45.28	47.53	59.45	61.54	54.09	49.84	45.65
31	46.48	---	46.22	49.55	---	45.32	---	59.31	---	54.01	49.13	---
MEAN	46.60	46.32	46.88	49.12	48.44	45.73	47.91	51.81	59.07	56.67	51.47	46.04
MAX	46.87	47.33	47.38	50.89	52.61	47.07	55.76	59.96	61.54	61.84	53.21	48.32
MIN	46.25	45.80	46.21	46.20	46.21	45.18	45.45	46.67	57.13	54.01	49.13	45.65

WTR YR 2002 MEAN 49.68 MAX 61.84 MIN 45.18

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, 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

KOOTENAI RIVER BASIN

12314000 KOOTENAI RIVER AT KLOCKMANN RANCH, NEAR BONNERS FERRY, ID

LOCATION.--Lat 48°47'38", long 116°22'51", in SE $\frac{1}{4}$ NW $\frac{1}{4}$ SE $\frac{1}{4}$ sec.19, T.63 N., R.1 E., Boundary County, Hydrologic Unit 17010104, on right bank 0.3 mi downstream from dike of drainage district No. 5, 8 mi north of Bonners Ferry, and at mile 139.7.

DRAINAGE AREA.--13,300 mi², approximately.

PERIOD OF RECORD.--May to July, September to November 1928, April to September, December 1929, April 1930 to current year (elevations only, fragmentary prior to April 1930).

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 is about 0.03 ft higher. Prior to Sept. 12, 1928, several nonrecording gages within 300 ft at different datums.

REMARKS.--Elevations affected by backwater from Kootenay Lake. No drainage district dike failed during year. Flow regulated by Libby Dam since Mar. 21, 1972. Add 1,700 ft to gage heights to obtain elevations.

EXTREMES FOR PERIOD OF RECORD.--Maximum elevation, 1,776.41 ft, June 7, 1961; minimum, 1,738.76 ft, Apr. 1, 1944.

EXTREMES FOR CURRENT YEAR.--Maximum elevation, 1,759.67 ft, July 2; minimum, 1,740.57 ft, Mar. 26.

GAGE HEIGHT, in FEET, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	46.13	45.67	45.93	44.52	47.45	44.91	41.00	45.71	56.83	59.47	51.05	47.04
2	46.20	45.56	45.92	44.48	47.32	44.64	41.17	46.22	56.18	59.60	51.29	46.45
3	46.20	45.51	45.99	44.87	47.15	44.45	41.13	46.85	55.81	59.48	50.96	46.01
4	46.15	45.40	45.83	44.90	47.09	44.29	41.09	47.05	55.51	59.00	50.77	45.62
5	46.10	45.32	45.73	44.89	47.14	44.16	41.11	46.74	55.61	58.29	50.65	45.29
6	46.10	45.31	45.60	44.83	48.33	44.01	41.32	46.26	56.64	57.17	51.11	45.11
7	46.10	45.20	45.44	44.94	49.59	43.84	41.96	45.87	57.03	56.24	51.06	45.01
8	46.06	45.10	45.34	46.96	49.91	43.65	42.55	45.43	56.68	55.34	50.98	44.91
9	46.06	45.00	45.38	48.46	49.60	43.37	42.71	45.08	56.17	55.04	50.20	44.86
10	46.06	44.92	45.39	47.59	48.25	43.06	42.72	44.80	55.61	54.90	49.83	44.82
11	46.11	44.82	45.38	47.94	46.92	42.73	43.07	44.58	55.55	54.72	49.81	44.86
12	46.07	44.74	45.33	47.94	46.21	42.78	43.70	44.49	55.62	54.90	49.75	44.78
13	46.13	44.62	45.33	47.89	45.62	42.65	45.41	44.63	56.73	55.09	49.58	44.73
14	46.17	44.61	45.34	47.83	45.30	42.37	49.25	45.34	57.32	55.09	49.40	44.66
15	46.06	44.93	45.40	47.74	44.96	42.14	52.74	46.21	57.69	55.12	49.34	44.56
16	45.97	45.14	45.33	47.68	44.82	42.00	50.97	47.19	58.03	55.40	49.37	44.45
17	45.95	45.43	45.49	47.68	44.74	41.81	48.72	47.41	58.15	54.97	49.31	44.50
18	45.87	45.44	45.53	47.65	44.61	41.73	47.22	47.64	58.11	53.97	48.83	44.48
19	45.80	45.22	45.48	47.67	44.45	41.60	46.38	47.99	58.10	53.47	48.89	44.43
20	45.79	45.11	45.51	47.69	44.38	41.51	45.92	49.98	57.83	53.35	49.08	44.48
21	45.72	45.08	45.49	47.73	44.25	41.17	45.75	52.74	57.45	53.26	49.11	44.40
22	45.64	45.11	45.45	47.73	44.43	41.04	45.91	56.60	57.28	52.62	49.09	44.33
23	45.62	45.17	45.37	47.67	46.61	40.93	46.11	57.35	57.25	52.77	49.08	44.33
24	45.61	45.23	45.24	47.64	47.32	40.79	45.84	55.55	57.32	52.79	49.08	44.33
25	45.56	45.24	44.94	47.75	46.21	40.68	45.47	53.97	57.13	52.66	49.12	44.33
26	45.50	45.23	44.84	47.92	45.60	40.60	45.24	53.28	57.46	52.55	49.13	44.31
27	45.43	45.20	44.75	47.92	45.29	40.70	45.03	53.52	58.18	52.47	49.00	44.33
28	45.61	45.22	44.72	47.85	45.13	40.72	44.83	54.59	58.30	52.38	48.53	44.22
29	45.54	45.83	44.70	47.71	---	40.69	44.76	56.26	58.75	52.30	48.35	44.15
30	45.51	45.95	44.63	47.61	---	40.66	45.10	57.32	59.39	52.19	48.15	44.14
31	45.55	---	44.62	47.53	---	40.69	---	57.31	---	52.11	47.63	---
MEAN	45.88	45.21	45.34	47.07	46.38	42.27	44.81	49.48	57.12	54.80	49.60	44.80
MAX	46.20	45.95	45.99	48.46	49.91	44.91	52.74	57.35	59.39	59.60	51.29	47.04
MIN	45.43	44.61	44.62	44.48	44.25	40.60	41.00	44.49	55.51	52.11	47.63	44.14

CAL YR 2001 MEAN 44.25 MAX 47.41 MIN 39.72
WTR YR 2002 MEAN 47.74 MAX 59.60 MIN 40.60

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, 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.

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

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)
Apr. 14	1245	1,650	13.83	May 20	0230	2,140	14.45
				May 28	1630	*2,690	*14.95

Minimum daily, 15 ft³/s Oct. 4-7.

DAY	DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002 DAILY MEAN VALUES											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16	63	75	e44	e70	e95	99	588	1440	328	54	28
2	16	46	74	e44	e75	e92	91	655	1350	274	52	25
3	16	48	79	e46	74	e90	86	690	1270	244	50	46
4	15	46	74	e46	71	e88	86	582	1280	222	49	36
5	15	52	71	e48	67	e95	96	486	1350	203	47	29
6	15	56	70	48	69	e90	133	418	1150	188	46	28
7	15	42	68	e90	68	e84	155	362	867	176	46	26
8	16	36	67	e500	67	e80	148	331	757	356	44	25
9	18	39	65	340	59	e90	146	314	636	330	43	24
10	18	30	59	237	63	e94	160	301	612	234	41	24
11	27	29	e60	192	61	99	189	306	675	203	39	24
12	26	35	e55	172	50	105	273	346	823	182	36	23
13	26	35	e55	150	e48	99	471	455	922	165	35	22
14	27	248	e55	128	e48	95	1180	729	982	155	34	20
15	25	284	e50	115	e46	85	735	632	989	141	32	20
16	22	496	e50	e105	e48	79	506	615	981	130	31	20
17	24	285	e55	e100	e52	e70	396	666	786	119	31	30
18	24	187	e50	e95	e54	e65	345	696	821	110	30	38
19	22	145	e55	e100	55	e60	332	1280	672	102	29	27
20	23	136	e50	e110	54	e58	333	1730	575	94	29	25
21	22	133	e50	114	54	e55	362	1680	551	87	31	23
22	30	126	e48	102	148	e60	406	1690	524	82	30	22
23	42	115	e48	e95	284	e65	362	1170	550	77	29	22
24	31	106	e48	e95	231	70	327	861	493	77	28	21
25	28	98	e46	101	e150	78	318	828	442	73	32	21
26	26	91	e46	95	e130	79	316	999	421	69	31	21
27	31	87	e44	e80	e110	78	308	1300	394	66	31	21
28	52	81	e44	e70	e100	76	321	2000	351	62	28	21
29	32	78	e46	e65	---	74	360	2080	607	59	26	22
30	32	80	e44	e60	---	76	480	1820	405	57	28	40
31	98	---	e46	e65	---	86	---	1670	---	57	32	---
TOTAL	830	3333	1747	3652	2406	2510	9520	28280	23676	4722	1124	774
MEAN	26.77	111.1	56.35	117.8	85.93	80.97	317.3	912.3	789.2	152.3	36.26	25.80
MAX	98	496	79	500	284	105	1180	2080	1440	356	54	46
MIN	15	29	44	44	46	55	86	301	351	57	26	20
AC-FT	1650	6610	3470	7240	4770	4980	18880	56090	46960	9370	2230	1540
CFSM	0.28	1.15	0.58	1.21	0.89	0.83	3.27	9.40	8.14	1.57	0.37	0.27
IN.	0.32	1.28	0.67	1.40	0.92	0.96	3.65	10.85	9.08	1.81	0.43	0.30

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1988 - 2002, BY WATER YEAR (WY)												
MEAN	53.30	104.2	70.69	54.54	67.95	99.78	403.1	886.0	585.9	147.5	48.21	38.36
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	23.3	25.6	23.9	20.9	19.0	31.7	122	575	160	55.6	25.4	16.9
(WY)	1988	1988	2001	2001	2001	2001	2001	1992	1992	2001	1988	2001

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1988 - 2002	
ANNUAL TOTAL	41037		82574			
ANNUAL MEAN	112.4		226.2		213.6	
HIGHEST ANNUAL MEAN					324	
LOWEST ANNUAL MEAN					104	
HIGHEST DAILY MEAN	1170		2080		2570	
LOWEST DAILY MEAN	14		15		13	
ANNUAL SEVEN-DAY MINIMUM	15		15		15	
ANNUAL RUNOFF (AC-FT)	81400		163800		154800	
ANNUAL RUNOFF (CFSM)	1.16		2.33		2.20	
ANNUAL RUNOFF (INCHES)	15.74		31.67		29.92	
10 PERCENT EXCEEDS	318		659		665	
50 PERCENT EXCEEDS	38		76		65	
90 PERCENT EXCEEDS	17		25		25	

e Estimated

KOOTENAI RIVER BASIN

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

LOCATION.--Lat 48°59'47", long 116°30'22", in SE¹/₄NE¹/₄SE¹/₄ sec.7, T.65 N., R.1 W., Boundary County, 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 RECORDS

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. 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 (1972-2002), 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, 50,100 ft³/s May 23; maximum elevation, 1,755.01 ft, June 30; minimum daily, 6,340 ft³/s Oct. 27; minimum elevation, 1,739.11 ft, Mar. 31.

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	6550	7610	9840	8440	16000	12100	8030	16800	40000	46700	20700	11800
2	6660	7210	9960	8410	15900	11600	8580	18200	36300	47800	22000	10000
3	6670	7080	10300	10000	15700	11400	8410	19600	34200	47700	21200	8980
4	6720	7020	10400	10400	15600	11300	8270	20100	32700	46200	20900	8110
5	6540	6860	10300	10500	15900	11200	8260	18700	32600	43100	20800	7400
6	6500	6990	10100	10600	19600	11200	8620	17100	36500	38300	22900	7280
7	6600	6920	9890	10900	23600	10800	9920	15800	38300	34600	23100	7120
8	6480	6850	9670	16700	24700	10400	11200	14600	36800	30800	23000	7180
9	6500	6780	9520	21100	23700	9730	11600	13500	34800	29400	20600	6990
10	6580	6750	9630	18100	19500	9010	11600	12900	32900	29200	19200	7020
11	6620	6710	9650	18700	15200	8260	12300	12300	33300	28900	19200	7200
12	6620	6700	9640	18600	12900	8490	13600	12200	34000	30100	19100	7010
13	6580	6660	9660	18100	11100	8470	17100	12900	39200	31000	18700	7000
14	6730	7210	9660	17600	10300	7930	27500	14900	41600	31200	18100	6980
15	6680	8290	9880	17200	9510	7620	38000	16900	42500	31300	18100	7030
16	6560	8920	9770	16700	9380	7550	31800	19600	43300	32700	18000	6850
17	6520	9240	10000	16500	9440	7350	24300	20100	43000	31100	18000	6890
18	6630	9050	10200	16300	9470	7280	19800	20600	42200	26900	16700	6920
19	6460	8200	10000	16100	9390	7180	17400	22300	41800	24900	17000	6860
20	6570	7810	10000	16100	9420	7510	16000	27300	40400	24600	17800	7060
21	6610	7630	9970	16100	9420	6960	15900	34000	38700	24700	18100	6980
22	6530	7510	9950	16000	9850	6920	16300	47600	37800	22500	18100	6870
23	6480	7520	9790	15800	15700	6900	16800	50100	37600	23500	18000	6820
24	6620	7400	9510	15700	18400	6870	16100	41600	37600	24300	18000	6860
25	6580	7460	8640	16000	15200	6870	15100	34500	36500	24200	18000	6840
26	6630	7230	8450	16400	13500	6830	14600	31600	38500	24100	18100	6890
27	6340	7160	8330	16300	12700	7030	14200	32200	42400	24100	17800	6990
28	6940	7180	8310	16100	12400	7240	14000	36200	42900	24000	16200	6870
29	6790	9280	8410	16000	---	7330	14100	41500	44700	24100	15800	6780
30	6750	9710	8360	15900	---	7270	15200	44500	47000	24100	15300	6770
31	6990	---	8500	16000	---	7470	---	43200	---	24100	13700	---
TOTAL	205030	226940	296290	473350	403480	264070	464590	783400	1160100	950200	582200	220350
MEAN	6614	7565	9558	15270	14410	8518	15490	25270	38670	30650	18780	7345
MAX	6990	9710	10400	21100	24700	12100	38000	50100	47000	47800	23100	11800
MIN	6340	6660	8310	8410	9380	6830	8030	12200	32600	22500	13700	6770
AC-FT	406700	450100	587700	938900	800300	523800	921500	1554000	2301000	1885000	1155000	437100

KOOTENAI RIVER BASIN
12322000 KOOTENAI RIVER AT PORTHILL, ID--Continued

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, 15.6 °C July 14; minimum, 0.9 °C Mar. 10.

REMARKS.--Missing data due to equipment malfunction.

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	---	---	---	9.0	8.9	8.9	5.3	5.1	5.3	2.8	2.6	2.8
2	15.5	15.1	15.2	9.0	8.9	9.0	5.5	5.0	5.1	3.3	2.8	2.8
3	15.1	14.7	14.9	9.2	8.9	9.0	5.6	5.1	5.3	3.3	2.8	3.0
4	14.7	14.0	14.4	9.2	9.0	9.1	5.6	5.5	5.5	3.6	3.0	3.2
5	14.0	13.4	13.7	9.3	8.9	9.2	5.6	5.6	5.6	4.1	3.0	3.3
6	13.4	12.9	13.1	9.0	8.7	9.0	5.6	5.6	5.6	4.4	3.6	3.9
7	12.9	12.7	12.9	8.9	8.6	8.8	5.6	5.5	5.5	4.7	4.2	4.3
8	12.7	12.4	12.6	8.9	8.1	8.7	5.6	5.3	5.5	4.7	4.1	4.4
9	12.4	12.1	12.3	8.6	7.8	8.4	5.3	5.1	5.3	4.8	3.7	4.7
10	12.1	11.6	11.9	8.1	7.0	7.9	5.5	5.1	5.2	4.4	3.7	3.8
11	11.6	11.5	11.6	7.6	6.9	7.3	5.5	5.3	5.4	3.9	3.6	3.6
12	11.6	11.5	11.6	7.0	6.5	7.0	5.5	5.0	5.3	4.1	3.7	3.8
13	11.8	11.5	11.6	6.9	6.5	6.8	5.1	4.8	5.0	4.1	3.9	4.0
14	11.6	11.2	11.4	6.9	6.5	6.7	5.0	4.7	4.8	4.2	3.9	4.1
15	11.2	10.9	11.1	7.0	6.5	6.6	4.8	4.7	4.7	4.1	3.6	3.9
16	10.9	10.7	10.8	7.6	6.9	7.1	4.8	4.5	4.6	3.7	3.3	3.7
17	10.7	10.3	10.5	7.9	7.0	7.4	4.8	4.5	4.7	3.6	3.3	3.4
18	10.3	10.1	10.2	7.9	7.6	7.8	4.8	4.5	4.6	3.3	3.1	3.2
19	10.6	10.1	10.4	7.9	7.8	7.9	4.5	4.4	4.5	3.3	3.1	3.2
20	10.6	10.4	10.5	7.9	7.6	7.8	4.7	4.1	4.6	3.4	3.1	3.2
21	10.4	10.1	10.3	7.8	7.5	7.8	4.5	3.9	4.2	3.6	3.3	3.4
22	10.3	10.1	10.1	7.6	7.2	7.5	4.2	3.6	3.8	3.6	3.3	3.4
23	10.3	9.8	10.0	7.3	7.0	7.2	4.2	3.9	4.0	3.6	3.4	3.5
24	9.8	9.5	9.6	7.2	7.0	7.0	4.2	4.1	4.2	3.6	3.6	3.6
25	9.6	9.5	9.6	7.2	7.0	7.2	4.2	3.7	4.2	3.7	3.4	3.5
26	9.6	9.2	9.4	7.2	6.7	7.1	4.1	3.4	3.9	3.9	3.6	3.7
27	9.3	9.2	9.3	7.0	6.2	6.8	3.7	3.3	3.6	4.1	3.6	3.9
28	9.3	8.7	9.1	6.5	5.8	6.4	3.4	2.8	3.4	3.9	3.1	3.7
29	9.0	8.7	8.8	6.2	5.3	5.9	3.1	2.6	3.0	3.6	3.0	3.3
30	8.9	8.7	8.7	5.8	5.1	5.5	2.8	2.6	2.8	3.1	2.8	2.9
31	9.0	8.7	8.9	---	---	---	2.8	2.6	2.7	3.0	2.8	2.8
MONTH	---	---	---	9.3	5.1	7.6	5.6	2.6	4.6	4.8	2.6	3.5

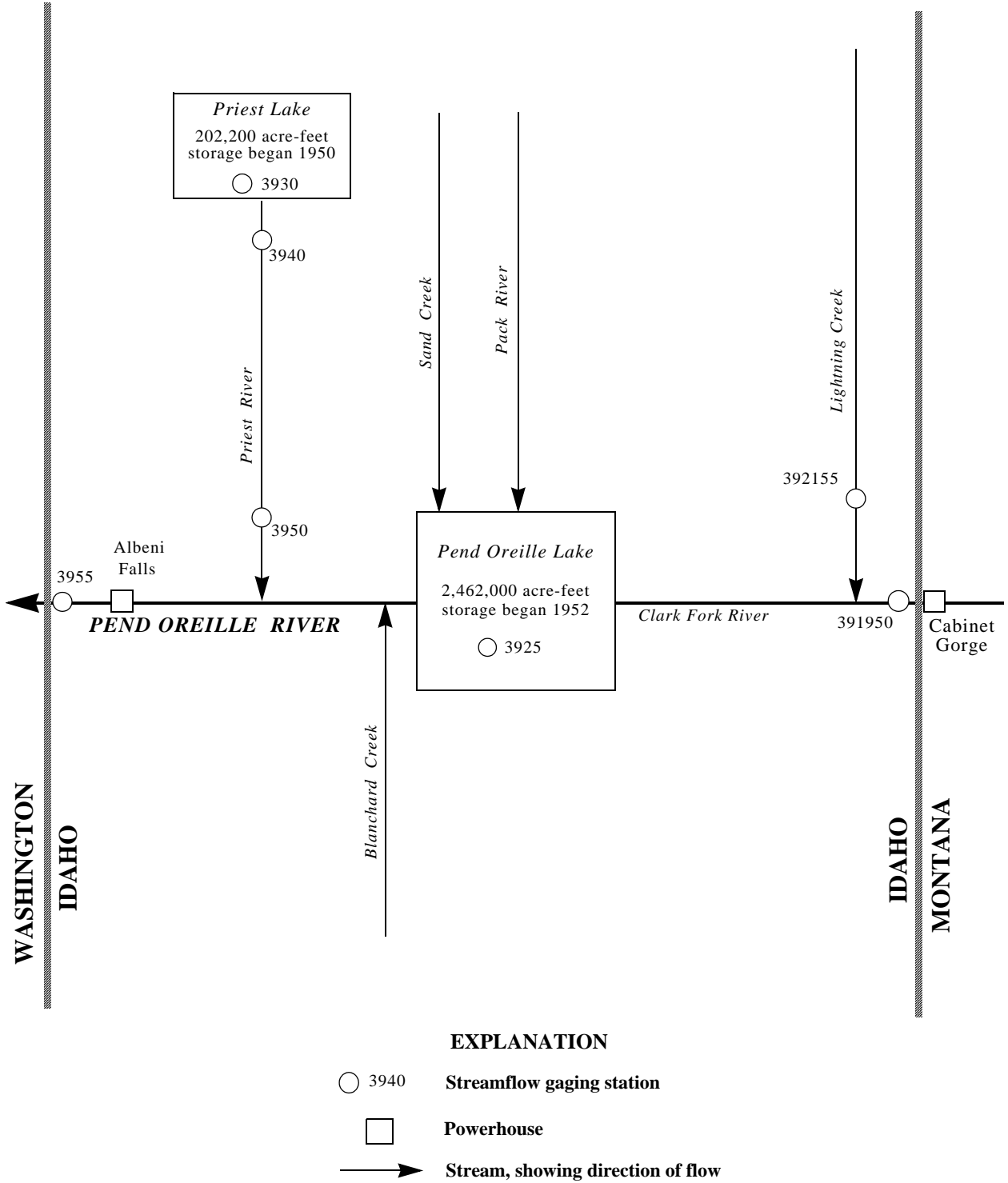


Figure 11. Schematic diagram showing gaging stations in Pend Oreille River Basin.

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.--Records good except for estimated daily discharges, which are fair. 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, 98,000 ft³/s June 2, gage height, 24.41 ft; minimum daily, 5,350 ft³/s Jan. 1.

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	5400	8580	5790	5350	16100	10500	16400	27700	84800	73600	17700	9640	
2	5460	7320	5390	11000	13200	6500	19900	30400	92800	68500	13100	7550	
3	6960	7230	7300	12000	8330	9730	15200	32300	93600	57700	6540	11600	
4	7000	6620	7090	13900	15300	14400	15200	24700	94200	52900	14100	13100	
5	7320	7830	6330	11100	14600	8370	16300	25500	93500	51000	15400	13600	
6	6090	6070	7230	6010	15400	13100	10400	33400	91400	46800	14700	11000	
7	7300	8720	6350	12900	16300	12700	12200	34500	88000	42100	18600	8420	
8	6990	6740	6240	12800	13500	9620	17400	34500	86900	41400	20200	8090	
9	5510	6280	7410	15900	10400	8380	20500	30600	83900	37900	20100	12400	
10	6120	6300	7290	15600	10400	7180	22200	32000	83200	36500	9600	12300	
11	5670	7170	5900	15700	13200	10500	20200	20600	81100	37000	13000	10900	
12	6470	6110	6370	12100	17300	12500	22000	17500	78300	35900	15800	15600	
13	5760	7390	6600	11800	17800	14900	17300	31300	75100	34900	17600	11100	
14	5830	6390	7440	13800	13200	19000	27600	30000	75400	36100	15900	7550	
15	6480	e7000	6780	15600	12700	17000	41500	29800	76000	33000	16600	5720	
16	6000	e8000	7420	15300	8950	12100	38300	31300	76800	31800	15100	11100	
17	5450	e6000	8840	13000	9850	15500	36400	34600	79500	36600	6920	12200	
18	5420	e7500	12500	14400	15600	14500	36200	27100	79600	32400	10200	11300	
19	7040	e7500	12700	7710	14700	17700	36200	29000	77700	28500	13300	11200	
20	6940	e7000	12500	8620	13500	19300	26600	43100	69600	24500	14900	11000	
21	5590	9360	12000	14600	11300	17300	27200	53100	67800	21600	12900	5860	
22	6020	5730	6270	14600	8530	16700	30500	57000	65300	25500	16000	5660	
23	6270	5560	10900	14400	12900	9870	29700	67100	65400	24500	17000	10700	
24	6960	7160	11900	10700	10800	10400	28400	60800	67600	24100	10600	8350	
25	6650	6840	8890	11000	14200	14800	27600	55100	70200	21100	9090	9630	
26	6070	8130	15000	8900	13600	18300	28400	48900	73100	22400	16500	7390	
27	6050	7870	14200	11000	11900	16000	23200	51200	75900	11500	12200	8370	
28	7450	7750	14300	14300	11400	13200	18500	55400	76200	18300	15100	5560	
29	7290	6230	13000	14700	---	15200	28300	55500	76600	16100	10400	5460	
30	6530	5580	5790	12300	---	12900	29000	67700	76000	22000	5770	8420	
31	6260	---	6440	15000	---	10900	---	74600	---	18900	10500	---	
TOTAL	196350	211960	272160	386090	364960	409050	738800	1246300	2375500	1065100	425420	290770	
MEAN	6334	7065	8779	12450	13030	13200	24630	40200	79180	34360	13720	9692	
MAX	7450	9360	15000	15900	17800	19300	41500	74600	94200	73600	20200	15600	
MIN	5400	5560	5390	5350	8330	6500	10400	17500	65300	11500	5770	5460	
AC-FT	389500	420400	539800	765800	723900	811400	1465000	2472000	4712000	2113000	843800	576700	
CAL YR 2001	TOTAL 3980400	MEAN 10910	MAX 36300	MIN 5270	AC-FT 7895000								
WTR YR 2002	TOTAL 7982460	MEAN 21870	MAX 94200	MIN 5350	AC-FT 15830000								

e Estimated

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 (discontinued).

PERIOD OF DAILY RECORD.--

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

INSTRUMENTATION.--Temperature recording data logger.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Maximum, 22.0 °C Aug. 7-8, 10-11, 2000; minimum, 1.4°C Feb. 15, Mar. 22, 2002.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum, 21.5 °C July 26; minimum, 1.4°C Feb. 15, Mar. 22.

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

WATER-QUALITY DATA, APRIL TO SEPTEMBER 2002

Date	Time	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	TURBID- ITY LAB HACH 2100AN (NTU) (99872)	OXYGEN, DIS- SOLVED CENT SATUR- ATION (MG/L) (00300)	OXYGEN, DIS- SOLVED CENT SATUR- ATION (PER- CENT) (00301)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)
APR 2002										
03...	1115	22800	173	8.0	11.0	3.0	4.5	12.3	98	<1
MAY										
03...	1130	36700	152	7.9	13.5	8.5	3.4	10.8	102	<1
JUN										
04...	1430	94400	116	7.4	22.0	11.3	15	11.7	115	27

Date	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	ORTHO- PHOS- PHATE, DIS- SOLVED (MG/L AS P) (00671)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	SEDI- MENT, SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)
APR 2002							
03...	<.015	E.08	.041	<.007	.005	2.0	123
MAY							
03...	<.015	.14	.040	<.007	.015	11	1090
JUN							
04...	E.013	.18	.044	<.007	.029	17	4330

< Less than
E Estimated value

PEND OREILLE RIVER BASIN

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

WATER TEMPERATURE, DEGREES CELSIUS, NOVEMBER 2001 TO OCTOBER 2002

DAY	NOVEMBER			DECEMBER			JANUARY			FEBRUARY		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	---	---	---	7.3	6.7	7.0	3.5	2.4	2.8	3.6	1.7	2.4
2	---	---	---	7.3	6.7	6.9	3.1	1.7	2.4	3.6	1.9	2.5
3	---	---	---	6.9	6.0	6.6	3.6	1.7	2.5	4.1	2.0	2.7
4	---	---	---	6.9	6.0	6.7	4.1	2.2	3.1	3.8	1.9	2.7
5	---	---	---	6.7	6.1	6.6	4.4	2.4	3.2	3.1	2.0	2.4
6	---	---	---	7.0	5.8	6.5	3.8	2.7	3.3	3.3	2.0	2.6
7	---	---	---	6.7	6.0	6.5	3.9	2.2	2.8	3.6	1.9	2.5
8	---	---	---	6.9	6.1	6.6	4.2	2.4	3.2	3.5	1.9	2.7
9	---	---	---	6.7	5.6	6.3	4.2	2.4	3.3	3.6	1.9	2.6
10	---	---	---	6.7	5.6	6.3	3.8	2.4	3.1	3.6	1.7	2.3
11	---	---	---	6.6	6.0	6.3	3.6	2.2	2.8	3.8	1.7	2.6
12	---	---	---	6.7	5.6	6.4	3.8	2.2	2.9	3.8	1.7	2.3
13	---	---	---	6.7	5.5	6.3	3.9	2.0	2.8	2.8	1.6	2.1
14	---	---	---	6.4	5.5	6.1	4.1	1.9	2.8	3.5	1.6	2.2
15	---	---	---	6.4	5.3	6.0	3.3	1.9	2.5	3.6	1.4	2.1
16	---	---	---	6.3	5.2	6.0	3.3	1.9	2.5	3.5	1.7	2.2
17	---	---	---	6.3	5.0	5.7	3.5	1.7	2.5	3.6	1.7	2.4
18	---	---	---	6.3	4.9	5.5	3.9	1.7	2.5	3.0	1.7	2.3
19	---	---	---	6.1	4.7	5.4	3.6	1.9	2.6	3.5	1.9	2.6
20	9.7	9.2	9.4	6.0	4.6	5.3	3.1	1.7	2.5	3.8	2.4	3.0
21	9.4	8.4	9.1	5.8	4.4	5.2	3.6	1.7	2.4	3.6	2.4	2.8
22	9.2	8.4	8.9	5.8	4.7	5.2	3.3	1.7	2.5	3.6	2.5	3.0
23	8.7	8.4	8.6	5.5	4.2	4.9	4.1	2.0	2.9	3.6	2.5	3.0
24	9.0	8.0	8.5	5.6	3.9	4.8	3.8	2.0	2.8	4.1	2.7	3.2
25	8.6	8.1	8.4	5.2	3.6	4.6	3.8	2.2	2.9	4.1	2.4	2.9
26	8.3	7.3	7.9	4.9	2.8	3.9	3.9	2.2	3.0	3.5	2.0	2.6
27	8.1	7.0	7.7	4.2	2.2	3.1	3.5	2.0	2.7	2.7	1.9	2.3
28	8.0	6.7	7.5	4.2	2.0	2.7	3.5	2.0	2.7	3.6	1.9	2.6
29	7.5	6.6	7.2	4.2	1.9	2.7	3.3	2.0	2.6	---	---	---
30	7.3	7.0	7.2	4.1	2.4	3.0	3.5	1.9	2.6	---	---	---
31	---	---	---	3.6	2.5	2.8	3.5	1.7	2.4	---	---	---
MONTH	---	---	---	7.3	1.9	5.4	4.4	1.7	2.8	4.1	1.4	2.6
DAY	MARCH			APRIL			MAY			JUNE		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	3.5	1.9	2.7	4.2	3.5	3.7	8.7	8.1	8.5	11.2	10.9	11.1
2	3.9	2.4	3.0	3.9	3.3	3.6	8.9	8.3	8.7	11.7	11.2	11.3
3	4.1	2.4	3.0	4.4	3.0	3.5	8.9	7.7	8.6	11.8	11.4	11.5
4	3.6	2.5	2.9	4.1	3.0	3.4	8.7	8.0	8.5	11.8	11.4	11.6
5	4.1	2.7	3.3	4.1	3.1	3.5	8.7	8.0	8.4	11.7	11.2	11.4
6	3.6	2.7	3.0	4.1	3.6	3.8	8.6	8.0	8.4	11.4	11.2	11.3
7	3.9	2.4	3.0	4.4	3.8	4.0	8.6	8.4	8.5	11.2	10.9	11.0
8	3.5	2.2	2.7	4.7	3.8	4.2	8.9	8.3	8.6	11.2	10.7	10.9
9	3.3	2.0	2.6	4.7	4.1	4.4	9.2	8.3	8.9	10.7	10.6	10.7
10	3.8	2.2	2.9	4.9	4.4	4.6	9.5	8.4	9.1	10.9	10.7	10.7
11	3.6	2.4	2.9	5.2	4.6	4.8	9.7	8.6	9.3	10.7	10.4	10.6
12	3.9	2.5	3.1	5.5	5.2	5.4	9.7	9.0	9.4	10.7	10.3	10.5
13	3.9	3.0	3.4	6.0	5.5	5.7	9.7	9.2	9.4	10.6	10.3	10.4
14	3.9	2.8	3.1	6.4	5.8	6.1	9.4	8.4	9.0	10.9	10.3	10.4
15	3.5	2.5	2.9	6.6	6.3	6.4	9.0	8.3	8.9	11.7	10.7	11.0
16	3.3	2.5	2.9	6.6	6.3	6.5	9.4	8.4	9.1	12.3	11.5	11.8
17	3.6	2.4	2.9	6.9	6.6	6.7	9.4	9.0	9.2	12.9	12.1	12.4
18	3.1	2.2	2.6	7.3	6.9	7.1	9.5	8.6	9.1	13.1	12.9	12.9
19	3.0	1.9	2.3	7.7	7.2	7.5	10.1	8.9	9.4	13.2	13.1	13.1
20	3.3	1.7	2.1	8.0	7.3	7.6	10.3	10.0	10.1	13.5	13.1	13.2
21	2.8	1.6	2.0	8.0	7.5	7.8	10.1	10.0	10.0	13.7	13.4	13.5
22	2.4	1.4	1.9	7.8	7.5	7.6	10.1	10.0	10.0	13.5	13.2	13.3
23	3.8	1.7	2.5	7.5	6.7	7.3	10.4	10.0	10.1	13.4	13.1	13.2
24	3.5	2.2	2.7	7.5	7.0	7.2	10.4	10.3	10.4	13.5	13.1	13.3
25	3.8	2.5	3.1	7.7	7.2	7.5	10.4	10.0	10.2	14.0	13.4	13.6
26	3.8	3.0	3.3	7.8	7.3	7.7	10.0	9.5	9.8	14.5	13.8	14.0
27	4.2	3.0	3.5	7.8	7.3	7.6	9.5	9.2	9.4	14.9	14.3	14.5
28	3.9	3.0	3.5	7.8	7.5	7.7	9.4	9.0	9.2	15.4	14.8	14.9
29	4.2	3.0	3.3	8.3	7.3	7.9	9.5	9.2	9.4	15.6	15.2	15.4
30	3.8	3.1	3.5	8.7	7.8	8.3	10.3	9.5	9.8	16.0	15.6	15.8
31	4.2	3.3	3.7	---	---	---	11.1	10.3	10.5	---	---	---
MONTH	4.2	1.4	2.9	8.7	3.0	6.0	11.1	7.7	9.3	16.0	10.3	12.3

PEND OREILLE RIVER BASIN

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

DAY	WATER TEMPERATURE, DEGREES CELSIUS, NOVEMBER 2001 TO OCTOBER 2002											
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JULY			AUGUST			SEPTEMBER			OCTOBER		
1	16.5	16.0	16.2	21.2	19.7	20.5	19.1	18.1	18.4	15.7	15.1	15.4
2	16.7	16.2	16.4	20.9	19.4	20.1	18.9	17.8	18.3	15.2	14.8	15.0
3	16.5	15.9	16.2	20.7	19.7	20.2	18.7	17.3	18.1	15.1	14.4	14.8
4	16.2	15.6	15.9	21.0	20.0	20.3	18.6	17.6	18.1	14.8	14.3	14.6
5	15.7	15.6	15.6	20.9	19.4	20.0	18.4	17.3	17.9	14.6	14.1	14.4
6	15.9	15.4	15.7	20.4	18.7	19.6	18.4	16.8	17.7	14.9	14.1	14.4
7	15.6	15.2	15.5	19.9	18.7	19.5	18.3	17.3	17.7	14.9	14.1	14.4
8	15.6	15.1	15.3	20.0	18.9	19.6	18.1	17.3	17.6	14.8	14.1	14.3
9	15.9	15.2	15.6	20.0	18.6	19.6	18.3	17.1	17.8	14.8	14.1	14.3
10	16.4	15.7	16.1	20.0	18.6	19.2	18.4	17.0	17.8	14.6	14.1	14.2
11	16.8	16.2	16.6	20.0	19.2	19.6	18.1	17.1	17.6	14.3	13.7	14.1
12	17.1	16.7	16.9	20.0	18.1	19.3	18.4	17.1	17.9	14.1	13.5	13.8
13	17.5	15.4	17.1	19.6	18.4	19.0	18.6	17.3	17.9	14.1	13.2	13.6
14	17.8	17.1	17.5	19.2	17.9	18.6	18.4	17.4	18.0	13.5	12.9	13.2
15	18.1	17.5	17.8	19.2	17.9	18.6	18.3	17.6	17.9	13.4	12.6	12.8
16	18.6	16.8	18.1	18.9	17.9	18.4	18.4	17.6	17.8	12.9	12.3	12.5
17	19.2	18.1	18.6	18.6	17.4	18.1	18.1	17.3	17.6	12.6	12.1	12.3
18	19.9	17.3	19.2	18.9	17.6	18.1	17.6	16.7	17.2	12.6	12.0	12.2
19	20.0	18.1	19.5	18.7	17.6	18.2	17.3	16.5	16.9	12.9	12.1	12.3
20	20.2	18.7	19.8	18.7	17.1	18.1	17.3	16.3	16.7	13.0	12.1	12.4
21	20.5	18.7	20.0	18.6	17.3	17.9	17.3	16.5	16.8	12.7	12.1	12.3
22	20.7	19.2	20.3	18.9	17.4	18.3	17.1	16.3	16.7	12.6	12.1	12.3
23	20.9	19.6	20.4	19.1	17.9	18.6	17.1	16.2	16.6	---	---	---
24	21.0	19.7	20.7	19.1	17.8	18.4	17.0	16.0	16.5	---	---	---
25	21.3	19.7	20.8	19.2	17.9	18.6	16.8	15.9	16.3	---	---	---
26	21.5	20.0	20.8	19.4	18.1	18.7	16.5	15.9	16.1	---	---	---
27	21.3	19.4	20.5	19.2	17.9	18.6	16.7	15.9	16.2	---	---	---
28	21.3	20.2	20.9	19.2	17.9	18.6	16.5	15.9	16.1	---	---	---
29	21.3	19.9	20.6	19.4	17.9	18.5	16.2	15.7	15.9	---	---	---
30	20.9	19.9	20.5	18.9	18.1	18.4	16.0	15.4	15.7	---	---	---
31	21.0	19.4	20.2	19.1	18.1	18.5	---	---	---	---	---	---
MONTH	21.5	15.1	18.2	21.2	17.1	19.0	19.1	15.4	17.3	---	---	---

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, 94,800 ft³/s June 4; minimum daily, 5,950 ft³/s Jan. 1.

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	6000	9180	6390	5950	16700	11100	17000	28300	85400	74200	18300	10200
2	6060	7920	5990	11600	13800	7100	20500	31000	93400	69100	13700	8150
3	7560	7830	7900	12600	8930	10300	15800	32900	94200	58300	7140	12200
4	7600	7220	7690	14500	15900	15000	15800	25300	94800	53500	14700	13700
5	7920	8430	6930	11700	15200	8970	16900	26100	94100	51600	16000	14200
6	6690	6670	7830	6610	16000	13700	11000	34000	92000	47400	15300	11600
7	7900	9320	6950	13500	16900	13300	12800	35100	88600	42700	19200	9020
8	7590	7340	6840	13400	14100	10200	18000	35100	87500	42000	20800	8690
9	6110	6880	8010	16500	11000	8980	21100	31200	84500	38500	20700	13000
10	6720	6900	7890	16200	11000	7780	22800	32600	83800	37100	10200	12900
11	6270	7770	6500	16300	13800	11100	20800	21200	81700	37600	13600	11500
12	7070	6710	6970	12700	17900	13100	22600	18100	78900	36500	16400	16200
13	6360	7990	7200	12400	18400	15500	17900	31900	75700	35500	18200	11700
14	6430	6990	8040	14400	13800	19600	28200	30600	76000	36700	16500	8150
15	7080	e7600	7380	16200	13300	17600	42100	30400	76600	33600	17200	6320
16	6600	e8600	8020	15900	9550	12700	38900	31900	77400	32400	15700	11700
17	6050	e6600	9440	13600	10400	16100	37000	35200	80100	37200	7520	12800
18	6020	e8100	13100	15000	16200	15100	36800	27700	80200	33000	10800	11900
19	7640	e8100	13300	8310	15300	18300	36800	29600	78300	29100	13900	11800
20	7540	e7600	13100	9220	14100	19900	27200	43700	70200	25100	15500	11600
21	6190	9960	12600	15200	11900	17900	27800	53700	68400	22200	13500	6460
22	6620	6330	6870	15200	9130	17300	31100	57600	65900	26100	16600	6260
23	6870	6160	11500	15000	13500	10500	30300	67700	66000	25100	17600	11300
24	7560	7760	12500	11300	11400	11000	29000	61400	68200	24700	11200	8950
25	7250	7440	9490	11600	14800	15400	28200	55700	70800	21700	9690	10200
26	6670	8730	15600	9500	14200	18900	29000	49500	73700	23000	17100	7990
27	6650	8470	14800	11600	12500	16600	23800	51800	76500	12100	12800	8970
28	8050	8350	14900	14900	12000	13800	19100	56000	76800	18900	15700	6160
29	7890	6830	13600	15300	---	15800	28900	56100	77200	16700	11000	6060
30	7130	6180	6390	12900	---	13500	29600	68300	76600	22600	6370	9020
31	6860	---	7040	15600	---	11500	---	75200	---	19500	11100	---
TOTAL	214950	229960	290760	404690	381710	427630	756800	1264900	2393500	1083700	444020	308700
MEAN	6934	7665	9379	13050	13630	13790	25230	40800	79780	34960	14320	10290
MAX	8050	9960	15600	16500	18400	19900	42100	75200	94800	74200	20800	16200
MIN	6000	6160	5990	5950	8930	7100	11000	18100	65900	12100	6370	6060
AC-FT	426400	456100	576700	802700	757100	848200	1501000	2509000	4748000	2150000	880700	612300

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1929 - 2002, BY WATER YEAR (WY)

MEAN	11950	13230	14390	14420	14850	15820	24790	49140	57270	26500	11700	10570
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 2001 CALENDAR YEAR	FOR 2002 WATER YEAR	WATER YEARS 1929 - 2002
ANNUAL TOTAL	4199440	8201320	
ANNUAL MEAN	11510	22470	22060
HIGHEST ANNUAL MEAN			34250
LOWEST ANNUAL MEAN			10180
HIGHEST DAILY MEAN	36900	94800	153000
LOWEST DAILY MEAN	5870	5950	762
ANNUAL SEVEN-DAY MINIMUM	6050	6520	2710
ANNUAL RUNOFF (AC-FT)	8330000	16270000	15980000
10 PERCENT EXCEEDS	24800	59500	48200
50 PERCENT EXCEEDS	8020	13900	15700
90 PERCENT EXCEEDS	6170	6870	7180

e Estimated

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, 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.--Records fair.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,010 ft³/s Apr. 14, 2002, gage height, 9.91 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, 6,010 ft³/s Apr. 14, gage height, 9.91 ft; no flow Oct. 1-12.

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	0.00	376	244	96	212	329	235	1240	2640	665	51	10
2	0.00	274	237	95	190	296	238	1380	2200	586	47	9.3
3	0.00	285	227	92	177	277	235	1460	2140	546	44	9.0
4	0.00	243	209	87	167	260	245	1300	2310	500	40	8.4
5	0.00	260	198	84	156	251	281	1090	2510	449	41	8.2
6	0.00	261	187	87	151	231	369	905	2130	426	39	7.7
7	0.00	212	171	1090	155	211	461	760	1640	421	35	7.6
8	0.00	181	162	3550	159	191	489	656	1320	495	32	7.3
9	0.00	160	161	2140	137	196	484	589	1100	444	30	7.2
10	0.00	142	152	1310	129	188	579	541	1020	397	28	6.8
11	0.00	128	145	957	124	245	672	534	1030	380	27	6.6
12	0.00	117	137	824	113	386	1100	622	1250	356	25	6.0
13	0.24	111	154	707	113	305	1750	904	1610	319	23	5.4
14	3.1	812	207	611	105	270	4160	1370	1920	284	21	5.3
15	4.8	920	177	539	101	254	2360	1220	2070	238	20	4.8
16	6.6	1050	180	494	101	240	1500	1260	2090	204	19	4.5
17	7.2	1210	267	448	99	221	1110	1390	1760	184	18	4.8
18	6.8	885	228	414	97	211	910	1410	1890	170	17	4.4
19	6.5	656	203	396	98	210	807	1900	1850	153	16	5.0
20	6.3	535	181	379	95	197	781	3030	1370	139	15	6.0
21	6.7	499	167	358	102	172	839	2590	1330	124	14	6.3
22	6.9	446	154	322	343	168	841	3230	1380	112	13	6.0
23	32	459	142	297	789	169	787	2260	1470	105	12	5.4
24	49	401	134	296	550	174	720	1530	1290	97	12	4.9
25	28	355	124	e350	458	172	706	1350	1150	90	12	4.8
26	23	317	109	e380	416	175	720	1530	1080	82	11	4.4
27	26	291	101	306	386	193	704	2230	1050	78	11	4.1
28	215	271	117	260	362	196	694	3790	916	74	12	3.9
29	95	270	116	242	---	194	738	4610	1190	66	12	3.9
30	117	247	106	228	---	197	984	3970	870	62	12	4.1
31	780	---	103	224	---	208	---	3270	---	57	11	---
TOTAL	1420.14	12374	5200	17663	6085	6987	26499	53921	47576	8303	720	182.1
MEAN	45.81	412.5	167.7	569.8	217.3	225.4	883.3	1739	1586	267.8	23.23	6.070
MAX	780	1210	267	3550	789	386	4160	4610	2640	665	51	10
MIN	0.00	111	101	84	95	168	235	534	870	57	11	3.9
AC-FT	2820	24540	10310	35030	12070	13860	52560	107000	94370	16470	1430	361

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1989 - 2002, BY WATER YEAR (WY)

	89.08	302.7	241.1	209.9	254.4	288.4	811.3	1494	1053	221.3	37.53	26.37
MEAN	89.08	302.7	241.1	209.9	254.4	288.4	811.3	1494	1053	221.3	37.53	26.37
MAX	381	1374	1242	570	1133	539	1203	1864	1899	597	102	122
(WY)	1998	1996	1996	2002	1996	1995	1989	1997	1997	1999	1993	1997
MIN	7.62	22.4	9.21	8.60	6.36	85.7	400	1031	230	58.2	11.0	0.89
(WY)	1992	2001	2001	2001	2001	2001	2001	1994	1992	1992	2001	2001

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1989 - 2002	
ANNUAL TOTAL	87833.43		186930.24			
ANNUAL MEAN	240.6		512.1		418.3	
HIGHEST ANNUAL MEAN					716	
LOWEST ANNUAL MEAN					194	
HIGHEST DAILY MEAN	2050		4610		4970	
LOWEST DAILY MEAN	0.00		0.00		0.00	
ANNUAL SEVEN-DAY MINIMUM	0.00		0.00		0.00	
ANNUAL RUNOFF (AC-FT)	174200		370800		303000	
10 PERCENT EXCEEDS	796		1380		1290	
50 PERCENT EXCEEDS	52		212		149	
90 PERCENT EXCEEDS	2.1		6.6		16	

e Estimated

PEND OREILLE RIVER BASIN

12392500 LAKE PEND OREILLE NEAR HOPE, ID

LOCATION.--Lat 48°16'35", long 116°20'47", in NW¼SE¼NW¼ sec.21, T.57 N., R.1 E., Bonner County, 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, 2,062.54 ft, July 18, contents, 1,565,000 acre-ft; minimum elevation, 2,050.96 ft, Nov. 20, contents, 515,000 acre-ft.

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

2,050	432,000	2,058	1,143,000
2,052	605,800	2,060	1,327,000
2,054	782,500	2,062	1,514,000
2,056	961,600	2,064	1,704,000

GAGE HEIGHT, in FEET, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	60.86	53.99	51.02	51.11	51.71	51.88	51.44	55.27	59.16	61.99	62.30	62.28
2	60.64	53.77	51.33	51.23	51.68	51.80	51.71	55.25	59.69	61.97	62.29	62.22
3	60.46	53.61	51.28	51.30	51.57	51.78	51.79	55.60	60.14	61.96	62.13	62.28
4	60.26	53.41	51.33	51.49	51.59	51.87	51.92	55.68	60.52	62.02	62.13	62.32
5	60.08	53.26	51.33	51.53	51.60	51.79	52.05	55.76	60.88	62.09	62.23	62.41
6	59.91	52.98	51.32	51.49	51.66	51.82	51.95	55.90	61.08	62.26	62.26	62.38
7	59.73	52.78	51.22	51.71	51.74	51.84	52.09	55.94	61.14	62.32	62.42	62.32
8	59.57	52.49	51.24	51.93	51.72	51.81	52.30	55.98	61.21	62.35	62.48	62.22
9	59.29	52.20	51.31	52.03	51.57	51.74	52.59	55.94	61.16	62.25	62.51	62.22
10	59.02	51.89	51.35	51.92	51.46	51.64	52.81	55.98	61.11	62.21	62.38	62.25
11	58.76	51.62	51.30	51.85	51.37	51.66	52.96	55.89	61.02	62.32	62.31	62.24
12	58.54	51.44	51.22	51.73	51.44	51.63	53.05	55.74	60.89	62.38	62.33	62.32
13	58.23	51.34	51.32	51.62	51.60	51.68	53.13	55.87	60.73	62.43	62.34	62.31
14	57.94	51.30	51.43	51.62	51.61	51.79	53.43	56.11	60.61	62.49	62.36	62.21
15	57.70	51.34	51.38	51.67	51.58	51.76	54.00	56.31	60.56	62.42	62.34	62.08
16	57.40	51.30	51.41	51.68	51.49	51.59	54.34	56.44	60.52	62.40	62.36	62.06
17	57.15	51.17	51.45	51.62	51.44	51.46	54.56	56.69	60.56	62.52	62.20	62.06
18	56.88	51.07	51.47	51.59	51.51	51.42	54.76	56.78	60.70	62.51	62.14	62.01
19	56.64	51.11	51.44	51.52	51.57	51.38	54.94	56.90	60.87	62.40	62.14	61.94
20	56.42	51.11	51.41	51.48	51.53	51.40	54.96	57.24	61.02	62.32	62.21	61.89
21	56.17	51.22	51.35	51.54	51.61	51.41	55.01	57.68	61.20	62.25	62.22	61.71
22	55.98	51.35	51.26	51.56	51.56	51.57	55.05	58.06	61.34	62.29	62.29	61.58
23	55.71	51.32	51.26	51.55	51.66	51.60	55.07	58.37	61.47	62.36	62.42	61.53
24	55.48	51.33	51.30	51.57	51.74	51.59	55.03	58.34	61.65	62.41	62.42	61.44
25	55.26	51.35	51.22	51.57	51.82	51.59	55.00	58.20	61.74	62.42	62.32	61.35
26	55.02	51.36	51.33	51.52	51.89	51.51	55.02	57.99	61.76	62.46	62.40	61.27
27	54.84	51.25	51.40	51.54	51.89	51.51	55.04	57.98	61.85	62.28	62.38	61.22
28	54.68	51.31	51.46	51.59	51.88	51.44	54.94	58.10	61.94	62.23	62.43	61.13
29	54.48	51.10	51.44	51.59	---	51.44	55.02	58.20	62.04	62.17	62.36	61.06
30	54.32	51.09	51.29	51.57	---	51.45	55.14	58.42	62.03	62.25	62.22	61.04
31	54.15	---	51.20	51.64	---	51.35	---	58.72	---	62.27	62.29	---
MEAN	57.47	51.86	51.32	51.59	51.62	51.62	53.70	56.82	61.02	62.29	62.31	61.91
MAX	60.86	53.99	51.47	52.03	51.89	51.88	55.14	58.72	62.04	62.52	62.51	62.41
MIN	54.15	51.07	51.02	51.11	51.37	51.35	51.44	55.25	59.16	61.96	62.13	61.04
†	795900	526400	536000	574300	595400	549000	884300	1209000	1517000	1539000	1541000	1424000
‡	-628100	-269500	9600	38300	21100	-46400	335300	324700	308000	22000	2000	-117000
CAL YR 2001	MEAN 56.61	MAX 62.50	MIN 51.02	† -189500								
WTR YR 2002	MEAN 56.15	MAX 62.52	MIN 51.02	†	0							

† 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 NE¹/₄NE¹/₄SW¹/₄ sec.5, T.59 N., R.4 W., Bonner County, 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, 4.54 ft, June 2, contents, 156,000 acre-ft; minimum, 0.01 ft, Jan. 5, contents, 48,500 acre-ft.

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

0.0	48,300	3.0	119,300
1.0	71,900	4.0	143,100
2.0	95,500	5.0	167,000

GAGE HEIGHT, in FEET, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.93	1.69	0.74	0.08	0.92	0.46	0.25	2.18	4.52	3.20	2.95	3.09
2	2.90	1.59	0.69	0.11	0.89	0.43	0.23	2.22	4.52	3.15	2.93	3.09
3	2.89	1.48	0.70	0.05	0.85	0.41	0.27	2.31	4.47	3.07	2.93	3.07
4	2.89	1.35	0.67	0.07	0.82	0.43	0.27	2.41	4.42	3.01	2.91	3.04
5	2.88	1.23	0.61	0.05	0.77	0.50	0.26	2.45	4.37	3.01	2.88	3.07
6	2.86	1.19	0.58	0.13	0.73	0.47	0.31	2.50	4.31	3.01	2.88	3.07
7	2.86	1.07	0.54	0.25	0.75	0.36	0.33	2.47	4.19	3.02	2.88	3.08
8	2.87	0.98	0.49	0.49	0.75	0.37	0.37	2.42	4.07	3.09	2.90	3.06
9	2.86	0.91	0.47	0.63	0.68	0.39	0.47	2.39	3.92	3.14	2.91	3.08
10	2.92	0.83	0.44	0.79	0.67	0.32	0.51	2.32	3.77	3.16	2.92	3.07
11	2.94	0.74	0.42	0.89	0.62	0.39	0.61	2.27	3.65	3.16	2.92	3.08
12	2.96	0.65	0.39	0.95	0.59	0.43	0.72	2.23	3.57	3.14	2.94	3.08
13	2.95	0.62	0.46	0.97	0.57	0.37	0.96	2.21	3.50	3.13	2.95	3.09
14	2.97	0.74	0.47	1.02	0.49	0.37	1.38	2.28	3.45	3.11	2.96	3.12
15	2.91	0.75	0.43	1.02	0.47	0.40	1.70	2.32	3.42	3.09	2.95	3.08
16	2.84	0.90	0.53	1.05	0.46	0.43	1.86	2.37	3.41	3.07	2.95	3.09
17	2.80	0.98	0.51	1.04	0.39	0.35	1.95	2.43	3.41	3.05	2.95	3.10
18	2.75	0.94	0.49	1.05	0.39	0.35	2.01	2.49	3.48	3.03	2.95	3.11
19	2.69	0.89	0.47	1.09	0.38	0.39	2.03	2.56	3.50	2.99	2.97	3.13
20	2.60	0.97	0.46	1.09	0.38	0.41	2.05	2.87	3.45	2.99	2.97	3.09
21	2.54	0.87	0.39	1.12	0.37	0.28	2.09	3.18	3.39	3.00	2.98	3.09
22	2.47	0.91	0.36	1.10	0.42	0.28	2.10	3.47	3.32	3.01	2.99	3.07
23	2.38	0.89	0.32	1.11	0.52	0.27	2.14	3.61	3.27	3.03	3.01	3.07
24	2.31	0.85	0.37	1.11	0.47	0.26	2.13	3.64	3.19	3.02	2.99	3.06
25	2.24	0.81	0.29	1.12	0.46	0.26	2.12	3.66	3.15	3.01	3.03	3.04
26	2.16	0.73	0.24	1.08	0.47	0.27	2.14	3.67	3.15	3.00	3.02	3.03
27	2.06	0.72	0.21	1.07	0.46	0.23	2.10	3.75	3.14	3.01	3.04	3.03
28	1.97	0.69	0.19	1.03	0.46	0.25	2.08	3.95	3.14	2.98	3.06	3.01
29	1.85	0.70	0.15	0.98	---	0.25	2.08	4.21	3.19	2.97	3.03	3.02
30	1.80	0.69	0.26	0.97	---	0.23	2.09	4.40	3.21	2.96	3.09	3.00
31	1.79	---	0.12	0.97	---	0.25	---	4.49	---	2.95	3.08	---
MEAN	2.61	0.95	0.43	0.79	0.58	0.35	1.32	2.89	3.65	3.05	2.97	3.07
MAX	2.97	1.69	0.74	1.12	0.92	0.50	2.14	4.49	4.52	3.20	3.09	3.13
MIN	1.79	0.62	0.12	0.05	0.37	0.23	0.23	2.18	3.14	2.95	2.88	3.00
†	90600	64600	51100	71200	59100	54200	97700	154800	124300	118100	121200	119300
‡	-26800	-26000	-13500	20100	-12100	-4900	43500	57100	-30500	-6200	3100	-1900
CAL YR 2001	MEAN 1.56	MAX 3.50	MIN -0.44	† 3700								
WTR YR 2002	MEAN 1.90	MAX 4.52	MIN 0.05	† 1900								

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



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

PEND OREILLE RIVER BASIN

12394000 PRIEST RIVER NEAR COOLIN, ID

LOCATION.--Lat 48°27'07", long 116°53'58", in SE¹/₄SW¹/₄NE¹/₄ sec.19, T.59 N., R.4 W., Bonner County, Hydrologic Unit 17010215, in Dickensheet campground, on left bank 190 ft downstream from Dickensheet Bridge, 2.5 mi downstream from Binarch Creek, 3 mi southwest of Coolin, 5.2 mi downstream from outlet of Priest Lake, and at mile 38.8.

DRAINAGE AREA.--611 mi².

PERIOD OF RECORD.--October 1948 to current year.

GAGE.--Water-stage recorder. Datum of gage is 2,338.24 ft above NGVD of 1929. Prior to Feb. 23, 1949, nonrecording gage at same site and datum.

REMARKS.--Records good except for estimated daily discharges, which are fair. No diversion above station. Flow partly regulated by Priest Lake (sta 12393000) 5.2 mi upstream.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,280 ft³/s June 3, 1997, gage height, 8.02 ft; maximum gage height, 8.44 ft, June 18, 1974; minimum observed discharge, 26 ft³/s Sept. 25, 1958, gage height, 1.16 ft, but may have been less Sept. 11, 1953 and Sept. 24, 1958, when stage was below intake.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of May 29, 1948, reached a stage of 8.40 ft, present site and datum, discharge, 8,670 ft³/s.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 6,800 ft³/s June 2; minimum daily, 61 ft³/s Oct. 1-7, 9.

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	61	1550	1130	617	1120	865	758	2780	6740	2060	356	82
2	61	1840	1130	606	1100	859	762	2860	6800	2050	328	82
3	61	1910	1110	598	1080	854	771	2980	6750	2040	326	83
4	61	1800	1090	583	1060	846	780	3080	6630	1870	325	82
5	61	1700	1060	454	1050	838	794	3140	6540	1330	325	85
6	61	1620	1040	198	1040	829	819	3200	6390	1220	325	83
7	61	1530	997	237	1030	814	850	3190	6220	1220	245	82
8	62	1440	961	241	1020	807	883	3140	5890	1240	176	82
9	61	1360	924	242	1010	802	916	3080	e5500	1250	125	82
10	63	1280	898	244	988	804	978	3010	e5100	1250	90	82
11	62	1200	873	246	964	824	1100	2930	e4700	1250	89	82
12	63	1130	850	495	943	840	1250	2870	4490	1250	88	82
13	63	1070	878	736	919	836	1460	2830	4360	1250	87	82
14	265	1080	913	740	896	827	1920	2850	4310	1250	86	82
15	704	1150	898	740	873	824	2270	2930	4310	1200	85	82
16	710	1230	918	740	860	823	2460	2980	3830	903	84	82
17	715	1350	988	740	841	810	2580	3040	3430	900	84	83
18	726	1380	959	740	825	803	2640	3110	3510	892	84	83
19	1130	1360	936	748	819	800	2680	3220	3590	883	84	83
20	1370	1330	900	748	812	792	2700	3520	e3600	706	84	108
21	1360	1320	870	748	811	766	2720	3950	e3500	580	84	196
22	1360	1310	847	748	819	760	2760	4490	3390	503	84	197
23	1350	1300	821	748	855	750	2800	4910	3290	406	84	199
24	1330	1280	792	753	865	745	2800	5080	3250	406	84	200
25	1320	1240	764	954	865	745	2800	5100	3010	406	84	200
26	1500	1190	737	1180	865	744	2790	5080	2050	404	84	200
27	1650	1140	710	1170	865	739	2760	5180	2050	402	84	200
28	1630	1110	692	1160	865	740	2730	5390	2040	402	83	200
29	1600	1120	673	1140	---	743	2710	5850	2050	400	82	201
30	1580	1100	654	1130	---	745	2730	6320	2060	398	84	203
31	1570	---	632	1130	---	747	---	6610	---	397	82	---
TOTAL	22671	40420	27645	21554	26060	24721	56971	118700	129380	30718	4395	3670
MEAN	731.3	1347	891.8	695.3	930.7	797.5	1899	3829	4313	990.9	141.8	122.3
MAX	1650	1910	1130	1180	1120	865	2800	6610	6800	2060	356	203
MIN	61	1070	632	198	811	739	758	2780	2040	397	82	82
AC-FT	44970	80170	54830	42750	51690	49030	113000	235400	256600	60930	8720	7280

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1949 - 2002, BY WATER YEAR (WY)

MEAN	933.3	1040	730.0	620.7	629.5	774.1	1626	3894	3574	1018	311.8	262.3
MAX	1518	2385	2028	1868	1935	1887	2571	6453	7207	2739	727	1219
(WY)	1982	1984	1996	1974	1951	1983	1960	1997	1974	1955	1983	1959
MIN	258	294	237	203	250	115	515	1242	929	239	95.6	67.1
(WY)	1950	1949	1992	1993	1977	2001	1977	1977	1992	1985	1994	2001

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1949 - 2002	
ANNUAL TOTAL	271913		506905			
ANNUAL MEAN	745.0		1389		1286	
HIGHEST ANNUAL MEAN					2174	
LOWEST ANNUAL MEAN					534	
HIGHEST DAILY MEAN	3010	May 18	6800	Jun 2	9120	Jun 3 1997
LOWEST DAILY MEAN	61	Oct 1	61	Oct 1	38	Jul 28 1951
ANNUAL SEVEN-DAY MINIMUM	61	Oct 1	61	Oct 1	38	Jul 27 1951
ANNUAL RUNOFF (AC-FT)	539300		1005000		931500	
10 PERCENT EXCEEDS	2000		3230		3470	
50 PERCENT EXCEEDS	308		883		741	
90 PERCENT EXCEEDS	64		84		195	

e Estimated

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, 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 (1950-2002), 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 daily discharge, 7,130 ft³/s June 1, 2; minimum daily, 161 ft³/s Oct. 5.

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	165	1740	1320	780	1420	1250	1440	3740	7130	2540	558	217
2	165	1760	1370	768	1390	1210	1500	3890	7130	2510	494	211
3	165	2070	1360	768	1360	1200	1480	4020	7030	2480	482	211
4	163	1960	1320	753	1330	1190	1500	4110	6910	2430	482	211
5	161	1870	1270	739	1310	1170	1540	4130	6780	1900	482	211
6	165	1760	1220	528	1290	1160	1640	4150	6650	1550	480	211
7	165	1650	1170	709	1320	e1080	1810	4090	6490	1520	477	211
8	167	1560	1130	1610	1340	e1050	1920	3960	6300	1600	365	209
9	169	1480	1100	1670	1280	e1060	1960	3840	6100	1630	324	207
10	171	1390	1060	1420	1250	1100	2160	3740	5810	1560	274	206
11	201	1310	1030	1130	1230	1240	2360	3630	5560	1540	240	205
12	200	1250	1000	1010	e1150	1480	2650	3540	5380	1520	236	202
13	207	1190	1050	1380	e1150	1400	3280	3510	5200	1500	231	200
14	197	1230	1410	1320	e1100	1300	4830	3570	5100	1490	225	197
15	532	1320	1250	1220	e1100	1270	5670	3660	5030	1480	223	197
16	796	1390	1270	1190	e1050	1240	5000	3700	4870	1260	222	199
17	804	1600	1730	1150	e1050	1200	4580	3750	4150	1120	219	219
18	810	1610	1520	1140	1050	1170	4270	3850	4220	1100	219	216
19	876	1550	1400	1130	1060	1160	4080	3960	4310	1090	219	209
20	1400	1500	1260	1130	1080	1140	3980	4330	4180	1070	218	206
21	1420	1510	1180	1100	1070	1080	3950	4800	4080	785	216	228
22	1440	1520	1120	1070	1300	1080	3980	5430	4010	766	217	310
23	1480	1580	1050	1060	1530	1090	4000	5860	3940	631	217	314
24	1440	1510	1000	1050	1450	1130	3930	5900	3880	599	214	321
25	1420	1450	970	1200	e1250	1170	3840	5820	3810	592	211	322
26	1410	1380	913	1640	e1250	1220	3780	5750	2900	582	211	323
27	1750	1320	887	1570	e1250	1270	3710	5780	2550	576	223	328
28	1730	1270	874	1470	e1250	1280	3630	6020	2520	576	225	325
29	1700	1300	862	1420	---	1330	3600	6420	2620	576	214	329
30	1700	1280	833	1440	---	1350	3620	6820	2620	570	217	337
31	1790	---	818	1440	---	1400	---	7050	---	568	226	---
TOTAL	24959	45310	35747	36005	34660	37470	95690	142820	147260	39711	9061	7292
MEAN	805.1	1510	1153	1161	1238	1209	3190	4607	4909	1281	292.3	243.1
MAX	1790	2070	1730	1670	1530	1480	5670	7050	7130	2540	558	337
MIN	161	1190	818	528	1050	1050	1440	3510	2520	568	211	197
AC-FT	49510	89870	70900	71420	68750	74320	189800	283300	292100	78770	17970	14460

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
LOWEST ANNUAL MEAN	824
HIGHEST DAILY MEAN	10400
LOWEST DAILY MEAN	191
ANNUAL SEVEN-DAY MINIMUM	215
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 - 2002, BY WATER YEAR (WY) (REGULATED, UNADJUSTED)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1089	1304	1033	926.6	1027	1389	2646	4856	4221	1304	472.2	404.3
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	492	357	310	350	374	810	1563	1167	399	206	173
(WY)	1950	1980	1993	1993	1985	2001	1977	1977	1992	1977	1994	2001

SUMMARY STATISTICS FOR 2001 CALENDAR YEAR FOR 2002 WATER YEAR ^b WATER YEARS 1950 - 2002

ANNUAL TOTAL	353627	655985
ANNUAL MEAN	968.8	1797
HIGHEST ANNUAL MEAN		1723
LOWEST ANNUAL MEAN		2947
HIGHEST DAILY MEAN		711
LOWEST DAILY MEAN		711
HIGHEST DAILY MEAN	3770	May 17
LOWEST DAILY MEAN	160	Sep 16
ANNUAL SEVEN-DAY MINIMUM	163	Sep 15
ANNUAL RUNOFF (AC-FT)	701400	1301000
10 PERCENT EXCEEDS	2380	4160
50 PERCENT EXCEEDS	474	1270
90 PERCENT EXCEEDS	177	216

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 (discontinued).

PERIOD OF DAILY RECORD.--

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

INSTRUMENTATION.--Temperature recording data logger.

EXTREMES FOR PERIOD OF DAILY RECORD.--

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

WATER-QUALITY DATA, APRIL TO JUNE 2002

Date	Time	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	TURBID- ITY LAB HACH 2100AN (NTU) (99872)	OXYGEN, DIS- SOLVED CENT SATUR- ATION (MG/L) (00300)	OXYGEN, DIS- SOLVED CENT SATUR- ATION (MG/L) (00301)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)
APR 2002										
01...	1115	1440	50	7.2	13.5	4.7	7.6	12.2	102	S1
MAY										
02...	1115	3880	45	7.2	16.0	7.5	7.5	11.1	101	S1
JUN										
26...	1215	2620	49	7.2	27.0	18.1	5.0	8.7	99	S18

Date	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	ORTHO- PHOS- PHATE, DIS- SOLVED (MG/L AS P) (00671)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)
APR 2002							
01...	<.015	.16	<.013	<.007	.022	11	42.8
MAY							
02...	<.015	.11	<.013	<.007	.026	18	189
JUN							
26...	<.015	.13	<.013	<.007	.021	8.0	56.6

< Less than
S Most probable value

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, 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 daily discharge, 95,400 ft³/s June 9; maximum gage height, 46.75 ft, June 9; minimum daily, 7,670 ft³/s Dec. 13.

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	15800	19000	8810	10200	17000	13200	14800	31100	78700	79700	16100	9150
2	15700	18900	8020	10000	17600	13300	14500	31300	82000	72700	15300	9390
3	15900	18800	9040	10200	17100	13300	14800	31500	85800	62500	14000	10100
4	15800	19100	9460	9360	17400	13800	14600	31500	88700	54800	12800	10900
5	15900	18800	10200	10600	17700	14700	14700	31500	90900	49000	12700	10700
6	16100	19200	11000	11500	17500	14800	14700	35800	92800	40200	12700	12000
7	16100	20800	10800	12300	17300	14700	14600	39600	94300	42800	12700	12900
8	16000	22700	9340	16600	19100	14700	14600	39600	95100	44300	17100	12900
9	19200	21700	8240	23600	20300	14700	15000	39800	95400	44900	19300	12200
10	19500	21800	9020	26500	20200	15300	18900	37000	94700	40700	16300	12100
11	19700	21700	9580	25700	18300	16400	22100	31500	94100	35200	16300	12200
12	19500	16400	8680	22300	15000	17900	25400	31000	93200	34600	16400	12200
13	19400	11800	7670	22400	14000	17500	28400	29500	92200	35400	16300	12400
14	19400	12200	8890	19100	15400	17900	30100	28400	89800	35900	16500	12800
15	19600	13200	11100	16900	16100	21300	34700	29400	88700	37100	16300	12800
16	19500	16200	13600	19400	15900	23100	36200	31900	88500	34600	15300	13600
17	19700	17800	14700	19300	15000	22500	36600	32100	86000	32400	14500	14100
18	19700	14300	15700	17800	14600	23100	36900	32300	83700	34200	14100	14100
19	19700	9660	17400	16600	16900	22300	35800	32300	78100	35600	13900	13600
20	20000	8550	17600	15800	17100	20700	34400	37800	69400	29600	12900	14200
21	19900	8040	15100	15400	14100	17500	33800	47600	67000	25400	12500	14000
22	19900	8290	13200	16800	13200	14200	36000	57100	66900	24000	12200	13800
23	19700	9420	13000	17700	13200	13300	38400	68100	66000	22200	11800	13600
24	19700	9870	13000	17400	13100	14100	38100	74800	66300	22100	12000	13500
25	19200	9800	13000	16000	13700	18300	36500	74500	72200	22300	13400	13500
26	18600	9800	12900	14600	14700	21300	33500	69600	78000	21300	13800	13000
27	18400	11400	12900	14600	16300	21500	31200	64600	77100	20800	13800	11700
28	18600	12400	14600	16400	14600	19900	31100	65600	77200	20700	13900	10800
29	19200	12400	15500	17900	---	18000	31000	69500	79500	20800	14200	10400
30	19000	10500	13800	17700	---	17200	31000	73900	81500	18200	13200	10200
31	19000	---	11600	17300	---	16700	---	75700	---	16800	10800	---
TOTAL	573400	444530	367450	517960	452400	537200	812400	1405900	2493800	1110800	443100	368840
MEAN	18500	14820	11850	16710	16160	17330	27080	45350	83130	35830	14290	12290
MAX	20000	22700	17600	26500	20300	23100	38400	75700	95400	79700	19300	14200
MIN	15700	8040	7670	9360	13100	13200	14500	28400	66000	16800	10800	9150
AC-FT	1137000	881700	728800	1027000	897300	1066000	1611000	2789000	4946000	2203000	878900	731600

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1903 - 2002, BY WATER YEAR (WY)												
MEAN	17650	18400	16300	15580	16400	19070	27360	49620	62020	32230	14180	13480
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 2001 CALENDAR YEAR				FOR 2002 WATER YEAR		WATER YEARS 1903 - 2002		
ANNUAL TOTAL	4888340				9527780							
ANNUAL MEAN	13390				26100				25140			
HIGHEST ANNUAL MEAN									38600			
LOWEST ANNUAL MEAN									12920			
HIGHEST DAILY MEAN	29500			May 3	95400			Jun 9	135000			
LOWEST DAILY MEAN	5680			Mar 5	7670			Dec 13	2420			
ANNUAL SEVEN-DAY MINIMUM	5990			Mar 3	8770			Dec 8	3280			
ANNUAL RUNOFF (AC-FT)	9696000				18900000				18210000			
10 PERCENT EXCEEDS	22900				66900				52700			
50 PERCENT EXCEEDS	10700				17500				18900			
90 PERCENT EXCEEDS	6310				11000				8610			