

Figure 9. 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" (NAD 27), in NE¼SE¼SE¼ sec.5, T.32 N., R.34 W., Lincoln County, 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 mi<sup>2</sup>.

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

GAGE.--Water-stage recorder. Elevation of gage is 1,839.2 ft (NGVD 29). Oct. 15, 1910, to Sept. 30, 1916, nonrecording gage at several sites within 11 mi of present site at various elevations.

REMARKS.--Records good. Minor diversions for irrigation upstream from station. U.S. Army Corps of Engineers satellite telemeter at station. Several observations of water temperature and specific conductance were made during the year.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in May to June 1948 reached a stage of 11.0 ft, from floodmarks; discharge, 12,500 ft<sup>3</sup>/s. Flood in May 1954 reached a stage of 11.4 ft, from floodmarks; discharge, 13,400 ft<sup>3</sup>/s.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003												
DAILY MEAN VALUES												
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	116	e90	e90	e100	317	173	1910	1490	2540	351	109	66
2	111	e100	89	105	296	138	1640	1600	2270	332	107	65
3	109	e110	87	122	261	129	1350	1700	2020	313	107	63
4	104	e120	86	138	235	124	1130	1710	1730	295	107	63
5	101	e115	86	130	202	121	983	1690	1590	287	107	62
6	98	e120	86	126	181	124	879	1600	1550	279	107	60
7	94	e125	86	118	167	124	796	1470	1460	267	107	60
8	92	e130	86	108	185	117	744	1350	1450	255	103	62
9	88	e135	86	92	175	114	871	1250	1480	245	98	85
10	88	e140	86	e85	167	123	1210	1190	1350	239	93	95
11	87	e135	87	e105	161	125	1410	1160	1350	230	88	87
12	86	134	87	e115	149	174	1700	1200	1280	220	85	102
13	86	135	e85	120	144	515	1760	1310	1200	209	83	90
14	86	136	e90	116	156	855	1870	1450	1100	204	81	81
15	87	125	e95	112	145	946	1860	1660	947	197	80	78
16	87	113	e100	105	147	947	1700	1640	856	192	82	77
17	87	107	e95	101	163	930	1580	1470	798	184	89	77
18	87	105	e90	98	158	816	1490	1330	756	174	89	79
19	87	108	e85	97	152	727	1380	1220	717	169	86	79
20	87	117	e95	97	152	686	1310	1130	706	162	81	80
21	87	126	e105	e90	156	700	1370	1080	681	155	78	78
22	87	127	e110	e85	155	1050	1610	1070	621	150	74	74
23	85	136	e105	e90	132	1790	1970	1200	582	147	76	71
24	81	122	e100	e95	115	1350	2180	1660	540	141	77	70
25	85	93	e95	104	145	1040	2410	2940	504	136	74	68
26	86	92	e97	129	173	867	2480	3200	473	131	72	66
27	91	89	101	339	189	746	2160	2830	450	127	70	65
28	87	95	108	310	185	674	1880	2680	425	124	68	64
29	91	99	111	247	---	625	1690	2860	397	119	67	62
30	82	e95	110	216	---	613	1560	2720	371	117	66	61
31	e75	---	e95	231	---	1120	---	2560	---	112	66	---
TOTAL	2805	3474	2914	4126	4963	18583	46883	53420	32194	6263	2677	2190
MEAN	90.5	116	94.0	133	177	599	1563	1723	1073	202	86.4	73.0
MAX	116	140	111	339	317	1790	2480	3200	2540	351	109	102
MIN	75	89	85	85	115	114	744	1070	371	112	66	60
AC-FT	5560	6890	5780	8180	9840	36860	92990	106000	63860	12420	5310	4340
CFSM	0.12	0.15	0.12	0.17	0.23	0.78	2.04	2.25	1.40	0.26	0.11	0.10
IN.	0.14	0.17	0.14	0.20	0.24	0.90	2.28	2.59	1.56	0.30	0.13	0.11

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1957 - 2003, BY WATER YEAR (WY)

MEAN	198	319	320	293	355	598	1925	3495	1925	494	195	162
MAX	833	1192	1630	1552	1626	1872	3754	6463	4992	970	373	506
(WY)	1960	1996	1996	1974	1996	1972	1969	1997	1974	1969	1993	1959
MIN	84.0	93.2	94.0	94.6	83.0	134	421	1026	377	151	80.9	53.2
(WY)	1988	1980	2003	1988	2001	2001	2001	1977	1992	1977	2001	2001

SUMMARY STATISTICS	FOR 2002	CALENDAR YEAR	FOR 2003	WATER YEAR	WATER YEARS 1957 - 2003
ANNUAL TOTAL	345735		180492		
ANNUAL MEAN	947		494		858
HIGHEST ANNUAL MEAN					1562
LOWEST ANNUAL MEAN					278
HIGHEST DAILY MEAN	10900	May 22	3200	May 26	11600
LOWEST DAILY MEAN	75	Oct 31	60	Sep 6	49
ANNUAL SEVEN-DAY MINIMUM	85	Oct 25	62	Sep 2	49
ANNUAL RUNOFF (AC-FT)	685800		358000		621400
ANNUAL RUNOFF (CFSM)	1.24		0.65		1.12
ANNUAL RUNOFF (INCHES)	16.79		8.77		15.22
10 PERCENT EXCEEDS	2450		1580		2560
50 PERCENT EXCEEDS	249		129		286
90 PERCENT EXCEEDS	90		80		120

e Estimated

## KOOTENAI RIVER BASIN

## 12305000 KOOTENAI RIVER AT LEONIA, ID

LOCATION.--Lat 48°37'04", long 116°02'47", in NW<sup>1</sup>/<sub>4</sub>NW<sup>1</sup>/<sub>4</sub>NW<sup>1</sup>/<sub>4</sub> sec.20, T.33 N., R.34 W., principal Meridian, Lincoln County, Montana, Leonia quad., Hydrologic Unit 17010104, on right bank at Leonia, 450 ft east of Montana-Idaho State line, 0.5 mi upstream from Boulder Creek, and at mile 171.6.

DRAINAGE AREA.--11,740 mi<sup>2</sup>, 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. 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 ft<sup>3</sup>/s May 28, 1948, gage height, 33.40 ft; minimum, 996 ft<sup>3</sup>/s Dec. 9, 1936, minimum gage height, 7.56 ft, Dec. 10, 1929.

Maximum discharge since regulation began in 1972, 62,000 ft<sup>3</sup>/s Jan. 16, 1974, gage height, 24.15 ft; maximum gage height, 25.06 ft, Feb. 9, 1996; minimum daily, 2,270 ft<sup>3</sup>/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, 21,600 ft<sup>3</sup>/s Nov. 20; minimum daily, 4,270 ft<sup>3</sup>/s Oct. 7.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5560	5280	14200	10500	5320	4960	8560	9890	18000	14200	13000	12900
2	5130	5270	20800	10500	5150	4940	8240	10700	17800	14100	13000	13000
3	4900	5250	20800	10500	4990	4930	8050	12100	17500	14000	13000	13000
4	4900	5190	20800	10500	4990	4940	8160	12700	17400	14000	13100	12900
5	4850	5110	20800	11000	4950	4950	8790	12400	17800	13900	13100	10000
6	4720	5090	20900	12000	4880	4940	9360	11100	18600	13800	13100	12900
7	4270	5070	21000	12300	4870	4920	9900	10400	19200	14000	13200	12900
8	4380	5120	20900	12300	4840	4930	11000	10500	18400	14000	13200	12900
9	4910	5160	20900	12300	4780	5200	12000	10500	17700	13800	13200	12900
10	4950	5200	20900	12300	4780	5640	11100	9950	17200	13500	13000	12900
11	5000	5270	20800	12400	4750	5870	10500	9540	17300	13400	13000	13000
12	5000	5260	20800	12400	4700	5930	10500	9160	17300	13400	12200	13000
13	5010	5220	20800	10800	4650	6010	11000	8660	17100	13300	12900	13500
14	5010	5190	20800	9170	4670	6050	12400	8330	18300	13200	12900	14300
15	5000	5180	20800	8320	4760	6040	12700	8160	18200	13100	12900	14700
16	5060	5210	17200	7450	4780	6050	11400	8180	17800	13300	13000	14500
17	5150	6360	15500	6380	4760	6160	10400	8480	17600	13300	12800	12300
18	5240	11500	14000	5210	4830	6630	9730	8700	17500	13300	12700	12000
19	5220	21300	12000	4510	4840	7400	9310	9010	17300	13200	12900	11300
20	5260	21600	10900	4520	4830	7350	8970	9370	17200	13200	12900	11000
21	5740	21200	10600	4530	4820	7040	8670	9850	18100	13100	12900	10700
22	5620	21000	10700	4520	4790	6910	8400	10700	17900	13200	13000	10700
23	5460	21000	10600	4520	4790	7110	8300	10600	18200	13200	13200	10600
24	5340	17400	10600	4570	4820	7640	8490	9720	18200	13200	13300	10600
25	5260	14200	10600	4540	4850	8030	8440	9070	18100	13200	14300	10500
26	5080	12600	10600	4510	4910	8070	8520	9210	18000	13100	14400	10500
27	4530	10500	10600	4570	5000	7930	9220	9890	18000	13100	14100	10500
28	4470	9370	10500	4600	4990	7710	11000	10600	15800	13100	13700	10400
29	4910	8690	10500	4650	4990	7500	10700	10400	14500	13100	13400	10400
30	5010	8850	10500	5130	---	7510	9960	13500	14300	13100	13200	10400
31	5360	---	10500	5510	---	8200	---	18000	---	13100	13100	---
TOTAL	156300	288640	491900	247010	141080	197490	293770	319370	526300	416500	407700	361200
MEAN	5042	9621	15870	7968	4865	6371	9792	10300	17540	13440	13150	12040
MAX	5740	21600	21000	12400	5320	8200	12700	18000	19200	14200	14400	14700
MIN	4270	5070	10500	4510	4650	4920	8050	8160	14300	13100	12200	10000
AC-FT	310000	572500	975700	489900	279800	391700	582700	633500	1044000	826100	808700	716400

## 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

<sup>a</sup> 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 - 2004, BY WATER YEAR (WY) (REGULATED, UNADJUSTED)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	14140	16110	16210	15050	12530	8801	11010	15220	17400	13100	11590	11120
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	5042	5004	3423	3109	3724	4350	5588	8352	5374	4139	3956	5539
(WY)	2004	1972	1972	1972	1973	1973	2001	1977	1977	1988	1975	1994

## SUMMARY STATISTICS

## FOR 2003 CALENDAR YEAR

## FOR 2004 WATER YEAR

<sup>b</sup> WATER YEARS 1972 - 2004

ANNUAL TOTAL	4064730	3847260	
ANNUAL MEAN	11140	10510	13530
HIGHEST ANNUAL MEAN			20400
LOWEST ANNUAL MEAN			7466
HIGHEST DAILY MEAN	30700	Jun 7	21600
LOWEST DAILY MEAN	4270	Oct 7	4270
ANNUAL SEVEN-DAY MINIMUM	4490	Jan 18	4530
ANNUAL RUNOFF (AC-FT)	8062000		7631000
10 PERCENT EXCEEDS	20800		17700
50 PERCENT EXCEEDS	9080		10500
90 PERCENT EXCEEDS	4910		4880

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<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub>SE<sup>1</sup>/<sub>4</sub> sec.10, T.65 N., R.2 E., Boundary County, Eastport quad., Hydrologic Unit 17010105, Idaho Panhandle National Forests, on left bank at Eastport, 1,000 ft downstream from international boundary, and at mile 25.0.

DRAINAGE AREA.--570 mi<sup>2</sup>, 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 Oct. 1 to July 7 and poor July 8 to Sept. 30. Estimated daily discharges are poor. Station equipment includes satellite telemetry. No regulation or diversion above station. Downstream diversion dam installed for new bridge construction July to September 2004.

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 ft<sup>3</sup>/s June 19, 1916; maximum gage height, 10.55 ft, May 20, 1954; minimum discharge, 23 ft<sup>3</sup>/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 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
May 5	0045	*2,830	*6.75	No peaks greater than base discharge.			
Minimum daily, 35 ft <sup>3</sup> /s Oct. 1-8.							

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	35	e95	e120	e75	e100	110	856	1970	1360	508	133	138
2	35	100	e110	e80	e90	109	796	2270	1270	548	130	137
3	35	96	e130	e75	e85	108	803	2590	1200	506	128	131
4	35	e90	e120	e55	e85	109	854	2700	1180	514	127	128
5	35	e70	e110	e40	e90	108	973	2700	1200	505	122	126
6	35	e65	e120	e50	e95	106	1080	2460	1720	477	118	122
7	35	e60	130	e75	e95	107	1200	2310	1790	505	121	121
8	35	e60	e120	e95	e90	112	1380	2270	1630	533	116	119
9	37	e60	e110	e100	e85	126	1480	2220	1470	503	112	122
10	37	e70	e100	e110	e80	144	1400	2020	1340	484	110	126
11	38	e90	e95	e100	e75	156	1400	1880	1240	456	106	128
12	41	e80	e90	e100	e70	168	1520	1690	1150	424	104	138
13	42	e75	e100	e100	e70	185	1770	1520	1100	378	101	129
14	42	e75	e100	e100	e75	194	2270	1380	1090	332	99	137
15	40	83	e100	e95	e85	195	2330	1310	1020	287	95	160
16	45	86	e110	e95	e90	206	2130	1280	945	251	94	173
17	56	88	112	e95	92	222	1950	1270	883	231	93	198
18	60	100	e110	92	95	281	1770	1290	817	219	95	250
19	52	174	e100	91	96	340	1620	1340	757	210	97	243
20	58	169	e95	89	93	316	1500	1390	703	209	102	234
21	97	e130	e100	87	e90	310	1390	1560	660	216	107	230
22	90	e100	106	85	e80	328	1290	1970	617	209	113	223
23	81	e90	e95	85	e80	397	1260	1800	581	202	122	220
24	85	e95	e90	87	e90	509	1300	1580	545	194	126	213
25	85	e95	e95	87	93	544	1280	1430	520	184	153	210
26	86	e100	95	85	98	558	1320	1440	513	173	161	205
27	85	e110	e95	88	105	548	1610	1420	526	164	145	200
28	92	131	e90	e75	108	520	1990	1550	517	160	144	196
29	129	151	e85	100	111	527	1930	1520	567	153	146	188
30	108	e130	e75	116	---	598	1890	1470	530	147	143	186
31	e95	---	e70	e110	---	834	---	1460	---	139	138	---
TOTAL	1861	2918	3178	2717	2591	9075	44342	55060	29441	10021	3701	5131
MEAN	60.0	97.3	103	87.6	89.3	293	1478	1776	981	323	119	171
MAX	129	174	130	116	111	834	2330	2700	1790	548	161	250
MIN	35	60	70	40	70	106	796	1270	513	139	93	119
AC-FT	3690	5790	6300	5390	5140	18000	87950	109200	58400	19880	7340	10180
CFSM	0.11	0.17	0.18	0.15	0.16	0.51	2.59	3.12	1.72	0.57	0.21	0.30
IN.	0.12	0.19	0.21	0.18	0.17	0.59	2.89	3.59	1.92	0.65	0.24	0.33

## KOOTENAI RIVER BASIN

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

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1929 - 2004, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	139	220	210	162	178	292	1303	3078	1935	466	135	97.9
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 2003 CALENDAR YEAR				FOR 2004 WATER YEAR				WATER YEARS 1929 - 2004			
ANNUAL TOTAL	175647				170036							
ANNUAL MEAN	481				465				686			
HIGHEST ANNUAL MEAN									1157			
LOWEST ANNUAL MEAN									244			
HIGHEST DAILY MEAN	3840				May 26				2700			
LOWEST DAILY MEAN	35				Sep 30				35			
ANNUAL SEVEN-DAY MINIMUM	35				Sep 30				35			
ANNUAL RUNOFF (AC-FT)	348400				337300				497200			
ANNUAL RUNOFF (CFSM)	0.844				0.815				1.20			
ANNUAL RUNOFF (INCHES)	11.46				11.10				16.36			
10 PERCENT EXCEEDS	1610				1470				2240			
50 PERCENT EXCEEDS	100				129				180			
90 PERCENT EXCEEDS	42				75				66			

e Estimated

GAGE HEIGHT, in FEET, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.24	3.60	4.05	3.76	3.76	3.59	4.97	6.06	5.52	4.51	3.80	3.82
2	3.24	3.57	3.75	3.70	3.80	3.59	4.90	6.31	5.44	4.57	3.78	3.82
3	3.24	3.56	3.72	3.68	3.88	3.59	4.91	6.57	5.36	4.51	3.77	3.79
4	3.24	3.73	3.95	4.00	3.67	3.59	4.97	6.66	5.34	4.52	3.76	3.77
5	3.24	3.57	4.03	4.33	3.58	3.58	5.11	6.66	5.37	4.50	3.74	3.76
6	3.24	3.51	3.78	4.46	3.56	3.58	5.23	6.47	5.84	4.45	3.72	3.74
7	3.24	3.56	3.68	4.51	3.55	3.58	5.36	6.34	5.90	4.50	3.73	3.73
8	3.24	3.67	3.72	4.54	3.54	3.60	5.54	6.31	5.77	4.55	3.71	3.73
9	3.25	3.66	3.64	4.55	3.61	3.66	5.64	6.27	5.62	4.50	3.69	3.74
10	3.25	3.67	3.86	4.54	3.53	3.72	5.56	6.10	5.50	4.46	3.67	3.76
11	3.26	3.55	4.11	4.52	3.69	3.76	5.56	5.98	5.41	4.42	3.66	3.77
12	3.28	3.64	3.94	4.48	3.60	3.80	5.66	5.81	5.31	4.38	3.64	3.82
13	3.29	3.59	3.92	4.44	3.55	3.84	5.88	5.67	5.25	4.34	3.63	3.78
14	3.29	3.66	3.95	4.41	3.52	3.87	6.31	5.55	5.24	4.31	3.61	3.82
15	3.27	3.50	3.85	4.39	3.58	3.87	6.35	5.47	5.16	4.26	3.59	3.92
16	3.30	3.51	3.65	4.18	3.52	3.90	6.19	5.45	5.07	4.22	3.59	3.97
17	3.37	3.52	3.62	3.70	3.52	3.95	6.04	5.44	5.00	4.18	3.58	4.06
18	3.39	3.57	3.84	3.52	3.53	4.09	5.88	5.46	4.92	4.14	3.59	4.23
19	3.34	3.82	4.15	3.51	3.54	4.21	5.75	5.50	4.85	4.10	3.60	4.21
20	3.37	3.81	4.34	3.50	3.52	4.16	5.65	5.55	4.78	4.10	3.63	4.19
21	3.55	3.74	4.08	3.50	3.52	4.15	5.55	5.71	4.72	4.13	3.66	4.17
22	3.53	3.85	3.60	3.49	3.54	4.19	5.45	6.06	4.67	4.10	3.69	4.15
23	3.49	3.95	3.64	3.49	3.55	4.32	5.43	5.91	4.62	4.08	3.74	4.14
24	3.51	3.99	3.60	3.50	3.52	4.51	5.47	5.72	4.57	4.05	3.76	4.12
25	3.51	3.86	3.56	3.50	3.52	4.56	5.44	5.59	4.53	4.01	3.88	4.11
26	3.51	3.74	3.55	3.49	3.54	4.59	5.49	5.60	4.52	3.98	3.92	4.09
27	3.51	3.69	3.56	3.50	3.57	4.57	5.75	5.58	4.54	3.94	3.85	4.07
28	3.54	3.69	3.54	3.49	3.58	4.53	6.07	5.69	4.52	3.92	3.85	4.06
29	3.68	3.75	3.62	3.55	3.59	4.54	6.02	5.67	4.60	3.90	3.86	4.03
30	3.60	3.83	3.82	3.62	---	4.64	5.99	5.62	4.54	3.86	3.85	4.02
31	3.61	---	3.83	3.62	---	4.94	---	5.61	---	3.83	3.82	---
MEAN	3.37	3.68	3.80	3.92	3.59	4.03	5.60	5.88	5.08	4.24	3.72	3.95
MAX	3.68	3.99	4.34	4.55	3.88	4.94	6.35	6.66	5.90	4.57	3.92	4.23
MIN	3.24	3.50	3.54	3.49	3.52	3.58	4.90	5.44	4.52	3.83	3.58	3.73
CAL YR 2003	MEAN 4.13	MAX 7.45	MIN 3.24									
WTR YR 2004	MEAN 4.24	MAX 6.66	MIN 3.24									



## KOOTENAI RIVER BASIN

## 12310100 KOOTENAI RIVER AT TRIBAL HATCHERY NEAR BONNERS FERRY, ID

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

PERIOD OF RECORD.--October 2002 to current year.

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

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

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 31,500 ft<sup>3</sup>/s June 9, 2003; minimum daily, 4,230 ft<sup>3</sup>/s Jan. 11, 2003.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 21,700 ft<sup>3</sup>/s Nov. 20; minimum daily, 4,420 ft<sup>3</sup>/s Oct. 8.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5490	5260	12700	10700	e5600	e5000	9750	12700	19400	15000	13900	14000
2	5200	5250	20500	10700	e5400	e5000	9540	13600	19400	15100	13900	14000
3	4820	5250	20800	10500	e5200	e5000	9230	15500	19000	14900	14000	14100
4	4860	5160	20800	10400	e5200	e5000	9330	16100	18600	14900	14000	14100
5	4890	4980	20900	10600	e5000	e5000	10100	15800	18900	14900	14000	11100
6	4810	4950	20800	12300	e5000	e5000	11000	14400	19800	14800	14100	14000
7	4470	4910	21300	12600	e5000	e5000	11700	13300	20900	14900	14100	14200
8	4420	5010	21100	12600	e5000	e5000	12800	13100	20300	15000	14300	14100
9	4900	5090	21100	12700	e5000	e5400	14500	13200	19600	14900	14300	14000
10	4920	5370	20900	12700	e5000	e5800	13700	12600	18600	14400	14200	14000
11	4970	5360	20900	12700	e5000	e6000	12900	11800	18600	14300	14000	14100
12	5160	5260	20700	12700	e4800	e6000	12800	11300	18600	14500	13500	14200
13	5160	5120	20800	11500	e4800	e6200	13400	10500	18400	14300	13600	14300
14	5110	5150	20700	9280	e4800	e6200	15100	9960	19200	14300	14000	15300
15	5060	5180	20500	8300	e4800	e6200	16200	9750	19500	14100	14000	15800
16	5280	5300	18000	7380	e4800	e6400	14800	9730	19200	14200	14200	16000
17	5350	5900	15900	6410	e5000	6410	13400	9950	18900	14200	13900	13300
18	5340	10500	14800	5440	e5000	6940	12400	10200	18500	14200	13700	13400
19	5290	20400	12500	4540	e5000	7740	11600	10500	18300	14100	14000	12500
20	5510	21700	11000	4540	e5000	7840	11100	11000	18300	14100	14000	12200
21	5710	21500	10700	4610	e5000	7530	10700	11800	18700	14200	14000	11800
22	5860	21100	10800	4750	e5000	7430	10200	13000	18900	14200	13900	11500
23	5600	21200	10700	4530	e5000	7600	10000	13200	19000	14200	14100	11600
24	5360	18800	10700	4660	e5000	8250	10300	11900	18900	14100	14300	11600
25	5230	15100	10700	4660	e5000	8780	10300	10900	18900	14100	15100	11500
26	5080	13400	10700	4750	e5000	8850	10300	10800	18800	14000	15700	11500
27	4710	11200	10700	4620	e5000	8800	11200	11500	18800	14100	15200	11500
28	4700	9780	10600	e4800	e5000	8580	13600	12400	e18000	14100	14900	11500
29	5010	8940	10600	e5000	e5000	8420	13700	12500	e16000	14100	14700	11300
30	4980	8470	10500	e5500	---	8420	12800	14500	15300	14000	14500	11400
31	5300	---	10400	e5800	---	9120	---	18600	---	13800	14400	---
TOTAL	158550	290590	493800	252270	145400	208910	358450	386090	563300	446000	440500	393900
MEAN	5115	9686	15930	8138	5014	6739	11950	12450	18780	14390	14210	13130
MAX	5860	21700	21300	12700	5600	9120	16200	18600	20900	15100	15700	16000
MIN	4420	4910	10400	4530	4800	5000	9230	9730	15300	13800	13500	11100
AC-FT	314500	576400	979500	500400	288400	414400	711000	765800	1117000	884600	873700	781300

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2003 - 2004, BY WATER YEAR (WY)

	2003	2004	2003	2004	2003	2004	2003	2004	2003	2004	2003	2004
MEAN	5728	7655	17520	6507	5235	7105	11440	12080	21960	15970	15930	10790
MAX	6342	9686	19120	8138	5465	7470	11950	12450	25150	17560	17650	13130
(WY)	2003	2004	2003	2004	2003	2003	2004	2004	2003	2003	2003	2004
MIN	5115	5624	15930	4875	5014	6739	10940	11710	18780	14390	14210	8455
(WY)	2004	2003	2004	2003	2004	2004	2003	2003	2004	2004	2004	2003

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR	FOR 2004 WATER YEAR	FOR 2003 CALENDAR YEAR	FOR 2004 WATER YEAR	FOR 2003 CALENDAR YEAR	FOR 2004 WATER YEAR
ANNUAL TOTAL	4269260	4137760				
ANNUAL MEAN	11700	11310				
HIGHEST ANNUAL MEAN			11740		2003	
LOWEST ANNUAL MEAN			11310		2004	
HIGHEST DAILY MEAN	31500	21700	31500	21700	Jun 9 2003	Nov 20 2003
LOWEST DAILY MEAN	4230	4420	4230	4420	Jan 11 2003	Oct 8 2003
ANNUAL SEVEN-DAY MINIMUM	4470	4610	4470	4610	Jan 18 2003	Jan 19 2003
ANNUAL RUNOFF (AC-FT)	8468000	8207000				
10 PERCENT EXCEEDS	20900	18800				
50 PERCENT EXCEEDS	10100	11600				
90 PERCENT EXCEEDS	4980	5000				

e Estimated





KOOTENAI RIVER BASIN

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

LOCATION.--Lat 48°59'50", long 116°34'05", in SW<sup>1</sup>/<sub>4</sub>NW<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub> sec.11, T.65 N., R.2 W., Boundary County, Smith Falls quad., Hydrologic Unit 17010104, on left bank near mouth of canyon, 0.2 mi south of international boundary, 3 mi west of Porthill, and at mile 3.5.

DRAINAGE AREA.--97 mi<sup>2</sup>, approximately.

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

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

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

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

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,300 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
May 2	2315	1,390	13.22	June 6	1015	*1,570	*13.46

Minimum daily, 11 ft<sup>3</sup>/s Nov. 4-7.

DAY	DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004 DAILY MEAN VALUES											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16	e12	e60	e28	e40	41	221	844	544	133	42	48
2	16	e12	e46	e28	e34	40	185	1110	488	143	40	51
3	15	e12	45	e26	e30	36	190	1240	481	136	41	49
4	15	e11	e36	e18	e32	42	214	1200	524	174	42	47
5	15	e11	e36	e12	e38	39	274	1080	633	181	43	48
6	15	e11	46	e12	39	39	318	822	1140	147	56	42
7	16	e11	47	e18	38	39	386	798	737	170	63	41
8	16	e12	45	e24	38	48	434	901	555	165	49	41
9	17	e12	42	e28	e34	60	437	852	487	136	40	41
10	16	e22	e38	e30	e32	69	435	712	463	120	37	47
11	16	e38	e34	e30	e28	68	466	692	460	111	35	61
12	20	30	e34	32	e26	69	549	578	434	104	33	64
13	37	26	e42	31	e24	67	702	503	450	97	32	53
14	30	26	e40	31	e28	66	971	468	406	89	30	71
15	22	26	39	32	e32	63	732	488	336	82	29	101
16	26	28	39	32	35	64	564	523	294	76	28	116
17	64	30	39	31	35	68	489	651	270	71	31	113
18	48	40	37	31	36	83	437	683	250	67	29	171
19	31	130	e34	31	36	93	399	779	227	75	27	137
20	65	116	e34	30	35	82	380	752	213	82	34	105
21	179	77	e36	30	e32	80	350	843	204	89	30	89
22	66	e50	36	30	e28	82	339	855	199	69	49	80
23	54	e50	36	30	e26	97	380	658	197	60	73	75
24	46	e60	36	31	e32	115	417	532	168	56	60	71
25	38	e60	36	31	37	111	400	500	168	52	94	67
26	34	e60	36	30	38	107	471	689	185	50	112	63
27	32	e60	35	30	40	104	725	683	215	55	86	60
28	41	e75	e32	33	41	100	816	1020	174	52	75	57
29	90	87	e30	34	42	102	643	820	158	50	64	55
30	51	90	e26	57	---	120	662	678	143	47	57	54
31	19	---	e28	48	---	214	---	657	---	45	50	---
TOTAL	1166	1285	1180	919	986	2408	13986	23611	11203	2984	1511	2118
MEAN	37.6	42.8	38.1	29.6	34.0	77.7	466	762	373	96.3	48.7	70.6
MAX	179	130	60	57	42	214	971	1240	1140	181	112	171
MIN	15	11	26	12	24	36	185	468	143	45	27	41
AC-FT	2310	2550	2340	1820	1960	4780	27740	46830	22220	5920	3000	4200
CFSM	0.39	0.44	0.39	0.31	0.35	0.80	4.81	7.85	3.85	0.99	0.50	0.73
IN.	0.45	0.49	0.45	0.35	0.38	0.92	5.36	9.05	4.30	1.14	0.58	0.81

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1988 - 2004, BY WATER YEAR (WY)												
MEAN	50.4	96.0	67.3	52.5	64.9	102	403	872	573	139	46.6	39.1
MAX	222	290	260	118	201	213	611	1163	1127	453	96.1	145
(WY)	1998	2000	1996	2002	1996	1995	1990	1997	1999	1999	1999	1997
MIN	19.9	25.6	23.9	20.9	19.0	31.7	122	575	160	55.6	20.9	16.9
(WY)	2003	1988	2001	2001	2001	2001	2001	1992	1992	2001	2003	2001

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR	FOR 2004 WATER YEAR	WATER YEARS 1988 - 2004
ANNUAL TOTAL	65878	63357	
ANNUAL MEAN	180	173	209
HIGHEST ANNUAL MEAN			324
LOWEST ANNUAL MEAN			104
HIGHEST DAILY MEAN	1870	1240	2570
LOWEST DAILY MEAN	11	11	11
ANNUAL SEVEN-DAY MINIMUM	11	11	11
ANNUAL RUNOFF (AC-FT)	130700	125700	151500
ANNUAL RUNOFF (CFSM)	1.86	1.78	2.16
ANNUAL RUNOFF (INCHES)	25.26	24.30	29.30
10 PERCENT EXCEEDS	514	558	650
50 PERCENT EXCEEDS	46	55	64
90 PERCENT EXCEEDS	16	26	24

e Estimated

## KOOTENAI RIVER BASIN

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

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

DRAINAGE AREA.--13,700 mi<sup>2</sup>, 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 and acoustic doppler velocity meter. Datum of gage is 1,700.00 ft above Topographic Division Datum of 1928. Gage readings have been reduced to that datum. NGVD of 1929 and datum of Geodetic Survey of Canada are 0.03 ft higher (NAVD88 is 3.896 ft higher). Prior to May 17, 1928, nonrecording gages at approximately same site. Datum of gages prior to July 28, 1928, 38.34 ft higher, except in 1904 when different datum was used. Prior to March 27, 1996, at site 1,500 ft downstream at same datum.

REMARKS.--Records fair October 1 to June 7 and poor June 8 to September 30. 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. From October 1989 to December 2003 the USGS Branch model was used for this computation. Beginning January 2004, velocity data from an acoustic doppler velocity meter (ADVM) has been used to compute the discharge record. 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. Station equipment includes satellite telemetry.

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 ft<sup>3</sup>/s June 1, 1948; maximum elevation, 1,767.61 ft, June 7, 1961; minimum daily discharge, 1,380 ft<sup>3</sup>/s Feb. 8, 1936; minimum elevation, 1,738.21 ft, Apr. 3, 1944.

Maximum discharge since regulation began in 1972, 60,200 ft<sup>3</sup>/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, 23,200 ft<sup>3</sup>/s June 7; maximum elevation, 1,748.22 ft, June 14; minimum daily, 5,250 ft<sup>3</sup>/s Jan. 25; minimum elevation, 1,739.89 ft, Mar. 18.

DAY	DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6660	5840	11300	11300	6250	5960	10500	14800	20800	16300	14400	14100
2	6420	6130	19300	11500	5840	5870	10400	16000	20900	16500	14300	14300
3	6080	6190	21100	11200	5870	5870	10000	18300	20600	16200	14100	14000
4	6060	5900	21400	11100	5940	5800	9880	19900	20600	16300	14200	14200
5	6000	5820	21400	11100	6060	5930	10800	19800	21100	16200	13900	12000
6	5840	5780	21400	12500	5770	5920	11700	18100	22100	15500	14300	13300
7	5440	5850	21600	13200	5830	5760	12500	16500	23200	15700	15000	13700
8	5470	5910	21500	12500	5590	5970	13500	16400	22400	16500	14100	14400
9	5590	6010	21500	12700	5480	6080	15600	16300	21100	15300	14500	14500
10	5850	5930	21600	13000	5460	6490	15700	15500	20700	15200	14200	14500
11	5930	6020	21500	13100	5390	6800	15000	14600	20500	15300	14300	15000
12	5820	6080	21300	13200	5410	6760	14700	13900	20400	15300	14100	14700
13	5760	6020	21400	12700	5340	7030	15500	12800	20000	14900	13900	14900
14	5860	5960	21500	10300	5360	6920	17300	11900	20900	14600	14200	15400
15	5820	5970	21500	9090	5610	6880	18800	11400	20700	15000	14000	15800
16	5900	5930	20200	8410	5720	6830	17600	11600	20200	15100	14000	16000
17	5810	6030	16600	7500	5640	6940	15900	11800	20200	15400	13900	15000
18	5840	e9500	15800	6420	5700	7340	14700	12200	20000	15000	14200	15300
19	5900	e20000	13700	5480	5600	8180	13500	13000	19500	14400	14000	13600
20	5880	e22000	12000	5470	5720	8530	13000	13300	19300	14100	13800	13400
21	6040	e22000	11300	5510	5650	8170	12400	14000	19400	14000	13700	13800
22	6250	e22000	11400	5440	5560	7830	11700	15000	19600	14200	14000	12600
23	6030	e22000	11400	5390	5590	7900	11700	15700	19400	14400	14400	12900
24	6040	e20000	11300	5700	5630	8640	11800	13900	19500	14500	14500	13500
25	6000	e16000	11200	5250	5610	9280	11800	13000	19400	14600	14500	12900
26	5880	14300	11200	5420	5680	9440	11700	13100	19300	14600	15400	12800
27	5650	12300	11200	5490	5800	9160	12700	14000	19400	14400	15100	12900
28	5310	10500	11100	5510	5860	9140	15000	15200	18600	14200	14800	12100
29	5960	9650	11200	5540	5900	9010	15700	15200	17300	14000	14800	11600
30	5810	9070	11100	6040	---	8890	14700	15400	17100	14000	14900	12300
31	5900	---	11000	6340	---	9420	---	19000	---	14200	14800	---
TOTAL	182800	310690	511000	273400	164860	228740	405780	461600	604200	465900	444300	415500
MEAN	5897	10360	16480	8819	5685	7379	13530	14890	20140	15030	14330	13850
MAX	6660	22000	21600	13200	6250	9440	18800	19900	23200	16500	15400	16000
MIN	5310	5780	11000	5250	5340	5760	9880	11400	17100	14000	13700	11600
AC-FT	362600	616300	1014000	542300	327000	453700	804900	915600	1198000	924100	881300	824100

KOOTENAI RIVER BASIN

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

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	7059	6449	5570	4680	5099	5847	17750	45810	51730	25120	10470	7285
MAX	18310	13100	15880	13890	14130	12500	48000	67760	86560	53430	18020	17640
(WY)	1948	1934	1934	1934	1951	1934	1934	1956	1967	1954	1954	1959
MIN	3750	2917	2884	2099	2192	2996	5518	21750	22810	10150	6469	4945
(WY)	1937	1937	1945	1937	1936	1937	1945	1944	1941	1944	1941	1936

SUMMARY STATISTICS <sup>a</sup> WATER YEARS 1929 - 1971

ANNUAL MEAN	16100
HIGHEST ANNUAL MEAN	22430
LOWEST ANNUAL MEAN	8205
HIGHEST DAILY MEAN	125000
LOWEST DAILY MEAN	1380
ANNUAL SEVEN-DAY MINIMUM	1520
ANNUAL RUNOFF (AC-FT)	11670000
10 PERCENT EXCEEDS	44300
50 PERCENT EXCEEDS	7490
90 PERCENT EXCEEDS	3690

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1972 - 2004, BY WATER YEAR (WY) (REGULATED, UNADJUSTED)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	14360	16840	16950	15880	13490	10120	14030	22280	22270	14270	12080	11290
MAX	32350	27050	32450	29770	25230	16670	29930	44060	48640	30780	20090	20690
(WY)	1973	1992	1996	1996	1991	1990	1996	1997	1972	1981	1976	1972
MIN	5844	5165	3639	3371	4315	4940	6137	11530	6717	4696	4220	5782
(WY)	1972	1972	1972	1972	1973	1985	2001	1977	1977	1988	1975	1994

SUMMARY STATISTICS FOR 2003 CALENDAR YEAR FOR 2004 WATER YEAR <sup>b</sup> WATER YEARS 1972 - 2004

ANNUAL TOTAL	4651400	4468770
ANNUAL MEAN	12740	12210
HIGHEST ANNUAL MEAN		15330
LOWEST ANNUAL MEAN		24140
HIGHEST DAILY MEAN	34900	23200
LOWEST DAILY MEAN	4800	5250
ANNUAL SEVEN-DAY MINIMUM	4970	5430
ANNUAL RUNOFF (AC-FT)	9226000	8864000
10 PERCENT EXCEEDS	21600	26500
50 PERCENT EXCEEDS	11400	13900
90 PERCENT EXCEEDS	5590	5760

a Unregulated.  
b Regulated, unadjusted.  
e Estimated

GAGE HEIGHT, in FEET, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	44.83	44.86	44.14	44.89	43.19	40.61	40.49	43.47	46.16	47.24	44.79	45.08
2	44.73	44.84	45.02	44.79	43.13	40.52	40.51	43.86	46.25	47.09	44.80	45.18
3	44.60	44.76	45.48	44.82	43.00	40.40	40.47	44.47	46.30	46.95	44.78	45.31
4	44.47	44.69	45.67	44.63	42.92	40.33	40.50	44.96	46.40	46.82	44.80	45.42
5	44.34	44.64	45.83	44.46	42.86	40.23	40.61	45.26	46.64	46.64	44.85	45.40
6	44.21	44.60	46.05	44.42	42.75	40.17	40.80	45.16	47.29	46.45	44.85	45.58
7	44.08	44.52	46.28	44.37	42.69	40.13	41.01	45.02	47.75	46.41	44.84	45.80
8	43.96	44.40	46.43	44.34	42.61	40.11	41.29	45.04	47.84	46.41	44.87	45.90
9	43.90	44.27	46.60	44.32	42.52	40.06	41.74	45.15	47.81	46.31	44.86	45.96
10	43.83	44.09	46.73	44.32	42.45	40.10	41.85	45.11	47.80	46.13	44.85	45.99
11	43.72	44.04	46.82	44.36	42.36	40.07	41.84	44.96	47.82	46.00	44.83	46.08
12	43.61	43.89	46.94	44.41	42.26	40.08	41.95	44.72	47.93	45.89	44.81	46.19
13	43.58	43.74	47.08	44.45	42.17	40.06	42.25	44.49	47.97	45.77	44.73	46.15
14	43.55	43.58	47.14	44.35	42.06	40.02	42.78	44.26	48.11	45.61	44.82	46.21
15	43.50	43.44	47.15	44.34	41.96	40.01	43.30	44.08	48.18	45.41	44.91	46.31
16	43.40	43.27	47.03	44.34	41.86	39.97	43.24	43.94	48.07	45.30	44.98	46.40
17	43.39	43.16	46.65	44.28	41.75	40.00	43.10	43.86	47.92	45.24	45.03	46.29
18	43.47	---	46.47	44.17	41.67	39.99	42.94	43.89	47.83	45.19	45.00	46.30
19	43.53	---	46.15	44.07	41.58	40.11	42.81	43.95	47.73	45.16	44.97	46.20
20	43.59	---	45.86	44.00	41.48	40.19	42.73	44.08	47.64	45.16	44.98	46.11
21	43.96	---	45.71	43.90	41.39	40.17	42.67	44.24	47.60	45.17	45.00	45.97
22	44.26	---	45.58	43.78	41.28	40.16	42.57	44.51	47.64	45.12	45.06	45.90
23	44.39	---	45.44	43.69	41.17	40.20	42.50	44.62	47.64	45.04	45.15	45.85
24	44.50	---	45.33	43.60	41.08	40.29	42.54	44.41	47.69	44.94	45.18	45.79
25	44.53	---	45.31	43.50	40.99	40.38	42.51	44.21	47.74	44.88	45.29	45.74
26	44.55	44.55	45.27	43.38	40.91	40.34	42.51	44.20	47.79	44.85	45.45	45.72
27	44.54	44.33	45.22	43.36	40.84	40.38	42.70	44.30	47.85	44.84	45.42	45.70
28	44.55	44.10	45.15	43.24	40.77	40.33	43.20	44.55	47.76	44.80	45.34	45.73
29	44.69	44.04	45.13	43.16	40.68	40.26	43.38	44.75	47.50	44.80	45.25	45.79
30	44.72	44.01	44.99	43.13	---	40.19	43.36	44.95	47.34	44.79	45.20	45.88
31	44.80	---	44.93	43.22	---	40.30	---	45.66	---	44.79	45.12	---
MEAN	44.12	---	45.92	44.07	41.94	40.20	42.14	44.52	47.53	45.65	44.99	45.86
MAX	44.83	---	47.15	44.89	43.19	40.61	43.38	45.66	48.18	47.24	45.45	46.40
MIN	43.39	---	44.14	43.13	40.68	39.97	40.47	43.47	46.16	44.79	44.73	45.08

## KOOTENAI RIVER BASIN

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

## WATER-QUALITY RECORDS

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

PERIOD OF DAILY RECORD.--

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

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

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

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

EXTREMES FOR PERIOD OF DAILY RECORD.--

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

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

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

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

EXTREMES FOR CURRENT PERIOD.--

WATER TEMPERATURE: Maximum, 19.0 °C Aug. 15; minimum, 0.8 °C Jan. 6, 10.

Temperature, water, degrees Celsius  
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DAY	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	14.4	13.9	14.1	7.8	7.2	7.5	4.9	4.4	4.6	2.9	2.7	2.9
2	14.5	14.1	14.3	7.2	6.9	7.1	4.9	4.4	4.5	2.7	2.4	2.5
3	14.2	13.9	14.1	6.9	6.6	6.9	5.4	4.6	5.0	2.4	2.4	2.4
4	14.2	13.7	13.9	6.6	6.0	6.4	5.8	5.4	5.7	2.4	2.1	2.2
5	14.2	13.6	13.8	6.0	4.9	5.6	5.8	5.5	5.7	2.1	1.4	1.7
6	14.1	13.6	13.8	4.9	4.1	4.5	5.5	5.4	5.4	1.4	0.8	1.1
7	13.9	13.6	13.6	4.1	4.0	4.1	5.7	5.4	5.5	---	---	---
8	13.6	13.3	13.4	4.4	4.1	4.3	5.8	5.7	5.8	---	---	---
9	13.4	13.1	13.3	4.6	4.4	4.5	5.8	5.5	5.7	---	---	---
10	13.4	13.1	13.2	4.4	4.3	4.4	5.5	5.2	5.4	2.1	0.8	1.5
11	13.1	12.9	13.0	4.3	4.1	4.3	5.2	4.7	4.9	3.0	2.1	2.5
12	12.9	12.7	12.7	4.1	4.0	4.1	4.7	4.7	4.7	3.5	3.0	3.3
13	12.8	12.5	12.7	4.3	4.1	4.2	4.7	4.6	4.7	3.8	3.5	3.6
14	12.5	12.0	12.2	4.4	4.3	4.4	4.9	4.7	4.7	4.0	3.8	3.9
15	12.0	11.4	11.7	4.7	4.4	4.6	4.9	4.9	4.9	4.1	4.0	4.0
16	11.4	10.6	11.0	5.4	4.7	5.0	5.1	4.9	5.0	4.1	4.0	4.0
17	10.6	10.0	10.3	5.5	5.4	5.4	5.2	5.1	5.2	4.1	4.0	4.0
18	10.2	10.0	10.1	5.5	5.4	5.4	5.2	4.9	5.1	4.0	4.0	4.0
19	10.3	10.0	10.2	5.9	5.4	5.6	4.9	4.4	4.6	4.0	4.0	4.0
20	10.3	10.3	10.3	7.1	5.9	6.7	4.4	4.1	4.3	4.0	3.8	4.0
21	10.3	10.0	10.2	7.1	6.1	6.8	4.1	4.1	4.1	3.9	3.8	3.8
22	---	---	---	6.1	5.7	5.8	4.1	4.0	4.0	4.0	3.8	3.8
23	11.3	10.6	10.9	5.7	5.5	5.6	4.1	4.0	4.0	4.0	3.8	3.8
24	11.6	11.1	11.4	5.7	5.7	5.7	4.3	4.1	4.1	3.8	3.6	3.8
25	11.3	10.9	11.1	5.7	5.7	5.7	4.4	4.1	4.2	3.6	3.3	3.5
26	11.3	10.9	11.0	5.7	5.4	5.5	4.4	4.1	4.2	3.3	3.2	3.3
27	11.1	10.8	10.9	5.4	5.2	5.2	4.1	4.0	4.0	3.3	3.2	3.2
28	10.9	10.8	10.8	5.4	5.1	5.2	4.1	4.0	4.0	3.2	3.0	3.2
29	10.9	9.9	10.5	5.2	5.1	5.2	4.0	3.8	4.0	3.2	3.0	3.0
30	9.9	8.7	9.3	5.2	4.9	5.0	3.8	3.5	3.6	3.2	3.0	3.1
31	8.7	7.8	8.2	---	---	---	3.5	2.9	3.2	3.0	2.9	3.0
MONTH	---	---	---	7.8	4.0	5.4	5.8	2.9	4.7	---	---	---

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

Temperature, water, degrees Celsius WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004												
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	2.9	2.7	2.8	4.7	4.1	4.4	7.0	6.5	6.7	9.0	8.5	8.7
2	2.9	2.5	2.7	4.7	4.4	4.5	7.4	6.7	7.1	9.3	8.8	9.0
3	3.0	2.9	2.9	4.6	4.4	4.5	7.6	7.3	7.4	9.9	9.3	9.5
4	2.9	2.7	2.8	4.6	4.4	4.4	7.3	6.7	6.9	10.5	9.8	10.0
5	2.7	2.4	2.6	4.4	4.0	4.2	6.8	6.3	6.6	10.4	9.8	10.1
6	2.4	2.2	2.4	4.0	3.8	3.9	7.6	6.8	7.1	10.1	9.4	9.7
7	2.2	2.1	2.2	4.0	3.6	3.8	7.9	7.3	7.6	9.8	9.3	9.4
8	2.2	2.1	2.1	---	---	---	7.7	7.4	7.6	9.4	8.8	9.0
9	2.4	2.1	2.2	3.7	3.4	3.4	7.9	7.4	7.6	9.4	8.8	9.1
10	2.4	2.2	2.3	3.9	3.4	3.6	7.9	7.3	7.5	9.9	9.4	9.8
11	2.9	2.4	2.6	4.5	3.7	4.1	7.4	6.8	7.1	9.8	9.1	9.6
12	2.7	2.4	2.5	4.8	4.3	4.5	7.7	7.1	7.3	9.4	9.1	9.2
13	2.5	2.2	2.4	5.6	4.8	5.2	8.1	7.6	7.7	9.3	9.0	9.1
14	2.5	2.2	2.4	5.6	5.3	5.6	8.2	7.7	8.0	9.1	8.8	9.0
15	2.5	2.4	2.4	5.4	5.1	5.3	8.2	7.7	8.0	9.1	8.8	9.0
16	2.4	2.2	2.4	5.3	5.1	5.3	8.1	7.6	7.8	9.6	8.8	9.1
17	2.4	2.2	2.2	5.4	5.1	5.3	7.6	7.0	7.1	10.2	9.4	9.7
18	2.4	2.2	2.3	5.4	5.3	5.3	7.0	6.5	6.8	11.2	10.2	10.6
19	2.5	2.2	2.4	5.4	5.1	5.3	7.1	7.0	7.0	11.8	11.0	11.4
20	2.9	2.5	2.7	5.6	5.1	5.3	7.0	6.7	6.8	12.1	11.3	11.7
21	3.2	2.9	3.0	5.9	5.4	5.6	7.3	6.7	7.0	12.2	11.8	12.0
22	3.8	3.2	3.4	6.0	5.7	5.8	7.6	7.1	7.4	12.1	11.2	11.7
23	4.0	3.5	3.7	5.7	5.4	5.6	7.7	7.4	7.6	11.2	10.7	10.8
24	4.0	3.8	3.9	5.7	5.4	5.5	8.2	7.4	7.8	10.7	10.2	10.5
25	4.3	4.0	4.1	6.3	5.4	5.8	8.8	7.9	8.3	10.2	9.9	10
26	4.3	4.0	4.1	6.7	6.3	6.4	9.0	8.4	8.6	10.2	9.9	10.0
27	4.1	3.8	4.0	6.5	5.7	6.1	9.0	8.7	8.8	11.2	10.2	10.7
28	4.0	3.8	3.8	6.0	5.6	5.8	9.3	8.5	8.9	11.5	11.2	11.3
29	---	---	---	6.3	5.9	6.1	9.6	9.1	9.4	11.8	11.5	11.6
30	---	---	---	6.5	6.2	6.3	9.4	9.0	9.1	11.8	11.3	11.5
31	---	---	---	6.7	6.3	6.5	---	---	---	11.3	10.8	11.0
MONTH	---	---	---	---	---	---	9.6	6.3	7.6	12.2	8.5	10.1
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	11.1	9.9	10.5	16.9	16.5	16.7	17.6	17.3	17.5	15.7	15.3	15.6
2	10.4	9.9	10.1	17.2	16.8	17.0	17.9	17.6	17.7	15.7	15.3	15.5
3	10.1	10.1	10.1	17.2	16.8	17.0	17.9	17.1	17.5	15.3	14.7	15.1
4	11.2	10.1	10.7	17.2	16.9	17.0	17.4	16.9	17.2	14.9	14.6	14.8
5	11.8	11.0	11.5	17.1	16.6	16.8	17.2	16.5	16.9	14.6	14.2	14.5
6	12.4	11.6	12.1	17.1	15.8	16.3	16.5	15.7	16.0	14.6	14.1	14.3
7	12.4	11.5	12.0	16.0	15.0	15.4	16.5	15.8	16.1	14.7	14.2	14.4
8	11.5	11.2	11.4	15.7	15.2	15.3	16.6	16.1	16.3	14.6	14.2	14.4
9	11.2	10.4	10.8	15.7	15.0	15.3	16.6	16.1	16.3	---	---	---
10	10.7	10.4	10.5	15.5	14.7	14.9	16.8	16.6	16.7	15.2	14.4	14.8
11	10.8	10.5	10.7	14.9	14.2	14.4	17.1	16.6	16.8	15.6	14.9	15.3
12	11.2	10.5	10.9	15.3	14.6	14.9	17.4	17.1	17.2	15.8	15.3	15.7
13	11.8	11.2	11.5	15.7	15.3	15.5	17.9	17.1	17.5	15.3	15.0	15.2
14	11.8	10.8	11.2	15.8	15.5	15.7	18.9	17.9	18.6	15.0	14.4	14.8
15	12.2	11.8	12.0	16.0	15.7	15.8	19.0	18.7	18.9	14.4	13.8	14.0
16	12.1	11.8	11.9	16.8	16.0	16.3	18.9	18.7	18.8	13.9	13.5	13.6
17	12.1	11.6	11.9	17.9	16.8	17.2	18.9	18.5	18.7	13.5	13.0	13.2
18	13.0	12.1	12.5	18.5	17.9	18.3	18.7	18.5	18.6	13.2	13.0	13.1
19	13.5	12.9	13.1	18.7	18.4	18.5	18.9	18.5	18.8	13.3	13.0	13.2
20	13.8	13.2	13.4	18.5	17.9	18.2	18.9	18.5	18.8	13.1	12.5	12.8
21	14.6	13.5	14.0	17.9	17.2	17.5	18.7	17.9	18.3	13.0	12.2	12.6
22	14.6	14.1	14.4	17.9	17.4	17.6	18.2	17.6	17.9	13.0	12.7	12.8
23	14.9	14.2	14.6	17.9	17.4	17.6	17.6	16.9	17.3	12.8	12.4	12.6
24	15.3	14.7	15.0	17.6	17.1	17.3	17.1	16.5	16.8	13.3	12.7	12.9
25	15.0	14.6	14.8	18.1	17.4	17.6	16.5	15.3	15.8	13.5	12.8	13.2
26	15.2	14.7	14.9	18.5	17.9	18.1	15.3	15.0	15.2	13.6	13.3	13.5
27	15.7	14.7	15.2	18.7	18.5	18.6	15.2	14.4	14.8	13.9	13.3	13.6
28	16.1	15.2	15.6	18.9	18.4	18.6	14.7	14.2	14.5	13.9	13.5	13.8
29	16.3	15.7	16.0	18.7	18.2	18.4	14.4	13.8	14.1	13.9	13.5	13.7
30	16.9	16.3	16.5	18.2	17.4	17.8	15.0	14.2	14.5	13.9	13.5	13.7
31	---	---	---	17.7	17.1	17.3	15.5	15.0	15.1	---	---	---
MONTH	16.9	9.9	12.7	18.9	14.2	16.9	19.0	13.8	16.9	---	---	---

## KOOTENAI RIVER BASIN

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

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

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

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

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

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

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

EXTREMES FOR CURRENT YEAR.--Maximum elevation, 1,746.68 ft, June 14; minimum daily, 1,739.46 ft, Mar. 18.

GAGE HEIGHT, in feet, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	44.49	44.54	43.46	44.24	42.80	40.17	39.54	42.01	44.21	46.23	43.92	44.22
2	44.41	44.51	43.52	44.15	42.73	40.10	39.57	42.21	44.34	46.08	43.92	44.34
3	44.30	44.43	43.72	44.14	42.62	40.00	39.60	42.48	44.43	45.97	43.93	44.48
4	44.17	44.36	43.93	43.99	42.54	39.92	39.62	42.80	44.55	45.81	43.95	44.59
5	44.04	44.34	44.13	43.85	42.46	39.84	39.63	43.15	44.77	45.61	43.95	e44.74
6	43.93	44.30	44.37	43.64	42.38	39.78	39.68	43.40	45.26	45.46	43.96	e44.84
7	43.82	44.21	44.58	43.52	42.30	39.72	39.76	43.51	45.66	45.43	43.96	e45.00
8	43.69	44.08	44.77	43.42	42.23	39.66	39.86	43.60	45.92	45.38	43.97	e45.12
9	43.63	43.95	44.96	43.40	42.14	39.63	40.01	43.71	46.07	45.28	43.97	e45.14
10	43.53	43.79	45.13	43.46	42.07	39.62	40.16	43.76	46.20	45.16	43.96	e45.18
11	43.44	43.70	45.25	43.51	41.99	39.58	40.29	43.73	46.30	45.05	43.95	e45.31
12	43.35	43.56	45.41	43.57	41.90	39.58	40.43	43.62	46.39	45.01	43.95	45.37
13	43.29	43.40	45.53	43.66	41.80	39.53	40.60	43.51	46.48	44.92	43.95	45.32
14	43.24	43.26	45.58	43.76	41.72	39.50	40.84	43.35	46.58	44.82	43.99	45.30
15	43.19	43.10	45.60	43.84	41.59	39.50	41.12	43.18	46.61	44.74	44.07	45.33
16	43.13	42.96	45.59	43.89	41.49	39.49	41.36	43.01	46.56	44.68	44.14	45.38
17	43.11	42.83	45.58	43.88	41.38	39.47	41.53	42.89	46.49	44.59	44.19	45.42
18	43.15	42.79	45.47	43.81	41.30	39.46	41.60	42.85	46.40	44.55	44.18	45.42
19	43.20	42.87	45.33	43.75	41.21	39.50	41.64	42.85	46.34	44.50	44.14	45.41
20	43.28	43.02	45.19	43.68	41.11	39.52	41.65	42.90	46.27	44.43	44.14	45.35
21	43.59	43.20	45.07	43.57	41.00	39.54	41.64	42.98	46.22	44.19	44.16	45.27
22	43.90	43.27	44.92	43.46	40.90	39.55	41.61	43.12	46.22	44.07	44.24	45.21
23	44.06	43.35	44.79	43.36	40.79	39.57	41.58	43.20	46.25	43.99	44.30	45.17
24	44.17	43.45	44.71	43.26	40.69	39.60	41.58	43.20	46.31	43.95	44.31	45.11
25	44.20	43.53	44.68	43.18	40.61	39.61	41.55	43.15	46.37	43.91	44.38	45.08
26	44.23	43.57	44.64	43.07	40.53	39.58	41.53	43.11	46.44	43.89	44.41	45.06
27	44.23	43.56	44.59	43.00	40.45	39.59	41.58	43.11	46.51	43.88	44.39	45.06
28	44.24	43.50	44.52	42.90	40.35	39.57	41.70	43.20	46.49	43.89	44.34	45.11
29	44.35	43.50	44.48	42.80	40.26	39.52	41.80	43.41	46.42	43.90	44.28	45.17
30	44.42	43.49	44.37	42.79	---	39.48	41.89	43.68	46.34	43.92	44.26	45.26
31	44.48	---	44.31	42.81	---	39.50	---	43.97	---	43.93	44.20	---
MEAN	43.81	43.61	44.78	43.53	41.56	39.63	40.83	43.18	45.98	44.75	44.11	45.09
MAX	44.49	44.54	45.60	44.24	42.80	40.17	41.89	43.97	46.61	46.23	44.41	45.42
MIN	43.11	42.79	43.46	42.79	40.26	39.46	39.54	42.01	44.21	43.88	43.92	44.22

WTR YR 2004 MEAN 43.41 MAX 46.61 MIN 39.46

e Estimated

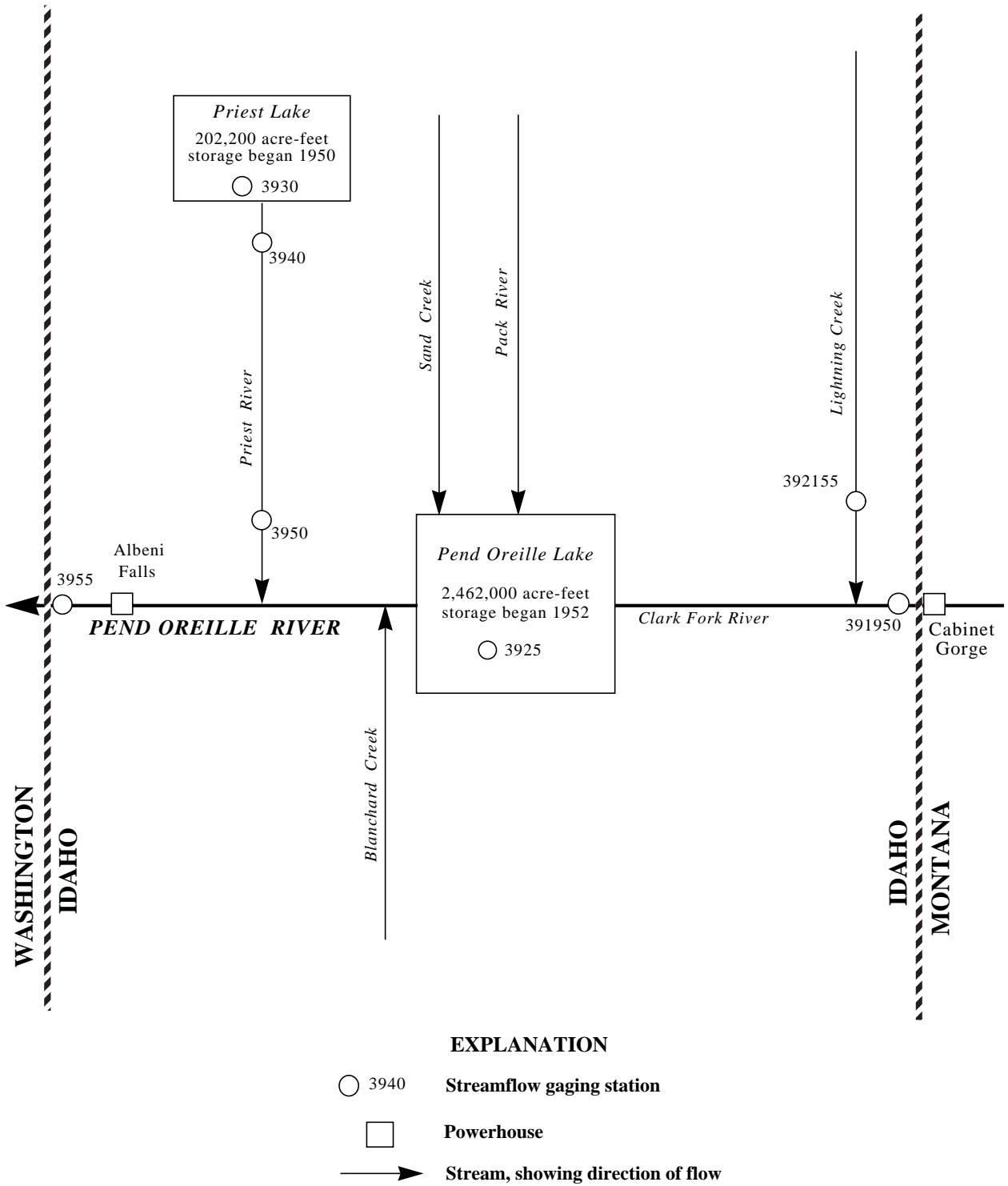


Figure 10. Schematic diagram showing gaging stations in Pend Oreille River Basin.



## PEND OREILLE RIVER BASIN

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

LOCATION.--Lat 48°05'17", long 116°04'22" (revised), (NAD83), in SW<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub>NW<sup>1</sup>/<sub>4</sub> 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 mi<sup>2</sup>.

## WATER-DISCHARGE RECORDS

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

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

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

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

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 61,100 ft<sup>3</sup>/s May 27, gage height, 19.04 ft; minimum daily, 5,180 ft<sup>3</sup>/s Sept. 11.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	
1	7530	9030	16300	8460	8640	13200	18400	15800	44700	34200	11100	16400	
2	5470	9020	11500	9760	10400	14000	16100	16800	46800	31800	12600	18500	
3	6230	11400	11300	9050	10200	12000	7370	25700	42000	23900	12900	17700	
4	5470	10700	14300	17200	9260	12600	10800	24500	39100	26500	14100	10800	
5	5450	15100	13400	17300	10800	13300	17100	28400	35100	28800	10700	9500	
6	5500	13000	8700	12700	7850	7790	16600	28400	36500	28700	8120	12000	
7	5660	11900	9550	6700	6640	9540	16400	29500	42400	26700	7390	13700	
8	5940	8180	14500	6600	9700	13600	15300	27800	41500	26900	10800	17200	
9	6970	11700	13900	6750	8030	14900	20100	31600	39100	26000	10000	13400	
10	5590	14400	12900	5540	10200	13500	19600	33500	34800	24800	13300	9430	
11	5490	13400	11400	7140	10800	12400	18400	33500	36500	14400	12100	5180	
12	5450	13300	14000	7650	9900	13300	22100	36100	35000	24400	9760	7420	
13	5870	15800	8850	10600	13000	9070	19900	36300	32000	25400	10900	11600	
14	6480	15400	12300	7610	11400	10800	21800	36300	34100	26600	6870	11100	
15	6040	7820	14700	11300	8870	14100	21500	34900	34300	20500	11600	11500	
16	6490	8110	14500	5850	12800	13500	22000	31800	33700	18900	11800	13400	
17	6890	16300	13400	9250	10700	13000	13600	33200	35500	15000	14200	13600	
18	6150	11500	11500	8610	10500	12200	15800	31400	36300	12400	10100	11100	
19	6090	11300	11700	7530	12200	18600	20900	28800	36200	20900	10400	13300	
20	6400	13800	9820	9160	11300	10100	20200	30600	30500	15800	12900	21900	
21	6680	14600	9360	11000	8880	11600	18400	30600	34100	16800	6400	8110	
22	6390	11800	12400	8460	10300	13600	17600	27700	31500	14600	6430	21900	
23	6740	14300	17900	7040	11700	15100	14000	41100	28000	14600	9610	21000	
24	9690	15400	13000	10100	14300	19000	11800	46200	27000	14000	12100	18800	
25	5700	18600	7370	7740	17200	18700	11100	42700	28700	12500	12500	10800	
26	5390	13500	10900	9160	9090	22500	18700	43000	23700	15500	14200	12700	
27	5410	7940	13000	10800	9060	7250	18400	42700	29000	14500	15100	17900	
28	5590	8700	11400	9840	9590	11300	18500	42400	33200	13800	15000	18800	
29	6300	9010	16300	10700	11700	18000	21400	40300	36100	18000	19200	16900	
30	7200	11100	17100	8480	---	16000	20000	52400	32800	12100	20700	17600	
31	7630	---	11200	8160	---	17200	---	45000	---	6630	18000	---	
TOTAL	193880	366110	388450	286240	305010	421750	523870	1049000	1050200	625630	370880	423240	
MEAN	6254	12200	12530	9234	10520	13600	17460	33840	35010	20180	11960	14110	
MAX	9690	18600	17900	17300	17200	22500	22100	52400	46800	34200	20700	21900	
MIN	5390	7820	7370	5540	6640	7250	7370	15800	23700	6630	6400	5180	
AC-FT	384600	726200	770500	567800	605000	836500	1039000	2081000	2083000	1241000	735600	839500	
CAL YR 2003	TOTAL 6196040	MEAN 16980	MAX 73400	MIN 5390	AC-FT 12290000								
WTR YR 2004	TOTAL 6004260	MEAN 16410	MAX 52400	MIN 5180	AC-FT 11910000								

## PEND OREILLE RIVER BASIN

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

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--May 1984 to October 2002, July to September 2003, April to September 2004.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: May to July 1998, April to September 2000, November 2001 to October 2002, July to September 2003, April to September 2004 (discontinued).

INSTRUMENTATION.--Temperature recording data logger.

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

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Maximum, 25.4 °C Aug. 14, 2004; minimum, 1.4°C Feb. 15, Mar. 22, 2002.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum, 25.4 °C Aug. 14; minimum, 4.7°C Apr. 30.

## WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Instantaneous discharge, cfs (00061)	Specific conductance, wat unfltrd 25 degC (00095)	pH, water, unfltrd field, std units (00400)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Turbidity, wat unfltrd lab, Hach 2100AN NTU (99872)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	Fecal coliform, M-FC 0.7u MF 100 mL (31625)	Ammonia, water, fltrd, unfltrd as N (00608)	Ammonia + org-N, water, unfltrd as N (00625)	Nitrite + nitrate, water, fltrd, unfltrd as N (00631)
APR 26...	1100	28000	143	8.0	17.0	10.2	<2.0	10.3	98	S1	<.010	.12	.024
MAY 13...	1045	36400	133	8.0	10.5	12.2	<2.0	9.3	93	S2	E.006	.14	.025
JUN 15...	1025	36400	133	8.0	14.0	9.5	<2.0	13.1	123	<1	<.010	E.08	.025
JUL 21...	1145	16900	170	8.1	24.0	19.6	<2.0	8.3	99	S1	E.005	.31	E.011
AUG 23...	1205	5770	183	8.2	14.5	21.3	<2.0	7.9	98	<1	E.009	.10	.027
SEP 20...	1150	29000	174	8.2	14.0	16.0	<2.0	8.2	90	<1	E.005	.13	.020

Date	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, unfltrd mg/L (00665)	Hardness, water, mg/L as CaCO3 (00900)	Calcium, water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	Potassium, water, fltrd, mg/L (00935)	Bicarbonate, wat unfltrd fixed field, mg/L (00440)	Carbonate, wat unfltrd fixed field, mg/L (00445)	ANC, wat unfltrd fixed end pt, mg/L as CaCO3 (00410)	Sulfate, water, fltrd, mg/L (00945)	Chloride, water, fltrd, mg/L (00940)
APR 26...	<.006	.007	--	--	--	--	--	--	--	--	--	--	--
MAY 13...	<.006	.012	--	--	--	--	--	--	--	--	--	--	--
JUN 15...	<.006	.012	--	--	--	--	--	--	--	--	--	--	--
JUL 21...	<.006	.039	--	--	--	--	--	--	--	--	--	--	--
AUG 23...	.006	.014	--	--	--	--	--	--	--	--	--	--	--
SEP 20...	<.006	.010	88	24.5	6.64	2.48	6	.64	105	.0	86	4.5	.90

Date	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Suspended sediment concentration, mg/L (80154)	Suspended sediment discharge, tons/d (80155)
APR 26...	--	--	1	76
MAY 13...	--	--	3	295
JUN 15...	--	--	4	393
JUL 21...	--	--	9	411
AUG 23...	--	--	1	16
SEP 20...	<.2	7.0	18	1410

< Less than  
E Estimated value  
S Most probable value

## PEND OREILLE RIVER BASIN

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

Temperature, water, degrees Celsius  
 WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	---	---	---	---	---	---	---	---	---	10.9	5.5	9.0
2	---	---	---	---	---	---	---	---	---	11.1	5.6	9.0
3	---	---	---	---	---	---	---	---	---	11.2	6.3	9.9
4	---	---	---	---	---	---	---	---	---	11.4	6.1	9.9
5	---	---	---	---	---	---	---	---	---	11.2	6.0	10.3
6	---	---	---	---	---	---	---	---	---	11.5	6.3	10.5
7	---	---	---	---	---	---	---	---	---	12.0	9.0	11.1
8	---	---	---	---	---	---	---	---	---	12.0	7.2	10.9
9	---	---	---	---	---	---	---	---	---	12.1	9.5	11.5
10	---	---	---	---	---	---	---	---	---	12.1	10.3	11.9
11	---	---	---	---	---	---	---	---	---	12.3	11.4	12.0
12	---	---	---	---	---	---	---	---	---	12.3	12.0	12.1
13	---	---	---	---	---	---	---	---	---	12.3	12.0	12.1
14	---	---	---	---	---	---	---	---	---	12.3	11.8	12.1
15	---	---	---	---	---	---	---	---	---	12.3	12.0	12.2
16	---	---	---	---	---	---	---	---	---	12.1	11.2	11.8
17	---	---	---	---	---	---	---	---	---	11.8	11.4	11.6
18	---	---	---	---	---	---	---	---	---	11.7	10.8	11.4
19	---	---	---	---	---	---	---	---	---	11.5	9.4	10.9
20	---	---	---	---	---	---	---	---	---	11.5	9.5	11.0
21	---	---	---	---	---	---	---	---	---	11.5	10.6	11.2
22	---	---	---	---	---	---	---	---	---	11.5	7.0	10.5
23	---	---	---	---	---	---	---	---	---	11.8	10.8	11.5
24	---	---	---	---	---	---	---	---	---	12.0	11.7	11.9
25	---	---	---	---	---	---	---	---	---	12.5	11.8	12.2
26	---	---	---	---	---	---	---	---	---	12.3	12.0	12.1
27	---	---	---	---	---	---	10.3	5.8	9.2	12.1	11.8	12.0
28	---	---	---	---	---	---	10.3	5.2	8.9	12.1	11.8	12.0
29	---	---	---	---	---	---	10.1	5.0	8.9	11.8	11.7	11.8
30	---	---	---	---	---	---	10.3	4.7	8.5	11.8	11.7	11.7
31	---	---	---	---	---	---	---	---	---	11.8	11.7	11.8
MONTH	---	---	---	---	---	---	---	---	---	12.5	5.5	11.3
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	12.1	11.7	11.9	17.5	16.8	17.2	22.0	16.6	19.3	20.2	14.8	18.2
2	12.1	11.2	12.0	17.8	16.7	17.3	21.7	15.1	18.8	19.4	14.2	18.1
3	12.1	12.0	12.1	17.8	14.9	17.0	21.4	14.5	19.4	18.8	14.9	17.4
4	12.1	10.9	11.9	18.4	15.1	17.0	21.2	14.6	19.0	18.4	13.8	15.9
5	12.3	11.8	12.1	18.1	15.4	17.4	20.5	15.7	18.2	17.6	13.2	15.1
6	12.1	11.7	11.9	18.8	16.0	17.8	20.5	15.9	18.6	18.3	14.0	16.2
7	12.3	11.7	12.0	18.6	12.5	17.6	19.6	16.0	18.3	18.1	14.0	16.4
8	12.6	12.1	12.5	18.6	12.6	17.5	21.4	12.0	17.5	18.0	14.0	16.6
9	13.1	12.6	12.9	18.4	15.4	17.5	22.7	14.3	18.7	17.8	13.7	16.0
10	13.2	12.8	13.1	18.8	16.2	17.6	21.0	15.9	18.9	18.0	14.0	15.7
11	13.4	13.1	13.2	19.1	12.5	16.7	21.4	14.6	18.7	15.4	13.2	14.1
12	13.2	12.9	13.1	18.8	15.6	17.8	21.7	15.6	19.2	17.1	13.4	14.4
13	13.4	11.4	13.0	18.4	12.9	17.2	23.7	13.1	18.4	17.1	13.8	16.1
14	13.2	12.1	13.0	18.8	13.2	17.5	25.4	13.2	19.8	17.0	13.5	15.6
15	13.4	10.9	12.9	19.1	12.8	17.5	22.4	14.0	18.8	16.7	14.2	15.5
16	13.4	11.8	13.1	19.4	12.3	17.6	21.9	15.4	18.9	16.4	13.8	15.3
17	13.5	12.8	13.3	19.4	13.7	17.5	21.7	17.8	19.5	15.9	14.0	15.3
18	13.5	13.1	13.3	19.2	13.5	17.1	21.7	15.6	19.1	15.9	13.7	14.9
19	13.7	13.2	13.5	19.4	14.8	17.7	21.4	16.5	18.4	15.9	13.7	15.2
20	14.0	12.1	13.4	19.2	13.4	17.4	21.5	17.1	19.4	15.9	13.8	15.4
21	14.2	12.8	13.8	19.7	13.2	17.6	22.4	14.0	18.0	15.6	13.2	14.4
22	14.6	13.2	14.1	20.1	13.2	17.5	21.0	15.1	17.4	15.7	14.0	15.3
23	14.9	12.8	14.3	20.2	12.8	17.9	21.0	17.1	18.3	15.6	14.3	15.2
24	14.9	8.9	14.0	20.5	13.8	17.9	20.7	13.2	17.5	15.6	14.5	15.1
25	15.1	10.0	14.2	21.7	13.8	18.1	19.9	13.8	17.1	15.7	14.3	14.9
26	15.3	9.8	14.0	20.7	14.0	17.9	19.7	14.3	17.3	15.6	14.5	14.9
27	15.4	13.4	14.7	21.0	14.8	18.6	20.1	14.0	17.4	15.6	14.2	15.0
28	16.0	13.8	15.4	21.0	15.9	18.9	20.1	13.5	17.6	14.9	14.1	14.6
29	16.7	15.9	16.3	21.0	14.6	19.2	20.1	15.3	18.3	14.6	13.7	14.3
30	17.1	15.7	16.6	21.2	12.9	18.3	20.4	15.3	19.2	14.3	13.7	14.1
31	---	---	---	21.2	15.9	18.3	20.5	14.9	18.5	---	---	---
MONTH	17.1	8.9	13.4	21.7	12.3	17.7	25.4	12.0	18.5	20.2	13.2	15.5

PEND OREILLE RIVER BASIN

12392000 CLARK FORK AT WHITEHORSE RAPIDS, NEAR CABINET, ID

LOCATION.--Lat 48°05'30", long 116°07'00", in NE<sup>1</sup>/<sub>4</sub> 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 mi<sup>2</sup>.

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 ft<sup>3</sup>/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 ft<sup>3</sup>/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 ft<sup>3</sup>/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 ft<sup>3</sup>/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 ft<sup>3</sup>/s Sept. 2, 1962.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in June 1894 reached a discharge of 195,000 ft<sup>3</sup>/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, 53,000 ft<sup>3</sup>/s May 30; minimum daily, 5,780 ft<sup>3</sup>/s Sept. 11.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8130	9630	16900	9060	9240	13800	19000	16400	45300	34800	11700	17000
2	6070	9620	12100	10400	11000	14600	16700	17400	47400	32400	13200	19100
3	6830	12000	11900	9650	10800	12600	7970	26300	42600	24500	13500	18300
4	6070	11300	14900	17800	9860	13200	11400	25100	39700	27100	14700	11400
5	6050	15700	14000	17900	11400	13900	17700	29000	35700	29400	11300	10100
6	6100	13600	9300	13300	8450	8390	17200	29000	37100	29300	8720	12600
7	6260	12500	10200	7300	7240	10100	17000	30100	43000	27300	7990	14300
8	6540	8780	15100	7200	10300	14200	15900	28400	42100	27500	11400	17800
9	7570	12300	14500	7350	8630	15500	20700	32200	39700	26600	10600	14000
10	6190	15000	13500	6140	10800	14100	20200	34100	35400	25400	13900	10000
11	6090	14000	12000	7740	11400	13000	19000	34100	37100	15000	12700	5780
12	6050	13900	14600	8250	10500	13900	22700	36700	35600	25000	10400	8020
13	6470	16400	9450	11200	13600	9670	20500	36900	32600	26000	11500	12200
14	7080	16000	12900	8210	12000	11400	22400	36900	34700	27200	7470	11700
15	6640	8420	15300	11900	9470	14700	22100	35500	34900	21100	12200	12100
16	7090	8710	15100	6450	13400	14100	22600	32400	34300	19500	12400	14000
17	7490	16900	14000	9850	11300	13600	14200	33800	36100	15600	14800	14200
18	6750	12100	12100	9210	11100	12800	16400	32000	36900	13000	10700	11700
19	6690	11900	12300	8130	12800	19200	21500	29400	36800	21500	11000	13900
20	7000	14400	10400	9760	11900	10700	20800	31200	31100	16400	13500	22500
21	7280	15200	9960	11600	9480	12200	19000	31200	34700	17400	7000	8710
22	6990	12400	13000	9060	10900	14200	18200	28300	32100	15200	7030	22500
23	7340	14900	18500	7640	12300	15700	14600	41700	28600	15200	10200	21600
24	10300	16000	13600	10700	14900	19600	12400	46800	27600	14600	12700	19400
25	6300	19200	7970	8340	17800	19300	11700	43300	29300	13100	13100	11400
26	5990	14100	11500	9760	9690	23100	19300	43600	24300	16100	14800	13300
27	6010	8540	13600	11400	9660	7850	19000	43300	29600	15100	15700	18500
28	6190	9300	12000	10400	10200	11900	19100	43000	33800	14400	15600	19400
29	6900	9610	16900	11300	12300	18600	22000	40900	36700	18600	19800	17500
30	7800	11700	17700	9080	---	16600	20600	53000	33400	12700	21300	18200
31	8230	---	11800	8760	---	17800	---	45600	---	7230	18600	---
TOTAL	212490	384110	407080	304840	322420	440310	541870	1067600	1068200	644230	389510	441210
MEAN	6855	12800	13130	9834	11120	14200	18060	34440	35610	20780	12560	14710
MAX	10300	19200	18500	17900	17800	23100	22700	53000	47400	34800	21300	22500
MIN	5990	8420	7970	6140	7240	7850	7970	16400	24300	7230	7000	5780
AC-FT	421500	761900	807400	604700	639500	873400	1075000	2118000	2119000	1278000	772600	875100

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1929 - 2004, BY WATER YEAR (WY)

MEAN	11820	13190	14370	14270	14770	15770	24730	48810	56820	26290	11680	10580
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 2003	CALENDAR YEAR	FOR 2004	WATER YEAR	WATER YEARS 1929 - 2004
ANNUAL TOTAL	6415220		6223870		
ANNUAL MEAN	17580		17010		21930
HIGHEST ANNUAL MEAN					34250
LOWEST ANNUAL MEAN					10180
HIGHEST DAILY MEAN		74000		53000	May 30 1948
LOWEST DAILY MEAN		5990		5780	Sep 11 1962
ANNUAL SEVEN-DAY MINIMUM		6150		6270	Oct 2 1936
ANNUAL RUNOFF (AC-FT)	12720000		12350000		15890000
10 PERCENT EXCEEDS		36600		33900	47800
50 PERCENT EXCEEDS		12600		13900	15600
90 PERCENT EXCEEDS		6310		7480	7180

## PEND OREILLE RIVER BASIN

## 12392155 LIGHTNING CREEK AT CLARK FORK, ID

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

DRAINAGE AREA.--115 mi<sup>2</sup>.

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

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

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

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,220 ft<sup>3</sup>/s May 25, 2003, gage height, 9.92 ft; maximum gage height, 10.81 ft, June 1, 1997; no flow Sept. 14 to Oct. 12, 2001.

EXTREMES OUTSIDE PERIOD OF RECORD.--Indirect determination for peak of May 27 or 28, 1948 was 5,100 ft<sup>3</sup>/s, 5 mi upstream. Indirect determination for peak of January 1974 was 5,530 ft<sup>3</sup>/s, 5 mi upstream.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,780 ft<sup>3</sup>/s May 3, Aug. 25, gage height, 9.26 ft; minimum daily, 4.2 ft<sup>3</sup>/s Oct. 11.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.8	117	201	85	237	172	595	1330	1420	287	23	279
2	5.5	103	178	83	210	166	538	1880	1270	259	22	252
3	5.3	91	241	78	187	158	546	2400	1270	236	22	238
4	5.1	77	237	56	171	156	616	2390	1460	228	22	211
5	4.8	64	256	30	158	150	768	2110	1440	195	20	192
6	4.6	59	383	37	147	139	927	1520	1780	173	21	165
7	4.5	56	369	56	139	131	1110	1460	1340	172	39	147
8	4.4	55	324	72	130	140	1300	1610	1090	157	36	134
9	4.3	51	288	81	123	192	1200	1470	948	136	29	122
10	4.3	54	263	87	118	236	1100	1250	877	124	24	111
11	4.2	117	243	84	112	245	1090	1150	1130	115	21	145
12	4.6	85	230	77	106	253	1220	970	938	105	19	152
13	6.5	67	214	70	102	256	1430	810	948	97	17	143
14	13	59	202	72	103	251	1990	761	921	90	16	431
15	13	54	174	70	99	248	1560	837	796	83	14	551
16	19	58	159	70	96	251	1170	977	735	77	14	646
17	112	93	148	67	100	263	929	1150	740	72	13	619
18	93	404	134	67	134	332	781	1320	712	67	13	843
19	57	698	127	67	153	399	706	1540	656	63	15	721
20	105	477	124	67	142	363	658	1620	613	61	14	586
21	457	344	119	65	136	345	594	1710	592	54	14	484
22	185	277	115	65	131	359	561	2020	588	49	15	412
23	124	240	109	66	130	421	621	1570	564	44	129	368
24	96	229	109	70	132	494	753	1150	523	41	313	331
25	75	202	111	67	135	508	779	1020	465	38	2040	301
26	63	174	105	66	145	506	938	1440	427	35	1660	275
27	55	154	98	66	160	482	1380	1860	396	33	965	253
28	256	157	96	88	170	432	1650	2020	354	31	681	236
29	366	242	88	126	174	402	1210	1800	357	29	494	218
30	203	236	75	303	---	448	1110	1620	321	27	384	199
31	134	---	83	286	---	641	---	1810	---	25	320	---
TOTAL	2489.9	5094	5603	2644	4080	9539	29830	46575	25671	3203	7429	9765
MEAN	80.3	170	181	85.3	141	308	994	1502	856	103	240	326
MAX	457	698	383	303	237	641	1990	2400	1780	287	2040	843
MIN	4.2	51	75	30	96	131	538	761	321	25	13	111
AC-FT	4940	10100	11110	5240	8090	18920	59170	92380	50920	6350	14740	19370

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1989 - 2004, BY WATER YEAR (WY)

MEAN	83.0	277	229	207	255	302	819	1477	1018	204	48.4	43.9
MAX	381	1374	1242	570	1133	539	1203	1864	1899	597	240	326
(WY)	1998	1996	1996	2002	1996	1995	1989	1997	1997	1999	2004	2004
MIN	6.31	22.4	9.21	8.60	6.36	85.7	400	1031	230	58.2	8.92	0.89
(WY)	2003	2001	2001	2001	2001	2001	2001	1994	1992	1992	2003	2001

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR	FOR 2004 WATER YEAR	WATER YEARS 1989 - 2004
ANNUAL TOTAL	132308.2	151922.9	
ANNUAL MEAN	362	415	413
HIGHEST ANNUAL MEAN			716
LOWEST ANNUAL MEAN			194
HIGHEST DAILY MEAN	4140	2400	4970
LOWEST DAILY MEAN	2.4	4.2	0.00
ANNUAL SEVEN-DAY MINIMUM	2.8	4.4	0.00
ANNUAL RUNOFF (AC-FT)	262400	301300	299200
10 PERCENT EXCEEDS	981	1260	1260
50 PERCENT EXCEEDS	154	176	149
90 PERCENT EXCEEDS	6.9	26	14

## PEND OREILLE RIVER BASIN

## 12392500 LAKE PEND OREILLE NEAR HOPE, ID

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

DRAINAGE AREA.--22,900 mi<sup>2</sup>, 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, 2,062.62 ft, Sept. 21, contents, 1,572,700 acre-ft; minimum elevation, 2,050.86 ft, Nov. 19, contents, 506,400 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	2,063	1,609,000

GAGE HEIGHT, in FEET, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004  
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	60.39	54.36	51.42	51.37	51.58	51.67	51.78	55.78	59.94	62.29	62.19	62.34
2	60.18	54.00	51.36	51.36	51.55	51.66	51.84	55.90	60.16	62.32	62.23	62.46
3	60.01	53.67	51.34	51.32	51.59	51.64	51.80	56.17	60.33	62.22	62.27	62.46
4	59.81	53.25	51.29	51.46	51.55	51.73	51.80	56.31	60.47	62.18	62.33	62.41
5	59.60	53.07	51.46	51.58	51.56	51.63	51.98	56.57	60.62	62.23	62.34	62.30
6	59.41	52.77	51.41	51.57	51.56	51.60	52.11	56.70	60.84	62.28	62.24	62.27
7	59.24	52.42	51.38	51.50	51.41	51.61	52.26	56.81	61.01	62.26	62.21	62.31
8	58.93	52.02	51.47	51.42	51.49	51.64	52.37	56.91	61.13	62.24	62.19	62.40
9	58.86	51.74	51.45	51.38	51.47	51.67	52.59	57.07	61.19	62.28	62.20	62.43
10	58.63	51.55	51.44	51.41	51.50	51.66	52.81	57.25	61.19	62.27	62.23	62.34
11	58.41	51.61	51.42	51.41	51.53	51.65	52.98	57.32	61.38	62.08	62.29	62.31
12	58.23	51.50	51.45	51.36	51.54	51.64	53.25	57.42	61.47	62.12	62.29	62.23
13	58.05	51.47	51.48	51.58	51.62	51.54	53.42	57.57	61.55	62.24	62.31	62.28
14	57.84	51.42	51.41	51.61	51.71	51.50	53.80	57.68	61.65	62.42	62.26	62.33
15	57.75	51.24	51.40	51.73	51.68	51.51	54.05	57.73	61.71	62.41	62.29	62.32
16	57.59	51.13	51.53	51.70	51.71	51.45	54.25	57.73	61.78	62.42	62.33	62.33
17	57.46	51.28	51.48	51.70	51.72	51.46	54.24	57.80	61.84	62.38	62.40	62.42
18	57.27	51.23	51.34	51.79	51.64	51.38	54.25	57.85	61.96	62.31	62.34	62.51
19	57.08	51.34	51.30	51.81	51.71	51.63	54.39	57.96	62.05	62.37	62.33	62.57
20	56.95	51.43	51.27	51.74	51.67	51.58	54.53	58.06	62.02	62.28	62.37	62.59
21	56.78	51.50	51.27	51.86	51.56	51.54	54.62	58.23	62.07	62.22	62.32	62.18
22	56.61	51.39	51.28	51.79	51.50	51.51	54.73	58.32	62.13	62.19	62.24	62.17
23	56.45	51.40	51.39	51.85	51.48	51.46	54.73	58.63	62.14	62.17	62.23	62.16
24	56.26	51.45	51.42	51.85	51.54	51.60	54.87	58.98	62.17	62.16	62.32	62.04
25	56.04	51.50	51.43	51.88	51.48	51.76	54.91	59.12	62.24	62.18	62.60	61.76
26	55.83	51.53	51.43	51.70	51.61	51.93	55.06	59.36	62.22	62.22	62.56	61.54
27	55.58	51.31	51.39	51.78	51.57	51.83	55.21	59.45	62.27	62.21	62.52	61.39
28	55.26	51.24	51.47	51.84	51.57	51.69	55.37	59.53	62.33	62.22	62.49	61.29
29	55.16	51.29	51.55	51.70	51.60	51.72	55.56	59.53	62.35	62.31	62.50	61.12
30	54.94	51.27	51.58	51.69	---	51.56	55.70	59.80	62.30	62.33	62.56	60.94
31	54.65	---	51.50	51.72	---	51.72	---	59.87	---	62.22	62.55	---
MEAN	57.59	51.88	51.41	51.63	51.58	51.62	53.71	57.85	61.55	62.26	62.34	62.14
MAX	60.39	54.36	51.58	51.88	51.72	51.93	55.70	59.87	62.35	62.42	62.60	62.59
MIN	54.65	51.13	51.27	51.32	51.41	51.38	51.78	55.78	59.94	62.08	62.19	60.94
†	840400	542100	562100	581400	570800	581400	844800	1315000	1542000	1535000	1566000	1415000
‡	-533600	-298300	20000	19300	-10600	10600	263400	470200	227000	-7000	31000	-151000
CAL YR 2003	MEAN 57.30	MAX 62.51	MIN 51.13	† -351000								
WTR YR 2004	MEAN 56.31	MAX 62.60	MIN 51.13	† 41000								

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

‡ Change in contents, in acre-feet.

## PEND OREILLE RIVER BASIN

## 12393000 PRIEST LAKE AT OUTLET, NEAR COOLIN, ID

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

DRAINAGE AREA.--572 mi<sup>2</sup>.

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

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

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

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

EXTREMES FOR CURRENT YEAR.--Maximum gage height, 3.45 ft, June 8, contents, 130,000 acre-ft; minimum, 0.02 ft, Nov. 16, contents, 48,800 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		

GAGE HEIGHT, in FEET, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004  
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.03	0.67	0.67	0.62	0.43	0.23	0.87	2.35	3.24	3.07	3.05	2.91
2	3.06	0.61	0.67	0.60	0.41	0.24	0.86	2.44	3.17	3.03	3.04	2.91
3	3.03	0.55	0.69	0.59	0.35	0.24	0.93	2.57	3.14	3.07	3.05	2.91
4	3.04	0.46	0.73	0.54	0.37	0.25	0.98	2.67	3.17	3.08	3.07	2.93
5	3.04	0.39	0.77	0.52	0.34	0.23	1.03	2.75	3.25	3.06	3.05	2.92
6	3.04	0.35	0.83	0.49	0.34	0.27	1.11	2.80	3.37	3.04	3.04	2.92
7	3.04	0.30	0.81	0.53	0.31	0.30	1.23	2.76	3.42	3.05	3.03	2.92
8	3.03	0.24	0.80	0.50	0.30	0.30	1.34	2.78	3.38	3.05	3.05	2.93
9	3.03	0.21	0.79	0.44	0.29	0.29	1.46	2.79	3.30	3.02	3.03	2.93
10	3.02	0.21	0.78	0.47	0.32	0.30	1.56	2.75	3.29	2.99	3.03	2.95
11	3.05	0.15	0.77	0.47	0.26	0.26	1.62	2.73	3.25	2.98	3.02	3.01
12	2.99	0.14	0.79	0.45	0.25	0.32	1.73	2.66	3.21	2.97	3.02	3.01
13	2.87	0.10	0.83	0.42	0.23	0.27	1.82	2.59	3.21	2.96	3.01	3.03
14	2.74	0.07	0.83	0.41	0.25	0.30	2.04	2.53	3.22	2.94	3.00	3.10
15	2.59	0.05	0.80	0.42	0.22	0.32	2.18	2.52	3.19	2.98	3.00	3.17
16	2.41	0.07	0.78	0.42	0.27	0.31	2.26	2.61	3.17	2.98	3.01	3.18
17	2.26	0.12	0.80	0.38	0.25	0.35	2.31	2.67	3.17	3.01	3.00	3.16
18	2.07	0.18	0.78	0.38	0.26	0.32	2.31	2.71	3.14	3.03	3.01	3.14
19	1.86	0.24	0.77	0.39	0.24	0.33	2.35	2.82	3.11	3.03	3.05	3.12
20	1.79	0.28	0.76	0.37	0.25	0.40	2.31	2.93	3.09	3.04	3.02	3.05
21	1.72	0.32	0.79	0.33	0.23	0.37	2.28	3.05	3.11	3.05	3.00	3.00
22	1.58	0.31	0.72	0.36	0.22	0.42	2.23	3.17	3.12	3.06	3.03	2.95
23	1.50	0.36	0.73	0.36	0.21	0.46	2.18	3.18	3.14	3.07	3.06	2.93
24	1.34	0.36	0.73	0.37	0.19	0.49	2.18	3.16	3.14	3.08	3.09	2.94
25	1.23	0.40	0.70	0.34	0.22	0.54	2.15	3.10	3.12	3.08	3.23	2.95
26	1.16	0.42	0.69	0.31	0.22	0.66	2.17	3.16	3.16	3.06	3.28	2.94
27	1.02	0.42	0.67	0.34	0.23	0.66	2.14	3.22	3.13	3.09	3.29	2.95
28	0.97	0.58	0.68	0.34	0.26	0.67	2.27	3.26	3.14	3.08	3.22	2.97
29	0.93	0.62	0.67	0.33	0.23	0.68	2.25	3.29	3.10	3.08	3.14	2.98
30	0.84	0.61	0.62	0.41	---	0.66	2.31	3.27	3.07	3.06	3.07	2.99
31	0.73	---	0.62	0.38	---	0.76	---	3.27	---	3.07	3.05	---
MEAN	2.19	0.33	0.74	0.43	0.27	0.39	1.82	2.86	3.19	3.04	3.07	2.99
MAX	3.06	0.67	0.83	0.62	0.43	0.76	2.35	3.29	3.42	3.09	3.29	3.18
MIN	0.73	0.05	0.62	0.31	0.19	0.23	0.86	2.35	3.07	2.94	3.00	2.91
†	65500	62700	62900	57200	53700	66200	102900	125700	120900	120900	120500	119000
‡	-54700	-2800	200	-5700	-3500	12500	36700	22800	-4800	0	-400	-1500
CAL YR 2003	MEAN 1.84	MAX 3.92	MIN 0.05	† 5900								
WTR YR 2004	MEAN 1.78	MAX 3.42	MIN 0.05	‡ -1200								

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

‡ Change in contents, in acre-feet.





## PEND OREILLE RIVER BASIN

## 12395000 PRIEST RIVER NEAR PRIEST RIVER, ID

LOCATION.--Lat 48°12'31", long 116°54'49", in NW<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub>NW<sup>1</sup>/<sub>4</sub> sec.12, T.56 N., R.5 W., Bonner County, Priest River quad., Hydrologic Unit 17010215, on right bank, 500 ft downstream from Saddler Creek, 0.4 mi downstream from Lower West Branch, 2.7 mi north of Priest River, and at mile 3.8.

DRAINAGE AREA.--902 mi<sup>2</sup>.

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 ft<sup>3</sup>/s May 29, 30, 1948; maximum gage height, 8.97 ft, May 29, 1948; minimum daily, 191 ft<sup>3</sup>/s Jan 7, 1937.

Maximum discharge since regulation (1950-2004), 10,800 ft<sup>3</sup>/s May 18, 1997, gage height, 9.13 ft; minimum, 150 ft<sup>3</sup>/s Nov. 29, 1979, gage height, 0.38 ft.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 4,130 ft<sup>3</sup>/s May 6; minimum daily, 178 ft<sup>3</sup>/s Oct. 10, 11.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	180	1230	344	e550	714	776	2120	3470	3850	1640	404	962
2	181	1160	339	e550	684	758	2070	3560	3770	1570	404	848
3	180	1110	349	e540	655	736	2080	3720	3590	1250	409	836
4	180	1030	335	e520	651	728	2120	3910	2840	1240	410	441
5	180	969	369	e500	634	722	2190	4070	2880	1240	404	399
6	180	922	491	e500	620	693	2280	4130	3080	1220	406	386
7	185	876	591	e500	622	686	2390	4130	3460	1220	421	384
8	181	843	601	e520	610	690	2540	4120	3470	1220	410	381
9	180	815	570	e540	605	735	2700	4110	3780	1210	404	353
10	178	788	e540	e540	598	766	2760	4070	3730	1190	399	290
11	178	794	e540	e560	586	787	2810	4020	3690	1160	396	308
12	217	764	e540	e560	577	811	2890	3930	3660	993	391	319
13	1500	733	e540	e580	572	834	3010	3830	3440	980	388	305
14	1900	706	e540	e580	581	830	3240	3730	2880	969	385	320
15	2060	689	574	e580	589	855	3450	3080	2860	641	384	528
16	2960	696	579	e580	587	880	3620	2640	2780	463	315	963
17	2850	376	579	584	605	912	3670	2290	2330	442	264	1160
18	2820	347	e560	583	653	980	3630	2290	2290	445	261	1550
19	2640	398	562	583	658	1090	3660	2300	2270	435	262	1540
20	2500	363	568	580	650	1030	3650	2400	2220	432	259	1530
21	2410	323	577	576	643	992	3630	2510	1720	435	259	1510
22	2270	e280	603	576	634	996	3520	3160	1690	428	271	1460
23	2120	e240	606	583	628	1050	3430	3560	1670	424	295	1260
24	1980	e240	610	590	636	1140	3370	3480	1650	422	309	682
25	1860	e240	617	580	654	1180	3310	3400	1630	419	409	608
26	1740	e240	610	578	692	1340	3250	3440	1660	417	566	602
27	1630	e240	606	575	750	1970	3260	3520	1820	414	989	597
28	1580	272	608	580	784	1940	3370	3560	1880	411	1530	436
29	1520	381	e550	625	793	1870	3410	3820	1640	407	1630	385
30	1430	382	e550	760	---	1870	3430	3860	1640	404	1610	382
31	1320	---	e550	746	---	2030	---	3920	---	404	1610	---
TOTAL	41290	18447	16598	17799	18665	32677	90860	108030	79870	24545	16854	21725
MEAN	1332	615	535	574	644	1054	3029	3485	2662	792	544	724
MAX	2960	1230	617	760	793	2030	3670	4130	3850	1640	1630	1550
MIN	178	240	335	500	572	686	2070	2290	1630	404	259	290
AC-FT	81900	36590	32920	35300	37020	64810	180200	214300	158400	48690	33430	43090

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 <sup>a</sup> WATER YEARS 1913 - 1949

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

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1950 - 2004, BY WATER YEAR (WY) (REGULATED, UNADJUSTED)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1098	1276	1019	918	1020	1398	2662	4803	4178	1282	469	406
MAX	1768	2951	2612	2960	2794	3629	4250	8405	8528	3144	1026	1350
(WY)	1998	1984	1996	1974	1951	1982	1997	1997	1974	1974	1983	1959
MIN	426	473	357	310	350	374	810	1563	1167	399	206	173
(WY)	1950	2003	1993	1993	1985	2001	1977	1977	1992	1977	1994	2001

SUMMARY STATISTICS FOR 2003 CALENDAR YEAR FOR 2004 WATER YEAR <sup>b</sup> WATER YEARS 1950 - 2004

ANNUAL TOTAL	531972	487360	
ANNUAL MEAN	1457	1332	1711
HIGHEST ANNUAL MEAN			2947 1974
LOWEST ANNUAL MEAN			711 1977
HIGHEST DAILY MEAN	5730	Jun 3 4130	May 6 10700 May 18 1997
LOWEST DAILY MEAN	176	Sep 3 178	Oct 10 160 Feb 6 1989
ANNUAL SEVEN-DAY MINIMUM	177	Sep 1 180	Oct 5 163 Sep 15 2001
ANNUAL RUNOFF (AC-FT)	1055000	966700	1240000
10 PERCENT EXCEEDS	3570	3460	4320
50 PERCENT EXCEEDS	922	734	1070
90 PERCENT EXCEEDS	192	342	330

a Unregulated

b Regulated, unadjusted.

e Estimated

## PEND OREILLE RIVER BASIN

## 12395500 PEND OREILLE RIVER AT NEWPORT, WA

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

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

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

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

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

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

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

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

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 50,500 ft<sup>3</sup>/s May 30, gage height, 40.47 ft; maximum gage height, 40.67 ft, June 1; minimum daily, 7,830 ft<sup>3</sup>/s Jan. 13.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13600	25600	13500	16100	15900	14200	20500	20000	48300	36500	12800	21400
2	15300	26100	14800	13100	14200	15400	17600	19700	42700	32900	12200	20600
3	15200	26900	15200	11700	13400	15500	16400	22500	40700	30300	11900	19000
4	15200	27800	14700	11200	13400	15400	16200	25000	38400	29800	11900	16700
5	15200	27700	13700	e14000	13000	15200	16100	27900	34700	29300	11900	14800
6	15200	27800	13900	e16000	12000	15300	16900	30000	34600	29100	11900	14300
7	15300	28300	14000	e14000	11400	15200	17300	31200	37900	30000	11800	14000
8	15400	27600	14000	e12000	11200	16100	17500	31700	42900	28800	11600	14000
9	15400	25400	15000	e9500	11200	16600	17500	31800	41700	26700	11500	14100
10	15500	20100	15400	e8500	11300	16500	17700	32000	39000	26000	11000	14000
11	15400	19800	15400	e8000	11300	16700	17700	34700	36900	25900	10700	13300
12	15300	18900	14600	e8000	11300	16700	17800	36800	35300	23700	10900	12600
13	15500	18800	14300	7830	11300	16600	17800	36800	35400	21700	10800	11500
14	16200	18700	14900	8110	11300	16500	17800	36800	35300	20400	10800	12200
15	16900	15100	15300	8810	12300	16500	19800	36900	35300	21800	10700	16300
16	17300	14100	15600	9200	12400	16500	22000	36800	34600	20600	10900	17800
17	17700	12200	17200	9210	14600	16400	22000	35100	34100	18100	11400	13500
18	17800	13500	18200	9030	15500	16500	22100	33400	34800	18200	11300	10700
19	17900	14300	15900	10000	15700	16500	22100	31200	35200	19400	12600	14700
20	17900	14200	14100	11200	15700	17700	21800	31000	35300	20600	11100	22900
21	17700	14500	13500	11500	15400	18400	20800	31800	34500	19300	10900	24200
22	17700	14600	13200	11400	15300	18300	19900	32000	32000	17700	10900	23900
23	17800	15000	13400	11400	15300	18300	17500	32300	29700	16200	10400	25400
24	18000	15400	13100	11400	15300	18400	15200	36200	28500	14700	10100	26200
25	18100	16800	13300	11500	15200	18400	15300	41800	27800	14600	13200	26000
26	18100	19100	13600	12900	14700	18600	18000	42800	28500	14500	17800	26300
27	18000	17200	13600	13700	13600	21100	19500	45200	29600	14600	19500	26400
28	17900	15100	13600	14700	13300	22200	20000	47500	33100	14500	20400	26100
29	17700	13900	14600	15700	13300	22300	20700	47600	37200	13600	21100	26200
30	17900	13400	17400	15500	---	22300	20200	48700	37900	13100	21300	26400
31	22400	---	18600	15600	---	22200	---	49800	---	13100	20900	---
TOTAL	520500	577900	457600	360790	390900	542500	561700	1077000	1071900	675700	408000	565500
MEAN	16790	19260	14760	11640	13480	17500	18720	34740	35730	21800	13160	18850
MAX	22400	28300	18600	16100	15900	22300	22100	49800	48300	36500	21300	26400
MIN	13600	12200	13100	7830	11200	14200	15200	19700	27800	13100	10100	10700
AC-FT	1032000	1146000	907600	715600	775400	1076000	1114000	2136000	2126000	1340000	809300	1122000

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1903 - 2004, BY WATER YEAR (WY)

	1903	1904	1905	1906	1907	1908	1909	1910	1911	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
MEAN	17610	18350	16260	15460	16360	19060	27310	49300	61420	31880	14090	13500																																																																																										
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 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1903 - 2004	
ANNUAL TOTAL	7552220		7209990			
ANNUAL MEAN	20690		19700			
HIGHEST ANNUAL MEAN					25000	
LOWEST ANNUAL MEAN					38600	
HIGHEST DAILY MEAN	68500		49800		12920	
LOWEST DAILY MEAN	5100		7830		135000	
ANNUAL SEVEN-DAY MINIMUM	6030		8350		2420	
ANNUAL RUNOFF (AC-FT)	14980000		14300000		3280	
10 PERCENT EXCEEDS	39800		34600		52100	
50 PERCENT EXCEEDS	15700		16600		18800	
90 PERCENT EXCEEDS	8660		11400		8620	

e Estimated