Water-Data Report 2011

12305000 KOOTENAI RIVER AT LEONIA, ID

Kootenai Basin
Lower Kootenai Subbasin

LOCATION.--Lat 48°37′04″, long 116°02′47″ referenced to North American Datum of 1927, in NW ¼ NW ¼ NW ¼ sec.20, T.33 N., R.34 W., Boundary County, ID, Hydrologic Unit 17010104, Leonia quad., 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^2, approximately.

SURFACE-WATER RECORDS

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

GAGE.--Water-stage recorder. Datum of gage is 1,790.25 ft above NGVD of 1929 and 1794.118 ft above NAVD of 1988. 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.--Records good except for estimated daily discharges, which are fair. Station equipment includes satellite telemetry and crest stage gage. 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.--

UNREGULATED PERIOD (1929-71): Maximum discharge prior to regulation by Libby Dam and powerplant, 123,000 ft^3/s May 28, 1948, gage height, 33.40 ft; minimum, 996 ft^3/s Dec. 9, 1936, minimum gage height, 7.56 ft, Dec. 10, 1929.

REGULATED PERIOD (1972 to current year): Maximum discharge since regulation began, 62,000 ft^3/s Jan. 16, 1974, gage height, 24.15 ft; maximum gage height, 25.87 ft, June 17, 18, 2006; minimum daily, 2,270 ft^3/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 discharge, 43,900 ft^3/s May 16, gage height, 22.53 ft; minimum daily, 5110 ft^3/s Jan. 11.

Suggested citation: U.S. Geological Survey, 2012, Water-resources data for the United States, Water Year 2011: U.S. Geological Survey Water-Data Report WDR-US-2011, site 12305000, accessed at http://wdr.water.usgs.gov/wy2011/pdfs/12305000.2011.pdf

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DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011
DAILY MEAN VALUES
[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	9,690	5,730	12,700	10,400	6,150	13,900	11,600	26,200	34,700	22,700	15,600	11,500
2	9,650	6,620	19,000	10,500	6,350	14,500	12,200	26,200	36,200	22,000	15,600	10,500
3	9,640	6,880	19,900	10,600	13,500	15,100	12,800	26,800	36,600	22,000	15,400	9,580
4	9,710	6,390	18,500	8,110	17,300	15,700	12,000	28,300	36,400	22,100	16,700	8,490
5	9,740	6,130	17,800	6,060	17,200	18,500	12,500	31,200	36,700	21,600	17,000	7,690
6	9,690	6,050	19,300	5,610	14,700	18,600	15,000	31,500	37,500	21,300	17,000	7,140
7	9,670	6,440	20,100	5,690	17,100	18,500	16,200	33,500	32,900	21,200	17,000	6,930
8	9,670	7,030	20,200	5,670	20,300	17,000	18,300	34,400	37,700	21,000	16,900	6,990
9	8,880	7,700	20,300	5,540	20,600	17,100	18,000	32,900	37,600	20,000	16,800	6,980
10	7,860	12,000	18,000	5,250	20,700	17,500	17,800	29,900	40,500	19,400	16,700	6,980
11	7,060	13,100	18,000	5,110	20,800	18,100	17,700	32,400	40,000	19,000	16,700	6,970
12	5,950	12,800	18,200	5,290	16,800	18,300	17,900	36,200	39,500	18,100	16,700	6,970
13	5,510	10,700	23,400	5,510	12,300	18,300	16,000	37,300	39,300	17,800	16,700	6,940
14	5,400	10,400	e31,400	6,030	13,600	18,700	13,700	36,800	40,200	16,100	16,600	6,940
15	5,340	11,400	e31,100	7,450	16,700	19,000	13,600	40,100	39,100	15,100	15,500	6,930
16	5,310	12,300	e25,100	8,420	16,800	19,400	13,600	41,700	38,100	14,700	15,200	6,940
17	5,300	13,300	24,500	13,200	16,900	19,500	13,900	36,700	38,000	14,700	15,200	6,950
18	5,300	14,600	20,700	14,000	16,800	19,200	13,900	32,200	32,500	14,700	15,200	6,950
19	5,280	17,400	19,400	11,400	15,300	19,300	13,500	29,800	30,800	14,700	15,100	7,080
20	5,280	15,700	21,000	9,830	14,500	19,200	13,200	30,300	30,600	14,600	15,200	7,090
21	5,250	14,800	22,000	8,980	14,500	19,100	13,000	31,700	30,800	14,200	15,200	7,040
22	5,240	17,800	21,800	8,450	16,300	20,000	13,400	34,100	31,100	14,100	15,200	7,010
23	5,240	20,600	21,800	7,950	17,000	20,000	17,900	34,000	29,700	13,800	15,200	7,010
24	5,320	20,000	20,000	7,590	16,900	20,100	20,500	33,800	28,300	13,600	15,200	6,980
25	5,510	15,700	15,700	7,350	16,900	20,000	21,000	34,000	26,100	13,500	15,200	6,980
26	5,600	11,900	14,600	7,090	15,000	20,000	21,500	34,800	24,900	13,500	15,200	6,920
27	5,580	10,600	14,700	6,980	14,400	16,300	21,900	34,700	24,600	13,900	14,800	6,900
28	5,450	10,600	14,700	6,800	14,200	15,400	22,100	37,200	23,900	16,000	14,600	7,050
29	5,490	10,600	14,700	6,750	---	13,500	21,800	36,600	24,400	15,800	14,600	7,010
30	5,500	10,600	14,600	6,890	---	11,600	22,600	35,200	24,400	15,800	13,900	6,850
31	5,570	---	11,400	6,430	---	10,300	---	34,300	---	15,700	12,900	---
Total	209,680	345,870	604,600	240,930	439,600	541,700	489,100	1,034,800	1,003,100	532,700	484,800	222,290
Mean	6,764	11,530	19,500	7,772	15,700	17,470	16,300	33,380	33,440	17,180	15,640	7,410
Max	9,740	20,600	31,400	14,000	20,800	20,100	22,600	41,700	40,500	22,700	17,000	11,500
Min	5,240	5,730	11,400	5,110	6,150	10,300	11,600	26,200	23,900	13,500	12,900	6,850
Ac-ft	415,900	686,000	1,199,000	477,900	871,900	1,074,000	970,100	2,053,000	1,990,000	1,057,000	961,600	440,900

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	6,511	5,700	4,765	4,024	4,338	4,896	14,480	38,710	45,100	22,770	9,926	7,020
Max	15,540	11,280	13,700	11,330	10,630	10,390	39,940	61,770	74,280	47,510	16,910	16,560
(WY)	(1948)	(1934)	(1934)	(1934)	(1951)	(1934)	(1934)	(1956)	(1967)	(1954)	(1954)	(1959)
Min	3,532	2,748	2,477	1,922	1,994	2,693	4,334	18,630	20,630	9,819	6,142	4,744
(WY)	(1937)	(1937)	(1945)	(1937)	(1936)	(1944)	(1945)	(1944)	(1941)	(1944)	(1941)	(1936)

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SUMMARY STATISTICS

	Water Years 1929 - 1971	
Annual mean	[a]14,050	
Highest annual mean	19,240	
Lowest annual mean	7,416	
Highest daily mean	122,000	May 28
Lowest daily mean	1,070	Dec 8
Annual seven-day minimum	1,310	Jan 2
Annual runoff (ac-ft)	10,180,000	
10 percent exceeds	37,400	
50 percent exceeds	6,710	
90 percent exceeds	3,230	

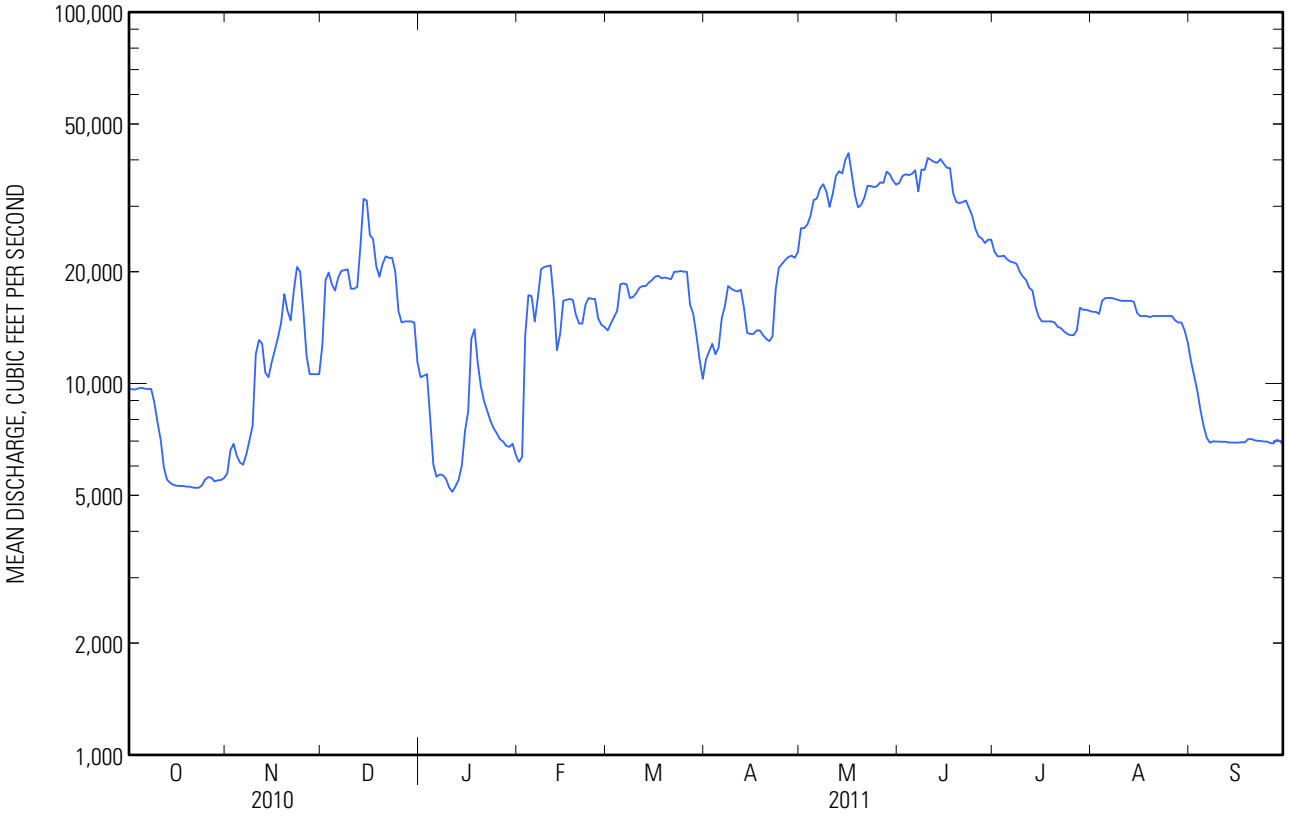
[a] Statistics 1929-1971 are prior to regulation by Libby Dam.

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1972 - 2011, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	12,700	15,320	16,710	13,700	11,660	8,792	11,090	16,390	19,300	13,600	11,820	10,620
Max	31,980	26,400	28,140	28,610	24,790	17,470	25,570	33,380	40,100	29,740	20,310	20,960
(WY)	(1973)	(1992)	(1991)	(1976)	(1990)	(2011)	(1996)	(2011)	(2006)	(2002)	(1976)	(1972)
Min	5,042	5,004	3,423	3,109	3,724	4,350	5,588	8,352	5,374	4,139	3,956	5,539
(WY)	(2004)	(1972)	(1972)	(1972)	(1973)	(1973)	(2001)	(1977)	(1977)	(1988)	(1975)	(1994)

SUMMARY STATISTICS

	Calendar Year 2010		Water Year 2011		Water Years 1972 - 2011	
Annual total	3,902,780		[b]6,149,170			
Annual mean	10,690		16,850		13,480	
Highest annual mean					20,400	1996
Lowest annual mean					7,466	2001
Highest daily mean	40,500	Jun 11	41,700	May 16	61,000	Jun 18, 2006
Lowest daily mean	4,500	Jan 8	5,110	Jan 11	2,270	Dec 9, 1972
Annual seven-day minimum	4,630	Jan 6	5,270	Oct 17	2,420	Dec 7, 1972
Annual runoff (ac-ft)	7,741,000		12,200,000		9,769,000	
10 percent exceeds	20,900		32,700		24,300	
50 percent exceeds	8,110		15,200		11,600	
90 percent exceeds	4,760		6,410		5,070	

[b] Regulated by Libby Dam.

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