Water-Data Report 2011

07062500 BLACK RIVER AT LEEPER, MO

Upper White Basin
Upper Black Subbasin

LOCATION.--Lat 37°03'31.4", long 90°41'13.2" referenced to North American Datum of 1983, in sec.35, T.28 N., R.3 E., Wayne County, MO, Hydrologic Unit 11010007, on downstream side of center bridge pier of bridge on State Highway 49, 1 mile south of Leeper, 4 miles downstream from McKenzie Creek, 8 miles downstream from Clearwater Dam, and at mile 249.

DRAINAGE AREA.--987 mi^2.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--June 1921 to September 1994, April 9, 2008 to current year.

REVISED RECORDS.--WSP 762: 1933(M), WSP 1007: 1943, WSP 1281: 1922-23, 1927-29(M).

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage 430.56 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 22, 1937, nonrecording gage; Oct. 22, 1937 to Jan. 21, 1942, water-stage recorder; and Jan. 22 to April 6, 1942, nonrecording gage; all at site 1,900 ft downstream from Highway 34 bridge at datum 3.85 ft lower. From April 7, 1942 to Jan. 28, 1981, records were obtained from water-stage recorder attached to downstream pier of Highway 34 bridge at datum 11.97 ft higher.

REMARKS.--No estimated daily discharges. Record good. Flow regulated by Clearwater Lake (station 07062000) 8.0 mi upstream since June 1948.

EXTREMES FOR PERIOD PRIOR TO REGULATION.--Maximum discharge 78,400 ft^3/s, May 14, 1933; gage height, 16.16 ft.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 11,700 ft^3/s, Apr. 24, gage height, 12.98 ft; minimum discharge, 193 ft^3/s, Sept. 6, gage height, 1.55 ft.

07062500 BLACK RIVER AT LEEPER, MO—Continued

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

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	451	334	1,210	406	363	1,550	1,210	2,470	3,710	3,440	415	268
2	489	332	1,210	403	385	2,310	1,050	6,650	3,690	3,400	418	213
3	486	332	1,120	434	432	2,300	1,040	5,010	3,690	3,370	372	207
4	485	330	956	504	464	2,060	978	4,350	3,700	3,340	313	206
5	484	315	942	510	471	1,850	873	4,130	3,670	3,370	313	204
6	466	282	800	510	468	1,830	817	4,050	3,650	3,440	302	235
7	409	278	555	508	489	2,220	741	3,920	3,630	3,400	297	333
8	355	277	537	505	540	2,710	731	3,910	3,630	3,360	296	341
9	315	277	532	506	511	1,820	730	3,900	3,640	3,300	321	345
10	307	282	498	496	442	1,720	725	3,860	3,620	3,260	407	349
11	303	293	430	477	437	1,810	754	3,830	3,600	3,210	402	351
12	318	302	418	451	436	1,780	752	3,800	3,580	3,160	412	350
13	361	324	420	402	435	1,750	1,070	3,110	3,590	3,050	416	346
14	361	325	448	384	471	1,830	1,540	3,800	3,610	2,860	415	361
15	360	326	469	354	551	1,920	1,640	3,700	3,580	2,810	432	384
16	358	330	468	350	594	2,350	1,670	3,650	3,550	2,760	465	434
17	357	341	457	349	700	2,830	1,620	3,620	3,550	2,700	466	448
18	358	341	437	376	762	2,640	1,670	3,630	3,570	2,410	470	452
19	338	335	435	422	766	2,240	1,780	3,670	3,560	1,920	456	465
20	287	328	434	427	767	2,200	1,930	3,020	3,550	1,670	424	503
21	281	327	421	425	767	1,850	1,780	3,640	3,570	1,500	406	507
22	279	335	388	424	700	1,230	2,440	3,660	3,560	1,130	414	508
23	276	375	385	425	544	1,260	2,750	3,730	3,550	973	450	507
24	274	423	386	426	457	1,080	6,140	3,760	3,520	954	455	509
25	284	459	385	424	560	819	4,500	3,770	3,510	821	454	578
26	318	519	384	410	762	784	4,880	3,310	3,510	510	451	570
27	337	768	383	372	791	787	3,950	3,770	3,510	420	449	626
28	334	792	382	349	928	917	1,990	3,730	3,510	410	447	656
29	335	968	392	346	---	1,210	1,080	3,700	3,480	412	451	730
30	334	1,220	403	345	---	1,320	2,890	3,690	3,470	408	451	700
31	335	---	407	345	---	1,310	---	3,680	---	416	400	---
Mean	356	416	551	421	571	1,751	1,857	3,823	3,585	2,199	408	423
Max	489	1,220	1,210	510	928	2,830	6,140	6,650	3,710	3,440	470	730
Min	274	277	382	345	363	784	725	2,470	3,470	408	296	204
In.	0.42	0.47	0.64	0.49	0.60	2.05	2.10	4.47	4.05	2.57	0.48	0.48

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1949 - 2011[a], BY WATER YEAR (WY)

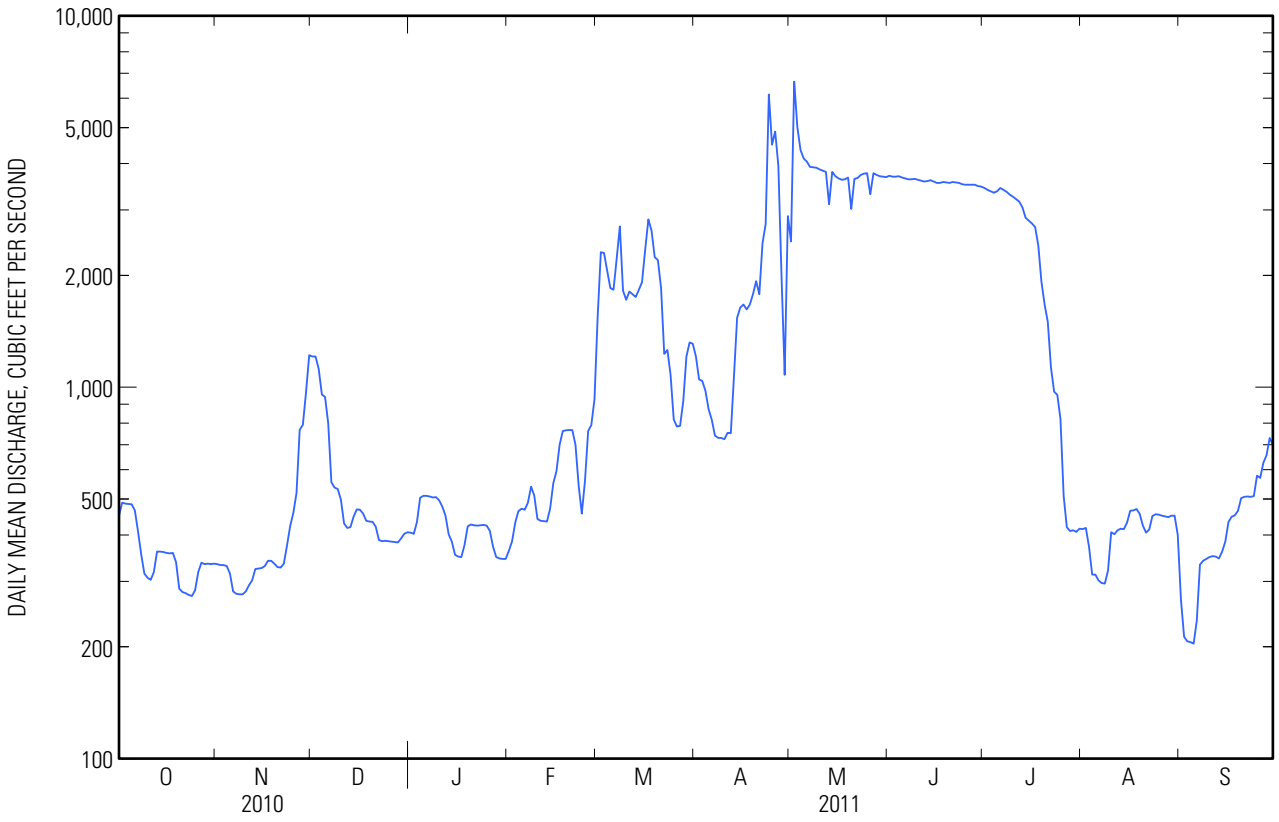
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	505	704	1,167	1,207	1,267	1,483	1,568	1,510	1,116	666	508	514
Max	1,748	3,093	3,227	3,517	4,172	3,492	2,848	3,823	3,585	2,506	3,162	2,000
(WY)	(1950)	(2010)	(1983)	(1983)	(1949)	(1985)	(1973)	(2011)	(2011)	(1957)	(1957)	(1985)
Min	177	218	224	209	274	368	419	389	309	219	195	183
(WY)	(1956)	(1965)	(1965)	(1956)	(1963)	(1954)	(1956)	(1988)	(1972)	(1954)	(1954)	(1954)

07062500 BLACK RIVER AT LEEPER, MO—Continued

SUMMARY STATISTICS

	Calendar Year 2010		Water Year 2011		Water Years 1949 - 2011[a]	
Annual mean	781		1,368		1,010	
Highest annual mean					2,219	1985
Lowest annual mean					431	1954
Highest daily mean	2,970	May 25	6,650	May 2	22,000	Dec 3, 1982
Lowest daily mean	274	Oct 24	204	Sep 5	62	Sep 23, 1966
Annual seven-day minimum	284	Aug 31	238	Sep 1	83	Sep 20, 1966
Maximum peak flow			11,700	Apr 24	40,900	Dec 3, 1982
Maximum peak stage			12.98	Apr 24	15.15	Dec 3, 1982
Instantaneous low flow			193	Sep 6	62	Sep 22, 1966[b]
Annual runoff (inches)	10.75		18.82		13.90	
10 percent exceeds	1,470		3,630		2,810	
50 percent exceeds	621		510		540	
90 percent exceeds	312		329		246	

[a] For Period of Record during Regulated Streamflow
[b] Also Sep 23, 1966



07062500 BLACK RIVER AT LEEPER, MO—Continued

GAGE HEIGHT, FEET
WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011
OBSERVATION AT 0800
[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	2.47	2.28	3.76	2.40	2.30	3.67	3.92	4.74	6.96	6.76	2.24	1.83
2	2.57	2.27	3.76	2.39	2.32	5.39	3.51	11.40	6.94	6.70	2.25	1.63
3	2.56	2.28	3.75	2.39	2.42	5.39	3.49	8.66	6.90	6.67	2.25	1.60
4	2.57	2.28	3.35	2.58	2.51	5.35	3.49	7.70	6.94	6.63	2.02	1.59
5	2.56	2.27	3.32	2.60	2.52	4.82	3.22	7.43	6.91	6.61	2.02	1.58
6	2.56	2.18	3.31	2.59	2.52	4.71	3.20	7.34	6.89	6.75	2.02	1.56
7	2.46	2.18	2.67	2.59	2.52	4.74	2.99	7.25	6.86	6.72	1.98	1.92
8	2.36	2.18	2.63	2.58	2.63	6.03	2.98	7.19	6.84	6.69	1.98	1.94
9	2.25	2.17	2.63	2.58	2.65	4.66	2.98	7.16	6.87	6.62	1.96	1.94
10	2.23	2.17	2.62	2.58	2.46	4.45	2.97	7.13	6.85	6.57	2.19	1.94
11	2.23	2.20	2.44	2.53	2.46	4.71	3.04	7.09	6.83	6.52	2.18	1.95
12	2.22	2.20	2.42	2.53	2.46	4.67	2.98	7.05	6.81	6.45	2.17	1.96
13	2.33	2.27	2.40	2.39	2.45	4.62	3.04	5.92	6.78	6.50	2.18	1.93
14	2.33	2.26	2.46	2.38	2.45	4.72	4.29	7.10	6.86	6.10	2.20	1.96
15	2.34	2.27	2.51	2.30	2.66	4.76	4.43	6.93	6.85	6.03	2.19	1.97
16	2.33	2.26	2.51	2.29	2.67	5.00	4.51	6.89	6.80	5.97	2.30	2.14
17	2.34	2.30	2.52	2.29	2.86	6.11	4.42	6.84	6.76	5.91	2.29	2.17
18	2.33	2.30	2.46	2.30	3.03	6.04	4.39	6.83	6.81	5.82	2.29	2.17
19	2.32	2.29	2.44	2.42	3.04	5.31	4.60	6.91	6.85	4.97	2.32	2.17
20	2.19	2.27	2.45	2.44	3.05	5.24	4.86	6.89	6.78	4.51	2.18	2.30
21	2.18	2.27	2.45	2.43	3.03	5.18	4.51	6.91	6.85	4.28	2.17	2.31
22	2.18	2.26	2.36	2.43	3.03	3.74	5.26	6.90	6.82	3.63	2.15	2.31
23	2.17	2.33	2.35	2.43	2.73	3.85	5.47	6.94	6.84	3.27	2.24	2.30
24	2.16	2.46	2.36	2.43	2.47	3.81	12.92	7.01	6.81	3.23	2.24	2.30
25	2.17	2.52	2.36	2.43	2.51	3.17	8.29	6.95	6.79	3.21	2.24	2.48
26	2.25	2.47	2.35	2.43	3.02	3.03	9.83	6.12	6.81	2.48	2.23	2.38
27	2.30	3.02	2.35	2.35	3.08	3.07	7.48	7.03	6.78	2.25	2.24	2.57
28	2.28	3.07	2.35	2.29	3.15	3.06	4.97	6.98	6.83	2.22	2.21	2.55
29	2.28	3.09	2.36	2.29	---	3.66	3.35	6.96	6.77	2.22	2.22	2.74
30	2.28	3.78	2.39	2.28	---	3.95	5.36	6.92	6.77	2.28	2.22	2.80
31	2.29	---	2.40	2.28	---	3.92	---	6.89	---	e2.21	2.22	---
Mean	2.33	2.40	2.66	2.43	2.68	4.54	4.69	7.10	6.84	5.06	2.18	2.10
Max	2.57	3.78	3.76	2.60	3.15	6.11	12.92	11.40	6.96	6.76	2.32	2.80
Min	2.16	2.17	2.35	2.28	2.30	3.03	2.97	4.74	6.76	2.21	1.96	1.56