Water-Data Report 2011

05062000 BUFFALO RIVER NEAR DILWORTH, MN

Upper Red Basin
Buffalo Subbasin

LOCATION.--Lat 46°57′40″, long 96°39′40″ referenced to North American Datum of 1927, in SW ¼ SE ¼ sec.6, T.140 N., R.47 W., Clay County, MN, Hydrologic Unit 09020106, 300ft east and 60ft downstream of County Road 94 bridge, 4.5 mi southeast of Kragnes, 6.5 miles northeast of Dilworth, and 9 mi downstream from South Branch.

DRAINAGE AREA.--975 mi^2, (revised in 1998 Annual Report).

SURFACE-WATER RECORDS

PERIOD OF RECORD.--March 1931 to current year. Monthly discharge only for some periods, published in WSP 1308.

REVISED RECORDS.--WSP 1308: 1931(M).

GAGE.--Water-stage recorder. Datum of gage is 878.31 ft above sea level (NGVD of 1929, levels by U.S. Army Corps of Engineers). Prior to April 5, 1937, non-recording gage at same site and datum.

REMARKS.--Records good except those for estimated daily discharges, which are poor.

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 05062000, accessed at http://wdr.water.usgs.gov/wy2011/pdfs/05062000.2011.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	904	1,700	e272	e162	e157	e136	e2,580	889	604	1,250	314	77
2	708	1,810	e267	e159	e157	e135	e2,730	813	619	1,260	644	77
3	538	1,810	e265	e160	e156	e134	3,390	759	645	1,190	1,070	81
4	454	1,700	e263	e164	e155	e134	4,760	728	643	972	1,160	83
5	406	1,540	e258	e176	e155	e134	5,540	704	581	936	1,140	79
6	369	1,320	e253	e179	e155	e134	5,490	666	511	1,020	1,060	75
7	341	1,080	e247	e176	e155	e134	4,810	626	454	914	917	69
8	318	882	e239	e174	e154	e133	4,250	593	413	877	749	66
9	301	746	e235	e170	e154	e133	3,820	593	376	905	659	65
10	283	654	e231	e168	e153	e133	3,420	679	347	910	567	62
11	272	596	e227	e166	e152	e132	3,470	692	327	832	433	59
12	283	575	e220	e165	e151	e133	3,580	700	315	634	329	60
13	290	587	e213	e164	e152	e134	3,860	703	307	464	276	63
14	286	597	e208	e164	e154	e134	3,660	666	302	385	268	66
15	275	585	e206	e163	e155	e136	3,130	629	300	367	316	63
16	269	564	e204	e163	e156	e136	2,720	598	305	365	291	62
17	261	543	e201	e162	e157	e138	2,480	573	315	350	251	65
18	249	520	e200	e162	e157	e199	2,210	545	334	336	225	69
19	238	498	e198	e162	e153	e281	1,960	514	318	507	199	72
20	230	e400	e197	e161	e148	e422	1,790	482	299	985	175	74
21	222	e361	e196	e161	e143	e642	1,650	459	299	1,030	155	78
22	215	e347	e195	e161	e140	e932	1,520	479	426	906	139	80
23	208	e333	e194	e161	e138	e1,100	1,530	626	549	811	130	84
24	212	e325	e194	e161	e138	e1,230	1,460	571	661	727	121	85
25	209	e318	e193	e161	e138	e1,400	1,390	599	689	618	112	85
26	225	e309	e192	e161	e137	e1,700	1,370	633	754	521	108	82
27	505	e297	e191	e160	e137	e2,650	1,360	612	1,090	452	101	85
28	1,070	e286	e190	e160	e136	e3,080	1,280	570	1,250	400	90	81
29	1,250	e279	e189	e160	---	e3,060	1,140	531	1,220	392	85	77
30	1,370	e275	e185	e158	---	e2,800	993	506	1,220	367	80	71
31	1,540	---	e170	e158	---	e2,680	---	541	---	321	77	---
Total	14,301	21,837	6,693	5,082	4,193	24,459	83,343	19,279	16,473	22,004	12,241	2,195
Mean	461	728	216	164	150	789	2,778	622	549	710	395	73.2
Max	1,540	1,810	272	179	157	3,080	5,540	889	1,250	1,260	1,160	85
Min	208	275	170	158	136	132	993	459	299	321	77	59
Ac-ft	28,370	43,310	13,280	10,080	8,320	48,510	165,300	38,240	32,670	43,640	24,280	4,350
Cfsm	0.47	0.75	0.22	0.17	0.15	0.81	2.85	0.64	0.56	0.73	0.40	0.08
In.	0.55	0.83	0.26	0.19	0.16	0.93	3.18	0.74	0.63	0.84	0.47	0.08

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1931 - 2011, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	90.9	98.1	46.7	30.8	33.4	258	663	280	274	224	89.6	78.1
Max	1,124	728	240	164	285	2,629	3,412	1,144	2,138	2,814	910	534
(WY)	(2009)	(2009)	(1999)	(2011)	(1998)	(2009)	(1997)	(1998)	(1962)	(1975)	(1993)	(2010)
Min	5.48	8.74	4.75	0.87	0.76	2.26	33.5	27.2	15.1	2.23	0.00	0.79
(WY)	(1940)	(1937)	(1938)	(1940)	(1940)	(1940)	(1931)	(1931)	(1934)	(1936)	(1936)	(1936)

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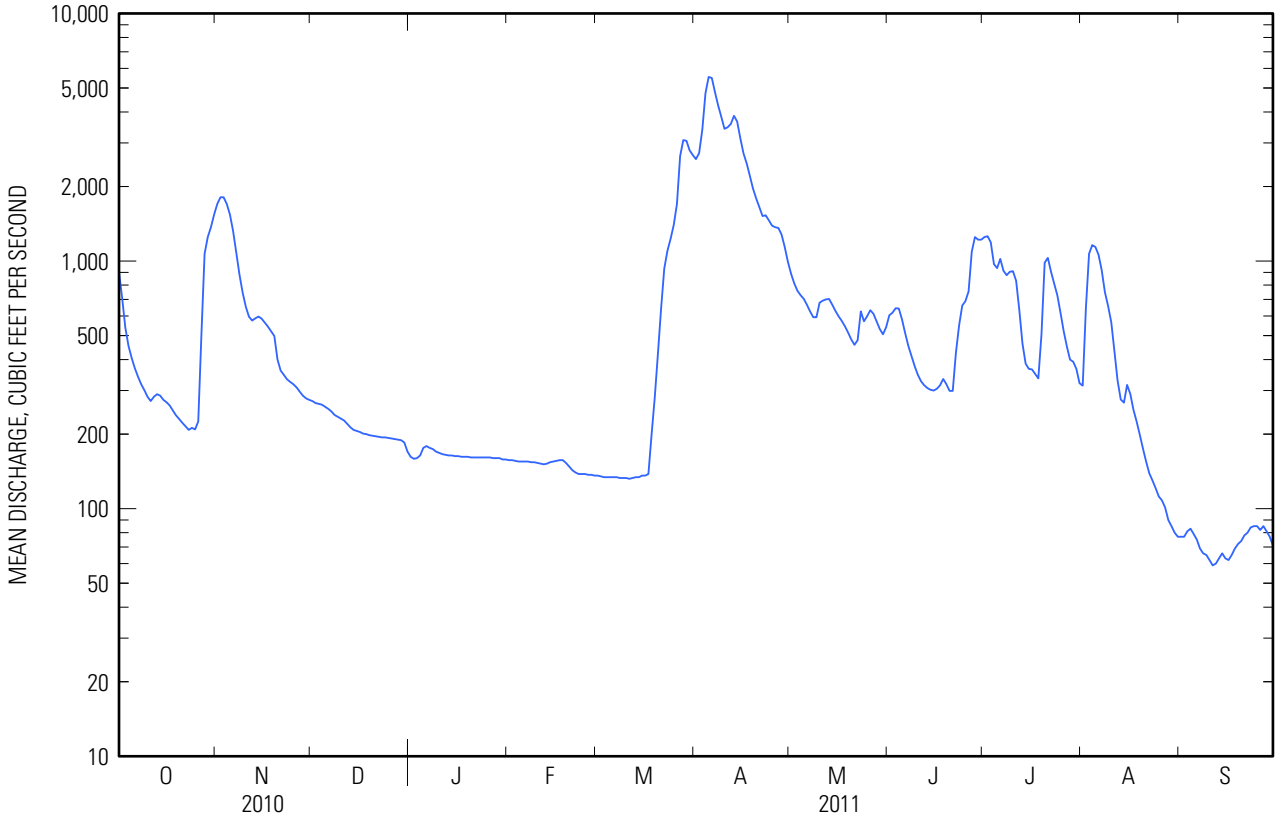
SUMMARY STATISTICS

	Calendar Year 2010		Water Year 2011		Water Years 1931 - 2011	
Annual total	194,777		232,100			
Annual mean	534		636		182	
Highest annual mean					727	2009
Lowest annual mean					25.6	1934
Highest daily mean	6,830	Mar 17	5,540	Apr 5	13,500	Jul 2, 1975
Lowest daily mean	85	Feb 24	59	Sep 11	[a]0.00	Jul 22, 1936
Annual seven-day minimum	86	Feb 19	62	Sep 10	0.00	Jul 28, 1936
Maximum peak flow			5,750	Apr 6	13,600	Jul 2, 1975
Maximum peak stage			22.89	Apr 6	27.10	Jul 2, 1975
Instantaneous low flow			57	Sep 11	[a]0.00	Jul 22, 1936
Annual runoff (ac-ft)	386,300		460,400		131,900	
Annual runoff (cfsm)	0.547		0.652		0.187	
Annual runoff (inches)	7.43		8.86		2.54	
10 percent exceeds	977		1,420		410	
50 percent exceeds	347		302		50	
90 percent exceeds	92		110		11	

[a] Occurred many days in 1936.