



Water-Data Report 2009

05293000 YELLOW BANK RIVER NEAR ODESSA, MN

Minnesota Basin
Upper Minnesota Subbasin

LOCATION.--Lat 45°13'37", long 96°21'12" referenced to North American Datum of 1927, in SW ¼ SW ¼ sec.6, T.120 N., R.45 W., Lac Qui Parle County, MN, Hydrologic Unit 07020001, on left bank 1,200 ft upstream from highway bridge, 2.5 mi southwest of Odessa, and 4.5 mi upstream from mouth.

DRAINAGE AREA.--459 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1939 to September 1999, October 1999 to March 2001 (peak flow only), April 2001 to current year.

REVISED RECORDS.--WSP 1388: 1947(M), 1950. WDR MN-95-1: Sept. 5 (Q). WRIR 97-4249: Drainage area. Unpublished: 1974(M).

GAGE.--Water-stage recorder. Datum of gage is 953.34 ft above sea level (U.S. Army Corps of Engineers benchmark, NGVD of 1929). Prior to Aug. 28, 1940, nonrecording gage at site 150 ft upstream at same datum.

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

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 300 ft³/s and (or) maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)
Mar 18	(daily)	e2,510	--
Mar 24	1600	*4,170	*13.78

Minimum discharge, 7.2 ft³/s, Sept. 19, 20, gage height, 1.59 ft.

e – Estimated.

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DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009
DAILY MEAN VALUES

[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	11	28	29	e18	e14	e9.9	397	117	32	14	9.6	10
2	11	27	32	e18	e12	e11	353	122	29	13	9.8	9.7
3	11	26	28	e18	e12	e12	338	119	28	14	8.3	9.7
4	11	26	29	e18	e11	e13	339	113	27	16	8.1	9.2
5	12	26	30	e18	e9.9	e15	342	106	25	14	7.9	8.8
6	14	28	28	e17	e11	e16	314	99	24	13	8.0	8.7
7	21	39	26	e17	e11	e18	274	94	25	14	18	8.5
8	19	49	28	e17	e11	e21	245	89	28	17	17	8.4
9	16	51	28	e17	e11	e21	224	84	31	19	16	8.4
10	15	49	27	e17	e15	e19	207	79	34	19	12	8.2
11	17	45	27	e17	e14	e18	194	78	36	21	11	8.6
12	18	43	26	e16	e13	e24	182	76	34	22	11	9.0
13	20	41	27	e14	e12	e36	171	74	33	21	10	8.4
14	19	41	24	e12	e12	e47	160	69	30	24	9.3	8.3
15	18	39	20	e12	e11	e143	152	67	28	24	8.9	8.2
16	18	36	e20	e12	e11	e641	144	62	26	22	9.2	7.6
17	19	39	e20	e12	e13	e1,600	138	60	24	24	10	7.6
18	20	e39	e20	e13	e13	e2,510	139	58	23	23	11	8.0
19	17	40	e19	e14	e12	e1,820	141	56	23	20	18	7.6
20	19	e37	e19	e14	e13	e1,110	139	53	23	18	25	7.7
21	18	39	e19	e14	e11	e851	128	49	22	17	23	9.3
22	19	42	e19	e13	e12	734	122	47	23	15	28	8.9
23	24	38	e18	e13	e11	1,650	117	44	22	13	27	10
24	27	35	e18	e13	e13	3,580	111	42	22	12	26	11
25	31	33	e18	e13	e12	2,660	108	41	23	11	23	15
26	34	36	e20	e13	e11	1,440	106	40	22	11	20	17
27	33	35	e19	e12	e11	920	106	39	21	11	18	18
28	30	33	e18	e12	e10	724	107	39	19	9.8	15	15
29	30	33	e19	e13	---	609	110	39	17	9.2	13	19
30	29	33	e19	e13	---	524	114	37	15	9.1	13	21
31	29	---	e19	e15	---	459	---	35	---	8.8	12	---
Total	630	1,106	713	455	332.9	22,255.9	5,722	2,127	769	498.9	456.1	314.8
Mean	20.3	36.9	23.0	14.7	11.9	718	191	68.6	25.6	16.1	14.7	10.5
Max	34	51	32	18	15	3,580	397	122	36	24	28	21
Min	11	26	18	12	9.9	9.9	106	35	15	8.8	7.9	7.6
Ac-ft	1,250	2,190	1,410	902	660	44,140	11,350	4,220	1,530	990	905	624
Cfs/m	0.04	0.08	0.05	0.03	0.03	1.56	0.42	0.15	0.06	0.04	0.03	0.02
In.	0.05	0.09	0.06	0.04	0.03	1.80	0.46	0.17	0.06	0.04	0.04	0.03

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 2009, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	24.7	24.4	13.2	8.17	16.8	177	258	111	112	60.1	28.0	16.1
Max	588	256	86.3	68.0	147	718	1,614	652	577	741	281	273
(WY)	(1996)	(1996)	(1996)	(1994)	(1998)	(2009)	(1997)	(1972)	(1992)	(1993)	(1991)	(1985)
Min	0.31	0.44	0.32	0.09	0.00	1.59	9.13	2.94	1.83	0.27	0.09	0.08
(WY)	(1941)	(1977)	(1977)	(1977)	(1977)	(1965)	(1981)	(1981)	(1976)	(1976)	(1976)	(1976)

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SUMMARY STATISTICS

	Calendar Year 2008		Water Year 2009		Water Years 1940 - 2009	
Annual total	44,914.0		35,380.6			
Annual mean	123		96.9		^a 71.0	
Highest annual mean					237	1996
Lowest annual mean					3.98	1981
Highest daily mean	4,200	Jun 13	3,580	Mar 24	6,640	Apr 9, 1969
Lowest daily mean	9.2	Feb 25	^b 7.6	Sep 16	^c 0.00	Jan 26, 1940
Annual seven-day minimum	9.6	Feb 21	7.9	Sep 14	0.00	Jan 26, 1940
Maximum peak flow			4,170	Mar 24	6,970	Apr 9, 1969
Maximum peak stage			13.78	Mar 24	19.07	Apr 9, 1969
Instantaneous low flow			7.2	Sep 19	^c 0.00	Jan 26, 1940
Annual runoff (ac-ft)	89,090		70,180		51,420	
Annual runoff (cfsm)	0.267		0.211		0.155	
Annual runoff (inches)	3.64		2.87		2.10	
10 percent exceeds	287		138		150	
50 percent exceeds	29		20		12	
90 percent exceeds	11		10		1.1	

^a Median of annual mean discharges is 53 ft³/s.

^b Also occurred September 17 and 19.

^c Many days, several years.

