Water-Data Report 2008

05059700 MAPLE RIVER NEAR ENDERLIN, ND

Devils Lake-Sheyenne Basin
Maple Subbasin

LOCATION.--Lat 46°37′18″, long 97°34′25″ referenced to North American Datum of 1927, in W ¼ sec.2, T.136 N., R.55 W., Ransom County, ND, Hydrologic Unit 09020205, on left bank 25 ft downstream from county highway bridge, 1 mi downstream from South Branch, and 1.2 mi east of Enderlin.

DRAINAGE AREA.--843 mi^2 of which 47 mi^2 probably is noncontributing.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--DAILY DISCHARGE--June 1956 to current year.

PERIOD OF RECORD.--DAILY GAGE HEIGHT--October 2000 to current year.

REVISED RECORDS.--WSP 1728: Drainage area.

GAGE.--Water stage recorder. Datum of gage is 1,056.72 ft above National Geodetic Vertical Datum of 1929. September 21, 1956 to June 9, 1969, recording gage on right bank at same datum. Prior to September 20, 1956, nonrecording gage at site 25 ft upstream at same datum.

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

05059700 MAPLE RIVER NEAR ENDERLIN, ND—Continued

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008
DAILY MEAN VALUES
[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	12	11	e5.9	e4.0	e3.4	e2.0	81	32	11	170	8.0	4.8
2	9.4	10	e5.9	e4.0	e3.3	e2.0	88	38	9.4	120	7.1	6.6
3	7.7	9.7	e5.8	e4.1	e3.2	e2.0	92	33	14	86	6.0	6.1
4	6.9	9.6	e5.8	e4.3	e3.1	e2.0	115	32	16	64	4.7	6.3
5	6.4	11	e5.7	e4.4	e3.1	e2.0	135	29	21	49	4.9	6.3
6	6.7	13	e5.5	e4.4	e3.1	e2.0	159	25	45	39	4.5	6.1
7	8.7	13	e5.4	e4.2	e3.0	e2.0	173	22	62	41	3.8	6.0
8	9.3	12	e5.3	e4.1	e2.9	e2.0	120	20	96	61	3.8	6.1
9	8.6	10	e5.2	e4.0	e2.8	e2.2	95	20	86	64	3.7	6.2
10	7.8	8.7	e5.2	e4.0	e2.7	e2.8	91	19	71	64	3.3	5.3
11	7.7	8.8	e5.3	e4.0	e2.7	e3.2	91	17	112	71	4.7	33
12	7.8	8.7	e5.4	e3.9	e2.6	e3.5	79	17	272	55	5.6	29
13	7.9	8.9	e5.5	e3.9	e2.5	e3.3	69	16	613	87	4.6	34
14	8.5	8.4	e5.7	e3.9	e2.3	e3.1	60	15	832	80	4.3	28
15	8.2	8.1	e5.7	e3.9	e2.3	e3.0	62	15	893	58	4.0	17
16	9.4	8.2	e5.8	e3.7	e2.3	e2.8	65	14	777	51	3.6	15
17	9.5	8.7	e5.8	e3.7	e2.2	e2.7	74	13	644	42	3.3	25
18	13	10	e5.8	e3.7	e2.2	e2.7	80	13	509	37	3.1	20
19	15	10	e5.7	e3.7	e2.1	e3.4	76	13	384	32	2.9	17
20	15	e9.7	e5.7	e3.7	e2.1	e5.0	68	12	276	30	2.7	14
21	15	e9.0	e5.6	e3.7	e2.1	e7.0	63	11	195	27	2.6	13
22	14	8.5	e5.6	e3.6	e2.1	e10	58	9.7	147	23	2.4	15
23	13	8.4	e5.4	e3.6	e2.1	e15	53	9.4	114	19	2.4	13
24	13	8.3	e5.3	e3.7	e2.1	20	51	9.2	90	19	2.5	11
25	14	e8.0	e5.2	e3.9	e2.1	23	46	13	105	18	2.5	11
26	14	e7.5	e5.0	e4.0	e2.1	e30	44	12	89	15	2.5	10
27	13	e7.0	e4.8	e4.0	e2.1	e34	40	10	78	13	3.3	9.3
28	12	e6.6	e4.6	e3.9	e2.1	40	37	9.8	69	12	3.0	9.0
29	13	e6.3	e4.5	e3.8	e2.1	41	35	9.8	133	11	3.4	7.1
30	13	e6.0	e4.3	e3.7	---	68	34	14	179	9.4	3.6	6.0
31	12	---	e4.2	e3.5	---	73	---	14	---	9.0	3.2	---
Total	331.5	273.1	166.6	121.0	72.8	414.7	2,334	536.9	6,942.4	1,476.4	120.0	396.2
Mean	10.7	9.10	5.37	3.90	2.51	13.4	77.8	17.3	231	47.6	3.87	13.2
Max	15	13	5.9	4.4	3.4	73	173	38	893	170	8.0	34
Min	6.4	6.0	4.2	3.5	2.1	2.0	34	9.2	9.4	9.0	2.4	4.8
Ac-ft	658	542	330	240	144	823	4,630	1,060	13,770	2,930	238	786

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1956 - 2008, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	10.3	9.45	4.79	2.78	5.56	141	279	71.9	74.9	66.5	20.8	12.5
Max	211	110	50.4	7.78	123	622	2,162	669	730	875	506	122
(WY)	(1995)	(2005)	(1999)	(1999)	(1998)	(1966)	(1997)	(1999)	(2007)	(1993)	(1993)	(1999)
Min	1.52	1.49	1.32	1.21	1.27	2.10	2.06	2.19	1.41	1.44	1.33	1.28
(WY)	(1993)	(1961)	(1961)	(1969)	(2002)	(1969)	(1991)	(1992)	(1961)	(1961)	(1961)	(1984)

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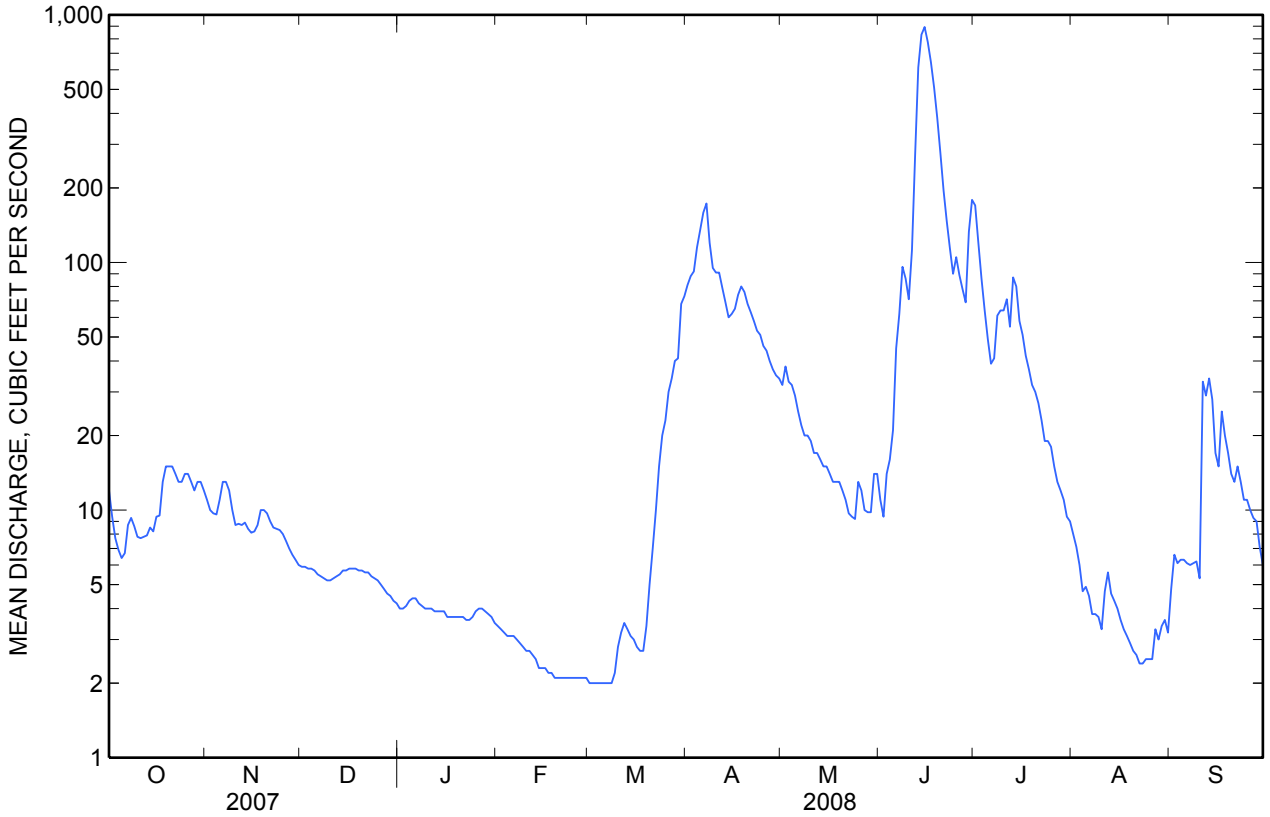
SUMMARY STATISTICS

	Calendar Year 2007		Water Year 2008		Water Years 1956 - 2008	
Annual total	49,541.3		13,185.6			
Annual mean	136		36.0		58.6	
Highest annual mean					242	1997
Lowest annual mean					2.14	1990
Highest daily mean	1,990	Jun 22	893	Jun 15	5,450	Jun 30, 1975
Lowest daily mean	1.5	Feb 6	2.0	Mar 1	0.10	Dec 7, 1963
Annual seven-day minimum	1.5	Feb 6	2.0	Mar 1	0.67	Dec 7, 1963
Maximum peak flow			920	Jun 15	7,610	Jun 30, 1975
Maximum peak stage			6.81	Jun 15	15.41	Jun 30, 1975
Annual runoff (ac-ft)	98,270		26,150		42,440	
10 percent exceeds	509		80		97	
50 percent exceeds	11		8.9		4.1	
90 percent exceeds	1.9		2.7		1.8	



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GAGE HEIGHT, FEET
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008
DAILY MEAN VALUES

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	2.80	2.78	2.72	2.77	2.68	2.64	3.43	3.02	2.76	4.02	2.66	2.60
2	2.76	2.78	2.72	2.73	2.66	2.64	3.49	3.08	2.73	3.72	2.65	2.64
3	2.74	2.77	2.72	2.69	2.66	2.72	3.53	3.02	2.81	3.48	2.62	2.63
4	2.72	2.77	2.72	2.68	2.66	2.65	3.73	3.02	2.83	3.28	2.60	2.63
5	2.71	2.79	2.71	2.68	2.65	2.64	3.89	2.98	2.89	3.14	2.60	2.63
6	2.72	2.81	2.71	2.68	2.65	2.64	4.07	2.94	3.16	3.05	2.60	2.63
7	2.75	2.81	2.71	2.69	2.65	2.64	4.17	2.90	3.32	3.06	2.58	2.62
8	2.76	2.80	2.71	2.70	2.65	2.64	3.81	2.88	3.62	3.26	2.58	2.63
9	2.75	2.78	2.72	2.70	2.66	2.64	3.61	2.88	3.53	3.29	2.58	2.63
10	2.74	2.75	2.73	2.69	2.83	2.64	3.58	2.87	3.39	3.28	2.57	2.61
11	2.74	2.76	2.72	2.70	2.83	2.67	3.58	2.85	3.73	3.34	2.60	2.98
12	2.74	2.75	2.72	2.70	2.71	2.72	3.47	2.84	4.67	3.20	2.62	2.94
13	2.74	2.76	2.72	2.70	2.66	2.97	3.38	2.83	5.98	3.49	2.60	3.00
14	2.75	2.75	2.73	2.70	2.67	2.96	3.29	2.82	6.61	3.43	2.59	2.95
15	2.75	2.74	2.74	2.70	2.67	2.98	3.32	2.82	6.72	3.23	2.59	2.83
16	2.76	2.75	2.74	2.69	2.66	2.87	3.35	2.80	6.32	3.17	2.58	2.81
17	2.77	2.75	2.73	2.70	2.64	2.85	3.43	2.79	5.85	3.07	2.57	2.94
18	2.82	2.77	2.70	2.70	2.64	2.93	3.48	2.78	5.42	3.02	2.56	2.89
19	2.85	2.78	2.71	2.72	---	2.98	3.45	2.78	4.98	2.97	2.56	2.85
20	2.85	2.78	2.71	2.72	---	2.95	3.37	2.78	4.54	2.94	2.55	2.82
21	2.85	2.77	2.71	2.71	---	2.90	3.32	2.75	4.16	2.91	2.55	2.79
22	2.83	2.75	2.73	2.71	2.64	2.91	3.28	2.74	3.89	2.86	2.54	2.83
23	2.82	2.75	2.71	2.70	2.63	2.86	3.24	2.73	3.68	2.82	2.54	2.79
24	2.82	2.75	2.71	2.71	2.64	2.82	3.21	2.73	3.51	2.82	2.54	2.77
25	2.84	2.75	2.71	2.71	2.64	2.86	3.17	2.79	3.62	2.81	2.54	2.76
26	2.83	2.75	2.72	2.70	2.64	3.07	3.14	2.77	3.50	2.77	2.54	2.76
27	2.81	2.76	2.73	2.70	2.64	3.10	3.10	2.75	3.41	2.74	2.56	2.74
28	2.80	2.73	2.74	2.69	2.64	3.05	3.07	2.74	3.33	2.73	2.56	2.74
29	2.81	2.72	2.74	2.85	2.64	3.05	3.05	2.74	3.80	2.71	2.57	2.71
30	2.82	2.71	2.74	2.78	---	3.31	3.04	2.80	4.07	2.68	2.58	2.69
31	2.81	---	2.75	2.71	---	3.35	---	2.80	---	2.68	2.57	---
Mean	2.78	2.76	2.72	2.71	---	2.86	3.44	2.84	4.09	3.10	2.58	2.76
Max	2.85	2.81	2.75	2.85	---	3.35	4.17	3.08	6.72	4.02	2.66	3.00
Min	2.71	2.71	2.70	2.68	---	2.64	3.04	2.73	2.73	2.68	2.54	2.60

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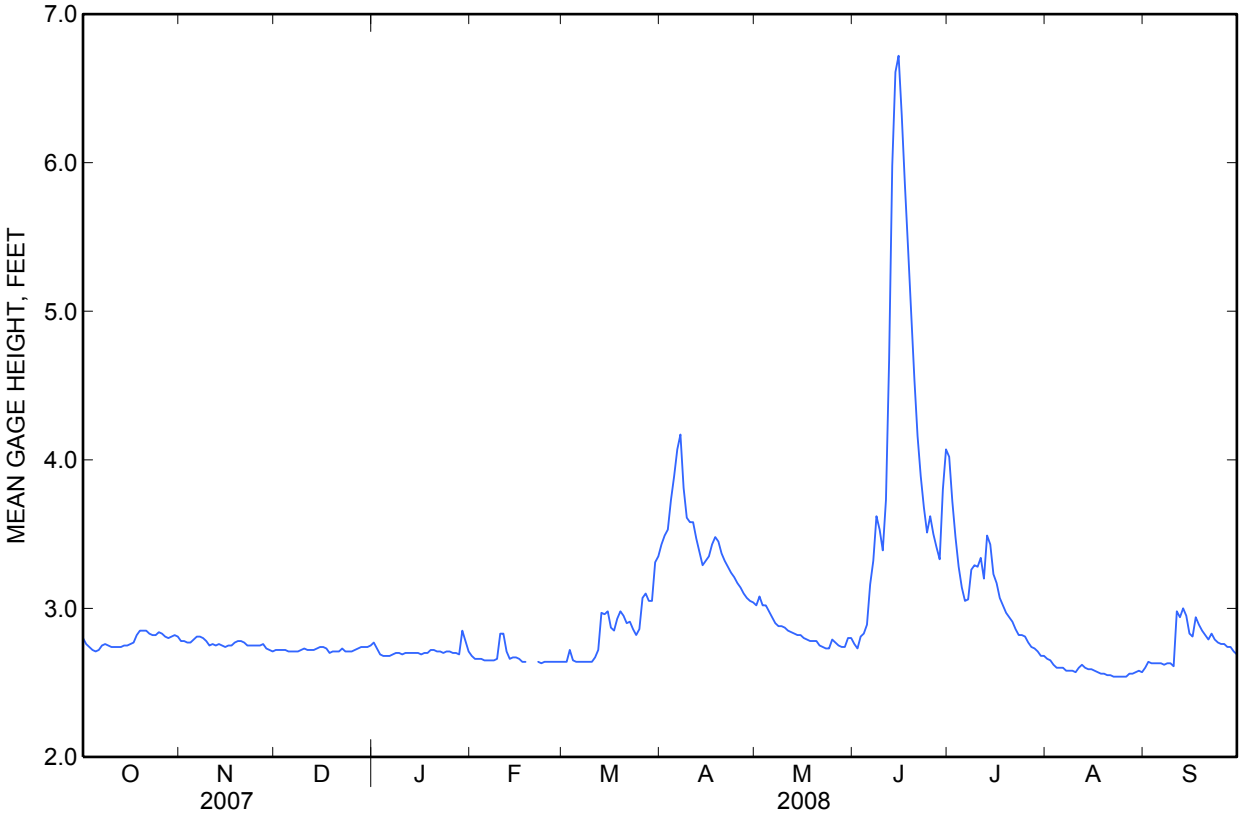

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WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water year 1972 to current year.

WATER-QUALITY DATA
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008
Part 1 of 3
[Remark codes: <, less than.]

Date	Time	Instantaneous discharge, ft3/s (00061)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unf lab, µS/cm 25 degC (90095)	Specific conductance, wat unf µS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	Sodium adsorption ratio (00931)
Apr													
16...	0845	68	8.4	7.8	1,410	1,350	7.6	9.8	600	132	65.0	14.4	1.9
Aug													
06...	1330	4.7	7.5	7.8	1,820	1,790	28.7	19.7	760	186	70.9	10.8	1.7

WATER-QUALITY DATA
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008
Part 2 of 3
[Remark codes: <, less than.]

Date	Sodium fraction of cations percent (00932)	Sodium, water, fltrd, mg/L (00930)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L as SiO2 (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents mg/L (70301)	Residue water, dissolved, tons/d (70302)	Aluminum, water, fltrd, µg/L (01106)	Antimony, water, fltrd, µg/L (01095)	Arsenic water, fltrd, µg/L (01000)	Barium, water, fltrd, µg/L (01005)
Apr													
16...	27	104	228	51.6	.21	18.0	464	874	181	<50	<1.00	4.5	40
Aug													
06...	23	105	361	94.8	.27	21.9	546	1,130	15.8	<50	<1.00	6.5	45

WATER-QUALITY DATA
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008
Part 3 of 3
[Remark codes: <, less than.]

Date	Beryllium, water, fltrd, µg/L (01010)	Boron, water, fltrd, µg/L (01020)	Cadmium water, fltrd, µg/L (01025)	Chromium, water, fltrd, µg/L (01030)	Copper, water, fltrd, µg/L (01040)	Iron, water, fltrd, µg/L (01046)	Lead, water, fltrd, µg/L (01049)	Manganese, water, fltrd, µg/L (01056)	Nickel, water, fltrd, µg/L (01065)	Selenium, water, fltrd, µg/L (01145)	Silver, water, fltrd, µg/L (01075)	Thallium, water, fltrd, µg/L (01057)	Zinc, water, fltrd, µg/L (01090)
Apr													
16...	<1.00	154	<1.00	2.2	1.5	<50	<1.00	230	4.2	1.9	<1.0	<1.00	1.5
Aug													
06...	<1.00	249	<1.00	1.3	<1.0	72	<1.00	1,280	8.0	1.9	<1.0	<1.00	2.5