Water-Data Report 2008

06470500 JAMES RIVER AT LAMOURE, ND

James Basin
Upper James Subbasin

LOCATION.--Lat 46°21′20″, long 98°18′15″ referenced to North American Datum of 1927, in NE ¼ NE ¼ sec.11, T.133 N., R.61 W., La Moure County, ND, Hydrologic Unit 10160003, on left bank 80 ft downstream from bridge on State Highway 13, 0.5 mi west of LaMoure, and 12 mi upstream from Cottonwood Creek.

DRAINAGE AREA.--4,390 mi² of which 2,600 mi² probably is noncontributing.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--DAILY DISCHARGE--April to July 1903 (gage-height record only), April 1950 to current year.

PERIOD OF RECORD.--DAILY GAGE HEIGHT--October 1999 to current year. Gage-height records for 1902-11 are contained in reports of the National Oceanic and Atmospheric Administration.

REVISED RECORDS.--WSP 1917: Drainage area.

GAGE.--Water-stage recorder and rubble-masonry control. Datum of gage is 1,290.00 ft above National Geodetic Vertical Datum of 1929. See WSP 1729 or 1917 for history of changes prior to April 19, 1950.

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

REGULATION.--Flow regulated by Arrowwood, Jim, and Pipestem Lakes and Jamestown Reservoir, combined capacity, 393,000 acre-ft. Regulation by Jamestown Reservoir (station 06469000) 85 mi upstream since 1953 and by Pipestem Lake, capacity 147,000 acre-ft, since 1973.

EXTREMES OUTSIDE PERIOD OF RECORD.--Prior to flood of April 14, 1969, a long-time resident said that the flood of May 16, 1950, was the highest since 1881, with stage in either 1942 or 1943 being almost as high owing to large ice jam.

06470500 JAMES RIVER AT LAMOURE, 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	89	129	e52	e45	e27	e26	139	83	59	170	98	e76
2	100	138	e51	e44	e27	e26	131	95	63	161	102	e77
3	87	130	e50	e43	e27	e26	131	72	79	141	102	e54
4	89	133	e49	e42	e27	e27	127	77	80	119	97	e55
5	82	142	e48	e41	e26	e27	124	68	79	105	99	e75
6	85	122	e48	e41	e26	e26	122	69	95	100	98	e90
7	111	128	e48	e41	e25	e26	107	70	95	100	95	e100
8	128	127	e47	e42	e25	e27	103	64	98	99	88	e106
9	185	130	e47	e42	e26	e27	96	67	112	95	89	109
10	180	121	e46	e42	e26	e28	105	75	99	108	88	119
11	153	115	e46	e41	e26	e30	112	56	100	115	98	148
12	149	95	e45	e40	e26	e35	97	62	126	90	123	121
13	146	e92	e45	e40	e26	e43	94	70	211	68	e168	101
14	152	e89	e45	e39	e27	e51	79	55	336	62	e150	85
15	153	84	e46	e38	e26	e60	85	65	389	63	e122	64
16	154	e89	e46	e39	e26	e72	107	65	337	65	e112	57
17	155	94	e46	e37	e26	e85	92	65	280	77	e103	48
18	171	93	e46	e36	e26	e97	97	49	236	100	e101	44
19	156	e88	e46	e35	e26	e110	93	56	208	112	e92	46
20	154	e79	e46	e32	e24	e128	81	54	192	102	e79	42
21	161	e73	e46	e31	e24	147	100	48	186	83	e75	38
22	152	e66	e45	e30	e24	156	87	72	169	68	e95	45
23	156	59	e45	e29	e24	157	93	67	165	59	e80	e55
24	136	e58	e44	e29	e24	152	95	49	176	66	e76	e70
25	138	e57	e45	e28	e25	152	96	57	179	77	e68	e59
26	144	e56	e45	e28	e25	153	88	51	178	149	e75	e52
27	138	e56	e45	e28	e25	153	75	38	214	133	e70	e48
28	134	e55	e45	e28	e25	151	77	47	203	110	e71	e48
29	138	e54	e45	e26	e26	146	68	56	179	98	e75	e47
30	143	e53	e45	e27	---	151	72	62	179	85	e69	e47
31	137	---	e45	e27	---	146	---	63	---	85	e66	---
Total	4,256	2,805	1,438	1,111	743	2,641	2,973	1,947	5,102	3,065	2,924	2,126
Mean	137	93.5	46.4	35.8	25.6	85.2	99.1	62.8	170	98.9	94.3	70.9
Max	185	142	52	45	27	157	139	95	389	170	168	148
Min	82	53	44	26	24	26	68	38	59	59	66	38
Ac-ft	8,440	5,560	2,850	2,200	1,470	5,240	5,900	3,860	10,120	6,080	5,800	4,220

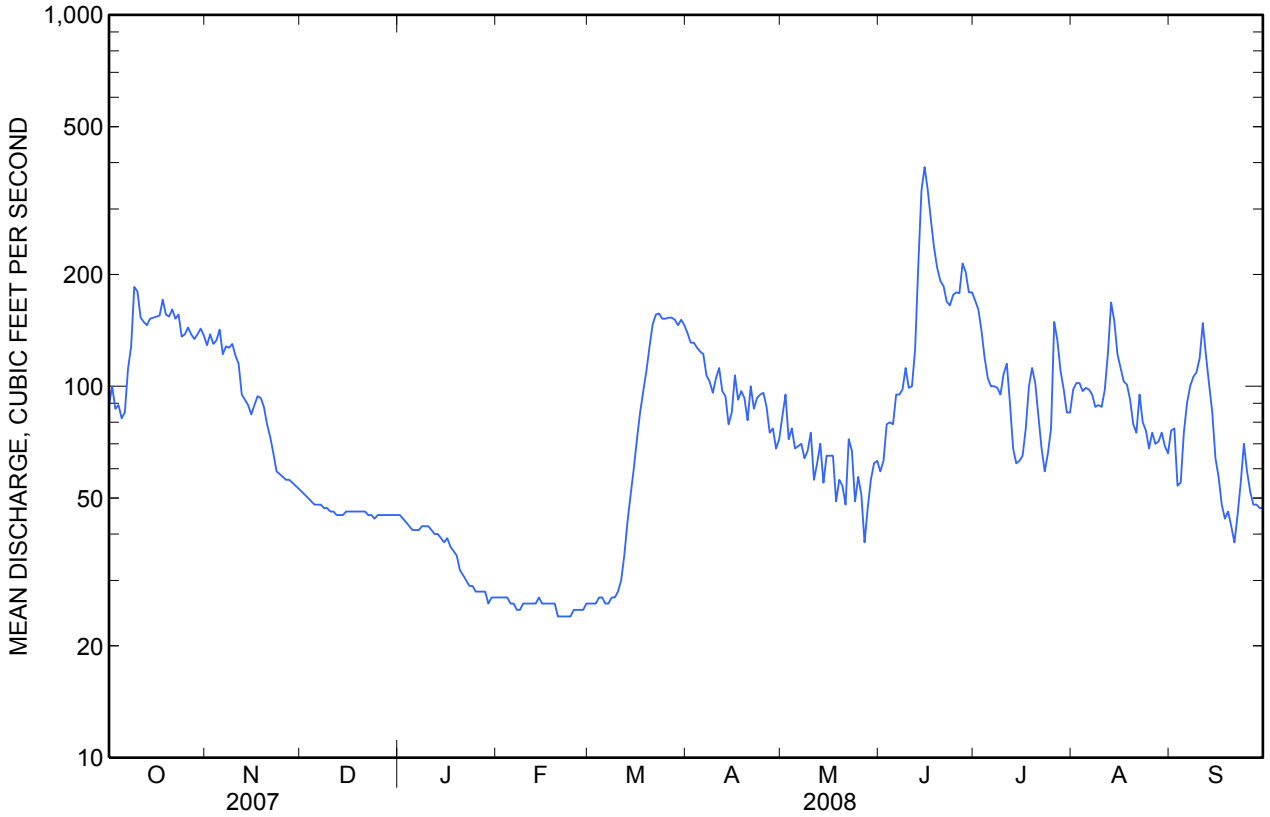
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1950 - 2008, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	110	67.5	28.5	17.6	21.8	188	420	344	293	224	153	123
Max	1,008	574	168	75.1	135	1,202	3,209	3,114	1,399	1,165	894	939
(WY)	(1994)	(2001)	(2001)	(1995)	(2000)	(1966)	(1997)	(1950)	(2001)	(1995)	(1995)	(1993)
Min	5.32	8.42	6.83	3.69	1.90	4.57	18.0	12.4	8.10	1.93	3.20	2.56
(WY)	(1991)	(1962)	(1989)	(1959)	(1959)	(1969)	(1991)	(1977)	(1973)	(1973)	(1961)	(1990)

06470500 JAMES RIVER AT LAMOURE, ND—Continued

SUMMARY STATISTICS

	Calendar Year 2007		Water Year 2008		Water Years 1950 - 2008	
Annual total	105,493		31,131			
Annual mean	289		85.1		162	
Highest annual mean					786	1997
Lowest annual mean					11.7	1990
Highest daily mean	2,330	Jun 21	389	Jun 15	6,420	Apr 14, 1969
Lowest daily mean	13	Feb 7	24	Feb 20	0.00	Jul 15, 1973
Annual seven-day minimum	13	Feb 6	24	Feb 20	0.01	Jul 17, 1973
Maximum peak flow			420	Jun 15	6,800	Apr 14, 1969
Maximum peak stage			8.41	Jun 15	16.17	Apr 14, 1969
Annual runoff (ac-ft)	209,200		61,750		117,600	
10 percent exceeds	679		152		468	
50 percent exceeds	199		75		35	
90 percent exceeds	16		27		8.0	

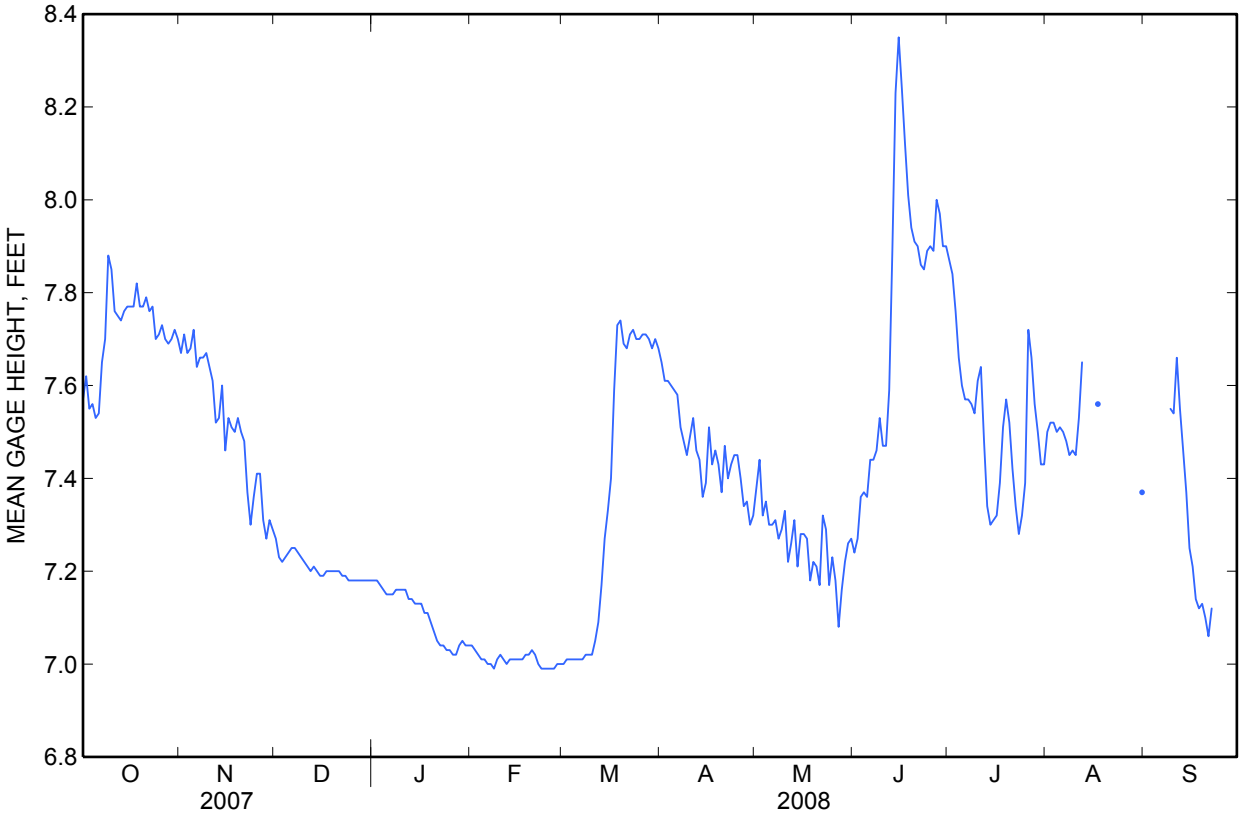


06470500 JAMES RIVER AT LAMOURE, ND—Continued

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	7.57	7.67	7.27	7.18	7.04	7.00	7.65	7.38	7.24	7.87	7.50	---
2	7.62	7.71	7.23	7.18	7.03	7.01	7.61	7.44	7.27	7.84	7.52	---
3	7.55	7.67	7.22	7.17	7.02	7.01	7.61	7.32	7.36	7.76	7.52	---
4	7.56	7.68	7.23	7.16	7.01	7.01	7.60	7.35	7.37	7.66	7.50	---
5	7.53	7.72	7.24	7.15	7.01	7.01	7.59	7.30	7.36	7.60	7.51	---
6	7.54	7.64	7.25	7.15	7.00	7.01	7.58	7.30	7.44	7.57	7.50	---
7	7.65	7.66	7.25	7.15	7.00	7.01	7.51	7.31	7.44	7.57	7.48	---
8	7.70	7.66	7.24	7.16	6.99	7.02	7.48	7.27	7.46	7.56	7.45	---
9	7.88	7.67	7.23	7.16	7.01	7.02	7.45	7.29	7.53	7.54	7.46	7.55
10	7.85	7.64	7.22	7.16	7.02	7.02	7.49	7.33	7.47	7.61	7.45	7.54
11	7.76	7.61	7.21	7.16	7.01	7.05	7.53	7.22	7.47	7.64	7.53	7.66
12	7.75	7.52	7.20	7.14	7.00	7.09	7.46	7.26	7.59	7.48	7.65	7.55
13	7.74	7.53	7.21	7.14	7.01	7.17	7.44	7.31	7.89	7.34	---	7.46
14	7.76	7.60	7.20	7.13	7.01	7.27	7.36	7.21	8.23	7.30	---	7.37
15	7.77	7.46	7.19	7.13	7.01	7.33	7.39	7.28	8.35	7.31	---	7.25
16	7.77	7.53	7.19	7.13	7.01	7.40	7.51	7.28	8.24	7.32	---	7.21
17	7.77	7.51	7.20	7.11	7.01	7.59	7.43	7.27	8.12	7.39	7.56	7.14
18	7.82	7.50	7.20	7.11	7.02	7.73	7.46	7.18	8.01	7.51	---	7.12
19	7.77	7.53	7.20	7.09	7.02	7.74	7.43	7.22	7.94	7.57	---	7.13
20	7.77	7.50	7.20	7.07	7.03	7.69	7.37	7.21	7.91	7.52	---	7.10
21	7.79	7.48	7.20	7.05	7.02	7.68	7.47	7.17	7.90	7.42	---	7.06
22	7.76	7.37	7.19	7.04	7.00	7.71	7.40	7.32	7.86	7.34	---	7.12
23	7.77	7.30	7.19	7.04	6.99	7.72	7.43	7.29	7.85	7.28	---	---
24	7.70	7.36	7.18	7.03	6.99	7.70	7.45	7.17	7.89	7.32	---	---
25	7.71	7.41	7.18	7.03	6.99	7.70	7.45	7.23	7.90	7.39	---	---
26	7.73	7.41	7.18	7.02	6.99	7.71	7.40	7.18	7.89	7.72	---	---
27	7.70	7.31	7.18	7.02	6.99	7.71	7.34	7.08	8.00	7.66	---	---
28	7.69	7.27	7.18	7.04	7.00	7.70	7.35	7.16	7.97	7.56	---	---
29	7.70	7.31	7.18	7.05	7.00	7.68	7.30	7.22	7.90	7.50	---	---
30	7.72	7.29	7.18	7.04	---	7.70	7.32	7.26	7.90	7.43	---	---
31	7.70	---	7.18	7.04	---	7.68	---	7.27	---	7.43	7.37	---
Mean	7.71	7.52	7.21	7.10	7.01	7.38	7.46	7.26	7.76	7.52	---	---
Max	7.88	7.72	7.27	7.18	7.04	7.74	7.65	7.44	8.35	7.87	---	---
Min	7.53	7.27	7.18	7.02	6.99	7.00	7.30	7.08	7.24	7.28	---	---

06470500 JAMES RIVER AT LAMOURE, ND—Continued



06470500 JAMES RIVER AT LAMOURE, ND—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water year 1957 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)
May													
28...	1230	46	9.0	8.4	1,160	1,130	16.0	14.5	380	65.5	51.9	24.2	2.3
Jun													
30...	1525	174	8.3	8.2	1,240	1,200	22.5	23.8	430	82.7	53.7	21.2	2.1

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)
May													
28...	37	104	263	48.7	.26	3.40	276	719	91.8	<50	<1.00	7.3	62
Jun													
30...	34	102	317	33.6	.24	18.9	300	769	378	<50	<1.00	5.4	66

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)
May													
28...	<1.00	289	<1.00	<1.0	1.8	<50	<1.00	571	4.9	1.6	<1.0	<1.00	<1.0
Jun													
30...	<1.00	220	<1.00	1.1	2.1	<50	<1.00	663	6.4	1.4	<1.0	<1.00	9.3