Water-Data Report 2012

05058700 SHEYENNE RIVER AT LISBON, ND

Devils Lake-Sheyenne Basin
Lower Sheyenne Subbasin

LOCATION.--Lat 46°26′49″, long 97°40′44″ referenced to North American Datum of 1927, in SE ¼ NE ¼ SE ¼ sec.2, T.134 N., R.56 W., Ransom County, ND, Hydrologic Unit 09020204, on left bank 150 ft downstream from dam at State Fish Hatchery at north edge of city of Lisbon, 3 mi upstream from Timber Coulee, and at mile 162.1.

DRAINAGE AREA.--8,190 mi^2 of which 5,700 mi^2 probably is noncontributing, including 3,800 mi^2 in closed basins.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--DAILY DISCHARGE--September 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 1,066.46 ft above National Geodetic Vertical Datum of 1929.

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

REGULATION.--Flow regulated by Lake Ashtabula (station 05057500), 108.5 mi upstream.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of May 1950, reached an elevation of 1080.29 ft. or 13.83 ft. at current gage datum (from 1950 flood report, WSP 1137-B). Elevation recorded at the U.S. Army Corps of Engineers gaging station in Lisbon.

Suggested citation: U.S. Geological Survey, 2013, Water-resources data for the United States, Water Year 2012: U.S. Geological Survey Water-Data Report WDR-US-2012, site 05058700, accessed at http://wdr.water.usgs.gov/wy2012/pdfs/05058700.2012.pdf

05058700 SHEYENNE RIVER AT LISBON, ND—Continued

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012
DAILY MEAN VALUES
[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	588	551	e360	e170	e116	e101	614	810	570	451	498	502
2	595	548	e330	e165	e115	e100	610	735	551	439	498	505
3	596	545	e320	e160	e115	e100	606	703	528	438	508	502
4	598	541	e320	e159	e115	e100	603	691	501	438	509	514
5	599	534	e320	e157	e115	e100	595	686	485	476	499	520
6	595	647	e310	e159	e115	e98	585	704	565	582	499	516
7	590	596	e300	e161	e115	e98	578	693	456	601	500	514
8	583	479	e305	e163	e114	e98	575	682	408	605	540	512
9	598	264	e305	e164	e112	e98	575	675	460	596	540	510
10	626	197	e315	e164	e110	e99	573	664	460	589	556	507
11	635	196	e320	e164	e109	e135	571	626	447	585	566	511
12	635	243	e315	e164	e110	e205	568	574	439	583	571	510
13	619	302	e310	e163	e114	e227	609	544	425	565	573	510
14	612	503	e280	e162	e115	e470	592	495	406	553	573	513
15	606	540	e250	e161	e116	e600	620	467	410	550	570	514
16	596	e520	e240	e160	e116	e527	622	379	400	550	566	523
17	588	e500	e235	e160	e114	436	598	352	389	552	564	530
18	582	e480	e230	e159	e110	352	596	361	397	512	565	526
19	575	e460	e227	e157	e104	331	593	351	452	338	566	527
20	572	e400	e220	e155	e101	283	603	314	317	321	565	524
21	568	e340	e210	e151	e101	253	621	307	194	288	565	520
22	566	e380	e210	e150	e101	229	619	296	143	273	563	517
23	565	e420	e205	e147	e101	213	613	275	131	272	549	524
24	563	e500	e200	e144	e101	245	603	292	133	276	514	527
25	570	e480	e190	e141	e101	305	619	328	361	336	499	528
26	706	e460	e185	e137	e101	361	740	314	522	397	494	517
27	614	e440	e180	e134	e102	600	789	357	553	447	497	473
28	558	e420	e180	e130	e102	625	790	416	506	506	501	462
29	439	e420	e175	e126	e102	619	803	576	497	503	502	460
30	454	e400	e170	e120	---	612	817	605	482	497	500	454
31	546	---	e170	e117	---	622	---	622	---	500	497	---
Total	18,137	13,306	7,887	4,724	3,163	9,242	18,900	15,894	12,588	14,619	16,507	15,272
Mean	585	444	254	152	109	298	630	513	420	472	532	509
Max	706	647	360	170	116	625	817	810	570	605	573	530
Min	439	196	170	117	101	98	568	275	131	272	494	454
Ac-ft	35,970	26,390	15,640	9,370	6,270	18,330	37,490	31,530	24,970	29,000	32,740	30,290

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1957 - 2012, BY WATER YEAR (WY)

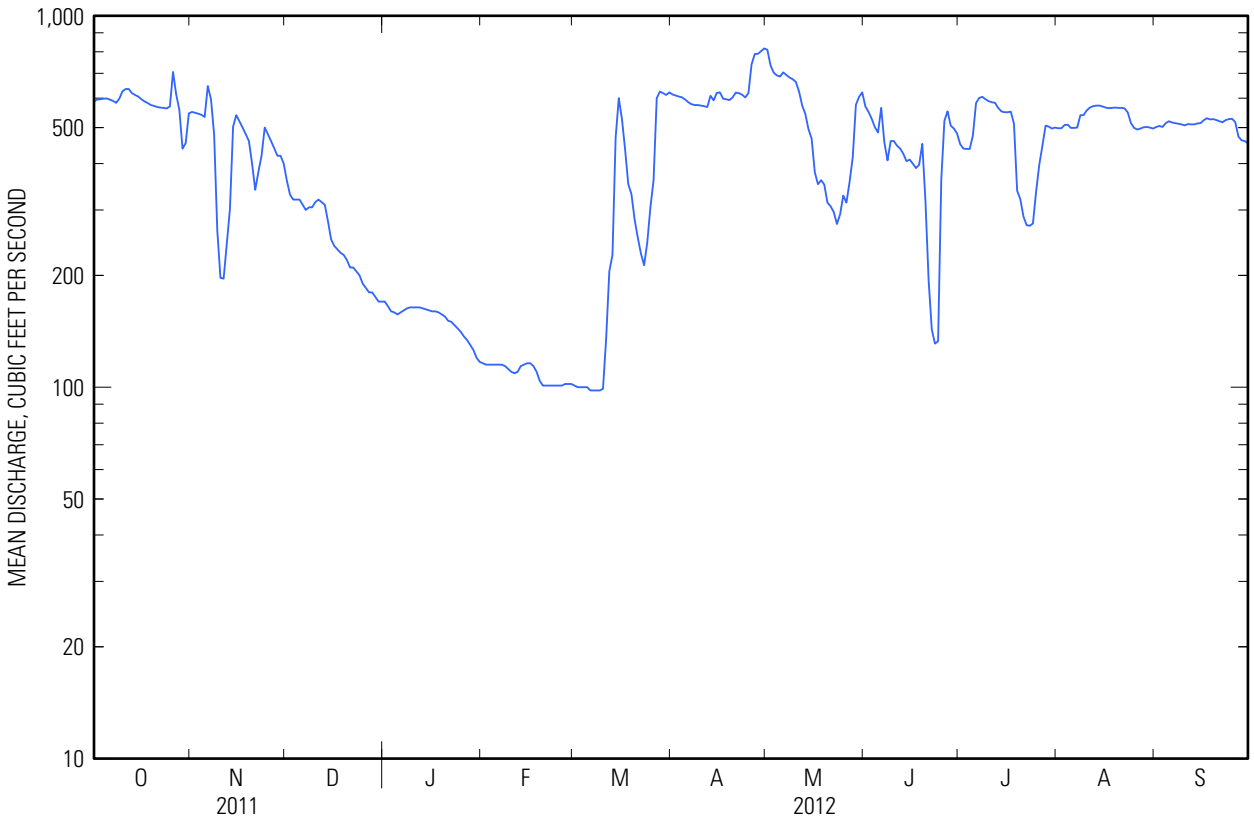
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	108	127	109	91.0	101	380	1,012	484	307	254	182	109
Max	716	546	393	399	413	2,082	5,995	3,273	1,569	2,369	3,103	680
(WY)	(1995)	(2011)	(2001)	(2011)	(1996)	(2010)	(2009)	(2011)	(2011)	(2011)	(2011)	(2011)
Min	7.66	12.2	8.69	8.15	10.7	19.8	20.3	17.5	14.8	6.07	6.54	5.25
(WY)	(1957)	(1991)	(1991)	(1991)	(1991)	(1964)	(1991)	(1959)	(1961)	(1973)	(1961)	(1959)

05058700 SHEYENNE RIVER AT LISBON, ND—Continued

SUMMARY STATISTICS

	Calendar Year 2011		Water Year 2012		Water Years 1957 - 2012	
Annual total	568,881		150,239			
Annual mean	1,559		410		272	
Highest annual mean					1,578	2011
Lowest annual mean					25.9	1991
Highest daily mean	8,220	Apr 20	817	Apr 30	9,140	Apr 16, 2009
Lowest daily mean	165	Mar 2	98	Mar 6	0.00	Oct 23, 1956
Annual seven-day minimum	171	Mar 8	99	Mar 4	0.87	Oct 1, 1956
Maximum peak flow			[a]821	Apr 30	9,250	Apr 16, 2009
Maximum peak stage			[b]6.14	Mar 15	22.86	Apr 16, 2009
Annual runoff (ac-ft)	1,128,000		298,000		197,100	
10 percent exceeds	4,010		611		571	
50 percent exceeds	588		478		86	
90 percent exceeds	203		116		17	

[a] Gage height, 5.72 ft.
[b] Backwater from ice.

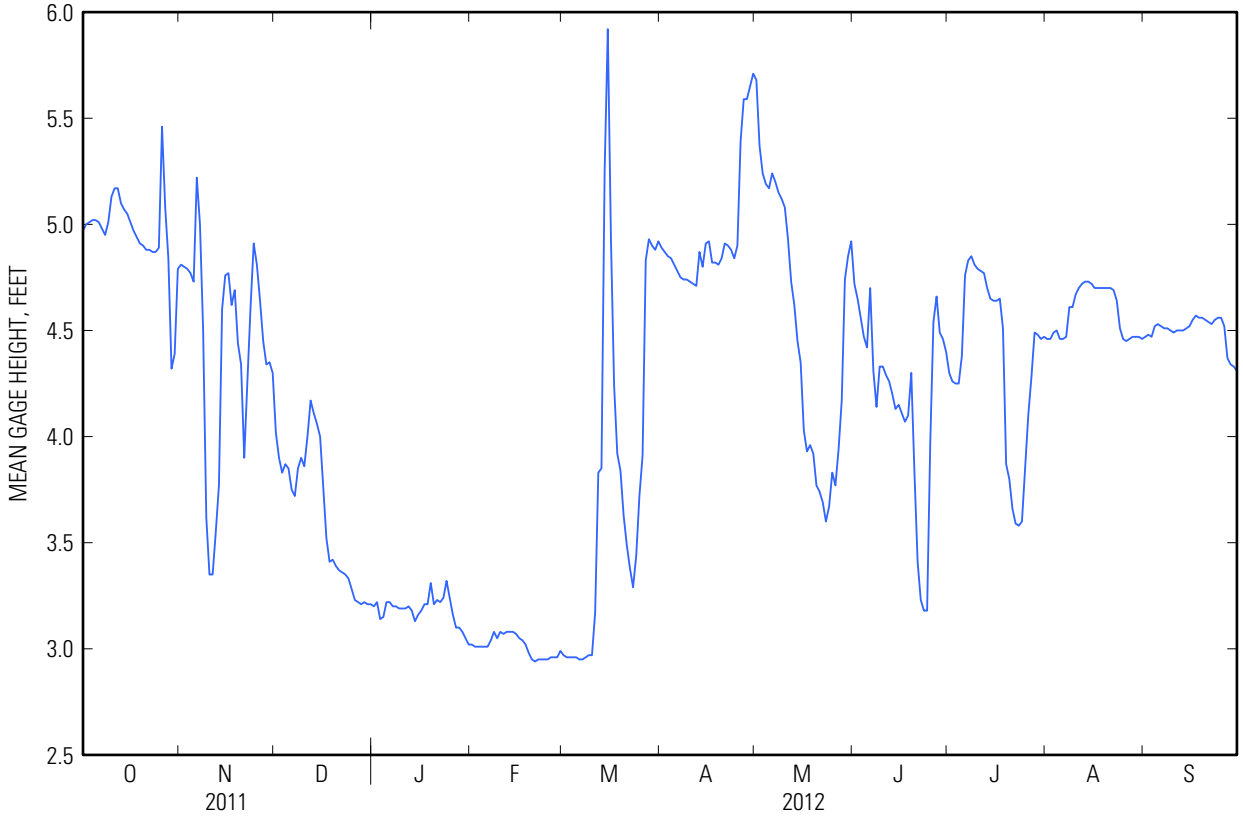


05058700 SHEYENNE RIVER AT LISBON, ND—Continued

GAGE HEIGHT, FEET
WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012
DAILY MEAN VALUES

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	4.97	4.81	4.02	3.20	3.02	2.97	4.89	5.68	4.72	4.30	4.46	4.47
2	5.00	4.80	3.90	3.22	3.01	2.96	4.87	5.37	4.65	4.26	4.46	4.48
3	5.01	4.79	3.83	3.14	3.01	2.96	4.85	5.24	4.56	4.25	4.49	4.47
4	5.02	4.77	3.87	3.15	3.01	2.96	4.84	5.19	4.47	4.25	4.50	4.52
5	5.02	4.73	3.85	3.22	3.01	2.96	4.81	5.17	4.42	4.38	4.46	4.53
6	5.01	5.22	3.75	3.22	3.01	2.95	4.78	5.24	4.70	4.76	4.46	4.52
7	4.98	5.00	3.72	3.20	3.04	2.95	4.75	5.20	4.31	4.83	4.47	4.51
8	4.95	4.50	3.85	3.20	3.08	2.96	4.74	5.15	4.14	4.85	4.61	4.51
9	5.01	3.62	3.90	3.19	3.05	2.97	4.74	5.12	4.33	4.81	4.61	4.50
10	5.13	3.35	3.86	3.19	3.08	2.97	4.73	5.08	4.33	4.79	4.67	4.49
11	5.17	3.35	4.00	3.19	3.07	3.17	4.72	4.93	4.29	4.78	4.70	4.50
12	5.17	3.55	4.17	3.20	3.08	3.83	4.71	4.73	4.26	4.77	4.72	4.50
13	5.10	3.77	4.11	3.18	3.08	3.85	4.87	4.62	4.20	4.70	4.73	4.50
14	5.07	4.60	4.06	3.13	3.08	5.25	4.80	4.45	4.13	4.65	4.73	4.51
15	5.05	4.76	4.00	3.16	3.07	5.92	4.91	4.35	4.15	4.64	4.72	4.52
16	5.01	4.77	3.76	3.18	3.05	4.93	4.92	4.03	4.11	4.64	4.70	4.55
17	4.97	4.62	3.52	3.21	3.04	4.24	4.82	3.93	4.07	4.65	4.70	4.57
18	4.94	4.69	3.41	3.21	3.02	3.92	4.82	3.96	4.10	4.51	4.70	4.56
19	4.91	4.44	3.42	3.31	2.98	3.84	4.81	3.92	4.30	3.87	4.70	4.56
20	4.90	4.34	3.39	3.21	2.95	3.63	4.84	3.77	3.83	3.80	4.70	4.55
21	4.88	3.90	3.37	3.23	2.94	3.49	4.91	3.74	3.41	3.66	4.70	4.54
22	4.88	4.26	3.36	3.22	2.95	3.38	4.90	3.69	3.23	3.59	4.69	4.53
23	4.87	4.61	3.35	3.24	2.95	3.29	4.88	3.60	3.18	3.58	4.64	4.55
24	4.87	4.91	3.33	3.32	2.95	3.44	4.84	3.67	3.18	3.60	4.51	4.56
25	4.89	4.81	3.28	3.24	2.95	3.72	4.90	3.83	3.97	3.85	4.46	4.56
26	5.46	4.64	3.23	3.16	2.96	3.91	5.39	3.77	4.54	4.10	4.45	4.52
27	5.08	4.45	3.22	3.10	2.96	4.83	5.59	3.94	4.66	4.28	4.46	4.37
28	4.84	4.34	3.21	3.10	2.96	4.93	5.59	4.17	4.49	4.49	4.47	4.34
29	4.32	4.35	3.22	3.08	2.99	4.90	5.65	4.74	4.46	4.48	4.47	4.33
30	4.39	4.30	3.21	3.05	---	4.88	5.71	4.85	4.40	4.46	4.47	4.31
31	4.79	---	3.21	3.02	---	4.92	---	4.92	---	4.47	4.46	---
Mean	4.96	4.43	3.63	3.18	3.01	3.80	4.95	4.52	4.19	4.36	4.58	4.50
Max	5.46	5.22	4.17	3.32	3.08	5.92	5.71	5.68	4.72	4.85	4.73	4.57
Min	4.32	3.35	3.21	3.02	2.94	2.95	4.71	3.60	3.18	3.58	4.45	4.31

05058700 SHEYENNE RIVER AT LISBON, ND—Continued



WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water year 1956 to current year.

WATER-QUALITY DATA
WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012

Part 1 of 5

[ANC, acid neutralizing capacity; $CaCO_3$, calcium carbonate; SiO_2, silicon dioxide; ft³/s, cubic feet per second; mg/L, milligrams per liter; °C, degrees Celsius; µS/cm, microsiemens per centimeter; µg/L, micrograms per liter; <, less than]

Date	Sample start time	Discharge, instantaneous, ft³/s (00061)	pH, water, unfiltered, field, standard units (00400)	pH, water, unfiltered, laboratory, standard units (00403)	Specific conductance, water, unfiltered, laboratory, µS/cm at 25°C (90095)	Specific conductance, water, unfiltered, µS/cm at 25°C (00095)	Temperature, water, °C (00010)	Dissolved solids, water, filtered, sum of constituents, mg/L (70301)	Dissolved solids, water, tons per day (70302)	Hardness, water, mg/L as $CaCO_3$ (00900)
03-27-2012	**1045**	605	8.5	8.2	1,430	1,400	7.9	978	1,600	540
08-01-2012	**1250**	498	8.1	8.4	1,430	1,430	26.7	973	1,310	449

WATER-QUALITY DATA
WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012

Part 2 of 5

[ANC, acid neutralizing capacity; $CaCO_3$, calcium carbonate; SiO_2, silicon dioxide; ft³/s, cubic feet per second; mg/L, milligrams per liter; °C, degrees Celsius; µS/cm, microsiemens per centimeter; µg/L, micrograms per liter; <, less than]

Date	Sample start time	Calcium, water, filtered, mg/L (00915)	Magnesium, water, filtered, mg/L (00925)	Potassium, water, filtered, mg/L (00935)	Sodium adsorption ratio, water, number (00931)	Sodium fraction of cations, water, percent in equivalents of major cations (00932)	Sodium, water, filtered, mg/L (00930)	ANC, water, unfiltered, fixed endpoint (pH 4.5) titration, laboratory, mg/L as $CaCO_3$ (90410)	Chloride, water, filtered, mg/L (00940)	Fluoride, water, filtered, mg/L (00950)
03-27-2012	**1045**	110	64.4	13.6	2.15	31	115	250	56.2	0.24
08-01-2012	**1250**	73.2	64.6	16.6	3.20	42	156	326	46.2	.24

WATER-QUALITY DATA
WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012

Part 3 of 5

[ANC, acid neutralizing capacity; $CaCO_3$, calcium carbonate; SiO_2, silicon dioxide; ft³/s, cubic feet per second; mg/L, milligrams per liter; °C, degrees Celsius; µS/cm, microsiemens per centimeter; µg/L, micrograms per liter; <, less than]

Date	Sample start time	Silica, water, filtered, mg/L as SiO_2 (00955)	Sulfate, water, filtered, mg/L (00945)	Aluminum, water, filtered, µg/L (01106)	Barium, water, filtered, µg/L (01005)	Beryllium, water, filtered, µg/L (01010)	Cadmium, water, filtered, µg/L (01025)	Chromium, water, filtered, µg/L (01030)	Copper, water, filtered, µg/L (01040)	Iron, water, filtered, µg/L (01046)
03-27-2012	**1045**	17.2	450	200	42.2	< 5.00	< 5.00	< 5.0	< 5.0	422
08-01-2012	**1250**	18.7	400	220	63.1	< 5.00	< 5.00	< 5.0	5.8	543

05058700 SHEYENNE RIVER AT LISBON, ND—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012
Part 4 of 5
[ANC, acid neutralizing capacity; $CaCO_3$, calcium carbonate; SiO_2, silicon dioxide; ft^3/s, cubic feet per second; mg/L, milligrams per liter; °C, degrees Celsius; µS/cm, microsiemens per centimeter; µg/L, micrograms per liter; <, less than]

Date	Sample start time	Lead, water, filtered, µg/L (01049)	Manganese, water, filtered, µg/L (01056)	Nickel, water, filtered, µg/L (01065)	Silver, water, filtered, µg/L (01075)	Thallium, water, filtered, µg/L (01057)	Zinc, water, filtered, µg/L (01090)	Antimony, water, filtered, µg/L (01095)	Arsenic, water, filtered, µg/L (01000)	Boron, water, filtered, µg/L (01020)
03-27-2012	**1045**	< 5.00	267	10.3	< 5.00	< 5.00	6.7	< 5.00	< 5.0	154
08-01-2012	**1250**	< 5.00	513	11.4	< 5.00	< 5.00	10.5	< 5.00	8.4	500

WATER-QUALITY DATA
WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012
Part 5 of 5
[ANC, acid neutralizing capacity; $CaCO_3$, calcium carbonate; SiO_2, silicon dioxide; ft^3/s, cubic feet per second; mg/L, milligrams per liter; °C, degrees Celsius; µS/cm, microsiemens per centimeter; µg/L, micrograms per liter; <, less than]

Date	Sample start time	Selenium, water, filtered, µg/L (01145)
03-27-2012	**1045**	< 5.0
08-01-2012	**1250**	< 5.0