



North Dakota State Water Commission

900 EAST BOULEVARD AVENUE, DEPT 770 • BISMARCK, NORTH DAKOTA 58505-0850
701-328-2750 • TTY 800-366-6888 • FAX 701-328-3696 • INTERNET: <http://swc.nd.gov>

WATER DEVELOPMENT DIVISION
(701) 328-2752

November 16, 2015

North Dakota Department of Health
Division of Water Quality
918 East Divide Avenue
Bismarck, ND 58501-1947

RE: October 2015 Devils Lake Outlets Monthly Discharge and Water Quality Report

Dear Division of Water Quality:

Enclosed are the monthly discharge reports for the Devils Lake Outlets for the month of October 2015. Discharges from the East Outlet were reduced due to debris at the intake and water quality constraints. The water quality standard for sulfate was exceeded at the Pekin monitoring site. A graph of the outlet discharges, stream flows, conductance, and preliminary sulfate sample results is shown in **Figure 1**.

The attached tables contain average daily outlet discharges and water quality results from samples collected from the outlets and the corresponding upstream and downstream locations. Also included are average daily stream flow data and conductivity data obtained from the USGS gaging stations located upstream and downstream of the outlets.

If you have any questions, please contact me at (701) 328-4948.

Sincerely,

Jonathan Kelsch P.E.
Section Chief of Construction

JK:MW/416-10
Enclosure

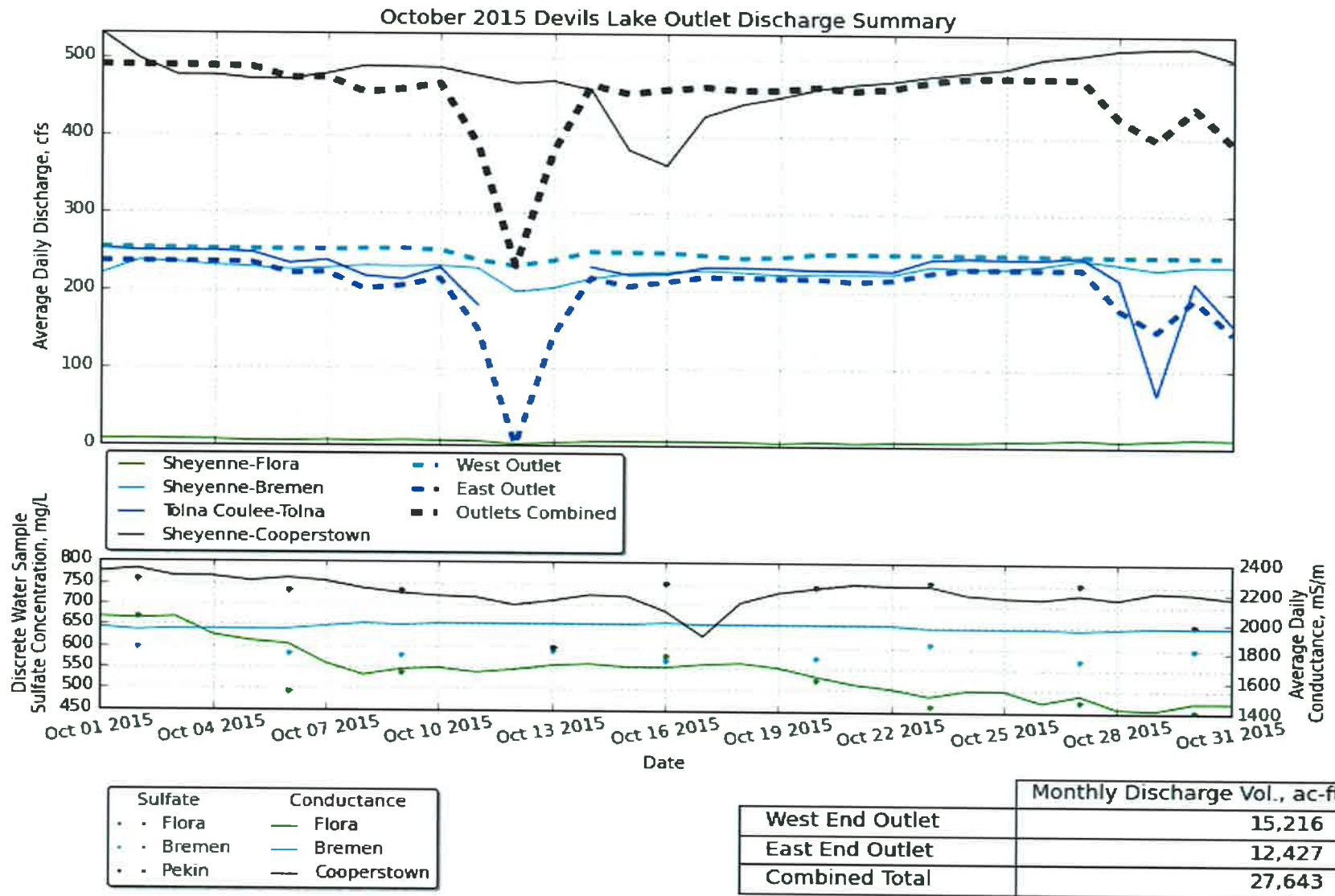


Figure 1: Devils Lake Outlet Discharge Summary

OUTLET OPERATOR NAME/ADDRESS

NAME: ND State Water Commission
 ADDRESS: 900 E Boulevard Avenue,
 Bismarck ND 58505

MONTHLY DISCHARGE REPORT


LOCATION: WEST END OUTLET

FACILITY: Devils Lake Outlet Project

MONITORING PERIOD	
START DATE	END DATE
10/1/15	10/31/15

LOCATION: Benson Co, ND

Devils Lake West Outlet discharged 15,216 ac-ft over 31 Days

PARAMETER	MINIMUM	MAXIMUM	AVERAGE	UNITS	SAMPLING FREQUENCY	TYPE
pH	8.65	8.78	8.71	SU	2 x Week	GRAB
SPECIFIC CONDUCTANCE	NA	NA	NA	µS/cm	Continuous	Recorder
SULFATE	552	614	581	mg/L	2 x Week	GRAB
7 DAY AVERAGE OF SULFATE	570	585	580	mg/L	2 x Week	GRAB
OUTLET DISCHARGE	231	254	247	cfs	Continuous	Recorder
SIGNATURE				11/16/15	701-328-4948	
NAME AND TITLE	JONATHAN KELSCH, HEAD, CONSTRUCTION SECTION			DATE	TELEPHONE NUMBER	

COMMENT AND EXPLANATION OF ANY VIOLATIONS

Summary of individual sample results and flow data for outlet, upstream & downstream monitoring locations attached.

Notes:

- ac-ft - Acre feet
- SU - Standard Units
- µS/cm - Microsiemens per Centimeter at 25 degrees Celsius
- mg/L - Milligrams per liter or parts per million
- cfs - Cubic feet per second
- NA - Not available

OUTLET OPERATOR NAME/ADDRESS

NAME: ND State Water Commission
 ADDRESS: 900 E Boulevard Avenue,
 Bismarck ND 58505

MONTHLY DISCHARGE REPORT


LOCATION: EAST END OUTLET

FACILITY: Devils Lake Outlet Project

MONITORING PERIOD	
START DATE	END DATE
10/1/15	10/31/15

LOCATION: Ramsey, Benson, Nelson, ND

Devils Lake East Outlet discharged 12,427 ac-ft over 30 Days

PARAMETER	MINIMUM	MAXIMUM	AVERAGE	UNITS	SAMPLING FREQUENCY	TYPE
pH	8.72	8.82	8.76	SU	2 x Week	GRAB
SPECIFIC CONDUCTANCE	NA	NA	NA	µS/cm	Continuous	Recorder
SULFATE	926	1020	979	mg/L	2 x Week	GRAB
7 DAY AVERAGE OF SULFATE	942	1015	974	mg/L	2 x Week	GRAB
OUTLET DISCHARGE	0	236	202	cfs	Continuous	Recorder
SIGNATURE				11/16/15	701-328-4948	
NAME AND TITLE	JONATHAN KELSCH, HEAD, CONSTRUCTION SECTION			DATE	TELEPHONE NUMBER	

COMMENT AND EXPLANATION OF ANY VIOLATIONS

Summary of individual sample results and flow data for outlet, upstream & downstream monitoring locations attached.

Notes:

- ac-ft - Acre feet
- SU - Standard Units
- µS/cm - Microsiemens per Centimeter at 25 degrees Celsius
- mg/L - Milligrams per liter or parts per million
- cfs - Cubic feet per second
- NA - Not available

OUTLET OPERATOR NAME/ADDRESS

NAME: ND State Water Commission
 ADDRESS: 900 E Boulevard Avenue,
 Bismarck ND 58505


MONTHLY DISCHARGE REPORT

LOCATION: UPSTREAM OF THE WEST END OUTLET (FLORA)

FACILITY: Devils Lake Outlet Project

LOCATION: Benson Co, ND

MONITORING PERIOD	
START DATE	END DATE
10/1/15	10/31/15

PARAMETER	MINIMUM	MAXIMUM	AVERAGE	UNITS	SAMPLING FREQUENCY	TYPE
pH	8.58	8.66	8.62	SU	2 x Week	GRAB
SPECIFIC CONDUCTANCE	1,410	2,020	1,665	µS/cm	Continuous	Recorder
SULFATE	451	669	533	mg/L	2 x Week	GRAB
7 DAY AVERAGE OF SULFATE	463	656	543	mg/L	2 x Week	GRAB
FLOW, INSTREAM	1	11	6	cfs	Continuous	Recorder
SIGNATURE				11/16/15	701-328-4948	
NAME AND TITLE	JONATHAN KELSCH, HEAD, CONSTRUCTION SECTION			DATE	TELEPHONE NUMBER	
COMMENT AND EXPLANATION OF ANY VIOLATIONS						
Summary of individual sample results and flow data for outlet, upstream & downstream monitoring locations attached.						

Notes:

- SU - Standard Units
- µS/cm - Microsiemens per Centimeter at 25 degrees Celsius
- mg/L - Milligrams per liter or parts per million
- cfs - Cubic feet per second
- USGS streamflow and specific conductance data courtesy of the USGS
- USGS data are provisional and subject to revision

OUTLET OPERATOR NAME/ADDRESS

NAME: ND State Water Commission
 ADDRESS: 900 E Boulevard Avenue,
 Bismarck ND 58505


MONTHLY DISCHARGE REPORT

LOCATION: DOWNSTREAM OF THE WEST END OUTLET (BREMEN)
 UPSTREAM OF THE EAST END OUTLET

FACILITY: Devils Lake Outlet Project

MONITORING PERIOD	
START DATE	END DATE
10/1/15	10/31/15

LOCATION: Eddy Co, ND

PARAMETER	MINIMUM	MAXIMUM	AVERAGE	UNITS	SAMPLING FREQUENCY	TYPE
pH	8.64	8.75	8.70	SU	2 x Week	GRAB
SPECIFIC CONDUCTANCE	1,930	1,990	1,966	µS/cm	Continuous	Recorder
SULFATE	569	611	587	mg/L	2 x Week	GRAB
7 DAY AVERAGE OF SULFATE	572	593	585	mg/L	2 x Week	GRAB
FLOW, INSTREAM	198	242	227	cfs	Continuous	Recorder
SIGNATURE				11/16/15	701-328-4948	
NAME AND TITLE				JONATHAN KELSCH, HEAD, CONSTRUCTION SECTION		
COMMENT AND EXPLANATION OF ANY VIOLATIONS						
Summary of individual sample results and flow data for outlet, upstream & downstream monitoring locations attached.						

Notes:

SU - Standard Units
 µS/cm - Microsiemens per Centimeter at 25 degrees Celsius
 mg/L - Milligrams per liter or parts per million
 cfs - Cubic feet per second
 USGS streamflow and specific conductance data courtesy of the USGS
 USGS data are provisional and subject to revision

OUTLET OPERATOR NAME/ADDRESS

NAME: ND State Water Commission
 ADDRESS: 900 E Boulevard Avenue,
 Bismarck ND 58505


MONTHLY DISCHARGE REPORT

LOCATION: DOWNSTREAM OF THE EAST END OUTLET (PEKIN)

FACILITY: Devils Lake Outlet Project

MONITORING PERIOD	
START DATE	END DATE
10/1/15	10/31/15

LOCATION: Nelson Co, ND

PARAMETER	MINIMUM	MAXIMUM	AVERAGE	UNITS	SAMPLING FREQUENCY	TYPE
pH	8.57	8.68	8.62	SU	2 x Week	GRAB
SPECIFIC CONDUCTANCE	NA	NA	NA	µS/cm	Continuous	Recorder
SULFATE	598	761	721	mg/L	2 x Week	GRAB
7 DAY AVERAGE OF SULFATE	666	764	727	mg/L	2 x Week	GRAB
FLOW, INSTREAM	NA	NA	NA	cfs	Continuous	Recorder
SIGNATURE				11/16/15	701-328-4948	
NAME AND TITLE	JONATHAN KELSCH, HEAD, CONSTRUCTION SECTION			DATE	TELEPHONE NUMBER	

COMMENT AND EXPLANATION OF ANY VIOLATIONS

Summary of individual sample results and flow data for outlet, upstream & downstream monitoring locations attached.

Notes:

- SU - Standard Units
- µS/cm - Microsiemens per Centimeter at 25 degrees Celsius
- mg/L - Milligrams per liter or parts per million
- cfs - Cubic feet per second
- NA - Not available

**Daily Outlet Discharge and Upstream and Downstream Flows
Devils Lake Outlets**

Date	Above West End Outlet - Sheyenne River near Flora		West End Outlet		Below West End Outlet/Above East End Outlet -Sheyenne River near Bremen		East End Outlet		Below East End Outlet - Tolna Coulee near Tolna		Below East End Outlet - Sheyenne River near Cooperstown		Sum of Outlets	
	Average Streamflow USGS Gage (cfs)	Average Specific Conductance USGS Gage (µS/cm)	Average Daily Outlet Discharge (cfs)	Total Daily Volume (ft³)	Average Streamflow USGS Gage (cfs)	Average Specific Conductance USGS Gage (µS/cm)	Average Daily Outlet Discharge (cfs)	Total Daily Volume (ft³)	Average Streamflow USGS Gage (cfs)	Average Specific Conductance USGS Gage (µS/cm)	Average Streamflow USGS Gage (cfs)	Average Specific Conductance USGS Gage (µS/cm)	Average Daily Outlet Discharge (cfs)	Total Daily Volume (ft³)
10/1/15	7	2.020	254	21,934,000	220	1,950	236	20,415,000	252	2,870	532	2,330	490	42,349,000
10/2/15	7	2.010	253	21,897,000	237	1,930	236	20,404,000	250	2,870	498	2,350	490	42,301,000
10/3/15	7	2.020	253	21,861,000	235	1,940	236	20,382,000	250	2,880	477	2,300	489	42,243,000
10/4/15	6	1.900	253	21,819,000	231	1,940	236	20,366,000	250	2,880	477	2,300	488	42,185,000
10/5/15	5	1.860	252	21,802,000	229	1,940	235	20,293,000	248	2,880	472	2,270	487	42,095,000
10/6/15	5	1.840	252	21,796,000	226	1,940	221	19,123,000	234	-	472	2,290	474	40,919,000
10/7/15	6	1.710	252	21,751,000	228	1,960	223	19,237,000	238	2,890	479	2,270	474	40,988,000
10/8/15	5	1.630	253	21,853,000	231	1,980	202	17,414,000	218	2,880	489	2,220	454	39,267,000
10/9/15	6	1.670	253	21,858,000	230	1,970	206	17,790,000	214	2,880	488	2,190	459	39,648,000
10/10/15	6	1.680	251	21,723,000	231	1,980	215	18,569,000	229	2,880	487	2,170	466	40,292,000
10/11/15	5	1.650	238	20,606,000	228	1,980	149	12,900,000	181	-	477	2,160	388	33,506,000
10/12/15	1	1.670	231	19,948,000	198	1,980	0	0	-	-	467	2,110	231	19,948,000
10/13/15	3	1.700	238	20,563,000	203	1,980	141	12,196,000	-	-	470	2,140	379	32,759,000
10/14/15	5	1.710	249	21,531,000	215	1,980	216	18,674,000	230	2,880	459	2,180	465	40,205,000
10/15/15	5	1.690	249	21,494,000	222	1,980	205	17,719,000	220	2,880	381	2,170	454	39,213,000
10/16/15	5	1.690	249	21,474,000	224	1,990	211	18,225,000	221	2,870	361	2,070	459	39,699,000
10/17/15	5	1.710	245	21,209,000	226	1,980	217	18,790,000	230	2,880	425	1,900	463	39,999,000
10/18/15	5	1.720	242	20,924,000	224	1,980	217	18,750,000	230	2,900	441	2,130	459	39,674,000
10/19/15	3	1.690	243	21,024,000	221	1,980	216	18,670,000	229	2,900	450	2,200	459	39,694,000
10/20/15	5	1.630	248	21,410,000	222	1,980	216	18,635,000	227	2,900	461	2,230	463	40,045,000
10/21/15	4	1.580	248	21,385,000	222	1,980	212	18,287,000	227	2,890	467	2,260	459	39,672,000
10/22/15	5	1.550	247	21,373,000	222	1,980	215	18,555,000	226	2,900	471	2,250	462	39,928,000
10/23/15	5	1.500	247	21,356,000	232	1,960	224	19,360,000	241	2,880	478	2,250	471	40,716,000
10/24/15	6	1.540	247	21,339,000	230	1,960	229	19,771,000	243	2,890	483	2,190	476	41,110,000
10/25/15	7	1.540	247	21,337,000	230	1,960	229	19,762,000	242	2,740	488	2,170	476	41,099,000
10/26/15	8	1.460	247	21,312,000	234	1,960	229	19,753,000	242	2,810	501	2,160	475	41,065,000
10/27/15	9	1.510	246	21,289,000	242	1,950	229	19,758,000	245	2,770	506	2,190	475	41,047,000
10/28/15	7	1.420	246	21,218,000	236	1,960	178	15,341,000	216	-	513	2,160	423	36,559,000
10/29/15	9	1.410	246	21,236,000	229	1,970	150	12,951,000	68	-	515	2,210	396	34,187,000
10/30/15	11	1.460	246	21,243,000	234	1,970	192	16,571,000	213	2,860	516	2,200	438	37,814,000
10/31/15	10	1.460	246	21,227,000	234	1,970	147	12,676,000	159	2,880	501	2,170	392	33,903,000
Minimum	1	1.410	231	19,948,000	198	1,930	0	0	68	2,740	361	1,900	231	19,948,000
Maximum	11	2.020	254	21,934,000	242	1,990	236	20,415,000	252	2,900	532	2,350	490	42,349,000
Average	6	1.665	247	21,380,387	227	1,966	202	17,462,484	223	2,870	474	2,200	450	38,842,871
Notes:			Total (Mgal)	4,958				Total (Mgal)	4,049				Total (Mgal)	9,007
			Total (Ac-ft)	15,216				Total (Ac-ft)	12,427				Total (Ac-ft)	27,643
cfs - cubic feet per second µS/cm - Microsiemens per Centimeter at 25 degrees Celsius ft³ - cubic feet Mgal - Millions of Gallons Ac ft - Acre Feet USGS streamflow and specific conductance data are preliminary and courtesy of the USGS NC - Not calculated														

**Sheyenne River Upstream of West End Outlet near Flora
Monthly Water Quality Summary
Devils Lake Outlet Discharge Report**

Date	Time	Specific Conductance USGS Gage (μ S/cm)	pH	Sulfate (mg/L)	7 Day Rolling Average of Sulfate (mg/L)	Total Suspended Solids (mg/L)	No. of days included in the 7 day Rolling Average
10/1/15	-	-	-	-	-	-	-
10/2/15	8:50	1,960	8.66	669	656	NA	7
10/3/15	-	-	-	-	-	-	-
10/4/15	-	-	-	-	-	-	-
10/5/15	-	-	-	-	-	-	-
10/6/15	8:05	1,840	8.58	495	582	15	7
10/7/15	-	-	-	-	-	-	-
10/8/15	-	-	-	-	-	-	-
10/9/15	8:25	1,680	8.63	538	517	NA	7
10/10/15	-	-	-	-	-	-	-
10/11/15	-	-	-	-	-	-	-
10/12/15	-	-	-	-	-	-	-
10/13/15	7:57	1,700	8.59	598	568	NA	7
10/14/15	-	-	-	-	-	-	-
10/15/15	-	-	-	-	-	-	-
10/16/15	10:20	1,700	8.65	579	589	NA	7
10/17/15	-	-	-	-	-	-	-
10/18/15	-	-	-	-	-	-	-
10/19/15	-	-	-	-	-	-	-
10/20/15	8:00	1,640	8.60	523	551	14	-
10/21/15	-	-	-	-	-	-	-
10/22/15	-	-	-	-	-	-	-
10/23/15	8:50	1,500	8.65	465	494	NA	7
10/24/15	-	-	-	-	-	-	-
10/25/15	-	-	-	-	-	-	-
10/26/15	-	-	-	-	-	-	-
10/27/15	8:15	1,510	8.60	475	470	NA	7
10/28/15	-	-	-	-	-	-	-
10/29/15	-	-	-	-	-	-	-
10/30/15	8:40	1,470	8.60	451	463	NA	7
10/31/15	-	-	-	-	-	-	-
Minimum		1,470	8.58	451	463	14	
Maximum		1,960	8.66	669	656	15	
Average		1,667	8.62	533	543	15	

Notes:

μ S/cm - Microsiemens per Centimeter at 25 degrees Celsius
mg/L - Milligrams per liter or parts per million
NA - Not Analyzed
USGS specific conductance data courtesy of the USGS
USGS data are provisional and subject to revision
Italic font denotes preliminary result

**West End Outlet
Monthly Water Quality Summary
Devils Lake Outlet Discharge Report**

Date	Time	pH	Sulfate (mg/L)	7 Day Rolling Average of Sulfate (mg/L)	Total Suspended Solids (mg/L)	No. of days included in the 7 day Rolling Average
10/1/15	-	-	-	-	-	-
10/2/15	9:05	8.78	588	585	NA	7
10/3/15	-	-	-	-	-	-
10/4/15	-	-	-	-	-	-
10/5/15	-	-	-	-	-	-
10/6/15	8:15	8.68	581	585	19	7
10/7/15	-	-	-	-	-	-
10/8/15	-	-	-	-	-	-
10/9/15	8:40	8.74	572	577	NA	7
10/10/15	-	-	-	-	-	-
10/11/15	-	-	-	-	-	-
10/12/15	-	-	-	-	-	-
10/13/15	8:10	8.65	580	576	NA	7
10/14/15	-	-	-	-	-	-
10/15/15	-	-	-	-	-	-
10/16/15	10:45	8.72	575	578	NA	7
10/17/15	-	-	-	-	-	-
10/18/15	-	-	-	-	-	-
10/19/15	-	-	-	-	-	-
10/20/15	8:10	8.66	582	579	15	7
10/21/15	-	-	-	-	-	-
10/22/15	-	-	-	-	-	-
10/23/15	9:10	8.73	588	585	NA	7
10/24/15	-	-	-	-	-	-
10/25/15	-	-	-	-	-	-
10/26/15	-	-	-	-	-	-
10/27/15	8:25	8.68	552	570	NA	7
10/28/15	-	-	-	-	-	-
10/29/15	-	-	-	-	-	-
10/30/15	8:25	8.73	614	583	NA	7
10/31/15	-	-	-	-	-	-
Minimum		8.65	552	570	15	
Maximum		8.78	614	585	19	
Average		8.71	581	580	17	

Notes:

mg/L - Milligrams per liter or parts per million
 NA - Not Analyzed
 Italic font denotes preliminary result

**Sheyenne River Downstream of West End Outlet/Upstream of East End Outlet near Bremen
Monthly Water Quality Summary
Devils Lake Outlet Discharge Report**

Date	Time	Specific Conductance USGS Gage (µS/cm)	pH	Sulfate (mg/L)	7 Day Rolling Average of Sulfate (mg/L)	Total Suspended Solids (mg/L)	No. of days included in the 7 day Rolling Average
10/1/15	-	-	-	-	-	-	-
10/2/15	8:25	1,930	8.75	597	585	NA	7
10/3/15	-	-	-	-	-	-	-
10/4/15	-	-	-	-	-	-	-
10/5/15	-	-	-	-	-	-	-
10/6/15	7:35	1,940	8.68	584	591	32	7
10/7/15	-	-	-	-	-	-	-
10/8/15	-	-	-	-	-	-	-
10/9/15	7:45	1,960	8.73	580	582	NA	7
10/10/15	-	-	-	-	-	-	-
10/11/15	-	-	-	-	-	-	-
10/12/15	-	-	-	-	-	-	-
10/13/15	7:35	1,980	8.64	592	586	NA	7
10/14/15	-	-	-	-	-	-	-
10/15/15	-	-	-	-	-	-	-
10/16/15	9:50	1,990	8.70	569	581	NA	7
10/17/15	-	-	-	-	-	-	-
10/18/15	-	-	-	-	-	-	-
10/19/15	-	-	-	-	-	-	-
10/20/15	7:32	1,980	8.65	575	572	29	7
10/21/15	-	-	-	-	-	-	-
10/22/15	-	-	-	-	-	-	-
10/23/15	8:25	1,960	8.67	611	593	NA	7
10/24/15	-	-	-	-	-	-	-
10/25/15	-	-	-	-	-	-	-
10/26/15	-	-	-	-	-	-	-
10/27/15	7:45	1,950	8.70	574	593	NA	7
10/28/15	-	-	-	-	-	-	-
10/29/15	-	-	-	-	-	-	-
10/30/15	9:20	1,980	8.74	599	587	NA	7
10/31/15	-	-	-	-	-	-	-
Minimum		1,930	8.64	569	572	29	
Maximum		1,990	8.75	611	593	32	
Average		1,963	8.70	587	585	31	

Notes:

µS/cm - Microsiemens per Centimeter at 25 degrees Celsius
mg/L - Milligrams per liter or parts per million
NA - Not Analyzed
USGS specific conductance data courtesy of the USGS
USGS data are provisional and subject to revision
Italic font denotes preliminary result

**East End Outlet
Monthly Water Quality Summary
Devils Lake Outlet Discharge Report**

Date	Time	pH	Sulfate (mg/L)	7 Day Rolling Average of Sulfate (mg/L)	Total Suspended Solids (mg/L)	No. of days included in the 7 day Rolling Average
10/1/15	-	-	-	-	-	-
10/2/15	11:25	8.79	950	962	NA	7
10/3/15	-	-	-	-	-	-
10/4/15	-	-	-	-	-	-
10/5/15	-	-	-	-	-	-
10/6/15	9:27	8.72	976	963	31	7
10/7/15	-	-	-	-	-	-
10/8/15	-	-	-	-	-	-
10/9/15	11:00	8.75	1020	998	NA	7
10/10/15	-	-	-	-	-	-
10/11/15	-	-	-	-	-	-
10/12/15	-	-	-	-	-	-
10/13/15	-	-	-	-	-	-
10/14/15	-	-	-	-	-	-
10/15/15	-	-	-	-	-	-
10/16/15	8:25	8.77	974	974	NA	7
10/17/15	-	-	-	-	-	-
10/18/15	-	-	-	-	-	-
10/19/15	-	-	-	-	-	-
10/20/15	9:25	8.72	926	950	44	7
10/21/15	-	-	-	-	-	-
10/22/15	-	-	-	-	-	-
10/23/15	10:55	8.82	958	942	NA	7
10/24/15	-	-	-	-	-	-
10/25/15	-	-	-	-	-	-
10/26/15	-	-	-	-	-	-
10/27/15	9:35	8.73	1020	989	NA	7
10/28/15	-	-	-	-	-	-
10/29/15	-	-	-	-	-	-
10/30/15	11:05	8.76	1010	1015	NA	-
10/31/15	-	-	-	-	-	-
Minimum		8.72	926	942	31	
Maximum		8.82	1020	1015	44	
Average		8.76	979	974	38	

Notes:

mg/L - Milligrams per liter or parts per million
 NA - Not Analyzed due to operation constraints
 Italic font denotes preliminary result

**Sheyenne River Downstream of East End Outlet near Pekin
Monthly Water Quality Summary
Devils Lake Outlet Discharge Report**

Date	Time	pH	Sulfate (mg/L)	7 Day Rolling Average of Sulfate (mg/L)	Total Suspended Solids (mg/L)	No. of days included in the 7 day Rolling Average
10/1/15	-	-	-	-	-	-
10/2/15	10:55	8.68	761	764	NA	7
10/3/15	-	-	-	-	-	-
10/4/15	-	-	-	-	-	-
10/5/15	-	-	-	-	-	-
10/6/15	9:55	8.60	735	748	30	7
10/7/15	-	-	-	-	-	-
10/8/15	-	-	-	-	-	-
10/9/15	11:25	8.58	733	734	NA	7
10/10/15	-	-	-	-	-	-
10/11/15	-	-	-	-	-	-
10/12/15	-	-	-	-	-	-
10/13/15	9:40	8.57	598	666	NA	7
10/14/15	-	-	-	-	-	-
10/15/15	-	-	-	-	-	-
10/16/15	7:50	8.62	754	676	NA	7
10/17/15	-	-	-	-	-	-
10/18/15	-	-	-	-	-	-
10/19/15	-	-	-	-	-	-
10/20/15	9:45	8.60	744	749	33	7
10/21/15	-	-	-	-	-	-
10/22/15	-	-	-	-	-	-
10/23/15	11:20	8.68	756	750	NA	7
10/24/15	-	-	-	-	-	-
10/25/15	-	-	-	-	-	-
10/26/15	-	-	-	-	-	-
10/27/15	10:05	8.64	752	754	NA	7
10/28/15	-	-	-	-	-	-
10/29/15	-	-	-	-	-	-
10/30/15	11:30	8.64	655	704	NA	7
10/31/15	-	-	-	-	-	-
Minimum		8.57	598	666	30	
Maximum		8.68	761	764	33	
Average		8.62	721	727	32	

Notes:

mg/L - Milligrams per liter or parts per million

NA - Not Analyzed

Italic font denotes preliminary result

Bold font denotes sample sulfate concentration exceeds 750 mg/L