



# North Dakota State Water Commission

900 EAST BOULEVARD AVENUE, DEPT 770 • BISMARCK, NORTH DAKOTA 58505-0850  
(701)-328-2750 • TTY 1-800-366-6888 • FAX (701)-328-3696 • <http://swc.nd.gov>

WATER DEVELOPMENT DIVISION  
(701) 328-2752

October 17, 2016

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

RE: September 2016 Devils Lake Outlets Monthly Discharge and Water Quality Report

Division of Water Quality:

Enclosed is the monthly discharge report for the Devils Lake Outlets for the month of September 2016. Both outlets discharged at reduced rates in September. Foam overflowing the West Outlet standpipes limited the discharge capacity of the West Outlet. The East Outlet was operated steadily with a goal of preventing exceedances of downstream water quality constraints. The West and East Outlets discharged at average rates of 137 and 153 cfs respectively (**Figure 1**). A total of 17,280 acre-feet were discharged in September which brings the 2016 season total to 103,659 acre-feet.

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:TD/416-10  
Enclosure

### September 2016 Devils Lake Outlet Discharge Summary

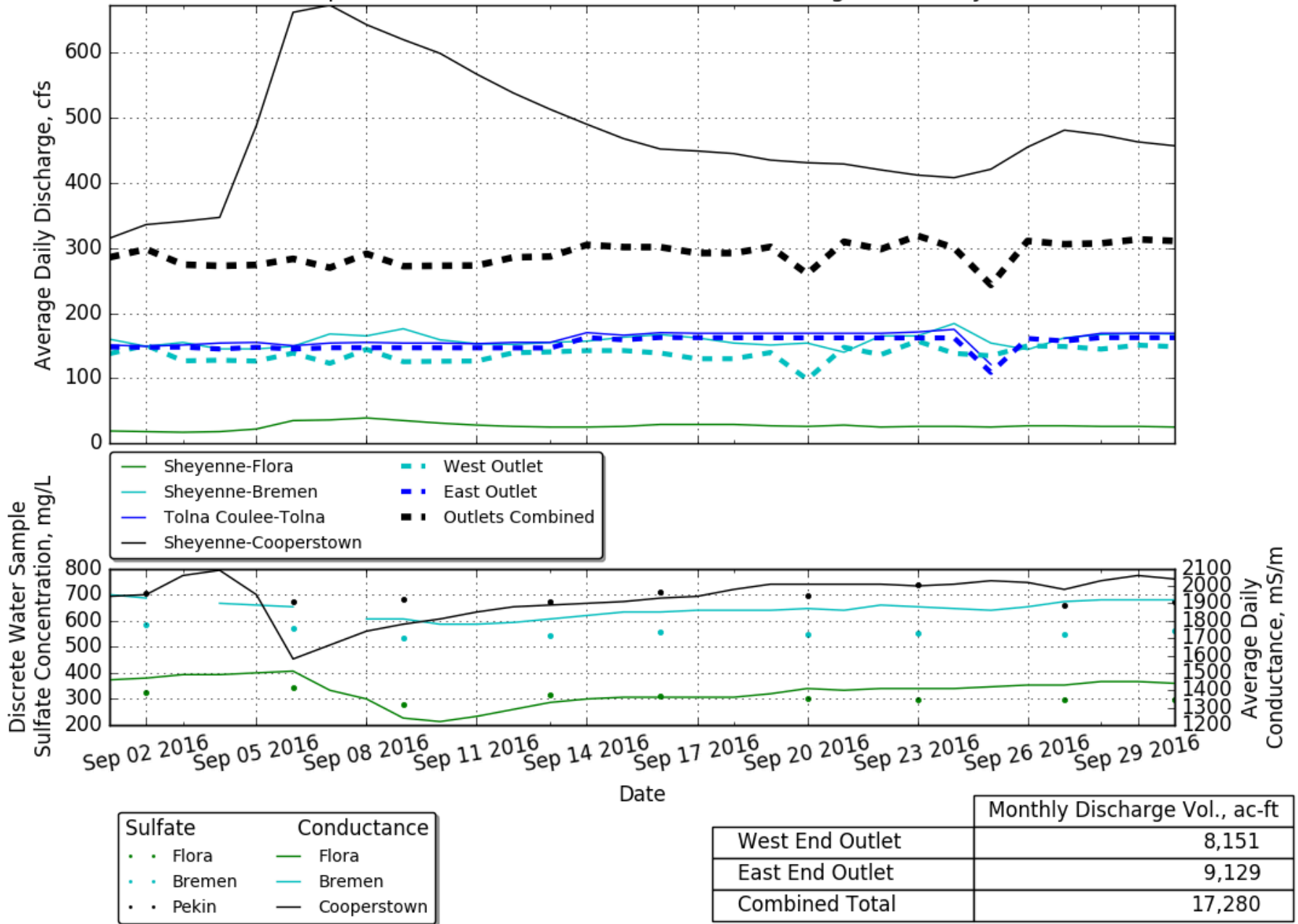


Figure 1: Devils Lake Outlet Discharge Summary

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
9/1/16	9/30/16

LOCATION: Benson Co, ND

Devils Lake West Outlet discharged 8,151 ac-ft over 30 Days

PARAMETER	MINIMUM	MAXIMUM	AVERAGE	UNITS	SAMPLING FREQUENCY	TYPE
pH	8.65	8.81	8.72	SU	2 x Week	GRAB
SPECIFIC CONDUCTANCE	NA	NA	NA	µS/cm	Continuous	Recorder
SULFATE	596	611	603	mg/L	2 x Week	GRAB
7 DAY AVERAGE OF SULFATE	597	610	603	mg/L	2 x Week	GRAB
OUTLET DISCHARGE	98	157	137	cfs	Continuous	Recorder
SIGNATURE				10/17/16	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
9/1/16	9/30/16

LOCATION: Ramsey, Benson, Nelson, ND

Devils Lake East Outlet discharged 9,129 ac-ft over 30 Days

PARAMETER	MINIMUM	MAXIMUM	AVERAGE	UNITS	SAMPLING FREQUENCY	TYPE
pH	8.59	8.68	8.64	SU	2 x Week	GRAB
SPECIFIC CONDUCTANCE	NA	NA	NA	µS/cm	Continuous	Recorder
SULFATE	985	1050	1014	mg/L	2 x Week	GRAB
7 DAY AVERAGE OF SULFATE	992	1040	1009	mg/L	2 x Week	GRAB
OUTLET DISCHARGE	109	163	153	cfs	Continuous	Recorder
SIGNATURE				10/17/16	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

MONITORING PERIOD	
START DATE	END DATE
9/1/16	9/30/16

LOCATION: Benson Co, ND

PARAMETER	MINIMUM	MAXIMUM	AVERAGE	UNITS	SAMPLING FREQUENCY	TYPE
pH	8.31	8.53	8.45	SU	2 x Week	GRAB
SPECIFIC CONDUCTANCE	1,220	1,510	1,394	µS/cm	Continuous	Recorder
SULFATE	280	343	308	mg/L	2 x Week	GRAB
7 DAY AVERAGE OF SULFATE	298	333	308	mg/L	2 x Week	GRAB
FLOW, INSTREAM	17	39	27	cfs	Continuous	Recorder
SIGNATURE				10/17/16	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

LOCATION: Eddy Co, ND

MONITORING PERIOD	
START DATE	END DATE
9/1/16	9/30/16

PARAMETER	MINIMUM	MAXIMUM	AVERAGE	UNITS	SAMPLING FREQUENCY	TYPE
pH	8.63	8.72	8.67	SU	2 x Week	GRAB
SPECIFIC CONDUCTANCE	1,780	1,950	1,865	µS/cm	Continuous	Recorder
SULFATE	533	585	555	mg/L	2 x Week	GRAB
7 DAY AVERAGE OF SULFATE	537	582	556	mg/L	2 x Week	GRAB
FLOW, INSTREAM	140	184	159	cfs	Continuous	Recorder
SIGNATURE				10/17/16	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 EAST END OUTLET (PEKIN)

FACILITY: Devils Lake Outlet Project

LOCATION: Nelson Co, ND

MONITORING PERIOD	
START DATE	END DATE
9/1/16	9/30/16

PARAMETER	MINIMUM	MAXIMUM	AVERAGE	UNITS	SAMPLING FREQUENCY	TYPE
pH	8.48	8.58	8.52	SU	2 x Week	GRAB
SPECIFIC CONDUCTANCE	NA	NA	NA	µS/cm	Continuous	Recorder
SULFATE	660	738	689	mg/L	2 x Week	GRAB
7 DAY AVERAGE OF SULFATE	666	717	688	mg/L	2 x Week	GRAB
FLOW, INSTREAM	NA	NA	NA	cfs	Continuous	Recorder
SIGNATURE	 JONATHAN KELSCH, HEAD, CONSTRUCTION SECTION			10/17/16	701-328-4948	
NAME AND TITLE				DATE		
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 Outlet -Sheyenne River near Bremen		East End Outlet		Below East End Outlet - Toina Coulee near Toina		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 (ft <sup>3</sup> )	Average Streamflow USGS Gage (cfs)	Average Specific Conductance USGS Gage (µS/cm)	Average Daily Outlet Discharge (cfs)	Total Daily Volume (ft <sup>3</sup> )	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 (ft <sup>3</sup> )
9/1/16	19	1,460	138	11,903,000	160	1,950	148	12,776,000	151	2,970	315	1,940	286	24,679,000
9/2/16	18	1,470	151	13,012,000	149	1,930	148	12,761,000	149	2,990	336	1,950	298	25,773,000
9/3/16	17	1,490	127	10,949,000	155	-	148	12,762,000	151	3,000	341	2,060	274	23,711,000
9/4/16	18	1,490	128	11,031,000	145	1,900	145	12,519,000	154	2,930	347	2,090	273	23,550,000
9/5/16	22	1,500	126	10,919,000	145	1,890	148	12,749,000	155	2,950	488	1,950	274	23,668,000
9/6/16	35	1,510	139	11,969,000	149	1,880	145	12,520,000	150	2,960	662	1,580	283	24,489,000
9/7/16	36	1,400	123	10,618,000	168	-	147	12,686,000	154	2,960	673	1,660	270	23,304,000
9/8/16	39	1,350	144	12,476,000	165	1,810	147	12,685,000	155	2,950	643	1,740	291	25,161,000
9/9/16	35	1,240	125	10,833,000	176	1,810	147	12,681,000	154	3,000	620	1,780	272	23,514,000
9/10/16	31	1,220	126	10,889,000	159	1,780	147	12,677,000	154	2,980	599	1,810	273	23,566,000
9/11/16	28	1,250	126	10,926,000	153	1,780	147	12,669,000	153	2,970	567	1,850	273	23,595,000
9/12/16	26	1,290	139	12,018,000	152	1,790	147	12,663,000	155	3,000	538	1,880	286	24,681,000
9/13/16	25	1,330	140	12,135,000	155	1,810	146	12,653,000	155	3,020	513	1,890	287	24,788,000
9/14/16	25	1,350	142	12,302,000	157	1,830	162	14,036,000	170	3,000	490	1,900	305	26,338,000
9/15/16	26	1,360	142	12,309,000	163	1,850	159	13,735,000	166	3,000	468	1,910	301	26,044,000
9/16/16	29	1,360	139	11,983,000	167	1,850	163	14,054,000	170	3,010	452	1,930	301	26,037,000
9/17/16	29	1,360	130	11,220,000	162	1,860	162	14,034,000	169	3,010	449	1,940	292	25,254,000
9/18/16	29	1,360	130	11,223,000	154	1,860	162	14,020,000	169	3,030	445	1,980	292	25,243,000
9/19/16	27	1,380	139	12,051,000	151	1,860	162	14,017,000	169	3,030	435	2,010	302	26,068,000
9/20/16	26	1,410	98	8,482,000	154	1,870	162	14,003,000	169	3,000	431	2,010	260	22,485,000
9/21/16	28	1,400	148	12,746,000	140	1,860	162	14,003,000	169	3,010	429	2,010	310	26,749,000
9/22/16	25	1,410	136	11,765,000	165	1,890	162	13,996,000	169	2,970	420	2,010	298	25,761,000
9/23/16	26	1,410	157	13,572,000	165	1,880	162	13,987,000	171	3,010	412	2,000	319	27,559,000
9/24/16	26	1,410	138	11,936,000	184	1,870	162	13,990,000	175	2,980	408	2,010	300	25,926,000
9/25/16	25	1,420	134	11,619,000	154	1,860	109	9,406,000	121	2,870	421	2,030	243	21,025,000
9/26/16	27	1,430	150	12,941,000	144	1,880	161	13,914,000	-	2,940	455	2,020	311	26,855,000
9/27/16	27	1,430	149	12,852,000	162	1,910	157	13,580,000	161	3,000	481	1,980	306	26,432,000
9/28/16	26	1,450	145	12,504,000	167	1,920	162	14,035,000	169	2,980	474	2,030	307	26,539,000
9/29/16	26	1,450	151	13,026,000	169	1,920	162	14,038,000	169	2,970	463	2,060	313	27,064,000
9/30/16	25	1,440	149	12,833,000	168	1,920	162	14,028,000	169	2,880	457	2,040	311	26,861,000
<b>Minimum</b>	17	1,220	98	8,482,000	140	1,780	109	9,406,000	121	2,870	315	1,580	243	21,025,000
<b>Maximum</b>	39	1,510	157	13,572,000	184	1,950	163	14,054,000	175	3,030	673	2,090	319	27,559,000
<b>Average</b>	27	1,394	137	11,834,733	159	1,865	153	13,255,900	160	2,979	474	1,935	290	25,090,633
			<b>Total (Mgal)</b>	2,656			<b>Total (Mgal)</b>	2,975					<b>Total (Mgal)</b>	5,630
			<b>Total (Ac-ft)</b>	8,151			<b>Total (Ac-ft)</b>	9,129					<b>Total (Ac-ft)</b>	17,280

**Notes:**

cfs - cubic feet per second

µS/cm - Microsiemens per Centimeter at 25 degrees Celsius

ft<sup>3</sup> - 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 (µS/cm)	pH	Sulfate (mg/L)	7 Day Rolling Average of Sulfate (mg/L)	Total Suspended Solids (mg/L)	Number of Samples included in 7- day Average
9/1/16	-	-	-	-	-	-	-
9/2/16	9:50	1,390	8.50	323	312	NA	2
9/3/16	-	-	-	-	-	-	-
9/4/16	-	-	-	-	-	-	-
9/5/16	-	-	-	-	-	-	-
9/6/16	8:45	1,410	8.53	343	333	28	2
9/7/16	-	-	-	-	-	-	-
9/8/16	-	-	-	-	-	-	-
9/9/16	8:50	1,230	8.31	280	312	NA	2
9/10/16	-	-	-	-	-	-	-
9/11/16	-	-	-	-	-	-	-
9/12/16	-	-	-	-	-	-	-
9/13/16	8:25	1,200	8.42	316	298	NA	2
9/14/16	-	-	-	-	-	-	-
9/15/16	-	-	-	-	-	-	-
9/16/16	9:45	1,350	8.40	312	314	NA	2
9/17/16	-	-	-	-	-	-	-
9/18/16	-	-	-	-	-	-	-
9/19/16	-	-	-	-	-	-	-
9/20/16	8:35	1,250	8.43	302	307	NA	2
9/21/16	-	-	-	-	-	-	-
9/22/16	-	-	-	-	-	-	-
9/23/16	9:15	1,410	8.44	299	301	NA	2
9/24/16	-	-	-	-	-	-	-
9/25/16	-	-	-	-	-	-	-
9/26/16	-	-	-	-	-	-	-
9/27/16	8:15	1,430	8.50	299	299	NA	2
9/28/16	-	-	-	-	-	-	-
9/29/16	-	-	-	-	-	-	-
9/30/16	9:35	1,440	8.52	299	299	NA	2
<b>Minimum</b>		1,200	8.31	280	298	28	
<b>Maximum</b>		1,440	8.53	343	333	28	
<b>Average</b>		1,346	8.45	308	308	28	

**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

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

Date	Time	Specific Conductance from Telemetry System (µS/cm)	pH	Sulfate (mg/L)	7 Day Rolling Average of Sulfate (mg/L)	Total Suspended Solids (mg/L)	Number of Samples included in 7- day Average
9/1/16	-	-	-	-	-	-	-
9/2/16	10:05	-	8.81	596	599	NA	2
9/3/16	-	-	-	-	-	-	-
9/4/16	-	-	-	-	-	-	-
9/5/16	-	-	-	-	-	-	-
9/6/16	9:00	-	8.74	598	597	10	2
9/7/16	-	-	-	-	-	-	-
9/8/16	-	-	-	-	-	-	-
9/9/16	9:00	-	8.73	597	598	NA	2
9/10/16	-	-	-	-	-	-	-
9/11/16	-	-	-	-	-	-	-
9/12/16	-	-	-	-	-	-	-
9/13/16	8:35	-	8.69	609	603	NA	2
9/14/16	-	-	-	-	-	-	-
9/15/16	-	-	-	-	-	-	-
9/16/16	10:05	-	8.73	602	606	NA	2
9/17/16	-	-	-	-	-	-	-
9/18/16	-	-	-	-	-	-	-
9/19/16	-	-	-	-	-	-	-
9/20/16	8:45	-	8.65	609	606	7	2
9/21/16	-	-	-	-	-	-	-
9/22/16	-	-	-	-	-	-	-
9/23/16	9:25	-	8.73	611	610	NA	2
9/24/16	-	-	-	-	-	-	-
9/25/16	-	-	-	-	-	-	-
9/26/16	-	-	-	-	-	-	-
9/27/16	8:30	-	8.65	608	610	NA	2
9/28/16	-	-	-	-	-	-	-
9/29/16	-	-	-	-	-	-	-
9/30/16	9:45	-	8.75	600	604	NA	2
<b>Minimum</b>		NA	8.65	596	597	7	
<b>Maximum</b>		NA	8.81	611	610	10	
<b>Average</b>		NA	8.72	603	603	9	

**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 (Bremen)**  
**Monthly Water Quality Summary**  
**Devils Lake Outlet Discharge Report**

Date	Time	Specific Conductance USGS Gage ( $\mu$ S/cm)	pH	Sulfate (mg/L)	7 Day Rolling Average of Sulfate (mg/L)	Total Suspended Solids (mg/L)	Number of samples included in 7- day Average
9/1/16	-	-	-	-	-	-	-
9/2/16	9:15	1,880	8.72	585	582	NA	2
9/3/16	-	-	-	-	-	-	-
9/4/16	-	-	-	-	-	-	-
9/5/16	-	-	-	-	-	-	-
9/6/16	8:15	1,890	8.70	572	579	60	2
9/7/16	-	-	-	-	-	-	-
9/8/16	-	-	-	-	-	-	-
9/9/16	8:35	1,800	8.66	533	553	NA	2
9/10/16	-	-	-	-	-	-	-
9/11/16	-	-	-	-	-	-	-
9/12/16	-	-	-	-	-	-	-
9/13/16	8:00	1,800	8.64	541	537	NA	2
9/14/16	-	-	-	-	-	-	-
9/15/16	-	-	-	-	-	-	-
9/16/16	9:15	1,860	8.66	557	549	NA	2
9/17/16	-	-	-	-	-	-	-
9/18/16	-	-	-	-	-	-	-
9/19/16	-	-	-	-	-	-	-
9/20/16	8:00	1,870	8.63	548	553	NA	2
9/21/16	-	-	-	-	-	-	-
9/22/16	-	-	-	-	-	-	-
9/23/16	8:50	1,880	8.66	554	551	NA	2
9/24/16	-	-	-	-	-	-	-
9/25/16	-	-	-	-	-	-	-
9/26/16	-	-	-	-	-	-	-
9/27/16	7:50	1,880	8.63	547	551	NA	2
9/28/16	-	-	-	-	-	-	-
9/29/16	-	-	-	-	-	-	-
9/30/16	9:15	1,920	8.71	562	555	NA	2
<b>Minimum</b>		1,800	8.63	533	537	60	
<b>Maximum</b>		1,920	8.72	585	582	60	
<b>Average</b>		1,864	8.67	555	556	60	

**Notes:**

$\mu$ 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

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

Date	Time	Specific Conductance from Telemetry System (µS/cm)	pH	Sulfate (mg/L)	7 Day Rolling Average of Sulfate (mg/L)	Total Suspended Solids (mg/L)	Number of samples included in 7- day average
9/1/16	-	-	-	-	-	-	-
9/2/16	7:55	-	8.63	1050	992	NA	2
9/3/16	-	-	-	-	-	-	-
9/4/16	-	-	-	-	-	-	-
9/5/16	-	-	-	-	-	-	-
9/6/16	10:15	-	8.67	1030	1040	30	2
9/7/16	-	-	-	-	-	-	-
9/8/16	-	-	-	-	-	-	-
9/9/16	7:20	-	8.64	992	1011	NA	2
9/10/16	-	-	-	-	-	-	-
9/11/16	-	-	-	-	-	-	-
9/12/16	-	-	-	-	-	-	-
9/13/16	9:50	-	8.64	1010	1001	NA	2
9/14/16	-	-	-	-	-	-	-
9/15/16	-	-	-	-	-	-	-
9/16/16	7:50	-	8.68	985	998	NA	2
9/17/16	-	-	-	-	-	-	-
9/18/16	-	-	-	-	-	-	-
9/19/16	-	-	-	-	-	-	-
9/20/16	10:05	-	8.63	1010	998	20	2
9/21/16	-	-	-	-	-	-	-
9/22/16	-	-	-	-	-	-	-
9/23/16	7:45	-	8.65	1010	1010	NA	2
9/24/16	-	-	-	-	-	-	-
9/25/16	-	-	-	-	-	-	-
9/26/16	-	-	-	-	-	-	-
9/27/16	9:40	-	8.59	1010	1010	NA	2
9/28/16	-	-	-	-	-	-	-
9/29/16	-	-	-	-	-	-	-
9/30/16	8:00	-	8.62	1030	1020	NA	2
<b>Minimum</b>		NA	8.59	985	992	20	
<b>Maximum</b>		NA	8.68	1050	1040	30	
<b>Average</b>		NA	8.64	1014	1009	25	

**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	Specific Conductance Laboratory Analysis (µS/cm)	pH	Sulfate (mg/L)	7 Day Rolling Average of Sulfate (mg/L)	Total Suspended Solids (mg/L)	Number of samples included in 7- day Average
9/1/16	-	-	-	-	-	-	-
9/2/16	7:25	0	8.54	704	678	NA	2
9/3/16	-	-	-	-	-	-	-
9/4/16	-	-	-	-	-	-	-
9/5/16	-	-	-	-	-	-	-
9/6/16	10:45	-	8.50	672	688	52	2
9/7/16	-	-	-	-	-	-	-
9/8/16	-	-	-	-	-	-	-
9/9/16	6:55	0	8.49	682	677	NA	2
9/10/16	-	-	-	-	-	-	-
9/11/16	-	-	-	-	-	-	-
9/12/16	-	-	-	-	-	-	-
9/13/16	10:15	-	8.53	672	677	NA	2
9/14/16	-	-	-	-	-	-	-
9/15/16	-	-	-	-	-	-	-
9/16/16	7:20	0	8.58	710	691	NA	2
9/17/16	-	-	-	-	-	-	-
9/18/16	-	-	-	-	-	-	-
9/19/16	-	-	-	-	-	-	-
9/20/16	10:40	-	8.52	695	703	NA	2
9/21/16	-	-	-	-	-	-	-
9/22/16	-	-	-	-	-	-	-
9/23/16	7:20	0	8.56	738	717	NA	2
9/24/16	-	-	-	-	-	-	-
9/25/16	-	-	-	-	-	-	-
9/26/16	-	-	-	-	-	-	-
9/27/16	10:05	-	8.51	660	699	NA	2
9/28/16	-	-	-	-	-	-	-
9/29/16	-	-	-	-	-	-	-
9/30/16	7:35	0	8.48	672	666	NA	2
<b>Minimum</b>			8.48	660	666	52	
<b>Maximum</b>			8.58	738	717	52	
<b>Average</b>			8.52	689	688	52	

**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**