

# 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

November 16, 2017

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

RE: October 2017 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 October 2017. Both outlets discharged steadily up to October 30<sup>th</sup> when both outlets were shut down for the season. The West and East Outlets discharged at average rates of 223 cfs and 121 cfs respectively (**Figure 1**). A total of 21,132 acre-feet were discharged in October which brings the 2017 season total to 131,872 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.

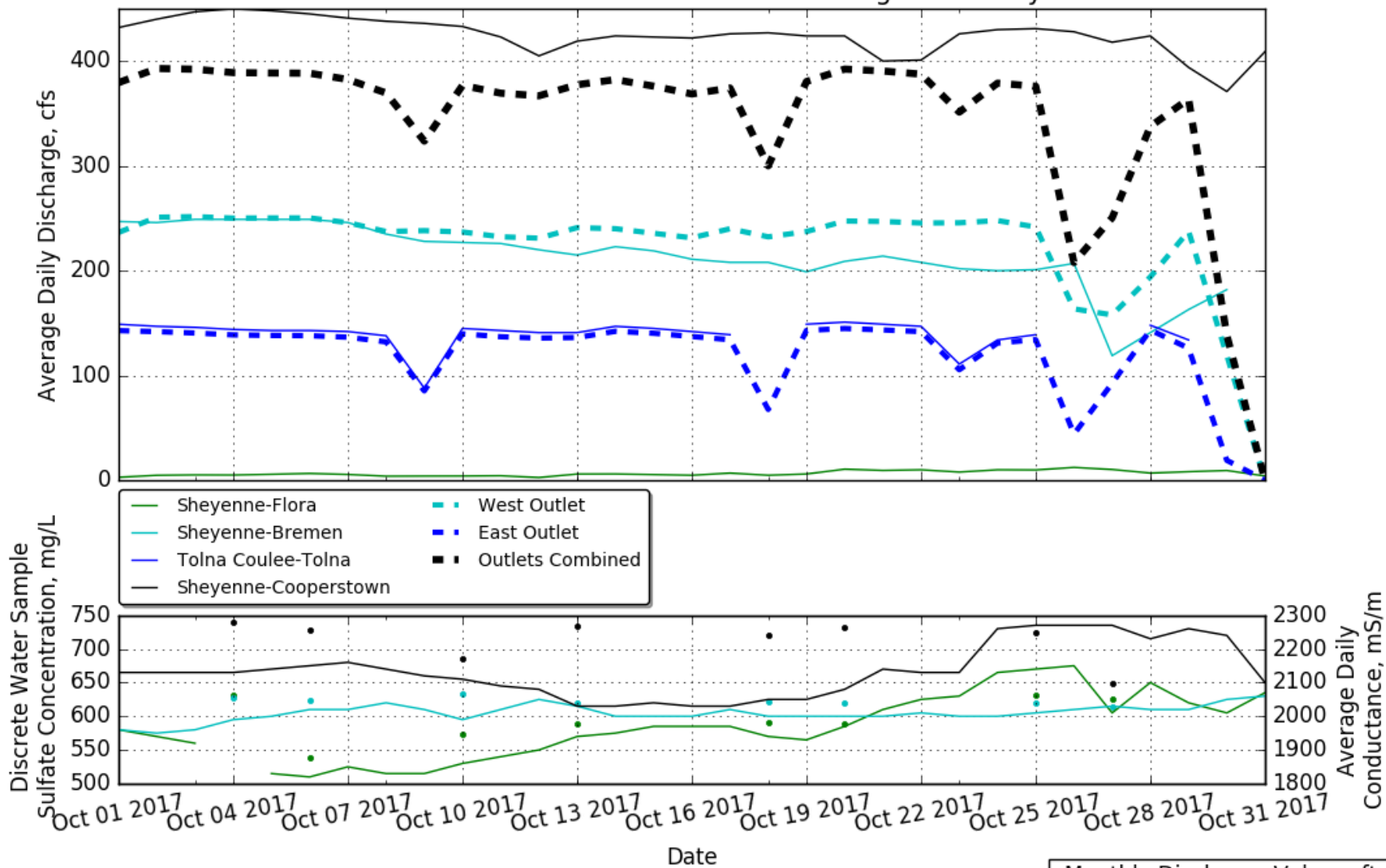
If you have any questions, please contact me at (701) 328-4948.

Sincerely,

Jonathan Kelsch P.E.  
Section Chief of Construction

JK:TD/416-10  
Enclosure

### October 2017 Devils Lake Outlet Discharge Summary



Sulfate		Conductance	
•	Flora	—	Flora
•	Bremen	—	Bremen
•	Pekin	—	Cooperstown

	Monthly Discharge Vol., ac-ft
West End Outlet	13,723
East End Outlet	7,410
Combined Total	21,132

**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
10/1/17	10/31/17

LOCATION: Benson Co, ND

Devils Lake West Outlet discharged 13,723 ac-ft over 30 Days

PARAMETER	MINIMUM	MAXIMUM	AVERAGE	UNITS	SAMPLING FREQUENCY	TYPE
pH	8.48	8.94	8.67	SU	2 x Week	GRAB
SPECIFIC CONDUCTANCE	NA	NA	NA	µS/cm	Continuous	Recorder
SULFATE	601	636	622	mg/L	2 x Week	GRAB
7 DAY AVERAGE OF SULFATE	608	635	623	mg/L	2 x Week	GRAB
OUTLET DISCHARGE	0	252	223	cfs	Continuous	Recorder
SIGNATURE	 JONATHAN KELSCH, HEAD, CONSTRUCTION SECTION			11/16/17	701-328-4948	
NAME AND TITLE				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
10/1/17	10/31/17

LOCATION: Ramsey, Benson, Nelson, ND

Devils Lake East Outlet discharged 7,410 ac-ft over 31 Days

PARAMETER	MINIMUM	MAXIMUM	AVERAGE	UNITS	SAMPLING FREQUENCY	TYPE
pH	8.52	9.07	8.78	SU	2 x Week	GRAB
SPECIFIC CONDUCTANCE	2630	3060	2791	µS/cm	Continuous	Recorder
SULFATE	974	1040	1007	mg/L	2 x Week	GRAB
7 DAY AVERAGE OF SULFATE	979	1030	1010	mg/L	2 x Week	GRAB
OUTLET DISCHARGE	0	145	121	cfs	Continuous	Recorder
SIGNATURE				11/16/17	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
10/1/17	10/31/17

LOCATION: Benson Co, ND

PARAMETER	MINIMUM	MAXIMUM	AVERAGE	UNITS	SAMPLING FREQUENCY	TYPE
pH	8.40	8.74	8.53	SU	2 x Week	GRAB
SPECIFIC CONDUCTANCE	1,820	2,150	1,968	µS/cm	Continuous	Recorder
SULFATE	538	632	596	mg/L	2 x Week	GRAB
7 DAY AVERAGE OF SULFATE	581	646	601	mg/L	2 x Week	GRAB
FLOW, INSTREAM	3	12	7	cfs	Continuous	Recorder
SIGNATURE	 JONATHAN KELSCH, HEAD, CONSTRUCTION SECTION			11/16/17	701-328-4948	
NAME AND TITLE				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
10/1/17	10/31/17

LOCATION: Eddy Co, ND

PARAMETER	MINIMUM	MAXIMUM	AVERAGE	UNITS	SAMPLING FREQUENCY	TYPE
pH	8.48	8.80	8.67	SU	2 x Week	GRAB
SPECIFIC CONDUCTANCE	1,950	2,060	2,009	µS/cm	Continuous	Recorder
SULFATE	614	634	622	mg/L	2 x Week	GRAB
7 DAY AVERAGE OF SULFATE	617	634	624	mg/L	2 x Week	GRAB
FLOW, INSTREAM	119	249	213	cfs	Continuous	Recorder
SIGNATURE	 JONATHAN KELSCH, HEAD, CONSTRUCTION SECTION			11/16/17	701-328-4948	
NAME AND TITLE				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

MONITORING PERIOD	
START DATE	END DATE
10/1/17	10/31/17

LOCATION: Nelson Co, ND

PARAMETER	MINIMUM	MAXIMUM	AVERAGE	UNITS	SAMPLING FREQUENCY	TYPE
pH	8.56	8.96	8.70	SU	2 x Week	GRAB
SPECIFIC CONDUCTANCE	NA	NA	NA	µS/cm	Continuous	Recorder
SULFATE	648	739	714	mg/L	2 x Week	GRAB
7 DAY AVERAGE OF SULFATE	687	734	720	mg/L	2 x Week	GRAB
FLOW, INSTREAM	NA	NA	NA	cfs	Continuous	Recorder
SIGNATURE				11/16/17	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 - Shyenne River near Flora		West End Outlet		Below West End Outlet/Above East End Outlet -Shyenne River near Bremen		East End Outlet		Below East End Outlet - Toina Coulee near Tolna		Below East End Outlet - Shyenne 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> )
10/1/17	3	1,960	237	20,437,000	247	1,960	143	12,347,000	149	2,710	432	2,130	379	32,784,000
10/2/17	5	1,940	251	21,690,000	246	1,950	142	12,261,000	147	2,750	440	2,130	393	33,951,000
10/3/17	5	1,920	252	21,741,000	249	1,960	141	12,148,000	146	2,740	447	2,130	392	33,889,000
10/4/17	5	-	250	21,617,000	249	1,990	139	11,994,000	144	2,700	450	2,130	389	33,611,000
10/5/17	6	1,830	250	21,630,000	249	2,000	138	11,947,000	143	-	448	2,140	389	33,577,000
10/6/17	7	1,820	250	21,632,000	249	2,020	138	11,927,000	143	2,830	445	2,150	388	33,559,000
10/7/17	6	1,850	246	21,247,000	246	2,020	137	11,802,000	142	2,850	441	2,160	383	33,497,000
10/8/17	4	1,830	237	20,513,000	235	2,040	132	11,418,000	138	2,870	438	2,140	370	31,931,000
10/9/17	4	1,830	238	20,585,000	228	2,020	85	7,378,000	88	2,820	436	2,120	324	27,963,000
10/10/17	4	1,860	237	20,474,000	227	1,990	140	12,082,000	145	2,810	433	2,110	377	32,556,000
10/11/17	4	1,880	232	20,077,000	226	2,020	137	11,840,000	143	2,900	423	2,090	369	31,917,000
10/12/17	3	1,900	231	19,967,000	220	2,050	136	11,733,000	141	2,980	405	2,080	367	31,700,000
10/13/17	6	1,940	241	20,832,000	215	2,030	136	11,777,000	141	2,950	419	2,030	377	32,609,000
10/14/17	6	1,950	240	20,745,000	223	2,000	142	12,287,000	147	3,000	424	2,030	382	33,032,000
10/15/17	6	1,970	236	20,369,000	219	2,000	140	12,128,000	145	3,020	423	2,040	376	33,047,000
10/16/17	5	1,970	231	19,993,000	211	2,000	137	11,859,000	142	3,070	422	2,030	369	31,852,000
10/17/17	7	1,970	240	20,742,000	208	2,020	134	11,597,000	139	3,100	426	2,030	374	32,339,000
10/18/17	5	1,940	232	20,075,000	208	2,000	68	5,849,000	-	3,080	427	2,050	300	25,924,000
10/19/17	6	1,930	237	20,512,000	199	2,000	143	12,361,000	149	3,120	424	2,050	380	32,873,000
10/20/17	11	1,970	247	21,377,000	209	2,000	145	12,521,000	151	3,180	424	2,080	392	33,898,000
10/21/17	10	2,020	247	21,343,000	214	2,000	144	12,401,000	149	3,170	400	2,140	391	33,744,000
10/22/17	10	2,050	246	21,215,000	208	2,010	142	12,266,000	147	3,200	401	2,130	388	33,481,000
10/23/17	8	2,060	246	21,232,000	202	2,000	106	9,120,000	111	3,240	426	2,130	351	30,352,000
10/24/17	10	2,130	248	21,415,000	200	2,000	131	11,325,000	134	3,240	430	2,260	379	32,740,000
10/25/17	10	2,140	242	20,889,000	201	2,010	134	11,597,000	139	3,270	431	2,270	376	32,486,000
10/26/17	12	2,150	164	14,137,000	207	2,020	44	3,818,000	-	3,240	428	2,270	208	17,955,000
10/27/17	10	2,010	158	13,642,000	119	2,030	93	8,006,000	-	3,240	418	2,270	251	21,648,000
10/28/17	7	2,100	194	16,774,000	141	2,020	144	12,401,000	148	3,410	424	2,230	338	29,175,000
10/29/17	8	2,040	238	20,543,000	163	2,020	126	10,896,000	134	3,390	394	2,260	364	31,439,000
10/30/17	9	2,010	119	10,310,000	182	2,050	19	1,656,000	-	3,300	371	2,240	138	11,966,000
10/31/17	4	2,070	0	0	-	2,060	0	17,000	-	3,390	409	2,100	0	17,000
<b>Minimum</b>	3	1,820	0	0	119	1,950	0	17,000	88	2,700	371	2,030	0	17,000
<b>Maximum</b>	12	2,150	252	21,741,000	249	2,060	145	12,521,000	151	3,410	450	2,270	393	33,951,000
<b>Average</b>	7	1,968	223	19,282,419	213	2,009	121	10,411,581	140	3,052	424	2,134	344	29,694,000
			<b>Total (Mgal)</b>	4,471			<b>Total (Mgal)</b>	2,414				<b>Total (Mgal)</b>	6,885	
			<b>Total (Ac-ft)</b>	13,723			<b>Total (Ac-ft)</b>	7,410				<b>Total (Ac-ft)</b>	21,132	

**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 ( $\mu$ 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
10/1/17	-	-	-	-	-	-	-
10/2/17	-	-	-	-	-	-	-
10/3/17	-	-	-	-	-	-	-
10/4/17	8:16	1,900	8.41	631	646	28	2
10/5/17	-	-	-	-	-	-	-
10/6/17	9:15	1,800	8.54	538	585	NA	2
10/7/17	-	-	-	-	-	-	-
10/8/17	-	-	-	-	-	-	-
10/9/17	-	-	-	-	-	-	-
10/10/17	8:05	1,810	8.44	574	581	NA	3
10/11/17	-	-	-	-	-	-	-
10/12/17	-	-	-	-	-	-	-
10/13/17	9:05	1,860	8.74	589	582	NA	2
10/14/17	-	-	-	-	-	-	-
10/15/17	-	-	-	-	-	-	-
10/16/17	-	-	-	-	-	-	-
10/17/17	-	-	-	-	-	-	-
10/18/17	8:20	1,830	8.40	591	590	23	2
10/19/17	-	-	-	-	-	-	-
10/20/17	9:55	1,830	8.67	588	590	NA	2
10/21/17	-	-	-	-	-	-	-
10/22/17	-	-	-	-	-	-	-
10/23/17	-	-	-	-	-	-	-
10/24/17	-	-	-	-	-	-	-
10/25/17	7:55	1,950	8.49	632	610	NA	2
10/26/17	-	-	-	-	-	-	-
10/27/17	9:30	2,010	8.58	626	629	NA	2
10/28/17	-	-	-	-	-	-	-
10/29/17	-	-	-	-	-	-	-
10/30/17	-	-	-	-	-	-	-
10/31/17	-	-	-	-	-	-	-
<b>Minimum</b>		1,800	8.40	538	581	23	
<b>Maximum</b>		2,010	8.74	632	646	28	
<b>Average</b>		1,874	8.53	596	601	26	

**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

**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
10/1/17	-	-	-	-	-	-	-
10/2/17	-	-	-	-	-	-	-
10/3/17	-	-	-	-	-	-	-
10/4/17	8:30	-	8.56	635	629	26	2
10/5/17	-	-	-	-	-	-	-
10/6/17	9:25	-	8.83	629	632	NA	2
10/7/17	-	-	-	-	-	-	-
10/8/17	-	-	-	-	-	-	-
10/9/17	-	-	-	-	-	-	-
10/10/17	8:15	-	8.54	636	633	NA	3
10/11/17	-	-	-	-	-	-	-
10/12/17	-	-	-	-	-	-	-
10/13/17	9:45	-	8.82	633	635	NA	2
10/14/17	-	-	-	-	-	-	-
10/15/17	-	-	-	-	-	-	-
10/16/17	-	-	-	-	-	-	-
10/17/17	-	-	-	-	-	-	-
10/18/17	8:40	-	8.52	612	623	17	2
10/19/17	-	-	-	-	-	-	-
10/20/17	10:05	-	8.94	612	612	NA	2
10/21/17	-	-	-	-	-	-	-
10/22/17	-	-	-	-	-	-	-
10/23/17	-	-	-	-	-	-	-
10/24/17	-	-	-	-	-	-	-
10/25/17	8:05	-	8.48	614	613	NA	2
10/26/17	-	-	-	-	-	-	-
10/27/17	9:45	-	8.68	601	608	NA	2
10/28/17	-	-	-	-	-	-	-
10/29/17	-	-	-	-	-	-	-
10/30/17	-	-	-	-	-	-	-
10/31/17	-	-	-	-	-	-	-
<b>Minimum</b>		NA	8.48	601	608	17	
<b>Maximum</b>		NA	8.94	636	635	26	
<b>Average</b>		NA	8.67	622	623	22	

**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 (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
10/1/17	-	-	-	-	-	-	-
10/2/17	-	-	-	-	-	-	-
10/3/17	-	-	-	-	-	-	-
10/4/17	7:50	1,960	8.60	627	634	37	2
10/5/17	-	-	-	-	-	-	-
10/6/17	8:55	2,040	8.74	624	626	NA	2
10/7/17	-	-	-	-	-	-	-
10/8/17	-	-	-	-	-	-	-
10/9/17	-	-	-	-	-	-	-
10/10/17	7:40	1,980	8.60	634	628	NA	3
10/11/17	-	-	-	-	-	-	-
10/12/17	-	-	-	-	-	-	-
10/13/17	9:30	1,970	8.77	619	627	NA	2
10/14/17	-	-	-	-	-	-	-
10/15/17	-	-	-	-	-	-	-
10/16/17	-	-	-	-	-	-	-
10/17/17	-	-	-	-	-	-	-
10/18/17	7:47	1,980	8.59	621	620	23	2
10/19/17	-	-	-	-	-	-	-
10/20/17	9:35	1,960	8.80	619	620	NA	2
10/21/17	-	-	-	-	-	-	-
10/22/17	-	-	-	-	-	-	-
10/23/17	-	-	-	-	-	-	-
10/24/17	-	-	-	-	-	-	-
10/25/17	17:40	1,960	8.48	620	620	NA	2
10/26/17	-	-	-	-	-	-	-
10/27/17	9:05	2,030	8.75	614	617	NA	2
10/28/17	-	-	-	-	-	-	-
10/29/17	-	-	-	-	-	-	-
10/30/17	-	-	-	-	-	-	-
10/31/17	-	-	-	-	-	-	-
<b>Minimum</b>		1,960	8.48	614	617	23	
<b>Maximum</b>		2,040	8.80	634	634	37	
<b>Average</b>		1,985	8.67	622	624	30	

**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 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
10/1/17	-	-	-	-	-	-	-
10/2/17	-	-	-	-	-	-	-
10/3/17	-	-	-	-	-	-	-
10/4/17	9:41	2720	8.68	1010	1030	41	2
10/5/17	-	-	-	-	-	-	-
10/6/17	7:35	2800	9.07	1040	1025	NA	2
10/7/17	-	-	-	-	-	-	-
10/8/17	-	-	-	-	-	-	-
10/9/17	-	-	-	-	-	-	-
10/10/17	9:40	2630	8.69	1030	1027	NA	3
10/11/17	-	-	-	-	-	-	-
10/12/17	-	-	-	-	-	-	-
10/13/17	7:50	-	9.01	1030	1030	NA	2
10/14/17	-	-	-	-	-	-	-
10/15/17	-	-	-	-	-	-	-
10/16/17	-	-	-	-	-	-	-
10/17/17	-	-	-	-	-	-	-
10/18/17	9:52	2770	8.67	992	1011	90	2
10/19/17	-	-	-	-	-	-	-
10/20/17	8:10	2790	8.91	992	992	NA	2
10/21/17	-	-	-	-	-	-	-
10/22/17	-	-	-	-	-	-	-
10/23/17	-	-	-	-	-	-	-
10/24/17	-	-	-	-	-	-	-
10/25/17	9:10	2770	8.66	974	983	NA	2
10/26/17	-	-	-	-	-	-	-
10/27/17	7:55	3060	8.52	984	979	NA	2
10/28/17	-	-	-	-	-	-	-
10/29/17	-	-	-	-	-	-	-
10/30/17	-	-	-	-	-	-	-
10/31/17	-	-	-	-	-	-	-
<b>Minimum</b>		2630	8.52	974	979	41	
<b>Maximum</b>		3060	9.07	1040	1030	90	
<b>Average</b>		2791	8.78	1007	1010	66	

**Notes:**

mg/L - Milligrams per liter or parts per million  
 NA - Not Analyzed  
 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
10/1/17	-	-	-	-	-	-	-
10/2/17	-	-	-	-	-	-	-
10/3/17	-	-	-	-	-	-	-
10/4/17	10:10	-	8.58	739	729	32	2
10/5/17	-	-	-	-	-	-	-
10/6/17	7:55	-	8.74	728	734	NA	2
10/7/17	-	-	-	-	-	-	-
10/8/17	-	-	-	-	-	-	-
10/9/17	-	-	-	-	-	-	-
10/10/17	10:05	-	8.59	686	718	NA	3
10/11/17	-	-	-	-	-	-	-
10/12/17	-	-	-	-	-	-	-
10/13/17	8:20	-	8.96	734	710	NA	2
10/14/17	-	-	-	-	-	-	-
10/15/17	-	-	-	-	-	-	-
10/16/17	-	-	-	-	-	-	-
10/17/17	-	-	-	-	-	-	-
10/18/17	10:20	-	8.57	720	727	28	2
10/19/17	-	-	-	-	-	-	-
10/20/17	8:30	-	8.85	732	726	NA	2
10/21/17	-	-	-	-	-	-	-
10/22/17	-	-	-	-	-	-	-
10/23/17	-	-	-	-	-	-	-
10/24/17	-	-	-	-	-	-	-
10/25/17	9:30	-	8.56	725	729	NA	2
10/26/17	-	-	-	-	-	-	-
10/27/17	8:15	-	8.72	648	687	NA	2
10/28/17	-	-	-	-	-	-	-
10/29/17	-	-	-	-	-	-	-
10/30/17	-	-	-	-	-	-	-
10/31/17	-	-	-	-	-	-	-
<b>Minimum</b>			8.56	648	687	28	
<b>Maximum</b>			8.96	739	734	32	
<b>Average</b>			8.70	714	720	30	

**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**