



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

June 12, 2015

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

RE: May 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 May 2015. Discharges from the West and East outlets were limited due to high streamflows and repairs at Tolna Dam. The East Outlet began discharging to fill the reservoir behind Tolna Dam early in the month before it began discharging at 150 cfs on May 14th. Both outlets were shutdown from May 17th to May 26th due to high streamflows in the Sheyenne River. When operations resumed the discharges from the outlets remained limited (approximately 125 cfs from the West End and 150 cfs from the East End Outlets). A graph of the outlet discharges, streamflows, 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

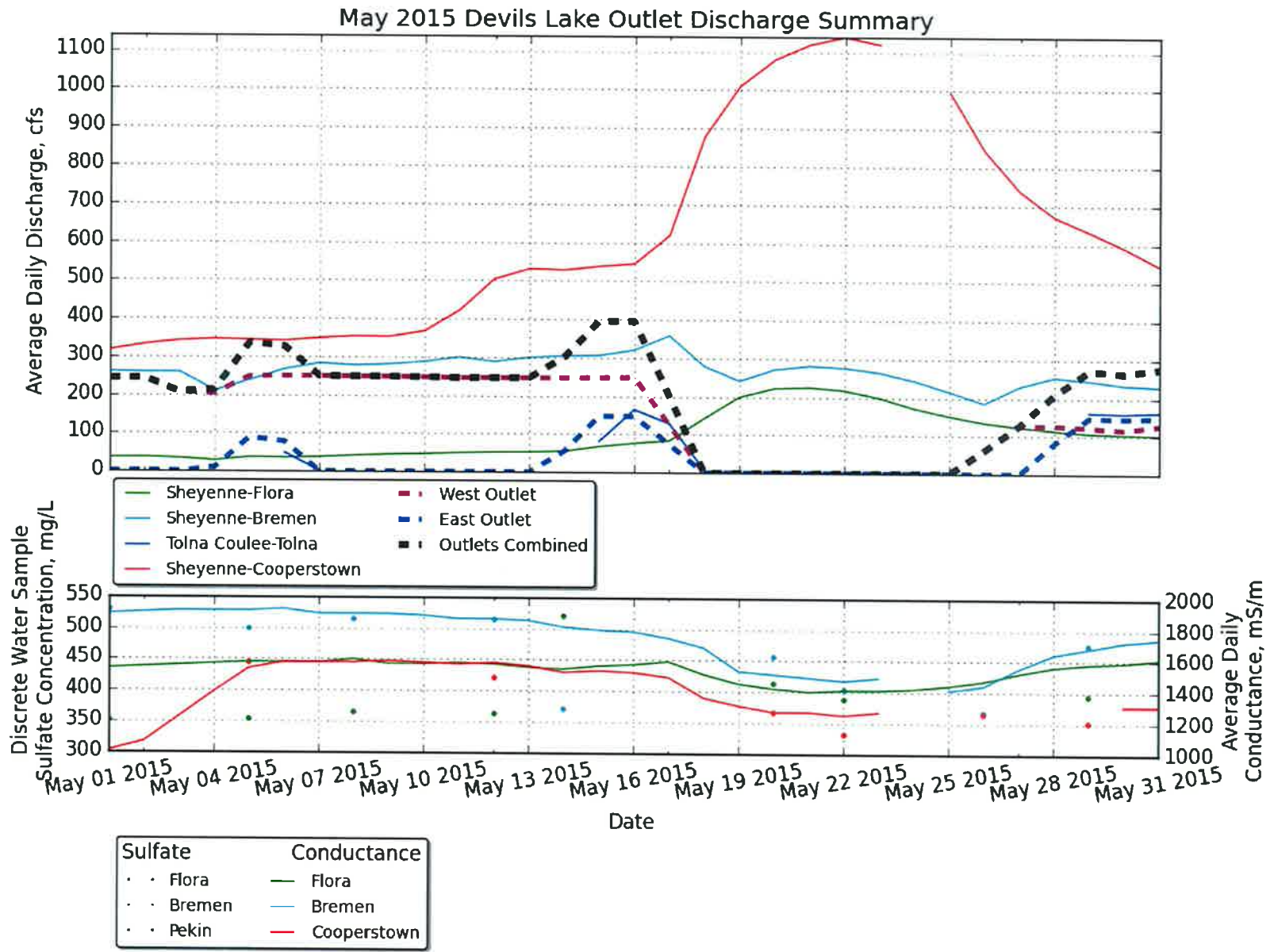


Figure 1: Devils Lake Outlet Discharge Summary

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
5/1/15	5/31/15

LOCATION: Benson Co, ND

Devils Lake West Outlet discharged 9,268 ac-ft over 23 Days

PARAMETER	MINIMUM	MAXIMUM	AVERAGE	UNITS	SAMPLING FREQUENCY	TYPE
pH	8.53	8.66	8.58	SU	2 x Week	GRAB
SPECIFIC CONDUCTANCE	NA	NA	NA	µS/cm	Continuous	Recorder
SULFATE	516	704	561	mg/L	2 x Week	GRAB
7 DAY AVERAGE OF SULFATE	518	704	558	mg/L	2 x Week	GRAB
OUTLET DISCHARGE	0	249	151	cfs	Continuous	Recorder
SIGNATURE				6/11/15	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
5/1/15	5/31/15

LOCATION: Ramsey, Benson, Nelson, ND

Devils Lake East Outlet discharged 2,233 ac-ft over 13 Days

PARAMETER	MINIMUM	MAXIMUM	AVERAGE	UNITS	SAMPLING FREQUENCY	TYPE
pH	8.51	8.51	8.51	SU	2 x Week	GRAB
SPECIFIC CONDUCTANCE	NA	NA	NA	µS/cm	Continuous	Recorder
SULFATE	905	905	905	mg/L	2 x Week	GRAB
7 DAY AVERAGE OF SULFATE	905	905	905	mg/L	2 x Week	GRAB
OUTLET DISCHARGE	0	148	38	cfs	Continuous	Recorder
SIGNATURE				6/11/15	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

MONITORING PERIOD	
START DATE	END DATE
5/1/15	5/31/15

LOCATION: Benson Co, ND

PARAMETER	MINIMUM	MAXIMUM	AVERAGE	UNITS	SAMPLING FREQUENCY	TYPE
pH	8.27	8.69	8.45	SU	2 x Week	GRAB
SPECIFIC CONDUCTANCE	1,400	1,610	1,531	µS/cm	Continuous	Recorder
SULFATE	352	520	391	mg/L	2 x Week	GRAB
7 DAY AVERAGE OF SULFATE	347	467	386	mg/L	2 x Week	GRAB
FLOW, INSTREAM	28	225	98	cfs	Continuous	Recorder
SIGNATURE				6/11/15	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
5/1/15	5/31/15

LOCATION: Eddy Co, ND

PARAMETER	MINIMUM	MAXIMUM	AVERAGE	UNITS	SAMPLING FREQUENCY	TYPE
pH	8.25	8.67	8.48	SU	2 x Week	GRAB
SPECIFIC CONDUCTANCE	1,410	1,920	1,734	µS/cm	Continuous	Recorder
SULFATE	367	530	459	mg/L	2 x Week	GRAB
7 DAY AVERAGE OF SULFATE	409	526	467	mg/L	2 x Week	GRAB
FLOW, INSTREAM	185	359	266	cfs	Continuous	Recorder
SIGNATURE	<i>Jon Kelsch</i>			6/11/15	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 EAST END OUTLET (PEKIN)

FACILITY: Devils Lake Outlet Project

MONITORING PERIOD	
START DATE	END DATE
5/1/15	5/31/15

LOCATION: Nelson Co, ND

PARAMETER	MINIMUM	MAXIMUM	AVERAGE	UNITS	SAMPLING FREQUENCY	TYPE
pH	8.16	8.49	8.32	SU	2 x Week	GRAB
SPECIFIC CONDUCTANCE	NA	NA	NA	µS/cm	Continuous	Recorder
SULFATE	332	445	381	mg/L	2 x Week	GRAB
7 DAY AVERAGE OF SULFATE	350	422	368	mg/L	2 x Week	GRAB
FLOW, INSTREAM	NA	NA	NA	cfs	Continuous	Recorder
SIGNATURE				6/11/15	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
- 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)
5/1/15	36	1,540	243	20,995,000	260	1,890	-	-	-	1,100	317	1,010	243	20,995,000
5/2/15	37	1,550	242	20,928,000	259	1,900	2	175,000	-	1,100	332	1,070	244	21,103,000
5/3/15	34	1,560	206	17,775,000	259	1,910	0	5,000	-	1,120	342	1,230	206	17,780,000
5/4/15	28	1,570	204	17,584,000	211	1,910	10	889,000	-	1,070	346	1,390	214	18,473,000
5/5/15	37	1,580	248	21,418,000	238	1,910	89	7,697,000	-	1,630	344	1,540	337	29,115,000
5/6/15	36	1,580	249	21,513,000	267	1,920	78	6,760,000	49	2,180	342	1,580	327	28,273,000
5/7/15	38	1,580	249	21,539,000	283	1,890	0	0	2	1,990	349	1,580	249	21,539,000
5/8/15	42	1,600	248	21,465,000	278	1,890	0	0	-	-	354	1,580	248	21,465,000
5/9/15	45	1,570	248	21,453,000	281	1,890	0	0	-	-	353	1,590	248	21,453,000
5/10/15	47	1,570	247	21,382,000	288	1,880	0	0	-	-	368	1,580	247	21,382,000
5/11/15	50	1,580	246	21,271,000	300	1,860	0	0	-	-	422	1,570	246	21,271,000
5/12/15	52	1,570	247	21,303,000	289	1,860	0	0	-	1,200	504	1,580	247	21,303,000
5/13/15	53	1,550	247	21,312,000	300	1,850	0	0	-	1,130	531	1,560	247	21,312,000
5/14/15	55	1,540	247	21,304,000	305	1,810	55	4,778,000	-	1,280	528	1,520	302	26,082,000
5/15/15	68	1,560	247	21,349,000	306	1,790	147	12,736,000	82	1,980	538	1,530	395	34,085,000
5/16/15	77	1,570	248	21,410,000	321	1,780	147	12,720,000	165	1,940	545	1,520	395	34,130,000
5/17/15	84	1,590	126	10,862,000	359	1,740	75	6,444,000	129	-	619	1,490	200	17,306,000
5/18/15	143	1,510	0	0	279	1,680	0	0	8	-	879	1,360	0	0
5/19/15	199	1,450	0	0	241	1,530	0	0	-	-	1,010	1,310	0	0
5/20/15	222	1,420	0	0	271	1,510	0	0	-	-	1,080	1,270	0	0
5/21/15	225	1,400	0	0	281	1,490	0	0	-	-	1,120	1,270	0	0
5/22/15	217	1,410	0	0	276	1,470	0	0	-	-	1,140	1,250	0	0
5/23/15	198	1,410	0	0	264	1,490	0	0	-	-	1,120	1,270	0	0
5/24/15	171	1,420	0	0	243	-	0	0	-	-	-	-	0	0
5/25/15	151	1,440	0	0	215	1,410	0	0	-	-	995	1,270	0	0
5/26/15	134	1,470	62	5,318,000	185	1,440	0	0	-	-	843	-	62	5,318,000
5/27/15	123	1,520	127	10,944,000	229	1,550	0	0	4	-	738	-	127	10,944,000
5/28/15	114	1,560	127	10,949,000	253	1,640	81	6,957,000	-	-	670	-	207	17,906,000
5/29/15	107	1,580	122	10,579,000	245	1,680	148	12,748,000	161	-	631	-	270	23,327,000
5/30/15	104	1,590	116	10,048,000	233	1,720	146	12,590,000	159	2,940	590	1,310	262	22,638,000
5/31/15	102	1,610	127	10,996,000	229	1,740	148	12,762,000	162	2,940	543	1,310	275	23,758,000
Minimum	28	1,400	0	0	185	1,410	0	0	2	1,070	317	1,010	0	0
Maximum	225	1,610	249	21,539,000	359	1,920	148	12,762,000	165	2,940	1,140	1,590	395	34,130,000
Average	98	1,531	151	13,022,484	266	1,734	38	3,242,033	92	1,686	616	1,405	187	16,159,935
Notes:			Total (Mgal)	3,020			Total (Mgal)	728			Total (Mgal)	3,747		
			Total (Ac-ft)	9,268			Total (Ac-ft)	2,233			Total (Ac-ft)	11,500		

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 (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
5/1/15	8:35	1,540	8.52	352	347	NA	7
5/2/15	-	-	-	-	-	-	-
5/3/15	-	-	-	-	-	-	-
5/4/15	-	-	-	-	-	-	-
5/5/15	8:05	1,570	8.56	355	350	NA	7
5/6/15	-	-	-	-	-	-	-
5/7/15	-	-	-	-	-	-	-
5/8/15	8:50	1,600	8.54	365	360	NA	7
5/9/15	-	-	-	-	-	-	-
5/10/15	-	-	-	-	-	-	-
5/11/15	-	-	-	-	-	-	-
5/12/15	8:00	1,580	8.54	363	364	NA	7
5/13/15	-	-	-	-	-	-	-
5/14/15	10:15	1,540	8.69	520	416	NA	7
5/15/15	-	-	-	-	-	-	-
5/16/15	-	-	-	-	-	-	-
5/17/15	-	-	-	-	-	-	-
5/18/15	-	-	-	-	-	-	-
5/19/15	-	-	-	-	-	-	-
5/20/15	8:20	1,410	8.31	414	467	60	-
5/21/15	-	-	-	-	-	-	-
5/22/15	8:55	1,420	8.27	388	401	NA	7
5/23/15	-	-	-	-	-	-	-
5/24/15	-	-	-	-	-	-	-
5/25/15	-	-	-	-	-	-	-
5/26/15	8:00	1,470	8.32	367	390	NA	7
5/27/15	-	-	-	-	-	-	-
5/28/15	-	-	-	-	-	-	-
5/29/15	8:30	1,570	8.34	394	381	NA	7
5/30/15	-	-	-	-	-	-	-
5/31/15	-	-	-	-	-	-	-
Minimum		1,410	8.27	352	347	60	
Maximum		1,600	8.69	520	467	60	
Average		1,522	8.45	391	386	60	

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	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
5/1/15	8:50	8.57	537	532	NA	7
5/2/15	-	-	-	-	-	-
5/3/15	-	-	-	-	-	-
5/4/15	-	-	-	-	-	-
5/5/15	8:20	8.54	540	535	32	7
5/6/15	-	-	-	-	-	-
5/7/15	-	-	-	-	-	-
5/8/15	8:30	8.58	519	530	NA	7
5/9/15	-	-	-	-	-	-
5/10/15	-	-	-	-	-	-
5/11/15	-	-	-	-	-	-
5/12/15	8:15	8.53	516	518	NA	7
5/13/15	-	-	-	-	-	-
5/14/15	9:35	8.60	556	530	NA	7
5/15/15	-	-	-	-	-	-
5/16/15	-	-	-	-	-	-
5/17/15	-	-	-	-	-	-
5/18/15	-	-	-	-	-	-
5/19/15	-	-	-	-	-	-
5/20/15	-	-	-	-	-	-
5/21/15	-	-	-	-	-	-
5/22/15	9:12	8.58	704	704	NA	7
5/23/15	-	-	-	-	-	-
5/24/15	-	-	-	-	-	-
5/25/15	-	-	-	-	-	-
5/26/15	-	-	-	-	-	-
5/27/15	-	-	-	-	-	-
5/28/15	-	-	-	-	-	-
5/29/15	8:43	8.66	558	558	NA	7
5/30/15	-	-	-	-	-	-
5/31/15	-	-	-	-	-	-
Minimum		8.53	516	518	32	
Maximum		8.66	704	704	32	
Average		8.58	561	558	NA	

Notes:

mg/L - Milligrams per liter or parts per million

NA - Not Analyzed

Italic font denotes preliminary result

Blue shaded result denotes sample was collected when the outlet was not operating (stagnant water)

**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
5/1/15	8:10	1,880	8.53	530	526	NA	7
5/2/15	-	-	-	-	-	-	-
5/3/15	-	-	-	-	-	-	-
5/4/15	-	-	-	-	-	-	-
5/5/15	7:40	1,880	8.55	499	517	24	7
5/6/15	-	-	-	-	-	-	-
5/7/15	-	-	-	-	-	-	-
5/8/15	9:05	1,850	8.56	514	507	NA	7
5/9/15	-	-	-	-	-	-	-
5/10/15	-	-	-	-	-	-	-
5/11/15	-	-	-	-	-	-	-
5/12/15	7:40	1,800	8.57	514	514	NA	7
5/13/15	-	-	-	-	-	-	-
5/14/15	9:50	1,810	8.67	371	466	NA	7
5/15/15	-	-	-	-	-	-	-
5/16/15	-	-	-	-	-	-	-
5/17/15	-	-	-	-	-	-	-
5/18/15	-	-	-	-	-	-	-
5/19/15	-	-	-	-	-	-	-
5/20/15	8:00	1,440	8.34	456	414	36	7
5/21/15	-	-	-	-	-	-	-
5/22/15	8:30	1,460	8.25	404	430	NA	7
5/23/15	-	-	-	-	-	-	-
5/24/15	-	-	-	-	-	-	-
5/25/15	-	-	-	-	-	-	-
5/26/15	7:30	1,320	8.37	367	409	NA	7
5/27/15	-	-	-	-	-	-	-
5/28/15	-	-	-	-	-	-	-
5/29/15	8:00	1,680	8.48	476	422	NA	7
5/30/15	-	-	-	-	-	-	-
5/31/15	-	-	-	-	-	-	-
Minimum		1,320	8.25	367	409	24	
Maximum		1,880	8.67	530	526	36	
Average		1,680	8.48	459	467	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 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
5/1/15	-	-	-	-	-	-
5/2/15	-	-	-	-	-	-
5/3/15	-	-	-	-	-	-
5/4/15	-	-	-	-	-	-
5/5/15	-	-	-	-	-	-
5/6/15	-	-	-	-	-	-
5/7/15	-	-	-	-	-	-
5/8/15	-	-	-	-	-	-
5/9/15	-	-	-	-	-	-
5/10/15	-	-	-	-	-	-
5/11/15	-	-	-	-	-	-
5/12/15	-	-	-	-	-	-
5/13/15	-	-	-	-	-	-
5/14/15	-	-	-	-	-	-
5/15/15	-	-	-	-	-	-
5/16/15	-	-	-	-	-	-
5/17/15	-	-	-	-	-	-
5/18/15	-	-	-	-	-	-
5/19/15	-	-	-	-	-	-
5/20/15	-	-	-	-	-	-
5/21/15	-	-	-	-	-	-
5/22/15	-	-	-	-	-	-
5/23/15	-	-	-	-	-	-
5/24/15	-	-	-	-	-	-
5/25/15	-	-	-	-	-	-
5/26/15	-	-	-	-	-	-
5/27/15	-	-	-	-	-	-
5/28/15	-	-	-	-	-	-
5/29/15	13:05	<i>8.51</i>	<i>905</i>	<i>905</i>	<i>NA</i>	<i>7</i>
5/30/15	-	-	-	-	-	-
5/31/15	-	-	-	-	-	-
Minimum		8.51	905	905	0	
Maximum		8.51	905	905	0	
Average		8.51	905	905	0	

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
5/1/15	-	-	-	-	-	-
5/2/15	-	-	-	-	-	-
5/3/15	-	-	-	-	-	-
5/4/15	-	-	-	-	-	-
5/5/15	9:41	8.49	445	353	74	7
5/6/15	-	-	-	-	-	-
5/7/15	-	-	-	-	-	-
5/8/15	-	-	-	-	-	-
5/9/15	-	-	-	-	-	-
5/10/15	-	-	-	-	-	-
5/11/15	-	-	-	-	-	-
5/12/15	9:30	8.43	422	422	NA	7
5/13/15	-	-	-	-	-	-
5/14/15	-	-	-	-	-	-
5/15/15	-	-	-	-	-	-
5/16/15	-	-	-	-	-	-
5/17/15	-	-	-	-	-	-
5/18/15	-	-	-	-	-	-
5/19/15	-	-	-	-	-	-
5/20/15	9:50	8.34	367	367	51	7
5/21/15	-	-	-	-	-	-
5/22/15	10:10	8.21	332	350	NA	7
5/23/15	-	-	-	-	-	-
5/24/15	-	-	-	-	-	-
5/25/15	-	-	-	-	-	-
5/26/15	9:22	8.28	366	355	NA	7
5/27/15	-	-	-	-	-	-
5/28/15	-	-	-	-	-	-
5/29/15	12:30	8.16	352	359	NA	7
5/30/15	-	-	-	-	-	-
5/31/15	-	-	-	-	-	-
Minimum		8.16	332	350	51	
Maximum		8.49	445	422	74	
Average		8.32	381	368	63	

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