

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

September 11, 2015

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

RE: August 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 August 2015. Discharges from the West and East outlets were limited due to maintenance. Discharges were also reduced at the East outlet to reduce sulfate concentrations in the Sheyenne River. The water quality standard for sulfate was exceeded at the Pekin monitoring site. 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.

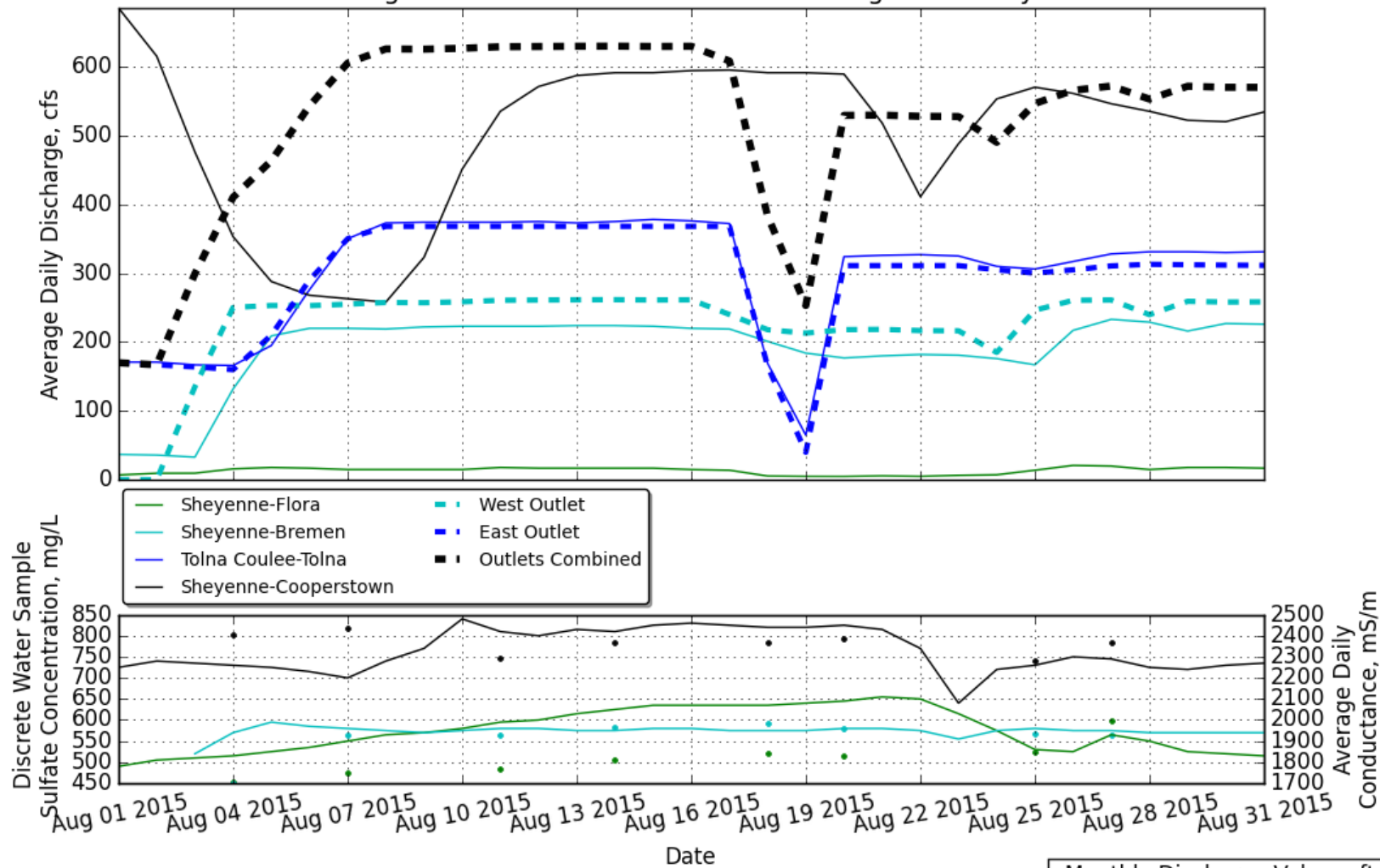
Sincerely,

Jonathan Kelsch P.E.
Section Chief of Construction

JK:MW/416-10

Enclosure

August 2015 Devils Lake Outlet Discharge Summary



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

	Monthly Discharge Vol., ac-ft
West End Outlet	13,877
East End Outlet	18,067
Combined Total	31,943



**North Dakota
State Water Commission**

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
8/1/15	8/31/15

LOCATION: Benson Co, ND

Devils Lake West Outlet discharged 13,877 ac-ft over 29 Days

PARAMETER	MINIMUM	MAXIMUM	AVERAGE	UNITS	SAMPLING FREQUENCY	TYPE
pH	8.72	8.82	8.79	SU	2 x Week	GRAB
SPECIFIC CONDUCTANCE	NA	NA	NA	µS/cm	Continuous	Recorder
SULFATE	556	584	568	mg/L	2 x Week	GRAB
7 DAY AVERAGE OF SULFATE	556	584	568	mg/L	2 x Week	GRAB
OUTLET DISCHARGE	0	262	226	cfs	Continuous	Recorder
SIGNATURE				9/11/15	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
8/1/15	8/31/15

LOCATION: Ramsey, Benson, Nelson, ND

Devils Lake East Outlet discharged 18,067 ac-ft over 31 Days

PARAMETER	MINIMUM	MAXIMUM	AVERAGE	UNITS	SAMPLING FREQUENCY	TYPE
pH	8.65	8.85	8.77	SU	2 x Week	GRAB
SPECIFIC CONDUCTANCE	NA	NA	NA	µS/cm	Continuous	Recorder
SULFATE	919	971	953	mg/L	2 x Week	GRAB
7 DAY AVERAGE OF SULFATE	929	970	951	mg/L	2 x Week	GRAB
OUTLET DISCHARGE	40	368	294	cfs	Continuous	Recorder
SIGNATURE				9/11/15	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
8/1/15	8/31/15

LOCATION: Benson Co, ND

PARAMETER	MINIMUM	MAXIMUM	AVERAGE	UNITS	SAMPLING FREQUENCY	TYPE
pH	8.46	8.68	8.56	SU	2 x Week	GRAB
SPECIFIC CONDUCTANCE	1,780	2,110	1,950	µS/cm	Continuous	Recorder
SULFATE	453	599	510	mg/L	2 x Week	GRAB
7 DAY AVERAGE OF SULFATE	453	562	500	mg/L	2 x Week	GRAB
FLOW, INSTREAM	5	21	13	cfs	Continuous	Recorder
SIGNATURE				9/11/15	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
8/1/15	8/31/15

LOCATION: Eddy Co, ND

PARAMETER	MINIMUM	MAXIMUM	AVERAGE	UNITS	SAMPLING FREQUENCY	TYPE
pH	8.56	8.82	8.75	SU	2 x Week	GRAB
SPECIFIC CONDUCTANCE	1,840	1,990	1,944	µS/cm	Continuous	Recorder
SULFATE	450	592	558	mg/L	2 x Week	GRAB
7 DAY AVERAGE OF SULFATE	450	587	551	mg/L	2 x Week	GRAB
FLOW, INSTREAM	33	233	190	cfs	Continuous	Recorder
SIGNATURE				9/11/15	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
8/1/15	8/31/15

LOCATION: Nelson Co, ND

PARAMETER	MINIMUM	MAXIMUM	AVERAGE	UNITS	SAMPLING FREQUENCY	TYPE
pH	8.57	8.71	8.64	SU	2 x Week	GRAB
SPECIFIC CONDUCTANCE	NA	NA	NA	µS/cm	Continuous	Recorder
SULFATE	741	818	782	mg/L	2 x Week	GRAB
7 DAY AVERAGE OF SULFATE	763	810	782	mg/L	2 x Week	GRAB
FLOW, INSTREAM	NA	NA	NA	cfs	Continuous	Recorder
SIGNATURE				9/11/15	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
- 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 (ft ³)	Average Streamflow USGS Gage (cfs)	Average Specific Conductance USGS Gage (µS/cm)	Average Daily Outlet Discharge (cfs)	Total Daily Volume (ft ³)	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 ³)
8/1/15	7	1,780	0	0	37	1,850	170	14,688,000	171	3,030	685	2,250	170	14,688,000
8/2/15	10	1,810	0	0	36	-	167	14,428,800	171	3,040	615	2,280	167	14,428,800
8/3/15	10	1,820	135	11,688,500	33	1,840	164	14,169,600	167	3,060	476	2,270	299	25,858,100
8/4/15	16	1,830	250	21,622,000	132	1,940	160	13,824,000	166	3,000	353	2,260	410	35,446,000
8/5/15	18	1,850	253	21,866,000	209	1,990	210	18,144,000	195	2,850	288	2,250	463	40,010,000
8/6/15	17	1,870	253	21,851,000	220	1,970	290	25,056,000	276	2,910	268	2,230	543	46,907,000
8/7/15	15	1,900	255	22,027,000	220	1,960	350	30,240,000	350	2,980	263	2,200	605	52,267,000
8/8/15	15	1,930	258	22,253,000	219	1,950	368	31,795,200	373	2,910	258	2,280	626	54,048,200
8/9/15	15	1,940	257	22,225,000	222	1,940	368	31,795,200	374	2,800	323	2,340	625	54,020,200
8/10/15	15	1,960	258	22,334,000	223	1,950	368	31,795,200	374	2,880	451	2,480	626	54,129,200
8/11/15	18	1,990	261	22,523,000	223	1,960	368	31,795,200	374	2,760	535	2,420	629	54,318,200
8/12/15	17	2,000	261	22,553,000	223	1,960	368	31,795,200	375	2,760	571	2,400	629	54,348,200
8/13/15	17	2,030	261	22,582,000	224	1,950	368	31,795,200	373	2,830	587	2,430	629	54,377,200
8/14/15	17	2,050	262	22,596,000	224	1,950	368	31,795,200	375	2,770	591	2,420	630	54,391,200
8/15/15	17	2,070	261	22,557,000	223	1,960	368	31,795,200	378	2,740	591	2,450	629	54,352,200
8/16/15	15	2,070	261	22,580,000	220	1,960	368	31,795,200	376	2,770	594	2,460	629	54,375,200
8/17/15	14	2,070	240	20,741,000	219	1,950	368	31,795,200	372	2,670	595	2,450	608	52,536,200
8/18/15	6	2,070	218	18,831,000	201	1,950	165	14,256,000	169	-	591	2,440	383	33,087,000
8/19/15	5	2,080	213	18,406,000	184	1,950	40	3,456,000	65	-	591	2,440	253	21,862,000
8/20/15	5	2,090	218	18,845,000	177	1,960	311	26,870,400	324	-	589	2,450	529	45,715,400
8/21/15	6	2,110	218	18,875,000	180	1,960	311	26,870,400	326	-	518	2,430	529	45,745,400
8/22/15	5	2,100	217	18,728,000	182	1,950	311	26,870,400	327	-	411	2,340	528	45,598,400
8/23/15	7	2,030	216	18,699,000	181	1,910	311	26,870,400	325	-	488	2,080	527	45,569,400
8/24/15	7	1,950	185	15,983,000	176	1,950	305	26,352,000	310	-	553	2,240	490	42,335,000
8/25/15	14	1,860	246	21,280,000	167	1,960	300	25,920,000	306	-	570	2,260	546	47,200,000
8/26/15	21	1,850	261	22,519,000	217	1,950	305	26,342,000	317	-	561	2,300	566	48,861,000
8/27/15	20	1,930	261	22,558,000	233	1,950	311	26,833,000	328	-	546	2,290	572	49,391,000
8/28/15	15	1,900	240	20,723,000	229	1,940	313	27,034,000	331	-	535	2,250	553	47,757,000
8/29/15	18	1,850	259	22,389,000	216	1,940	312	26,976,000	331	-	522	2,240	571	49,365,000
8/30/15	18	1,840	258	22,305,000	227	1,940	312	26,929,000	330	-	520	2,260	570	49,234,000
8/31/15	17	1,830	258	22,327,000	226	1,940	311	26,903,000	331	-	534	2,270	570	49,230,000
Minimum	5	1,780	0	0	33	1,840	40	3,456,000	65	2,670	258	2,080	167	14,428,800
Maximum	21	2,110	262	22,596,000	233	1,990	368	31,795,200	378	3,060	685	2,480	630	54,391,200
Average	13	1,950	226	19,498,919	190	1,944	294	25,386,613	302	2,868	502	2,328	520	44,885,532
Notes:	Total (Mgal) 4,521				Total (Mgal) 5,887				Total (Mgal) 10,408					
	Total (Ac-ft) 13,877				Total (Ac-ft) 18,067				Total (Ac-ft) 31,943					

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
8/1/15	-	-	-	-	-	-	-
8/2/15	-	-	-	-	-	-	-
8/3/15	-	-	-	-	-	-	-
8/4/15	8:25	1,820	8.56	453	453	NA	7
8/5/15	-	-	-	-	-	-	-
8/6/15	-	-	-	-	-	-	-
8/7/15	8:10	1,850	8.57	474	464	NA	7
8/8/15	-	-	-	-	-	-	-
8/9/15	-	-	-	-	-	-	-
8/10/15	-	-	-	-	-	-	-
8/11/15	8:00	1,940	8.53	484	479	48	7
8/12/15	-	-	-	-	-	-	-
8/13/15	-	-	-	-	-	-	-
8/14/15	9:10	2,040	8.46	506	495	NA	7
8/15/15	-	-	-	-	-	-	-
8/16/15	-	-	-	-	-	-	-
8/17/15	-	-	-	-	-	-	-
8/18/15	8:00	2,020	8.55	521	514	NA	7
8/19/15	-	-	-	-	-	-	-
8/20/15	9:45	2,080	8.62	516	514	NA	-
8/21/15	-	-	-	-	-	-	-
8/22/15	-	-	-	-	-	-	-
8/23/15	-	-	-	-	-	-	-
8/24/15	-	-	-	-	-	-	-
8/25/15	8:00	1,870	8.53	524	520	21	7
8/26/15	-	-	-	-	-	-	-
8/27/15	10:00	1,930	8.68	599	562	NA	7
8/28/15	-	-	-	-	-	-	-
8/29/15	-	-	-	-	-	-	-
8/30/15	-	-	-	-	-	-	-
8/31/15	-	-	-	-	-	-	-
Minimum		1,820	8.46	453	453	21	
Maximum		2,080	8.68	599	562	48	
Average		1,944	8.56	510	500	35	

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
8/1/15	-	-	-	-	-	-
8/2/15	-	-	-	-	-	-
8/3/15	-	-	-	-	-	-
8/4/15	8:35	8.78	556	556	NA	7
8/5/15	-	-	-	-	-	-
8/6/15	-	-	-	-	-	-
8/7/15	8:20	8.80	570	563	NA	7
8/8/15	-	-	-	-	-	-
8/9/15	-	-	-	-	-	-
8/10/15	-	-	-	-	-	-
8/11/15	8:10	8.81	560	565	15	7
8/12/15	-	-	-	-	-	-
8/13/15	-	-	-	-	-	-
8/14/15	9:20	8.82	583	572	NA	7
8/15/15	-	-	-	-	-	-
8/16/15	-	-	-	-	-	-
8/17/15	-	-	-	-	-	-
8/18/15	8:15	8.73	584	584	NA	7
8/19/15	-	-	-	-	-	-
8/20/15	10:00	8.80	559	575	NA	7
8/21/15	-	-	-	-	-	-
8/22/15	-	-	-	-	-	-
8/23/15	-	-	-	-	-	-
8/24/15	-	-	-	-	-	-
8/25/15	8:10	8.72	572	566	29	7
8/26/15	-	-	-	-	-	-
8/27/15	9:45	8.82	557	565	NA	7
8/28/15	-	-	-	-	-	-
8/29/15	-	-	-	-	-	-
8/30/15	-	-	-	-	-	-
8/31/15	-	-	-	-	-	-
Minimum		8.72	556	556	15	
Maximum		8.82	584	584	29	
Average		8.79	568	568	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 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
8/1/15	-	-	-	-	-	-	-
8/2/15	-	-	-	-	-	-	-
8/3/15	-	-	-	-	-	-	-
8/4/15	8:00	1,870	8.56	450	450	NA	7
8/5/15	-	-	-	-	-	-	-
8/6/15	-	-	-	-	-	-	-
8/7/15	7:45	1,960	8.79	564	507	NA	7
8/8/15	-	-	-	-	-	-	-
8/9/15	-	-	-	-	-	-	-
8/10/15	-	-	-	-	-	-	-
8/11/15	7:35	1,960	8.78	563	564	55	7
8/12/15	-	-	-	-	-	-	-
8/13/15	-	-	-	-	-	-	-
8/14/15	8:20	1,950	8.82	582	573	NA	7
8/15/15	-	-	-	-	-	-	-
8/16/15	-	-	-	-	-	-	-
8/17/15	-	-	-	-	-	-	-
8/18/15	7:30	1,950	8.75	592	587	NA	7
8/19/15	-	-	-	-	-	-	-
8/20/15	9:30	1,960	8.78	580	585	NA	7
8/21/15	-	-	-	-	-	-	-
8/22/15	-	-	-	-	-	-	-
8/23/15	-	-	-	-	-	-	-
8/24/15	-	-	-	-	-	-	-
8/25/15	7:30	1,960	8.74	568	574	34	7
8/26/15	-	-	-	-	-	-	-
8/27/15	10:25	1,950	8.79	565	567	NA	7
8/28/15	-	-	-	-	-	-	-
8/29/15	-	-	-	-	-	-	-
8/30/15	-	-	-	-	-	-	-
8/31/15	-	-	-	-	-	-	-
Minimum		1,870	8.56	450	450	34	
Maximum		1,960	8.82	592	587	55	
Average		1,945	8.75	558	551	45	

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
8/1/15	-	-	-	-	-	-
8/2/15	-	-	-	-	-	-
8/3/15	-	-	-	-	-	-
8/4/15	9:50	8.76	929	929	NA	7
8/5/15	-	-	-	-	-	-
8/6/15	-	-	-	-	-	-
8/7/15	11:40	8.65	951	940	NA	7
8/8/15	-	-	-	-	-	-
8/9/15	-	-	-	-	-	-
8/10/15	-	-	-	-	-	-
8/11/15	9:22	8.83	919	935	200	7
8/12/15	-	-	-	-	-	-
8/13/15	-	-	-	-	-	-
8/14/15	12:30	8.85	966	943	NA	7
8/15/15	-	-	-	-	-	-
8/16/15	-	-	-	-	-	-
8/17/15	-	-	-	-	-	-
8/18/15	9:25	8.76	964	965	NA	7
8/19/15	-	-	-	-	-	-
8/20/15	11:45	8.78	971	967	NA	7
8/21/15	-	-	-	-	-	-
8/22/15	-	-	-	-	-	-
8/23/15	-	-	-	-	-	-
8/24/15	-	-	-	-	-	-
8/25/15	9:25	8.72	968	970	40	7
8/26/15	-	-	-	-	-	-
8/27/15	7:30	8.77	954	961	NA	7
8/28/15	-	-	-	-	-	-
8/29/15	-	-	-	-	-	-
8/30/15	-	-	-	-	-	-
8/31/15	-	-	-	-	-	-
Minimum		8.65	919	929	40	
Maximum		8.85	971	970	200	
Average		8.77	953	951	120	

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
8/1/15	-	-	-	-	-	-
8/2/15	-	-	-	-	-	-
8/3/15	-	-	-	-	-	-
8/4/15	10:20	8.62	801	801	NA	7
8/5/15	-	-	-	-	-	-
8/6/15	-	-	-	-	-	-
8/7/15	12:15	8.64	818	810	NA	7
8/8/15	-	-	-	-	-	-
8/9/15	-	-	-	-	-	-
8/10/15	-	-	-	-	-	-
8/11/15	9:50	8.64	746	782	40	7
8/12/15	-	-	-	-	-	-
8/13/15	-	-	-	-	-	-
8/14/15	12:05	8.71	784	765	NA	7
8/15/15	-	-	-	-	-	-
8/16/15	-	-	-	-	-	-
8/17/15	-	-	-	-	-	-
8/18/15	9:55	8.62	785	785	NA	7
8/19/15	-	-	-	-	-	-
8/20/15	12:10	8.66	793	787	NA	7
8/21/15	-	-	-	-	-	-
8/22/15	-	-	-	-	-	-
8/23/15	-	-	-	-	-	-
8/24/15	-	-	-	-	-	-
8/25/15	9:55	8.57	741	767	40	7
8/26/15	-	-	-	-	-	-
8/27/15	7:55	8.67	785	763	NA	7
8/28/15	-	-	-	-	-	-
8/29/15	-	-	-	-	-	-
8/30/15	-	-	-	-	-	-
8/31/15	-	-	-	-	-	-
Minimum		8.57	741	763	40	
Maximum		8.71	818	810	40	
Average		8.64	782	782	40	

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