



North Dakota State Water Commission

900 EAST BOULEVARD AVENUE, DEPT 770 • BISMARCK, NORTH DAKOTA 58505-0850
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WATER DEVELOPMENT DIVISION
(701) 328-2752

November 21, 2014

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

RE: October 2014 Devils Lake Outlets Monthly Discharge and Water Quality Report

Enclosed are the monthly discharge reports for the Devils Lake Outlets for the month of October 2014 and summaries of water quality sample results and flow data. The outlets discharged at full capacity with a few exceptions for routine maintenance, and discharges from the East End Outlet were reduced to 300 cfs because of water quality restrictions. (**Figure 1**).

Sulfate levels exceeded 750mg/L at the sampling location near Pekin on October 3, October 10, and October 14th.

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.
Head, Construction Section
JK:MSW:416-10

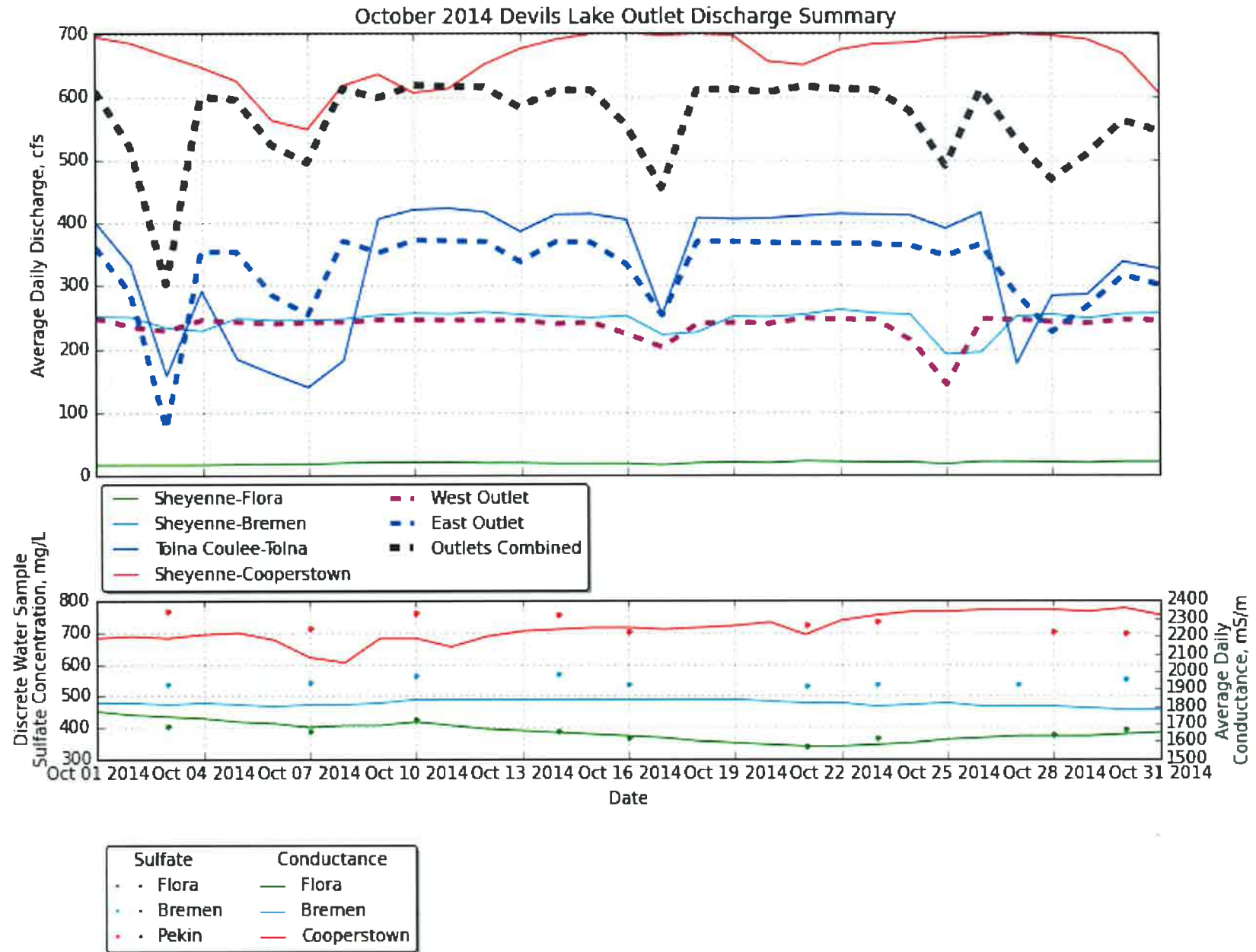


Figure 1: Devils Lake Outlet Discharge Summary

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
10/1/14	10/31/14

LOCATION: Benson Co, ND

Devils Lake West Outlet discharged 14,541 ac-ft over 31 Days

PARAMETER	MINIMUM	MAXIMUM	AVERAGE	UNITS	SAMPLING FREQUENCY	TYPE
pH	8.60	8.74	8.69	SU	2 x Week	GRAB
SPECIFIC CONDUCTANCE	NA	NA	NA	µS/cm	Continuous	Recorder
SULFATE	545	577	557	mg/L	2 x Week	GRAB
7 DAY AVERAGE OF SULFATE	541	575	557	mg/L	2 x Week	GRAB
OUTLET DISCHARGE	143	248	236	cfs	Continuous	Recorder
SIGNATURE				11/21/14	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
10/1/14	10/31/14

LOCATION: Ramsey, Benson, Nelson, ND

Devils Lake East Outlet discharged 20,121 ac-ft over 31 Days

PARAMETER	MINIMUM	MAXIMUM	AVERAGE	UNITS	SAMPLING FREQUENCY	TYPE
pH	8.63	8.71	8.69	SU	2 x Week	GRAB
SPECIFIC CONDUCTANCE	NA	NA	NA	µS/cm	Continuous	Recorder
SULFATE	915	971	942	mg/L	2 x Week	GRAB
7 DAY AVERAGE OF SULFATE	927	965	942	mg/L	2 x Week	GRAB
OUTLET DISCHARGE	74	372	327	cfs	Continuous	Recorder
SIGNATURE				11/21/14	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
10/1/14	10/31/14

LOCATION: Benson Co, ND

PARAMETER	MINIMUM	MAXIMUM	AVERAGE	UNITS	SAMPLING FREQUENCY	TYPE
pH	8.48	8.59	8.55	SU	2 x Week	GRAB
SPECIFIC CONDUCTANCE	1,570	1,770	1,652	µS/cm	Continuous	Recorder
SULFATE	342	426	385	mg/L	2 x Week	GRAB
7 DAY AVERAGE OF SULFATE	354	436	390	mg/L	2 x Week	GRAB
FLOW, INSTREAM	16	22	19	cfs	Continuous	Recorder
SIGNATURE				11/21/14	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
10/1/14	10/31/14

LOCATION: Eddy Co, ND

PARAMETER	MINIMUM	MAXIMUM	AVERAGE	UNITS	SAMPLING FREQUENCY	TYPE
pH	8.65	8.77	8.70	SU	2 x Week	GRAB
SPECIFIC CONDUCTANCE	1,780	1,840	1,818	µS/cm	Continuous	Recorder
SULFATE	534	571	548	mg/L	2 x Week	GRAB
7 DAY AVERAGE OF SULFATE	537	568	547	mg/L	2 x Week	GRAB
FLOW, INSTREAM	191	262	245	cfs	Continuous	Recorder
SIGNATURE				11/21/14	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
10/1/14	10/31/14

LOCATION: Nelson Co, ND

PARAMETER	MINIMUM	MAXIMUM	AVERAGE	UNITS	SAMPLING FREQUENCY	TYPE
pH	8.49	8.62	8.57	SU	2 x Week	GRAB
SPECIFIC CONDUCTANCE	NA	NA	NA	µS/cm	Continuous	Recorder
SULFATE	703	770	733	mg/L	2 x Week	GRAB
7 DAY AVERAGE OF SULFATE	705	762	735	mg/L	2 x Week	GRAB
FLOW, INSTREAM	NA	NA	NA	cfs	Continuous	Recorder
SIGNATURE				11/21/14	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. Sulfate concentrations within some samples exceeded 750 mg/L.

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)
10/1/14	16	1,770	248	21,446,000	251	1,820	361	31,207,000	401	2,820	695	2,190	609	52,653,000
10/2/14	16	1,750	234	20,231,000	250	1,820	287	24,791,000	332	2,820	685	2,200	521	45,022,000
10/3/14	16	1,740	228	19,696,000	233	1,810	74	6,379,000	157	-	665	2,190	302	26,075,000
10/4/14	16	1,730	245	21,190,000	228	1,820	354	30,576,000	291	-	646	2,210	599	51,766,000
10/5/14	17	1,710	242	20,922,000	248	1,810	353	30,458,000	183	2,840	624	2,220	595	51,380,000
10/6/14	17	1,700	239	20,684,000	245	1,800	284	24,529,000	160	-	562	2,180	523	45,213,000
10/7/14	17	1,680	241	20,852,000	245	1,810	254	21,922,000	139	-	548	2,080	495	42,774,000
10/8/14	19	1,690	242	20,925,000	247	1,810	371	32,038,000	181	-	617	2,050	613	52,963,000
10/9/14	20	1,690	246	21,217,000	253	1,820	352	30,422,000	406	2,840	635	2,190	598	51,639,000
10/10/14	20	1,710	245	21,197,000	256	1,840	372	32,152,000	421	-	606	2,190	617	53,349,000
10/11/14	20	1,690	245	21,163,000	255	1,840	371	32,054,000	423	2,850	613	2,140	616	53,217,000
10/12/14	19	1,670	245	21,147,000	258	1,840	370	31,984,000	417	2,840	651	2,200	615	53,131,000
10/13/14	19	1,660	245	21,155,000	254	1,840	338	29,192,000	386	2,840	676	2,230	583	50,347,000
10/14/14	18	1,650	239	20,680,000	251	1,840	370	31,925,000	413	2,840	691	2,240	609	52,605,000
10/15/14	18	1,640	242	20,902,000	249	1,840	368	31,832,000	414	2,840	700	2,250	610	52,734,000
10/16/14	18	1,630	222	19,186,000	252	1,840	334	28,819,000	405	2,850	701	2,250	556	48,005,000
10/17/14	16	1,620	202	17,466,000	222	1,840	253	21,820,000	253	-	698	2,240	455	39,286,000
10/18/14	19	1,600	240	20,725,000	226	1,840	371	32,023,000	408	2,830	700	2,250	611	52,748,000
10/19/14	20	1,590	241	20,861,000	251	1,840	370	31,952,000	406	-	698	2,260	611	52,813,000
10/20/14	19	1,580	239	20,621,000	250	1,830	368	31,776,000	407	-	656	2,280	606	52,397,000
10/21/14	22	1,570	248	21,462,000	254	1,820	367	31,736,000	411	-	650	2,210	616	53,198,000
10/22/14	21	1,570	245	21,167,000	262	1,820	366	31,661,000	414	-	674	2,290	611	52,828,000
10/23/14	20	1,580	245	21,182,000	256	1,800	366	31,594,000	413	-	684	2,320	611	52,776,000
10/24/14	20	1,590	214	18,454,000	254	1,810	363	31,353,000	412	-	686	2,340	576	49,807,000
10/25/14	17	1,610	143	12,329,000	191	1,820	347	30,002,000	391	-	693	2,340	490	42,331,000
10/26/14	21	1,620	246	21,264,000	194	1,800	365	31,551,000	416	-	695	2,350	611	52,815,000
10/27/14	21	1,630	246	21,268,000	251	1,800	286	24,676,000	176	-	700	2,350	532	45,944,000
10/28/14	20	1,630	242	20,926,000	254	1,800	226	19,542,000	284	-	697	2,350	468	40,468,000
10/29/14	19	1,630	241	20,782,000	248	1,790	268	23,139,000	286	-	691	2,340	508	43,921,000
10/30/14	21	1,640	246	21,227,000	255	1,780	316	27,303,000	338	-	668	2,360	562	48,530,000
10/31/14	21	1,650	244	21,069,000	256	1,780	302	26,074,000	327	3,020	607	2,320	546	47,143,000
Minimum	16	1,570	143	12,329,000	191	1,780	74	6,379,000	139	2,820	548	2,050	302	26,075,000
Maximum	22	1,770	248	21,462,000	262	1,840	372	32,152,000	423	3,020	701	2,360	617	53,349,000
Average	19	1,652	236	20,432,129	245	1,818	327	28,273,613	338	2,853	662	2,245	564	48,705,742

Notes:	Total (Mgal)	4,738	Total (Mgal)	6,556	Total (Mgal)	11,294
	Total (Ac-ft)	14,541	Total (Ac-ft)	20,121	Total (Ac-ft)	34,662

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
10/1/14	-	-	-	-	-	-	-
10/2/14	-	-	-	-	-	-	-
10/3/14	8:20	1,750	8.56	406	436	NA	7
10/4/14	-	-	-	-	-	-	-
10/5/14	-	-	-	-	-	-	-
10/6/14	-	-	-	-	-	-	-
10/7/14	8:00	1,690	8.59	388	397	<5	7
10/8/14	-	-	-	-	-	-	-
10/9/14	-	-	-	-	-	-	-
10/10/14	10:15	1,720	8.52	426	407	NA	7
10/11/14	-	-	-	-	-	-	-
10/12/14	-	-	-	-	-	-	-
10/13/14	-	-	-	-	-	-	-
10/14/14	7:55	1,660	8.57	391	409	NA	7
10/15/14	-	-	-	-	-	-	-
10/16/14	8:15	1,640	8.48	366	394	NA	7
10/17/14	-	-	-	-	-	-	-
10/18/14	-	-	-	-	-	-	-
10/19/14	-	-	-	-	-	-	-
10/20/14	-	-	-	-	-	-	-
10/21/14	8:10	1,570	8.57	342	354	21	7
10/22/14	-	-	-	-	-	-	-
10/23/14	9:25	1,580	8.55	366	354	NA	7
10/24/14	-	-	-	-	-	-	-
10/25/14	-	-	-	-	-	-	-
10/26/14	-	-	-	-	-	-	-
10/27/14	-	-	-	-	-	-	-
10/28/14	8:10	1,630	8.53	381	374	NA	7
10/29/14	-	-	-	-	-	-	-
10/30/14	9:05	1,640	8.56	397	389	NA	7
10/31/14	-	-	-	-	-	-	-
Minimum		1,570	8.48	342	354	21	
Maximum		1,750	8.59	426	436	21	
Average		1,653	8.55	385	390	21	

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
10/1/14	-	-	-	-	-	-
10/2/14	-	-	-	-	-	-
10/3/14	8:30	8.70	545	541	NA	7
10/4/14	-	-	-	-	-	-
10/5/14	-	-	-	-	-	-
10/6/14	-	-	-	-	-	-
10/7/14	8:15	8.74	551	548	22	7
10/8/14	-	-	-	-	-	-
10/9/14	-	-	-	-	-	-
10/10/14	10:30	8.60	572	562	NA	7
10/11/14	-	-	-	-	-	-
10/12/14	-	-	-	-	-	-
10/13/14	-	-	-	-	-	-
10/14/14	8:05	8.73	577	575	NA	7
10/15/14	-	-	-	-	-	-
10/16/14	8:00	8.71	551	567	NA	7
10/17/14	-	-	-	-	-	-
10/18/14	-	-	-	-	-	-
10/19/14	-	-	-	-	-	-
10/20/14	-	-	-	-	-	-
10/21/14	8:19	8.69	558	555	19	7
10/22/14	-	-	-	-	-	-
10/23/14	9:45	8.71	559	559	NA	7
10/24/14	-	-	-	-	-	-
10/25/14	-	-	-	-	-	-
10/26/14	-	-	-	-	-	-
10/27/14	-	-	-	-	-	-
10/28/14	8:25	8.68	548	554	NA	7
10/29/14	-	-	-	-	-	-
10/30/14	9:20	8.68	556	552	NA	7
10/31/14	-	-	-	-	-	-
Minimum		8.60	545	541	19	
Maximum		8.74	577	575	22	
Average		8.69	557	557	21	

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
10/1/14	-	-	-	-	-	-	-
10/2/14	-	-	-	-	-	-	-
10/3/14	8:00	1,810	8.67	539	540	NA	7
10/4/14	-	-	-	-	-	-	-
10/5/14	-	-	-	-	-	-	-
10/6/14	-	-	-	-	-	-	-
10/7/14	7:30	1,820	8.70	544	542	34	7
10/8/14	-	-	-	-	-	-	-
10/9/14	-	-	-	-	-	-	-
10/10/14	9:55	1,850	8.69	565	555	NA	7
10/11/14	-	-	-	-	-	-	-
10/12/14	-	-	-	-	-	-	-
10/13/14	-	-	-	-	-	-	-
10/14/14	7:30	1,840	8.71	571	568	NA	7
10/15/14	-	-	-	-	-	-	-
10/16/14	8:40	1,840	8.65	540	559	NA	7
10/17/14	-	-	-	-	-	-	-
10/18/14	-	-	-	-	-	-	-
10/19/14	-	-	-	-	-	-	-
10/20/14	-	-	-	-	-	-	-
10/21/14	7:40	1,830	8.68	534	537	33	7
10/22/14	-	-	-	-	-	-	-
10/23/14	8:50	1,810	8.75	541	538	NA	7
10/24/14	-	-	-	-	-	-	-
10/25/14	-	-	-	-	-	-	-
10/26/14	-	-	-	-	-	-	-
10/27/14	7:40	1,800	8.66	542	539	NA	7
10/28/14	-	-	-	-	-	-	-
10/29/14	-	-	-	-	-	-	-
10/30/14	8:35	1,780	8.77	555	549	NA	7
10/31/14	-	-	-	-	-	-	-
Minimum		1,780	8.65	534	537	33	
Maximum		1,850	8.77	571	568	34	
Average		1,820	8.70	548	547	34	

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
10/1/14	-	-	-	-	-	-
10/2/14	-	-	-	-	-	-
10/3/14	13:00	8.70	931	927	NA	7
10/4/14	-	-	-	-	-	-
10/5/14	-	-	-	-	-	-
10/6/14	-	-	-	-	-	-
10/7/14	-	-	-	-	-	-
10/8/14	-	-	-	-	-	-
10/9/14	-	-	-	-	-	-
10/10/14	8:20	8.69	959	959	NA	7
10/11/14	-	-	-	-	-	-
10/12/14	-	-	-	-	-	-
10/13/14	-	-	-	-	-	-
10/14/14	9:20	8.71	971	965	NA	7
10/15/14	-	-	-	-	-	-
10/16/14	10:10	8.69	941	957	NA	7
10/17/14	-	-	-	-	-	-
10/18/14	-	-	-	-	-	-
10/19/14	-	-	-	-	-	-
10/20/14	-	-	-	-	-	-
10/21/14	9:35	8.68	921	931	22	7
10/22/14	-	-	-	-	-	-
10/23/14	13:40	8.70	945	933	NA	7
10/24/14	-	-	-	-	-	-
10/25/14	-	-	-	-	-	-
10/26/14	-	-	-	-	-	-
10/27/14	-	-	-	-	-	-
10/28/14	9:40	8.63	915	930	NA	7
10/29/14	-	-	-	-	-	-
10/30/14	9:45	8.68	951	933	NA	7
10/31/14	-	-	-	-	-	-
Minimum		8.63	915	927	-	
Maximum		8.71	971	965	-	
Average		8.69	942	942	-	

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
10/1/14	-	-	-	-	-	-
10/2/14	-	-	-	-	-	-
10/3/14	13:30	8.54	770	748	NA	7
10/4/14	-	-	-	-	-	-
10/5/14	-	-	-	-	-	-
10/6/14	-	-	-	-	-	-
10/7/14	10:10	8.58	715	743	28	7
10/8/14	-	-	-	-	-	-
10/9/14	-	-	-	-	-	-
10/10/14	7:45	8.49	765	740	NA	7
10/11/14	-	-	-	-	-	-
10/12/14	-	-	-	-	-	-
10/13/14	-	-	-	-	-	-
10/14/14	9:46	8.62	758	762	NA	7
10/15/14	-	-	-	-	-	-
10/16/14	9:45	8.54	708	744	NA	7
10/17/14	-	-	-	-	-	-
10/18/14	-	-	-	-	-	-
10/19/14	-	-	-	-	-	-
10/20/14	-	-	-	-	-	-
10/21/14	10:15	8.59	728	718	27	7
10/22/14	-	-	-	-	-	-
10/23/14	11:05	8.57	739	734	NA	7
10/24/14	-	-	-	-	-	-
10/25/14	-	-	-	-	-	-
10/26/14	-	-	-	-	-	-
10/27/14	-	-	-	-	-	-
10/28/14	10:00	8.58	707	723	NA	7
10/29/14	-	-	-	-	-	-
10/30/14	9:25	8.61	703	705	NA	7
10/31/14	-	-	-	-	-	-
Minimum		8.49	703	705	27	
Maximum		8.62	770	762	28	
Average		8.57	733	735	28	

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