

North Dakota State Water Commission

900 EAST BOULEVARD AVENUE, DEPT 770 • BISMARCK, NORTH DAKOTA 58505-0850
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August 19, 2014

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

RE: July 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 July 2014 and summaries of water quality sample results and flow data. Operation of the East End and West End Outlets was limited during early July due to high base flow in the Sheyenne River. The East End Outlet was shutdown briefly while electrical utility work was performed (**Figure 1**). By the end of the month, both outlets were operating at capacity.

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

July 2014 Devils Lake Outlet Discharge Summary

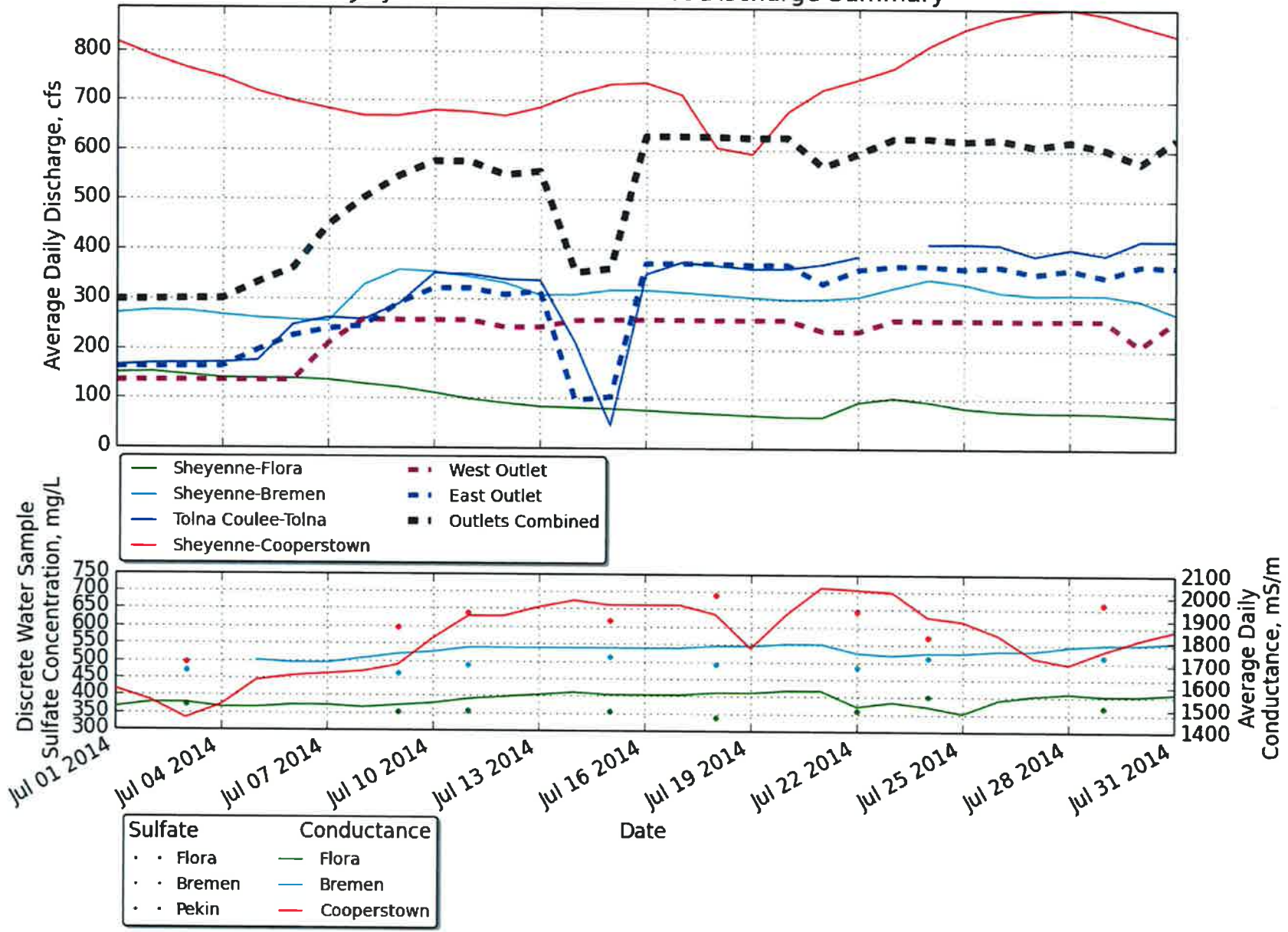


Figure 1: Devils Lake Outlet Discharge Summary

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
7/1/14	7/31/14

LOCATION: Benson Co, ND

Devils Lake West Outlet discharged 14,013 ac-ft over 31 Days

PARAMETER	MINIMUM	MAXIMUM	AVERAGE	UNITS	SAMPLING FREQUENCY	TYPE
pH	8.68	8.77	8.72	SU	2 x Week	GRAB
SPECIFIC CONDUCTANCE	NA	NA	NA	µS/cm	Continuous	Recorder
SULFATE	534	562	547	mg/L	2 x Week	GRAB
7 DAY AVERAGE OF SULFATE	535	557	547	mg/L	2 x Week	GRAB
OUTLET DISCHARGE	134	259	228	cfs	Continuous	Recorder
SIGNATURE				8/19/14	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
7/1/14	7/31/14

LOCATION: Ramsey, Benson, Nelson, ND

Devils Lake East Outlet discharged 18,042 ac-ft over 31 Days

PARAMETER	MINIMUM	MAXIMUM	AVERAGE	UNITS	SAMPLING FREQUENCY	TYPE
pH	8.60	8.72	8.65	SU	2 x Week	GRAB
SPECIFIC CONDUCTANCE	NA	NA	NA	µS/cm	Continuous	Recorder
SULFATE	852	925	899	mg/L	2 x Week	GRAB
7 DAY AVERAGE OF SULFATE	877	918	900	mg/L	2 x Week	GRAB
OUTLET DISCHARGE	96	371	293	cfs	Continuous	Recorder
SIGNATURE				8/19/14	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
7/1/14	7/31/14

LOCATION: Benson Co, ND

PARAMETER	MINIMUM	MAXIMUM	AVERAGE	UNITS	SAMPLING FREQUENCY	TYPE
pH	8.27	8.48	8.38	SU	2 x Week	GRAB
SPECIFIC CONDUCTANCE	1,480	1,580	1,538	µS/cm	Continuous	Recorder
SULFATE	338	400	364	mg/L	2 x Week	GRAB
7 DAY AVERAGE OF SULFATE	347	384	360	mg/L	2 x Week	GRAB
FLOW, INSTREAM	63	152	97	cfs	Continuous	Recorder
SIGNATURE				8/19/14	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
7/1/14	7/31/14

LOCATION: Eddy Co, ND

PARAMETER	MINIMUM	MAXIMUM	AVERAGE	UNITS	SAMPLING FREQUENCY	TYPE
pH	8.44	8.72	8.61	SU	2 x Week	GRAB
SPECIFIC CONDUCTANCE	1,700	1,800	1,760	µS/cm	Continuous	Recorder
SULFATE	458	517	489	mg/L	2 x Week	GRAB
7 DAY AVERAGE OF SULFATE	454	515	483	mg/L	2 x Week	GRAB
FLOW, INSTREAM	254	357	305	cfs	Continuous	Recorder
SIGNATURE				8/19/14	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
7/1/14	7/31/14

LOCATION: Nelson Co, ND

PARAMETER	MINIMUM	MAXIMUM	AVERAGE	UNITS	SAMPLING FREQUENCY	TYPE
pH	8.31	8.55	8.46	SU	2 x Week	GRAB
SPECIFIC CONDUCTANCE	NA	NA	NA	µS/cm	Continuous	Recorder
SULFATE	465	689	598	mg/L	2 x Week	GRAB
7 DAY AVERAGE OF SULFATE	474	667	590	mg/L	2 x Week	GRAB
FLOW, INSTREAM	NA	NA	NA	cfs	Continuous	Recorder
SIGNATURE				8/19/14	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
- 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)
7/11/14	150	1,500	134	11,608,000	269	-	163	14,042,000	165	2,710	816	1,580	297	25,650,000
7/12/14	152	1,520	135	11,694,000	275	-	162	13,990,000	169	2,730	788	1,530	297	25,684,000
7/13/14	146	1,520	136	11,725,000	274	-	163	14,078,000	170	2,720	764	1,450	299	25,803,000
7/14/14	140	1,500	136	11,709,000	266	-	163	14,122,000	171	2,650	745	1,510	299	25,831,000
7/15/14	139	1,500	136	11,712,000	260	1,710	196	16,907,000	175	2,670	717	1,620	331	28,619,000
7/16/14	139	1,510	136	11,723,000	256	1,700	224	19,386,000	246	2,680	698	1,640	360	31,109,000
7/17/14	136	1,510	209	18,052,000	254	1,700	238	20,582,000	261	2,700	683	1,650	447	38,634,000
7/18/14	128	1,500	257	22,210,000	326	1,720	245	21,127,000	257	2,740	669	1,660	502	43,337,000
7/19/14	121	1,510	256	22,113,000	357	1,740	291	25,107,000	289	2,730	669	1,690	547	47,220,000
7/10/14	110	1,520	256	22,118,000	353	1,750	320	27,683,000	350	2,740	680	1,810	576	49,801,000
7/11/14	98	1,540	256	22,118,000	343	1,770	320	27,659,000	348	2,750	677	1,910	576	49,777,000
7/12/14	90	1,550	242	20,886,000	331	1,770	307	26,564,000	338	2,740	669	1,910	549	47,450,000
7/13/14	83	1,560	242	20,904,000	307	1,770	314	27,141,000	336	2,740	686	1,950	556	48,045,000
7/14/14	81	1,570	256	22,095,000	308	1,770	96	8,316,000	211	2,700	714	1,980	352	30,411,000
7/15/14	79	1,560	257	22,200,000	317	1,770	103	8,900,000	45	-	733	1,960	360	31,100,000
7/16/14	76	1,560	257	22,221,000	317	1,770	371	32,035,000	349	2,760	736	1,960	628	54,256,000
7/17/14	72	1,560	257	22,216,000	313	1,770	371	32,050,000	373	2,750	712	1,960	628	54,266,000
7/18/14	69	1,570	257	22,184,000	308	1,780	370	32,002,000	367	2,740	605	1,920	627	54,186,000
7/19/14	66	1,570	257	22,201,000	303	1,780	368	31,810,000	360	2,730	592	1,770	625	54,011,000
7/20/14	63	1,580	257	22,229,000	299	1,790	369	31,850,000	361	2,750	678	1,920	626	54,079,000
7/21/14	63	1,580	236	20,371,000	300	1,790	331	28,600,000	370	2,730	723	2,040	567	48,971,000
7/22/14	93	1,510	235	20,285,000	305	1,750	359	31,045,000	386	2,660	744	2,030	594	51,330,000
7/23/14	102	1,530	258	22,249,000	323	1,740	367	31,680,000	-	-	767	2,020	624	53,929,000
7/24/14	94	1,510	257	22,241,000	340	1,750	367	31,706,000	411	2,740	811	1,910	624	53,947,000
7/25/14	82	1,480	257	22,226,000	331	1,750	362	31,234,000	412	2,750	845	1,890	619	53,460,000
7/26/14	76	1,540	257	22,229,000	315	1,760	366	31,595,000	410	2,750	868	1,830	623	53,824,000
7/27/14	73	1,560	257	22,169,000	309	1,760	351	30,324,000	388	2,720	882	1,730	608	52,493,000
7/28/14	73	1,570	258	22,267,000	310	1,780	360	31,141,000	402	2,710	887	1,700	618	53,408,000
7/29/14	72	1,560	258	22,258,000	310	1,790	345	29,846,000	390	2,710	875	1,760	603	52,104,000
7/30/14	69	1,560	207	17,855,000	299	1,790	368	31,816,000	419	2,690	853	1,810	575	49,671,000
7/31/14	66	1,570	259	22,338,000	272	1,800	365	31,571,000	419	2,700	833	1,850	624	53,909,000
Minimum	63	1480	134	11,608,000	254	1700	96	8,316,000	45	2650	592	1450	297	25,650,000
Maximum	152	1580	259	22,338,000	357	1800	371	32,050,000	419	2760	887	2040	628	54,266,000
Average	97	1538	228	19,690,516	305	1760	293	25,351,903	312	2720	746	1805	521	45,042,419
Notes:			Total (Mgal)	4,566			Total (Mgal)	5,879			Total (Mgal)	10,444		
			Total (Ac-ft)	14,013			Total (Ac-ft)	18,042			Total (Ac-ft)	32,055		

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 ($\mu\text{S}/\text{cm}$)	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
7/1/14	8:00	1,500	8.40	380	363	68	7
7/2/14	-	-	-	-	-	-	-
7/3/14	9:50	1,510	8.27	372	367	NA	7
7/4/14	-	-	-	-	-	-	-
7/5/14	-	-	-	-	-	-	-
7/6/14	-	-	-	-	-	-	-
7/7/14	-	-	-	-	-	-	-
7/8/14	-	-	-	-	-	-	-
7/9/14	8:00	1,500	8.41	351	362	NA	7
7/10/14	-	-	-	-	-	-	-
7/11/14	10:10	1,540	8.28	354	353	NA	7
7/12/14	-	-	-	-	-	-	-
7/13/14	-	-	-	-	-	-	-
7/14/14	-	-	-	-	-	-	-
7/15/14	8:15	1,560	8.45	355	353	57	7
7/16/14	-	-	-	-	-	-	-
7/17/14	-	-	-	-	-	-	-
7/18/14	9:50	1,560	8.39	338	347	NA	7
7/19/14	-	-	-	-	-	-	-
7/20/14	-	-	-	-	-	-	-
7/21/14	-	-	-	-	-	-	-
7/22/14	7:50	1,430	8.42	360	349	NA	7
7/23/14	-	-	-	-	-	-	-
7/24/14	9:20	1,520	8.30	400	366	NA	7
7/25/14	-	-	-	-	-	-	-
7/26/14	-	-	-	-	-	-	-
7/27/14	-	-	-	-	-	-	-
7/28/14	-	-	-	-	-	-	-
7/29/14	7:55	1,560	8.48	368	384	22	7
7/30/14	-	-	-	-	-	-	-
7/31/14	-	-	-	-	-	-	-
Minimum		1,430	8.27	338	347	22	
Maximum		1,560	8.48	400	384	68	
Average		1,520	8.38	364	360	49	

Notes:

$\mu\text{S}/\text{cm}$ - 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
7/1/14	8:15	8.68	551	553	22	7
7/2/14	-	-	-	-	-	-
7/3/14	10:10	8.69	555	554	NA	7
7/4/14	-	-	-	-	-	-
7/5/14	-	-	-	-	-	-
7/6/14	-	-	-	-	-	-
7/7/14	-	-	-	-	-	-
7/8/14	-	-	-	-	-	-
7/9/14	8:10	8.73	547	551	NA	7
7/10/14	-	-	-	-	-	-
7/11/14	10:25	8.74	545	546	NA	7
7/12/14	-	-	-	-	-	-
7/13/14	-	-	-	-	-	-
7/14/14	-	-	-	-	-	-
7/15/14	8:30	8.75	544	545	24	7
7/16/14	-	-	-	-	-	-
7/17/14	-	-	-	-	-	-
7/18/14	10:09	8.77	535	540	NA	7
7/19/14	-	-	-	-	-	-
7/20/14	-	-	-	-	-	-
7/21/14	-	-	-	-	-	-
7/22/14	8:00	8.72	534	535	NA	7
7/23/14	-	-	-	-	-	-
7/24/14	9:05	8.69	562	544	NA	7
7/25/14	-	-	-	-	-	-
7/26/14	-	-	-	-	-	-
7/27/14	-	-	-	-	-	-
7/28/14	-	-	-	-	-	-
7/29/14	8:10	8.72	551	557	23	7
7/30/14	-	-	-	-	-	-
7/31/14	-	-	-	-	-	-
Minimum		8.68	534	535	22	
Maximum		8.77	562	557	24	
Average		8.72	547	547	23	

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 (μ S/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
7/1/14	7:30	1,670	8.52	458	454	80	7
7/2/14	-	-	-	-	-	-	-
7/3/14	9:25	1,700	8.44	470	459	NA	7
7/4/14	-	-	-	-	-	-	-
7/5/14	-	-	-	-	-	-	-
7/6/14	-	-	-	-	-	-	-
7/7/14	-	-	-	-	-	-	-
7/8/14	-	-	-	-	-	-	-
7/9/14	7:30	1,740	8.59	463	467	NA	7
7/10/14	-	-	-	-	-	-	-
7/11/14	9:45	1,760	8.61	488	476	NA	7
7/12/14	-	-	-	-	-	-	-
7/13/14	-	-	-	-	-	-	-
7/14/14	-	-	-	-	-	-	-
7/15/14	7:30	1,770	8.65	511	487	64	7
7/16/14	-	-	-	-	-	-	-
7/17/14	-	-	-	-	-	-	-
7/18/14	9:25	1,730	8.72	493	502	NA	7
7/19/14	-	-	-	-	-	-	-
7/20/14	-	-	-	-	-	-	-
7/21/14	-	-	-	-	-	-	-
7/22/14	7:20	1,750	8.69	485	489	NA	7
7/23/14	-	-	-	-	-	-	-
7/24/14	9:40	1,750	8.58	512	497	NA	7
7/25/14	-	-	-	-	-	-	-
7/26/14	-	-	-	-	-	-	-
7/27/14	-	-	-	-	-	-	-
7/28/14	-	-	-	-	-	-	-
7/29/14	7:30	1,670	8.68	517	515	52	7
7/30/14	-	-	-	-	-	-	-
7/31/14	-	-	-	-	-	-	-
Minimum		1,670	8.44	458	454	52	
Maximum		1,770	8.72	517	515	80	
Average		1,727	8.61	489	483	65	

Notes:

- μ 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 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
7/1/14	9:45	8.60	903	912	6	7
7/2/14	-	-	-	-	-	-
7/3/14	8:10	8.63	905	909	NA	7
7/4/14	-	-	-	-	-	-
7/5/14	-	-	-	-	-	-
7/6/14	-	-	-	-	-	-
7/7/14	-	-	-	-	-	-
7/8/14	-	-	-	-	-	-
7/9/14	9:25	8.64	882	894	NA	7
7/10/14	-	-	-	-	-	-
7/11/14	8:15	8.68	914	898	NA	7
7/12/14	-	-	-	-	-	-
7/13/14	-	-	-	-	-	-
7/14/14	-	-	-	-	-	-
7/15/14	-	-	-	-	-	-
7/16/14	-	-	-	-	-	-
7/17/14	-	-	-	-	-	-
7/18/14	7:53	8.72	901	901	NA	7
7/19/14	-	-	-	-	-	-
7/20/14	-	-	-	-	-	-
7/21/14	-	-	-	-	-	-
7/22/14	9:10	8.61	852	877	NA	7
7/23/14	-	-	-	-	-	-
7/24/14	12:30	8.63	925	893	NA	7
7/25/14	-	-	-	-	-	-
7/26/14	-	-	-	-	-	-
7/27/14	-	-	-	-	-	-
7/28/14	-	-	-	-	-	-
7/29/14	9:20	8.67	910	918	16	7
7/30/14	-	-	-	-	-	-
7/31/14	-	-	-	-	-	-
Minimum		8.60	852	877	-	
Maximum		8.72	925	918	-	
Average		8.65	899	900	-	

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
7/1/14	10:15	8.43	465	474	68	7
7/2/14	-	-	-	-	-	-
7/3/14	7:40	8.31	495	484	NA	7
7/4/14	-	-	-	-	-	-
7/5/14	-	-	-	-	-	-
7/6/14	-	-	-	-	-	-
7/7/14	-	-	-	-	-	-
7/8/14	-	-	-	-	-	-
7/9/14	9:56	8.53	597	546	NA	7
7/10/14	-	-	-	-	-	-
7/11/14	7:30	8.41	639	618	NA	7
7/12/14	-	-	-	-	-	-
7/13/14	-	-	-	-	-	-
7/14/14	-	-	-	-	-	-
7/15/14	9:45	8.51	616	617	58	7
7/16/14	-	-	-	-	-	-
7/17/14	-	-	-	-	-	-
7/18/14	7:20	8.55	689	653	NA	7
7/19/14	-	-	-	-	-	-
7/20/14	-	-	-	-	-	-
7/21/14	-	-	-	-	-	-
7/22/14	9:35	8.53	644	667	NA	7
7/23/14	-	-	-	-	-	-
7/24/14	12:00	8.37	573	635	NA	7
7/25/14	-	-	-	-	-	-
7/26/14	-	-	-	-	-	-
7/27/14	-	-	-	-	-	-
7/28/14	-	-	-	-	-	-
7/29/14	9:45	8.54	666	620	37	7
7/30/14	-	-	-	-	-	-
7/31/14	-	-	-	-	-	-
Minimum		8.31	465	474	37	
Maximum		8.55	689	667	68	
Average		8.46	598	590	54	

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

