

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

June 8, 2017

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

RE: May 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 May 2017. The East Outlet was started on May 4th and the West Outlet was started on May 8th. Both outlets discharged steadily with average rates of 134 cfs (West) and 154 cfs (East) (**Figure 1**). A total of 17,724 acre-feet were discharged in May.

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

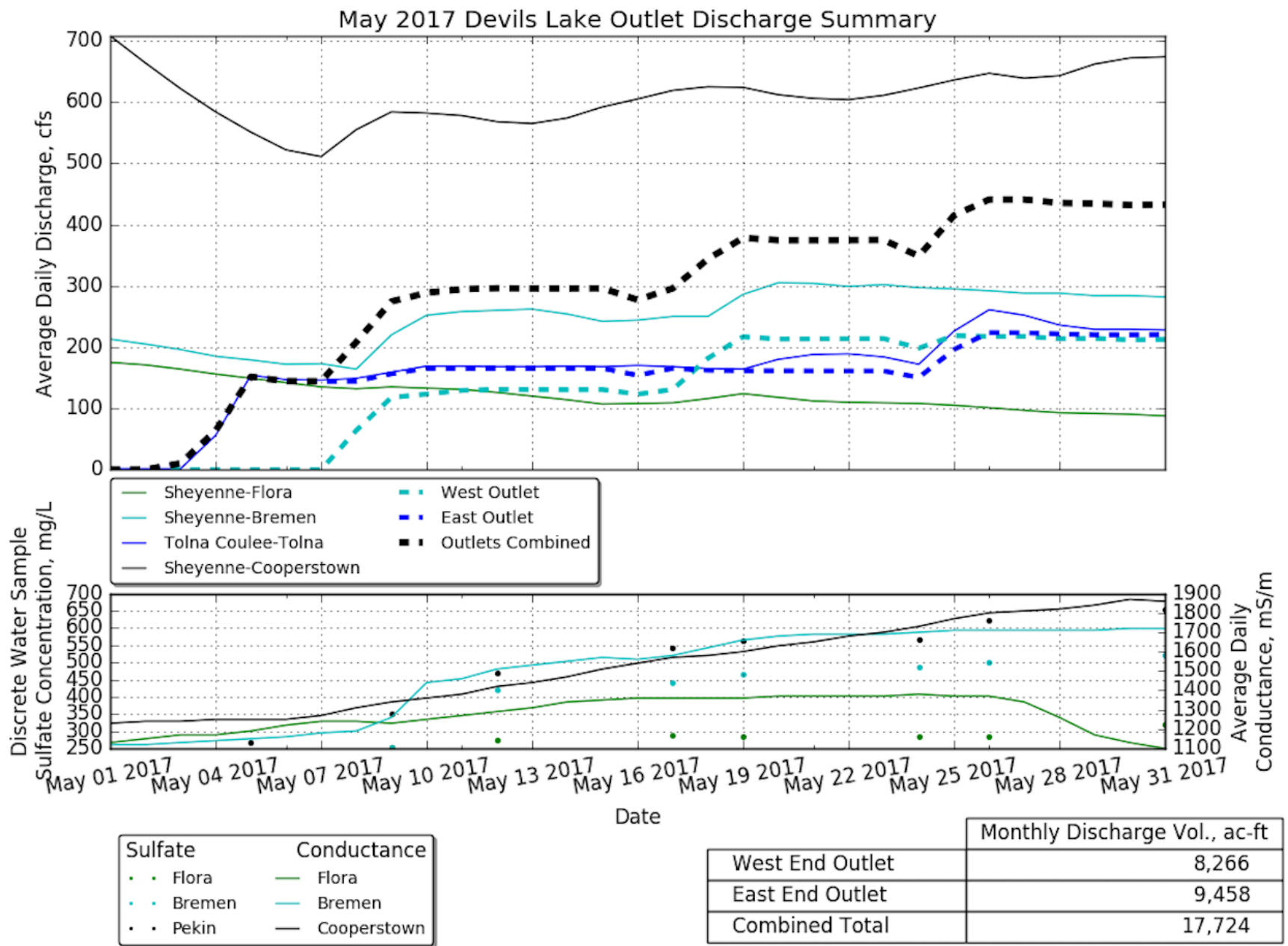


Figure 1: Devils Lake Outlet Discharge Summary

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
5/1/17	5/31/17

LOCATION: Benson Co, ND

Devils Lake West Outlet discharged 8,266 ac-ft over 24 Days

PARAMETER	MINIMUM	MAXIMUM	AVERAGE	UNITS	SAMPLING FREQUENCY	TYPE
pH	8.54	8.78	8.63	SU	2 x Week	GRAB
SPECIFIC CONDUCTANCE	NA	NA	NA	µS/cm	Continuous	Recorder
SULFATE	568	608	589	mg/L	2 x Week	GRAB
7 DAY AVERAGE OF SULFATE	568	602	586	mg/L	2 x Week	GRAB
OUTLET DISCHARGE	0	219	134	cfs	Continuous	Recorder
SIGNATURE				6/8/17	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: EAST END OUTLET

FACILITY: Devils Lake Outlet Project

MONITORING PERIOD	
START DATE	END DATE
5/1/17	5/31/17

LOCATION: Ramsey, Benson, Nelson, ND

Devils Lake East Outlet discharged 9,458 ac-ft over 29 Days

PARAMETER	MINIMUM	MAXIMUM	AVERAGE	UNITS	SAMPLING FREQUENCY	TYPE
pH	8.49	8.61	8.57	SU	2 x Week	GRAB
SPECIFIC CONDUCTANCE	NA	NA	NA	µS/cm	Continuous	Recorder
SULFATE	967	1000	981	mg/L	2 x Week	GRAB
7 DAY AVERAGE OF SULFATE	973	989	980	mg/L	2 x Week	GRAB
OUTLET DISCHARGE	0	224	154	cfs	Continuous	Recorder
SIGNATURE				6/8/17	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
5/1/17	5/31/17

LOCATION: Benson Co, ND

PARAMETER	MINIMUM	MAXIMUM	AVERAGE	UNITS	SAMPLING FREQUENCY	TYPE
pH	8.32	8.50	8.41	SU	2 x Week	GRAB
SPECIFIC CONDUCTANCE	1,100	1,380	1,277	µS/cm	Continuous	Recorder
SULFATE	253	321	285	mg/L	2 x Week	GRAB
7 DAY AVERAGE OF SULFATE	253	303	280	mg/L	2 x Week	GRAB
FLOW, INSTREAM	88	175	122	cfs	Continuous	Recorder
SIGNATURE				6/8/17	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
- 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
5/1/17	5/31/17

LOCATION: Eddy Co, ND

PARAMETER	MINIMUM	MAXIMUM	AVERAGE	UNITS	SAMPLING FREQUENCY	TYPE
pH	8.42	8.64	8.56	SU	2 x Week	GRAB
SPECIFIC CONDUCTANCE	1,120	1,720	1,496	µS/cm	Continuous	Recorder
SULFATE	252	521	442	mg/L	2 x Week	GRAB
7 DAY AVERAGE OF SULFATE	252	511	423	mg/L	2 x Week	GRAB
FLOW, INSTREAM	164	305	251	cfs	Continuous	Recorder
SIGNATURE				6/8/17	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
- 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
5/1/17	5/31/17

LOCATION: Nelson Co, ND

PARAMETER	MINIMUM	MAXIMUM	AVERAGE	UNITS	SAMPLING FREQUENCY	TYPE
pH	8.40	8.52	8.46	SU	2 x Week	GRAB
SPECIFIC CONDUCTANCE	NA	NA	NA	µS/cm	Continuous	Recorder
SULFATE	269	653	504	mg/L	2 x Week	GRAB
7 DAY AVERAGE OF SULFATE	269	637	480	mg/L	2 x Week	GRAB
FLOW, INSTREAM	NA	NA	NA	cfs	Continuous	Recorder
SIGNATURE				6/8/17	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 - 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 - Toina Coulee near Toina		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)
5/1/17	175	1,130	0	0	213	1,120	0	0	1	1,090	708	1,230	0	0
5/2/17	171	1,150	0	0	205	1,120	0	0	1	962	664	1,240	0	0
5/3/17	164	1,170	0	0	196	1,130	10	886,000	1	1,090	622	1,240	10	886,000
5/4/17	156	1,170	0	0	185	1,140	63	5,486,000	56	1,610	584	1,250	63	5,486,000
5/5/17	149	1,190	0	0	179	1,150	152	13,095,000	154	2,760	551	1,250	152	13,095,000
5/6/17	142	1,220	0	0	172	1,160	144	12,472,000	147	2,750	522	1,250	144	12,472,000
5/7/17	135	1,240	0	0	173	1,180	144	12,448,000	146	2,760	511	1,270	144	12,448,000
5/8/17	132	1,240	64	5,521,173	164	1,190	144	12,467,000	149	2,690	555	1,310	208	17,988,173
5/9/17	135	1,230	118	10,185,000	220	1,260	156	13,520,000	159	2,710	584	1,340	274	23,705,000
5/10/17	133	1,250	123	10,652,000	252	1,440	165	14,282,000	169	2,700	582	1,360	289	24,934,000
5/11/17	131	1,270	129	11,170,000	258	1,460	165	14,276,000	169	2,670	578	1,380	295	25,446,000
5/12/17	126	1,290	131	11,316,000	260	1,510	165	14,275,000	168	2,670	568	1,420	296	25,591,000
5/13/17	120	1,310	131	11,284,000	262	1,530	165	14,269,000	168	2,600	565	1,440	296	25,553,000
5/14/17	114	1,340	130	11,274,000	254	1,550	165	14,278,000	169	2,730	574	1,470	296	25,552,000
5/15/17	107	1,350	131	11,294,000	242	1,570	165	14,281,000	168	2,680	592	1,510	296	25,575,000
5/16/17	108	1,360	123	10,637,000	244	1,560	154	13,310,000	170	2,650	605	1,540	277	23,947,000
5/17/17	109	1,360	131	11,297,000	250	1,580	165	14,266,000	168	2,630	619	1,570	296	25,563,000
5/18/17	116	1,360	182	15,697,000	250	1,620	162	14,009,000	165	2,740	625	1,580	344	29,706,000
5/19/17	124	1,360	217	18,732,000	286	1,660	161	13,938,000	164	2,820	624	1,600	378	32,670,000
5/20/17	118	1,370	213	18,414,000	305	1,680	161	13,937,000	180	2,820	612	1,630	374	32,351,000
5/21/17	112	1,370	213	18,436,000	304	1,690	161	13,916,000	188	2,770	606	1,650	374	32,352,000
5/22/17	110	1,370	214	18,452,000	299	1,690	161	13,905,000	189	2,760	604	1,680	375	32,357,000
5/23/17	109	1,370	214	18,479,000	302	1,690	161	13,912,000	184	2,770	611	1,700	375	32,391,000
5/24/17	108	1,380	198	17,125,000	297	1,700	150	12,991,000	172	2,720	623	1,730	349	30,116,000
5/25/17	105	1,370	219	18,903,000	295	1,710	196	16,936,000	226	2,720	636	1,770	415	35,839,000
5/26/17	101	1,370	217	18,777,000	292	1,710	224	19,318,000	261	2,720	647	1,800	441	38,095,000
5/27/17	97	1,340	218	18,794,000	288	1,710	223	19,298,000	252	2,800	639	1,810	441	38,092,000
5/28/17	93	1,260	214	18,463,000	288	1,710	222	19,145,000	236	2,800	643	1,820	435	37,608,000
5/29/17	92	1,170	214	18,504,000	284	1,710	220	19,019,000	229	2,800	662	1,840	434	37,523,000
5/30/17	90	1,130	212	18,307,000	284	1,720	220	19,016,000	229	2,790	672	1,870	432	37,323,000
5/31/17	88	1,100	212	18,358,000	282	1,720	220	19,034,000	228	2,780	674	1,860	433	37,392,000
Minimum	88	1,100	0	0	164	1,120	0	0	1	962	511	1,230	0	0
Maximum	175	1,380	219	18,903,000	305	1,720	224	19,318,000	261	2,820	708	1,870	441	38,095,000
Average	122	1,277	134	11,615,199	251	1,496	154	13,289,839	163	2,534	608	1,529	288	24,905,038
			Total (Mgal)	2,693			Total (Mgal)	3,082					Total (Mgal)	5,775
			Total (Ac-ft)	8,266			Total (Ac-ft)	9,458					Total (Ac-ft)	17,724

Notes:

- 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 (μ 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
5/1/17	-	-	-	-	-	-	-
5/2/17	-	-	-	-	-	-	-
5/3/17	-	-	-	-	-	-	-
5/4/17	-	-	-	-	-	-	-
5/5/17	-	-	-	-	-	-	-
5/6/17	-	-	-	-	-	-	-
5/7/17	-	-	-	-	-	-	-
5/8/17	-	-	-	-	-	-	-
5/9/17	8:00	1,070	8.40	253	253	17	1
5/10/17	-	-	-	-	-	-	-
5/11/17	-	-	-	-	-	-	-
5/12/17	9:20	1,280	8.32	273	263	NA	2
5/13/17	-	-	-	-	-	-	-
5/14/17	-	-	-	-	-	-	-
5/15/17	-	-	-	-	-	-	-
5/16/17	-	-	-	-	-	-	-
5/17/17	8:05	1,150	8.41	290	282	14	2
5/18/17	-	-	-	-	-	-	-
5/19/17	9:20	1,360	8.40	285	288	NA	2
5/20/17	-	-	-	-	-	-	-
5/21/17	-	-	-	-	-	-	-
5/22/17	-	-	-	-	-	-	-
5/23/17	-	-	-	-	-	-	-
5/24/17	8:00	1,380	8.41	286	286	NA	2
5/25/17	-	-	-	-	-	-	-
5/26/17	9:45	1,370	8.46	285	286	NA	2
5/27/17	-	-	-	-	-	-	-
5/28/17	-	-	-	-	-	-	-
5/29/17	-	-	-	-	-	-	-
5/30/17	-	-	-	-	-	-	-
5/31/17	7:20	1,110	8.50	321	303	<5	2
Minimum		1,070	8.32	253	253	14	
Maximum		1,380	8.50	321	303	17	
Average		1,246	8.41	285	280	16	

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

**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
5/1/17	-	-	-	-	-	-	-
5/2/17	-	-	-	-	-	-	-
5/3/17	-	-	-	-	-	-	-
5/4/17	-	-	-	-	-	-	-
5/5/17	-	-	-	-	-	-	-
5/6/17	-	-	-	-	-	-	-
5/7/17	-	-	-	-	-	-	-
5/8/17	-	-	-	-	-	-	-
5/9/17	-	-	-	-	-	-	-
5/10/17	-	-	-	-	-	-	-
5/11/17	-	-	-	-	-	-	-
5/12/17	9:35	-	8.58	568	568	NA	1
5/13/17	-	-	-	-	-	-	-
5/14/17	-	-	-	-	-	-	-
5/15/17	-	-	-	-	-	-	-
5/16/17	-	-	-	-	-	-	-
5/17/17	8:15	-	8.54	583	576	9	2
5/18/17	-	-	-	-	-	-	-
5/19/17	9:45	-	8.61	597	590	NA	2
5/20/17	-	-	-	-	-	-	-
5/21/17	-	-	-	-	-	-	-
5/22/17	-	-	-	-	-	-	-
5/23/17	-	-	-	-	-	-	-
5/24/17	15:46	-	8.62	584	591	NA	2
5/25/17	-	-	-	-	-	-	-
5/26/17	10:00	-	8.67	596	590	NA	2
5/27/17	-	-	-	-	-	-	-
5/28/17	-	-	-	-	-	-	-
5/29/17	-	-	-	-	-	-	-
5/30/17	-	-	-	-	-	-	-
5/31/17	7:00	-	8.78	608	602	13	2
Minimum		NA	8.54	568	568	9	
Maximum		NA	8.78	608	602	13	
Average		NA	8.63	589	586	11	

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
5/1/17	-	-	-	-	-	-	-
5/2/17	-	-	-	-	-	-	-
5/3/17	-	-	-	-	-	-	-
5/4/17	-	-	-	-	-	-	-
5/5/17	-	-	-	-	-	-	-
5/6/17	-	-	-	-	-	-	-
5/7/17	-	-	-	-	-	-	-
5/8/17	-	-	-	-	-	-	-
5/9/17	7:35	1,190	8.42	252	252	24	1
5/10/17	-	-	-	-	-	-	-
5/11/17	-	-	-	-	-	-	-
5/12/17	8:55	1,500	8.47	422	337	NA	2
5/13/17	-	-	-	-	-	-	-
5/14/17	-	-	-	-	-	-	-
5/15/17	-	-	-	-	-	-	-
5/16/17	-	-	-	-	-	-	-
5/17/17	7:35	1,570	8.50	442	432	8	2
5/18/17	-	-	-	-	-	-	-
5/19/17	8:55	1,640	8.61	467	455	NA	2
5/20/17	-	-	-	-	-	-	-
5/21/17	-	-	-	-	-	-	-
5/22/17	-	-	-	-	-	-	-
5/23/17	-	-	-	-	-	-	-
5/24/17	7:30	1,700	8.62	488	478	NA	2
5/25/17	-	-	-	-	-	-	-
5/26/17	9:20	1,700	8.64	501	495	NA	2
5/27/17	-	-	-	-	-	-	-
5/28/17	-	-	-	-	-	-	-
5/29/17	-	-	-	-	-	-	-
5/30/17	-	-	-	-	-	-	-
5/31/17	7:50	1,710	8.64	521	511	9	2
Minimum		1,190	8.42	252	252	8	
Maximum		1,710	8.64	521	511	24	
Average		1,573	8.56	442	423	14	

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 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
5/1/17	-	-	-	-	-	-	-
5/2/17	-	-	-	-	-	-	-
5/3/17	-	-	-	-	-	-	-
5/4/17	-	-	-	-	-	-	-
5/5/17	-	-	-	-	-	-	-
5/6/17	-	-	-	-	-	-	-
5/7/17	-	-	-	-	-	-	-
5/8/17	-	-	-	-	-	-	-
5/9/17	-	-	-	-	-	-	-
5/10/17	-	-	-	-	-	-	-
5/11/17	-	-	-	-	-	-	-
5/12/17	7:45	-	8.56	989	989	NA	1
5/13/17	-	-	-	-	-	-	-
5/14/17	-	-	-	-	-	-	-
5/15/17	-	-	-	-	-	-	-
5/16/17	-	-	-	-	-	-	-
5/17/17	9:30	-	8.59	967	978	46	2
5/18/17	-	-	-	-	-	-	-
5/19/17	7:50	-	8.59	983	975	NA	2
5/20/17	-	-	-	-	-	-	-
5/21/17	-	-	-	-	-	-	-
5/22/17	-	-	-	-	-	-	-
5/23/17	-	-	-	-	-	-	-
5/24/17	9:25	-	8.59	979	981	NA	2
5/25/17	-	-	-	-	-	-	-
5/26/17	7:50	-	8.49	967	973	NA	2
5/27/17	-	-	-	-	-	-	-
5/28/17	-	-	-	-	-	-	-
5/29/17	-	-	-	-	-	-	-
5/30/17	-	-	-	-	-	-	-
5/31/17	17:45	-	8.61	1000	984	16	2
Minimum		NA	8.49	967	973	16	
Maximum		NA	8.61	1000	989	46	
Average		NA	8.57	981	980	31	

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	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
5/1/17	-	-	-	-	-	-	-
5/2/17	-	-	-	-	-	-	-
5/3/17	-	-	-	-	-	-	-
5/4/17	-	-	-	-	-	-	-
5/5/17	9:20	0	8.42	269	269	NA	1
5/6/17	-	-	-	-	-	-	-
5/7/17	-	-	-	-	-	-	-
5/8/17	-	-	-	-	-	-	-
5/9/17	9:45	0	8.40	350	310	40	2
5/10/17	-	-	-	-	-	-	-
5/11/17	-	-	-	-	-	-	-
5/12/17	7:20	0	8.41	468	409	NA	2
5/13/17	-	-	-	-	-	-	-
5/14/17	-	-	-	-	-	-	-
5/15/17	-	-	-	-	-	-	-
5/16/17	-	-	-	-	-	-	-
5/17/17	10:00	0	8.43	543	506	41	2
5/18/17	-	-	-	-	-	-	-
5/19/17	7:30	0	8.52	562	553	NA	2
5/20/17	-	-	-	-	-	-	-
5/21/17	-	-	-	-	-	-	-
5/22/17	-	-	-	-	-	-	-
5/23/17	-	-	-	-	-	-	-
5/24/17	10:00	-	8.48	568	565	NA	2
5/25/17	-	-	-	-	-	-	-
5/26/17	8:15	0	8.52	621	595	NA	2
5/27/17	-	-	-	-	-	-	-
5/28/17	-	-	-	-	-	-	-
5/29/17	-	-	-	-	-	-	-
5/30/17	-	-	-	-	-	-	-
5/31/17	17:15	-	8.49	653	637	36	2
Minimum			8.40	269	269	36	
Maximum			8.52	653	637	41	
Average			8.46	504	480	39	

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