

July 15, 2020

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

Re: June 2020 Devils Lake Outlets Monthly Discharge and Water Quality Report

Division of Water Quality:

The monthly discharge report for the Devils Lake Outlets for the month of June 2020 is enclosed. The West Outlet began discharging on June 1<sup>st</sup> and operated steadily at an average rate of 247 cubic feet per second (cfs). The East Outlet began discharging on June 2<sup>nd</sup> and discharged at an average rate of 162 cfs for the month. A total of 24,342 acre-feet were discharged in June. The 750 mg/L sulfate limitation was exceeded at Pekin in the final week of June and both outlets were shut down on June 30<sup>th</sup> when heavy precipitation caused streamflow to rise significantly in the Upper Sheyenne River. Both outlets are still shut down as of July 15<sup>th</sup> but are expected to resume operation when there is room for additional flow in the Sheyenne River.

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.

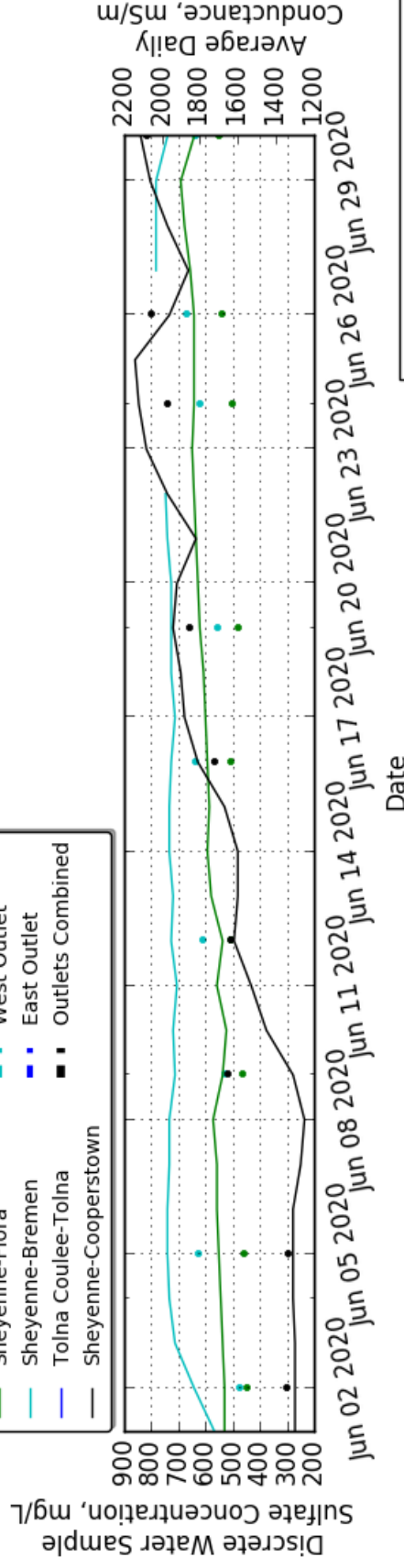
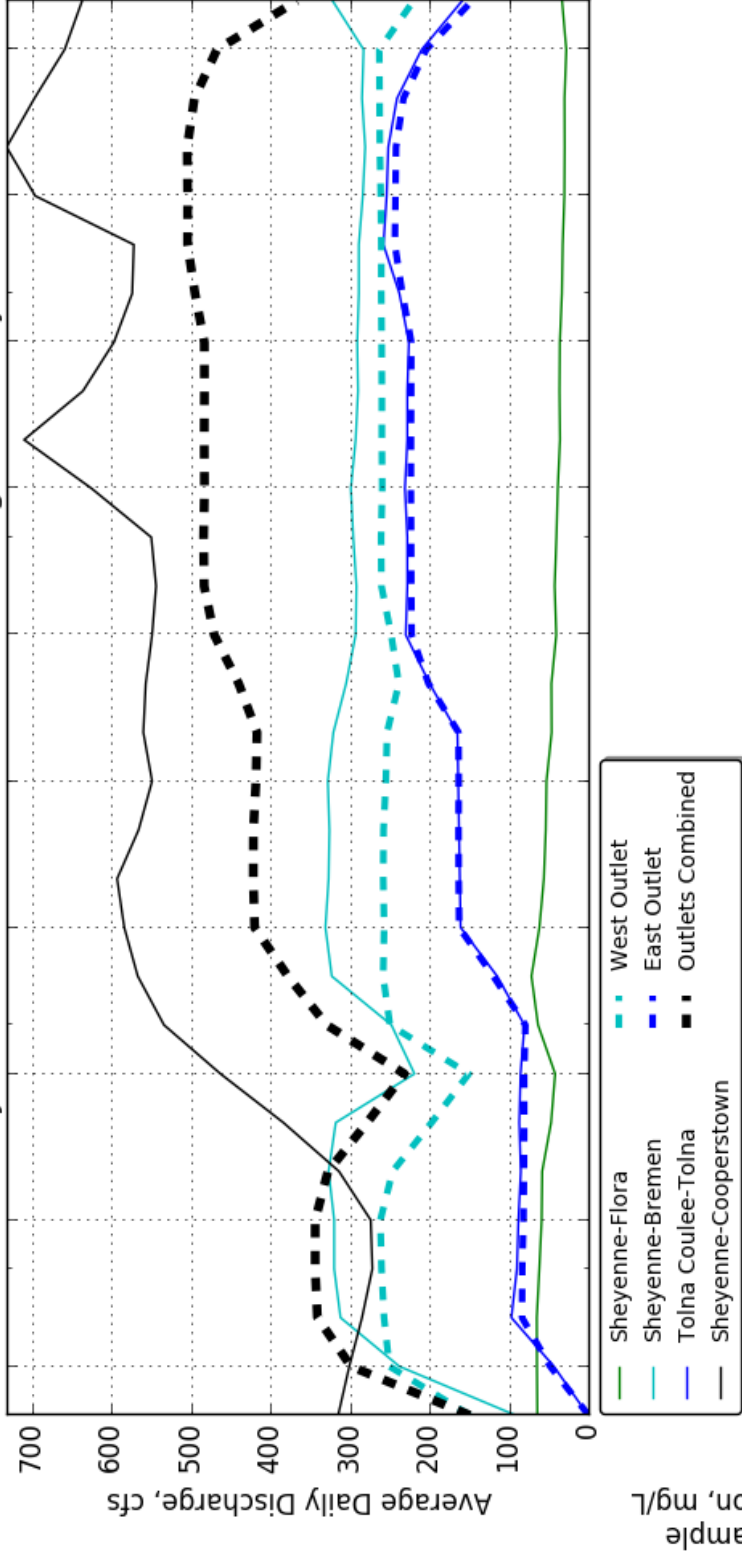
Sincerely,



Jonathan Kelsch P.E.  
Director of Water Development

JK:TD/416-10  
Enclosure

### June 2020 Devils Lake Outlet Discharge Summary



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

West End Outlet	Monthly Discharge Vol., ac-ft
East End Outlet	14,687
Combined Total	9,655
	24,342

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

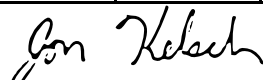
LOCATION: WEST END OUTLET

FACILITY: Devils Lake Outlet Project

MONITORING PERIOD	
START DATE	END DATE
6/1/20	6/30/20

LOCATION: Benson Co, ND

Devils Lake West Outlet discharged 14,687 ac-ft over 30 Days

PARAMETER	MINIMUM	MAXIMUM	AVERAGE	UNITS	SAMPLING FREQUENCY	TYPE
pH	8.54	8.72	8.66	SU	2 x Week	GRAB
SULFATE	607	683	653	mg/L	2 x Week	GRAB
7 DAY AVERAGE OF SULFATE	618	683	651	mg/L	Average	GRAB
OUTLET DISCHARGE	149	263	247	cfs	Continuous	Recorder
SIGNATURE				7/15/20	701-328-4948	
NAME AND TITLE	JONATHAN KELSCH, DIRECTOR, WATER DEVELOPMENT DIVISION			DATE	TELEPHONE NUMBER	

COMMENT AND EXPLANATION OF ANY VIOLATIONS

A summary of individual sample results and flow data for both outlets, and upstream & downstream monitoring locations is 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
6/1/20	6/30/20

LOCATION: Ramsey, Benson, Nelson, ND

Devils Lake East Outlet discharged 9,655 ac-ft over 29 Days

PARAMETER	MINIMUM	MAXIMUM	AVERAGE	UNITS	SAMPLING FREQUENCY	TYPE
pH	8.63	8.74	8.69	SU	2 x Week	GRAB
SPECIFIC CONDUCTANCE	2610	2920	2845	µS/cm	Continuous	Recorder
SULFATE	964	1070	1006	mg/L	2 x Week	GRAB
7 DAY AVERAGE OF SULFATE	978	1031	1005	mg/L	Average	GRAB
OUTLET DISCHARGE	0	244	162	cfs	Continuous	Recorder
SIGNATURE				7/15/20	701-328-4948	
NAME AND TITLE	JONATHAN KELSCH, DIRECTOR, WATER DEVELOPMENT DIVISION			DATE	TELEPHONE NUMBER	

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- 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
6/1/20	6/30/20

LOCATION: Benson Co, ND

PARAMETER	MINIMUM	MAXIMUM	AVERAGE	UNITS	SAMPLING FREQUENCY	TYPE
pH	8.21	8.48	8.39	SU	2 x Week	GRAB
SPECIFIC CONDUCTANCE	1,660	1,900	1,763	µS/cm	Continuous	Recorder
SULFATE	449	554	496	mg/L	2 x Week	GRAB
7 DAY AVERAGE OF SULFATE	440	533	488	mg/L	Average	GRAB
FLOW, INSTREAM	28	72	47	cfs	Continuous	Recorder
SIGNATURE				7/15/20	701-328-4948	
NAME AND TITLE	JONATHAN KELSCH, DIRECTOR, WATER DEVELOPMENT DIVISION			DATE	TELEPHONE NUMBER	

COMMENT AND EXPLANATION OF ANY VIOLATIONS

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Notes:

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- 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

LOCATION: Eddy Co, ND

MONITORING PERIOD	
START DATE	END DATE
6/1/20	6/30/20

PARAMETER	MINIMUM	MAXIMUM	AVERAGE	UNITS	SAMPLING FREQUENCY	TYPE
pH	8.38	8.68	8.56	SU	2 x Week	GRAB
SPECIFIC CONDUCTANCE	1,720	2,030	1,948	µS/cm	Continuous	Recorder
SULFATE	477	669	597	mg/L	2 x Week	GRAB
7 DAY AVERAGE OF SULFATE	459	645	585	mg/L	Average	GRAB
FLOW, INSTREAM	92	331	291	cfs	Continuous	Recorder
SIGNATURE				7/15/20	701-328-4948	
NAME AND TITLE	JONATHAN KELSCH, DIRECTOR, WATER DEVELOPMENT DIVISION			DATE	TELEPHONE NUMBER	

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OUTLET OPERATOR NAME/ADDRESS

NAME: ND State Water Commission  
 ADDRESS: 900 E Boulevard Avenue,  
 Bismarck ND 58505


MONTHLY DISCHARGE REPORT

LOCATION: DOWNSTREAM OF BOTH OUTLETS (PEKIN)

FACILITY: Devils Lake Outlet Project

LOCATION: Nelson Co, ND

MONITORING PERIOD	
START DATE	END DATE
6/1/20	6/30/20

PARAMETER	MINIMUM	MAXIMUM	AVERAGE	UNITS	SAMPLING FREQUENCY	TYPE
pH	8.28	8.51	8.46	SU	2 x Week	GRAB
SULFATE	296	816	579	mg/L	2 x Week	GRAB
7 DAY AVERAGE OF SULFATE	299	785	547	mg/L	Average	GRAB
FLOW, INSTREAM	NA	NA	NA	cfs	Continuous	Recorder
SIGNATURE				7/15/20	701-328-4948	
NAME AND TITLE	JONATHAN KELSCH, DIRECTOR, WATER DEVELOPMENT DIVISION			DATE	TELEPHONE NUMBER	

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NAME: ND State Water Commission  
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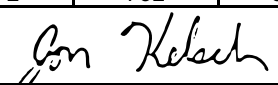
MONTHLY DISCHARGE REPORT

LOCATION: DOWNSTREAM OF BOTH OUTLETS (COOPERSTOWN)

FACILITY: Devils Lake Outlet Project

LOCATION: Griggs Co, ND

MONITORING PERIOD	
START DATE	END DATE
6/1/20	6/30/20

PARAMETER	MINIMUM	MAXIMUM	AVERAGE	UNITS	SAMPLING FREQUENCY	TYPE
pH	8.41	8.48	8.44	SU	Weekly	GRAB
SPECIFIC CONDUCTANCE	1,250	2,140	1,689	µS/cm	Continuous	Recorder
SULFATE	335	718	522	mg/L	Weekly	GRAB
7 DAY AVERAGE OF SULFATE	335	700	520	mg/L	Average	GRAB
FLOW, INSTREAM	272	732	530	cfs	Continuous	Recorder
SIGNATURE				7/15/20	701-328-4948	
NAME AND TITLE	JONATHAN KELSCH, DIRECTOR, WATER DEVELOPMENT DIVISION			DATE	TELEPHONE NUMBER	

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- cfs - Cubic feet per second
- NA - Not available



## Daily Outlet Discharge and Upstream and Downstream Flows Devils Lake Outlets

Date	Above West End Outlet - Shenoyenne River near Flora			West End Outlet			Below West End Outlet/Above East End Outlet -Shenoyenne River near Bremen			East End Outlet			Below East End Outlet - Toina Coulees near Toina			Below East End Outlet - Shenoyenne River near Cooperstown			Sum of Outlets	
	Average Streamflow USGS Gage (cfs)	Average Specific Conductance USGS Gage (µS/cm)	Total Daily Volume (ft <sup>3</sup> )	Average Daily Outlet Discharge (cfs)	Total Daily Volume (ft <sup>3</sup> )	Average Streamflow USGS Gage (cfs)	Average Specific Conductance USGS Gage (µS/cm)	Average Daily Outlet Discharge (cfs)	Total Daily Volume (ft <sup>3</sup> )	Average Streamflow USGS Gage (cfs)	Average Specific Conductance USGS Gage (µS/cm)	Average Daily Outlet Discharge (cfs)	Total Daily Volume (ft <sup>3</sup> )	Average Streamflow USGS Gage (cfs)	Average Specific Conductance USGS Gage (µS/cm)	Average Daily Outlet Discharge (cfs)	Total Daily Volume (ft <sup>3</sup> )	Average Daily Outlet Discharge (cfs)	Total Daily Volume (ft <sup>3</sup> )	
6/1/20	65	1,670	12,904,000	149	12,904,000	92	1,720	0	0	1	1,080	315	1,300	149	12,904,000					
6/2/20	65	1,670	21,643,000	250	21,643,000	238	1,830	48	4,175,000	44	1,910	301	1,300	299	25,818,000					
6/3/20	65	1,680	22,231,000	257	22,231,000	312	1,930	84	7,237,000	97	2,880	285	1,300	341	29,468,000					
6/4/20	62	1,690	22,499,000	260	22,499,000	320	1,960	84	7,216,000	90	2,890	272	1,310	344	29,715,000					
6/5/20	59	1,700	22,629,000	262	22,629,000	320	1,970	82	7,084,000	88	2,890	274	1,310	344	29,713,000					
6/6/20	58	1,710	21,302,000	247	21,302,000	327	1,970	81	7,025,000	85	2,890	314	1,310	328	28,327,000					
6/7/20	47	1,710	17,063,000	197	17,063,000	318	1,960	81	7,000,000	87	2,820	384	1,270	279	24,063,000					
6/8/20	42	1,730	13,015,000	151	13,015,000	219	1,960	81	7,006,000	86	2,780	463	1,250	232	20,021,000					
6/9/20	64	1,680	21,589,000	250	21,589,000	248	1,930	80	6,871,000	81	2,840	534	1,310	329	28,460,000					
6/10/20	72	1,660	22,327,000	258	22,327,000	323	1,940	120	10,347,000	115	2,850	567	1,450	378	32,674,000					
6/11/20	62	1,710	22,223,000	257	22,223,000	331	1,920	163	14,069,000	161	2,870	584	1,530	420	36,292,000					
6/12/20	56	1,680	22,319,000	258	22,319,000	327	1,950	163	14,121,000	162	2,870	593	1,620	422	36,440,000					
6/13/20	54	1,740	22,290,000	258	22,290,000	326	1,940	164	14,137,000	163	2,870	566	1,600	422	36,427,000					
6/14/20	53	1,760	22,033,000	255	22,033,000	328	1,960	163	14,112,000	164	2,870	549	1,600	418	36,145,000					
6/15/20	47	1,750	21,900,000	253	21,900,000	321	1,960	164	14,139,000	165	2,880	560	1,670	417	36,039,000					
6/16/20	47	1,760	20,624,000	239	20,624,000	305	1,950	201	17,399,000	200	2,880	557	1,810	440	38,023,000					
6/17/20	41	1,770	21,452,000	248	21,452,000	293	1,930	223	19,233,000	230	2,880	549	1,880	471	40,685,000					
6/18/20	43	1,780	22,513,000	261	22,513,000	292	1,950	223	19,270,000	228	2,880	544	1,900	484	41,783,000					
6/19/20	41	1,800	22,551,000	261	22,551,000	296	1,950	223	19,288,000	228	2,880	550	1,940	484	41,839,000					
6/20/20	39	1,810	22,425,000	260	22,425,000	299	1,950	224	19,317,000	231	2,840	625	1,920	483	41,742,000					
6/21/20	36	1,820	22,466,000	260	22,466,000	293	1,970	223	19,306,000	228	2,870	710	1,820	483	41,772,000					
6/22/20	37	1,830	22,465,000	260	22,465,000	290	1,980	223	19,282,000	228	2,890	636	1,970	483	41,747,000					
6/23/20	36	1,840	22,489,000	260	22,489,000	291	-	223	19,270,000	226	2,890	597	2,080	483	41,759,000					
6/24/20	34	1,830	22,531,000	261	22,531,000	289	-	234	20,240,000	238	2,900	574	2,120	495	42,771,000					
6/25/20	33	1,830	22,525,000	261	22,525,000	289	-	244	21,054,000	258	2,850	572	2,140	504	43,579,000					
6/26/20	31	1,830	22,586,000	261	22,586,000	284	-	243	20,989,000	254	2,840	696	1,960	504	43,575,000					
6/27/20	30	1,850	22,690,000	263	22,690,000	281	2,030	242	20,930,000	252	2,770	732	1,860	505	43,620,000					
6/28/20	30	1,880	22,716,000	263	22,716,000	285	2,030	233	20,123,000	241	-	697	1,970	496	42,839,000					
6/29/20	28	1,900	22,744,000	263	22,744,000	283	2,030	204	17,649,000	210	-	659	2,060	468	40,393,000					
6/30/20	33	1,830	19,021,000	220	19,021,000	322	1,970	147	12,666,000	159	2,480	637	2,110	367	31,687,000					
Minimum	28	1,660	12,904,000	149	12,904,000	92	1,720	0	0	1	1,080	272	1,250	149	12,904,000					
Maximum	72	1,900	22,744,000	263	22,744,000	331	2,030	244	21,054,000	258	2,900	732	2,140	505	43,620,000					
Average	47	1,763	21,325,500	247	21,325,500	291	1,948	162	14,018,500	167	2,751	530	1,689	409	35,344,000					
		<b>Total (Mgal)</b>	<b>4,785</b>						<b>3,146</b>						<b>Total (Mgal)</b>	<b>7,931</b>			<b>Total (Ac-ft)</b>	<b>24,342</b>
		<b>Total (Ac-ft)</b>	<b>14,687</b>						<b>9,655</b>						<b>Total (Ac-ft)</b>	<b>35,344,000</b>				

**Notes:**

- cfs - cubic feet per second
- µS/cm - Microsiemens per Centimeter at 25 degrees Celsius
- ft<sup>3</sup> - 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 ( $\mu$ 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
6/1/20	-	-	-	-	-	-	-
6/2/20	8:00	1,670	8.38	449	440	NA	2
6/3/20	-	-	-	-	-	-	-
6/4/20	-	-	-	-	-	-	-
6/5/20	9:15	1,700	8.30	459	454	NA	2
6/6/20	-	-	-	-	-	-	-
6/7/20	-	-	-	-	-	-	-
6/8/20	-	-	-	-	-	-	-
6/9/20	7:30	1,700	8.46	464	462	43	2
6/10/20	-	-	-	-	-	-	-
6/11/20	-	-	-	-	-	-	-
6/12/20	10:40	1,660	8.21	509	487	NA	2
6/13/20	-	-	-	-	-	-	-
6/14/20	-	-	-	-	-	-	-
6/15/20	-	-	-	-	-	-	-
6/16/20	7:30	1,750	8.43	506	508	NA	2
6/17/20	-	-	-	-	-	-	-
6/18/20	-	-	-	-	-	-	-
6/19/20	9:25	1,790	8.44	480	493	NA	2
6/20/20	-	-	-	-	-	-	-
6/21/20	-	-	-	-	-	-	-
6/22/20	-	-	-	-	-	-	-
6/23/20	-	-	-	-	-	-	-
6/24/20	7:40	1,830	8.48	502	491	NA	2
6/25/20	-	-	-	-	-	-	-
6/26/20	9:50	1,820	8.31	542	522	NA	2
6/27/20	-	-	-	-	-	-	-
6/28/20	-	-	-	-	-	-	-
6/29/20	-	-	-	-	-	-	-
6/30/20	7:20	1,890	8.47	554	533	NA	3
<b>Minimum</b>		1,660	8.21	449	440	43	
<b>Maximum</b>		1,890	8.48	554	533	43	
<b>Average</b>		1,757	8.39	496	488	43	

**Notes:**

- $\mu$ 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
6/1/20	-	-	-	-	-	-	-
6/2/20	8:15	-	8.54	683	683	NA	1
6/3/20	-	-	-	-	-	-	-
6/4/20	-	-	-	-	-	-	-
6/5/20	9:25	-	8.63	670	677	NA	2
6/6/20	-	-	-	-	-	-	-
6/7/20	-	-	-	-	-	-	-
6/8/20	-	-	-	-	-	-	-
6/9/20	7:50	-	8.65	645	658	26	2
6/10/20	-	-	-	-	-	-	-
6/11/20	-	-	-	-	-	-	-
6/12/20	10:25	-	8.63	659	652	NA	2
6/13/20	-	-	-	-	-	-	-
6/14/20	-	-	-	-	-	-	-
6/15/20	-	-	-	-	-	-	-
6/16/20	7:45	-	8.72	607	633	NA	2
6/17/20	-	-	-	-	-	-	-
6/18/20	-	-	-	-	-	-	-
6/19/20	9:35	-	8.70	628	618	NA	2
6/20/20	-	-	-	-	-	-	-
6/21/20	-	-	-	-	-	-	-
6/22/20	-	-	-	-	-	-	-
6/23/20	-	-	-	-	-	-	-
6/24/20	7:50	-	8.69	626	627	NA	2
6/25/20	-	-	-	-	-	-	-
6/26/20	10:00	-	8.64	683	655	NA	2
6/27/20	-	-	-	-	-	-	-
6/28/20	-	-	-	-	-	-	-
6/29/20	-	-	-	-	-	-	-
6/30/20	7:30	-	8.70	672	660	NA	3
<b>Minimum</b>			8.54	607	618	26	
<b>Maximum</b>			8.72	683	683	26	
<b>Average</b>			8.66	653	651	26	

**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 ( $\mu$ 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
6/1/20	-	-	-	-	-	-	-
6/2/20	7:36	1,740	8.38	477	459	NA	2
6/3/20	-	-	-	-	-	-	-
6/4/20	-	-	-	-	-	-	-
6/5/20	8:50	1,960	8.49	625	551	NA	2
6/6/20	-	-	-	-	-	-	-
6/7/20	-	-	-	-	-	-	-
6/8/20	-	-	-	-	-	-	-
6/9/20	7:10	1,840	8.50	532	579	100	2
6/10/20	-	-	-	-	-	-	-
6/11/20	-	-	-	-	-	-	-
6/12/20	9:50	1,940	8.45	614	573	NA	2
6/13/20	-	-	-	-	-	-	-
6/14/20	-	-	-	-	-	-	-
6/15/20	-	-	-	-	-	-	-
6/16/20	7:00	1,950	8.64	639	627	NA	2
6/17/20	-	-	-	-	-	-	-
6/18/20	-	-	-	-	-	-	-
6/19/20	9:00	1,950	8.68	559	599	NA	2
6/20/20	-	-	-	-	-	-	-
6/21/20	-	-	-	-	-	-	-
6/22/20	-	-	-	-	-	-	-
6/23/20	-	-	-	-	-	-	-
6/24/20	7:20	-	8.64	620	590	NA	2
6/25/20	-	-	-	-	-	-	-
6/26/20	9:25	2,020	8.60	669	645	NA	2
6/27/20	-	-	-	-	-	-	-
6/28/20	-	-	-	-	-	-	-
6/29/20	-	-	-	-	-	-	-
6/30/20	7:00	2,070	8.66	638	642	NA	3
<b>Minimum</b>		1,740	8.38	477	459	100	
<b>Maximum</b>		2,070	8.68	669	645	100	
<b>Average</b>		1,934	8.56	597	585	100	

**Notes:**

$\mu$ 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 Discharge Report**

Date	Time	Specific Conductance USGS Gage ( $\mu$ 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
6/1/20	-	-	-	-	-	-	-
6/2/20	-	-	-	-	-	-	-
6/3/20	-	-	-	-	-	-	-
6/4/20	-	-	-	-	-	-	-
6/5/20	7:20	2900	8.68	1020	1020	NA	1
6/6/20	-	-	-	-	-	-	-
6/7/20	-	-	-	-	-	-	-
6/8/20	-	-	-	-	-	-	-
6/9/20	8:40	2840	8.68	990	1005	21	2
6/10/20	-	-	-	-	-	-	-
6/11/20	-	-	-	-	-	-	-
6/12/20	7:45	2870	8.72	1010	1000	NA	2
6/13/20	-	-	-	-	-	-	-
6/14/20	-	-	-	-	-	-	-
6/15/20	-	-	-	-	-	-	-
6/16/20	8:45	2880	8.74	1000	1005	NA	2
6/17/20	-	-	-	-	-	-	-
6/18/20	-	-	-	-	-	-	-
6/19/20	7:30	2880	8.71	964	982	NA	2
6/20/20	-	-	-	-	-	-	-
6/21/20	-	-	-	-	-	-	-
6/22/20	-	-	-	-	-	-	-
6/23/20	-	-	-	-	-	-	-
6/24/20	8:40	2920	8.71	992	978	NA	2
6/25/20	-	-	-	-	-	-	-
6/26/20	7:50	2860	8.63	1070	1031	NA	2
6/27/20	-	-	-	-	-	-	-
6/28/20	-	-	-	-	-	-	-
6/29/20	-	-	-	-	-	-	-
6/30/20	8:50	2610	8.64	1000	1021	NA	3
<b>Minimum</b>		2610	8.63	964	978	21	
<b>Maximum</b>		2920	8.74	1070	1031	21	
<b>Average</b>		2845	8.69	1006	1005	21	

**Notes:**

mg/L - Milligrams per liter or parts per million

NA - Not Analyzed

Italic font denotes preliminary result

**Sheyenne River Downstream of Both Outlets 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
6/1/20	-	-	-	-	-	-	-
6/2/20	9:40	-	8.43	302	301	NA	2
6/3/20	-	-	-	-	-	-	-
6/4/20	-	-	-	-	-	-	-
6/5/20	7:45	-	8.49	296	299	NA	2
6/6/20	-	-	-	-	-	-	-
6/7/20	-	-	-	-	-	-	-
6/8/20	-	-	-	-	-	-	-
6/9/20	9:00	-	8.44	521	409	81	2
6/10/20	-	-	-	-	-	-	-
6/11/20	-	-	-	-	-	-	-
6/12/20	8:20	-	8.28	510	516	NA	2
6/13/20	-	-	-	-	-	-	-
6/14/20	-	-	-	-	-	-	-
6/15/20	-	-	-	-	-	-	-
6/16/20	9:00	-	8.49	566	538	NA	2
6/17/20	-	-	-	-	-	-	-
6/18/20	-	-	-	-	-	-	-
6/19/20	7:50	-	8.51	658	612	NA	2
6/20/20	-	-	-	-	-	-	-
6/21/20	-	-	-	-	-	-	-
6/22/20	-	-	-	-	-	-	-
6/23/20	-	-	-	-	-	-	-
6/24/20	9:15	-	8.50	739	699	NA	2
6/25/20	-	-	-	-	-	-	-
6/26/20	7:25	-	8.46	<b>800</b>	770	NA	2
6/27/20	-	-	-	-	-	-	-
6/28/20	-	-	-	-	-	-	-
6/29/20	-	-	-	-	-	-	-
6/30/20	9:15	-	8.51	<b>816</b>	785	NA	3
<b>Minimum</b>			8.28	296	299	81	
<b>Maximum</b>			8.51	816	785	81	
<b>Average</b>			8.46	579	547	81	

**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**

**Sheyenne River Downstream of Both Outlets near Cooperstown  
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
6/1/20	-	-	-	-	-	-	-
6/2/20	10:30	1,300	8.44	336	342	NA	2
6/3/20	-	-	-	-	-	-	-
6/4/20	-	-	-	-	-	-	-
6/5/20	-	-	-	-	-	-	-
6/6/20	-	-	-	-	-	-	-
6/7/20	-	-	-	-	-	-	-
6/8/20	-	-	-	-	-	-	-
6/9/20	9:45	1,300	8.48	335	335	107	1
6/10/20	-	-	-	-	-	-	-
6/11/20	-	-	-	-	-	-	-
6/12/20	-	-	-	-	-	-	-
6/13/20	-	-	-	-	-	-	-
6/14/20	-	-	-	-	-	-	-
6/15/20	-	-	-	-	-	-	-
6/16/20	9:45	1,750	8.41	542	542	NA	1
6/17/20	-	-	-	-	-	-	-
6/18/20	-	-	-	-	-	-	-
6/19/20	-	-	-	-	-	-	-
6/20/20	-	-	-	-	-	-	-
6/21/20	-	-	-	-	-	-	-
6/22/20	-	-	-	-	-	-	-
6/23/20	-	-	-	-	-	-	-
6/24/20	9:50	2,120	8.44	681	681	NA	1
6/25/20	-	-	-	-	-	-	-
6/26/20	-	-	-	-	-	-	-
6/27/20	-	-	-	-	-	-	-
6/28/20	-	-	-	-	-	-	-
6/29/20	-	-	-	-	-	-	-
6/30/20	10:00	2,110	8.44	718	700	NA	2
7/1/20	-	-	-	-	-	-	-
<b>Minimum</b>		1,300	8.41	335	335	107	
<b>Maximum</b>		2,120	8.48	718	700	107	
<b>Average</b>		1,716	8.44	522	520	107	

**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**