

October 14, 2021

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

RE: September 2021 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 September 2021 is enclosed. The West Outlet discharged the entire month and operated at an average rate of 47 cubic feet per second (cfs). The East Outlet was not run during the month. A total of 2,800 acre-feet were discharged in September.

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.

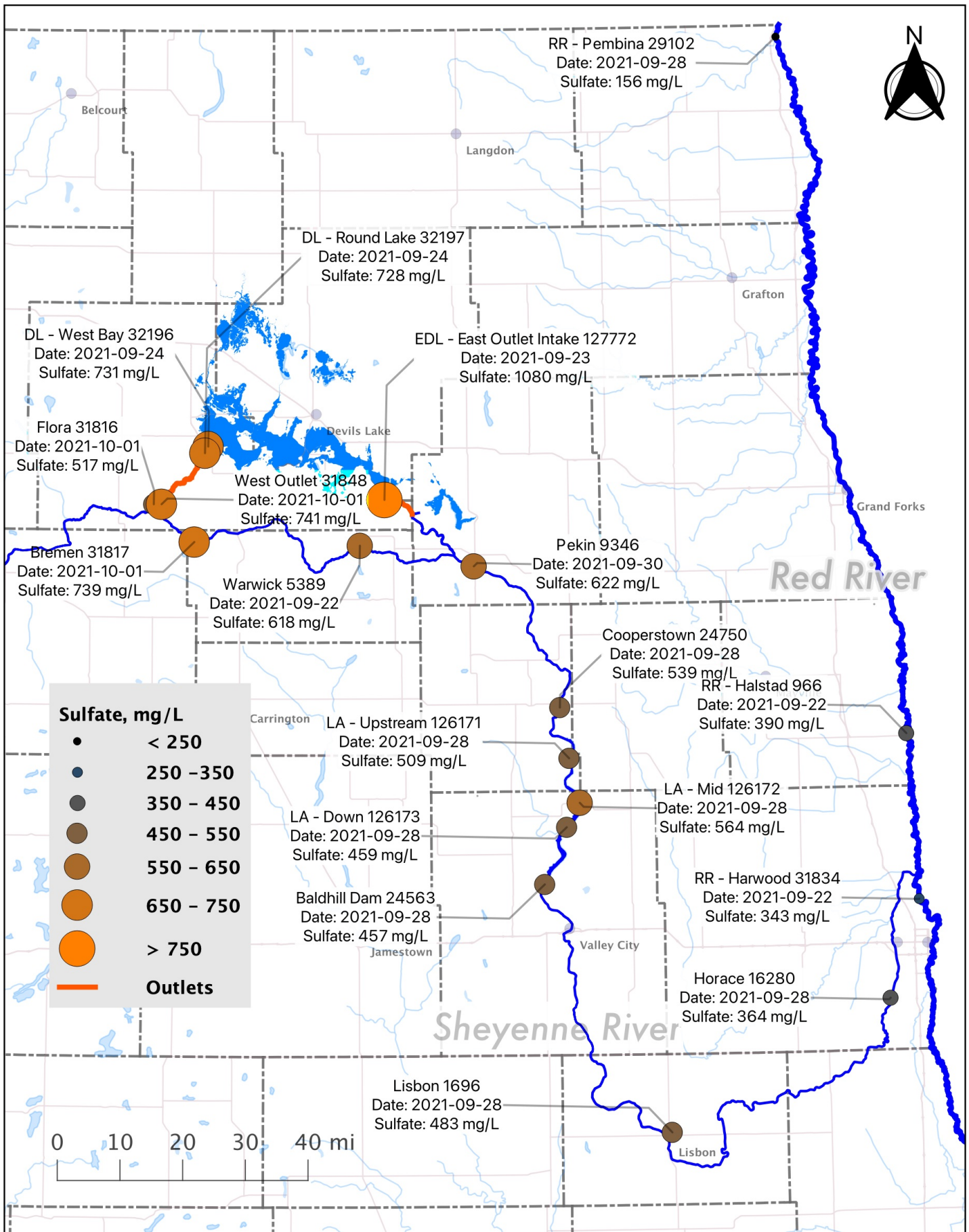
If you have any questions, please contact me at (701) 328-4948.

Sincerely,



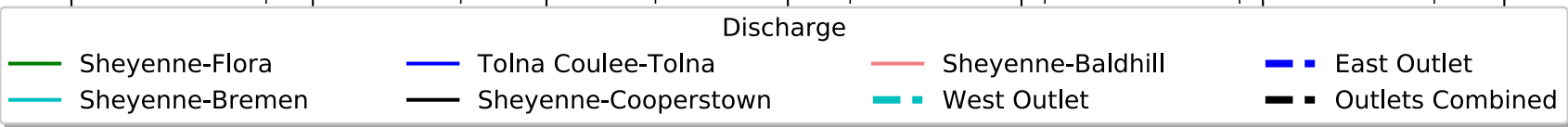
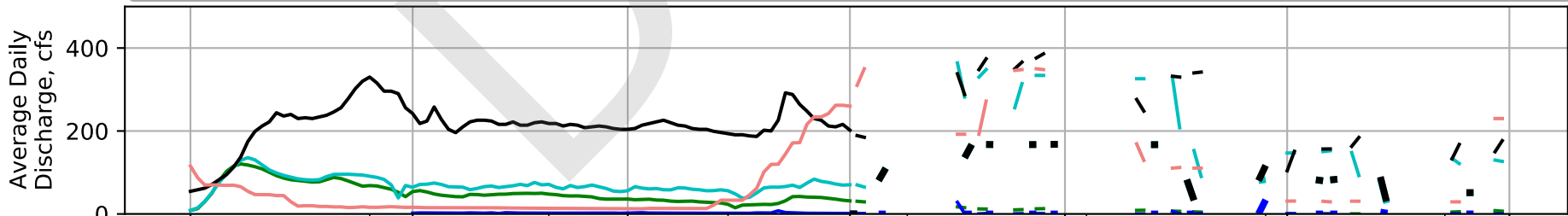
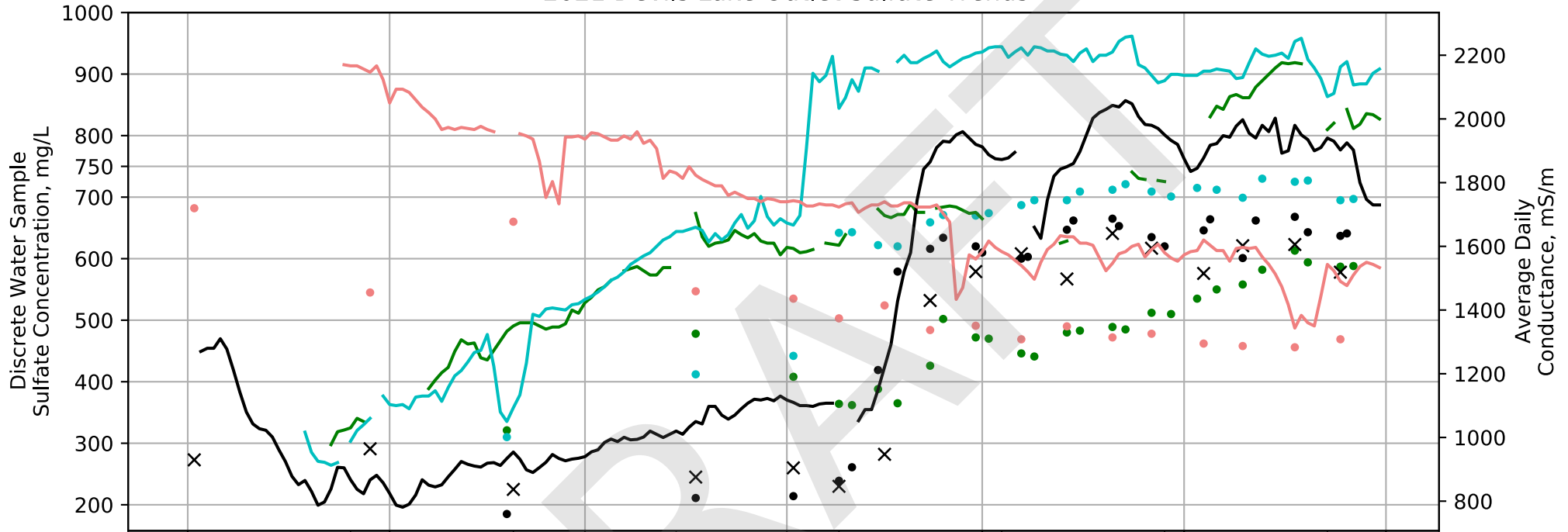
Jonathan Kelsch P.E.  
Director of Water Development

JK:DG/416-10  
Enclosure



**Devils Lake Outlet Operations  
Preliminary Sulfate Concentrations  
10/11/2021**

## 2021 Devils Lake Outlet Sulfate Trends



Date

2021-03      2021-04      2021-05      2021-06      2021-07      2021-08      2021-09

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
9/1/21	9/30/21

LOCATION: Benson Co, ND

Devils Lake West Outlet discharged 2,800 ac-ft over 30 Days

PARAMETER	MINIMUM	MAXIMUM	AVERAGE	UNITS	SAMPLING FREQUENCY	TYPE
pH	8.58	8.77	8.66	SU	2 x Week	GRAB
SULFATE	696	735	709	mg/L	2 x Week	GRAB
7 DAY AVERAGE OF SULFATE	699	724	707	mg/L	Average	GRAB
OUTLET DISCHARGE	47	47	47	cfs	Continuous	Recorder
SIGNATURE				10/14/21	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
9/1/21	9/30/21

LOCATION: Ramsey, Benson, Nelson, ND

Devils Lake East Outlet discharged 0 ac-ft over 0 Days

PARAMETER	MINIMUM	MAXIMUM	AVERAGE	UNITS	SAMPLING FREQUENCY	TYPE
pH	0.00	0.00	#DIV/0!	SU	2 x Week	GRAB
SPECIFIC CONDUCTANCE	0	0	#DIV/0!	µS/cm	Continuous	Recorder
SULFATE	0	0	#DIV/0!	mg/L	2 x Week	GRAB
7 DAY AVERAGE OF SULFATE	0	0	#DIV/0!	mg/L	Average	GRAB
OUTLET DISCHARGE	0	0	0	cfs	Continuous	Recorder
SIGNATURE	<i>JFK</i>			10/14/21	701-328-4948	
NAME AND TITLE	JONATHAN KELSCH, DIRECTOR, WATER DEVELOPMENT DIVISION			DATE	TELEPHONE NUMBER	
COMMENT AND EXPLANATION OF ANY VIOLATIONS						

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

LOCATION: Benson Co, ND

MONITORING PERIOD	
START DATE	END DATE
9/1/21	9/30/21

PARAMETER	MINIMUM	MAXIMUM	AVERAGE	UNITS	SAMPLING FREQUENCY	TYPE
pH	8.44	8.74	8.57	SU	2 x Week	GRAB
SPECIFIC CONDUCTANCE	1,740	1,973	1,791	µS/cm	Continuous	Recorder
SULFATE	500	609	537	mg/L	2 x Week	GRAB
7 DAY AVERAGE OF SULFATE	502	599	541	mg/L	Average	GRAB
FLOW, INSTREAM	1	8	3	cfs	Continuous	Recorder
SIGNATURE				10/14/21	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 location is 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

LOCATION: Eddy Co, ND

MONITORING PERIOD	
START DATE	END DATE
9/1/21	9/30/21

PARAMETER	MINIMUM	MAXIMUM	AVERAGE	UNITS	SAMPLING FREQUENCY	TYPE
pH	8.65	8.92	8.80	SU	2 x Week	GRAB
SPECIFIC CONDUCTANCE	1,997	2,160	2,118	µS/cm	Continuous	Recorder
SULFATE	656	743	711	mg/L	2 x Week	GRAB
7 DAY AVERAGE OF SULFATE	677	730	707	mg/L	Average	GRAB
FLOW, INSTREAM	55	68	59	cfs	Continuous	Recorder
SIGNATURE				10/14/21	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:

- 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 BOTH OUTLETS (PEKIN)

FACILITY: Devils Lake Outlet Project

LOCATION: Nelson Co, ND

MONITORING PERIOD	
START DATE	END DATE
9/1/21	9/30/21

PARAMETER	MINIMUM	MAXIMUM	AVERAGE	UNITS	SAMPLING FREQUENCY	TYPE
pH	0.00	8.63	7.66	SU	2 x Week	GRAB
SULFATE	539	622	583	mg/L	2 x Week	GRAB
7 DAY AVERAGE OF SULFATE	558	618	583	mg/L	Average	GRAB
FLOW, INSTREAM	NA	NA	NA	cfs	Continuous	Recorder
SIGNATURE				10/14/21	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:

- 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: DOWNSTREAM OF BOTH OUTLETS (COOPERSTOWN)

FACILITY: Devils Lake Outlet Project

LOCATION: Griggs Co, ND

MONITORING PERIOD	
START DATE	END DATE
9/1/21	9/30/21

PARAMETER	MINIMUM	MAXIMUM	AVERAGE	UNITS	SAMPLING FREQUENCY	TYPE
pH	8.42	8.53	8.47	SU	Weekly	GRAB
SPECIFIC CONDUCTANCE	1,603	1,790	1,696	µS/cm	Continuous	Recorder
SULFATE	486	539	516	mg/L	Weekly	GRAB
7 DAY AVERAGE OF SULFATE	486	537	511	mg/L	Average	GRAB
FLOW, INSTREAM	120	208	149	cfs	Continuous	Recorder
SIGNATURE				10/14/21	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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- 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 <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 Streamflow USGS Gage (cfs)	Average Specific Conductance USGS Gage (µS/cm)	Average Daily Outlet Discharge (cfs)	Total Daily Volume (ft <sup>3</sup> )
9/1/21	6.14	1973.33333	47.1643519	4075000	60.5	2160	0	0	-	1083.33333	183	1770	47.2569444	4083000
9/2/21	6.02	-	47.1990741	4078000	67.6	2083.33333	0	0	-	973.333333	206	1790	47.2569444	4083000
9/3/21	7.52	1800	47.2569444	4083000	64.8	1996.66667	0	0	-	-	204	1677.5	47.337963	4090000
9/4/21	6.7	1823.33333	47.2337963	4081000	58.7	2033.33333	0	0	0.82	1025	195.4	1715	47.349537	4091000
9/5/21	4.72	1820	47.2337963	4081000	58.2	2086.66667	0	0	0.5	1076.66667	208	1760	47.3148148	4088000
9/6/21	2.9	1820	47.1875	4077000	58	2110	0	0	0.36	1096.66667	189.2	1725	47.2800926	4085000
9/7/21	2.54	1830	47.1875	4077000	55.1	2126.66667	0	0	0.26	1093.33333	169.4	1697.5	47.2569444	4083000
9/8/21	2.56	1840	47.1990741	4078000	54.8	2143.33333	0	0	0.14	1103.33333	170.4	1677.5	47.2453704	4082000
9/9/21	2.92	1840	47.1990741	4078000	56.6	2090	0	0	6.7	1106.66667	162.4	1602.5	47.2800926	4085000
9/10/21	2.82	1823.33333	47.1412037	4073000	57.9	2140	0	0	0.48	1100	149.8	1620	47.2106481	4079000
9/11/21	2.86	1816.66667	47.2222222	4080000	58.3	2133.33333	0	0	0.44	1086.66667	138.8	1637.5	47.2337963	4081000
9/12/21	3.02	1813.33333	47.0023148	4061000	58.5	2123.33333	0	0	-	-	132.8	1647.5	47.0138889	4062000
9/13/21	3.06	1786.66667	47.1180556	4071000	59.9	2106.66667	0	0	-	-	132	1650	47.1296296	4072000
9/14/21	3.1	1760	47.1296296	4072000	59.6	2093.33333	0	0	-	-	130	1657.5	47.2222222	4080000
9/15/21	3	1763.33333	47.0486111	4065000	57.8	2093.33333	0	0	0.44	1063.33333	125.2	1677.5	47.2106481	4079000
9/16/21	2.78	1780	47.0833333	4068000	59.3	2110	0	0	-	-	127.8	1712.5	47.2453704	4082000
9/17/21	2.9	1780	47.0833333	4068000	55.5	2080	0	0	-	-	131.4	1727.5	47.337963	4090000
9/18/21	2.7	1780	46.9791667	4059000	58	2143.33333	0	0	-	1040	131.6	1725	47.4537037	4100000
9/19/21	2.52	1780	46.9328704	4055000	58.2	2150	0	0	-	1033.33333	138.2	1715	47.2453704	4082000
9/20/21	2.8	1756.66667	47.0486111	4065000	59.6	2120	0	0	-	-	145.4	1700	47.2453704	4082000
9/21/21	2.58	1740	47.0486111	4065000	57.7	2116.66667	0	0	-	-	138.8	1652.5	47.4074074	4096000
9/22/21	2.62	1740	46.9560185	4057000	57.4	2120	0	0	-	-	135	1630	47.5810185	4111000
9/23/21	2.7	1746.66667	46.9097222	4053000	59.2	2140	0	0	-	-	133.6	1637.5	47.5462963	4108000
9/24/21	2.06	1750	46.9097222	4053000	57.6	2146.66667	0	0	-	-	127.6	1672.5	47.5462963	4108000
9/25/21	2.02	1756.66667	46.8171296	4045000	56.6	2160	0	0	-	991.666667	127.8	1710	48.0439815	4151000
9/26/21	1.9	1756.66667	46.8287037	4046000	58.9	2160	0	0	-	-	129.2	1727.5	47.8587963	4135000
9/27/21	1.6	1770	46.8518519	4048000	60.6	2150	0	0	-	-	127.2	1747.5	47.6157407	4114000
9/28/21	1.58	1773.33333	46.8402778	4047000	61.2	2150	0	0	-	1003.33333	122.8	1752.5	47.5115741	4105000
9/29/21	1.46	1770	46.9097222	4053000	61.3	2146.66667	0	0	-	1001.33333	120.2	1747.5	47.2222222	4080000
9/30/21	1.5	1760	47.037037	4064000	61.9	2123.33333	0	0	-	1001.66667	126.2	1720	47.3263889	4089000
<b>Minimum</b>	1	1,740	47	4,045,000	55	1,997	0	0	0	973	120	1,603	47	4,062,000
<b>Maximum</b>	8	1,973	47	4,083,000	68	2,160	0	0	7	1,107	208	1,790	48	4,151,000
<b>Average</b>	3	1,791	47	4,071,227	59	2,118	0	0	1	1,052	149	1,696	47	4,084,818
			<b>Total (Mgal)</b>	912			<b>Total (Mgal)</b>	0				<b>Total (Mgal)</b>	912	
			<b>Total (Ac-ft)</b>	2,800			<b>Total (Ac-ft)</b>	0				<b>Total (Ac-ft)</b>	2,800	

**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
9/1/21	8:00	1,980	8.59	609	599	NA	2
9/2/21	-	-	-	-	-	-	-
9/3/21	8:50	1,830	8.44	558	584	NA	2
9/4/21	-	-	-	-	-	-	-
9/5/21	-	-	-	-	-	-	-
9/6/21	-	-	-	-	-	-	-
9/7/21	-	-	-	-	-	-	-
9/8/21	7:31	1,830	8.66	548	553	38	2
9/9/21	-	-	-	-	-	-	-
9/10/21	7:50	0	8.74	558	553	NA	2
9/11/21	-	-	-	-	-	-	-
9/12/21	-	-	-	-	-	-	-
9/13/21	-	-	-	-	-	-	-
9/14/21	-	-	-	-	-	-	-
9/15/21	8:15	0	8.53	531	545	NA	2
9/16/21	-	-	-	-	-	-	-
9/17/21	13:20	0	8.57	512	522	NA	2
9/18/21	-	-	-	-	-	-	-
9/19/21	-	-	-	-	-	-	-
9/20/21	-	-	-	-	-	-	-
9/21/21	-	-	-	-	-	-	-
9/22/21	8:05	0	8.56	500	506	NA	2
9/23/21	-	-	-	-	-	-	-
9/24/21	8:05	0	8.49	504	502	NA	2
9/25/21	-	-	-	-	-	-	-
9/26/21	-	-	-	-	-	-	-
9/27/21	-	-	-	-	-	-	-
9/28/21	8:00	0	8.54	515	506	NA	3
9/29/21	-	-	-	-	-	-	-
9/30/21	-	-	-	-	-	-	-
10/1/21	-	-	-	-	-	-	-
<b>Minimum</b>		0	8.44	500	502	38	
<b>Maximum</b>		1,980	8.74	609	599	38	
<b>Average</b>		627	8.57	537	541	38	

**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
9/1/21	8:05	-	8.69	703	706	NA	2
9/2/21	-	-	-	-	-	-	-
9/3/21	8:40	-	8.66	701	702	NA	2
9/4/21	-	-	-	-	-	-	-
9/5/21	-	-	-	-	-	-	-
9/6/21	-	-	-	-	-	-	-
9/7/21	-	-	-	-	-	-	-
9/8/21	8:10	-	8.68	696	699	8	2
9/9/21	-	-	-	-	-	-	-
9/10/21	7:40	-	8.77	703	700	NA	2
9/11/21	-	-	-	-	-	-	-
9/12/21	-	-	-	-	-	-	-
9/13/21	-	-	-	-	-	-	-
9/14/21	-	-	-	-	-	-	-
9/15/21	8:30	-	8.60	709	706	NA	2
9/16/21	-	-	-	-	-	-	-
9/17/21	13:00	-	8.66	699	704	NA	2
9/18/21	-	-	-	-	-	-	-
9/19/21	-	-	-	-	-	-	-
9/20/21	-	-	-	-	-	-	-
9/21/21	-	-	-	-	-	-	-
9/22/21	8:10	-	8.59	707	703	NA	2
9/23/21	-	-	-	-	-	-	-
9/24/21	7:55	-	8.69	735	721	NA	2
9/25/21	-	-	-	-	-	-	-
9/26/21	-	-	-	-	-	-	-
9/27/21	-	-	-	-	-	-	-
9/28/21	8:10	-	8.58	731	724	NA	3
9/29/21	-	-	-	-	-	-	-
9/30/21	-	-	-	-	-	-	-
10/1/21	-	-	-	-	-	-	-
<b>Minimum</b>			8.58	696	699	8	
<b>Maximum</b>			8.77	735	724	8	
<b>Average</b>			8.66	709	707	8	

**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
9/1/21	7:30	2,160	8.75	697	697	NA	2
9/2/21	-	-	-	-	-	-	-
9/3/21	9:10	2,010	8.65	656	677	NA	2
9/4/21	-	-	-	-	-	-	-
9/5/21	-	-	-	-	-	-	-
9/6/21	-	-	-	-	-	-	-
9/7/21	-	-	-	-	-	-	-
9/8/21	7:26	2,140	8.81	707	682	36	2
9/9/21	-	-	-	-	-	-	-
9/10/21	8:15	0	8.92	715	711	NA	2
9/11/21	-	-	-	-	-	-	-
9/12/21	-	-	-	-	-	-	-
9/13/21	-	-	-	-	-	-	-
9/14/21	-	-	-	-	-	-	-
9/15/21	7:49	0	8.67	702	709	NA	2
9/16/21	-	-	-	-	-	-	-
9/17/21	13:38	0	8.88	733	718	NA	2
9/18/21	-	-	-	-	-	-	-
9/19/21	-	-	-	-	-	-	-
9/20/21	-	-	-	-	-	-	-
9/21/21	-	-	-	-	-	-	-
9/22/21	7:38	0	8.84	704	719	NA	2
9/23/21	-	-	-	-	-	-	-
9/24/21	8:30	-	8.86	743	724	NA	2
9/25/21	-	-	-	-	-	-	-
9/26/21	-	-	-	-	-	-	-
9/27/21	-	-	-	-	-	-	-
9/28/21	7:37	0	8.83	743	730	NA	3
9/29/21	-	-	-	-	-	-	-
9/30/21	-	-	-	-	-	-	-
10/1/21	-	-	-	-	-	-	-
<b>Minimum</b>		0	8.65	656	677	36	
<b>Maximum</b>		2,160	8.92	743	730	36	
<b>Average</b>		789	8.80	711	707	36	

**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
9/1/21	-	-	-	-	-	-	-
9/2/21	-	-	-	-	-	-	-
9/3/21	-	-	-	-	-	-	-
9/4/21	-	-	-	-	-	-	-
9/5/21	-	-	-	-	-	-	-
9/6/21	-	-	-	-	-	-	-
9/7/21	-	-	-	-	-	-	-
9/8/21	-	-	-	-	-	-	-
9/9/21	-	-	-	-	-	-	-
9/10/21	-	-	-	-	-	-	-
9/11/21	-	-	-	-	-	-	-
9/12/21	-	-	-	-	-	-	-
9/13/21	-	-	-	-	-	-	-
9/14/21	-	-	-	-	-	-	-
9/15/21	-	-	-	-	-	-	-
9/16/21	-	-	-	-	-	-	-
9/17/21	-	-	-	-	-	-	-
9/18/21	-	-	-	-	-	-	-
9/19/21	-	-	-	-	-	-	-
9/20/21	-	-	-	-	-	-	-
9/21/21	-	-	-	-	-	-	-
9/22/21	-	-	-	-	-	-	-
9/23/21	-	-	-	-	-	-	-
9/24/21	-	-	-	-	-	-	-
9/25/21	-	-	-	-	-	-	-
9/26/21	-	-	-	-	-	-	-
9/27/21	-	-	-	-	-	-	-
9/28/21	-	-	-	-	-	-	-
9/29/21	-	-	-	-	-	-	-
9/30/21	-	-	-	-	-	-	-
10/1/21	-	-	-	-	-	-	-
<b>Minimum</b>		0	0.00	0	0	0	
<b>Maximum</b>		0	0.00	0	0	0	
<b>Average</b>		#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	

**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
9/1/21	9:48	-	8.56	594	618	NA	2
9/2/21	11:45	-	8.53	561	578	NA	2
9/3/21	-	-	-	-	-	-	-
9/4/21	-	-	-	-	-	-	-
9/5/21	-	-	-	-	-	-	-
9/6/21	-	-	-	-	-	-	-
9/7/21	-	-	-	-	-	-	-
9/8/21	9:30	-	8.58	593	577	64	2
9/9/21	11:20	-	8.63	583	588	NA	2
9/10/21	-	-	-	-	-	-	-
9/11/21	-	-	-	-	-	-	-
9/12/21	-	-	-	-	-	-	-
9/13/21	-	-	-	-	-	-	-
9/14/21	-	-	-	-	-	-	-
9/15/21	9:55	-	8.47	539	561	NA	2
9/16/21	-	-	-	-	-	-	-
9/17/21	8:30	-	8.33	576	558	NA	2
9/18/21	-	-	-	-	-	-	-
9/19/21	-	-	-	-	-	-	-
9/20/21	-	-	-	-	-	-	-
9/21/21	-	-	-	-	-	-	-
9/22/21	9:35	-	8.48	567	572	NA	2
9/23/21	11:45	-	8.51	578	574	NA	3
9/24/21	-	-	-	-	-	-	-
9/25/21	-	-	-	-	-	-	-
9/26/21	-	-	-	-	-	-	-
9/27/21	-	-	-	-	-	-	-
9/28/21	9:35	-	8.51	612	586	NA	3
9/29/21	-	-	-	-	-	-	-
9/30/21	12:10	-	0.00	622	617	NA	2
10/1/21	-	-	-	-	-	-	-
<b>Minimum</b>			0.00	539	558	64	
<b>Maximum</b>			8.63	622	618	64	
<b>Average</b>			7.66	583	583	64	

**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
9/1/21	11:00	1,780	8.51	537	537	NA	1
9/2/21	-	-	-	-	-	-	-
9/3/21	-	-	-	-	-	-	-
9/4/21	-	-	-	-	-	-	-
9/5/21	-	-	-	-	-	-	-
9/6/21	-	-	-	-	-	-	-
9/7/21	-	-	-	-	-	-	-
9/8/21	10:20	1,680	8.53	507	507	110	1
9/9/21	-	-	-	-	-	-	-
9/10/21	-	-	-	-	-	-	-
9/11/21	-	-	-	-	-	-	-
9/12/21	-	-	-	-	-	-	-
9/13/21	-	-	-	-	-	-	-
9/14/21	-	-	-	-	-	-	-
9/15/21	10:45	0	8.46	510	510	NA	1
9/16/21	-	-	-	-	-	-	-
9/17/21	-	-	-	-	-	-	-
9/18/21	-	-	-	-	-	-	-
9/19/21	-	-	-	-	-	-	-
9/20/21	-	-	-	-	-	-	-
9/21/21	-	-	-	-	-	-	-
9/22/21	10:30	0	8.42	486	486	NA	1
9/23/21	-	-	-	-	-	-	-
9/24/21	-	-	-	-	-	-	-
9/25/21	-	-	-	-	-	-	-
9/26/21	-	-	-	-	-	-	-
9/27/21	-	-	-	-	-	-	-
9/28/21	10:30	0	8.45	539	513	NA	2
9/29/21	-	-	-	-	-	-	-
9/30/21	-	-	-	-	-	-	-
10/1/21	-	-	-	-	-	-	-
<b>Minimum</b>		0	8.42	486	486	110	
<b>Maximum</b>		1,780	8.53	539	537	110	
<b>Average</b>		692	8.47	516	511	110	

**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**