

November 17, 2023

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

RE: October 2023 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 October 2023 is enclosed. The Devils Lake East End Outlet was shut off on September 15<sup>th</sup> due to the downstream water quality constraint. The West End Outlet was operated at approximately 200 cfs until it was shut off on October 24<sup>th</sup>. The average rate of discharge from the West End Outlet in October was 142 cfs with a total discharge volume of 8,709 acre-feet.

The attached tables contain daily outlet discharges measured from the flow meters 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.

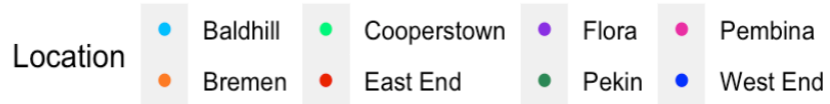
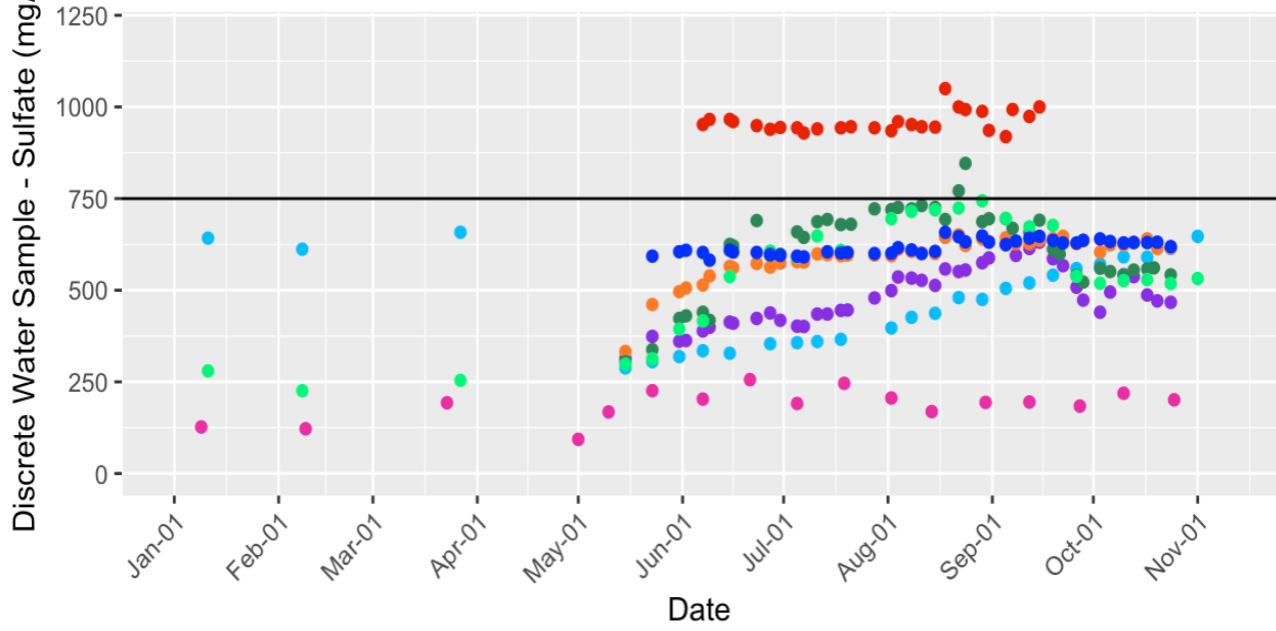
If you have any questions, please contact me at (701) 328-9049.

Sincerely,



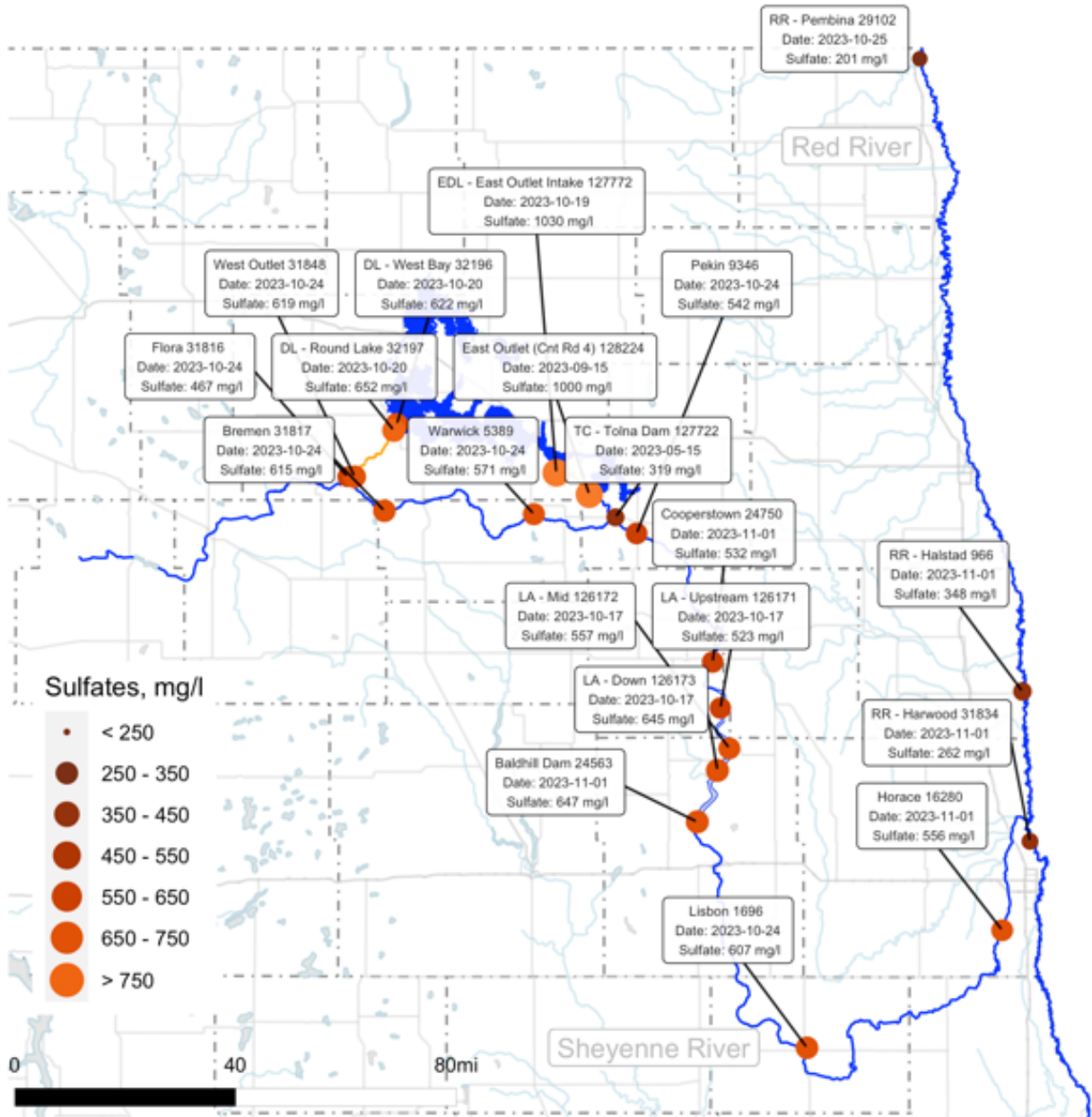
Yaping Chi, P.E.  
Water Resource Engineer, Water Development  
YC:/416-10  
Enclosure

# 2023 Devils Lake Outlet Sulfate Trends



# Devils Lake Outlet Operations Preliminary Sulfate Concentrations

11/09/2023



OUTLET OPERATOR NAME/ADDRESS  
 NAME: ND Dept. of Water Resources  
 ADDRESS: 1200 Memorial Highway,  
 Bismarck ND 58504

**MONTHLY DISCHARGE REPORT**

**LOCATION: WEST END OUTLET**

FACILITY: Devils Lake Outlet Project

MONITORING PERIOD	
START DATE	END DATE
10/1/23	10/31/23

LOCATION: Benson Co, ND

**Devils Lake West Outlet                      8709                      ac-ft over                      24                      Days**

PARAMETER	MINIMUM	MAXIMUM	AVERAGE	UNITS	SAMPLING FREQUENCY	TYPE
pH	8.54	8.7	8.61	SU	2 X Week	GRAB
SULFATE	619	640	630	mg/l	2 X Week	GRAB
7 DAY AVERAGE OF SULFATE	625	640	632	mg/L	Average	GRAB
OUTLET DISCHARGE	0	199	142	cfs	Continuous	Recorder
SIGNATURE	<i>Yaping Chi</i>			11/9/23	701-328-9049	
NAME AND TITLE	YAPING CHI, WATER RESOURCES ENGINEER, 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:**

- 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

OUTLET OPERATOR NAME/ADDRESS  
 NAME: ND Dept. of Water Resources  
 ADDRESS: 1200 Memorial Highway,  
 Bismarck ND 58504

**MONTHLY DISCHARGE REPORT**

**LOCATION: EAST END OUTLET**

FACILITY: Devils Lake Outlet Project

MONITORING PERIOD	
START DATE	END DATE
10/1/23	10/31/23

LOCATION: Ramsey, Benson, Nelson Co, ND

Devils Lake East Outlet                      0                      ac-ft over                      0                      Days

PARAMETER	MINIMUM	MAXIMUM	AVERAGE	UNITS	SAMPLING FREQUENCY	TYPE
pH	NA	NA	NA	SU	2 X Week	GRAB
SPECIFIC CONDUCTANCE	NA	NA	NA	µS/cm	Continuous	Recorder
SULFATE	NA	NA	NA	mg/L	2 X Week	GRAB
7 DAY AVERAGE OF SULFATE	NA	NA	NA	mg/l	Average	GRAB
OUTLET DISCHARGE	0	0	0	cfs	Continuous	Recorder
SIGNATURE	<i>Yaping Chi</i>			11/9/23	701-328-9049	
NAME AND TITLE	YAPING CHI, WATER RESOURCES ENGINEER, 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 Dept. of Water Resources  
 ADDRESS: 1200 Memorial Highway,  
 Bismarck ND 58504

**MONTHLY DISCHARGE REPORT**

**LOCATION: UPSTREAM OF THE WEST END OUTLET (FLORA)**

FACILITY: Devils Lake Outlet Project

LOCATION: Benson, ND

MONITORING PERIOD	
START DATE	END DATE
10/1/23	10/31/23

PARAMETER	MINIMUM	MAXIMUM	AVERAGE	UNITS	SAMPLING FREQUENCY	TYPE
pH	8.29	8.48	8.37	SU	2 X Week	GRAB
SPECIFIC CONDUCTANCE	1600	1760	1702	µS/cm	Continuous	Recorder
SULFATE	440	542	491	mg/L	2 X Week	GRAB
7 DAY AVERAGE OF SULFATE	440	540	490	mg/l	Average	GRAB
FLOW, INSTREAM	5.8	14.4	9.1	cfs	Continuous	Recorder
SIGNATURE	<i>Yaping Chi</i>			11/9/23	701-328-9049	
NAME AND TITLE	YAPING CHI, WATER RESOURCES ENGINEER, 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:**

- 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

OUTLET OPERATOR NAME/ADDRESS  
 NAME: ND Dept. of Water Resources  
 ADDRESS: 1200 Memorial Highway,  
 Bismarck ND 58504

**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
10/1/23	10/31/23

PARAMETER	MINIMUM	MAXIMUM	AVERAGE	UNITS	SAMPLING FREQUENCY	TYPE
pH	8.5	8.78	8.62	SU	2 X Week	GRAB
SPECIFIC CONDUCTANCE	1990	2040	2007	µS/cm	Continuous	Recorder
SULFATE	604	640	622	mg/L	2 X Week	GRAB
7 DAY AVERAGE OF SULFATE	604	636	621	mg/l	Average	GRAB
FLOW, INSTREAM	63.2	223	182	cfs	Continuous	Recorder
SIGNATURE	<i>Yaping Chi</i>			11/9/23	701-328-9049	
NAME AND TITLE	YAPING CHI, WATER RESOURCES ENGINEER, 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:**

- 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

OUTLET OPERATOR NAME/ADDRESS  
 NAME: ND Dept. of Water Resources  
 ADDRESS: 1200 Memorial Highway,  
 Bismarck ND 58504


**MONTHLY DISCHARGE REPORT**

**LOCATION: DOWNSTREAM OF BOTH OUTLETS (PEKIN)**

FACILITY: Devils Lake Outlet Project

MONITORING PERIOD	
START DATE	END DATE
10/1/23	10/31/23

LOCATION: Nelson Co, ND

PARAMETER	MINIMUM	MAXIMUM	AVERAGE	UNITS	SAMPLING FREQUENCY	TYPE
pH	8.51	8.66	8.58	SU	2 X Week	GRAB
SULFATE	541	561	553	mg/L	2 X Week	GRAB
7 DAY AVERAGE OF SULFATE	546	560	554	mg/L	Average	GRAB
FLOW, INSTREAM	NA	NA	NA	cfs	Continuous	Recorder
SIGNATURE				11/9/23	701-328-9049	
NAME AND TITLE	YAPING CHI, WATER RESOURCES ENGINEER, 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:**

- 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 Dept. of Water Resources  
 ADDRESS: 1200 Memorial Highway,  
 Bismarck ND 58504

**MONTHLY DISCHARGE REPORT**

**LOCATION: DOWNSTREAM OF BOTH OUTLETS (COOPERSTOWN)**

FACILITY: Devils Lake Outlet Project

LOCATION: Griggs Co, ND

MONITORING PERIOD	
START DATE	END DATE
10/1/23	10/31/23

PARAMETER	MINIMUM	MAXIMUM	AVERAGE	UNITS	SAMPLING FREQUENCY	TYPE
pH	8.47	8.56	8.51	SU	2 X Week	GRAB
SPECIFIC CONDUCTANCE	1800	1820	1810	µS/cm	Continuous	Recorder
SULFATE	518	529	523	mg/L	2 X Week	GRAB
7 DAY AVERAGE OF SULFATE	518	529	523	mg/l	Average	GRAB
FLOW, INSTREAM	243	288	259	cfs	Continuous	Recorder
SIGNATURE	<i>Yaping Chi</i>			11/9/23	701-328-9049	
NAME AND TITLE	YAPING CHI, WATER RESOURCES ENGINEER, 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

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)
10/1/2023	14.4	1560	173	14932000	223	2000	0	0	1.02	1780	285	1800	173	14932000
10/2/2023	10.9	1580	173	14948000	176	1990	0	0	1.02	1760	283	1760	173	14948000
10/3/2023	11.6	1600	194	16783000	198	1990	0	0	1.72	1950	283	1810	194	16783000
10/4/2023	10.8	1660	193	16700000	205	1980	0	0	3.6	2600	282	1810	193	16700000
10/5/2023	9.83	1670	195	16882000	198	1990	0	0	1.84	-	283	1800	195	16882000
10/6/2023	8.94	1670	198	17111000	199	2000	0	0	1.38	2240	288	1820	198	17111000
10/7/2023	8.52	1670	199	17198000	208	2000	0	0	1	1850	281	1820	199	17198000
10/8/2023	8.31	1710	199	17182000	213	2000	0	0	0.86	1790	283	1820	199	17182000
10/9/2023	9.8	1740	196	16892000	212	2000	0	0	0.79	1690	285	1800	196	16892000
10/10/2023	9.82	1750	197	17062000	212	1990	0	0	0.74	1530	283	1810	197	17062000
10/11/2023	8.23	1760	195	16881000	217	2010	0	0	0.72	1370	276	1810	195	16881000
10/12/2023	6.27	1750	175	15154000	220	2000	0	0	0.69	1310	276	1800	175	15154000
10/13/2023	5.81	-	165	14299000	170	2020	0	0	0.74	1280	259	1790	165	14299000
10/14/2023	6.41	1740	198	17100000	178	2020	0	0	0.73	1240	257	1780	198	17100000
10/15/2023	6.02	1710	198	17069000	191	2020	0	0	0.72	1210	256	1790	198	17069000
10/16/2023	7.1	1690	193	16680000	190	1990	0	0	0.73	1200	253	1800	193	16680000
10/17/2023	8.92	1680	196	16956000	192	1990	0	0	0.73	1170	249	1820	196	16956000
10/18/2023	8.64	-	192	16601000	191	2040	0	0	0.79	1150	245	1820	192	16601000
10/19/2023	9.65	1720	185	16001000	187	2040	0	0	0.76	-	243	1820	185	16001000
10/20/2023	10.1	1750	166	14302000	163	2040	0	0	0.75	-	246	1820	166	14302000
10/21/2023	10.6	1760	175	15144000	162	2040	0	0	0.74	-	249	1820	175	15144000
10/22/2023	10.7	1760	194	16794000	181	2040	0	0	0.68	-	250	1820	194	16794000
10/23/2023	9.87	1770	194	16790000	193	2030	0	0	0.89	-	253	1810	194	16790000
10/24/2023	9.66	1760	45	3897000	183	2020	0	0	2.03	-	258	1800	45	3897000
10/25/2023	8.42	1780	0	0	63	2040	0	0	-	-	254	1800	0	0
10/26/2023	9.93	1760	0	0	-	1990	0	0	-	-	256	1800	0	0
10/27/2023	11.7	1760	0	0	-	1960	0	0	-	-	272	1780	0	0
10/28/2023	10.8	1810	0	0	-	1960	0	0	-	-	288	1780	0	0
10/29/2023	10.9	1820	0	0	-	1940	0	0	-	-	282	1780	0	0
10/30/2023	-	1860	0	0	-	1870	0	0	-	-	-	1780	0	0
10/31/2023	-	1920	0	0	-	1870	0	0	-	-	-	-	0	0
<b>Minimum</b>	5.8	1560	0	0	63	1870	0	0	0.68	1150	243	1760	0	0
<b>Maximum</b>	14.4	1920	199	17198000	223	2040	0	0	3.6	2600	288	1820	280	17198000
<b>Average</b>	9.1	1672	142	12237355	182	1933	0	0	1	1507	259	1744	172	12237355
			<b>Total (Mgal)</b>	2838			<b>Total (Mgal)</b>	0					<b>Total (Mgal)</b>	2838
			<b>Total (Ac-ft)</b>	8709			<b>Total (Ac-ft)</b>	0					<b>Total (Ac-ft)</b>	8709

**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

**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
10/1/23	-	-	-	-	-	-	-
10/2/23	-	-	-	-	-	-	-
10/3/23	8:30:00 AM	1600	8.29	440	440	NA	1
10/4/23	-	-	-	-	-	-	-
10/5/23	-	-	-	-	-	-	-
10/6/23	9:15:00 AM	1670	8.36	495	468	NA	2
10/7/23	-	-	-	-	-	-	-
10/8/23	-	-	-	-	-	-	-
10/9/23	-	-	-	-	-	-	-
10/10/23	8:10:00 AM	1750	8.37	542	519	33	2
10/11/23	-	-	-	-	-	-	-
10/12/23	-	-	-	-	-	-	-
10/13/23	9:35:00 AM	-	8.38	537	540	NA	2
10/14/23	-	-	-	-	-	-	-
10/15/23	-	-	-	-	-	-	-
10/16/23	-	-	-	-	-	-	-
10/17/23	8:20:00 AM	1680	8.34	487	512	NA	2
10/18/23	-	-	-	-	-	-	-
10/19/23	-	-	-	-	-	-	-
10/20/23	9:15:00 AM	1750	8.48	471	479	NA	2
10/21/23	-	-	-	-	-	-	-
10/22/23	-	-	-	-	-	-	-
10/23/23	-	-	-	-	-	-	-
10/24/23	8:30:00 AM	1760	8.37	467	469	NA	2
10/25/23	-	-	-	-	-	-	-
10/26/23	-	-	-	-	-	-	-
10/27/23	-	-	-	-	-	-	-
10/28/23	-	-	-	-	-	-	-
10/29/23	-	-	-	-	-	-	-
10/30/23	-	-	-	-	-	-	-
10/31/23	-	-	-	-	-	-	-
<b>Minimum</b>		1600	8.29	440	440	33	
<b>Maximum</b>		1760	8.48	542	540	33	
<b>Average</b>		1702	8.37	491	490	33	

**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

**West End Outlet  
Monthly Water Quality Summary  
Devils Lake Outlet Discharge Report**

Date	Time	Specific Conductance from Telemetry System ( $\mu\text{S}/\text{cm}$ )	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
10/1/23	-	-	-	-	-	-	-
10/2/23	-	-	-	-	-	-	-
10/3/23	8:10:00 AM	-	8.6	640	640	NA	1
10/4/23	-	-	-	-	-	-	-
10/5/23	-	-	-	-	-	-	-
10/6/23	9:00:00 AM	-	8.65	633	637	NA	2
10/7/23	-	-	-	-	-	-	-
10/8/23	-	-	-	-	-	-	-
10/9/23	-	-	-	-	-	-	-
10/10/23	8:25:00 AM	-	8.58	629	631	16	2
10/11/23	-	-	-	-	-	-	-
10/12/23	-	-	-	-	-	-	-
10/13/23	9:20:00 AM	-	8.67	630	630	NA	2
10/14/23	-	-	-	-	-	-	-
10/15/23	-	-	-	-	-	-	-
10/16/23	-	-	-	-	-	-	-
10/17/23	8:30:00 AM	-	8.56	630	630	NA	2
10/18/23	-	-	-	-	-	-	-
10/19/23	-	-	-	-	-	-	-
10/20/23	9:00:00 AM	-	8.7	631	631	NA	2
10/21/23	-	-	-	-	-	-	-
10/22/23	-	-	-	-	-	-	-
10/23/23	-	-	-	-	-	-	-
10/24/23	8:45:00 AM	-	8.54	619	625	NA	2
10/25/23	-	-	-	-	-	-	-
10/26/23	-	-	-	-	-	-	-
10/27/23	-	-	-	-	-	-	-
10/28/23	-	-	-	-	-	-	-
10/29/23	-	-	-	-	-	-	-
10/30/23	-	-	-	-	-	-	-
10/31/23	-	-	-	-	-	-	-
<b>Minimum</b>			8.54	619	625	16	
<b>Maximum</b>			8.7	640	640	16	
<b>Average</b>			8.61	630	632	16	

**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

**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
10/1/23	-	-	-	-	-	-	-
10/2/23	-	-	-	-	-	-	-
10/3/23	8:10:00 AM	1990	8.5	604	604	NA	1
10/4/23	-	-	-	-	-	-	-
10/5/23	-	-	-	-	-	-	-
10/6/23	9:40:00 AM	2000	8.67	624	614	NA	2
10/7/23	-	-	-	-	-	-	-
10/8/23	-	-	-	-	-	-	-
10/9/23	-	-	-	-	-	-	-
10/10/23	7:45:00 AM	1990	8.57	624	624	23	2
10/11/23	-	-	-	-	-	-	-
10/12/23	-	-	-	-	-	-	-
10/13/23	10:00:00 AM	2020	8.71	631	628	NA	2
10/14/23	-	-	-	-	-	-	-
10/15/23	-	-	-	-	-	-	-
10/16/23	-	-	-	-	-	-	-
10/17/23	7:55:00 AM	1990	8.57	640	636	NA	2
10/18/23	-	-	-	-	-	-	-
10/19/23	-	-	-	-	-	-	-
10/20/23	9:45:00 AM	2040	8.78	614	627	NA	2
10/21/23	-	-	-	-	-	-	-
10/22/23	-	-	-	-	-	-	-
10/23/23	-	-	-	-	-	-	-
10/24/23	8:00:00 AM	2020	8.53	615	615	NA	2
10/25/23	-	-	-	-	-	-	-
10/26/23	-	-	-	-	-	-	-
10/27/23	-	-	-	-	-	-	-
10/28/23	-	-	-	-	-	-	-
10/29/23	-	-	-	-	-	-	-
10/30/23	-	-	-	-	-	-	-
10/31/23	-	-	-	-	-	-	-
<b>Minimum</b>		1990	8.5	604	604	23	
<b>Maximum</b>		2040	8.78	640	636	23	
<b>Average</b>		2007	8.62	622	621	23	

**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

**East End Outlet  
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
10/1/23	-	-	-	-	-	-	-
10/2/23	-	-	-	-	-	-	-
10/3/23	-	-	-	-	-	-	-
10/4/23	-	-	-	-	-	-	-
10/5/23	-	-	-	-	-	-	-
10/6/23	-	-	-	-	-	-	-
10/7/23	-	-	-	-	-	-	-
10/8/23	-	-	-	-	-	-	-
10/9/23	-	-	-	-	-	-	-
10/10/23	-	-	-	-	-	-	-
10/11/23	-	-	-	-	-	-	-
10/12/23	-	-	-	-	-	-	-
10/13/23	-	-	-	-	-	-	-
10/14/23	-	-	-	-	-	-	-
10/15/23	-	-	-	-	-	-	-
10/16/23	-	-	-	-	-	-	-
10/17/23	-	-	-	-	-	-	-
10/18/23	-	-	-	-	-	-	-
10/19/23	-	-	-	-	-	-	-
10/20/23	-	-	-	-	-	-	-
10/21/23	-	-	-	-	-	-	-
10/22/23	-	-	-	-	-	-	-
10/23/23	-	-	-	-	-	-	-
10/24/23	-	-	-	-	-	-	-
10/25/23	-	-	-	-	-	-	-
10/26/23	-	-	-	-	-	-	-
10/27/23	-	-	-	-	-	-	-
10/28/23	-	-	-	-	-	-	-
10/29/23	-	-	-	-	-	-	-
10/30/23	-	-	-	-	-	-	-
10/31/23	-	-	-	-	-	-	-
<b>Minimum</b>		0	NA	0	0		
<b>Maximum</b>		0	NA	0	0	NA	
<b>Average</b>			NA			NA	

**Notes:**

$\mu$ S/cm - microsiemens per Centimeter at 25 degrees Celsius  
mg/L - milligrams per liter or parts per million  
NA - Not analyzed

**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
10/1/23	-	-	-	-	-	-	-
10/2/23	-	-	-	-	-	-	-
10/3/23	10:05:00 AM	-	8.52	560	560	NA	1
10/4/23	-	-	-	-	-	-	-
10/5/23	-	-	-	-	-	-	-
10/6/23	10:40:00 AM	-	8.63	551	556	NA	2
10/7/23	-	-	-	-	-	-	-
10/8/23	-	-	-	-	-	-	-
10/9/23	-	-	-	-	-	-	-
10/10/23	9:50:00 AM	-	8.51	541	546	45	2
10/11/23	-	-	-	-	-	-	-
10/12/23	-	-	-	-	-	-	-
10/13/23	11:00:00 AM	-	8.64	555	548	NA	2
10/14/23	-	-	-	-	-	-	-
10/15/23	-	-	-	-	-	-	-
10/16/23	-	-	-	-	-	-	-
10/17/23	9:50:00 AM	-	8.57	558	557	NA	2
10/18/23	-	-	-	-	-	-	-
10/19/23	11:30:00 AM	-	8.66	561	560	NA	2
10/20/23	-	-	-	-	-	-	-
10/21/23	-	-	-	-	-	-	-
10/22/23	-	-	-	-	-	-	-
10/23/23	-	-	-	-	-	-	-
10/24/23	10:05:00 AM	-	8.51	542	552	NA	2
10/25/23	-	-	-	-	-	-	-
10/26/23	-	-	-	-	-	-	-
10/27/23	-	-	-	-	-	-	-
10/28/23	-	-	-	-	-	-	-
10/29/23	-	-	-	-	-	-	-
10/30/23	-	-	-	-	-	-	-
10/31/23	-	-	-	-	-	-	-
<b>Minimum</b>			8.51	541	546	45	
<b>Maximum</b>			8.66	561	560	45	
<b>Average</b>			8.58	553	554	45	

**Notes:**

µS/cm - microsiemens per Centimeter at 25 degrees Celsius

mg/L - milligrams per liter or parts per million

NA - Not analyzed

**Sheyenne River Downstream of Both Outlets Near Cooperstown**  
**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
10/1/23	-	-	-	-	-	-	-
10/2/23	-	-	-	-	-	-	-
10/3/23	11:50:00 AM	1810	8.47	519	519	NA	1
10/4/23	-	-	-	-	-	-	-
10/5/23	-	-	-	-	-	-	-
10/6/23	-	-	-	-	-	-	-
10/7/23	-	-	-	-	-	-	-
10/8/23	-	-	-	-	-	-	-
10/9/23	-	-	-	-	-	-	-
10/10/23	10:45:00 AM	1810	8.51	526	526	76	1
10/11/23	-	-	-	-	-	-	-
10/12/23	-	-	-	-	-	-	-
10/13/23	-	-	-	-	-	-	-
10/14/23	-	-	-	-	-	-	-
10/15/23	-	-	-	-	-	-	-
10/16/23	-	-	-	-	-	-	-
10/17/23	10:40:00 AM	1820	8.56	529	529	NA	1
10/18/23	-	-	-	-	-	-	-
10/19/23	-	-	-	-	-	-	-
10/20/23	-	-	-	-	-	-	-
10/21/23	-	-	-	-	-	-	-
10/22/23	-	-	-	-	-	-	-
10/23/23	-	-	-	-	-	-	-
10/24/23	10:55:00 AM	1800	8.5	518	518	NA	1
10/25/23	-	-	-	-	-	-	-
10/26/23	-	-	-	-	-	-	-
10/27/23	-	-	-	-	-	-	-
10/28/23	-	-	-	-	-	-	-
10/29/23	-	-	-	-	-	-	-
10/30/23	-	-	-	-	-	-	-
10/31/23	-	-	-	-	-	-	-
<b>Minimum</b>		1800	8.47	518	518	76	
<b>Maximum</b>		1820	8.56	529	529	76	
<b>Average</b>		1810	8.51	523	523	76	

**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