



July 26, 2023

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

RE: June 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 June 2023 is enclosed. The Devils Lake West End Outlet discharge was increased from 175 cubic feet per second (cfs) to its full capacity of 250 cfs on June 21. The West End Outlet operated at an average rate of 174 cfs with a total discharge volume of 10,331 acre-feet in June. The discharge from the East End Outlet was started on June 6th at 200 cfs and reduced to 150 cfs on June 13th to meet downstream water quality constraints. The flow meter of the East Outlet was not operational during the month of June. The discharges from the East End Outlet were estimated from Tolna Coulee gage (USGS 05056678). The East End Outlet operated at an average rate of 154 cfs with a total discharge volume of 9,146 acre-feet in June. The combined total discharge volume from both West and East End Outlet is 19,477 acre-feet in June.

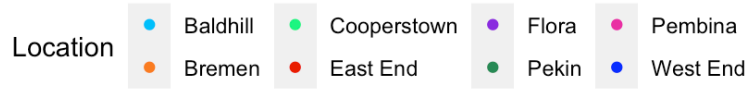
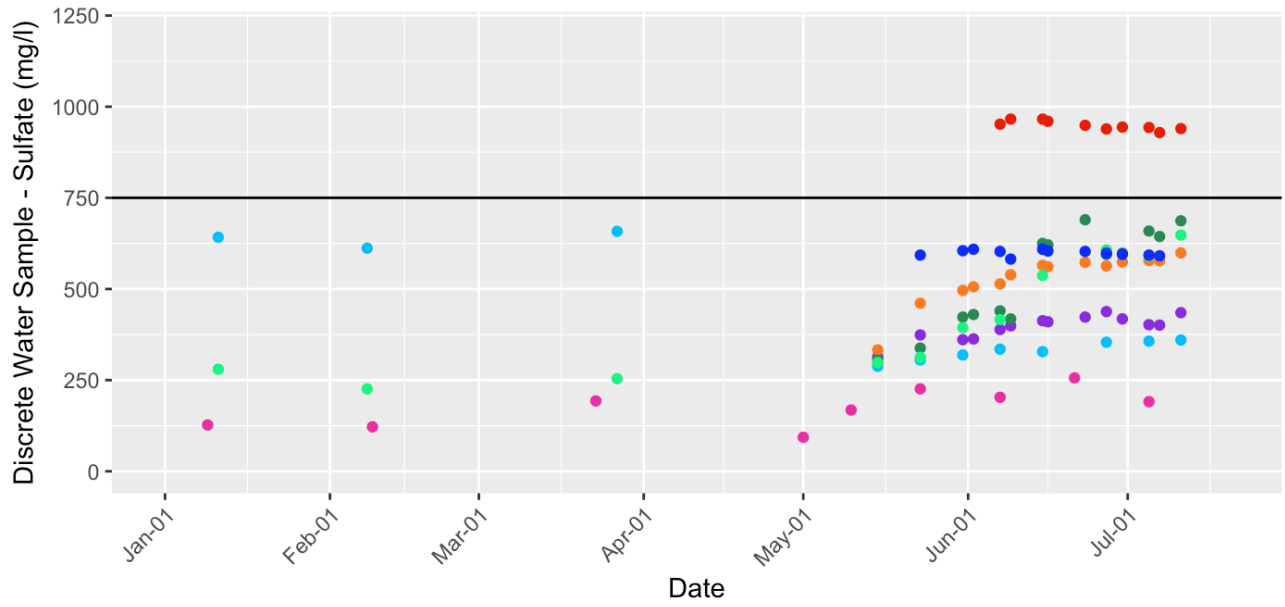
The attached tables contain average daily outlet discharges and water quality results from samples collected from the outlets and the corresponding upstream and downstream locations. Also included are average daily stream flow data and conductivity data obtained from the USGS gaging stations located upstream and downstream of the outlets.

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

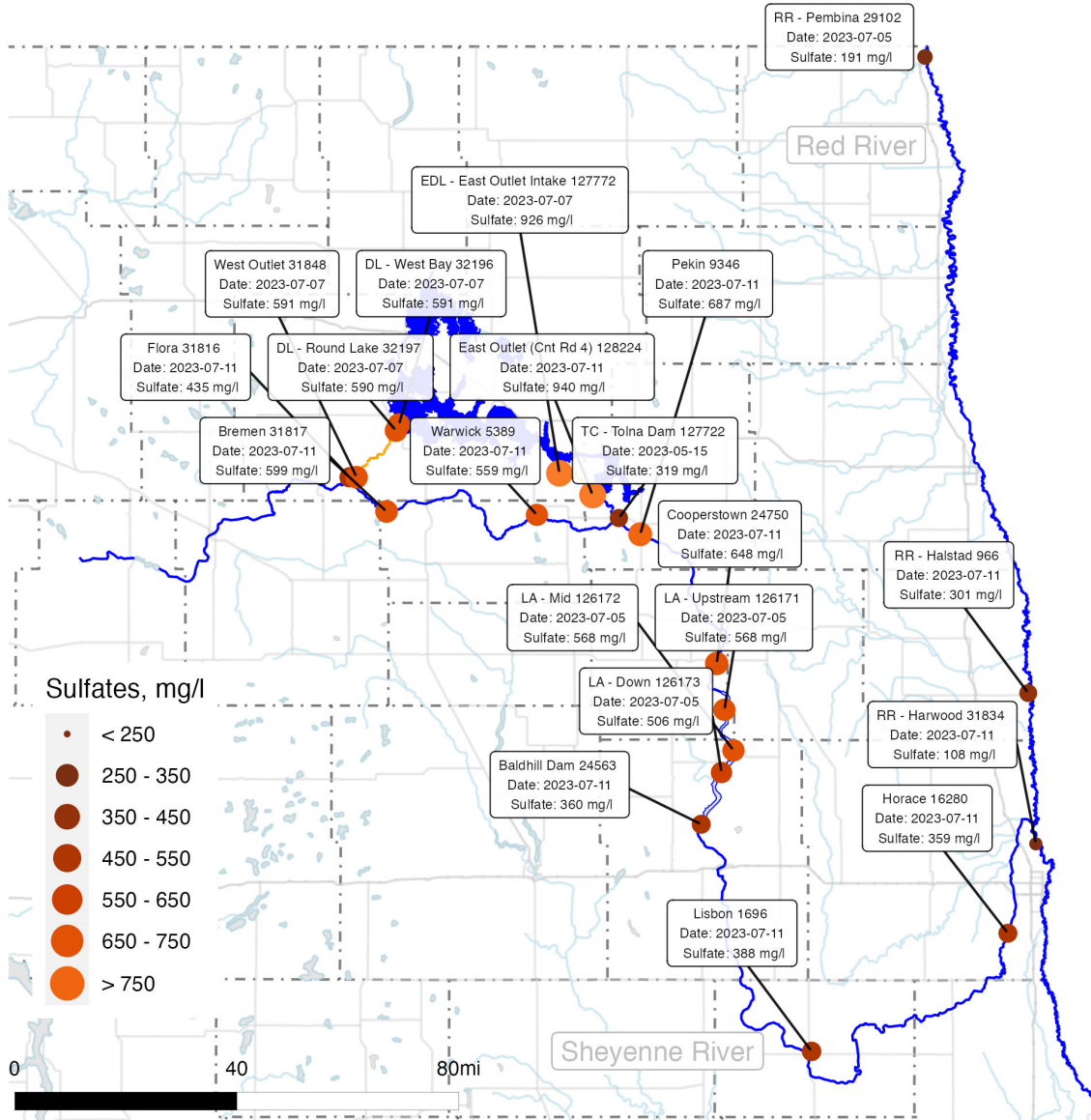
Sincerely,

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 07/19/2023



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
6/1/23	6/30/23

LOCATION: Benson Co, ND

Devils Lake West Outlet 10331 ac-ft over 30 Days

PARAMETER	MINIMUM	MAXIMUM	AVERAGE	UNITS	SAMPLING FREQUENCY	TYPE
pH	8.51	8.65	8.59	SU	2 X Week	GRAB
SULFATE	582	609	600	mg/l	2 X Week	GRAB
7 DAY AVERAGE OF SULFATE	593	609	603	mg/L	Average	GRAB
OUTLET DISCHARGE	74.3	248	174	cfs	Continuous	Recorder
SIGNATURE				7/19/23	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: EAST END OUTLET

FACILITY: Devils Lake Outlet Project

MONITORING PERIOD	
START DATE	END DATE
6/1/23	6/30/23

LOCATION: Ramsey, Benson, Nelson Co, ND

Devils Lake East Outlet 9146 ac-ft over 30 Days

PARAMETER	MINIMUM	MAXIMUM	AVERAGE	UNITS	SAMPLING FREQUENCY	TYPE
pH	8.55	8.73	8.64	SU	2 X Week	GRAB
SPECIFIC CONDUCTANCE	2580	2930	2760	µS/cm	Continuous	Recorder
SULFATE	939	966	954	mg/L	2 X Week	GRAB
7 DAY AVERAGE OF SULFATE	942	966	954	mg/l	Average	GRAB
OUTLET DISCHARGE	100	260	154	cfs	Continuous	Recorder
SIGNATURE				7/19/23	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
6/1/23	6/30/23

PARAMETER	MINIMUM	MAXIMUM	AVERAGE	UNITS	SAMPLING FREQUENCY	TYPE
pH	8.12	8.41	8.27	SU	2 X Week	GRAB
SPECIFIC CONDUCTANCE	1520	1680	1599	µS/cm	Continuous	Recorder
SULFATE	363	438	407	mg/L	2 X Week	GRAB
7 DAY AVERAGE OF SULFATE	363	431	405	mg/l	Average	GRAB
FLOW, INSTREAM	22.3	97.8	46.6	cfs	Continuous	Recorder
SIGNATURE				7/19/23	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 THE WEST END OUTLET (BREMEN)
 UPSTREAM OF THE EAST END OUTLET**

FACILITY: Devils Lake Outlet Project

MONITORING PERIOD	
START DATE	END DATE
6/1/23	6/30/23

LOCATION: Eddy Co, ND

PARAMETER	MINIMUM	MAXIMUM	AVERAGE	UNITS	SAMPLING FREQUENCY	TYPE
pH	8.39	8.58	8.51	SU	2 X Week	GRAB
SPECIFIC CONDUCTANCE	1780	1960	1861.25	µS/cm	Continuous	Recorder
SULFATE	506	574	549	mg/L	2 X Week	GRAB
7 DAY AVERAGE OF SULFATE	506	573	548	mg/l	Average	GRAB
FLOW, INSTREAM	136	273	219	cfs	Continuous	Recorder
SIGNATURE				7/19/23	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 (PEKIN)

FACILITY: Devils Lake Outlet Project

MONITORING PERIOD	
START DATE	END DATE
6/1/23	6/30/23

LOCATION: Nelson Co, ND

PARAMETER	MINIMUM	MAXIMUM	AVERAGE	UNITS	SAMPLING FREQUENCY	TYPE
pH	8.27	8.5	8.41	SU	2 X Week	GRAB
SULFATE	418	690	552	mg/L	2 X Week	GRAB
7 DAY AVERAGE OF SULFATE	429	690	559	mg/L	Average	GRAB
FLOW, INSTREAM	NA	NA	NA	cfs	Continuous	Recorder
SIGNATURE				7/19/23	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

MONITORING PERIOD	
START DATE	END DATE
6/1/23	6/30/23

LOCATION: Griggs Co, ND

PARAMETER	MINIMUM	MAXIMUM	AVERAGE	UNITS	SAMPLING FREQUENCY	TYPE
pH	8.42	8.47	8.45	SU	2 X Week	GRAB
SPECIFIC CONDUCTANCE	1770	1940	1855	µS/cm	Continuous	Recorder
SULFATE	416	607	520	mg/L	2 X Week	GRAB
7 DAY AVERAGE OF SULFATE	416	607	520	mg/l	Average	GRAB
FLOW, INSTREAM	449	692	536	cfs	Continuous	Recorder
SIGNATURE				7/19/23	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:

- 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

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 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)
6/1/2023	97.8	1520	166	14316000	-	-	-	-	1.89	2080	552	1490	166	14316000
6/2/2023	93.6	1520	166	14339000	272	1780	-	-	1.23	1790	548	1510	166	14339000
6/3/2023	88.2	1520	162	13965000	266	1780	-	-	0.9	1790	551	1500	162	13965000
6/4/2023	84.5	1520	164	14207000	258	1790	-	-	0.75	1900	536	-	164	14207000
6/5/2023	82.2	1510	155	13376000	255	1790	-	-	1.41	2020	526	-	155	13376000
6/6/2023	72.2	1490	153	13188000	243	1800	122	10540800	127	2890	504	-	275	23728800
6/7/2023	67.4	1520	163	14115000	240	1810	257	22204800	264	-	473	-	420	36319800
6/8/2023	62.6	1530	164	14139000	241	1830	260	22464000	267	2740	451	1490	424	36603000
6/9/2023	59.5	1520	159	13719000	246	1820	260	22464000	268	2580	490	1500	419	36183000
6/10/2023	53.2	1520	163	14106000	240	1820	257	22204800	265	2590	592	1530	420	36310800
6/11/2023	50.8	1540	165	14229000	229	1830	256	22118400	264	2620	658	1590	421	36347400
6/12/2023	45.8	1550	159	13713000	221	1850	254	21945600	263	2620	683	1550	413	35658600
6/13/2023	41.3	1550	159	13765000	212	1850	221	19094400	231	2610	692	-	380	32859400
6/14/2023	39.1	1550	162	13988000	211	1840	175	15120000	185	2660	675	1800	337	29108000
6/15/2023	35.2	1570	159	13729000	208	1840	175	15120000	186	2670	639	1770	334	28849000
6/16/2023	32.3	1630	157	13583000	198	1820	176	15206400	176	-	596	1830	333	28789400
6/17/2023	29.7	1640	161	13878000	195	1820	176	15206400	176	-	544	1860	337	29084400
6/18/2023	28.1	1650	161	13906000	194	1840	174	15033600	174	-	511	1910	335	28939600
6/19/2023	25.1	-	74.3	6416000	190	1830	173	14947200	173	-	494	1940	247	21363200
6/20/2023	22.3	-	84	7260000	136	1850	171	14774400	171	-	482	2000	255	22034400
6/21/2023	25.5	-	218	18833000	171	1880	173	14947200	173	-	470	2020	391	33780200
6/22/2023	36.9	1700	243	20981000	244	1890	171	14774400	171	-	458	2040	414	35755400
6/23/2023	36.4	1670	239	20609000	255	1920	157	13564800	157	-	449	2050	396	34173800
6/24/2023	40	1680	195	16839000	273	1910	168	14515200	168	2970	460	2050	363	31354200
6/25/2023	24.6	-	81.8	7066000	209	1940	150	12960000	150	2920	628	1990	232	20026000
6/26/2023	26.3	-	197	17051000	150	1940	141	12182400	141	2940	572	1900	338	29233400
6/27/2023	37	1680	248	21410000	232	1960	154	13305600	154	2930	598	1940	402	34715600
6/28/2023	36	-	241	20820000	259	1940	142	12268800	142	2870	611	1950	383	33088800
6/29/2023	36.4	1670	247	21333000	257	1940	100	8640000	100	2840	607	1920	347	29973000
6/30/2023	35.6	1680	245	21154000	258	1940	148	12787200	148	2860	557	1900	393	33941200
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Minimum	22.3	1490	74.3	6416000	136	1780	100	8640000	0.75	1790	449	1490	75	13376000
Maximum	97.8	1700	248	21410000	273	1960	260	22464000	268	2970	692	2050	508	36603000
Average	46.6	1517	174	15001100	219	1795	154	13279680	152	2450	536	1732	328	28280780
			Total (Mgal)	3366			Total (Mgal)	2980				Total (Mgal)	6346	
			Total (Ac-ft)	10331			Total (Ac-ft)	9146				Total (Ac-ft)	19477	

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
6/1/23	-	-	-	-	-	-	-
6/2/23	7:40:00 AM	1520	8.14	363	363	NA	1
6/3/23	-	-	-	-	-	-	-
6/4/23	-	-	-	-	-	-	-
6/5/23	-	-	-	-	-	-	-
6/6/23	-	-	-	-	-	-	-
6/7/23	8:10:00 AM	1520	8.33	389	376	74	2
6/8/23	-	-	-	-	-	-	-
6/9/23	9:20:00 AM	1520	8.12	399	394	NA	2
6/10/23	-	-	-	-	-	-	-
6/11/23	-	-	-	-	-	-	-
6/12/23	-	-	-	-	-	-	-
6/13/23	-	-	-	-	-	-	-
6/14/23	-	-	-	-	-	-	-
6/15/23	7:45:00 AM	1570	8.41	413	413	NA	1
6/16/23	7:40:00 AM	1630	8.28	410	412	NA	2
6/17/23	-	-	-	-	-	-	-
6/18/23	-	-	-	-	-	-	-
6/19/23	-	-	-	-	-	-	-
6/20/23	-	-	-	-	-	-	-
6/21/23	-	-	-	-	-	-	-
6/22/23	-	-	-	-	-	-	-
6/23/23	11:35:00 AM	1670	8.29	423	423	NA	1
6/24/23	-	-	-	-	-	-	-
6/25/23	-	-	-	-	-	-	-
6/26/23	-	-	-	-	-	-	-
6/27/23	7:35:00 AM	1680	8.36	438	431	NA	2
6/28/23	-	-	-	-	-	-	-
6/29/23	-	-	-	-	-	-	-
6/30/23	9:50:00 AM	1680	8.2	418	428	NA	2
Minimum		1520	8.12	363	363	74	
Maximum		1680	8.41	438	431	74	
Average		1599	8.27	407	405	74	

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

**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
6/1/23	-	-	-	-	-	-	-
6/2/23	7:25:00 AM	-	8.51	609	609	NA	1
6/3/23	-	-	-	-	-	-	-
6/4/23	-	-	-	-	-	-	-
6/5/23	-	-	-	-	-	-	-
6/6/23	-	-	-	-	-	-	-
6/7/23	8:20:00 AM	-	8.59	603	606	8	2
6/8/23	-	-	-	-	-	-	-
6/9/23	9:30:00 AM	-	8.54	582	593	NA	2
6/10/23	-	-	-	-	-	-	-
6/11/23	-	-	-	-	-	-	-
6/12/23	-	-	-	-	-	-	-
6/13/23	-	-	-	-	-	-	-
6/14/23	-	-	-	-	-	-	-
6/15/23	7:55:00 AM	-	8.63	609	609	NA	1
6/16/23	7:20:00 AM	-	8.65	604	607	NA	2
6/17/23	-	-	-	-	-	-	-
6/18/23	-	-	-	-	-	-	-
6/19/23	-	-	-	-	-	-	-
6/20/23	-	-	-	-	-	-	-
6/21/23	-	-	-	-	-	-	-
6/22/23	-	-	-	-	-	-	-
6/23/23	11:25:00 AM	-	8.6	603	603	NA	1
6/24/23	-	-	-	-	-	-	-
6/25/23	-	-	-	-	-	-	-
6/26/23	-	-	-	-	-	-	-
6/27/23	7:47:00 AM	-	8.61	598	601	NA	2
6/28/23	-	-	-	-	-	-	-
6/29/23	-	-	-	-	-	-	-
6/30/23	10:10:00 AM	-	8.6	595	597	NA	2
Minimum			8.51	582	593	8	
Maximum			8.65	609	609	8	
Average			8.59	600	603	8	

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 (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
6/1/23	-	-	-	-	-	-	-
6/2/23	8:20:00 AM	1780	8.39	506	506	NA	1
6/3/23	-	-	-	-	-	-	-
6/4/23	-	-	-	-	-	-	-
6/5/23	-	-	-	-	-	-	-
6/6/23	-	-	-	-	-	-	-
6/7/23	7:40:00 AM	1810	8.44	514	510	98	2
6/8/23	-	-	-	-	-	-	-
6/9/23	8:50:00 AM	1820	8.45	539	527	NA	2
6/10/23	-	-	-	-	-	-	-
6/11/23	-	-	-	-	-	-	-
6/12/23	-	-	-	-	-	-	-
6/13/23	-	-	-	-	-	-	-
6/14/23	-	-	-	-	-	-	-
6/15/23	7:15:00 AM	1840	8.52	565	565	NA	1
6/16/23	8:05:00 AM	1820	8.58	561	563	NA	2
6/17/23	-	-	-	-	-	-	-
6/18/23	-	-	-	-	-	-	-
6/19/23	-	-	-	-	-	-	-
6/20/23	-	-	-	-	-	-	-
6/21/23	-	-	-	-	-	-	-
6/22/23	-	-	-	-	-	-	-
6/23/23	11:55:00 AM	1920	8.56	573	573	NA	1
6/24/23	-	-	-	-	-	-	-
6/25/23	-	-	-	-	-	-	-
6/26/23	-	-	-	-	-	-	-
6/27/23	7:10:00 AM	1960	8.54	563	568	NA	2
6/28/23	-	-	-	-	-	-	-
6/29/23	-	-	-	-	-	-	-
6/30/23	9:20:00 AM	1940	8.56	574	569	NA	2
Minimum		1780	8.39	506	506	98	
Maximum		1960	8.58	574	573	98	
Average		1861	8.51	549	548	98	

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

**East End Outlet
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
6/1/23	-	-	-	-	-	-	-
6/2/23	-	-	-	-	-	-	-
6/3/23	-	-	-	-	-	-	-
6/4/23	-	-	-	-	-	-	-
6/5/23	-	-	-	-	-	-	-
6/6/23	-	-	-	-	-	-	-
6/7/23	9:40:00 AM	-	8.62	952	952	70	1
6/8/23	-	-	-	-	-	-	-
6/9/23	7:15:00 AM	2580	8.55	966	959	NA	2
6/10/23	-	-	-	-	-	-	-
6/11/23	-	-	-	-	-	-	-
6/12/23	-	-	-	-	-	-	-
6/13/23	-	-	-	-	-	-	-
6/14/23	-	-	-	-	-	-	-
6/15/23	9:10:00 AM	2670	8.66	966	966	NA	1
6/16/23	11:10:00 AM	-	8.73	960	963	NA	2
6/17/23	-	-	-	-	-	-	-
6/18/23	-	-	-	-	-	-	-
6/19/23	-	-	-	-	-	-	-
6/20/23	-	-	-	-	-	-	-
6/21/23	-	-	-	-	-	-	-
6/22/23	-	-	-	-	-	-	-
6/23/23	8:00:00 AM	-	8.65	949	949	NA	1
6/24/23	-	-	-	-	-	-	-
6/25/23	-	-	-	-	-	-	-
6/26/23	-	-	-	-	-	-	-
6/27/23	9:15:00 AM	2930	8.62	939	944	NA	2
6/28/23	-	-	-	-	-	-	-
6/29/23	-	-	-	-	-	-	-
6/30/23	7:25:00 AM	2860	8.65	944	942	NA	2
Minimum		2580	8.55	939	942	70	
Maximum		2930	8.73	966	966	70	
Average		2760	8.64	954	954	70	

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

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
6/1/23	-	-	-	-	-	-	-
6/2/23	12:35:00 PM	-	8.27	430	430	NA	1
6/3/23	-	-	-	-	-	-	-
6/4/23	-	-	-	-	-	-	-
6/5/23	-	-	-	-	-	-	-
6/6/23	-	-	-	-	-	-	-
6/7/23	10:15:00 AM	-	8.39	440	435	143	2
6/8/23	-	-	-	-	-	-	-
6/9/23	7:40:00 AM	-	8.33	418	429	NA	2
6/10/23	-	-	-	-	-	-	-
6/11/23	-	-	-	-	-	-	-
6/12/23	-	-	-	-	-	-	-
6/13/23	-	-	-	-	-	-	-
6/14/23	-	-	-	-	-	-	-
6/15/23	9:38:00 AM	-	8.49	625	625	NA	1
6/16/23	10:40:00 AM	-	8.41	621	623	NA	2
6/17/23	-	-	-	-	-	-	-
6/18/23	-	-	-	-	-	-	-
6/19/23	-	-	-	-	-	-	-
6/20/23	-	-	-	-	-	-	-
6/21/23	-	-	-	-	-	-	-
6/22/23	-	-	-	-	-	-	-
6/23/23	8:25:00 AM	-	8.5	690	690	NA	1
6/24/23	-	-	-	-	-	-	-
6/25/23	-	-	-	-	-	-	-
6/26/23	-	-	-	-	-	-	-
6/27/23	9:40:00 AM	-	8.48	595	643	NA	2
6/28/23	-	-	-	-	-	-	-
6/29/23	-	-	-	-	-	-	-
6/30/23	7:05:00 AM	-	8.42	598	597	NA	2
Minimum			8.27	418	429	143	
Maximum			8.5	690	690	143	
Average			8.41	552	559	143	

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 (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
6/1/23	-	-	-	-	-	-	-
6/2/23	-	-	-	-	-	-	-
6/3/23	-	-	-	-	-	-	-
6/4/23	-	-	-	-	-	-	-
6/5/23	-	-	-	-	-	-	-
6/6/23	-	-	-	-	-	-	-
6/7/23	11:00:00 AM	-	8.42	416	416	187	1
6/8/23	-	-	-	-	-	-	-
6/9/23	-	-	-	-	-	-	-
6/10/23	-	-	-	-	-	-	-
6/11/23	-	-	-	-	-	-	-
6/12/23	-	-	-	-	-	-	-
6/13/23	-	-	-	-	-	-	-
6/14/23	-	-	-	-	-	-	-
6/15/23	10:45:00 AM	1770	8.47	537	537	NA	1
6/16/23	-	-	-	-	-	-	-
6/17/23	-	-	-	-	-	-	-
6/18/23	-	-	-	-	-	-	-
6/19/23	-	-	-	-	-	-	-
6/20/23	-	-	-	-	-	-	-
6/21/23	-	-	-	-	-	-	-
6/22/23	-	-	-	-	-	-	-
6/23/23	-	-	-	-	-	-	-
6/24/23	-	-	-	-	-	-	-
6/25/23	-	-	-	-	-	-	-
6/26/23	-	-	-	-	-	-	-
6/27/23	10:35:00 AM	1940	8.46	607	607	NA	1
6/28/23	-	-	-	-	-	-	-
6/29/23	-	-	-	-	-	-	-
6/30/23	-	-	-	-	-	-	-
Minimum		1770	8.42	416	416	187	
Maximum		1940	8.47	607	607	187	
Average		1855	8.45	520	520	187	

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