

September 26, 2022

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

RE: August 2022 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 August 2022 is enclosed. The East Outlet operated at an average rate of 63 cubic feet per second (cfs) and the West Outlet operated at an average rate of 205 cfs. A total of 16,130 acre-feet was discharged in August.

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.

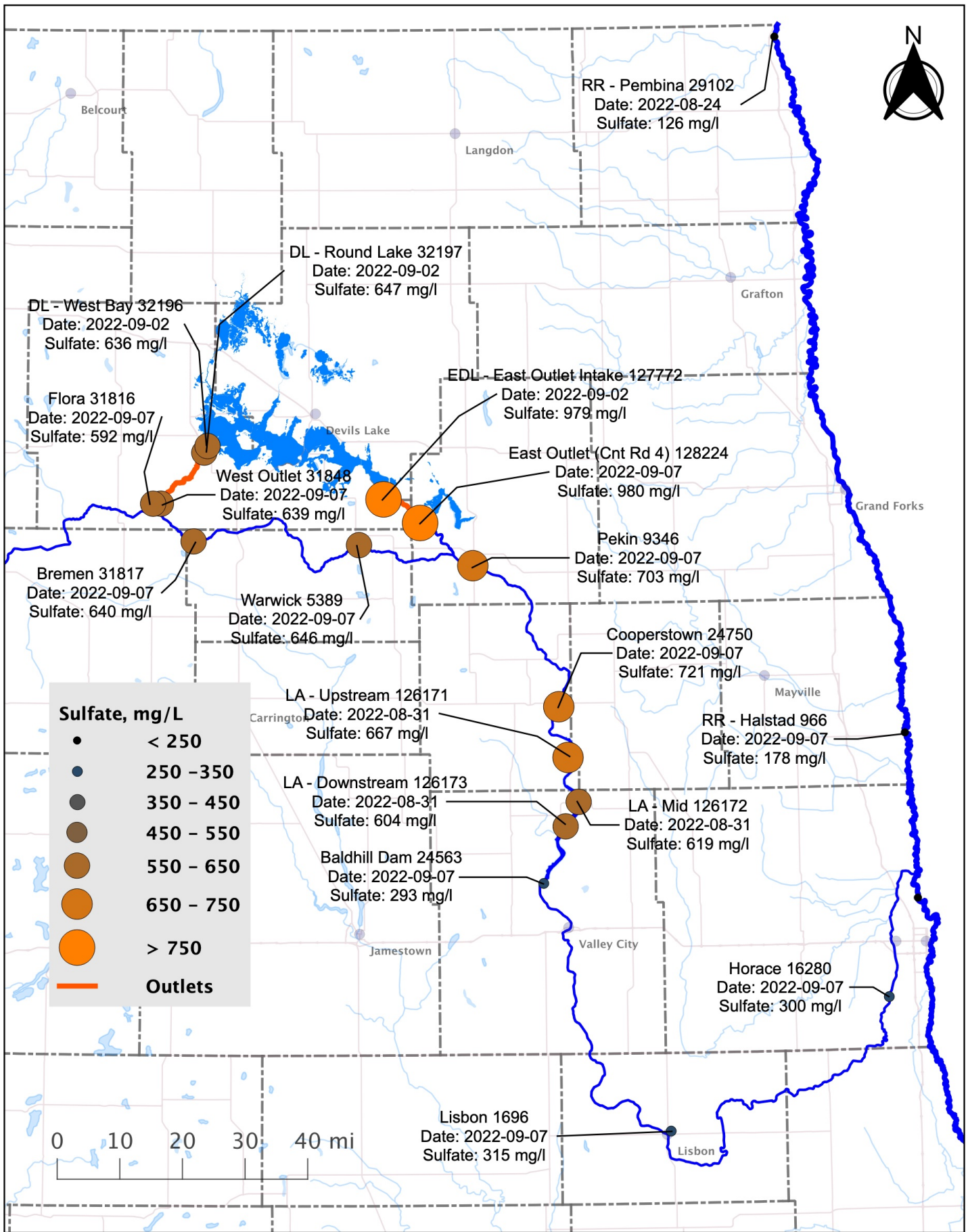
If you have any questions, please contact me at (701) 328-2762.

Sincerely,

Chris Korkowski

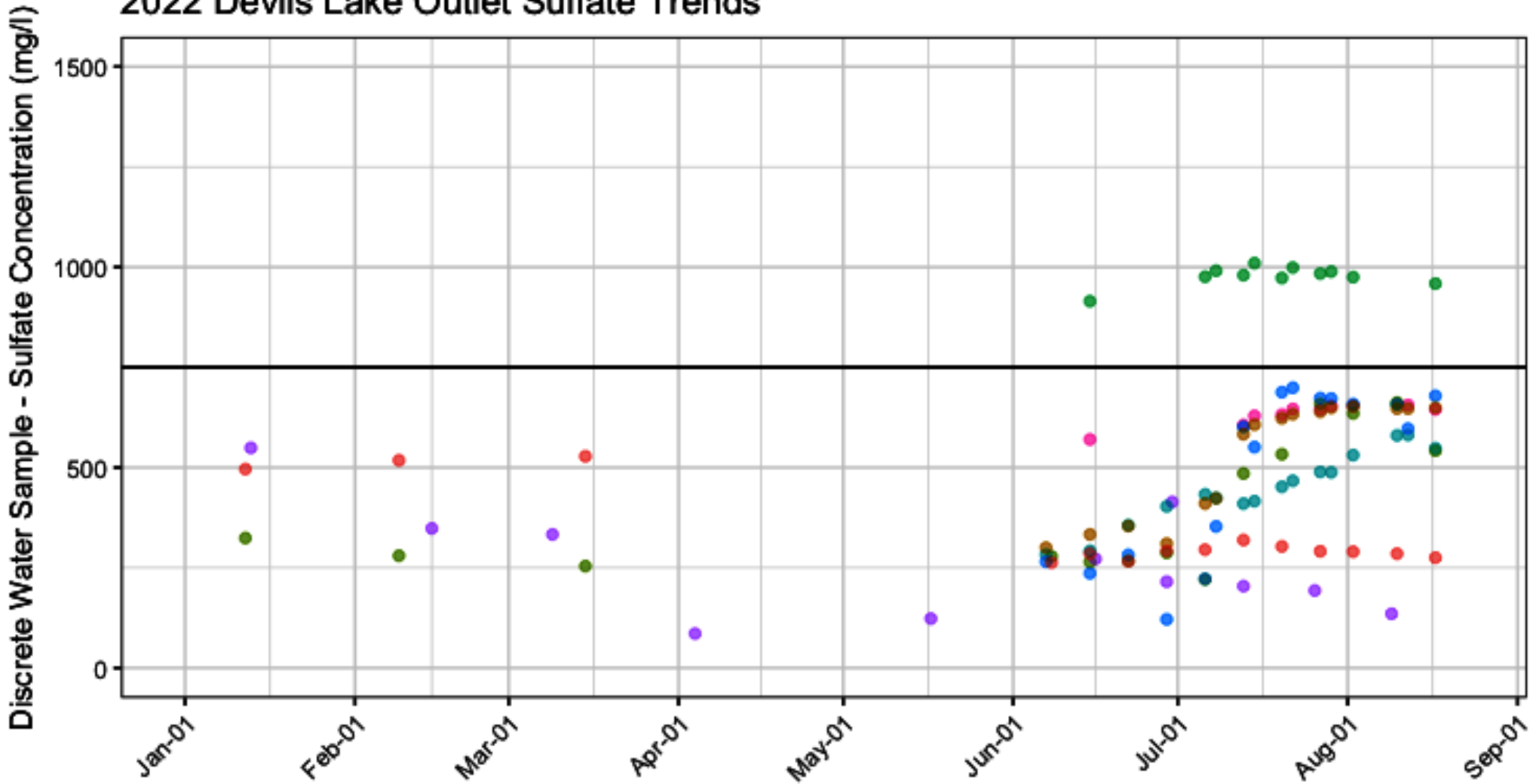
Christopher Korkowski, P.E.
Chief of the Investigations Section, Water Development

CK:pp/416-10
Enclosure



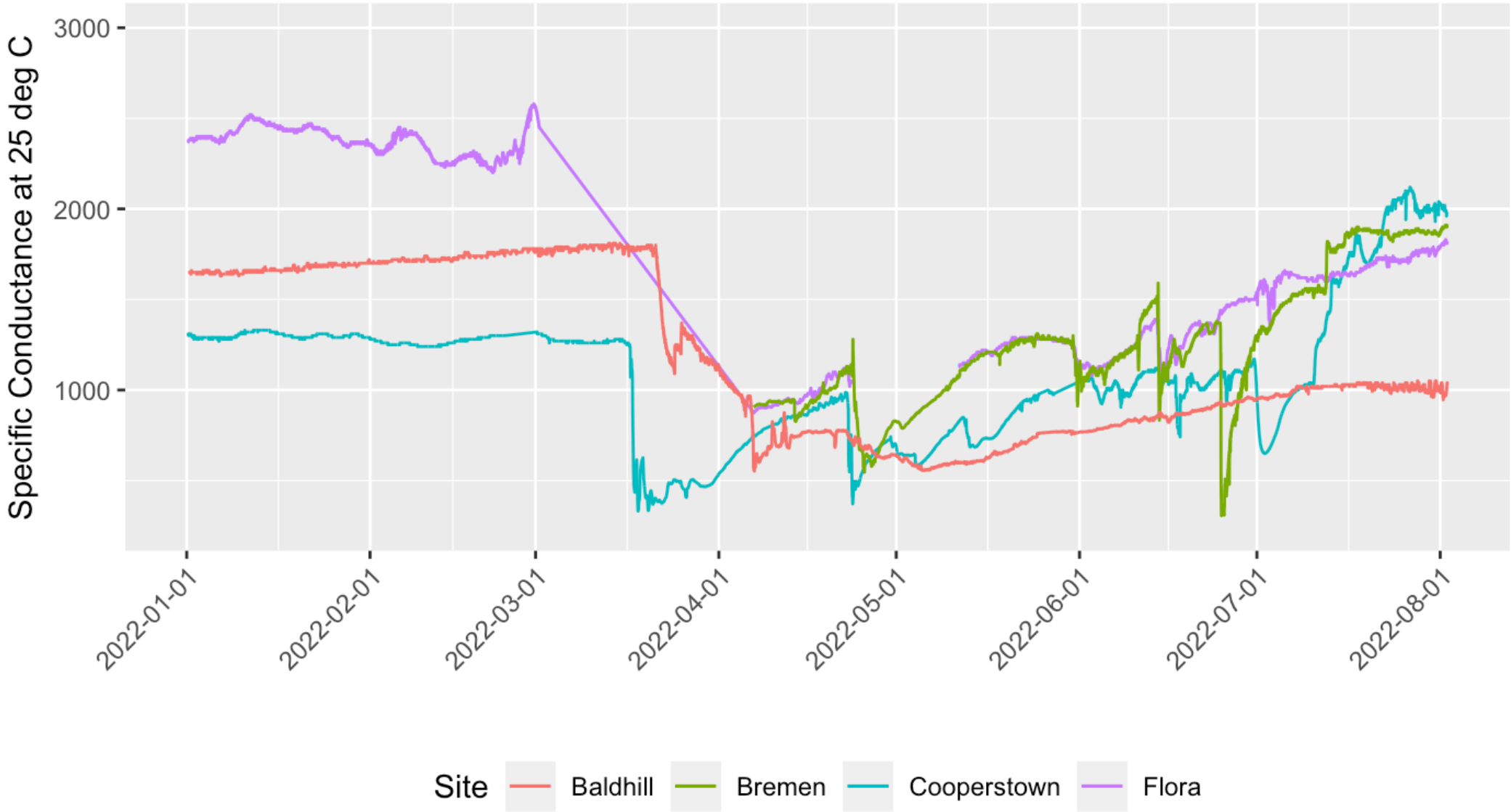
**Devils Lake Outlet Operations
Preliminary Sulfate Concentrations
09/16/2022**

2022 Devils Lake Outlet Sulfate Trends



- Location**
- | | | | |
|--------------------|-----------------------|-----------------|--------------------|
| ● Baldhill - 24563 | ● Cooperstown - 24750 | ● Flora - 31816 | ● Pembina - 29102 |
| ● Bremen - 31817 | ● East End - 128224 | ● Pekin - 9346 | ● West End - 31848 |

2022 Upper Sheyenne River Specific Conductance



OUTLET OPERATOR NAME/ADDRESS
 NAME: ND Dept. of Water Resources
 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
8/1/22	8/31/22

LOCATION: Benson Co, ND

Devils Lake West Outlet 12583 ac-ft over 31 Days

PARAMETER	MINIMUM	MAXIMUM	AVERAGE	UNITS	SAMPLING FREQUENCY	TYPE
pH	8.65	8.76	9	SU	2 X Week	GRAB
SULFATE	632	656	645	mg/l	2 X Week	GRAB
7 DAY AVERAGE OF SULFATE	635	656	647	mg/L	Average	GRAB
OUTLET DISCHARGE	82	245	205	cfs	Continuous	Recorder
SIGNATURE	<i>Chris Korkowski</i>			9/23/22	701-328-2762	
NAME AND TITLE	CHRISTOPHER KORKOWSKI, CHIEF OF INVESTIGATIONS SECTION, 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: 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
8/1/22	8/31/22

LOCATION: Ramsey, Benson, Nelson Co, ND

Devils Lake East Outlet 3546 ac-ft over 25 Days

PARAMETER	MINIMUM	MAXIMUM	AVERAGE	UNITS	SAMPLING FREQUENCY	TYPE
pH	8.53	8.64	9	SU	2 X Week	GRAB
SPECIFIC CONDUCTANCE	2850	2940	2886	µS/cm	Continuous	Recorder
SULFATE	658	994	926	mg/L	2 X Week	GRAB
7 DAY AVERAGE OF SULFATE	658	979	924	mg/l	Average	GRAB
OUTLET DISCHARGE	0	140	58	cfs	Continuous	Recorder
SIGNATURE	<i>Chris Korkowski</i>			9/23/22	701-328-2762	
NAME AND TITLE	CHRISTOPHER KORKOWSKI, CHIEF OF INVESTIGATIONS SECTION, WATER DEVELOPMENT DIVISION			DATE	TELEPHONE NUMBER	
COMMENT AND EXPLANATION OF ANY VIOLATIONS						

Notes:

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- 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: 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
8/1/22	8/31/22

LOCATION: Benson, ND

PARAMETER	MINIMUM	MAXIMUM	AVERAGE	UNITS	SAMPLING FREQUENCY	TYPE
pH	8.25	8.5	8	SU	2 X Week	GRAB
SPECIFIC CONDUCTANCE	1820	1910	1854	µS/cm	Continuous	Recorder
SULFATE	524	581	552	mg/L	2 X Week	GRAB
7 DAY AVERAGE OF SULFATE	531	581	554	mg/l	Average	GRAB
FLOW, INSTREAM	4.63	10.5	7	cfs	Continuous	Recorder
SIGNATURE	<i>Chris Korkowski</i>			9/23/22	701-328-2762	
NAME AND TITLE	CHRISTOPHER KORKOWSKI, CHIEF OF INVESTIGATIONS SECTION, WATER DEVELOPMENT DIVISION			DATE	TELEPHONE NUMBER	
COMMENT AND EXPLANATION OF ANY VIOLATIONS						
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Notes:

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 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: 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
8/1/22	8/31/22

PARAMETER	MINIMUM	MAXIMUM	AVERAGE	UNITS	SAMPLING FREQUENCY	TYPE
pH	8.62	8.85	9	SU	2 X Week	GRAB
SPECIFIC CONDUCTANCE	1910	2080	2041.25	µS/cm	Continuous	Recorder
SULFATE	629	652	642	mg/L	2 X Week	GRAB
7 DAY AVERAGE OF SULFATE	631	652	643	mg/l	Average	GRAB
FLOW, INSTREAM	114	246	204	cfs	Continuous	Recorder
SIGNATURE	<i>Chris Korkowski</i>			9/23/22	701-328-2762	
NAME AND TITLE	CHRISTOPHER KORKOWSKI, CHIEF OF INVESTIGATIONS SECTION, 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 Dept. of Water Resources
 ADDRESS: 900 E Boulevard Avenue,
 Bismarck ND 58505

MONTHLY DISCHARGE REPORT

LOCATION: DOWNSTREAM OF BOTH OUTLETS (PEKIN)

FACILITY: Devils Lake Outlet Project

MONITORING PERIOD	
START DATE	END DATE
8/1/22	8/31/22

LOCATION: Nelson Co, ND

PARAMETER	MINIMUM	MAXIMUM	AVERAGE	UNITS	SAMPLING FREQUENCY	TYPE
pH	8.44	8.61	9	SU	2 X Week	GRAB
SULFATE	597	690	662	mg/L	2 X Week	GRAB
7 DAY AVERAGE OF SULFATE	628	680	662	mg/L	Average	GRAB
FLOW, INSTREAM	NA	NA	NA	cfs	Continuous	Recorder
SIGNATURE	<i>Chris Korkowski</i>			9/23/22	701-328-2762	
NAME AND TITLE	CHRISTOPHER KORKOWSKI, CHIEF OF INVESTIGATIONS SECTION, 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 Dept. of Water Resources
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 Bismarck ND 58505

MONTHLY DISCHARGE REPORT

LOCATION: DOWNSTREAM OF BOTH OUTLETS (COOPERSTOWN)

FACILITY: Devils Lake Outlet Project

MONITORING PERIOD	
START DATE	END DATE
8/1/22	8/31/22

LOCATION: Griggs Co, ND

PARAMETER	MINIMUM	MAXIMUM	AVERAGE	UNITS	SAMPLING FREQUENCY	TYPE
pH	8.5	8.61	9	SU	2 X Week	GRAB
SPECIFIC CONDUCTANCE	1820	2070	1984	µS/cm	Continuous	Recorder
SULFATE	542	662	621	mg/L	2 X Week	GRAB
7 DAY AVERAGE OF SULFATE	542	662	621	mg/l	Average	GRAB
FLOW, INSTREAM	167	390	307	cfs	Continuous	Recorder
SIGNATURE	<i>Chris Korkowski</i>			9/23/22	701-328-2762	
NAME AND TITLE	CHRISTOPHER KORKOWSKI, CHIEF OF INVESTIGATIONS SECTION, WATER DEVELOPMENT DIVISION			DATE	TELEPHONE NUMBER	
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 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 (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)
8/1/2022	8.02	1830	240	20730000	245	1910	76	6554000	71.6	2850	375	2020	316	27284000
8/2/2022	6.69	1850	238	20568000	246	1910	78	6700000	92.7	2880	384	2040	316	27268000
8/3/2022	6.47	1890	172	14877000	239	1910	78	6729000	94	2880	390	2070	250	21606000
8/4/2022	6.49	1890	82	7057000	164	1910	57	4927000	71.6	2880	376	2080	139	11984000
8/5/2022	5.51	1910	83	7131000	118	1920	80	6937000	96.8	2890	377	2060	163	14068000
8/6/2022	5.35	1920	83	7211000	114	1920	79	6813000	97.8	2890	372	2060	162	14024000
8/7/2022	5.68	1920	83	7196000	117	-	79	6832000	94.5	2890	360	2060	162	14028000
8/8/2022	6.74	1910	84	7288000	118	-	40	3436000	71.2	2940	345	2070	124	10724000
8/9/2022	7.86	1910	88	7581000	118	-	0	0	6.45	2890	315	2060	88	7581000
8/10/2022	8.57	1910	167	14393000	120	2080	0	0	0.84	2850	275	2070	167	14393000
8/11/2022	10.3	1890	243	20983000	201	2080	0	0	0.51	2860	242	2090	243	20983000
8/12/2022	10.5	1880	244	21122000	241	2080	0	0	0.45	2870	211	2090	244	21122000
8/13/2022	10.5	1880	245	21144000	243	2080	3	285000	0.46	2750	183	2090	248	21429000
8/14/2022	10.4	1880	244	21072000	245	2070	81	7026000	69.2	2950	168	2080	325	28098000
8/15/2022	10.4	1880	242	20944000	245	2070	81	6963000	90.5	2910	167	2030	323	27907000
8/16/2022	9.6	1860	242	20931000	244	2070	81	6960000	87.5	2940	208	1910	323	27891000
8/17/2022	9.15	1850	242	20884000	241	2070	80	6953000	86.1	2940	283	1820	322	27837000
8/18/2022	8.31	1840	239	20653000	242	2070	59	5109000	79.4	-	345	1800	298	25762000
8/19/2022	7.37	1840	237	20460000	241	2060	12	1024000	22.5	2910	374	1980	249	21484000
8/20/2022	7.39	1840	240	20761000	235	2060	0	0	0.93	2900	390	2010	240	20761000
8/21/2022	9.33	1820	242	20892000	238	2060	0	0	0.42	-	378	1980	242	20892000
8/22/2022	7.69	1810	235	20276000	237	2060	52	4451000	37.4	2890	341	2000	286	24727000
8/23/2022	7.98	1820	228	19719000	232	2060	74	6360000	88.4	-	309	2000	302	26079000
8/24/2022	5.92	1820	228	19682000	228	2040	82	7048000	84.4	-	298	1930	309	26730000
8/25/2022	5.85	1830	235	20297000	231	2050	81	7013000	89.4	2860	296	1840	316	27310000
8/26/2022	7.08	1830	241	20818000	233	2050	83	7153000	90.8	2850	327	1810	324	27971000
8/27/2022	6.33	1830	240	20764000	236	2040	82	7074000	89.5	2830	343	1940	322	27838000
8/28/2022	5.93	1830	241	20824000	235	2040	81	7021000	88.7	2860	348	2010	322	27845000
8/29/2022	4.63	1840	240	20747000	226	2040	40	3430000	50.9	2900	349	2040	280	24177000
8/30/2022	4.97	1840	238	20565000	228	2040	111	9548000	100	-	347	2050	349	30113000
8/31/2022	-	-	238	20548000	232	2040	140	12139000	153	-	346	2060	378	32687000
Minimum	5	1810	82	7057000	114	1910	0	0	0	2750	167	1800	82	7057000
Maximum	11	1920	245	21144000	246	2080	140	12139000	153	2950	390	2090	385	33283000
Average	7	1802	205	17681226	204	1958	58	4983387	63	2772	307	1942	262	22664613
			Total (Mgal)	4100			Total (Mgal)	1156				Total (Mgal)	5255	
			Total (Ac-ft)	12583			Total (Ac-ft)	3546				Total (Ac-ft)	16130	

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
8/1/22	-	-	-	-	-	-	-
8/2/22	08:05:00	1850	8.4	531	531	NA	1
8/3/22	-	-	-	-	-	-	-
8/4/22	-	-	-	-	-	-	-
8/5/22	-	-	-	-	-	-	-
8/6/22	-	-	-	-	-	-	-
8/7/22	-	-	-	-	-	-	-
8/8/22	-	-	-	-	-	-	-
8/9/22	-	-	-	-	-	-	-
8/10/22	08:00:00	1910	8.4	580	580	NA	1
8/11/22	-	-	-	-	-	-	-
8/12/22	07:50:00	1880	8.28	581	581	NA	2
8/13/22	-	-	-	-	-	-	-
8/14/22	-	-	-	-	-	-	-
8/15/22	-	-	-	-	-	-	-
8/16/22	-	-	-	-	-	-	-
8/17/22	08:15:00	1850	8.37	548	565	NA	2
8/18/22	-	-	-	-	-	-	-
8/19/22	09:00:00	1840	8.26	551	550	NA	2
8/20/22	-	-	-	-	-	-	-
8/21/22	-	-	-	-	-	-	-
8/22/22	-	-	-	-	-	-	-
8/23/22	-	-	-	-	-	-	-
8/24/22	08:00:00	1820	8.42	524	538	90	2
8/25/22	-	-	-	-	-	-	-
8/26/22	09:00:00	1830	8.25	546	535	NA	2
8/27/22	-	-	-	-	-	-	-
8/28/22	-	-	-	-	-	-	-
8/29/22	-	-	-	-	-	-	-
8/30/22	-	-	-	-	-	-	-
8/31/22	07:50:00	-	8.5	552	549	NA	2
Minimum		1820	8.25	524	531	90	
Maximum		1910	8.5	581	581	90	
Average		1854	8	552	554	90	

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 results

**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
8/1/22	-	-	-	-	-	-	-
8/2/22	08:20:00	-	8.73	654	654	NA	1
8/3/22	-	-	-	-	-	-	-
8/4/22	-	-	-	-	-	-	-
8/5/22	-	-	-	-	-	-	-
8/6/22	-	-	-	-	-	-	-
8/7/22	-	-	-	-	-	-	-
8/8/22	-	-	-	-	-	-	-
8/9/22	-	-	-	-	-	-	-
8/10/22	-	-	-	-	-	-	-
8/11/22	-	-	-	-	-	-	-
8/12/22	07:30:00	-	8.7	656	656	NA	1
8/13/22	-	-	-	-	-	-	-
8/14/22	-	-	-	-	-	-	-
8/15/22	-	-	-	-	-	-	-
8/16/22	-	-	-	-	-	-	-
8/17/22	08:30:00	-	8.68	645	651	NA	2
8/18/22	-	-	-	-	-	-	-
8/19/22	09:15:00	-	8.76	654	650	NA	2
8/20/22	-	-	-	-	-	-	-
8/21/22	-	-	-	-	-	-	-
8/22/22	-	-	-	-	-	-	-
8/23/22	-	-	-	-	-	-	-
8/24/22	08:10:00	-	8.68	639	647	11	2
8/25/22	-	-	-	-	-	-	-
8/26/22	09:10:00	-	8.65	632	636	NA	2
8/27/22	-	-	-	-	-	-	-
8/28/22	-	-	-	-	-	-	-
8/29/22	-	-	-	-	-	-	-
8/30/22	-	-	-	-	-	-	-
8/31/22	08:00:00	-	8.7	637	635	NA	2
Minimum			8.65	632	635	11	
Maximum			8.76	656	656	11	
Average			9	645	647	11	

Notes:

µS/cm - microsiemens per Centimeter at 25 degrees Celsius

mg/L - milligrams per liter or parts per million

NA - Not analyzed

italic font denotes preliminary results

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
8/1/22	-	-	-	-	-	-	-
8/2/22	12:00:00	1910	8.64	652	652	NA	1
8/3/22	-	-	-	-	-	-	-
8/4/22	-	-	-	-	-	-	-
8/5/22	-	-	-	-	-	-	-
8/6/22	-	-	-	-	-	-	-
8/7/22	-	-	-	-	-	-	-
8/8/22	-	-	-	-	-	-	-
8/9/22	-	-	-	-	-	-	-
8/10/22	07:30:00	2080	8.85	647	647	NA	1
8/11/22	-	-	-	-	-	-	-
8/12/22	08:35:00	2080	8.75	647	647	NA	2
8/13/22	-	-	-	-	-	-	-
8/14/22	-	-	-	-	-	-	-
8/15/22	-	-	-	-	-	-	-
8/16/22	-	-	-	-	-	-	-
8/17/22	07:45:00	2070	8.62	649	648	NA	2
8/18/22	-	-	-	-	-	-	-
8/19/22	08:45:00	2060	8.7	642	646	NA	2
8/20/22	-	-	-	-	-	-	-
8/21/22	-	-	-	-	-	-	-
8/22/22	-	-	-	-	-	-	-
8/23/22	-	-	-	-	-	-	-
8/24/22	07:30:00	2040	8.7	632	637	41	2
8/25/22	-	-	-	-	-	-	-
8/26/22	08:30:00	2050	8.69	629	631	NA	2
8/27/22	-	-	-	-	-	-	-
8/28/22	-	-	-	-	-	-	-
8/29/22	-	-	-	-	-	-	-
8/30/22	-	-	-	-	-	-	-
8/31/22	07:20:00	2040	8.62	635	632	NA	2
Minimum		1910	8.62	629	631	41	
Maximum		2080	8.85	652	652	41	
Average		2041	9	642	643	41	

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 results

**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
8/1/22	-	-	-	-	-	-	-
8/2/22	09:45:00	2880	8.53	975	975	NA	1
8/3/22	-	-	-	-	-	-	-
8/4/22	-	-	-	-	-	-	-
8/5/22	-	-	-	-	-	-	-
8/6/22	-	-	-	-	-	-	-
8/7/22	-	-	-	-	-	-	-
8/8/22	-	-	-	-	-	-	-
8/9/22	-	-	-	-	-	-	-
8/10/22	08:10:00	2850	8.64	658	658	NA	1
8/11/22	-	-	-	-	-	-	-
8/12/22	-	-	-	-	-	-	-
8/13/22	-	-	-	-	-	-	-
8/14/22	-	-	-	-	-	-	-
8/15/22	-	-	-	-	-	-	-
8/16/22	-	-	-	-	-	-	-
8/17/22	10:00:00	2940	8.57	959	959	NA	1
8/18/22	-	-	-	-	-	-	-
8/19/22	07:20:00	2910	8.55	974	967	NA	2
8/20/22	-	-	-	-	-	-	-
8/21/22	-	-	-	-	-	-	-
8/22/22	-	-	-	-	-	-	-
8/23/22	-	-	-	-	-	-	-
8/24/22	09:25:00	-	8.62	957	966	17	2
8/25/22	-	-	-	-	-	-	-
8/26/22	07:00:00	2850	8.62	964	961	NA	2
8/27/22	-	-	-	-	-	-	-
8/28/22	-	-	-	-	-	-	-
8/29/22	-	-	-	-	-	-	-
8/30/22	-	-	-	-	-	-	-
8/31/22	09:16:00	-	8.64	994	979	NA	2
Minimum		2850	8.53	658	658	17	
Maximum		2940	8.64	994	979	17	
Average		2886	9	926	924	17	

Notes:

μ S/cm - microsiemens per Centimeter at 25 degrees Celsius

mg/L - milligrams per liter or parts per million

NA - Not analyzed

italic font denotes preliminary results

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
8/1/22	-	-	-	-	-	-	-
8/2/22	10:05:00	-	8.57	658	658	NA	1
8/3/22	-	-	-	-	-	-	-
8/4/22	-	-	-	-	-	-	-
8/5/22	-	-	-	-	-	-	-
8/6/22	-	-	-	-	-	-	-
8/7/22	-	-	-	-	-	-	-
8/8/22	-	-	-	-	-	-	-
8/9/22	-	-	-	-	-	-	-
8/10/22	09:35:00	-	8.52	658	658	NA	1
8/11/22	-	-	-	-	-	-	-
8/12/22	10:20:00	-	8.44	597	628	NA	2
8/13/22	-	-	-	-	-	-	-
8/14/22	-	-	-	-	-	-	-
8/15/22	-	-	-	-	-	-	-
8/16/22	-	-	-	-	-	-	-
8/17/22	10:30:00	-	8.53	679	638	NA	2
8/18/22	-	-	-	-	-	-	-
8/19/22	07:45:00	-	8.51	680	680	NA	2
8/20/22	-	-	-	-	-	-	-
8/21/22	-	-	-	-	-	-	-
8/22/22	-	-	-	-	-	-	-
8/23/22	-	-	-	-	-	-	-
8/24/22	09:55:00	-	8.56	667	674	64	2
8/25/22	-	-	-	-	-	-	-
8/26/22	07:20:00	-	8.52	690	679	NA	2
8/27/22	-	-	-	-	-	-	-
8/28/22	-	-	-	-	-	-	-
8/29/22	-	-	-	-	-	-	-
8/30/22	-	-	-	-	-	-	-
8/31/22	09:14:00	-	8.61	663	677	NA	2
Minimum			8.44	597	628	64	
Maximum			8.61	690	680	64	
Average			9	662	662	64	

Notes:

µS/cm - microsiemens per Centimeter at 25 degrees Celsius

mg/L - milligrams per liter or parts per million

NA - Not analyzed

italic font denotes preliminary results

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 (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
8/1/22	-	-	-	-	-	-	-
8/2/22	11:00:00	2040	8.5	635	635	NA	1
8/3/22	-	-	-	-	-	-	-
8/4/22	-	-	-	-	-	-	-
8/5/22	-	-	-	-	-	-	-
8/6/22	-	-	-	-	-	-	-
8/7/22	-	-	-	-	-	-	-
8/8/22	-	-	-	-	-	-	-
8/9/22	-	-	-	-	-	-	-
8/10/22	10:30:00	2070	8.57	662	662	NA	1
8/11/22	-	-	-	-	-	-	-
8/12/22	-	-	-	-	-	-	-
8/13/22	-	-	-	-	-	-	-
8/14/22	-	-	-	-	-	-	-
8/15/22	-	-	-	-	-	-	-
8/16/22	-	-	-	-	-	-	-
8/17/22	11:30:00	1820	8.56	542	542	NA	1
8/18/22	-	-	-	-	-	-	-
8/19/22	-	-	-	-	-	-	-
8/20/22	-	-	-	-	-	-	-
8/21/22	-	-	-	-	-	-	-
8/22/22	-	-	-	-	-	-	-
8/23/22	-	-	-	-	-	-	-
8/24/22	10:45:00	1930	8.58	605	605	72	1
8/25/22	-	-	-	-	-	-	-
8/26/22	-	-	-	-	-	-	-
8/27/22	-	-	-	-	-	-	-
8/28/22	-	-	-	-	-	-	-
8/29/22	-	-	-	-	-	-	-
8/30/22	-	-	-	-	-	-	-
8/31/22	10:35:00	2060	8.61	661	661	NA	1
Minimum		1820	8.5	542	542	72	
Maximum		2070	8.61	662	662	72	
Average		1984	9	621	621	72	

Notes:

μ S/cm - microsiemens per Centimeter at 25 degrees Celsius

mg/L - milligrams per liter or parts per million

NA - Not analyzed

italic font denotes preliminary results

Bold font denotes sample sulfate concentration exceeds 750 mg/L