

October 24, 2022

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

RE: September 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 September 2022 is enclosed. The East Outlet operated at an average rate of 76 cubic feet per second (cfs) and the West Outlet operated at an average rate of 178 cfs. A total of 15,239 acre-feet was 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.

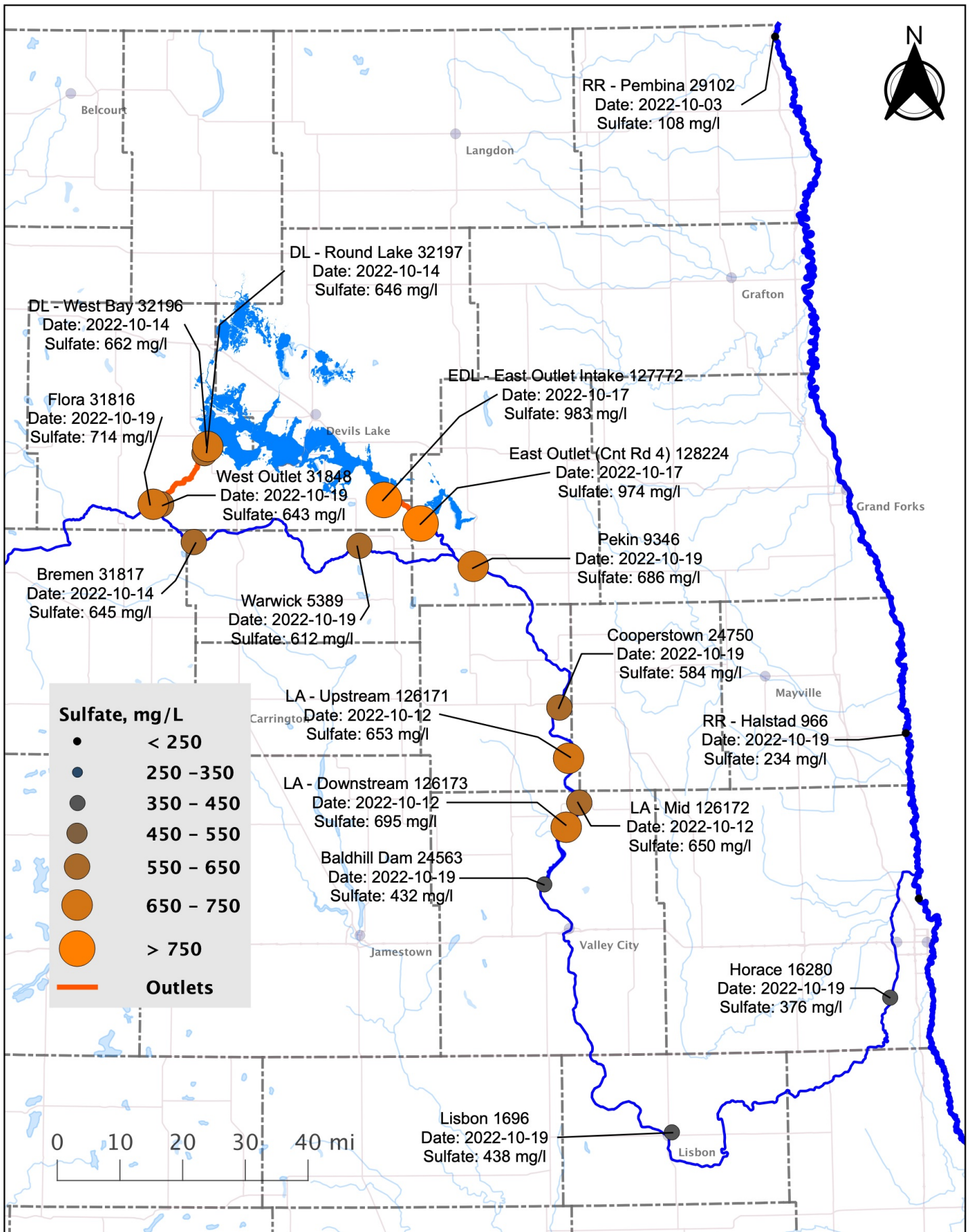
If you have any questions, please contact me at (701) 328-2762.

Sincerely,

Chris Korkowski

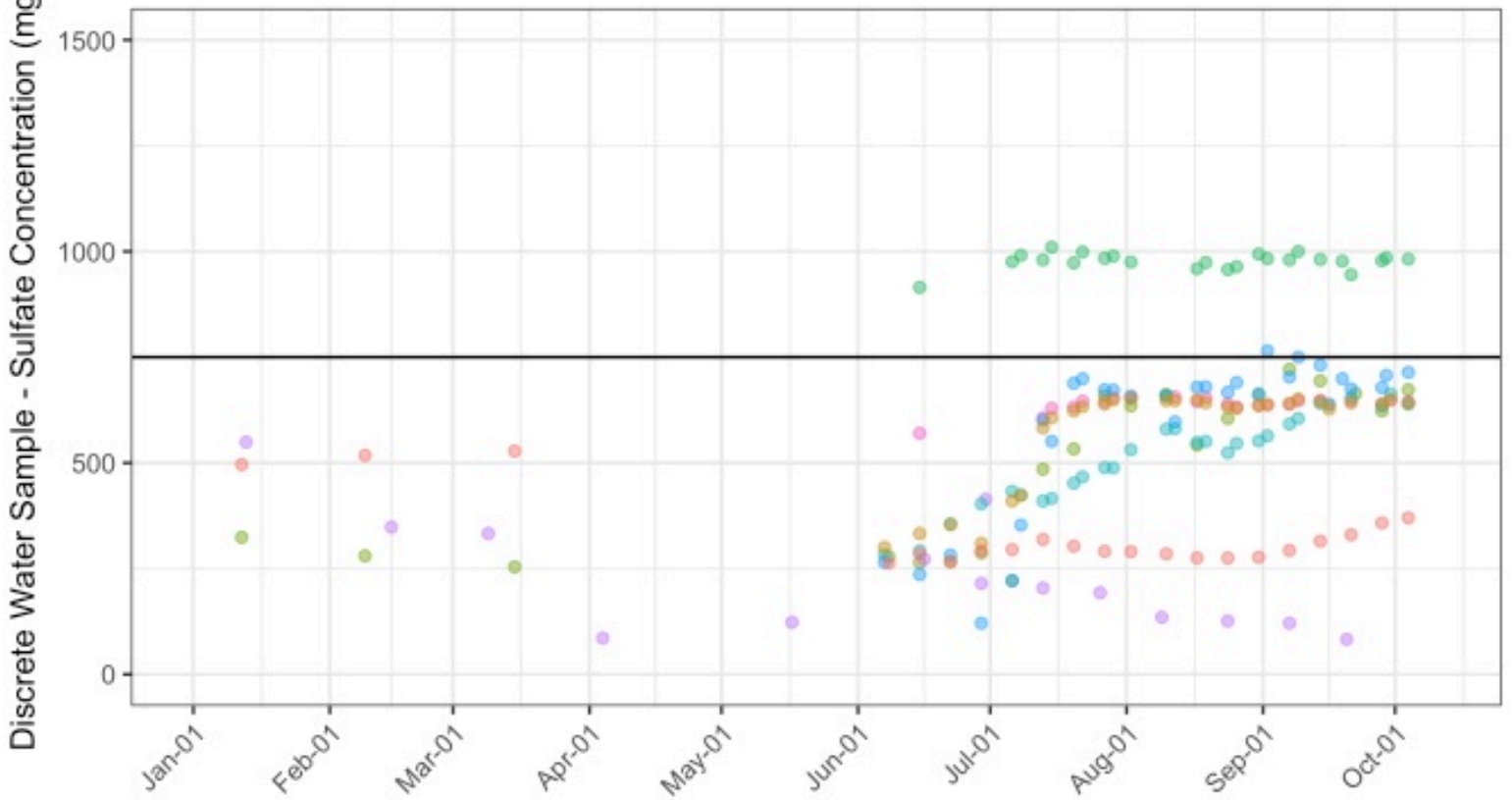
Christopher Korkowski, P.E.
Chief of the Investigations Section, Water Development

CK:pp/416-10
Enclosure



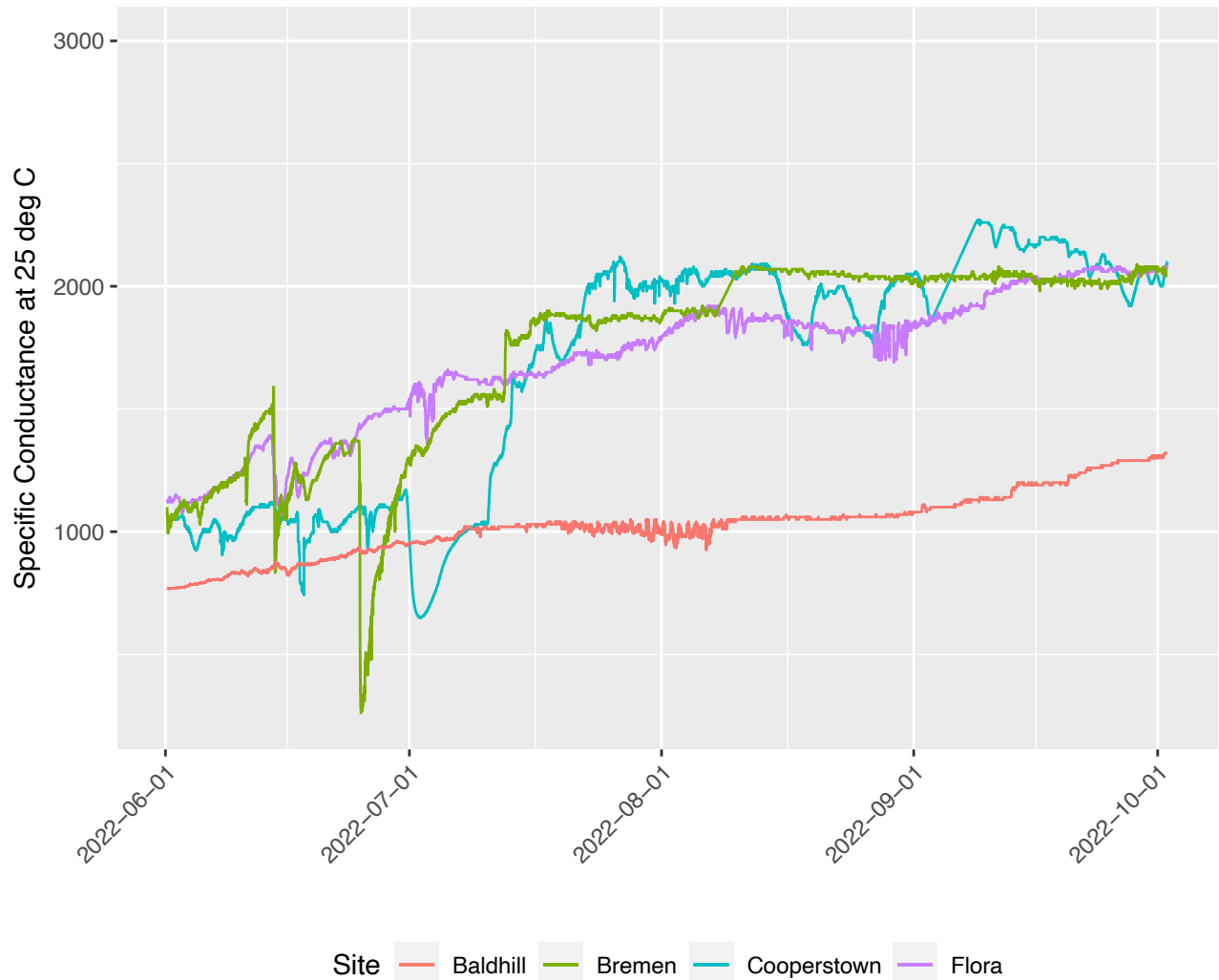
**Devils Lake Outlet Operations
Preliminary Sulfate Concentrations
10/24/2022**

2022 Devils Lake Outlet Sulfate Trends



- Location
- Baldhill - 24563
 - Bremen - 31817
 - Cooperstown - 24750
 - East End - 128224
 - Flora - 31816
 - Pekin - 9346
 - Pembina - 29102
 - 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
9/1/22	9/30/22

LOCATION: Benson Co, ND

Devils Lake West Outlet 10688 ac-ft over 30 Days

PARAMETER	MINIMUM	MAXIMUM	AVERAGE	UNITS	SAMPLING FREQUENCY	TYPE
pH	8.62	8.74	8.7	SU	2 X Week	GRAB
SULFATE	637	648	643	mg/l	2 X Week	GRAB
7 DAY AVERAGE OF SULFATE	637	648	642	mg/L	Average	GRAB
OUTLET DISCHARGE	136	240	180	cfs	Continuous	Recorder
SIGNATURE	<i>Chris Korkowski</i>			10/24/22	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
9/1/22	9/30/22

LOCATION: Ramsey, Benson, Nelson Co, ND

Devils Lake East Outlet 4551 ac-ft over 30 Days

PARAMETER	MINIMUM	MAXIMUM	AVERAGE	UNITS	SAMPLING FREQUENCY	TYPE
pH	8.47	8.76	8.7	SU	2 X Week	GRAB
SPECIFIC CONDUCTANCE	2810	3020	2927	µS/cm	Continuous	Recorder
SULFATE	945	1000	979	mg/L	2 X Week	GRAB
7 DAY AVERAGE OF SULFATE	961	991	981	mg/l	Average	GRAB
OUTLET DISCHARGE	1	136	76	cfs	Continuous	Recorder
SIGNATURE	<i>Chris Korkowski</i>			10/24/22	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:

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: UPSTREAM OF THE WEST END OUTLET (FLORA)

FACILITY: Devils Lake Outlet Project

MONITORING PERIOD	
START DATE	END DATE
9/1/22	9/30/22

LOCATION: Benson, ND

PARAMETER	MINIMUM	MAXIMUM	AVERAGE	UNITS	SAMPLING FREQUENCY	TYPE
pH	8.41	8.54	8.49	SU	2 X Week	GRAB
SPECIFIC CONDUCTANCE	1870	2070	1989	µS/cm	Continuous	Recorder
SULFATE	564	663	624	mg/L	2 X Week	GRAB
7 DAY AVERAGE OF SULFATE	564	649	617	mg/l	Average	GRAB
FLOW, INSTREAM	0.04	5.37	1.08	cfs	Continuous	Recorder
SIGNATURE	<i>Chris Korkowski</i>			10/24/22	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: DOWNSTREAM OF THE WEST END OUTLET (BREMEN)
 UPSTREAM OF THE EAST END OUTLET

FACILITY: Devils Lake Outlet Project

MONITORING PERIOD	
START DATE	END DATE
9/1/22	9/30/22

LOCATION: Eddy Co, ND

PARAMETER	MINIMUM	MAXIMUM	AVERAGE	UNITS	SAMPLING FREQUENCY	TYPE
pH	8.66	8.76	8.7	SU	2 X Week	GRAB
SPECIFIC CONDUCTANCE	2030	2090	2055	µS/cm	Continuous	Recorder
SULFATE	627	651	642	mg/L	2 X Week	GRAB
7 DAY AVERAGE OF SULFATE	635	648	641	mg/l	Average	GRAB
FLOW, INSTREAM	147	236	178	cfs	Continuous	Recorder
SIGNATURE	<i>Chris Korkowski</i>			10/24/22	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: **DOWNSTREAM OF BOTH OUTLETS (PEKIN)**

FACILITY: Devils Lake Outlet Project

MONITORING PERIOD	
START DATE	END DATE
9/1/22	9/30/22

LOCATION: Nelson Co, ND

PARAMETER	MINIMUM	MAXIMUM	AVERAGE	UNITS	SAMPLING FREQUENCY	TYPE
pH	8.6	8.68	8.63	SU	2 X Week	GRAB
SULFATE	675	765	714	mg/L	2 X Week	GRAB
7 DAY AVERAGE OF SULFATE	678	765	718	mg/L	Average	GRAB
FLOW, INSTREAM	NA	NA	NA	cfs	Continuous	Recorder
SIGNATURE	<i>Chris Korkowski</i>			10/24/22	701-328-2762	
NAME AND TITLE	CHRISTOPHER KORKOWSKI, CHIEF OF INVESTIGATIONS SECTION, WATER DEVELOPMENT DIVISION			DATE	TELEPHONE NUMBER	
COMMENT AND EXPLANATION OF ANY VIOLATIONS						
Outlets were adjusted following the 750mg/l exceedance at Pekin to prevent future exceedances.						

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: DOWNSTREAM OF BOTH OUTLETS (COOPERSTOWN)

FACILITY: Devils Lake Outlet Project

MONITORING PERIOD	
START DATE	END DATE
9/1/22	9/30/22

LOCATION: Griggs Co, ND

PARAMETER	MINIMUM	MAXIMUM	AVERAGE	UNITS	SAMPLING FREQUENCY	TYPE
pH	8.52	8.6	8.57	SU	2 X Week	GRAB
SPECIFIC CONDUCTANCE	2070	2190	2123	µS/cm	Continuous	Recorder
SULFATE	623	721	676	mg/L	2 X Week	GRAB
7 DAY AVERAGE OF SULFATE	623	721	676	mg/l	Average	GRAB
FLOW, INSTREAM	238	381	296	cfs	Continuous	Recorder
SIGNATURE	<i>Chris Korkowski</i>			10/24/22	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

	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	
Date	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)
9/1/2022	4.73	1850	237	20469000	231	2030	134	11555000	147	-	331	2060	371	32024000
9/2/2022	3.9	1870	237	20441000	230	2040	123	10641000	133	-	336	-	360	31082000
9/3/2022	4.17	1880	235	20314000	228	2040	133	11514000	138	2910	371	-	368	31828000
9/4/2022	5.37	1870	240	20695000	231	2050	136	11759000	146	2900	381	-	376	32454000
9/5/2022	4.99	1890	239	20665000	236	2050	119	10257000	141	2870	376	-	358	30922000
9/6/2022	4.07	1900	227	19652000	235	2040	94	8094000	85.8	2890	375	-	321	27746000
9/7/2022	0.95	1910	136	11748000	197	2060	132	11392000	143	2910	379	-	268	23140000
9/8/2022	0.12	1900	170	14669000	164	2060	79	6859000	98.5	2920	374	-	249	21528000
9/9/2022	0.1	1950	172	14890000	172	2050	77	6627000	79.3	2950	352	2260	249	21517000
9/10/2022	0.11	1960	170	14704000	171	-	72	6247000	76.1	-	371	2260	242	20951000
9/11/2022	0.13	1980	168	14555000	170	2080	80	6912000	85.7	-	358	2250	248	21467000
9/12/2022	0.13	2000	167	14455000	169	2060	79	6796000	83.9	2920	309	2240	246	21251000
9/13/2022	0.04	2000	169	14639000	173	2060	79	6853000	86.1	2900	280	2230	249	21492000
9/14/2022	0.28	2010	173	14965000	179	2060	77	6653000	85.7	2880	273	2190	250	21618000
9/15/2022	0.14	2010	172	14849000	183	2050	69	5998000	77.7	2880	275	2170	241	20847000
9/16/2022	0.31	2000	172	14902000	180	2030	74	6429000	80.3	2860	275	2200	247	21331000
9/17/2022	0.1	2000	170	14683000	175	2030	28	2450000	33.5	2920	279	2200	198	17133000
9/18/2022	0.09	2020	169	14586000	174	2040	78	6766000	85.1	2940	287	2200	247	21352000
9/19/2022	0.07	2030	167	14448000	172	2030	74	6408000	84.4	2960	291	2190	241	20856000
9/20/2022	0.1	2030	140	12086000	169	2030	34	2926000	50	2930	283	2150	174	15012000
9/21/2022	0.12	2040	166	14311000	147	2030	1	77000	2.03	2810	301	2140	167	14388000
9/22/2022	0.11	2080	167	14426000	166	2030	49	4238000	44.2	-	311	2110	216	18664000
9/23/2022	0.17	2080	166	14329000	172	2030	54	4677000	64.1	-	288	2130	220	19006000
9/24/2022	0.2	2070	170	14711000	170	2020	20	1770000	25.4	-	249	2130	191	16481000
9/25/2022	0.28	2080	169	14606000	169	2020	33	2874000	47.8	-	238	2080	202	17480000
9/26/2022	0.55	2080	169	14566000	171	2040	55	4767000	51	-	245	2030	224	19333000
9/27/2022	0.39	2060	168	14501000	173	2060	70	6063000	76.5	-	241	1980	238	20564000
9/28/2022	0.27	2060	164	14190000	173	2090	82	7100000	94.5	3020	238	2070	246	21290000
9/29/2022	0.17	2070	159	13766000	171	2080	80	6917000	92.2	2960	241	2080	239	20683000
9/30/2022	0.09	2070	159	13738000	169	2080	77	6636000	88	2960	262	2050	236	20374000
	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Minimum	0.04	1850	136	11748000	147	2020	1	77000	2	2810	238	1980	137	11825000
Maximum	5.37	2080	240	20695000	236	2090	136	11759000	147	3020	381	2260	376	32454000
Average	1.08	1927	180	15518633	178	1982	76	6608500	81	2776	296	2058	256	22127133
			Total (Mgal)	3482			Total (Mgal)	1483					Total (Mgal)	4965
			Total (Ac-ft)	10688			Total (Ac-ft)	4551					Total (Ac-ft)	15239

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
9/1/22	-	-	-	-	-	-	-
9/2/22	09:25:00	1870	8.41	564	564	NA	1
9/3/22	-	-	-	-	-	-	-
9/4/22	-	-	-	-	-	-	-
9/5/22	-	-	-	-	-	-	-
9/6/22	-	-	-	-	-	-	-
9/7/22	07:55:00	1910	8.5	592	578	NA	2
9/8/22	-	-	-	-	-	-	-
9/9/22	09:25:00	1950	8.43	605	599	NA	2
9/10/22	-	-	-	-	-	-	-
9/11/22	-	-	-	-	-	-	-
9/12/22	-	-	-	-	-	-	-
9/13/22	-	-	-	-	-	-	-
9/14/22	08:05:00	2010	8.53	641	623	NA	2
9/15/22	-	-	-	-	-	-	-
9/16/22	08:05:00	2000	8.45	638	640	NA	2
9/17/22	-	-	-	-	-	-	-
9/18/22	-	-	-	-	-	-	-
9/19/22	-	-	-	-	-	-	-
9/20/22	-	-	-	-	-	-	-
9/21/22	07:50:00	2040	8.54	654	646	83	2
9/22/22	-	-	-	-	-	-	-
9/23/22	-	-	-	-	-	-	-
9/24/22	-	-	-	-	-	-	-
9/25/22	-	-	-	-	-	-	-
9/26/22	-	-	-	-	-	-	-
9/27/22	-	-	-	-	-	-	-
9/28/22	07:52:00	2060	8.54	634	634	NA	1
9/29/22	-	-	-	-	-	-	-
9/30/22	07:50:00	2070	8.5	663	649	NA	2
Minimum		1870	8.41	564	564	83	
Maximum		2070	8.54	663	649	83	
Average		1989	8.49	624	617	83	

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 ($\mu\text{S}/\text{cm}$)	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
9/1/22	-	-	-	-	-	-	-
9/2/22	09:35:00	-	8.73	637	637	NA	1
9/3/22	-	-	-	-	-	-	-
9/4/22	-	-	-	-	-	-	-
9/5/22	-	-	-	-	-	-	-
9/6/22	-	-	-	-	-	-	-
9/7/22	08:05:00	-	8.62	639	638	NA	2
9/8/22	-	-	-	-	-	-	-
9/9/22	09:35:00	-	8.72	647	643	NA	2
9/10/22	-	-	-	-	-	-	-
9/11/22	-	-	-	-	-	-	-
9/12/22	-	-	-	-	-	-	-
9/13/22	-	-	-	-	-	-	-
9/14/22	08:15:00	-	8.73	648	648	NA	2
9/15/22	-	-	-	-	-	-	-
9/16/22	08:15:00	-	8.74	638	643	NA	2
9/17/22	-	-	-	-	-	-	-
9/18/22	-	-	-	-	-	-	-
9/19/22	-	-	-	-	-	-	-
9/20/22	-	-	-	-	-	-	-
9/21/22	08:01:00	-	8.65	647	643	21	2
9/22/22	-	-	-	-	-	-	-
9/23/22	-	-	-	-	-	-	-
9/24/22	-	-	-	-	-	-	-
9/25/22	-	-	-	-	-	-	-
9/26/22	-	-	-	-	-	-	-
9/27/22	-	-	-	-	-	-	-
9/28/22	08:05:00	-	8.7	639	639	NA	1
9/29/22	-	-	-	-	-	-	-
9/30/22	08:00:00	-	8.73	648	644	NA	2
Minimum			8.62	637	637	21	
Maximum			8.74	648	648	21	
Average			8.7	643	642	21	

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

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
9/1/22	-	-	-	-	-	-	-
9/2/22	09:00:00	2040	8.76	638	638	NA	1
9/3/22	-	-	-	-	-	-	-
9/4/22	-	-	-	-	-	-	-
9/5/22	-	-	-	-	-	-	-
9/6/22	-	-	-	-	-	-	-
9/7/22	07:50:00	2060	8.72	640	639	NA	2
9/8/22	-	-	-	-	-	-	-
9/9/22	09:00:00	2050	8.69	651	646	NA	2
9/10/22	-	-	-	-	-	-	-
9/11/22	-	-	-	-	-	-	-
9/12/22	-	-	-	-	-	-	-
9/13/22	-	-	-	-	-	-	-
9/14/22	07:38:00	2060	8.66	645	648	NA	2
9/15/22	-	-	-	-	-	-	-
9/16/22	07:40:00	2030	8.68	627	636	NA	2
9/17/22	-	-	-	-	-	-	-
9/18/22	-	-	-	-	-	-	-
9/19/22	-	-	-	-	-	-	-
9/20/22	-	-	-	-	-	-	-
9/21/22	07:23:00	2030	8.69	642	635	32	2
9/22/22	-	-	-	-	-	-	-
9/23/22	-	-	-	-	-	-	-
9/24/22	-	-	-	-	-	-	-
9/25/22	-	-	-	-	-	-	-
9/26/22	-	-	-	-	-	-	-
9/27/22	-	-	-	-	-	-	-
9/28/22	07:26:00	2090	8.71	639	639	NA	1
9/29/22	-	-	-	-	-	-	-
9/30/22	07:30:00	2080	8.67	650	645	NA	2
Minimum		2030	8.66	627	635	32	
Maximum		2090	8.76	651	648	32	
Average		2055	8.7	642	641	32	

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
9/1/22	-	-	-	-	-	-	-
9/2/22	07:30:00	-	8.7	983	983	NA	1
9/3/22	-	-	-	-	-	-	-
9/4/22	-	-	-	-	-	-	-
9/5/22	-	-	-	-	-	-	-
9/6/22	-	-	-	-	-	-	-
9/7/22	09:45:00	2910	8.68	980	982	NA	2
9/8/22	-	-	-	-	-	-	-
9/9/22	07:30:00	2950	8.75	1000	990	NA	2
9/10/22	-	-	-	-	-	-	-
9/11/22	-	-	-	-	-	-	-
9/12/22	-	-	-	-	-	-	-
9/13/22	-	-	-	-	-	-	-
9/14/22	09:30:00	2880	8.72	981	991	NA	2
9/15/22	-	-	-	-	-	-	-
9/16/22	-	-	-	-	-	-	-
9/17/22	-	-	-	-	-	-	-
9/18/22	-	-	-	-	-	-	-
9/19/22	10:10:00	2960	8.74	977	979	NA	2
9/20/22	-	-	-	-	-	-	-
9/21/22	09:16:00	2810	8.47	945	961	108	2
9/22/22	-	-	-	-	-	-	-
9/23/22	-	-	-	-	-	-	-
9/24/22	-	-	-	-	-	-	-
9/25/22	-	-	-	-	-	-	-
9/26/22	-	-	-	-	-	-	-
9/27/22	-	-	-	-	-	-	-
9/28/22	09:20:00	3020	8.74	978	978	NA	1
9/29/22	10:30:00	2960	8.76	985	982	NA	2
9/30/22	-	-	-	-	-	-	-
Minimum		2810	8.47	945	961	108	
Maximum		3020	8.76	1000	991	108	
Average		2927	8.7	979	981	108	

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
9/1/22	-	-	-	-	-	-	-
9/2/22	07:55:00	-	8.6	765	765	NA	1
9/3/22	-	-	-	-	-	-	-
9/4/22	-	-	-	-	-	-	-
9/5/22	-	-	-	-	-	-	-
9/6/22	-	-	-	-	-	-	-
9/7/22	10:15:00	-	8.62	703	734	NA	2
9/8/22	-	-	-	-	-	-	-
9/9/22	07:50:00	-	8.68	750	727	NA	2
9/10/22	-	-	-	-	-	-	-
9/11/22	-	-	-	-	-	-	-
9/12/22	-	-	-	-	-	-	-
9/13/22	-	-	-	-	-	-	-
9/14/22	10:05:00	-	8.62	731	741	NA	2
9/15/22	-	-	-	-	-	-	-
9/16/22	-	-	-	-	-	-	-
9/17/22	-	-	-	-	-	-	-
9/18/22	-	-	-	-	-	-	-
9/19/22	10:35:00	-	8.62	699	715	NA	2
9/20/22	-	-	-	-	-	-	-
9/21/22	09:45:00	-	8.6	675	687	51	2
9/22/22	-	-	-	-	-	-	-
9/23/22	-	-	-	-	-	-	-
9/24/22	-	-	-	-	-	-	-
9/25/22	-	-	-	-	-	-	-
9/26/22	-	-	-	-	-	-	-
9/27/22	-	-	-	-	-	-	-
9/28/22	09:40:00	-	8.62	678	678	NA	1
9/29/22	10:55:00	-	8.65	707	693	NA	2
9/30/22	-	-	-	-	-	-	-
Minimum			8.6	675	678	51	
Maximum			8.68	765	765	51	
Average			8.63	714	718	51	

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
9/1/22	-	-	-	-	-	-	-
9/2/22	-	-	-	-	-	-	-
9/3/22	-	-	-	-	-	-	-
9/4/22	-	-	-	-	-	-	-
9/5/22	-	-	-	-	-	-	-
9/6/22	-	-	-	-	-	-	-
9/7/22	11:10:00	-	8.58	721	721	NA	1
9/8/22	-	-	-	-	-	-	-
9/9/22	-	-	-	-	-	-	-
9/10/22	-	-	-	-	-	-	-
9/11/22	-	-	-	-	-	-	-
9/12/22	-	-	-	-	-	-	-
9/13/22	-	-	-	-	-	-	-
9/14/22	11:00:00	2190	8.6	694	694	NA	1
9/15/22	-	-	-	-	-	-	-
9/16/22	-	-	-	-	-	-	-
9/17/22	-	-	-	-	-	-	-
9/18/22	-	-	-	-	-	-	-
9/19/22	-	-	-	-	-	-	-
9/20/22	-	-	-	-	-	-	-
9/21/22	-	-	-	-	-	-	-
9/22/22	10:35:00	2110	8.52	664	664	73	1
9/23/22	-	-	-	-	-	-	-
9/24/22	-	-	-	-	-	-	-
9/25/22	-	-	-	-	-	-	-
9/26/22	-	-	-	-	-	-	-
9/27/22	-	-	-	-	-	-	-
9/28/22	10:35:00	2070	8.57	623	623	NA	1
9/29/22	-	-	-	-	-	-	-
9/30/22	-	-	-	-	-	-	-
Minimum		2070	8.52	623	623	73	
Maximum		2190	8.6	721	721	73	
Average		2123	8.57	676	676	73	

Notes:

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

mg/L - milligrams per liter or parts per million

NA - Not analyzed

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Bold font denotes sample sulfate concentration exceeds 750 mg/L