

October 16, 2020

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

Re: September 2020 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 2020 is enclosed. Over the month, the West and East Outlets operated at average rates of 243 and 80 cubic feet per second (cfs) respectively. The total outlet discharge in September was 19,229 acre-feet which brings the season total 71,381 acre-feet. Both outlets are scheduled to be shut down for the season by October 31st.

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:TD/416-10
Enclosure

September 2020 Devils Lake Outlet Discharge Summary

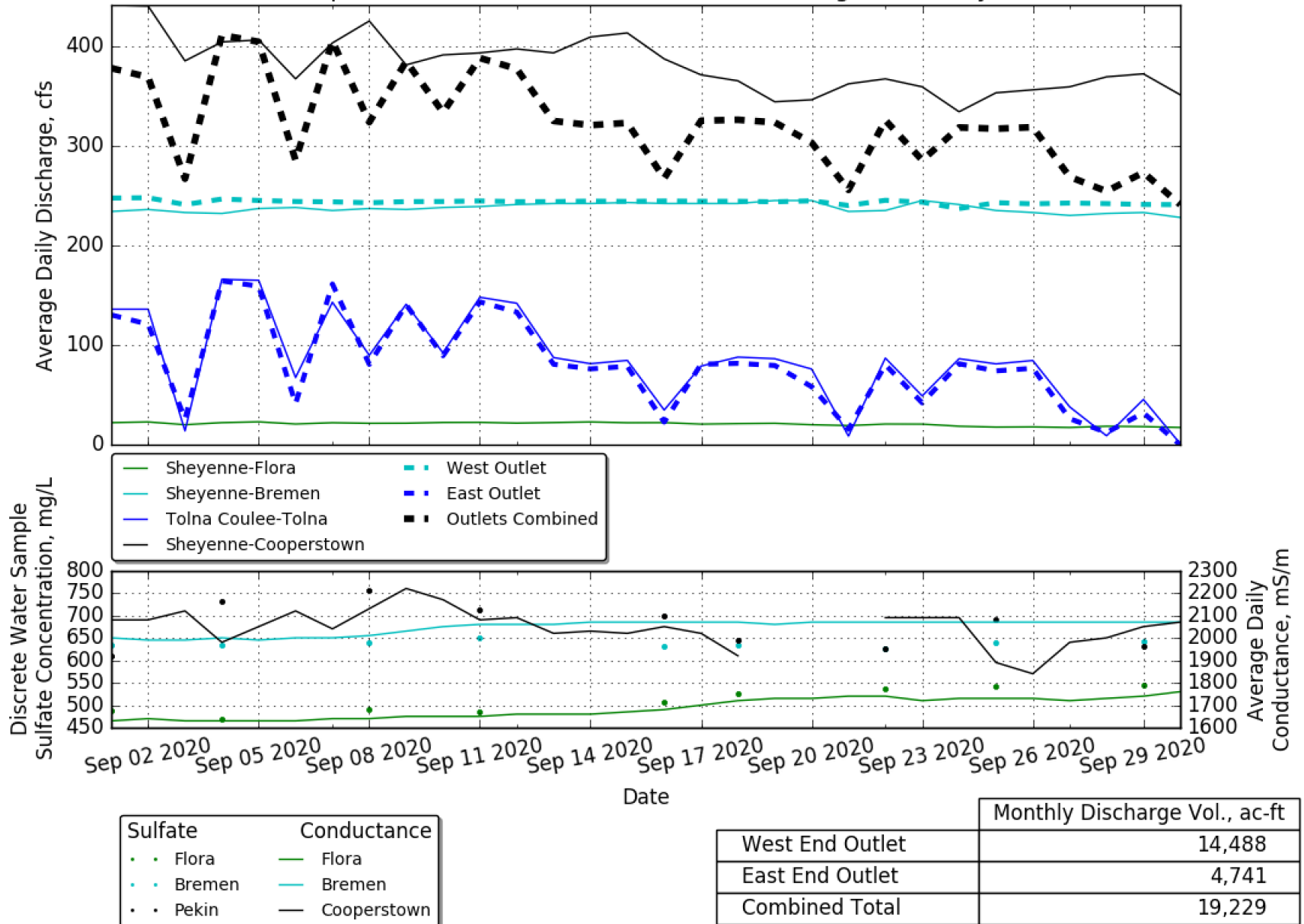


Figure 1: Devils Lake Outlet Discharge Summary

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
9/1/20	9/31/2020

LOCATION: Benson Co, ND

Devils Lake West Outlet discharged 14,488 ac-ft over 30 Days

PARAMETER	MINIMUM	MAXIMUM	AVERAGE	UNITS	SAMPLING FREQUENCY	TYPE
pH	8.66	8.83	8.75	SU	2 x Week	GRAB
SULFATE	629	658	641	mg/L	2 x Week	GRAB
7 DAY AVERAGE OF SULFATE	633	656	641	mg/L	Average	GRAB
OUTLET DISCHARGE	237	248	243	cfs	Continuous	Recorder
SIGNATURE				10/16/20	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
9/1/20	9/31/2020

LOCATION: Ramsey, Benson, Nelson, ND

Devils Lake East Outlet discharged 4,741 ac-ft over 29 Days

PARAMETER	MINIMUM	MAXIMUM	AVERAGE	UNITS	SAMPLING FREQUENCY	TYPE
pH	8.53	8.89	8.73	SU	2 x Week	GRAB
SPECIFIC CONDUCTANCE	2790	3000	2888	µS/cm	Continuous	Recorder
SULFATE	972	1000	982	mg/L	2 x Week	GRAB
7 DAY AVERAGE OF SULFATE	974	995	981	mg/L	Average	GRAB
OUTLET DISCHARGE	0	164	80	cfs	Continuous	Recorder
SIGNATURE				10/16/20	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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- 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

MONITORING PERIOD	
START DATE	END DATE
9/1/20	9/31/2020

LOCATION: Benson Co, ND

PARAMETER	MINIMUM	MAXIMUM	AVERAGE	UNITS	SAMPLING FREQUENCY	TYPE
pH	8.45	8.66	8.54	SU	2 x Week	GRAB
SPECIFIC CONDUCTANCE	1,630	1,760	1,686	µS/cm	Continuous	Recorder
SULFATE	470	545	510	mg/L	2 x Week	GRAB
7 DAY AVERAGE OF SULFATE	479	543	506	mg/L	Average	GRAB
FLOW, INSTREAM	17	23	21	cfs	Continuous	Recorder
SIGNATURE				10/16/20	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
9/1/20	9/31/2020

PARAMETER	MINIMUM	MAXIMUM	AVERAGE	UNITS	SAMPLING FREQUENCY	TYPE
pH	8.62	8.86	8.74	SU	2 x Week	GRAB
SPECIFIC CONDUCTANCE	1,990	2,070	2,047	µS/cm	Continuous	Recorder
SULFATE	626	649	637	mg/L	2 x Week	GRAB
7 DAY AVERAGE OF SULFATE	630	645	637	mg/L	Average	GRAB
FLOW, INSTREAM	228	245	238	cfs	Continuous	Recorder
SIGNATURE				10/16/20	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:

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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
- 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

MONITORING PERIOD	
START DATE	END DATE
9/1/20	9/31/2020

LOCATION: Nelson Co, ND

PARAMETER	MINIMUM	MAXIMUM	AVERAGE	UNITS	SAMPLING FREQUENCY	TYPE
pH	8.52	8.73	8.65	SU	2 x Week	GRAB
SULFATE	611	757	678	mg/L	2 x Week	GRAB
7 DAY AVERAGE OF SULFATE	657	744	686	mg/L	Average	GRAB
FLOW, INSTREAM	NA	NA	NA	cfs	Continuous	Recorder
SIGNATURE				10/16/20	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
9/1/20	9/31/2020

PARAMETER	MINIMUM	MAXIMUM	AVERAGE	UNITS	SAMPLING FREQUENCY	TYPE
pH	8.46	8.58	8.54	SU	Weekly	GRAB
SPECIFIC CONDUCTANCE	1,840	2,220	2,049	µS/cm	Continuous	Recorder
SULFATE	652	708	680	mg/L	Weekly	GRAB
7 DAY AVERAGE OF SULFATE	668	708	686	mg/L	Average	GRAB
FLOW, INSTREAM	334	441	381	cfs	Continuous	Recorder
SIGNATURE				10/16/20	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

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 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)
9/1/20	22	1,630	247	21,381,000	234	2,000	130	11,257,000	136	2,840	441	2,080	378	32,638,000
9/2/20	23	1,640	248	21,409,000	236	1,990	121	10,449,000	136	2,990	440	2,080	369	31,858,000
9/3/20	20	1,630	241	20,815,000	233	1,990	26	2,234,000	14	2,980	385	2,120	267	23,049,000
9/4/20	22	1,630	246	21,296,000	232	2,000	164	14,203,000	166	2,990	404	1,980	411	35,499,000
9/5/20	23	1,630	245	21,174,000	237	1,990	159	13,744,000	165	3,000	406	2,050	404	34,918,000
9/6/20	21	1,630	244	21,084,000	238	2,000	41	3,565,000	68	2,990	367	2,120	285	24,649,000
9/7/20	22	1,640	244	21,052,000	235	2,000	161	13,938,000	143	2,980	403	2,040	405	34,990,000
9/8/20	22	1,640	243	20,975,000	237	2,010	81	6,976,000	90	2,990	425	2,130	324	27,951,000
9/9/20	22	1,650	244	21,073,000	236	2,030	141	12,144,000	141	2,980	381	2,220	384	33,217,000
9/10/20	23	1,650	244	21,084,000	238	2,050	89	7,721,000	92	2,990	391	2,170	333	28,805,000
9/11/20	23	1,650	245	21,127,000	239	2,060	143	12,385,000	148	2,930	393	2,080	388	33,512,000
9/12/20	22	1,660	244	21,070,000	241	2,060	133	11,505,000	142	2,950	397	2,090	377	32,575,000
9/13/20	22	1,660	244	21,074,000	242	2,060	81	6,982,000	88	2,970	393	2,020	325	28,056,000
9/14/20	23	1,660	244	21,115,000	242	2,070	76	6,583,000	81	2,940	409	2,030	321	27,698,000
9/15/20	22	1,670	244	21,090,000	243	2,070	79	6,798,000	85	2,920	413	2,020	323	27,888,000
9/16/20	22	1,680	245	21,125,000	242	2,070	23	1,971,000	35	2,880	387	2,050	267	23,096,000
9/17/20	21	1,700	244	21,102,000	242	2,070	81	6,986,000	79	2,810	371	2,020	325	28,088,000
9/18/20	21	1,720	244	21,103,000	242	2,070	82	7,059,000	88	2,850	365	1,920	326	28,162,000
9/19/20	22	1,730	244	21,057,000	245	2,060	80	6,877,000	86	2,920	344	-	323	27,934,000
9/20/20	20	1,730	245	21,141,000	245	2,070	58	5,040,000	76	2,980	346	-	303	26,181,000
9/21/20	19	1,740	240	20,739,000	234	2,070	16	1,350,000	9	2,910	362	-	256	22,089,000
9/22/20	21	1,740	245	21,186,000	235	2,070	80	6,938,000	87	2,900	367	2,090	326	28,124,000
9/23/20	21	1,720	243	21,024,000	245	2,070	42	3,636,000	49	2,940	359	2,090	285	24,660,000
9/24/20	19	1,730	237	20,468,000	241	2,070	81	7,025,000	86	2,950	334	2,090	318	27,493,000
9/25/20	18	1,730	243	20,980,000	235	2,070	74	6,409,000	81	2,920	353	1,890	317	27,389,000
9/26/20	18	1,730	242	20,883,000	233	2,070	77	6,634,000	85	2,860	356	1,840	318	27,517,000
9/27/20	17	1,720	242	20,949,000	230	2,070	26	2,271,000	38	2,900	359	1,980	269	23,220,000
9/28/20	19	1,730	242	20,901,000	232	2,070	12	1,066,000	9	2,860	369	2,000	254	21,967,000
9/29/20	18	1,740	241	20,828,000	233	2,070	32	2,769,000	46	2,890	372	2,050	273	23,597,000
9/30/20	17	1,760	241	20,809,000	228	2,070	0	0	1	2,900	351	2,070	241	20,809,000
Minimum	17	1,630	237	20,468,000	228	1,990	0	0	1	2,810	334	1,840	241	20,809,000
Maximum	23	1,760	248	21,409,000	245	2,070	164	14,203,000	166	3,000	441	2,220	411	35,499,000
Average	21	1,686	243	21,037,133	238	2,047	80	6,883,833	85	2,930	381	2,049	323	27,920,967
			Total (Mgal)	4,721			Total (Mgal)	1,545					Total (Mgal)	6,265
			Total (Ac-ft)	14,488			Total (Ac-ft)	4,741					Total (Ac-ft)	19,229

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
9/1/20	7:50	1,630	8.45	487	485	NA	2
9/2/20	-	-	-	-	-	-	-
9/3/20	-	-	-	-	-	-	-
9/4/20	9:10	1,630	8.66	470	479	NA	2
9/5/20	-	-	-	-	-	-	-
9/6/20	-	-	-	-	-	-	-
9/7/20	-	-	-	-	-	-	-
9/8/20	8:15	1,650	8.56	490	480	NA	2
9/9/20	-	-	-	-	-	-	-
9/10/20	-	-	-	-	-	-	-
9/11/20	9:50	1,650	8.60	486	488	NA	2
9/12/20	-	-	-	-	-	-	-
9/13/20	-	-	-	-	-	-	-
9/14/20	-	-	-	-	-	-	-
9/15/20	-	-	-	-	-	-	-
9/16/20	7:45	1,680	8.53	508	497	17	2
9/17/20	-	-	-	-	-	-	-
9/18/20	10:15	1,720	8.48	525	517	NA	2
9/19/20	-	-	-	-	-	-	-
9/20/20	-	-	-	-	-	-	-
9/21/20	-	-	-	-	-	-	-
9/22/20	8:00	1,750	8.46	537	523	NA	3
9/23/20	-	-	-	-	-	-	-
9/24/20	-	-	-	-	-	-	-
9/25/20	9:30	1,730	8.59	541	539	NA	2
9/26/20	-	-	-	-	-	-	-
9/27/20	-	-	-	-	-	-	-
9/28/20	-	-	-	-	-	-	-
9/29/20	8:00	1,730	8.52	545	543	NA	2
9/30/20	-	-	-	-	-	-	-
Minimum		1,630	8.45	470	479	17	
Maximum		1,750	8.66	545	543	17	
Average		1,686	8.54	510	506	17	

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 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
9/1/20	8:00	-	8.70	658	646	NA	2
9/2/20	-	-	-	-	-	-	-
9/3/20	-	-	-	-	-	-	-
9/4/20	9:20	-	8.83	654	656	NA	2
9/5/20	-	-	-	-	-	-	-
9/6/20	-	-	-	-	-	-	-
9/7/20	-	-	-	-	-	-	-
9/8/20	8:30	-	8.73	629	642	NA	2
9/9/20	-	-	-	-	-	-	-
9/10/20	-	-	-	-	-	-	-
9/11/20	10:00	-	8.83	637	633	NA	2
9/12/20	-	-	-	-	-	-	-
9/13/20	-	-	-	-	-	-	-
9/14/20	-	-	-	-	-	-	-
9/15/20	-	-	-	-	-	-	-
9/16/20	8:00	-	8.71	639	638	12	2
9/17/20	-	-	-	-	-	-	-
9/18/20	10:25	-	8.79	638	639	NA	2
9/19/20	-	-	-	-	-	-	-
9/20/20	-	-	-	-	-	-	-
9/21/20	-	-	-	-	-	-	-
9/22/20	8:15	-	8.68	635	637	NA	3
9/23/20	-	-	-	-	-	-	-
9/24/20	-	-	-	-	-	-	-
9/25/20	9:45	-	8.80	643	639	NA	2
9/26/20	-	-	-	-	-	-	-
9/27/20	-	-	-	-	-	-	-
9/28/20	-	-	-	-	-	-	-
9/29/20	8:10	-	8.66	635	639	NA	2
9/30/20	-	-	-	-	-	-	-
Minimum			8.66	629	633	12	
Maximum			8.83	658	656	12	
Average			8.75	641	641	0	

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 (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
9/1/20	7:25	2,000	8.62	635	641	NA	2
9/2/20	-	-	-	-	-	-	-
9/3/20	-	-	-	-	-	-	-
9/4/20	8:40	1,990	8.86	633	634	NA	2
9/5/20	-	-	-	-	-	-	-
9/6/20	-	-	-	-	-	-	-
9/7/20	-	-	-	-	-	-	-
9/8/20	7:55	2,000	8.73	640	637	NA	2
9/9/20	-	-	-	-	-	-	-
9/10/20	-	-	-	-	-	-	-
9/11/20	9:25	2,060	8.83	649	645	NA	2
9/12/20	-	-	-	-	-	-	-
9/13/20	-	-	-	-	-	-	-
9/14/20	-	-	-	-	-	-	-
9/15/20	-	-	-	-	-	-	-
9/16/20	7:15	2,070	8.70	632	641	16	2
9/17/20	-	-	-	-	-	-	-
9/18/20	9:50	2,070	8.75	633	633	NA	2
9/19/20	-	-	-	-	-	-	-
9/20/20	-	-	-	-	-	-	-
9/21/20	-	-	-	-	-	-	-
9/22/20	7:40	2,070	8.68	626	630	NA	3
9/23/20	-	-	-	-	-	-	-
9/24/20	-	-	-	-	-	-	-
9/25/20	9:15	2,070	8.83	640	633	NA	2
9/26/20	-	-	-	-	-	-	-
9/27/20	-	-	-	-	-	-	-
9/28/20	-	-	-	-	-	-	-
9/29/20	7:35	2,070	8.70	642	641	NA	2
9/30/20	-	-	-	-	-	-	-
Minimum		1,990	8.62	626	630	16	
Maximum		2,070	8.86	649	645	16	
Average		2,044	8.74	637	637	16	

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 result

**East End Outlet
Monthly Water Quality Summary
Devils Lake 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
9/1/20	9:35	2820	8.67	982	976	NA	2
9/2/20	-	-	-	-	-	-	-
9/3/20	-	-	-	-	-	-	-
9/4/20	7:05	3000	8.53	1000	991	NA	2
9/5/20	-	-	-	-	-	-	-
9/6/20	-	-	-	-	-	-	-
9/7/20	-	-	-	-	-	-	-
9/8/20	9:45	3000	8.73	989	995	NA	2
9/9/20	-	-	-	-	-	-	-
9/10/20	-	-	-	-	-	-	-
9/11/20	7:45	2860	8.79	979	984	NA	2
9/12/20	-	-	-	-	-	-	-
9/13/20	-	-	-	-	-	-	-
9/14/20	-	-	-	-	-	-	-
9/15/20	-	-	-	-	-	-	-
9/16/20	9:25	2790	8.71	979	979	10	2
9/17/20	-	-	-	-	-	-	-
9/18/20	7:50	2930	8.89	980	980	NA	2
9/19/20	-	-	-	-	-	-	-
9/20/20	-	-	-	-	-	-	-
9/21/20	-	-	-	-	-	-	-
9/22/20	9:35	2850	8.73	972	977	NA	3
9/23/20	-	-	-	-	-	-	-
9/24/20	-	-	-	-	-	-	-
9/25/20	7:45	2950	8.83	976	974	NA	2
9/26/20	-	-	-	-	-	-	-
9/27/20	-	-	-	-	-	-	-
9/28/20	-	-	-	-	-	-	-
9/29/20	9:30	2790	8.71	979	978	NA	2
9/30/20	-	-	-	-	-	-	-
Minimum		2790	8.53	972	974	10	
Maximum		3000	8.89	1000	995	10	
Average		2888	8.73	982	981	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
9/1/20	9:55	-	8.52	611	668	NA	2
9/2/20	-	-	-	-	-	-	-
9/3/20	-	-	-	-	-	-	-
9/4/20	7:30	-	8.66	731	671	NA	2
9/5/20	-	-	-	-	-	-	-
9/6/20	-	-	-	-	-	-	-
9/7/20	-	-	-	-	-	-	-
9/8/20	10:05	-	8.62	757	744	NA	2
9/9/20	-	-	-	-	-	-	-
9/10/20	-	-	-	-	-	-	-
9/11/20	8:10	-	8.72	713	735	NA	2
9/12/20	-	-	-	-	-	-	-
9/13/20	-	-	-	-	-	-	-
9/14/20	-	-	-	-	-	-	-
9/15/20	-	-	-	-	-	-	-
9/16/20	9:50	-	8.65	700	707	25	2
9/17/20	-	-	-	-	-	-	-
9/18/20	7:30	-	8.72	645	673	NA	2
9/19/20	-	-	-	-	-	-	-
9/20/20	-	-	-	-	-	-	-
9/21/20	-	-	-	-	-	-	-
9/22/20	10:05	-	8.62	626	657	NA	3
9/23/20	-	-	-	-	-	-	-
9/24/20	-	-	-	-	-	-	-
9/25/20	8:10	-	8.73	692	659	NA	2
9/26/20	-	-	-	-	-	-	-
9/27/20	-	-	-	-	-	-	-
9/28/20	-	-	-	-	-	-	-
9/29/20	9:55	-	8.59	630	661	NA	2
9/30/20	-	-	-	-	-	-	-
Minimum			8.52	611	657	25	
Maximum			8.73	757	744	25	
Average			8.65	678	686	25	

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 (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
9/1/20	10:55	2,120	8.46	679	679	NA	1
9/2/20	-	-	-	-	-	-	-
9/3/20	-	-	-	-	-	-	-
9/4/20	-	-	-	-	-	-	-
9/5/20	-	-	-	-	-	-	-
9/6/20	-	-	-	-	-	-	-
9/7/20	-	-	-	-	-	-	-
9/8/20	11:00	2,120	8.54	693	693	NA	1
9/9/20	-	-	-	-	-	-	-
9/10/20	-	-	-	-	-	-	-
9/11/20	-	-	-	-	-	-	-
9/12/20	-	-	-	-	-	-	-
9/13/20	-	-	-	-	-	-	-
9/14/20	-	-	-	-	-	-	-
9/15/20	-	-	-	-	-	-	-
9/16/20	10:40	2,040	8.58	708	708	68	1
9/17/20	-	-	-	-	-	-	-
9/18/20	-	-	-	-	-	-	-
9/19/20	-	-	-	-	-	-	-
9/20/20	-	-	-	-	-	-	-
9/21/20	-	-	-	-	-	-	-
9/22/20	10:50	2,090	8.54	652	680	NA	2
9/23/20	-	-	-	-	-	-	-
9/24/20	-	-	-	-	-	-	-
9/25/20	-	-	-	-	-	-	-
9/26/20	-	-	-	-	-	-	-
9/27/20	-	-	-	-	-	-	-
9/28/20	-	-	-	-	-	-	-
9/29/20	10:40	2,050	8.56	668	668	NA	1
9/30/20	-	-	-	-	-	-	-
Minimum		2,040	8.46	652	668	68	
Maximum		2,120	8.58	708	708	68	
Average		2,084	8.54	680	686	68	

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