

August 19, 2020

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

Re: July 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 July 2020 is enclosed. Both outlets were shut down on June 30th and remained off for the majority of July because of high streamflow in the Upper Sheyenne River. The West Outlet began discharging to the Sheyenne River on July 22nd and the East Outlet was restarted on July 25th. While operational in July, the West and East Outlets discharged at average rates of 180 and 87 cubic feet per second respectively. The total outlet discharge in July was 4,770 acre-feet which brings the season total to 29,112 acre-feet.

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.

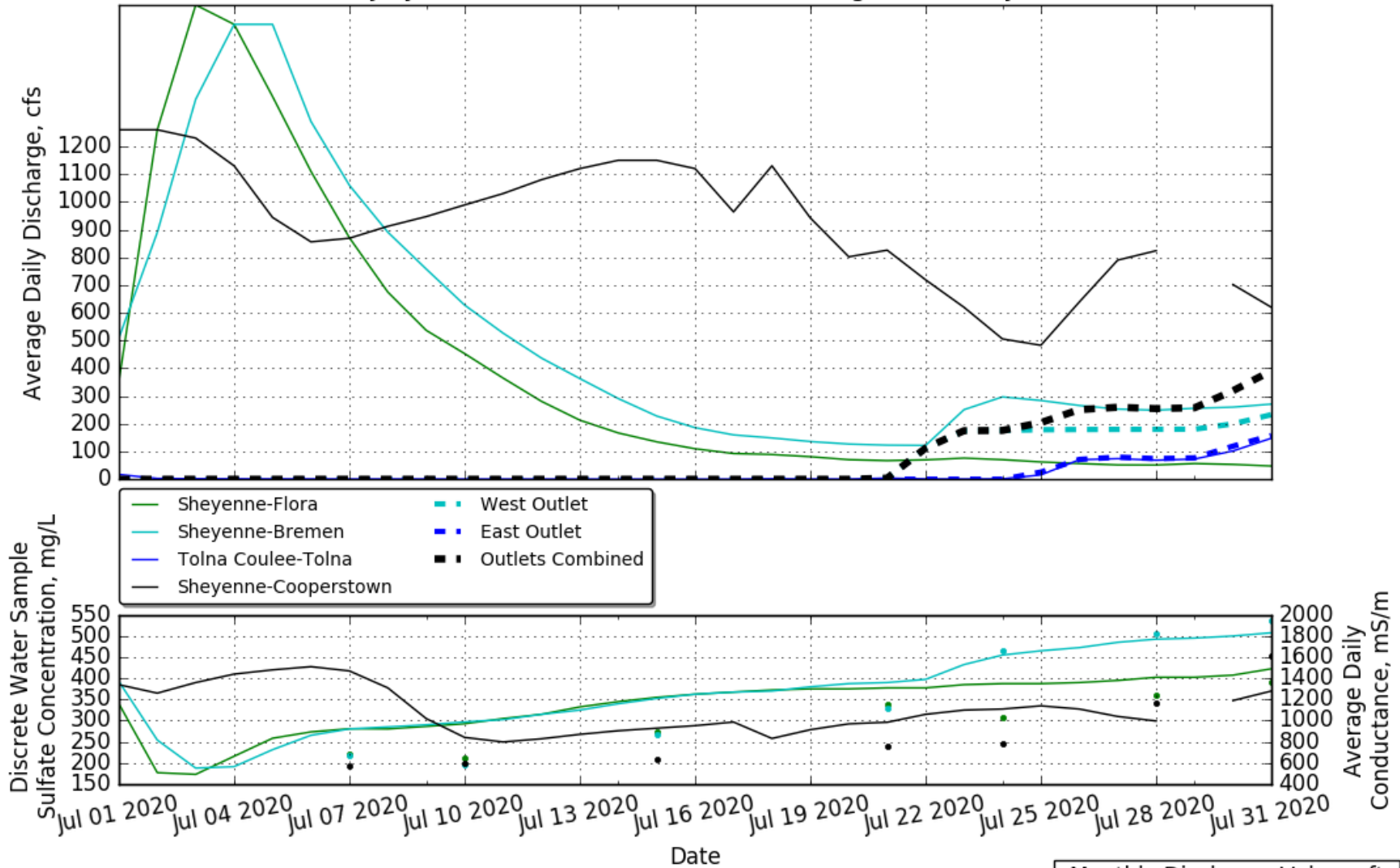
Sincerely,



Jonathan Kelsch P.E.
Director of Water Development

JK:TD/416-10
Enclosure

July 2020 Devils Lake Outlet Discharge Summary



Sulfate		Conductance	
• • Flora	— Flora	— Flora	— Flora
• • Bremen	— Bremen	— Bremen	— Bremen
• • Pekin	— Cooperstown	— Cooperstown	— Cooperstown

	Monthly Discharge Vol., ac-ft
West End Outlet	3,568
East End Outlet	1,202
Combined Total	4,770

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
7/1/20	7/31/20

LOCATION: Benson Co, ND

Devils Lake West Outlet discharged 3,568 ac-ft over 11 Days

PARAMETER	MINIMUM	MAXIMUM	AVERAGE	UNITS	SAMPLING FREQUENCY	TYPE
pH	8.69	8.78	8.73	SU	2 x Week	GRAB
SULFATE	530	821	624	mg/L	2 x Week	GRAB
7 DAY AVERAGE OF SULFATE	538	821	617	mg/L	Average	GRAB
OUTLET DISCHARGE	0	233	58	cfs	Continuous	Recorder
SIGNATURE				8/19/20	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
7/1/20	7/31/20

LOCATION: Ramsey, Benson, Nelson, ND

Devils Lake East Outlet discharged 1,202 ac-ft over 7 Days

PARAMETER	MINIMUM	MAXIMUM	AVERAGE	UNITS	SAMPLING FREQUENCY	TYPE
pH	8.71	9.25	8.89	SU	2 x Week	GRAB
SPECIFIC CONDUCTANCE	1600	2960	2503	µS/cm	Continuous	Recorder
SULFATE	405	972	782	mg/L	2 x Week	GRAB
7 DAY AVERAGE OF SULFATE	405	972	783	mg/L	Average	GRAB
OUTLET DISCHARGE	0	158	20	cfs	Continuous	Recorder
SIGNATURE				8/19/20	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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- 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

LOCATION: Benson Co, ND

MONITORING PERIOD	
START DATE	END DATE
7/1/20	7/31/20

PARAMETER	MINIMUM	MAXIMUM	AVERAGE	UNITS	SAMPLING FREQUENCY	TYPE
pH	7.73	8.26	8.06	SU	2 x Week	GRAB
SPECIFIC CONDUCTANCE	493	1,490	1,144	µS/cm	Continuous	Recorder
SULFATE	211	391	300	mg/L	2 x Week	GRAB
7 DAY AVERAGE OF SULFATE	216	376	288	mg/L	Average	GRAB
FLOW, INSTREAM	48	1710	395	cfs	Continuous	Recorder
SIGNATURE				8/19/20	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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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
7/1/20	7/31/20

PARAMETER	MINIMUM	MAXIMUM	AVERAGE	UNITS	SAMPLING FREQUENCY	TYPE
pH	7.59	8.60	8.20	SU	2 x Week	GRAB
SPECIFIC CONDUCTANCE	552	1,830	1,254	µS/cm	Continuous	Recorder
SULFATE	197	538	360	mg/L	2 x Week	GRAB
7 DAY AVERAGE OF SULFATE	208	523	337	mg/L	Average	GRAB
FLOW, INSTREAM	122	1640	513	cfs	Continuous	Recorder
SIGNATURE				8/19/20	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
- 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
7/1/20	7/31/20

LOCATION: Nelson Co, ND

PARAMETER	MINIMUM	MAXIMUM	AVERAGE	UNITS	SAMPLING FREQUENCY	TYPE
pH	7.75	8.39	8.14	SU	2 x Week	GRAB
SULFATE	192	453	269	mg/L	2 x Week	GRAB
7 DAY AVERAGE OF SULFATE	192	398	250	mg/L	Average	GRAB
FLOW, INSTREAM	NA	NA	NA	cfs	Continuous	Recorder
SIGNATURE				8/19/20	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
7/1/20	7/31/20

PARAMETER	MINIMUM	MAXIMUM	AVERAGE	UNITS	SAMPLING FREQUENCY	TYPE
pH	8.00	8.26	8.16	SU	Weekly	GRAB
SPECIFIC CONDUCTANCE	799	1,510	1,101	µS/cm	Continuous	Recorder
SULFATE	231	492	317	mg/L	Weekly	GRAB
7 DAY AVERAGE OF SULFATE	231	492	313	mg/L	Average	GRAB
FLOW, INSTREAM	483	1,260	920	cfs	Continuous	Recorder
SIGNATURE				8/19/20	701-328-4948	
NAME AND TITLE	JONATHAN KELSCH, DIRECTOR, WATER DEVELOPMENT DIVISION			DATE	TELEPHONE NUMBER	

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Notes:

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- 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)
7/1/20	353	1,160	0	0	509	1,370	0	0	17	2,210	1,260	1,340	0	0
7/2/20	1,260	509	0	0	890	817	0	0	3	943	1,260	1,260	0	0
7/3/20	1,710	493	0	0	1,370	552	0	0	2	2,160	1,230	1,360	0	0
7/4/20	1,640	664	0	0	1,640	566	0	0	2	2,210	1,130	1,440	0	0
7/5/20	1,380	834	0	0	1,640	726	0	0	1	2,070	944	1,480	0	0
7/6/20	1,110	894	0	0	1,290	862	0	0	1	2,100	856	1,510	0	0
7/7/20	871	924	0	0	1,060	922	0	0	1	1,930	869	1,470	0	0
7/8/20	675	922	0	0	891	941	0	0	1	1,820	912	1,310	0	0
7/9/20	537	946	0	0	758	961	0	0	1	1,700	947	1,020	0	0
7/10/20	453	971	0	0	628	988	0	0	1	1,550	989	842	0	0
7/11/20	365	1,020	0	0	527	1,010	0	0	1	1,570	1,030	799	0	0
7/12/20	281	1,060	0	0	437	1,060	0	0	0	1,470	1,080	829	0	0
7/13/20	213	1,130	0	0	363	1,100	0	0	0	1,440	1,120	871	0	0
7/14/20	167	1,180	0	0	291	1,160	0	0	0	1,410	1,150	905	0	0
7/15/20	135	1,220	0	0	228	1,210	0	0	0	1,390	1,150	929	0	0
7/16/20	110	1,250	0	0	186	1,250	0	0	0	1,370	1,120	953	0	0
7/17/20	93	1,270	0	0	160	1,270	0	0	0	-	964	987	0	0
7/18/20	89	1,290	0	0	149	1,280	0	0	2	1,040	1,130	832	0	0
7/19/20	81	1,300	0	0	136	1,320	0	0	1	928	942	915	0	0
7/20/20	71	1,300	0	0	127	1,350	0	0	1	930	802	970	0	0
7/21/20	67	1,310	4	357,000	123	1,360	0	0	4	779	826	985	4	357,000
7/22/20	70	1,310	112	9,710,000	122	1,390	0	0	1	799	719	1,060	112	9,710,000
7/23/20	76	1,340	175	15,136,000	251	1,530	0	0	1	849	620	1,100	175	15,136,000
7/24/20	71	1,350	176	15,209,000	297	1,620	0	0	1	869	506	1,110	176	15,209,000
7/25/20	63	1,350	179	15,427,000	284	1,660	26	2,235,000	16	978	483	1,140	204	17,662,000
7/26/20	57	1,360	179	15,497,000	266	1,690	72	6,182,000	71	2,930	639	1,110	251	21,679,000
7/27/20	52	1,380	180	15,539,000	253	1,740	80	6,892,000	74	2,950	790	1,040	260	22,431,000
7/28/20	51	1,410	180	15,567,000	249	1,770	75	6,440,000	69	2,940	824	997	255	22,007,000
7/29/20	57	1,410	181	15,603,000	256	1,780	77	6,661,000	73	2,940	-	-	258	22,264,000
7/30/20	54	1,430	200	17,256,000	260	1,800	119	10,317,000	102	2,950	702	1,190	319	27,573,000
7/31/20	48	1,490	233	20,122,000	271	1,830	158	13,644,000	148	2,950	620	1,280	391	33,766,000
Minimum	48	493	0	0	122	552	0	0	0	779	483	799	0	0
Maximum	1,710	1,490	233	20,122,000	1,640	1,830	158	13,644,000	148	2,950	1,260	1,510	391	33,766,000
Average	395	1,144	58	5,013,645	513	1,254	20	1,689,387	19	1,739	920	1,101	78	6,703,032
			Total (Mgal)	1,163			Total (Mgal)	392					Total (Mgal)	1,554
			Total (Ac-ft)	3,568			Total (Ac-ft)	1,202					Total (Ac-ft)	4,770

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
7/1/20	-	-	-	-	-	-	-
7/2/20	-	-	-	-	-	-	-
7/3/20	-	-	-	-	-	-	-
7/4/20	-	-	-	-	-	-	-
7/5/20	-	-	-	-	-	-	-
7/6/20	-	-	-	-	-	-	-
7/7/20	8:15	921	7.85	221	221	6	1
7/8/20	-	-	-	-	-	-	-
7/9/20	-	-	-	-	-	-	-
7/10/20	9:30	958	7.73	211	216	NA	2
7/11/20	-	-	-	-	-	-	-
7/12/20	-	-	-	-	-	-	-
7/13/20	-	-	-	-	-	-	-
7/14/20	-	-	-	-	-	-	-
7/15/20	8:30	1,210	8.07	275	243	NA	2
7/16/20	-	-	-	-	-	-	-
7/17/20	-	-	-	-	-	-	-
7/18/20	-	-	-	-	-	-	-
7/19/20	-	-	-	-	-	-	-
7/20/20	-	-	-	-	-	-	-
7/21/20	8:40	1,300	8.26	338	307	NA	2
7/22/20	-	-	-	-	-	-	-
7/23/20	-	-	-	-	-	-	-
7/24/20	9:50	1,350	8.23	307	323	NA	2
7/25/20	-	-	-	-	-	-	-
7/26/20	-	-	-	-	-	-	-
7/27/20	-	-	-	-	-	-	-
7/28/20	8:00	1,400	8.23	360	334	NA	2
7/29/20	-	-	-	-	-	-	-
7/30/20	-	-	-	-	-	-	-
7/31/20	10:00	1,460	8.04	391	376	NA	2
Minimum		921	7.73	211	216	6	
Maximum		1,460	8.26	391	376	6	
Average		1,228	8.06	300	288	6	

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
7/1/20	-	-	-	-	-	-	-
7/2/20	-	-	-	-	-	-	-
7/3/20	-	-	-	-	-	-	-
7/4/20	-	-	-	-	-	-	-
7/5/20	-	-	-	-	-	-	-
7/6/20	-	-	-	-	-	-	-
7/7/20	-	-	-	-	-	-	-
7/8/20	-	-	-	-	-	-	-
7/9/20	-	-	-	-	-	-	-
7/10/20	9:45	-	8.78	821	821	NA	1
7/11/20	-	-	-	-	-	-	-
7/12/20	-	-	-	-	-	-	-
7/13/20	-	-	-	-	-	-	-
7/14/20	-	-	-	-	-	-	-
7/15/20	-	-	-	-	-	-	-
7/16/20	-	-	-	-	-	-	-
7/17/20	-	-	-	-	-	-	-
7/18/20	-	-	-	-	-	-	-
7/19/20	-	-	-	-	-	-	-
7/20/20	-	-	-	-	-	-	-
7/21/20	-	-	-	-	-	-	-
7/22/20	-	-	-	-	-	-	-
7/23/20	-	-	-	-	-	-	-
7/24/20	10:00	-	8.69	545	545	NA	1
7/25/20	-	-	-	-	-	-	-
7/26/20	-	-	-	-	-	-	-
7/27/20	-	-	-	-	-	-	-
7/28/20	8:10	-	8.71	530	538	NA	2
7/29/20	-	-	-	-	-	-	-
7/30/20	-	-	-	-	-	-	-
7/31/20	10:15	-	8.74	599	565	NA	2
Minimum			8.69	530	538	0	
Maximum			8.78	821	821	0	
Average			8.73	624	617	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
7/1/20	-	-	-	-	-	-	-
7/2/20	-	-	-	-	-	-	-
7/3/20	-	-	-	-	-	-	-
7/4/20	-	-	-	-	-	-	-
7/5/20	-	-	-	-	-	-	-
7/6/20	-	-	-	-	-	-	-
7/7/20	7:45	915	7.82	219	219	9	1
7/8/20	-	-	-	-	-	-	-
7/9/20	-	-	-	-	-	-	-
7/10/20	9:10	982	7.59	197	208	NA	2
7/11/20	-	-	-	-	-	-	-
7/12/20	-	-	-	-	-	-	-
7/13/20	-	-	-	-	-	-	-
7/14/20	-	-	-	-	-	-	-
7/15/20	8:15	1,200	8.13	266	232	NA	2
7/16/20	-	-	-	-	-	-	-
7/17/20	-	-	-	-	-	-	-
7/18/20	-	-	-	-	-	-	-
7/19/20	-	-	-	-	-	-	-
7/20/20	-	-	-	-	-	-	-
7/21/20	8:15	1,350	8.30	328	297	NA	2
7/22/20	-	-	-	-	-	-	-
7/23/20	-	-	-	-	-	-	-
7/24/20	9:30	-	8.42	465	397	NA	2
7/25/20	-	-	-	-	-	-	-
7/26/20	-	-	-	-	-	-	-
7/27/20	-	-	-	-	-	-	-
7/28/20	7:32	1,760	8.55	507	486	NA	2
7/29/20	-	-	-	-	-	-	-
7/30/20	-	-	-	-	-	-	-
7/31/20	9:30	1,830	8.60	538	523	NA	2
Minimum		915	7.59	197	208	9	
Maximum		1,830	8.60	538	523	9	
Average		1,340	8.20	360	337	9	

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
7/1/20	-	-	-	-	-	-	-
7/2/20	-	-	-	-	-	-	-
7/3/20	-	-	-	-	-	-	-
7/4/20	-	-	-	-	-	-	-
7/5/20	-	-	-	-	-	-	-
7/6/20	-	-	-	-	-	-	-
7/7/20	-	-	-	-	-	-	-
7/8/20	-	-	-	-	-	-	-
7/9/20	-	-	-	-	-	-	-
7/10/20	6:30	1600	9.25	405	405	NA	1
7/11/20	-	-	-	-	-	-	-
7/12/20	-	-	-	-	-	-	-
7/13/20	-	-	-	-	-	-	-
7/14/20	-	-	-	-	-	-	-
7/15/20	-	-	-	-	-	-	-
7/16/20	-	-	-	-	-	-	-
7/17/20	-	-	-	-	-	-	-
7/18/20	-	-	-	-	-	-	-
7/19/20	-	-	-	-	-	-	-
7/20/20	-	-	-	-	-	-	-
7/21/20	-	-	-	-	-	-	-
7/22/20	-	-	-	-	-	-	-
7/23/20	-	-	-	-	-	-	-
7/24/20	-	-	-	-	-	-	-
7/25/20	-	-	-	-	-	-	-
7/26/20	-	-	-	-	-	-	-
7/27/20	-	-	-	-	-	-	-
7/28/20	9:47	2950	8.72	972	972	NA	1
7/29/20	-	-	-	-	-	-	-
7/30/20	-	-	-	-	-	-	-
7/31/20	8:00	2960	8.71	970	971	NA	2
Minimum		1600	8.71	405	405	0	
Maximum		2960	9.25	972	972	0	
Average		2503	8.89	782	783	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
7/1/20	-	-	-	-	-	-	-
7/2/20	-	-	-	-	-	-	-
7/3/20	-	-	-	-	-	-	-
7/4/20	-	-	-	-	-	-	-
7/5/20	-	-	-	-	-	-	-
7/6/20	-	-	-	-	-	-	-
7/7/20	10:00	-	7.94	192	192	35	1
7/8/20	-	-	-	-	-	-	-
7/9/20	-	-	-	-	-	-	-
7/10/20	6:55	-	7.75	200	196	NA	2
7/11/20	-	-	-	-	-	-	-
7/12/20	-	-	-	-	-	-	-
7/13/20	-	-	-	-	-	-	-
7/14/20	-	-	-	-	-	-	-
7/15/20	9:45	-	8.01	210	205	NA	2
7/16/20	-	-	-	-	-	-	-
7/17/20	-	-	-	-	-	-	-
7/18/20	-	-	-	-	-	-	-
7/19/20	-	-	-	-	-	-	-
7/20/20	-	-	-	-	-	-	-
7/21/20	10:05	-	8.30	240	225	NA	2
7/22/20	-	-	-	-	-	-	-
7/23/20	-	-	-	-	-	-	-
7/24/20	7:40	-	8.32	246	243	NA	2
7/25/20	-	-	-	-	-	-	-
7/26/20	-	-	-	-	-	-	-
7/27/20	-	-	-	-	-	-	-
7/28/20	10:15	-	8.39	342	294	NA	2
7/29/20	-	-	-	-	-	-	-
7/30/20	-	-	-	-	-	-	-
7/31/20	8:30	-	8.25	453	398	NA	2
Minimum			7.75	192	192	35	
Maximum			8.39	453	398	35	
Average			8.14	269	250	35	

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 (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
7/1/20	-	-	-	-	-	-	-
7/2/20	-	-	-	-	-	-	-
7/3/20	-	-	-	-	-	-	-
7/4/20	-	-	-	-	-	-	-
7/5/20	-	-	-	-	-	-	-
7/6/20	-	-	-	-	-	-	-
7/7/20	11:00	1,470	8.26	492	492	107	1
7/8/20	-	-	-	-	-	-	-
7/9/20	-	-	-	-	-	-	-
7/10/20	-	-	-	-	-	-	-
7/11/20	-	-	-	-	-	-	-
7/12/20	-	-	-	-	-	-	-
7/13/20	-	-	-	-	-	-	-
7/14/20	-	-	-	-	-	-	-
7/15/20	10:20	928	8.00	231	231	NA	1
7/16/20	-	-	-	-	-	-	-
7/17/20	-	-	-	-	-	-	-
7/18/20	-	-	-	-	-	-	-
7/19/20	-	-	-	-	-	-	-
7/20/20	-	-	-	-	-	-	-
7/21/20	11:00	967	8.18	266	249	NA	2
7/22/20	-	-	-	-	-	-	-
7/23/20	-	-	-	-	-	-	-
7/24/20	-	-	-	-	-	-	-
7/25/20	-	-	-	-	-	-	-
7/26/20	-	-	-	-	-	-	-
7/27/20	-	-	-	-	-	-	-
7/28/20	11:05	1,020	8.19	279	279	NA	1
7/29/20	-	-	-	-	-	-	-
7/30/20	-	-	-	-	-	-	-
7/31/20	-	-	-	-	-	-	-
Minimum		928	8.00	231	231	107	
Maximum		1,470	8.26	492	492	107	
Average		1,096	8.16	317	313	107	

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