

## Appendix 2: Waters EPA is Adding to the Minnesota 2020 303(d) List (April 27, 2021)

Waterbody Name	AUID	Total Observations per AUID	Number of Observations greater than 10 mg/L	Percent Observations above 10 mg/L	Mean	StDev	Min	Max	Part of MPCA's 1300+	Meets EPA screening analysis criteria and data indicates impairment
Partridge River	04010201-552	53	51	96%	92.80	141.60	6.00	883.00	Yes	Yes
Embarrass River	04010201-579	71	36	51%	29.08	38.20	1.00	151.00	Yes	Yes
Second Creek	04010201-952	12	12	100%	603.67	326.88	219.00	1100.00	Yes	Yes
Embarrass River <sup>1</sup>	04010201-A99	3	3	100%	22.13	5.13	16.30	26.70	Yes	Yes
Embarrass River <sup>2</sup>	04010201-B00	37	36	97%	27.09	9.35	2.30	48.30	No <sup>2</sup>	Yes
Swan River	07010103-753	11	10	91%	22.14	8.75	3.00	38.40	Yes	Yes
Crow River, Middle Fork	07010204-537	12	12	100%	45.28	11.97	20.40	60.50	Yes	Yes
Long Prairie River	07010108-501	24	18	75%	13.98	7.59	5.33	35.30	Yes	Yes
Stanchfield Creek <sup>3</sup>	07010207-518	26	14	54%	12.63	7.37	5.90	40.00	Yes	Yes
Trott Brook	07010207-680	16	16	100%	16.31	5.09	10.00	28.00	Yes	Yes
Mississippi River	07040003-627	30	30	100%	36.84	12.39	17.90	65.60	Yes	Yes
Mississippi River	07060001-509	5	4	80%	16.64	8.69	9.25	30.85	Yes	Yes
Clearwater River	09020305-647	15	15	100%	46.83	27.72	15.00	99.30	Yes	Yes
Sand River	09030002-501	46	44	96%	104.08	79.52	0.05	286.00	Yes	Yes
Pike River	09030002-503	18	15	83%	22.19	11.75	3.00	43.00	Yes	Yes
Hay Lake	31-0037-00	9	9	100%	44.67	20.49	10.24	78.00	Yes	Yes
Swan Lake (SW Bay)	31-0067-03	6	4	67%	19.50	16.94	6.90	42.50	Yes	Yes
Ox Hide <sup>3</sup>	31-0106-00	4	4	100%	22.25	7.57	13.92	29.00	Yes	Yes
Lake Monongalia	34-0158-01	10	10	100%	30.94	8.61	16.50	45.40	Yes	Yes
Lake Monongalia	34-0158-02	6	6	100%	25.46	7.79	11.30	33.60	Yes	Yes
East Vermillion	69-0378-01	21	20	95%	12.38	1.57	9.97	14.60	Yes	Yes
Vermillion <sup>4</sup>	69-0378-03	13	8	62%	9.97	2.88	1.00	12.10	Yes	Yes
Wynne	69-0434-02	7	6	86%	19.06	22.51	2.20	69.35	Yes	Yes
Embarrass Lake	69-0496-00	9	9	100%	20.76	7.34	11.00	37.30	Yes	Yes
Esquagama Lake	69-0565-00	6	6	100%	16.11	5.54	12.50	26.85	Yes	Yes
Cedar Island (N)	69-0568-01	5	5	100%	23.16	7.67	16.30	36.05	Yes	Yes
Cedar Island (S)	69-0568-02	7	6	86%	17.47	7.16	2.24	23.65	Yes	Yes
Little Sandy Lake	69-0729-00	18	18	100%	220.22	109.61	87.00	475.00	Yes	Yes
Sandy Lake	69-0730-00	29	28	97%	141.03	81.29	3.05	310.00	Yes	Yes
Rice Lake	71-0142-00	59	54	92%	15.98	5.50	2.30	27.40	Yes	Yes

<sup>1</sup> = The number of individual sulfate samples for the Embarrass River segment (04010201-A99) was below EPA's screening analysis recommendation of at least 5 samples. But EPA considered sulfate conditions in upstream segments, Embarrass Lake (69-0496-00), Embarrass River (04010201-579) and downstream segments, Esquagama Lake (69-0565-00), Embarrass River (04010201-B00), to characterize the overall sulfate conditions in this hydrologic system. The excessive sulfate in this river/lake system suggests that -A99 should be considered impaired.

<sup>2</sup> = The Embarrass River segment (04010201-B00) is not included in Appendix 1, but MPCA did recognize the Embarrass River as a "water used for the production of wild rice" in its March 15, 2021 letter to EPA. EPA considered that affirmation to apply to all segments of the Embarrass River, -579, -A99 and -B00.

<sup>3</sup> = The number of individual sulfate samples for Ox Hide Lake (31-0106-00) was below EPA's screening analysis recommendation of at least 5 samples. But EPA considered the overall water quality data set (e.g., mean is 2 times the numeric 10 mg/L sulfate criterion, all 4 samples are above 10 mg/L) and found Ox Hide Lake to be impaired.

<sup>4</sup> = For Vermillion Lake (69-0378-03) EPA considered sulfate data collected in 2008 prior to October 1, 2008 (5/16/2008 to 9/30/2008, 9 sulfate samples). Within those 9 samples, there is one sulfate measurement collected on 6/2/2008 (1 mg/L) which potentially is an erroneous measurement. The other 12 sulfate measurements are in the range of 8.69 mg/L to 12.1 mg/L. If one were to remove the sulfate measurement from 6/2/2008 (1 mg/L) from the overall sulfate data which EPA analyzed, the average sulfate concentration for 12 samples increases to 10.71 mg/L. Based on this potential erroneous measurement and the overall sulfate concentration data set, EPA found Vermillion Lake (69-0378-03) to be impaired.