

**CLMN WHITEWATER AND RICE LAKE WATER CHEMISTRY
2023 ANNUAL REPORT
(FOR MARCH 31 THROUGH AUGUST 19, 2023)**

Whitewater and Rice Lakes are drainage lakes of 705 and 127 acres, respectively. Whitewater Lake flows into Rice Lake intermittently. The lake levels were normal with little to no flow during the study period.

Whitewater Lake (4 locations) and Rice Lake (1 location) were sampled and tested for:

Clarity	Phosphorous
Temperature	Chlorophyll A
Oxygen	

The average secchi disk reading (clarity) for Whitewater Lake at the deep hole Site A was to a depth of 6.7 ft, better than the average for the Southeast Georegion of 4.7 ft. Typically water color was green with perception of 1 to 2 (very nice to very minor aesthetic problems). The average secchi disk reading for Rice Lake was 3.3 ft., poorer than the Georegion average. Water color was green, perception 2 to 3 with occasional localized high amounts of algae present. The dissolved oxygen level was always over 7 mg/L at all locations and was always highest at site B in the south basin of Whitewater Lake. These measurements were made at all the test sites (pp. 2 and 3).

Whitewater Lake: Chemistry data (p. 4) was collected from samples collected at the deep hole, site A (653126). Chlorophyll A increased from 4.41 to 11.80 ug/L over the study period with the average being 8.69ug/L, lower than the average of 14 ug/L for the SE Georegion. Chlorophyll in algae makes the water green. Total phosphorous averaged 25.2 ug/L. Phosphorous is an algal nutrient. Lakes that have more than 20 to 30 ug/L may experience noticeable algal blooms. Rice Lake chemistry water samples were collected at the deep hole (653231) in June and July. Chlorophyll A was 22 and 23 ug/L and phosphorous 52 and 113 ug/L.

Temperature for both lakes ranged from about 44 to 80F, peaking in late July and averaging 66F.

The trophic classification for Whitewater Lake was mesotrophic and Rice Lake was eutrophic (p. 4).

Phosphorous and chlorophyll levels for Whitewater and Rice Lake for the last 6 years (2018 to 2023) are shown on the last page.

WHITEWATER LAKE, 816800					RICE LAKE, 816600
	SITE D NE BAY, "ISABELLA ISLAND"	SITE C NW BAY, "WEST SHORE"	SITE A DEEP HOLE	SITE B SOUTH BASIN, "BIRD ISLAND"	DEEP HOLE
ID	653140	653139	653126	653234	653231
Depth, ft	9	9	33-35	5-6	10

Secchi, Temperature and Dissolved Oxygen

DATE SAMPLED	PARAME TER, ft	SITE D	SITE C	SITE A	SITE B	RICE LAKE DEEP HOLE	UNITS
3/31	Secchi	5.00	5.00	6.00	6.00	3.25	Ft
4/11	Secchi	4.50	5.00	6.00	4.00	3.00	
4/29	Secchi	7.75	7.00	7.25	6.00	2.25	
5/16	Secchi	8.00	10.00	11.25	6.00	5.00	
5/29	Secchi	8.00	8.00	10.00	6.00	8.00	
6/17	Secchi	6.25	5.25	9.00	6.00	2.75	
6/29	Secchi	7.00	5.00	6.50	5.00	2.00	
7/16	Secchi	4.25	4.00	5.00	3.50	2.50	
7/29	Secchi	Not sampled				2.5	
7/30	Secchi	4.75	4.00	4.00	2.25	NA	
8/08	Secchi	5.00	5.00	4.25	3.75	NA	
8/19	Secchi	4.50	3.75	4.25	2.75	1.50	
	AVE	5.9	5.6	6.7	4.7	3.3	
	RANGE	8.00 to 4.25	10.00 to 3.75	11.25 to 4.25	6.00 to 2.25	8.00 to 1.50	

Sampling Locations

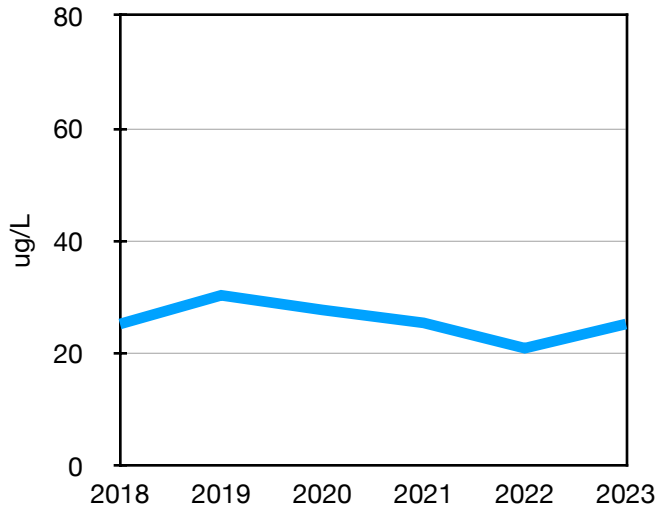
DATE SAMPLED	PARAMETER, F	SITE D	SITE C	SITE A	SITE B	RICE LAKE DEEP HOLE	UNITS
		NE BAY, "ISABELLA ISLAND"	NW BAY, "WEST SHORE"	DEEP HOLE, " E of Church"	SOUTH BASIN, "BIRD ISLAND"		
3/31	Temp	45.00	44.60	43.9	45.4	46.8	F @ 5 ft
4/11	Temp	54.30	52.80	52.8	55.6	54.7	
4/29	Temp	54.60	54.10	53.8	54.5	55.2	
5/16	Temp	64.60	64.60	63.6	64	62.2	
5/29	Temp	67.70	76.30	68.9	68.9	71.9	
6/17	Temp	72.10	70.70	70.3	70.1	70.3	
6/29	Temp	76.4	70.7	75.9	75.2	74.5	
7/16	Temp	79.1	78.7	78.5	79.1	NA	
7/29	Temp	not sampled				80.7	
7/30	Temp	80.9	82.1	82	81.2	NA	
8/08	Temp	78.9	79.3	79.3	79.4	NA	
8/19	Temp	73.4	73.8	73.4	72.2	72.7	
	Ave	67.9	68.0			Ave	

DATE SAMPLED	PARAMETER, mg/L	SITE D	SITE C	SITE A	SITE B	RICE LAKE DEEP HOLE	UNITS
		NE BAY, "ISABELLA ISLAND"	NW BAY, "WEST SHORE"	DEEP HOLE, " E of Church"	SOUTH BASIN, "BIRD ISLAND"		
3/31	DO	11.38	11.49	11.69	11.75	11.24	mg/L
4/11	DO	10.53	10.89	10.94	11.30	11.03	
4/29	DO	10.43	10.72	10.74	14.27	10.04	
5/16	DO	9.10	9.62	9.84	14.33	8.15	
5/29	DO	10.66	8.40	9.96	13.99	9.75	
6/17	DO	7.07	7.18	7.78	11.18	11.6	
6/29	DO	7.26	7.18	8.48	8.62	8.58	
7/16	DO	8.51	8.37	8.42	9.40		
7/29	DO	Not sampled				8.72	
7/30	DO	8.78	8.53	8.78	9.37		
8/08	DO	9.63	9.08	8.85	10.93		
8/19	DO	9.24	8.69	8.66	9.67	10.97	
	Ave	9.2	9.1	9.5	11.3	10.0	
	RANGE	7.07 to 11.38	8.4 to 11.49	8.42 to 11.69	8.62 to 11.75	8.72 to 11.24	

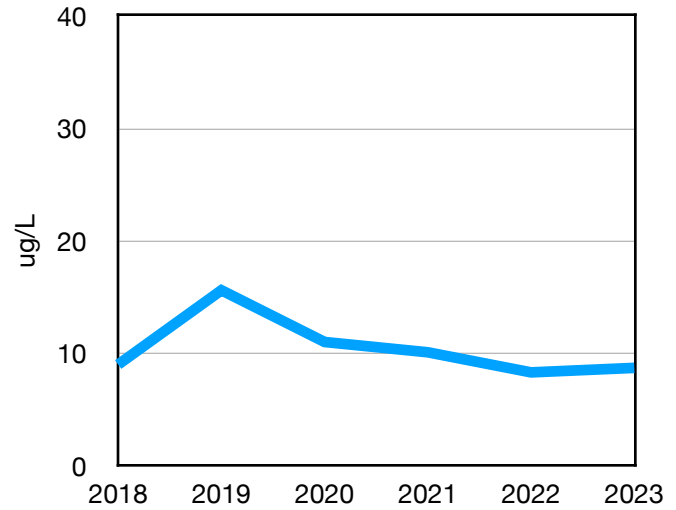
Whitewater and Rice Lake Water Chemistry				
WW LAKE, DEEP HOLE, 653126			RICE LAKE, DEEP HOLE, 653231	
DATE SAMPLED	Phosphorous, mg/L	Chlorophyll, ug/L	Phosphorous, mg/L	Chlorophyll, ug/L
06/29/2023	0.0209	4.41	0.113	23.2
07/29/2023	0.0294	9.85	0.0524	22.0
08/19/2023	0.0252	11.8	NA	NA
Ave	0.0252	8.69	0.0827	22.6

Trophic Classifications based upon available data from this study				
	Phosphorous ul/L	Chlorophyll, ug/L	Secchi,ft	Classification
Whitewater Lake (a)	25.2	8.69	6.7	Mesotrophic
Rice Lake (b)	82.7	22.6	3.3	Eutrophic
(a) average of 3 measurements for P and Ch A. (b) Average of 2 measurements for P and Ch A.				

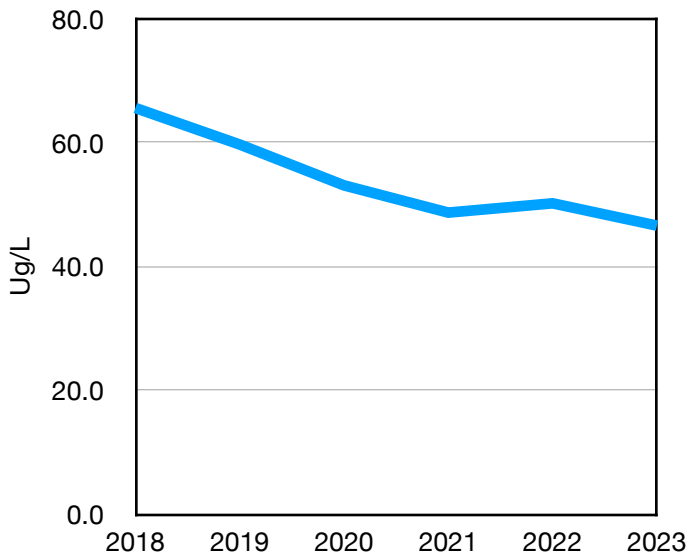
**Phosphorous - Whitewater Lake
(deep hole)**



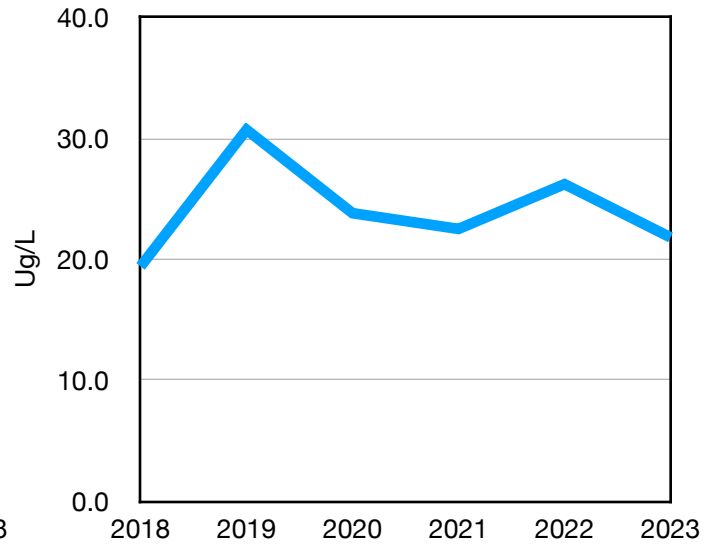
**Chlorophyll - Whitewater Lake
(deep hole)**



**Phosphorous - Rice Lake
(deep hole)**



**Chlorophyll - Rice Lake
(deep hole)**



Experimental

Sampling locations are listed in the order samples were collected. Temperature and DO were measured at 5, 10 and 15 ft at the Whitewater Lake deep hole and 5 ft at the Rice Lake deep hole using a Hach field meter. Samples for phosphorous and chlorophyll were taken at 0 to 6 ft with an integrated sampler. Concentrations of phosphorous are the average of samples taken in June, July and August. All data has been entered into the Wisconsin DNR SWIMS database.

