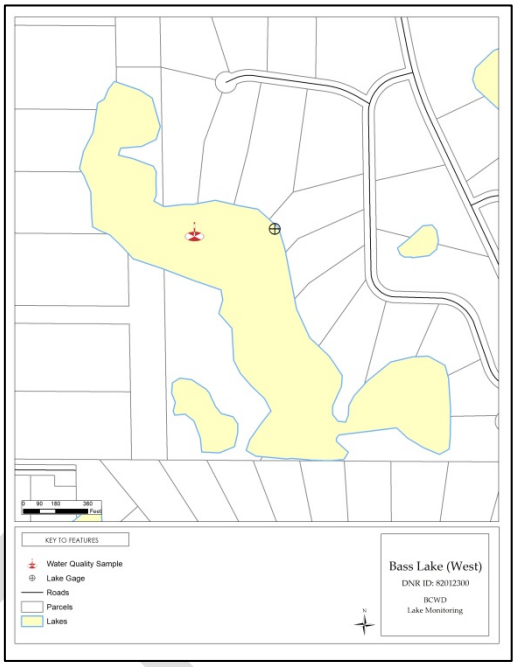
Bass Lake (West)

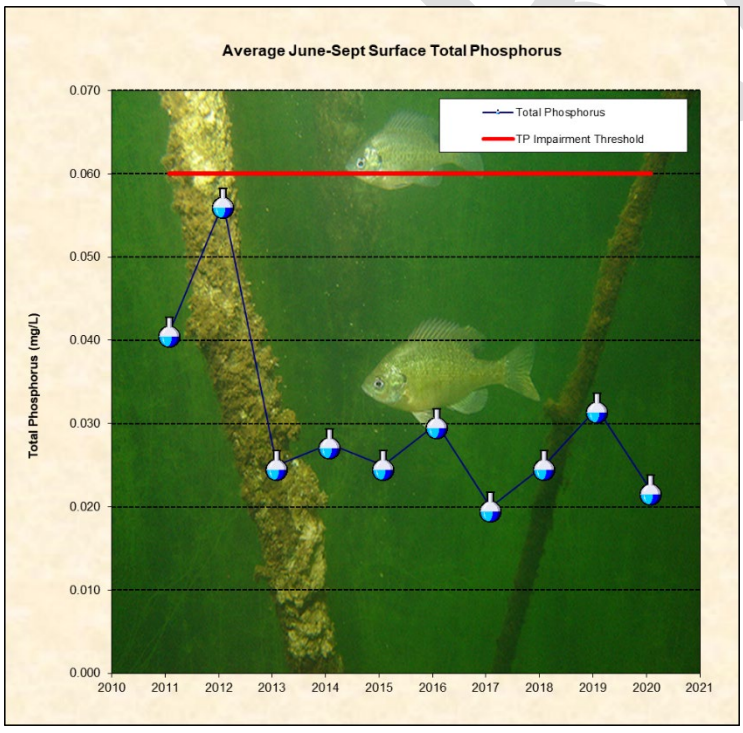
2020 Lake Grade: A

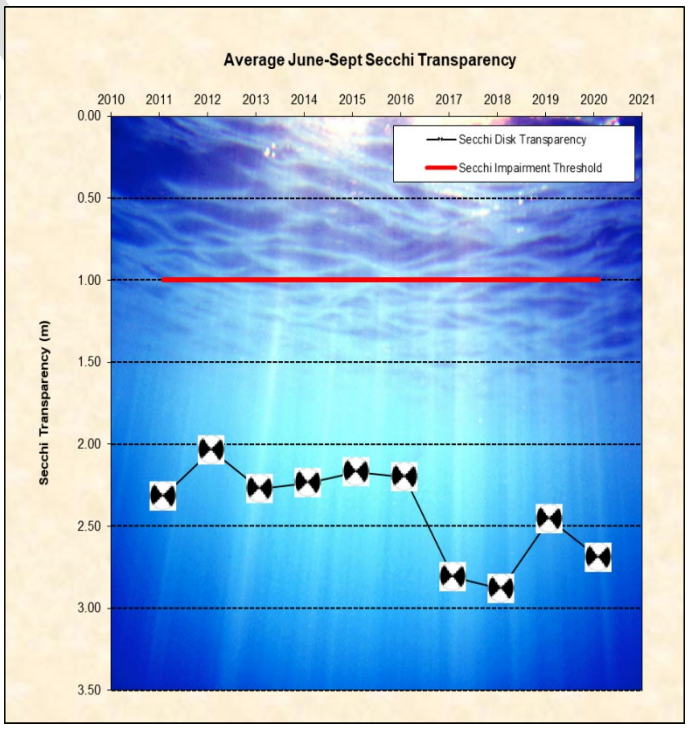
- DNR ID #: 820123
- Municipality: City of Grant
- Location: Section 10, T30N-R21W
- Lake Size: 72 Acres
- Maximum Depth (2020): 19 ft
- Ordinary High Water Mark: 952.60 ft
- 100-Year High Water Level: 955.90 ft
- 100% Littoral
  Note: Littoral area is the portion of the lake <15 ft and dominated by aquatic vegetation.



Summary Points

- Based on chlorophyll-α data, the lake is classified as mesotrophic according to the Carlson Trophic State Index.
- Using the Kendall's Tau correlation test ($p<0.05$) there is a statistically significant **improving** trend for average total phosphorus and average chlorophyll-α, and the trend for the average Secchi transparency is skewed due to vegetation limiting the transparency.
- The major land use is rural/agricultural.
- The lake stratified in 2020 with a thermocline between 3-5 meters.
- This lake is categorized as shallow according to the Minnesota Pollution Control Agency's standards.





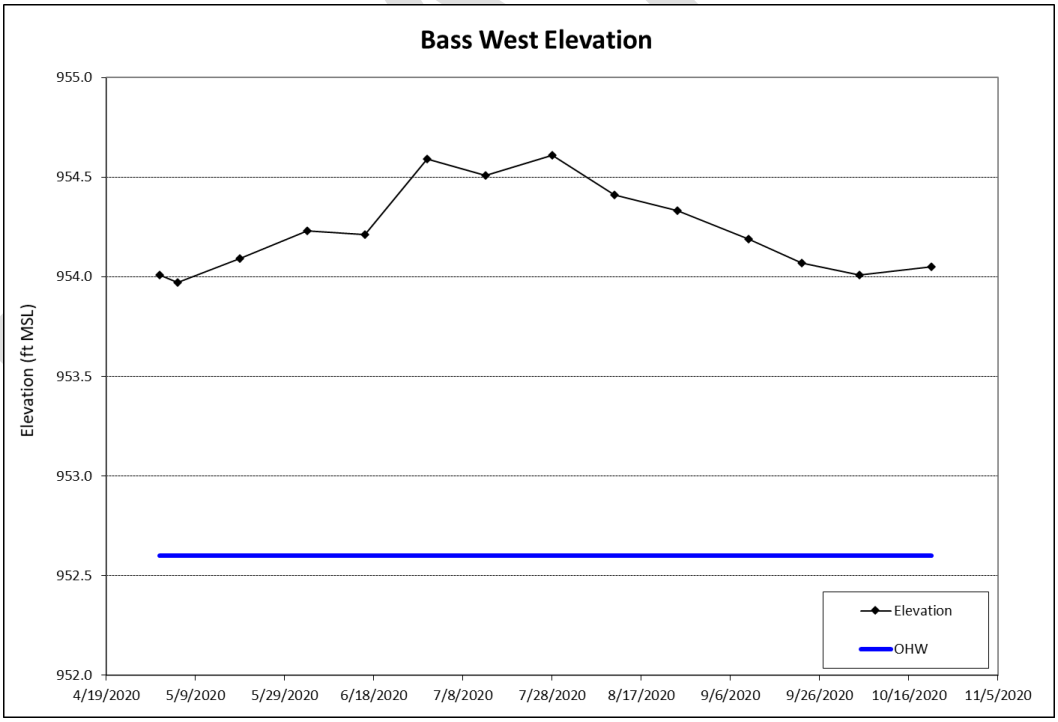
Date/Time	Total Phosphorus (mg/L)	Trichromatic Uncorrected Chlorophyll-*a* (ug/L)	Pheophytin-Corrected Chlorophyll-*a* (ug/L)	Total Kjeldahl Nitrogen (mg/L)	Secchi Disk Depth (m)	Surface Temperature (Celsius)	Surface Dissolved Oxygen (mg/L)
5/5/2020 14:28	0.019	2.0	1.7	0.58	4.27	15.5	8.97
5/19/2020 13:37	0.015	2.0	1.3	0.55	4.72	16.0	8.40
6/3/2020 9:25	0.017	2.1	1.5	0.65	3.51	23.2	7.11
6/16/2020 13:13	0.021	3.6	2.5	0.61	2.44	22.4	7.79
6/30/2020 9:00	0.017	3.0	2.8	0.59	3.35	25.0	6.12
7/13/2020 14:48	0.014	4.4	3.2	0.59	2.74	28.6	6.87
7/28/2020 10:23	0.005	5.3	4.5	0.62	2.59	26.4	6.62
8/11/2020 11:16	0.033	4.5	4.5	0.70	3.05	24.7	6.11
8/25/2020 9:18	0.017	5.4	4.9	0.62	2.90	26.7	7.79
9/10/2020 13:18	NA	11.0	9.3	NA	1.52	19.5	8.05
9/22/2020 9:33	0.062	12.0	10.0	0.69	2.13	17.5	8.93
10/5/2020 14:32	0.025	7.6	7.2	0.74	1.98	14.6	7.48
2020 Average	0.022	5.2	4.5	0.63	2.93	21.7	7.52
2020 Summer Average	0.023	5.7	4.8	0.63	2.69	23.8	7.27

Water quality thresholds are 0.04 mg/L TP, 14 µg/L CL-a, 1.4 m Secchi depth*

Shallow lake water quality thresholds are 0.06 mg/L TP, 20 µg/L CL-a, 1.0 m Secchi depth*

	High	High Date	Low	Low Date	Average
2020 Elevation (ft)	954.61	7/28/2020	953.97	5/5/2020	954.23

*Data requirements and determinations of use assessment according to the MPCA's Guidance Manual for Assessing the Quality of Minnesota Surface Waters: "Samples must be collected over a minimum of 2 years and data used for assessments must be collected from June to September. Typically, a minimum of 8 individual data points for TP, corrected chlorophyll-a (chl-a corrected for pheophytin), and Secchi are required. Data used for phosphorus and chlorophyll-a calculations are limited to those collected from the upper most 3 meters of the water column (surface). If more than one sample is collected in a lake per day, these values are averaged to yield a daily average value. Following this step, all June to September data for the 10-year assessment window are averaged to determine summer-mean values for TP, corrected chl-a, and Secchi depth. These values are then compared to the standards and the assessment is made."



Lake Water Quality Summary										
	Lake Grades (May-Sept)									
	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011
Total Phosphorus (mg/l)	A	B	B	A	B	B	B	B	C	C
Chlorophyll-*a* (ug/l)	A	A	A	A	A	A	A	A	B	A
Secchi depth (ft)	A	B	B	B	B	C	B	B	C	B
Overall	**A**	**B+**	**B+**	**A-**	**B+**	**B**	**B+**	**B+**	**C+**	**B**