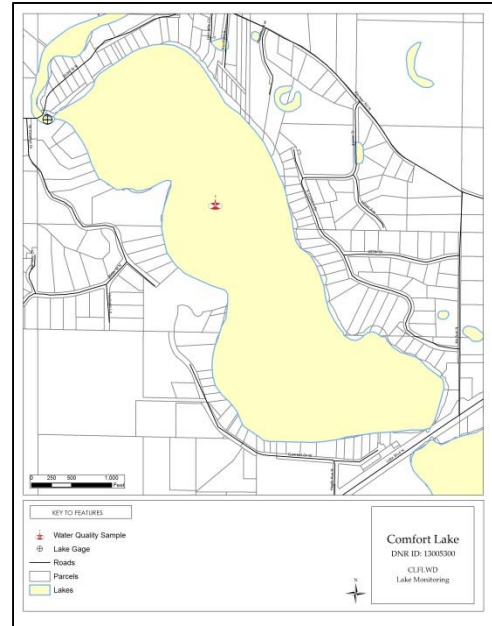


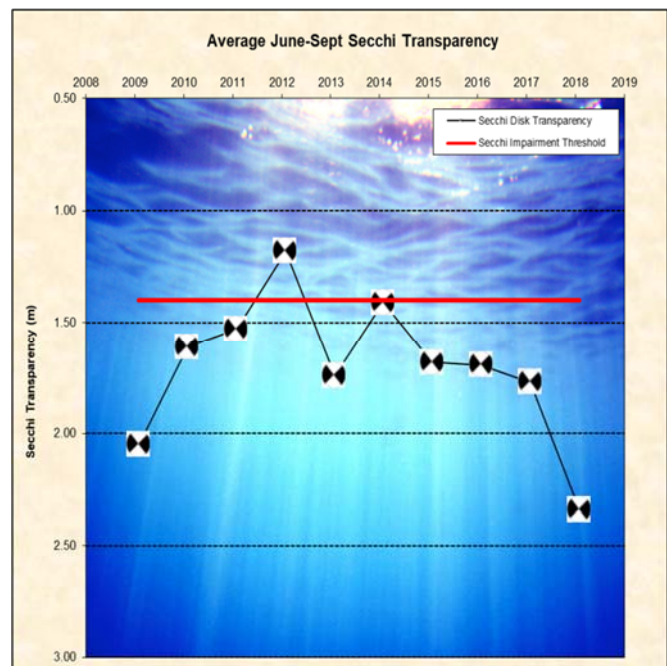
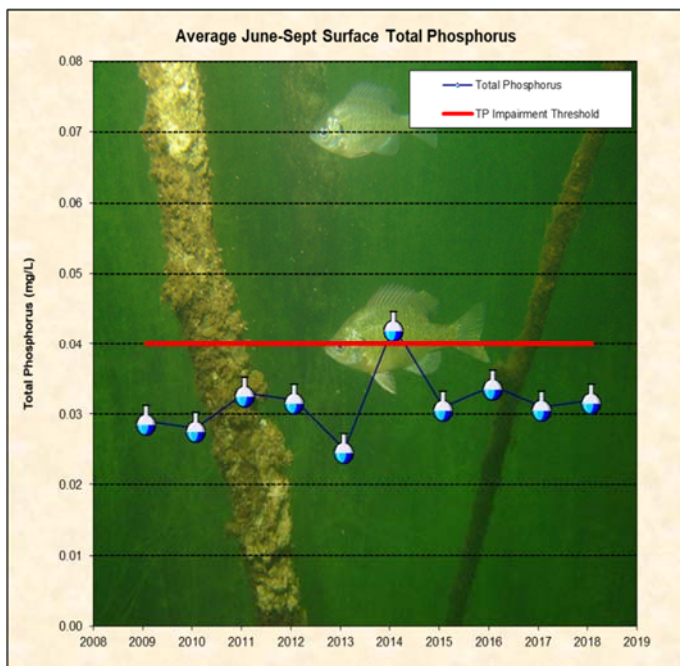
Comfort Lake 2018 Lake Grade: B

- DNR ID #: 13005300
- Municipality: City of Wyoming
- Location: Section 27 T33N-R21W
- Lake Size: 217.82 acres
- Maximum Depth (2018): 46 ft.
- Ordinary High Water Mark: 887.2 ft.
- 41% Littoral
Note: Littoral area is the portion of the lake <15 ft. and dominated by aquatic vegetation.



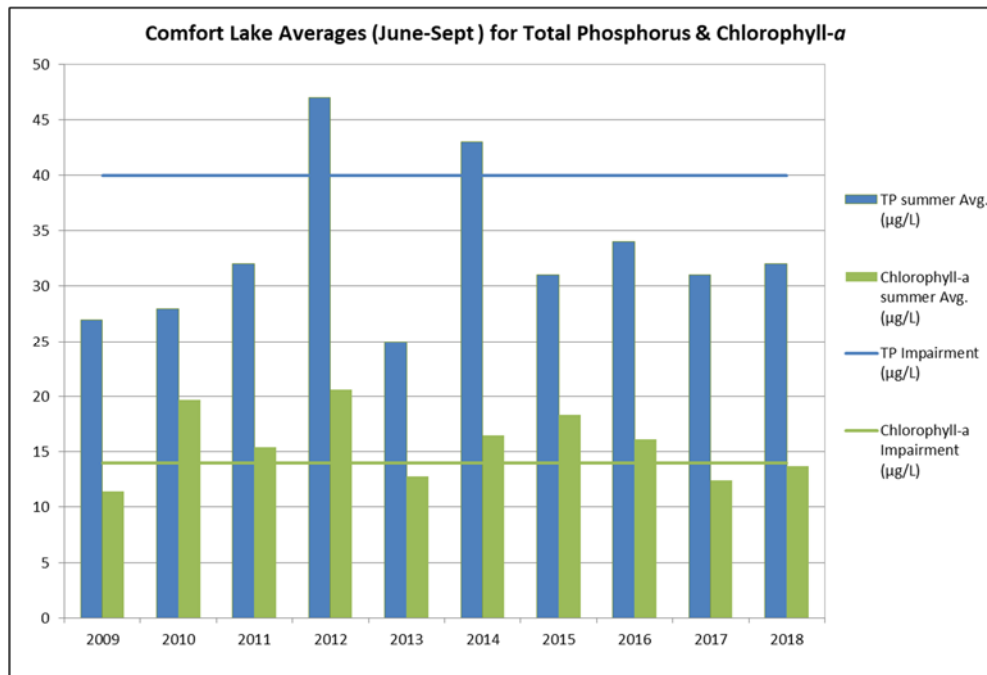
Summary Points

- Based on the chlorophyll-*a* results Comfort Lake was considered eutrophic in 2018, according to the Carlson Trophic State Index.
- Using the 2-tailed Kendall Tau correlation test ($p < 0.05$) there is a statistically significant **improving** trend for the average chlorophyll-*a* and no trend for average Secchi transparency or total phosphorus.
- The major land use is a mix of semi-urban, rural, and agricultural.
- The lake stratified in 2018 with the thermocline around 5 meters.
- Comfort Lake is listed as impaired for nutrients on the Minnesota Pollution Control Agency's Impaired Waters List.
- Eurasian watermilfoil and Curly-leaf pondweed (invasive aquatic plants) and Zebra mussels are present in this lake.



Date/Time	Total Phosphorus (mg/L)	Uncorrected Chlorophyll-a (µg/L)	Pheophytin-Corrected Chlorophyll-a (µg/L)	Total Kjeldahl Nitrogen (mg/L)	Secchi Disk Depth (m)	Surface Temperature (Celsius)	Surface Dissolved Oxygen (mg/L)
5/15/2018 11:28	0.023	8.4	7.2	0.94	1.83	17.6	11.20
5/29/2018 11:45	0.013	4.4	4.2	0.86	3.66	24.6	8.04
6/14/2018 11:02	0.051	4.3	4.2	0.84	4.27	22.2	8.41
6/28/2018 8:44	0.020	9.9	9.4	0.95	2.59	24.2	8.62
7/10/2018 11:23	0.034	8.6	9.5	1.00	2.13	26.3	8.09
7/24/2018 9:13	0.038	35.0	33.0	1.40	1.37	24.9	8.69
9/6/2018 14:36	0.024	14.0	12.0	1.10	1.83	23.0	7.38
9/18/2018 14:04	0.022	14.0	14.0	0.92	1.83	21.9	7.31
10/4/2018 11:36	0.041	13.0	12.0	1.10	1.83	12.9	6.93
10/23/2018 14:13	0.026	9.6	8.5	1.30	2.29	8.1	8.56
2018 Average	0.029	12.1	11.4	1.04	2.36	20.6	8.32
2018 Summer Average	0.032	14.3	13.7	1.04	2.34	23.8	8.08
Volunteer Data							
5/31/2018 14:45	0.017	5.4	5.8	0.63	2.50	25.3	NA
6/18/2018 14:30	0.030	11.0	9.8	0.85	2.20	24.4	NA
7/12/2018 13:10	0.022	8.8	7.9	0.95	1.70	27.5	NA
7/28/2018 14:13	0.043	25.0	23.0	1.20	1.30	26.1	NA
8/16/2018 12:15	0.021	19.0	18.0	1.10	1.40	28.1	NA
9/10/2018 14:02	0.017	12.0	1.0	0.81	1.50	22.1	NA
9/27/2018 13:02	0.018	16.0	16.0	0.80	1.40	17.7	NA
10/3/2018 12:10	0.022	16.0	17.0	1.10	1.30	14.7	NA
2018 Average	0.024	14.2	12.3	0.93	1.66	23.2	NA
2018 Summer Average	0.025	15.3	12.6	0.95	1.58	24.3	NA
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*							
2018 Elevation (ft)	High	High Date	Low	Low Date	Average		
	886.67	8/6/2018	886.15	5/21/2018	886.40		

*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)									
	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009
Total Phosphorus (mg/L)	B	C	B	B	C	B	C	B	B	B
Chlorophyll-a (µg/L)	B	B	B	C	B	B	C	B	B-	B
Secchi depth (ft)	B	C	C	C	C	C	C	C	C	C
Overall	B	C+	B-	C+	C+	B-	C	B-	B-	B

Comfort Lake Water Surface Elevation Statistics

Outlet Elevation (rock weir): 885.4 ft.

Ordinary High Water Level (OHW) Elevation: 887.2 ft.

100 Year Flood Elevation (CLFLWD): 889.5 ft.

Highest Recorded Elevation: 888.32 ft. (07/02/1975)

Lowest Recorded Elevation: 884.8 ft. (10/08/1969)

Datum: NGVD 29 (ft.)

Additional elevation data can be found at <https://www.clflwd.org/waterbody-comfort-lake.php>.

