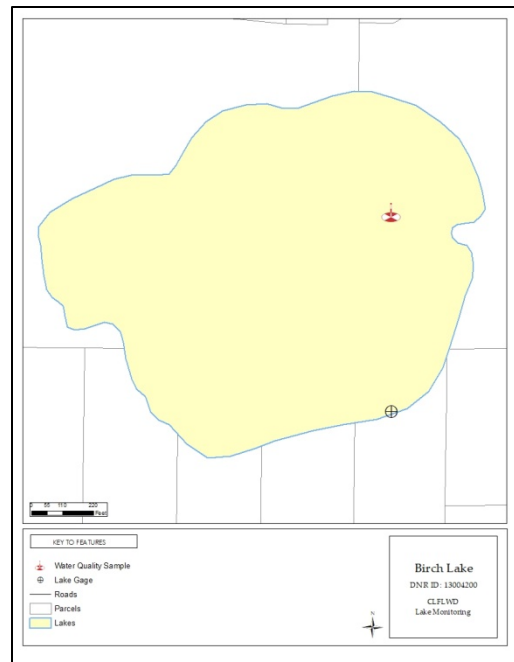


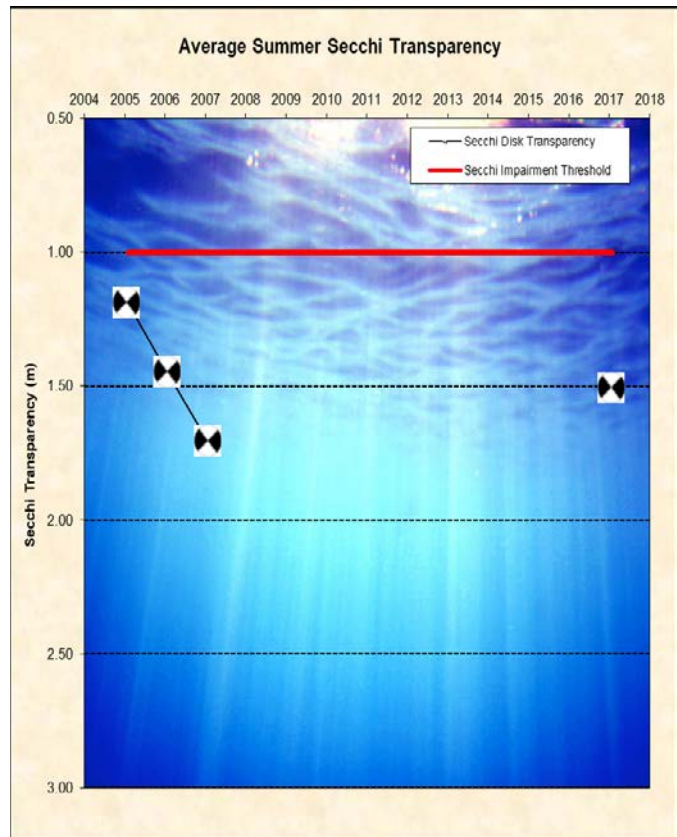
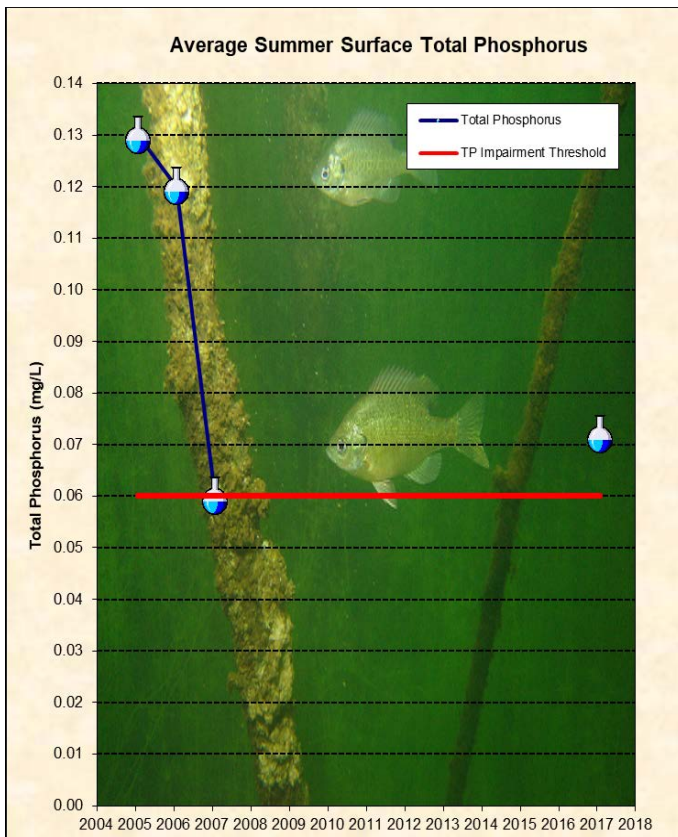
Birch Lake 2017 Lake Grade: B-

- DNR ID #: 13004200
 - Municipality: City of Wyoming
 - Location: Section 36 T33N-R21W
 - Lake Size: 33 acres
 - Maximum Depth (2017): 13 ft.
 - Ordinary High Water Mark: N/A
 - 100% Littoral
- Note: Littoral area is the portion of the lake <15 ft. and dominated by aquatic vegetation.

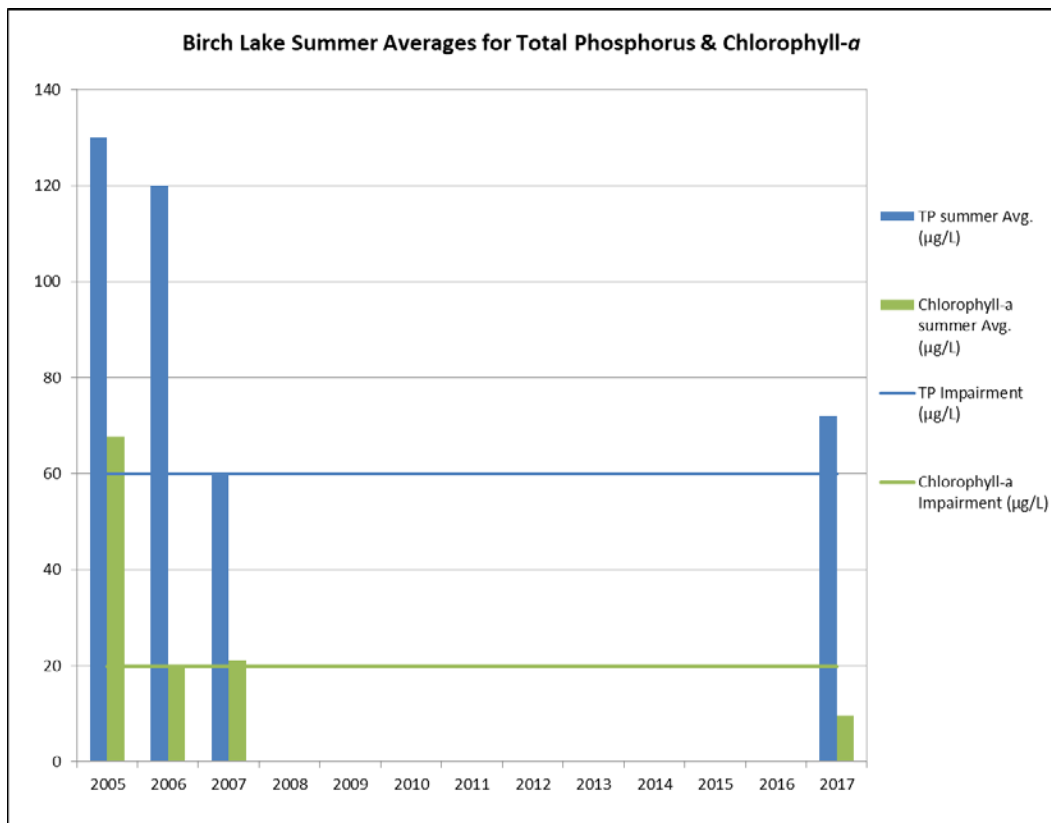


Summary Points

- Based on the chlorophyll-*a* results Birch Lake was considered eutrophic in 2017, according to the Carlson Trophic State Index.
- There are an insufficient number of years of data to determine long term water quality trends at this time.
- The major land use is rural/agricultural.
- The lake did not stratify in 2017.
- Curly-leaf pondweed (an invasive aquatic plant) is present in this lake.



Date/Time	Total Phosphorus (mg/L)	Uncorrected Trichromatic 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)
4/18/2017 11:23	0.038	11.0	9.0	0.67	1.22	12.0	9.21
5/3/2017 10:46	0.046	9.7	8.4	0.81	1.52	9.2	10.21
5/17/2017 10:07	0.040	4.0	3.5	0.87	1.68	19.7	7.44
6/1/2017 10:47	0.033	2.6	1.7	0.82	3.05	17.3	6.94
6/14/2017 12:01	0.072	3.3	2.9	1.10	1.22	23.5	6.25
6/28/2017 10:47	0.076	14.0	13.0	0.95	1.52	19.1	7.94
7/12/2017 9:05	NA	7.1	5.3	NA	0.91	23.6	4.37
7/25/2017 11:03	0.075	8.5	7.4	0.98	0.76	23.3	3.66
8/9/2017 10:32	0.109	13.0	12.0	1.50	1.22	22.3	5.62
8/21/2017 10:07	0.108	14.0	12.0	1.30	1.22	22.1	5.99
9/6/2017 12:23	0.058	20.0	18.0	1.00	1.83	18.0	5.78
9/20/2017 11:07	0.044	16.0	14.0	1.20	1.83	18.2	4.26
10/3/2017 12:01	0.042	17.0	18.0	0.94	2.29	16.3	6.57
10/19/17 10:17	0.035	9.3	7.3	0.86	2.29	11.9	7.34
2017 Average	0.060	10.7	9.5	1.00	1.61	18.3	6.54
2017 Summer Average	0.072	10.9	9.6	1.11	1.51	20.8	5.65
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		
2017 Elevation (ft)	896.86	10/19/2017	896.03	8/9/2017	896.33		
*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									
	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008
Total Phosphorus (mg/L)	C	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chlorophyll-a (µg/L)	A	NA	NA	NA	NA	NA	NA	NA	NA	NA
Secchi depth (ft)	C	NA	NA	NA	NA	NA	NA	NA	NA	NA
Overall	B-	NA	NA	NA	NA	NA	NA	NA	NA	NA

Birch Lake Water Surface Elevation Statistics

Outlet Elevation: 894.5 ft

Ordinary High Water Level (OHW) Elevation: N/A

100 Year Flood Elevation (CLFLWD): 896.9 ft.

Highest Recorded Elevation: 896.86 ft. (10/19/2017)

Lowest Recorded Elevation: 896.03 ft. (8/9/2017)

Datum: NGVD 29 (ft.)

