

LAKE IVANHOE

2014 SAMPLING HIGHLIGHTS

Station – 2 Ivanhoe

Wakefield, NH

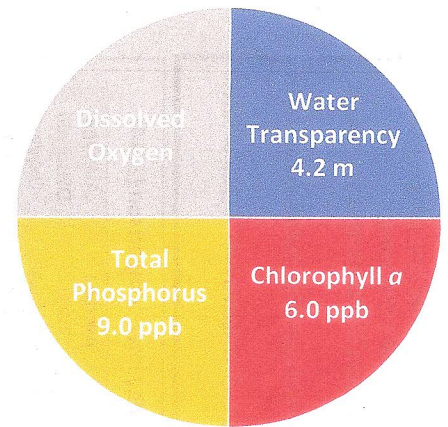


Blue = Excellent = Oligotrophic

Yellow = Fair = Mesotrophic

Red = Poor = Eutrophic

Gray = No Data



Station 2 (Figure 7) was used as a reference point to represent the overall Lake Ivanhoe water quality.

Figure 1. Lake Ivanhoe Water Quality (2014)

Table 1. 2014 Lake Ivanhoe Seasonal Averages and NHDES Trophic Level Classification Criteria

Parameter	Oligotrophic "Excellent"	Mesotrophic "Fair"	Eutrophic "Poor"	Lake Ivanhoe Average (range)	Lake Ivanhoe Classification
Water Clarity (meters)	4.0 – 7.0	2.5 - 4.0	< 2.5	4.2 meters (2.8 – 5.6)	Oligotrophic
Chlorophyll a (ppb)	< 3.3	> 3.3 – 5.0	> 5.0 – 11.0	6.0 ppb (4.2 – 7.8)	Eutrophic
Total Phosphorus (ppb)	< 8.0	> 8.0 – 12.0	> 12.0 – 28.0	9.0 ppb (7.9 – 10.1)	Mesotrophic
Dissolved Oxygen (mg/L)	5.0 – 7.0	2.0 – 5.0	<2.0	N/A	N/A

* Lake Ivanhoe did not develop a deep water layer that is the basis for the dissolved oxygen classification criteria.

Table 2. 2014 Lake Ivanhoe Seasonal Average Accessory Water Quality Measurements

Parameter	Assessment Criteria					Lake Ivanhoe Average (range)	Lake Ivanhoe Classification
	< 10 uncolored	10 – 20 slightly colored	20 – 40 lightly tea colored	40 – 80 tea colored	> 80 highly colored		
Color (color units)	< 10 uncolored	10 – 20 slightly colored	20 – 40 lightly tea colored	40 – 80 tea colored	> 80 highly colored	6.6 color units (5.3 – 7.9)	Uncolored
Alkalinity (mg/L)	< 0.0 acidified	0.1 – 2.0 extremely vulnerable	2.1 – 10 moderately vulnerable	10.1 – 25.0 low vulnerability	> 25.0 not vulnerable	3.6 mg/L (3.5 – 3.6)	Moderately vulnerable
pH (std units)	< 5.5 suboptimal for successful growth and reproduction		6.5 – 9.0 optimal range for fish growth and reproduction			6.6 standard units (range: 6.4 – 6.8)	Optimal range for fish growth and reproduction
Specific Conductivity (uS/cm)	< 50 uS/cm Characteristic of minimally impacted NH lakes		50-100 uS/cm Lakes with some human influence	> 100 uS/cm Characteristic of lakes experiencing human disturbances		63.8 uS/cm (range: 63.6 – 64.0)	Lakes with some human influence

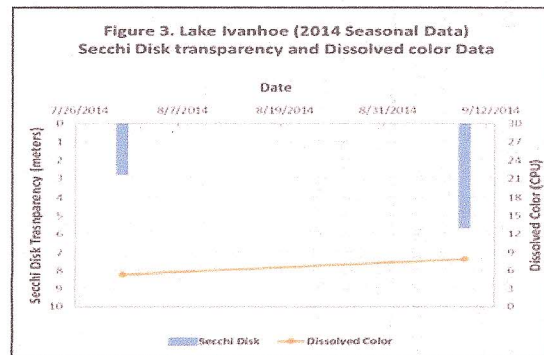
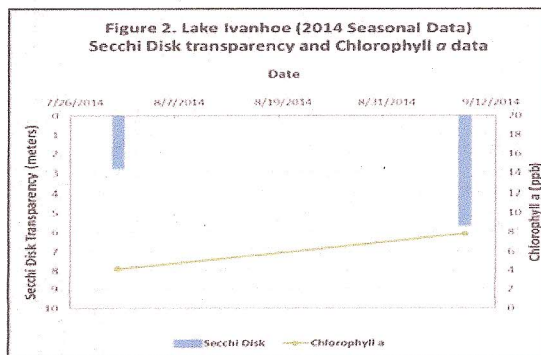


Figure 2 and 3. Seasonal Secchi disk transparency, chlorophyll a changes and dissolved color concentrations. Figures 2 and 3 illustrate the interplay among Secchi Disk transparency, chlorophyll a and dissolved color. Shallower water transparency measurements oftentimes correspond to increases in chlorophyll a and/or color concentrations. Note: both Secchi Disk measurements were visible on the lake bottom.

