

# Weston Pond

## 2017 SAMPLING HIGHLIGHTS

### Station – Buoy

Amherst, NH



**Blue** = Excellent =  
Oligotrophic

**Yellow** = Fair =  
Mesotrophic

**Red** = Poor = Eutrophic

**Gray** = No Data

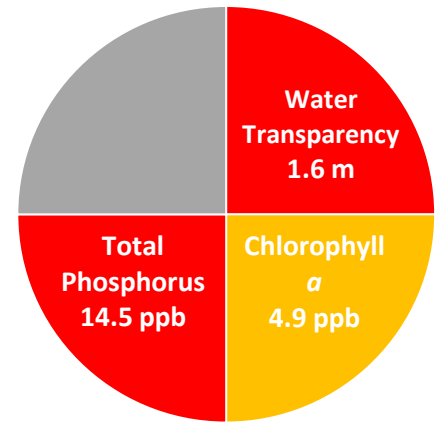


Figure 1. Weston Pond Water Quality (2017)

Table 1. 2017 Weston Pond Seasonal Averages and NH DES Aquatic Life Nutrient Criteria<sup>1</sup>

Parameter	Oligotrophic "Excellent"	Mesotrophic "Fair"	Eutrophic "Poor"	Weston Pond Average (range)	Weston Pond Classification
Water Clarity (meters)	4.0 – 7.0	2.5 - 4.0	< 2.5	1.6 meters (1.3 – 1.9)	Eutrophic
Chlorophyll <i>a</i> <sup>1</sup> (ppb)	< 3.3	> 3.3 – 5.0	> 5.0 – 11.0	4.9 ppb (4.5 – 5.3)	Mesotrophic
Total Phosphorus <sup>1</sup> (ppb)	< 8.0	> 8.0 – 12.0	> 12.0 – 28.0	14.5 ppb (14.3 – 14.6)	Eutrophic

Table 2. 2017 Weston Pond Seasonal Average Accessory Water Quality Measurements

Parameter	Assessment Criteria					Weston Pond Average (range)	Weston Pond Classification
Color (color units)	< 10 uncolored	10 – 20 slightly colored	20 – 40 lightly tea colored	40 – 80 tea colored	> 80 highly colored	111.8 color units (111.8 – 111.8)	Highly colored

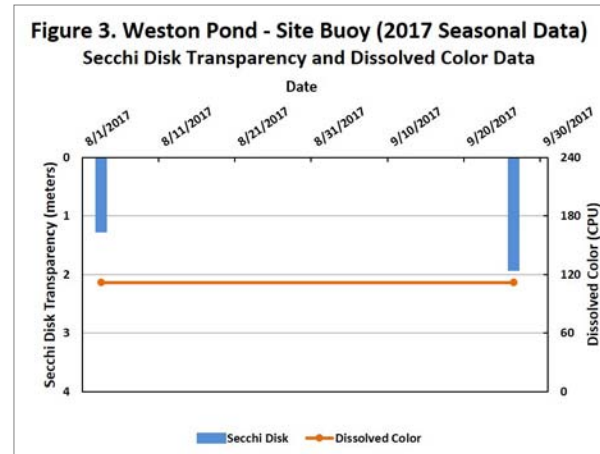
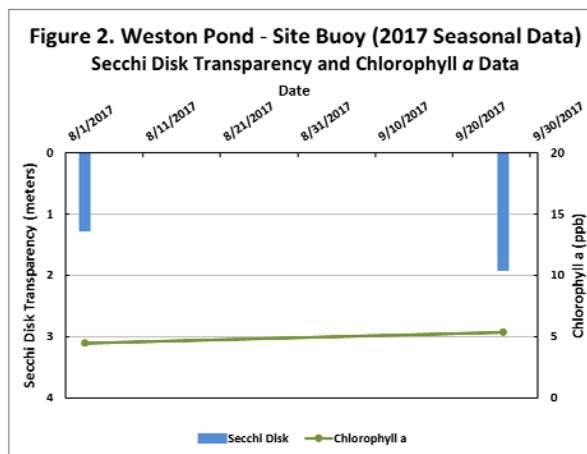


Figure 2 and 3. Seasonal Secchi disk transparency, chlorophyll *a* concentrations and dissolved color concentrations. Figures 2 and 3 illustrate the interplay among Secchi Disk transparency, chlorophyll *a* and dissolved color. Shallower water transparency measurements oftentimes correspond to increases in chlorophyll *a* and/or color concentrations.

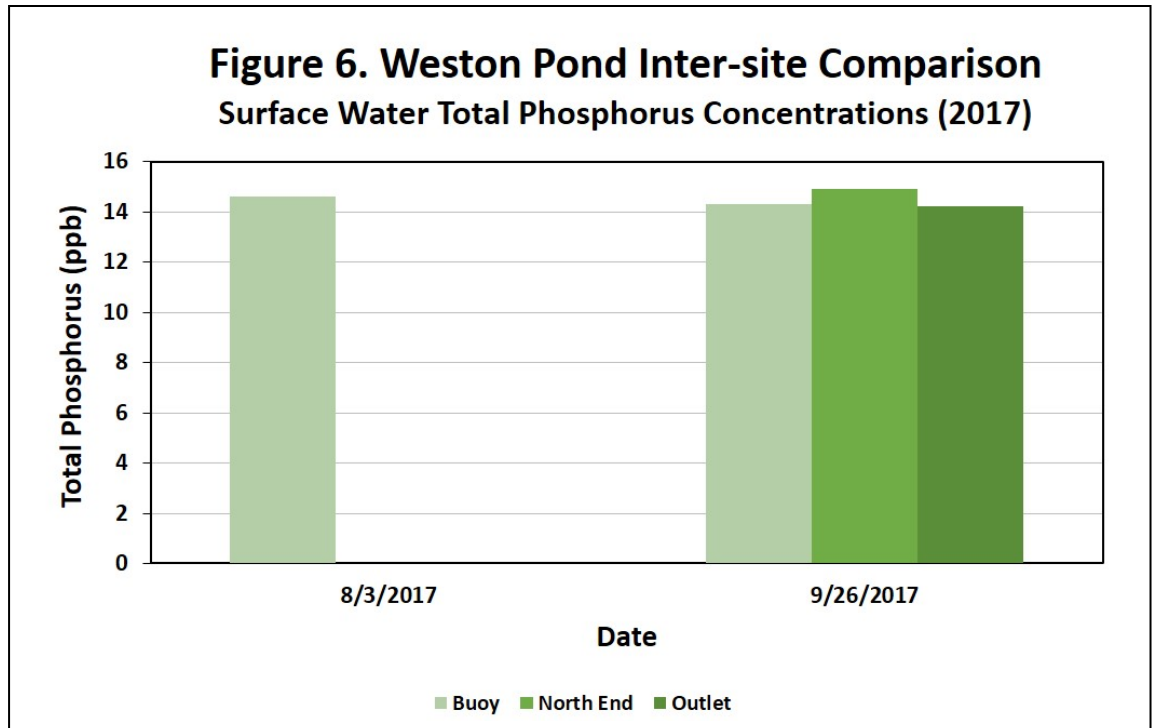
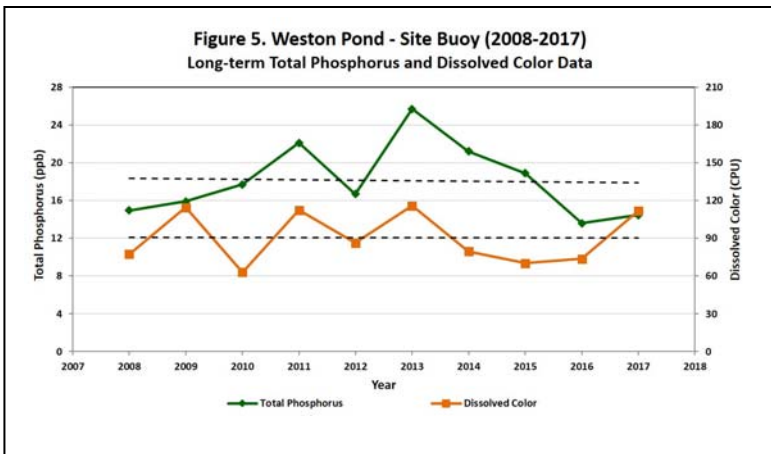
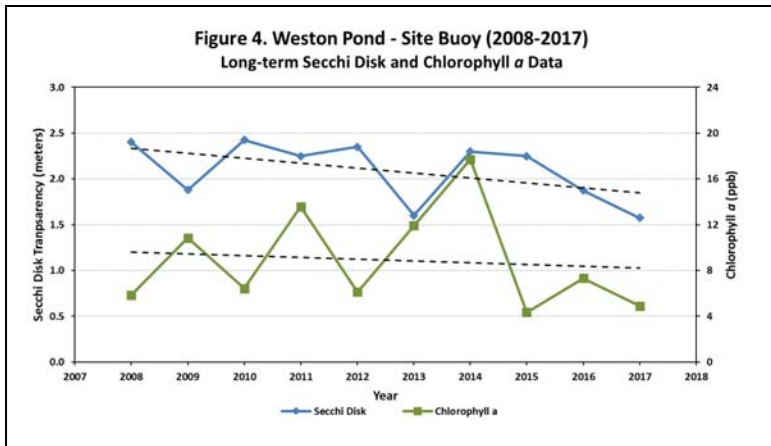
## Weston Pond Water Quality Data (2008 – 2017)

**WATER CLARITY:** The Weston Pond water clarity measurements, measured as Secchi Disk transparency, display a trend of decreasing water transparency over ten years of water quality monitoring conducted between 2008 and 2017 (Figure 4).

**CHLOROPHYLL:** The Weston Pond chlorophyll *a* concentrations, a measure of microscopic plant life within the lake, have oscillated among years but do not display a trend of increasing or decreasing chlorophyll *a* concentrations over the ten years of water quality monitoring conducted between 2008 and 2017 (Figure 4).

**TOTAL PHOSPHORUS:** Phosphorus is the nutrient most responsible for microscopic plant growth. The Weston Pond total phosphorus concentrations have oscillated among years but do not display a trend of increasing or decreasing total phosphorus concentrations over the ten years of water quality monitoring conducted between 2008 and 2017 (Figure 5).

**COLOR:** The Weston Pond color data, the result of naturally occurring “tea” color substances from the breakdown of soils and plant materials, have oscillated among years but do not display a trend of increasing or decreasing color concentrations over the ten years of water quality monitoring conducted between 2008 and 2017 (Figure 5).



Figures 4 and 5. Long-term changes in the Weston Pond water clarity (Secchi Disk depth), chlorophyll *a*, water color and total phosphorus concentrations measured between 2008 and 2017. **These data illustrate the relationship among plant growth, water color and water clarity. Total phosphorus data are also displayed and are oftentimes correlated with the amount of plant growth.**

Figure 6. Inter-site comparison of the Weston Pond total phosphorus concentrations; Sites Buoy, North End, and Outlet. The inter-site comparison data provide a general sense of the variability among the three Weston Pond sampling locations.

## Recommendations

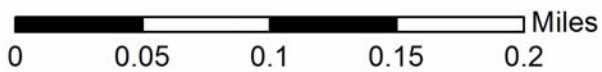
Implement Best Management Practices within the Weston Pond watershed to minimize the adverse impacts of polluted runoff and erosion in Weston Pond. Refer to “Landscaping at the Water’s Edge: An Ecological Approach” and “New Hampshire Homeowner’s Guide to Stormwater Management: Do-It-Yourself Stormwater Solutions for Your Home” for more information on how to reduce nutrient loading caused by overland run-off.

- [http://extension.unh.edu/resources/files/Resource004159\\_Rep5940.pdf](http://extension.unh.edu/resources/files/Resource004159_Rep5940.pdf)
- <http://soaknh.org/wp-content/uploads/2016/04/NH-Homeowner-Guide-2016.pdf>

# Figure 7. Weston Pond

Amherst, NH

2017 deep and nearshore water sampling sites with seasonal average water clarity



Aerial Orthophoto Source: NH GRANIT



Extension

