

LKWA Water Quality Report

July 2019



Lisa Hutchinson, Water Quality Chair

Lisahutch@comcast.net

Teams:

Deep Site

Carol and Rick Carlson

Animal Island

Kevin and Sandra Kelly

West

Dave and Lisa Hutchinson

Water Quality – 2018 in Review

Dry year

- February thru July much lower than usual rainfall (and runoff)
- Water quality improvement year-over-year
- August thru November higher than usual rainfall, including severe storms

Dec 2017 - Apr

snowfall above average, but less snowpack accumulation

May/June/July

rainfall significantly below 40-year averages

Aug

rainfall 3" above 40-year average

Sept/Oct

rainfall near/slightly above average but with significant storm events

November

precipitation twice the 40-year average

Water Quality – 2018 Results

Key indicators

- Water clarity
 - Chlorophyll a
 - Phosphorus
 - Dissolved oxygen
- excellent/oligotrophic
 excellent/oligotrophic
 excellent/oligotrophic
 poor/eutrophic

Other

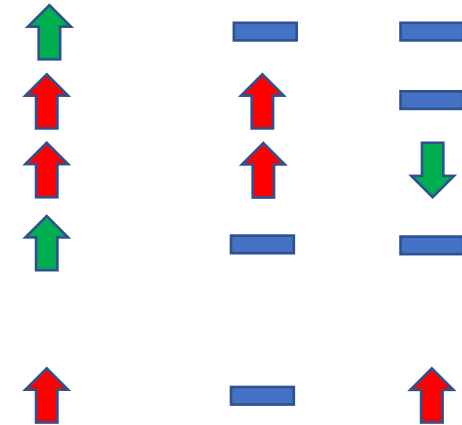
- Tea color
 - Alkalinity
 - pH
- slightly colored
 low vulnerability
 optimal for fish growth/reproduction

Year/Year



-----Long term-----

Deep Animal West



Fluctuations over the years, stability long term



Water Quality – 2018 Recommendations

- Take action locally to minimize pollutants/runoff
 - Properly maintain septic systems
 - Limit/avoid fertilizer
 - Ensure your landscapers protect the lake
 - Keep/add trees and shoreside vegetation
 - Limit/offset any addition of impervious surfaces (roofs, paved driveways, etc)
 - Seek out opportunities for ecologically friendly landscaping

“Are there any lake-friendly landscaping opportunities on your property?”

- Continue to monitor and collect data, including cyanobacteria sampling
- Handout - Recommendations for Healthy Lakeshore and Streamside Living and links to online resources

Update: Conductivity and Turbidity Testing

Conductivity

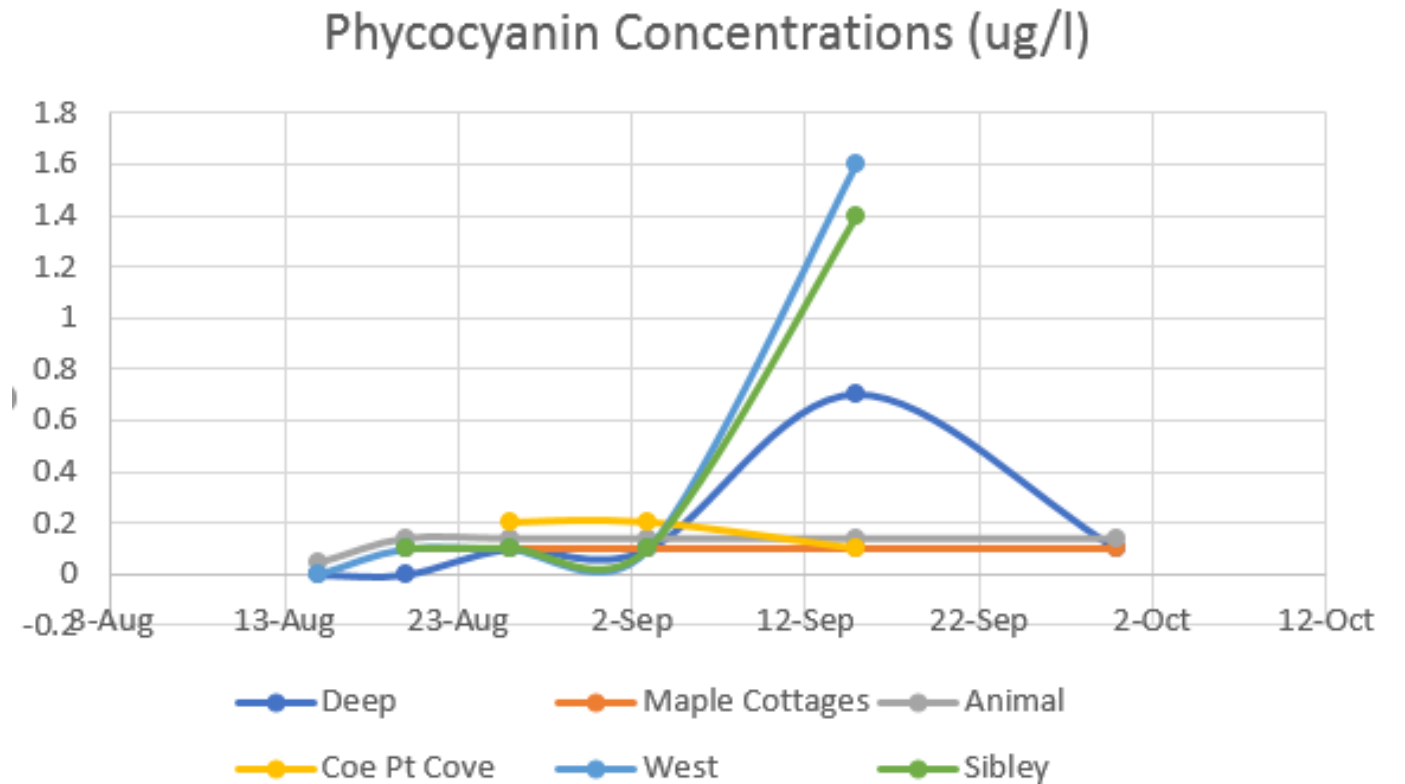
- Varies by lake, our lake runs 90-92
- Testing for spikes over 100
 - In excess of 500 at Maple Cottages/Tamarack subdivision
 - UNH response:
 - Test results 642.2 uS/cm
 - “Have never seen such a discrepancy in values among nearshore sampling locations”
 - “The readings you are collecting are unlike anything we have observed”
 - “This conductivity seems unusually high and is worth investigating”

Turbidity

- Values of 0.37-0.52 normal, 0.48-0.75 after a heavy storm
- 2.0 is high for lakes, 10.0 requires escalation
- Testing for values over 1.0
 - Over 2.0 at Avon Shores property after sand installed on entire driveway to lake

Update: Cyanobacteria Testing

- Added in late 2018 at 6 sites
- Values at all sites were low, well below 20 ug/l threshold
- Higher values in mid September could be associated with storm event



Water Quality – Key Messages

“The most irrational thing we can do is pretend our lakes will take care of themselves”

“Development increases runoff 9x, suspended solids 5x, and phosphorus 16x”

“A 3 foot loss in water transparency means a 15% to 25% decrease in property values”

“Stormwater runoff causes or contributes to over 90% of the water pollution problems in New Hampshire”

2019 Lakes Congress

May 31

NH Lakes

Residential Stormwater Management Workshop

June 18

Waukegan Watershed Advisory

NH Lakes Lay Monitoring Program 40th Anniversary
Conference and Celebration

June 20

University of New Hampshire