



# LKWA Water Quality Report

*July 2022*

Lisa Hutchinson, Water Quality Chair

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## Monitoring Teams

Carol & Rick Carlson

Anne & Jim O'Connor

Pat & Mike Devanney

Dave & Lisa Hutchinson



Rapid Response Team



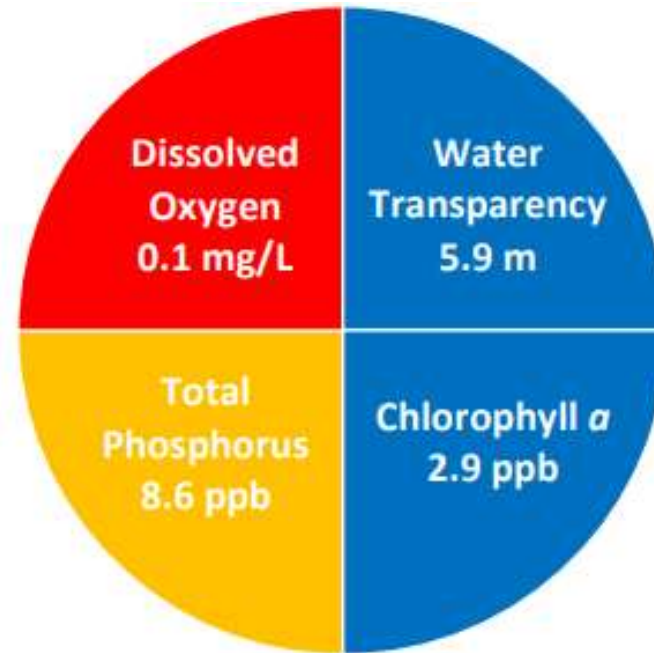
# 2021 UNH Lakes Lay Monitoring Program Water Quality Results for Lake Kanasatka

**Blue** = Excellent =  
Oligotrophic

**Yellow** = Fair =  
Mesotrophic

**Red** = Poor = Eutrophic

**Gray** = No Data



**Figure 1. Lake Kanasatka Water Quality (2021)**

Dissolved Oxygen Becomes low/zero at bottom,  
extending upward thru the summer

Phosphorus Varies widely, trending worse  
Ideally <7.2 ppb

Secchi/clarity Remains excellent (except 2020)  
Ideally 6m+

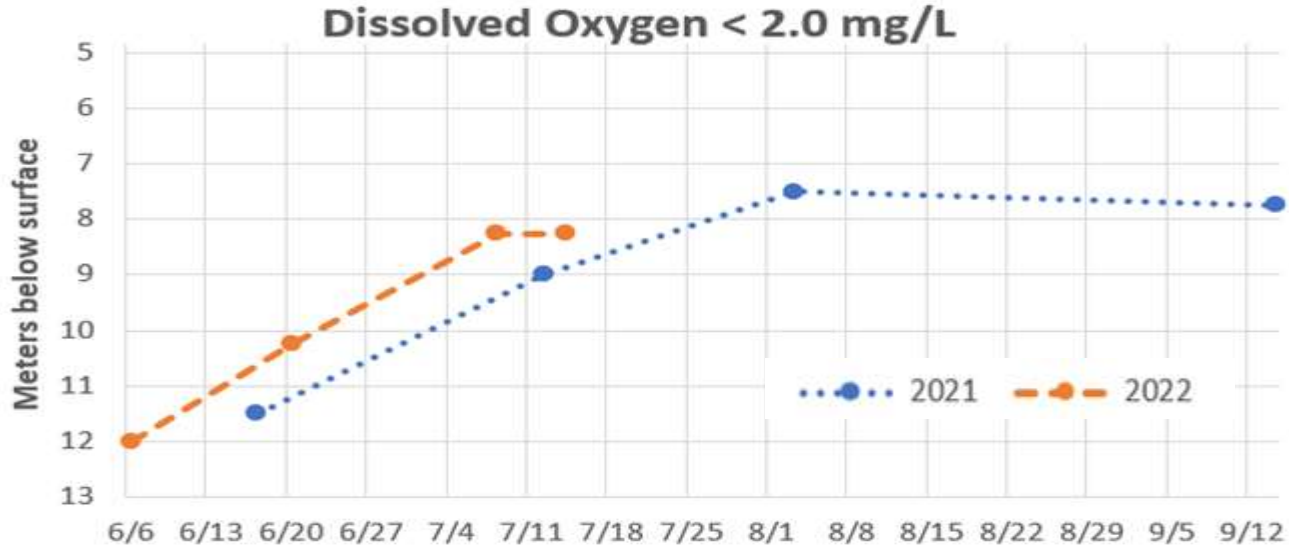
Chlorophyll-A Improved from 2020  
Ideally <3.0 ppb

Tea color Slightly colored  
Alkalinity Low vulnerability  
pH Optimal range  
Conductivity Lake experiencing human disturbances



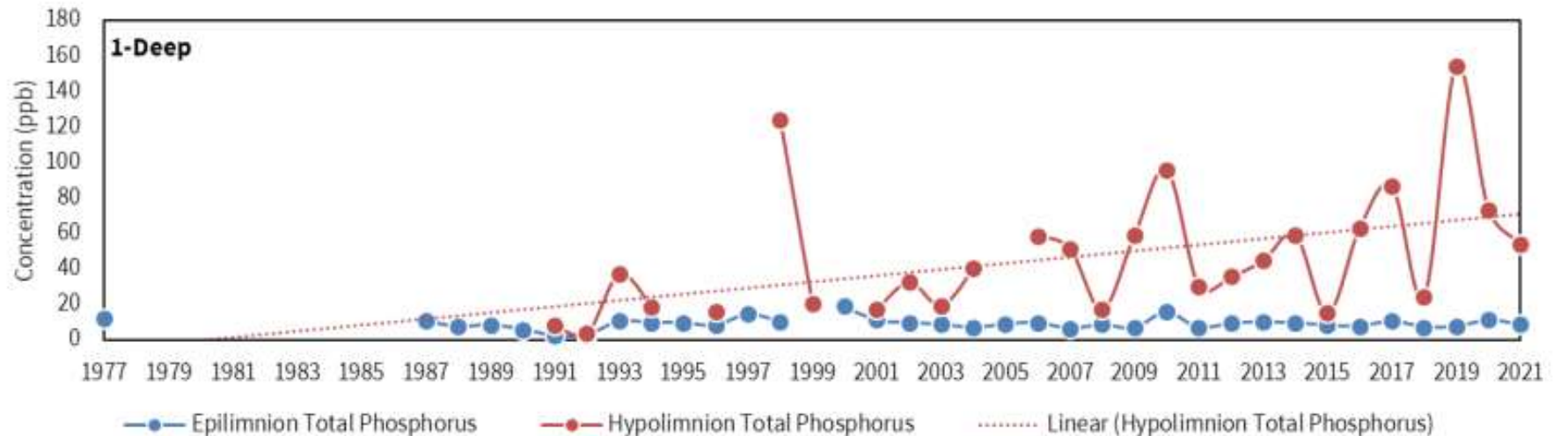
# Dissolved Oxygen / Phosphorus Relationship

Anoxia:  
(low dissolved oxygen) at the lake bottom



ICE OUT on Kanasatka	
2016	March 17 (record)
2017	April 16
2018	April 22
2019	April 22
2020	April 3
2021	April 1
2022	April 4

Historical Total Phosphorus data shows an increasing trend at the Deep Spot in the bottom waters







# Rapid Response Team

## Purpose:

Respond rapidly to address suspected cyanobacteria blooms, bacteria concerns, and other ad hoc sampling requests

## Members:

Lisa Hutchinson, WQ Chair  
Carol Carlson, secondary/designee  
Anne and Jim O'Connor  
Pat and Mike Devanney  
Rosemarie Rung  
Tim Baker  
Scott Parker  
Ken Queeney  
new volunteers welcome!

## How to contact:

Lake Kanasatka

Lisa Hutchinson

LKWAWatershedPlan@gmail.com | Message LKWA on Facebook





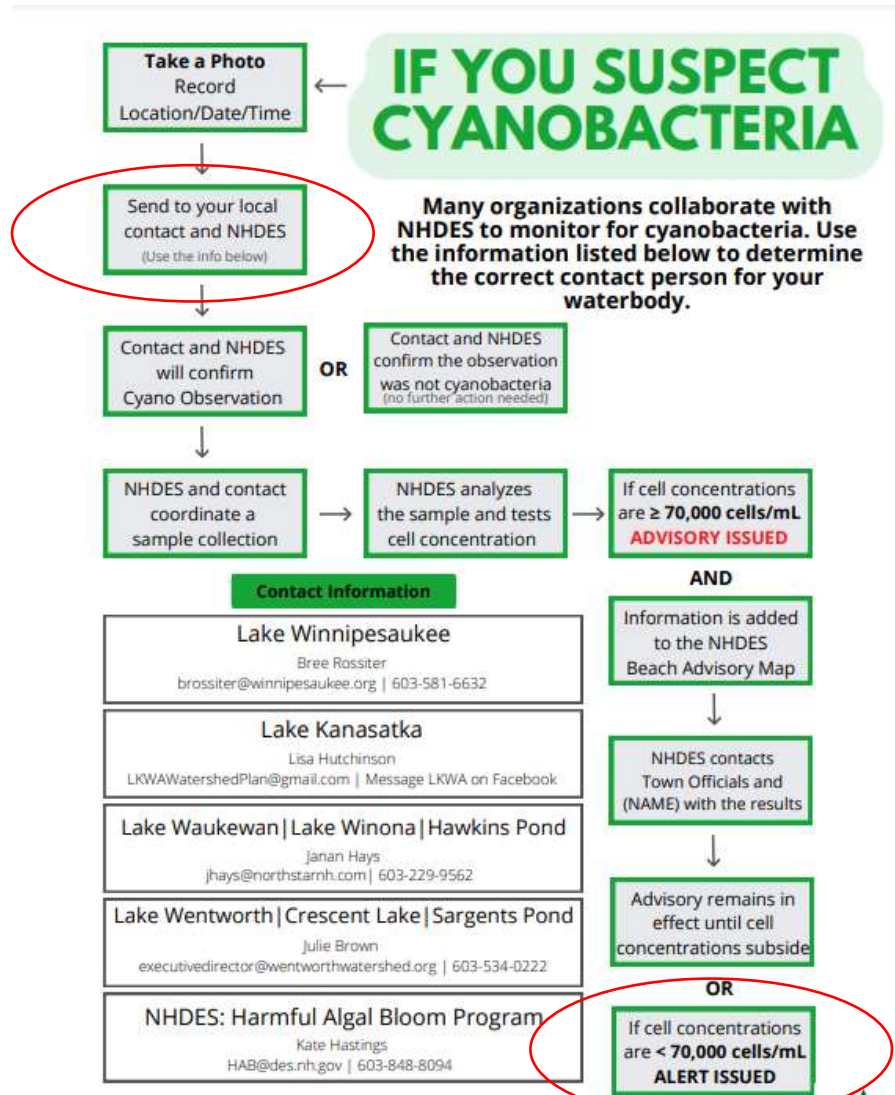
# LKWA Rapid Response Team working with LWA / Winni Watershed

Each lake in the Winni Watershed has its own process

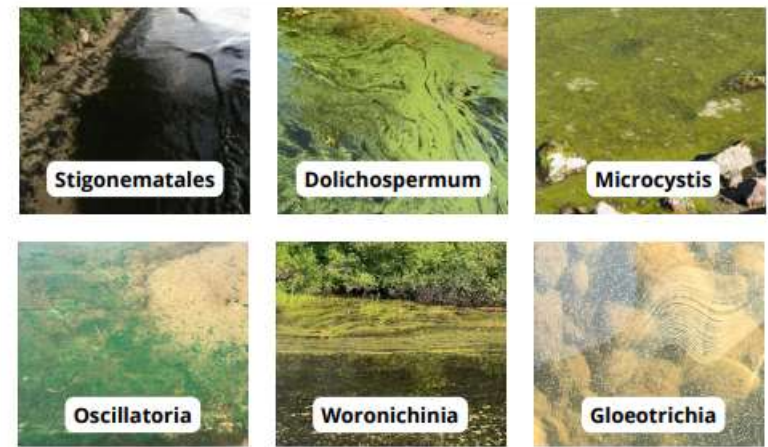
LKWA process is through RRT to DES

UNH is another resource

LKWA alert process has been updated



## IS THAT CYANOBACTERIA? PLEASE HELP US IDENTIFY POTENTIAL BLOOM FORMATIONS IN OUR WATERBODIES!



Are you seeing something different than the pictures above? Filamentous algae, pollen and didymo can sometimes be confused with cyanobacteria.



Please note that not all cyanobacteria blooms look alike and are often mixed in with pollen or other algae. This document is to be used for general guidance only. If you suspect a bloom please stay out of the water. NHDES advises lake users and their pets to avoid contact with the water in areas experiencing elevated cyanobacteria cell conditions.

Please Note: Surface blooms can rapidly change and accumulate in various locations around a waterbody. Please continue to monitor your individual shorelines for changing conditions. NHDES advises lake users (and their pets) to avoid contact with the water in areas experiencing bloom conditions.







# Work of your Water Quality Team

- |                                       |   |
|---------------------------------------|---|
| Ongoing                               | <ul style="list-style-type: none"><li>- 3 sites on the lake monitored every other week, with annual UNH team visit(s) since 1983</li><li>- Phycocyanin testing started in 2018</li></ul>  |
| Ad hoc                                | <ul style="list-style-type: none"><li>- Conductivity and turbidity testing started in 2017</li><li>- Cyanobacteria sampling and additional Secchi disk readings since blooms in August 2020</li></ul>   |
| For WMP development                   | <ul style="list-style-type: none"><li>- Coordination and review of all historical data</li><li>- Phosphorus and nitrogen sampling in watershed and major streams started in fall 2020</li><li>- Flow rate analysis on major streams started in fall 2020</li><li>- Coordination of core sediment sampling and new bathymetric map in 2021</li></ul> |
| New with WMP drafts                   | <ul style="list-style-type: none"><li>- Enhanced sampling at deep spot mid-May thru end-October 2022/23</li><li>- Biological surveys at deep spot mid-May thru end-October 2022/23</li><li>- Coordinate additional core sediment sampling with DES</li></ul>  |
| More possible with WMP implementation | <ul style="list-style-type: none"><li>- Expand enhanced sampling to additional sites</li><li>- More frequent Secchi disk readings, more locations</li><li>- Resume and expand monitoring at major streams</li></ul>   |



# New Water Quality and Biological Sampling



YSI ProSolo Meter for  
Dissolved Oxygen/Temp

- At Deep Spot
- Every half meter
- Every other week,  
UNH team monthly,  
LKWA team on  
alternate dates



YSI ProPlus Meter for  
Specific Conductivity

- At Deep Spot
- Every half meter
- Every other week,  
UNH team monthly,  
LKWA team on  
alternate dates



Van Dorn Sampler for  
Total Phosphorus

- At Deep Spot
- Every other meter
- Every other week,  
UNH team monthly,  
LKWA team on  
alternate dates



Plankton Net/Kit and  
Van Dorn Sampler for  
Zooplankton and  
Phytoplankton  
species/numbers

- At Deep Spot
- Epilimnetic zone
- Monthly by UNH  
team

Additional data: Secchi readings, epilimnetic Chlorophyll-A samples