

Lake Winnepesaukee Association

A Primer on Cyanobacteria

Speaker UNH Professor

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<https://colsa.unh.edu/faculty/haney>

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Location: Boat House of Brewster Academy, Wolfeboro NH

I attended this meeting on Cyanobacteria in Wolfeboro. New Hampshire University Professor James Haney started his presentation with the comment that he would try to make this important but boring information interesting. He succeeded. What follows is what I learned.

MAJOR POINTS

Cyanobacteria blooms are increasing and can be dangerous to the health of humans and animal life. Lake Kanasatka is experiencing *minor* blooms. Do not drink the water or use it in cooking during and animals and humans should not swim in the water during a “bloom.”

Should Lake owners be alarmed? NO! Owners should be concerned, informed, and vigilant. Lake owners should do all that is possible to reduce (eliminate) runoff into the lake. Runoff carries the nutrients that Cyanobacteria thrive upon.

SUMMARY

1. What are Cyanobacteria?

Cyanobacteria are ancient bacteria that use sunlight to produce their own food. They occur in all of our lakes and have been there for thousands of years. In normal amount are useful to aquatic life. There are many different types. Those that produce harmful toxins are of most interest and are: cyanobacterial toxins are classified by how they affect the human body. Hepatotoxins (which affect the liver) are produced by some strains of the cyanobacteria *Microcystis*, *Anabaena*, *Oscillatoria*, *Nodularia*, *Nostoc*, *Cylindrospermopsis* and *Umezakia*. Neurotoxins (which affect the nervous system) are produced by some strains of *Aphanizomenon* and *Oscillatoria*. Cyanobacteria from the species *Cylindropermopsis raciborski* may also produce toxic alkaloids, causing gastrointestinal symptoms or kidney disease in humans. Not all cyanobacteria of these species form toxins and it is likely that there are as yet unrecognized toxins.

2. Do those with wells need to be concerned? Yes, Cyanobacteria have been found in well water that is quite a distance from lake water. It is advisable to test well water often especially during “blooms.”

3. How and Why Cyanobacteria are becoming a problem

Cyanobacteria thrive in warm, shallow fresh waters high in nutrients like phosphates. Climate change and warmer waters and higher development around lakes with accompany destruction of vegetation leading to runoff containing nutrients have led to an increase in the bacteria resulting “blooms.”

4. Why Lake Lovers should be interested and vigilant

The two most important reasons Lake Lovers should be concerned are health issues and economics. When blooms occur toxins are released into the water. These toxins will kill animal life and are harmful to humans

When these Booms become frequent lakes may be closed to swimming. Naturally, it is harder to sell lake property if a lake is viewed as being unhealthy.

5. Does Lake Kanasatka have Blooms: Yes. Over the past several years’ small-localized areas have been noted and reported. I had such a bloom.

6. Is there reason for alarm?

No! But there is reason for owners and the LKWA to be concerned, educated, and vigilant.

7. What can we do?

Destruction of vegetation and resulting runoff are leading causes of “blooms.” Leaving property in as natural state as possible discourages “blooms” by preventing runoff from entering the lake **un-filtered**.

Blooms

What to look for – greenish/blue scum on water

When occur: Blooms occur usually in Late August and Sept when waters are warmest.

Do not touch the Boom without coverage.

Do not let animals or humans into the water.

Never drink or cook with unfiltered water during a bloom. ***It is best to use only bottled water.***

Current research:

Amyotrophic lateral sclerosis (ALS, also known as Lou Gehrig's disease) a [disorder involving the death of neurons](#) that control voluntary muscles and Alzheimer are two diseases being researched in connection with exposure to Cyanobacteria. For more information on these connections see Sources and Resources below

Sources and Resources:

1. ***CFB.UNH.edu***

2. ***UNH.edu***

3. www.cfb.unh.edu/recent.htm ... (**cfb.unh.edu**) Cyanobacteria Research in the News
"Cyanobacteria in our Lakes...": a short, informational movie on cyanobacteria by A.
Murby; ...