

# The Beacon

FALL/WINTER 2016

LAKE SUNAPEE PROTECTIVE ASSOCIATION



## WILD GOOSE: → A FINAL CALL TO ACTION

### Current Status & Background

NH Fish & Game (F&G) has requested \$1,766,000 be added to the NH Governor's Capital Budget to fund the construction of the much-debated boat launch at the Wild Goose site on Lake Sunapee. The project is now approved and at the funding stage. The site, off Route 103 at Birch Grove in Newbury, is controversial and poses serious traffic safety issues at the entrance and exit locations.

The plan calls for 43 parking spaces for 12 cars with roof-top boats (kayaks/canoes) and 31 spaces for cars with boat trailers. Two launch ramps are planned. The construction funding works out to \$41,000 per parking space.

LSPA does not oppose public access to the lake. However, this plan carries a heavy potential of adverse environmental impact on the lake.

For 20 years, LSPA has fought hard – and at great expense – against this plan because of its potential negative impact on water quality.

LSPA presented an alternative plan to F&G that would meet the public access goals while lowering the environmental impact to the lake. LSPA's plan was rejected.

### LSPA Position

LSPA, the Town of Newbury, and local citizens continue to oppose the F&G plan for the following reasons:

- 1) **The environmental impact.** Clearing trees, excavating, blasting and paving of most of the sloped 3.1-acre site will greatly increase runoff into the lake.
- 2) **"An accident waiting to happen."** That is how the Newbury police chief described the road safety issue at the exit and entrance onto Route 103 from Birch Grove. The NH Department of Transportation (DoT) has just issued the Town of Newbury a grant to assess the vehicular

crash history on that portion of Route 103. DoT's financial allocation may be taken as a tacit acknowledgment of the traffic safety issues around the boat launch site.

- 3) **The cost of the project.** Traditionally self-funded, F&G's financial situation has deteriorated, requiring NH General Funds for its current operating budget. F&G may be requesting a bond (loan) for the Wild Goose project to be funded by the Federal government and F&G boat access funds. LSPA believes the bond is better spent repairing F&G boat ramps that are in disrepair or developing a lower impact project on the small Wild Goose site.

### What We Need You To Do

Let candidates know how you feel about Wild Goose during this election season, especially the gubernatorial candidates. Contact the Governor's office. Write "Oppose Inclusion in Budget of Wild Goose Boat Launch" in your letter or email. The budget is being drafted right now for the incoming Governor. Email or write to: [governorhassan@NH.gov](mailto:governorhassan@NH.gov) or Office of the Governor, 107 Main St., Concord, NH 03301. Thank you.

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# Lake Sunapee Chosen for National Lake Project

Lake Sunapee and LSPA were chosen for the National Science Foundation CNH Lake Project because of the lake's geological profile and the amount of data that LSPA has collected.

The CNH – short for Coupled Natural and Human Systems – Lake Project will research the link between human activities/land use and water quality throughout the watershed.

Lake Sunapee is joined by two other lakes in the project – Lake Oneida in New York and Lake Mendota in Wisconsin. Lake Oneida is managed primarily for fishing, while Lake Mendota is located in a city and includes agriculture and intense development within its watershed.

All three lakes have different watersheds, levels of development, and human activity in and around the lake. The end result will contain a diverse cross-section of data which will be used to create a model that can predict the potential impact of human activity on natural systems.

Of primary concern is researching the connection between land use and the development of cyanobacteria. (See "Connecting the Dots" below).

This project dovetails with the ongoing work of the LSPA Watershed Committee which, with the four watershed towns, is discussing and implementing improved ordinance compliance and education for property owners.

**Lake Partners:** LSPA (NH), the Oneida Lake Association (NY), and the Clean Lake Alliance (WI).

**Research Team:** Scientists in freshwater ecology, hydrology, economics, conservation social science, and computer science.

**Project Leadership:** Cayelan Carey from Virginia Tech and Kak Weathers from the Cary Institute for Ecosystem Studies.

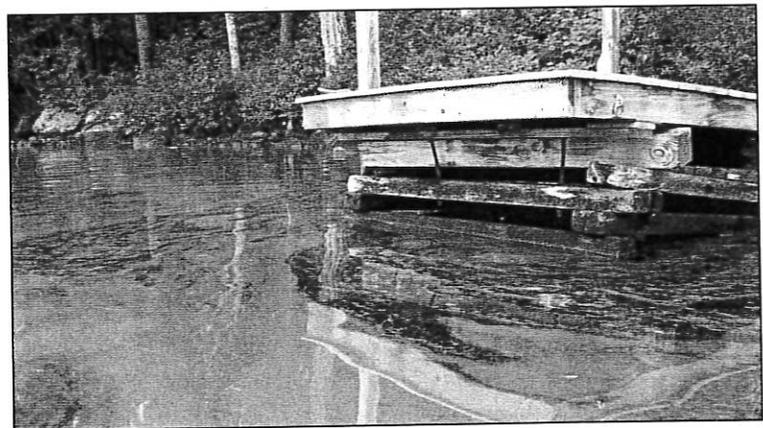
**Funding Partners:** The National Science Foundation and the Dynamics of Coupled Natural and Human Systems program.

## Connecting the Dots

Cyanobacteria (cyanos) can appear as a collection of small greenish dots on the surface of the water, suspended in the water, or as a blue-green surface "scum". Cyanos are naturally occurring organisms in waterbodies throughout the world.

Lake Sunapee harbors *Gloeotrichia echinulata* ("Gloeo"), a kind of cyanobacterium that has been present in the lake since the 1800s when sheep farming and logging were prevalent.

Problems arise when too much phosphorus enters the water. Blooms may occur, (see photo, right) posing a health threat to humans and pets.



### What Can You Do?

Our daily activities make a big difference in the health of our lake. Here are some tips to consider:

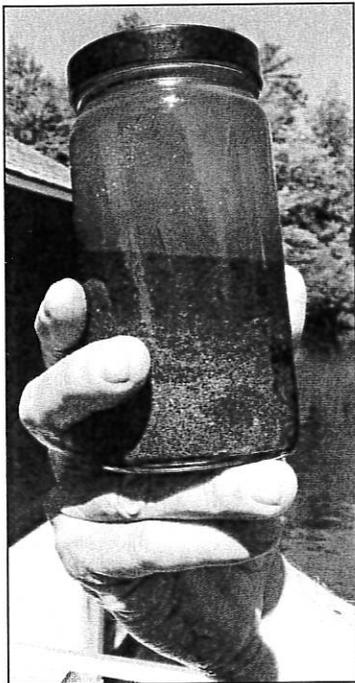
- Check your septic system for proper functioning.
- Don't use fertilizer within 25 feet of the shoreline high water line (it's *illegal*). Beyond 25 feet, while slow or controlled release fertilizer may be used, test soil and avoid if possible!
- Pick up after your pets.
- Use trees, shrubs, plants and natural buffers to slow down stormwater runoff into the lake.
- Check out the Clean Water Act and your town shoreland regulations.
- See "Do Not Blow Leaves..." on page 11.

## Sediment and Fish Tissue Testing

This summer, LSPA took lake sediment samples from eight locations in Lake Sunapee.

This had never been done before and will at a minimum give us a baseline for future reference.

The sediment (pictured below) was tested for nutrients (phosphorus and nitrogen) and metals (iron, manganese and aluminum). These occur naturally in varying quantities depending on a lake's geology and ecosystem.



Water chemistry can be of importance in understanding such phenomena as cyanobacteria lifecycle.

LSPA also went fishing for perch and small mouth bass. Tissues from these fish (which were taken with permission from the state) were sent to a specialized lab for analysis to detect PCBs, DDT, PBDE 99, and PFOS. These chemicals were found in the loon egg analysis done two years ago. Results for these samples are not in as yet.

The results of both of these endeavors will be followed up by LSPA's science community, for a better understanding of what these concentrations mean.

## Do Not Blow or Rake Leaves and Pine Needles into the Lake!

Mother Nature regularly deposits a certain amount of leaves and pine needles into the water each year – and that is normal.

However, when we add to that amount through poor property maintenance practices, we are harming the lake. Too many leaves and pine needles in the lake:

- decompose in the water and rob the lake of oxygen.
- add unnecessary nutrients to the water which can promote cyanobacteria growth.
- increase sedimentation in the water which deteriorates water quality.

The photo below shows a practice that is seen around Lake Sunapee. If you have a landscaping service, please inform them that you do not want leaves blown into the lake from your property.

The lake - and LSPA - thank you!



## Trees "Talk"

by June Fichter

Believe it or not, trees "talk" to their young through a below-ground intricate network of root systems and a specific type of fungus called the mycorrhizal network. The subterranean "Wide Wood Web" underneath the forest or in the soil has been the specialty of Dr. Suzanne Simard, a researcher from British Columbia who has spent 30 years researching Canada's forests.

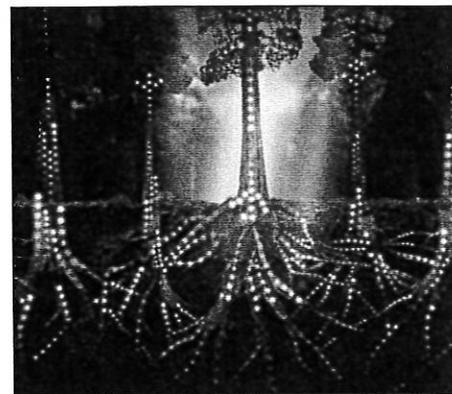


Photo courtesy [www.sott.net/article/304711](http://www.sott.net/article/304711)

Says Simard, "Mother trees colonize their kin with bigger mycorrhizal networks, send them more carbon underground, and even reduce their own root competition to make room for their kids. When mother trees are dying, they send messages of wisdom on to the next generation."

Simard has used isotope tracing to trace the carbon moving from an injured tree down the trunk and into its seedlings. She says the carbon also contains defense signals for the seedlings, increasing the young trees' strength.

A key word in all this tree nurturing is mycorrhizal network. The mycorrhizal fungus grows with the roots of a tree in a symbiotic relationship. This research may lead to new thoughts about forestry and plant management.

# Area Conservation and Lake Protection Leaders Pass On

by Midge Eliassen

LSPA and the Lake Sunapee area lost two very large voices for conservation, water quality, and wise lake access with the deaths this summer of Jack Holton and Dick Webb.

**John M. “Jack” Holton** was an attorney who practiced first in Pennsylvania and then New London. Holton first came to the area as a baby, when his family started coming to Lake Sunapee, at the Granliden Hotel. He summered here until he moved to New London in 1973. He then became more actively involved with LSPA, and became the association’s Clerk in the late 1970s, a position he was still holding at the time of his death at 100.

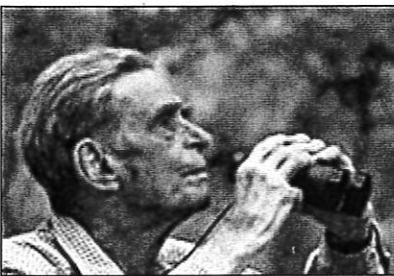


John “Jack” Holton, with past president Tanya Wilkie.

Photo courtesy of M. Eliassen

Holton’s most critical work for the protection of Lake Sunapee and all NH lakes was his pro bono work, with Frank Gordon, on the Red Water Creek dredging issue. Developers of Meadowbrook planned to dredge the creek, which feeds Lake Sunapee, and create a manmade island and large marina and further shoreline access to the lake. Holton and Gordon prevailed at the NH Supreme Court April 30, 1990, setting a precedent forbidding expansion of a lake’s shorefront up into backwaters of streams feeding the lake.

LSPA will also remember Holton’s years of dedicated service as Clerk, taking the official minutes of Annual Meeting, right up through 2015.



Richard “Dick” Webb, Past LSPA board member in the early 1990s.

**Richard H. “Dick” Webb** was an ardent conservationist and tree farmer. He moved to the area in 1948 and acquired very large land holdings, much of which he managed as sustainable wood-producing forests. Wanting his land to remain permanently undeveloped, Webb approached the Society for the Protection of NH Forests (SPNHF) in 1967. Together, they devised a “Deed of Dedication” for 703 acres in New London, protected under the New London Conservation Commission. It was the first such protection in NH, and a precursor of the later structure of conservation easements; in 1975, a portion of Webb’s holdings became SPNHF’s third easement.

Over his lifetime, Webb protected almost 3500 acres of forest land – including over 2000 acres with SPNHF and over 500 acres with Ausbon Sargent Land Preservation Trust (ASLPT). All of this land is in our region, and most is open to recreational use. Several of Webb’s conservation easements lie within the Lake Sunapee watershed.

Webb was a board member and strong supporter of LSPA, and met regularly with its leaders; he urged LSPA’s move to Sunapee Harbor in 1998. He was a founding member of Sunapee Harbor Riverway, a supporter of ASLPT since its founding, and SPNHF board member and board chair. SPNHF named him their “conservationist of the year” in 2008, recognizing his pioneering vision.

LSPA will remember his quietly shared wisdom and preservation values; his conserved forested lands will help protect our region’s water quality and way of life forever.

# Watershed Management Plan Update

For the past eight years, LSPA has been instrumental in moving forward many of the goals in the watershed management plan covering the Lake Sunapee watershed that was approved in 2008 by the NH Department of Environmental Services (NHDES).

**The 2008 plan is a comprehensive plan designed to protect water and other natural resources** through land use planning, regulatory improvements and compliance, and recommended measures to minimize the impact of development.

## Future Needs

Progress has been made. However, it is time to update our plan. With guidance from NHDES, we are assessing what pieces of the plan need to be updated and just how to do that.

One area of the updating process

includes developing and applying one or more **watershed computer models**.

## What is a watershed computer model?

Watershed computer models are based on land use and predict nutrient and/or contaminant loads from watersheds. Much of the information needed for the model is based on Geographic Systems Information (GIS) mapping data. The results of the GIS model are paired with models of various pollutants to determine what effect each pollutant load will have on water quality.

## Computer models

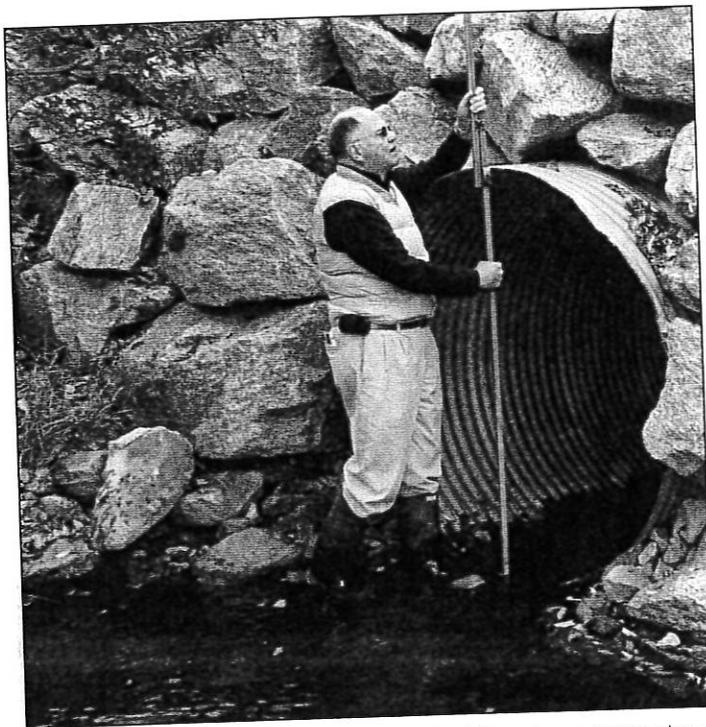
Computer models calculate nutrient and sediment loads from different land uses and the load reductions that would result from the implementation of various best management practices on

the land. They also compute surface nutrient loads, including nitrogen, phosphorus, and five-day biological oxygen demand (BOD5) and sediment delivery based on various land uses and management practices.

## Next Step

Some of the computer modeling may be done in-house by LSPA staff. However, LSPA may need to bring in a consultant for modeling purposes. If a consultant is needed, LSPA will apply for watershed planning grant assistance through the Environmental Protection Agency (EPA) and NHDES.

Any federal or state grant assistance that is sought beyond the *planning* grant (for plan update) requires an updated and EPA-approved management plan.



Gerry Shelby, LSPA volunteer and retired civil engineer, measuring a culvert in the Lake Sunapee watershed for future planning.

Photo courtesy M. Eliassen



Kathleen Stowell, education director, taking the life jackets off the boat for the winter.