



Our Glimmerglass

Newsletter of the Otsego Lake Association

MANAGING LAKE FEEDING DITCHES

by Kiyoko Yokota and Paul Lord

Lakes are dynamic systems through which water as well as other materials such as particles and dissolved substances travel. Water that enters Otsego Lake stays in the lake for approximately 3 years until it leaves the lake; this is called water residence time. While the exact breakdown for Otsego Lake is not yet known, most of the water leaves the lake through Clinton Dam into Susquehanna River. Evapotranspiration (water evaporation into the air plus water loss through plants) and loss to groundwater certainly exist but remain unmeasured in Otsego Lake. Weather data collected by the new automated buoy will help us account for those losses. Substances dissolved in lake water generally remain so and eventually leave the lake with the flow, but certain compounds that serve as nutrients can be taken up by organisms in the lake. Dissolved substances typically accumulate within the lake only if evaporation accounts for a large portion of the lake water loss (e.g., saline lakes in arid regions such as the Great Salt Lake and the Aral "Sea").



Soil particles such as clay, silt, and sand, however, behave differently and tend to stay within a lake much longer than the water residence time. This is because the speed of water slows once a stream reaches a lake and loses the power to flush particles across the lake and downstream. These particles can cause problems in a lake. The ultimate long-term issue is that as the lake basin fills in, the water level rises. While this is the natural course for all lakes at the geological time scale, many find this unacceptable in areas heavily settled by humans as it can increase flood risks, threaten shoreline properties, and compromise dam safety and other infrastructures such as roads and bridges. The good news is that this is a relatively slow process and can be mitigated; however, ecological impacts of excessive particle loading into a lake can be more readily evident at an earlier stage and can be difficult to reverse. Wes Tibbitts (2007), for example, studied lake trout in Otsego Lake and found that our native lake trout were not using historic spawning beds which have been buried in silt.

Particles in the Lake can also significantly affect the lake zooplankton, which are a collection of small animals (zooplankters) that many fish feed on early in their lives. Larger zooplankters (e.g., cladocerans such as *Daphnia*) are typically better food sources for fish than smaller ones (e.g., rotifers). The following are just a small set of examples from peer reviewed research articles. Clay particles added to lake water reduced larger zooplankters in an in-lake experiment in a small artificial lake in North Carolina (Cuker and Hudson Jr 1992). In meso-oligotrophic Lake Tana in Ethiopia, zooplankton abundance was low when turbid due to silt, and larger zooplankters were most severely affected (Dejen et al. 2004). You may question a connection between an Ethiopian lake and Otsego Lake, but they both are meso-oligotrophic (low to medium nutrient availability), and Lake Tana actually had many temperate as well as tropical species due to its high altitude (Dejen et al. 2004). In Lake Texoma in Oklahoma and Texas, abundance of two out of the three cladoceran species that regularly occur in the lake were severely reduced by increased silt loading, and the surviving females carried fewer eggs afterwards (Threlkeld 1986). There are also a substantial support from laboratory studies that clay and silt particles suppress zooplankton feeding rate (e.g., Hart 1988).

The story does not end there – clay and silt particles also alter the collection of microscopic algae suspended in water. Increased turbidity reduces sunlight available to the algae for photosynthesis, and the soil particles often have compounds adsorbed to them, which can be a source of additional nutrients for algae. This can disturb the balance among species of algae, and shade-tolerant species that are particularly good at utilizing the additional nutrients from the soil particles may outcompete other species that are preferred by zooplankters as food and dominate the phytoplankton. This in

(Continued on back cover)

*Glimmerglass Excursions
Wooden Boats on Otsego Lake*

Boat Parade - July 3

See details on page 6!

Message from the President

Dear Friends of the Otsego Lake Association:

It has been wonderful to kick off the 2017 summer season with the dedication of the Carl B Good Boat Wash at Lake Front Park! We all have worked hard to see this project come to fruition, and it has been especially meaningful for us to honor Carl who, as the dedication plaque reads, is remembered for “his tireless efforts to preserve Otsego Lake”.

It is particularly significant to note that so many efforts to protect Otsego Lake have been successful due to the efforts of individuals who have gone the extra mile in giving of their time and energy. Carl was a wonderful role model in this regard. Fortunately, there are many others who are working in many capacities to heighten public awareness of the importance of making informed decisions regarding matters that would impact our lake environment. It is sobering to think that the decisions that we make individually and collectively will have consequences that may be permanent or difficult to reverse in terms of this precious natural resource.

We are very fortunate to have a scientific community that provides us with information and expertise, but community support and understanding are essential. As your representative, OLA will continue to work to follow our mission to educate, advocate and actively participate in protecting the health, beauty, and well-being of Otsego Lake by facilitating the implementation of the Otsego Lake Watershed Management Plan.

Thank you again for your commitment to Otsego Lake.

Warm regards,
Mickie

PS: Catch up on what we've been doing in this newsletter and by coming to our annual meeting in August. Join us for fun on the lake or on shore for our annual boat parade.



Carl B. Good Boat Wash Dedication - May 12, 2017; Photo by Tim Pokorny.

OTSEGO LAKE ASSOCIATION

FOUNDED 2002

OUR MISSION is to educate, advocate and actively participate in protecting the health, beauty, and well-being of Otsego Lake by facilitating the implementation of the Otsego Lake Watershed Management Plan.

OUR MEMBERSHIP is open to any individual concerned with the health of Otsego Lake. Our membership consists of year-round residents, seasonal residents and local businesses.

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ADDRESS CORRESPONDENCE TO:
Otsego Lake Association
P.O. Box 13
Springfield Center, NY 13468
info@otsegolakeassociation.org

ON THE WEB:

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HEMLOCK WOOLY ADELGID

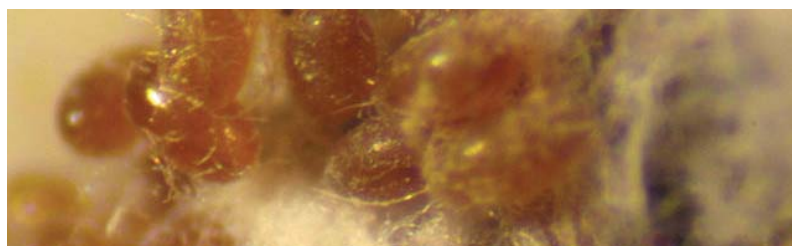
by Devin Merkley

Otsego County is on the persistent front line of a devastating invasive species; the Hemlock Woolly Adelgid. The HWA has devastated stands of Hemlocks in the Hudson Valley, Capital Region, Catskills, Southern and Western tiers of New York. Fortunately, the insect invasion has not made it to points north but the trajectory is clear. It will be imperative to observe and report any infestations of HWA to preserve the lush stands of Hemlock that blanket the hills of Otsego lake and surrounding areas.

Hemlock stands provide an ecosystem unlike any other that many organisms depend heavily upon. The canopy of a Hemlock provides 8-10 percent more shade than surrounding deciduous trees. This shade plays a crucial role in slowing snow melt and providing cool and desirable spring/summer conditions for many species. The tree grows on the steepest of hillsides and even cliffs such as those on our very own Otsego Lake. The root systems play a role in holding back the shallow soils of the hill sides preventing erosion. The timber harvested from Hemlocks has economic value as it is used for wide range of applications. Residential Hemlock trees and hedges can be heavily associated with property value thanks to their dense screening and shading characteristics. All Hemlock, Forest and residential are prone to a Hemlock Woolly Adelgid infestation.

An infestation can be identified by wool like bunches of egg masses that are visible nearly year round. An infested tree will slowly show signs of stress as it loses its dark green color and becomes defoliated. It may take up to a few years for the tree and the stand to eventually die.


Observations of HWA can be reported to Imap Invasive app. via your mobile device or by contacting the Department of Forest Health at DEC. Observations can also be reported to the Catskill Regional Invasive Species Partnership (CRISP), <http://catskillinvasives.com>.



Eggs: Shimat Joseph, University of Georgia / © Bugwood.org / CC-BY-3.0-US




Hemlock with Woolly Adelgid Eggs; Connecticut Agricultural Experiment Station Archive, Connecticut Agricultural Experiment Station / © Bugwood.org / CC-BY-3.0-US



otsegolakeassociation.org

Enjoy Otsego Lake Safely



- No-wake zone buoys delineating 200' from shoreline.
- 5-mph zone extends 200 feet from all shores.
- Hazard buoy locations.

● Cooperstown

In our ongoing effort to promote safe boating on Otsego Lake, OLA has produced “Enjoy Otsego Lake Safely” stickers. These point out no wake zones and hazards on the lake and will be offered free of charge for installation in all Otsego Lake rental boats. They also will be available to the public at all boat launches and may be obtained on request from OLA board members and at OLA events.

THE SOUND OF SILENCE - Electric boating on Otsego Lake

by *Scottie Baker*

The saying “everything old is new again” applies regarding electric boats. Boats powered by electricity have been used for over 120 years, enjoying great popularity in the late 1800’s into the early 1900’s. The advent of the internal combustion engine caused the decline of the use of electric boats beginning c. 1920.

Otsego Lake’s Chief Uncas, a 55’ Honduran Mahogany launch was built by the Electric Boat Company c. 1912, and was an example of luxurious crafts widely used as conveyance by the wealthy. Over the years, its power was changed to gas engines, until Lou Hager, 5th generation owner, recently converted the Uncas back to electric power. “Gardenia” owned by Kent Barwick, also an historic wooden craft on Otsego Lake, is electric powered.



*18’ WONDERLAND; “If one is not in a hurry, an electric boat is idyllic, being quiet and lending itself to conversation.”
--Lee Stockwell*



Historic UNCAS (left); UNCAS with NARRA MATTAH (right; Jane Clark, owner) was also originally electric, currently gas engine.

In the 1990’s, Dave and Scottie Baker enjoyed many quiet journeys in their 20’ electric launch, “Serena”. She was built by Carter Mann (Atlantic Boatworks) to resemble the original lines and “fantail” stern style of the turn of the century wooden launches.



*SERENA at Sam Smith’s classic boat show and parade;
1992 photo by Milo Stewart*



Tom Krieg and Scottie Baker in “SERENA”

Electric Boating (continued)

James (Chip) and Nancy Northrup’s 25’ electric launch, built in 2008 by Beckmann Boatworks is also modified from a vintage launch.

The Duffy Electric Boat Company of California began mass producing small electric craft in 1968, helping with the resurgence of the use of electric powered boats. Lee Stockwell’s “Wonderland” and Bob O’Neill’s Lady of the Lake” are Duffy electric boats. New electric boats can also have solar panels built into reasonable areas in curvatures, decks, cabin roofs or as awnings.

Otsego Lake electric boat owners report being able to travel 5-6 mph for several hours and approximately 20 miles on a single charge of their 6-9 batteries from a shoreline charging station. They also list amenities such as lamps, heaters, refrigeration, beverage bars, and stereo systems. Surry tops, canopies, cabins and enclosures are a must, as speeding to shore in an unexpected downpour is not an option! (Scottie’s “Serena” had no top, so large golf umbrellas were always on board). Maneuvers such as quick forward and reverse and tight turns can be a bit cumbersome.

Granted, electric boats are not for everyone. For example, you cannot water ski or tube behind one, but you can sneak up on fish!



*“...used for picnics, diving and swimming, coaching rowing, meteor watching, parades, towing gas powered boats and sailboats in distress”
-- Chip Northrup*



Bill Elsey in his 13’ electric pontoon boat GILL GETTER which can go 2 hrs. at 4mph or 10 hrs at 3mph; Photo by Tim Pokorny.



LADY OF THE LAKE; 17’ c1991 model used since 1992 On Otsego Lake, Bob O’Neill, owner



*24’ electric and solar power vessel;
Michele Barry, Cooperstown Cruise Company*

The good news is that electric powered boats are non-polluting to Otsego Lake and its environs. There is no noise, gasoline residue, fumes, little or no wake, no shoreline erosion, and no disturbance of fish, wildlife, sailors, rowers, paddlers or people on shore. In addition to being eco-friendly, electric boating simply pleases all the senses.

Glimmerglass Excursions: Wooden Boats on Otsego Lake

A new exhibition at Hyde Hall, available now through October 31, 2017 at the Kent Administration Center. The exhibit documents the tradition of wooden boats on Otsego Lake and explores the popularity of wooden vessels and their various uses for fishing, transportation, and recreation.

“Glimmerglass Excursions” was a semester-long collaboration between Cooperstown Graduate Program students; Mikaela Funduan, Luke Murphy, Peter Glogovsky, Joshua Taylor and Sara Umland, and Hyde Hall Executive Director, Johnathan Manney along with staff and board members. Special thanks to community members Scottie Baker and Tom Krieg for their help and boat expertise.



4th ANNUAL “WE LOVE OUR LAKE” BOAT PARADE - MONDAY, JULY 3rd at 3PM



Plan to float your boat in OLA’s 4th Annual “We Love Our Lake” Boat Parade to be held at 3:00 PM on Monday, July 3rd, 2017 – rain or shine. The parade forms off Three Mile Point where the judges aboard the SUNY Oneonta Biological Field Station’s barge, the Anondontoides, will record the name and owner of each boat for judging. The Anondontoides will then lead the parade slowly along the westerly shore of the lake to a point near Lake Front Park in Cooperstown (wind conditions at the time may require an alternate site). Please stay around for a few minutes at the end of the parade while the judges announce winners and give out the prizes.

All boats, large and small, are welcome to participate – including antique or classic, human

powered, wind powered, electric powered, jet powered, outboard powered, or inboard/outboard powered. Decorate your boat anyway you wish – it can be unusually decorated, humorously decorated, patriotic theme decorated, joyful/party theme decorated, sports theme decorated, etc. If you prefer, you do not even need to decorate your boat – just join in the parade and view the other boats up close. You can even join the parade at any time or anywhere along the route, especially for non-motorized boaters who might not want to travel the full route. Fun prizes will be awarded for different categories.

If you are unable to float your boat, you can watch from shore at various points along the parade route including Three Mile Point, Brookwood Point, the Country Club (for members only), the Otesaga Hotel, etc. There are no fees, registration forms, rules, or regulations except travel slowly, stay in line, and be courteous to other boaters. In the past, we have had over 50 boats participate in the parade. The parade is meant to be a fun filled event for all boaters to celebrate our love for Otsego Lake. If you have any questions or need additional information, please contact Wayne Bunn, Boat Parade Chairman, at bunnwayne@gmail.com or (518) 542-6630. You can also view photographs of last year’s boat parade at www.OtsegoLakeAssociation.org. We look forward to seeing you on July 3rd!

SPRING INTO ACTION!

Time for a new cap and shirt to support your OLA!



To place an order, contact:
Scottie Baker, (607) 547 5356
npscottieb@gmail.com

Proceeds from OLA merchandise help to support our programs, including the Lakefront Boat Wash.



**“Helping to Protect a Local Treasure”
Hurry! Support OLA Now!**

Photo by Natúra Productions

www.otsegolakeassociation.org

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We Appreciate Your Support!

Please complete the form below and mail along with your contribution to:
 Otsego Lake Association
 PO Box 13
 Springfield Center, NY 13468.

All donations are tax-deductible as allowed by law.

SUPPORT YOUR OTSEGO LAKE ASSOCIATION

We have vital projects that need your support:

BOAT WASH DONATION \$ _____
 UNDESIGNATED DONATION \$ _____ TOTAL ENCLOSED: \$ _____

I would be interested in volunteering by (check all that apply):

Serving on a Committee Representing OLA at Community Events
 Working on the Board of Directors Working with the Volunteer Dive Team

MEMBERSHIP

Annual Membership Dues (Check One): Renewal New Member
 Individual (\$25) Family (\$35) Business (\$50)

Name: _____ Email Address: _____

Mailing Address: _____

City: _____ State: _____ Zip: _____ Phone: _____

PLEASE JOIN US FOR OUR ANNUAL MEETING

Saturday, August 12
8:30 am to 11:00 am
in the pavilion at Glimmerglass Opera

PRESENTATIONS

Past, Present & Future of
Goodyear Swamp Sanctuary

Lake History & Scientific
Updates

Optional Behind the Scenes
Tour of Glimmerglass Theatre
by Joel Martin

Photo by *Scottie Baker*.

MANAGING DITCHES (Continued from front cover)

turn can lead to low food (algal) availability for the zooplankton, due to the shading effect of the soil particles as well as the reduced algal biodiversity.

Recently, Les Hasbargen, Associate Professor, Department of Earth & Atmospheric Sciences at SUNY Oneonta has been examining sediment accumulation in Otsego Lake. Les is a geomorphologist, interested in the broad range of processes which change the shape of the land, including sediment movement in rivers and on hillslopes, chemical reactions between natural waters and rocks, glacial action in erosion-transport-deposition, and biologic interactions with landscapes. His work continues, but he tells us that he has observed "some pretty nice sediment plumes entering Otsego Lake" from tributaries during storm runoff.

Well, we have all seen plumes enter Otsego Lake. OLA has long bemoaned the silt accumulation in Otsego Lake and your BOD members have talked to at least three of the lake bordering municipalities about silt from roadside ditching. We have worked, and continue to work, on silt resulting from improper construction techniques and locations. Others with a focus on lakes are dealing with the same issues. The NYC Department of Environmental Protection has taken a lead on proper ditching due to an EPA threat that impure NYC reservoir waters may have to be filtered in the future – with a multi-billion plus cost and loss of an important NYC park. Cornell University is also looking to protect surface waters from silt from roadside ditching. See <http://climatechange.cornell.edu/re-plumbing-our-watersheds/>. Best management practices are evolving for ditching. We should all urge local municipal leaders to do shorter, less erosive ditch maintenance projects.

References: Cuker, B. E., and L. Hudson Jr. 1992. Type of suspended clay influences zooplankton response to phosphorus loading. *Limnol. Oceanogr.* 37: 566–576. Dejen, E., J. Vijverberg, L. A. J. Nagelkerke, and F. A. Sibbing. 2004. Temporal and spatial distribution of microcrustacean zooplankton in relation to turbidity and other environmental factors in a large tropical lake (L. Tana, Ethiopia). *Hydrobiologia* 513: 39–49. doi:10.1023/B:hydr.0000018163.60503.b8
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Threlkeld, S. T. 1986. Life table responses and population dynamics of four cladoceran zooplankton during a reservoir flood. *J. Plankton Res.* 8: 639–647.
Tibbets, W. T., 2007. The behavior of lake trout, *Salvelinus namaycush* (Walbaum, 1792) in Otsego Lake: A documentation of the strains, movements and the natural reproduction of lake trout under present conditions. *Biol Fld Sta, SUNY Oneonta Occ Ppr* #42.



Friday, May 26, 9am-4:45pm at BFS Boathouse

All are welcome to attend a day-long, free training session which imparts the knowledge and skills necessary to thwart new invasive species introductions into Otsego Lake. BFS Boathouse, 7016 State Highway 80, Springfield. **Bring a bag lunch and something to drink.**



DIVERS NEEDED
The SUNY Oneonta Biological Field Station Volunteer Diver Team needs certified divers willing to commit to 6+ days of diving each year for the good of Otsego Lake and surrounding waters. No longer diving? Consider donating your equipment to the team. Contact: Paul H. Lord, Divemaster, paul.lord@oneonta.edu.



OTSEGO LAKE ASSOCIATION
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