The Oneida Lake Bulletin

Fall 2016 www.oneidalakeassociation.org

The American Fisheries Society Publishes a Book on Oneida Lake

Oneida Lake: Long-Term Dynamics of a Managed Ecosystem and its Fishery

The Oneida Lake Association continues to explore and discuss the relationships of physical, chemical, and biotic components of the lake that contribute to algal blooms. In this column, we are referencing a new book, recently published, titled *Oneida Lake: Long-Term Dynamics of a Managed Ecosystem and its Fishery* (American Fisheries Society 2016), as edited by a number of our associates at Cornell, including OLA Board member, Edward Mills. Dr. John Magnuson, Professor Emeritus, Center for Limnology, University of Wisconsin, Madison acknowledged the new book focused on Oneida Lake as "A Rare Book about an Important Lake… Oneida Lake is a major lake in North America with a long documented history."

Daphnia (photo Wikipedia)

Prior to the arrival of zebra mussels, in the late 1980s, phosphorous was a water quality issue, with concentrations over 100 micrograms per liter (µ/L). Now, with concentrations in the range of 20-30 µ/L (or lower) scientists are speaking of the "oligotrophication" of Oneida Lake, as characterized by reduced fertility, high oxygen content, and greater water clarity, similar to the Finger Lakes. Formerly, we spoke of Oneida as eutrophic, having high phosphorus levels and high biological productivity.

Beginning in the 1970s, restrictions on lawn fertilizers, the elimination of phosphorous in detergents, expanded municipal sewer systems, improved septic designs, and new storm water erosion management has lead to a dramatic reduction in phosphorous concentrations in Oneida Lake. This drift toward oligotrophication, however, presents a new scenario for Oneida Lake, the decreasing levels of algal carbon. Algal carbon provides the nutrition for tiny crustacean zooplankton like *Daphnia* and copepods on which yellow perch and walleye feed in their early life history. Algal carbon can be reflected in some species that are highly nutritious for *Daphnia* while other algae species like blue-greens are essentially non-edible and of poor nutrition. Although important zooplankton like *Daphnia* are nonselective filter feeders, they need a healthy supply of nutritious algae species in the water column in order to thrive.

The type of algal blooms in Oneida Lake can be dictated by the ratio of nitrogen and phosphorus concentrations in the lake's waters. Some algal species, for example, like more nitrogen than phosphorus while others do well when phosphorus levels are high. Consequently, the nature of algal blooms is driven by a complex of chemical, biological, and physical interactions that often varies seasonally, annually, and with the dominating critters in the lake (like zebra and quagga mussels, for example).

Copepods (photo private-scuba.com)

Although light penetration has increased in recent years (leading to photosynthetic activity deeper into the water column), such enhanced water clarity has not translated into more available food for zooplankton that support juvenile fishes like perch, walleye, gizzard shad, and buckeye on which the larger fish prey. In these post-zebra mussel years, both food quality and quantity could be limiting the *Daphnia*, despite compensating mechanisms that the zooplankton have for surviving on meager rations. In fact, these concerns extend well beyond Oneida Lake. There is growing concern that the salmonid fishery of some of the Great Lakes is imperiled by a similar reduction in prey fish size and health, consequent to "improved" water quality.

Although reducing levels of phosphorus in Oneida Lake was once a primary goal, further reductions in our waters may not be productive. Certainly this issue needs much more study and discussions. The OLA remains committed to researching this issue.

President's Message

Members,

I and the Board of Directors sincerely appreciate the support you have given us this year, and your compliments on our recent technology initiatives. Many of you will receive this *Bulletin* electronically for the first time. More of you started getting a monthly e-News message that was initiated in January. For those of you getting only print versions of the *Bulletin*, and who may want electronic mailings, please provide us with a valid, legible email address – just send your request by email to info@oneidalakeassociation.org. As mentioned at our April Members Meeting, emailing saves considerable printing and postage, enabling stable membership at only $5. Please ask your friends and neighbors on the lake to sign up at our website, and pay 'a fin for a fin' via PayPal. Our website has been reformatted, and now has an embedded search engine – give it a try.

I trust that September finds you in good spirits after this warm, dry summer. Fishing was a challenge, but boaters sure had a good time. The sailors have been somewhat under-challenged by winds, but this autumn the changing jet stream should bring in cold fronts to nicely and frequently fill the sails. Waterfowlers are prepping their gear for October, fall perch and bass fishermen are marking the weedbeds, and the wading walleye anglers are anticipating a good November 'nite bite' once the abundant buckeyes and alewife minnows move to the shallows. It is anyone's guess when ice will form, but those interested in watching the seasons change should have a new webcamera's view. At our website, in addition to the existing link on the north shore camera, we will have a new south shore view from Chapman Park, coming soon courtesy of the Town of Sullivan.

This fall as you pull your boats, remember that new state regulations require no weeds on trailers. I know it is a challenge at the launch sites, but please clean your bilges and boats, especially if you will be going to other waters. Invasive aquatic species are here to stay, but it remains incumbent upon each of us to manage our outdoor activities in accordance with the rules of law.

Enjoy this issue of the *Bulletin*, and remember to vote!

Sincerely,

Scott Shupe
President, www.OneidaLakeAssociation.org
president@oneidalakeassociation.org
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The Oneida Lake Association, Inc.

Founded in 1945

The Bulletin is published by the Oneida Lake Association, Inc., so that its members may be informed regarding the activities of the association. The Oneida Lake Association, Inc., was organized in 1945 to restore and preserve the natural resources of Oneida Lake and its environs.

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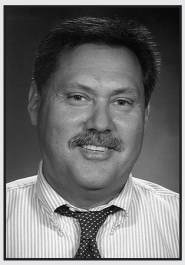
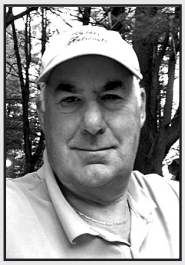
Two Named to Board of Directors

John Harmon



John Harmon of Cicero was elected to the Board of Directors July 11. John is a retired Skaneateles teacher and Curriculum Coordinator. John has editing an writing skills with an environmental avocation that will serve us well on the Education and Outreach Committee.

Gregory Keener



Gregory Keener of Constantia joined the OLA as a new director in April. He retired from the Central Square School District where he taught art for 31 years. He is skilled in digital photography and hopes to share his knowledge to better communicate the mission of the OLA.

The Board hopes to fill the one remaining vacancy with someone from the east end of our membership. We especially are interested in someone with some legal or regulatory background.

If you have an interest, or know of someone who may be, please contact a Director.

The OLA Fishing Corner

By Ryan Asmus

Fall Fishing on Oneida Lake

For this year's fall fishing report I contacted local merchants with firsthand knowledge of fishing Oneida Lake in the fall. I spoke with Rob Goffredo of Bartel Road Bait and Tackle, Ben Barry of East Shore Bait and Tackle, and Tony Buffa of Capt. Tony Buffa's Fishing Charters. Rob, Ben and Tony agreed; whether you are interested in perch, bass or walleye, the autumn months offer some of Oneida Lake's best fishing opportunities.

When the water temperatures begin to drop back into and through the 50's, walleye return to the shallows where they are accessible to shore anglers. Whether you are wading or casting from shore, stick baits are a go-to lure among fall anglers. Two popular choices include Challenger and Rapala. Whichever you choose to use, be sure to try lures patterned to match the black and silver of shad minnow, a natural prey of walleye.

During the fall months, bass tend to group together around schools of baitfish. When you have located a group of feeding bass try using drop shot rigs, tube baits, weighted swim baits, senko worms and other plastics. Once the water temperature has dropped into the mid or low fifties, one of the easiest methods of catching fall smallmouth bass is to drift silver shiners over the rubble piles found at the west end of the lake, north and to the east of Oneida Shores.

If you are targeting largemouth, bass poppers and lures resembling frogs and rats are a good choice. Perch school together in the fall as well. Be patient. Finding a hungry school of perch can lead to a great day of fishing.

The effects of round gobies are beginning to be felt in the lake. The arrival of gobies has lead to larger fish, especially within the smallmouth bass population. Anglers may find that since the arrival of gobies as a new and plentiful food source, game fish with bellies full of the invasive species may become more difficult to catch using traditional techniques.

Local bait shops are beginning to stock lures mimicking goby color patterns and action. Since gobies do not have a swim bladder like other fish in the lake, they are confined to the bottom 18 inches of the lake. In order to avoid having your day ruined by catching goby after goby, be sure to keep your bait off the bottom where gobies are feeding. This is especially true when fishing in or near the river.

Volunteers Wanted!

Your Oneida Lake Association's outreach program involves staffing exhibition booths at regional sport shows. Directors' commitments occasionally conflict with scheduling, leaving difficult gaps in coverage. We invite all association members to volunteer to fill these gaps. Working these shows creates a unique opportunity to promote the OLA and share great fellowship with scores of dedicated, fascinating outdoorspersons.

Any interested members should contact the board through our website - ***www.oneidalakeassociation.org.***

Standing Up for Microbead Free New York Waters

by Christian Shaw and Gordon Middleton

A 240-mile journey is finally complete. Though this may not seem like a long distance by car, think about doing it on a paddleboard. Then consider attempting it during November in upstate New York. This feat is what Christian Shaw and Gordon Middleton, co-founders of Plastic Tides, completed on November 19, 2015, after a polar vortex of winter weather halted their journey in 2014. They came back with a vengeance, and renewed determination to raise awareness about microbead pollution in the Finger Lakes, Great Lakes, and other waterways of their home state.

This journey started as a way to draw attention to the issue of plastic pollution, but more specifically microplastics and micro-beads. Leading the science behind microbeads: Dr. Sherri "Sam" Mason from the State University of New York at Fredonia. With cooperation from the New York State Attorney General's Office, Dr. Mason had published findings about microplastics in the Great Lakes and water resource recovery systems statewide. She found 75 percent of the pollution in the Great Lakes comes from micro-plastics – pieces you can't see that come from the photodegradation of plastic bags, toothbrushes and other debris. Twenty percent of this total microplastic pollution is microbeads. These microbeads were found in the effluent from 75 percent of water resource recovery plants (n=44) sampled around New York state. Plastic Tides did their own sampling on the first go-round of their Erie Canal trip, found microbeads in Cayuga Lake, Oneida Lake, the Erie Canal and Mohawk River, and became the first group to find micro-beads in inland waterways. Microbeads concentrate pollutants, get ingested by animals ranging in size from plankton and mussels to birds and fish, and eventually make it up the food chain to humans. They also leach chemicals known to be endocrine disruptors which are not remediated at the recovery plants. Middleton and Shaw hoped that their adventure would inspire and bring attention to a microbead ban that had been proposed to the New York State Legislature.

Christian Shaw looks west across the length of Oneida Lake during an 11 day paddle board trip to sample water from Ithaca to the Erie Canal for plastics.

75 percent of the pollution in the Great Lakes comes from micro-plastics – pieces you can't see that come from the photodegradation of plastic bags, toothbrushes and other debris.

– Dr. Sherri "Sam" Mason, SUNY Fredonia

In spring 2014 a pending bill in the New York State Legislature was passed overwhelmingly in the Assembly, but was shelved and refused to be voted on by the Senate. Even after the 2014 Plastic Tides expedition – which resulted in their film, The Canal, and a growing body of microbead research in New York state – history repeated itself in 2015 as the bill failed to make the Senate floor. This provoked Middleton and Shaw, in collaboration with their Plastic Tides Junior Ambassador summer program, to work fervently to pass the legislation – but this time through a more grassroots approach.

If the state wouldn't hear their voice, maybe smaller local governments would – and they did. One by one, Erie, Cattaraugus, Chautauqua, Suffolk, Albany and finally their home county of Tompkins passed their own bans, the strongest legislation ever, on products containing plastic microbeads. The evidence found right here in New York state was too strong for honest local governments to ignore, especially after the issue was taken up by a group of middle and high school students who, after becoming Plastic Tides Junior Ambassadors, contacted the local legislature themselves. Then, just one month later, in a turn of events that could never have been predicted, President Obama signed the Microbead-Free Waters Act into law. The bill had been proposed for a number of years, but with the passing

(Continued on next page)

Standing Up for Microbead Free New York Waters

(Continued from page 4)

of the California ban and the grassroots movement in New York, the bill was finally taken seriously and passed through the House and the Senate by unanimous vote. It was a massive victory.

Common questions Shaw and Middleton get from talking about this issue are: Why don't we just make smaller filters at the treatment plants? Why do we even care about this? Well, to that they respond that the filtration upgrade required at treatment plants would be extremely expensive; oftentimes when we try to use technology to mitigate systemic problems, it can create separate but equal problems in its own right. And while microbeads haven't specifically been proven harmful to humans, why should the burden of proof for that be on the consumer? Shouldn't it be the industry's responsibility to prove that their products are safe for us to use?

If you are inspired by this article, then follow Shaw and Middleton on their journeys on social media, @plastictides on Instagram, www.facebook.com/plastictides and at their website www.plastictides.org. Coming up on Plastic Tides' radar is a campaign to avoid single-use plastic cutlery in school cafeterias, and its annual Stand Up Paddleboard (SUP) race around Bermuda, the Devil's Isle Challenge, situated smack in the middle of the North Atlantic Gyre. The events surrounding this 50-mile paddleboard race are intended to help raise awareness of plastics pollution in the oceans. Remember, Don't Ride the Plastic Tide.

Christian Shaw holds up a water sample.

Christian Shaw looks at the conditions of Lock 23 in Brewerton, NY mid-November 2015.

Reprinted from Clear Waters magazine, the Official publication of the NY Water Environment Association.

Christian Shaw (lead author and contact for questions) is the Science and Education Director, and Co-founder of Plastic Tides. He can be reached at Christian@plastictides.org. Gordon Middleton is the Creative Director and Co-founder of Plastic Tides. He can be reached at Gordon@plastictides.org.

Inspired by this article?

Follow Shaw and Middleton on their journeys on social media:

@plastictides on Instagram
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www.plastictides.org.

Cornell University High School Citizen Science Program Monitoring Invasive Fish Species in NY State

Excerpted from an article written by Dr. Donna Cassidy-Hanley

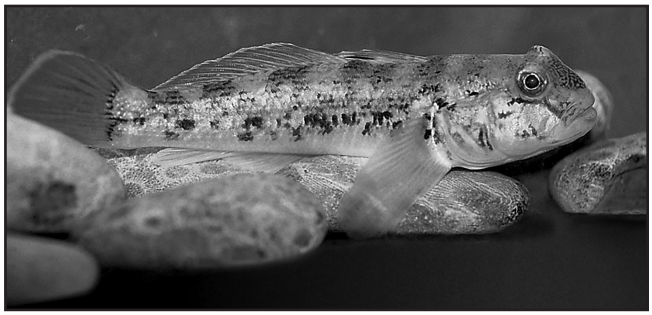
Last June a group of Central Square High School students piloted an exciting new educational outreach program that partnered researchers at the Cornell University School of Veterinary Medicine with students and teachers throughout New York State. Under the direction of Dr. Jim Casey and Dr. Donna Cassidy-Hanley, the project continues to investigate the distribution of invasive fish species (including sea lamprey and round goby) in various New York waterways. This program provides students with a unique classroom opportunity to follow a project from fieldwork through qPCR analysis, providing an opportunity to use and understand the power of bio-informatics within a real life context while addressing a growing environmental problem.

Sea lamprey have been found in several areas of New York, including Lake Champlain and the Finger Lakes. Environmental DNA (eDNA) from invasive round goby has been demonstrated in parts of the Erie Canal. Further information is needed to fully understand the extent to which these invasive species are present in New York waters. This new program continues to offer students and teachers the opportunity to participate in a research study designed to track invasive fish species throughout New York State, using DNA collected from local water sources and analyzed using state of the art quantitative PCR (qPCR) techniques.

Lamprey

http://eelriver.org/wordpressNEW/2016/04/15/the-lost-fish-the-struggle-to-save-pacific-lamprey/

To help integrate program activities into existing curriculum, the project supplies background information for teachers and students on the issues surrounding invasive fish species. Teacher and student protocols, as well as the collection and filtration materials students will need to sample water in nearby rivers, streams, lakes, or canals, are supplied free of charge.



Round Goby *(http://www.seagrant.umn.edu/ais/img/goby.jpg)*

Under teacher supervision, students use materials supplied by the program to collect and filter water samples from sites around the state, carefully recording the collection location (including time, date, a description of the site, GPS coordinates, and other relevant information). The filters, potentially carrying DNA from any invasive fish recently present in the water, are sent to Cornell for analysis using qPCR. The qPCR results are returned to the students for analysis, along with a description of the qPCR technique, and detailed instructions on how to interpret the information generated. The results of all tests are then used to analyze the distribution of these invasive species.

Central Square was one of 32 schools across the state to pilot this project last year. Students in Gina Duggleby's (OLA Director) Biology classes sampled water from 12 specific sites within the Oneida Lake watershed to test for the presence of invasive Round Gobies, Asian Carp, and Lamprey Eels. Out of the total 84 sites sampled around the state, 14 tested positive for Round Gobies. Three of those 14 sites were sampled by her students within the Oneida Lake watershed. Positive results were found along the Oneida River in Caughdenoy, Crippen Creek, northwest of Caughdenoy, and the mouth of Oneida Creek at the east end of the lake. The good news is that none of the 84 sites tested positive for Asian Carp or Lamprey Eels! Her students will participate again this year sampling different sites. Detailed findings can be examined at this project website map, with the participating school, teacher, and class noted for each location : *https://tetrahymenaasset.vet.cornell.edu/invasive-fish-program/edna-testing-results/*.

Asian Carp *http://www.cbc.ca/natureofthings/blog/how-to-have-fun-in-bath-ilinois*

Ecological Calendars to Anticipate Climate Change in the Oneida Lake

Ecological calendars are systems to keep track of time by observing seasonal changes in our habitat. The opening of a flower, the emergence of an insect, the arrival of a migratory bird, or the breakup of ice in a lake – each of these are indicators that could be useful to plan seasonal activities such as hunting, fishing, foraging for mushrooms, planting vegetables, producing crops, moving livestock or tapping maple trees. People in upstate New York are seeing greater variability in local weather and changes in the growth and behavior of plants and animals. These changes impact food, health, and energy systems. Ecological calendars could help communities understand and prepare for climatic changes.

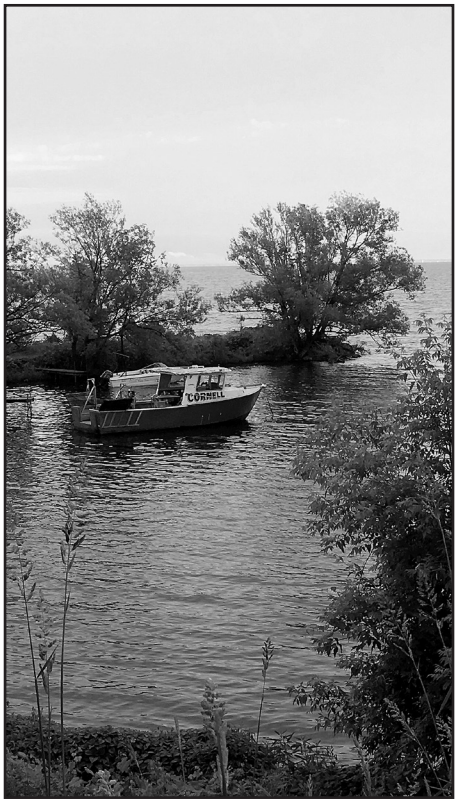
This summer, Dr. Karim-Aly Kassam and colleagues at the Cornell Biological Field Station at Shackelton Point launched a Participatory Action Research Project focused on developing ecological calendars for the Oneida Lake Watershed. The scientists involved in this project are working closely with our local communities to ensure their interests, ideas, and experiences drive the process. In early June, they hosted two workshops to begin discussing seasonal changes in Oneida Lake and to set a collaborative research agenda. Each group spent several hours generating a diagram of important seasonal changes in and around Oneida Lake. Participants also identified other

local experts to contact and agreed on project outcomes, including:

- Ecological calendars to be used and adapted by communities within the watershed
- A knowledge platform for communities to share observations and insights,
- Curricula to teach young people about ecological calendars and climatic changes
- An international conference focusing on ecological calendars

Following these workshops, Cornell student Tamar Law began conducting interviews with knowledgeable individuals from around the watershed, including anglers, trappers, hunters, birders, beekeepers, artists, citizen scientists, and gardeners. The information she has gathered from the first 40 interviews is being used to develop an ecological calendar to be reviewed and tested with community members.

Tamar is still looking for farmers and other local experts who would be interested in speaking with her, so if you would like to get involved, or can recommend someone who might contribute, please email her at tl432@cornell.edu or contact the project leader, Dr. Karim-Aly Kassam, at (607) 255-9757.



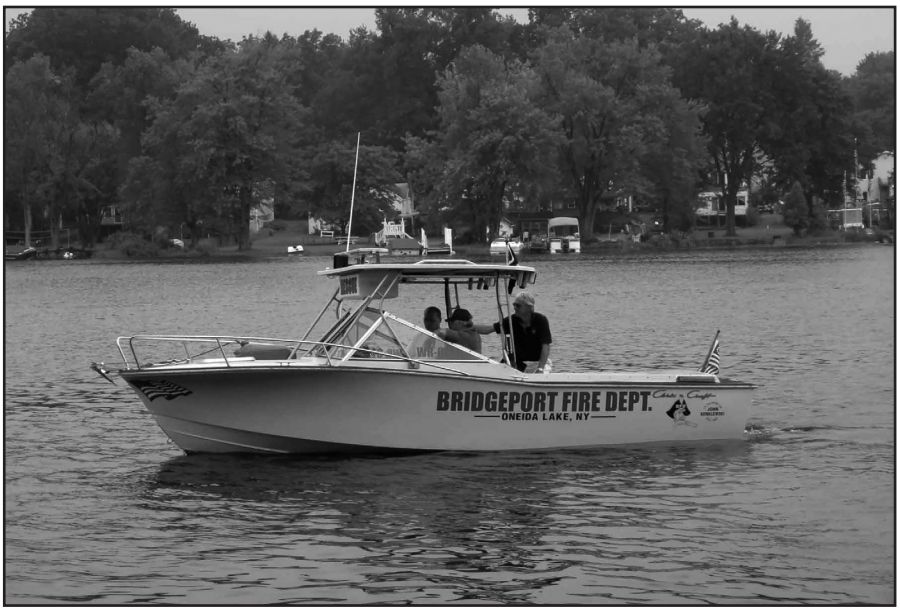
Thank you to all of the Fire Departments that serve Oneida Lake!

Featuring: Bridgeport Volunteer Fire Department WR-1

The Oneida Lake Bulletin will feature the seven fire departments that serve Oneida Lake. In this issue, we feature the Bridgeport Volunteer Fire Department.

Bridgeport Volunteer Fire Department's WR-1 is a Chris Craft 21ft Scorpion powered by a 275 HP 350 Merc Cruiser In-Board engine. The boat itself was donated by Mike Gunther of Boat Deal in Brewerton and was made ready for service by the members of our Fire Department. This is the 1st boat that Bridgeport has had in service.

The Boat is equipped with state of the art Global Positioning and Charting capabilities, which along with its speed, is capable of reaching boaters in distress quickly in the mid-lake area and shores of the Madison County Coast line.



Bridgeport's 21' Chris Craft Scorpion.

The Chris Craft hull design also makes the boat capable of handling the sometimes rough conditions found on Oneida Lake.

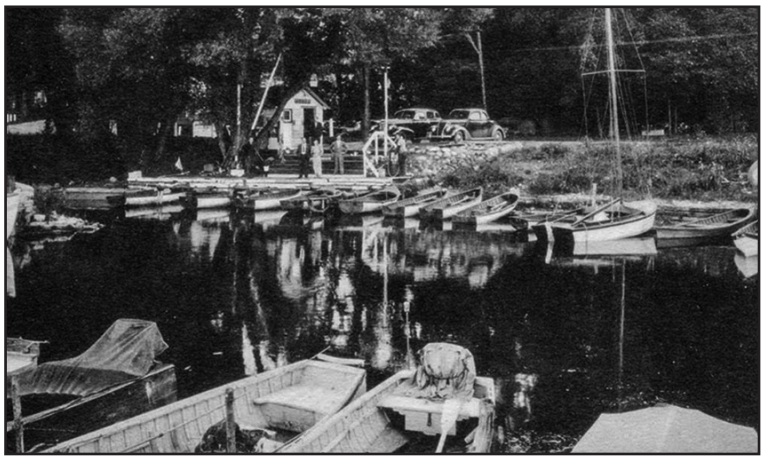
With a survivors cabin up forward and qualified 1st responders & medical personnel on board, they are able to provide aid and comfort to the boaters in distress.

The Bridgeport FD Rescue Boat is an important link in the chain of water rescue agencies around Oneida Lake. Working together with the neighboring fire department boats, this chain helps to provide citizens using Oneida Lake with a rapid response of trained personnel and rescue equipment for the accidents and illnesses that can occur.

Water Rescue Fire Departments That Serve Oneida

We are fortunate to have seven Water Rescue Fire Departments that serve Oneida Lake. They are:

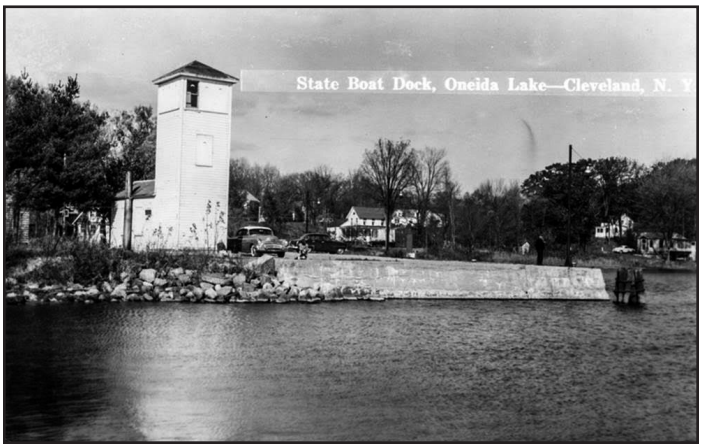
Brewerton Fire Department
Bridgeport Fire Department
Cleveland Fire Department
Constantia Fire Department
South Bay Fire Department
Sylvan Beach Fire Department
West Monroe Fire Department



Do you know where this marina is on Oneida Lake?

Answer on page 9.

Postcards from Days Gone By



Answer to Photo Question on page 8.

Apps Marina in Cleveland, NY.

Water Chestnuts Update

The Oneida Lake Association members have been working at pulling weeds for several years, and for the past few have teamed up with the Oswego County Soil and Water Conservation District and their Water CATs (Chestnut Assault Teams). Members of the Finger Lakes PRISM and Onondaga Co Coop Extension, assisted by OLA, conducted a second weed pull off Lewis Point. In each location, Big Bay and Lewis Point, volunteers removed about 6-8 canoe loads of the weed. OLA thanks these volunteers, and welcomes folks who may be interested in participating in 2017 to monitor our efforts to control its expansion. President Scott Shupe believes we are finding fewer and fewer each year, perhaps our annual efforts are paying off!

Oneida Lake Association member, Bob Asmus pulls water chestnuts during water chestnut pull on the short of Oneida Lake in West Monroe near Big Bay.

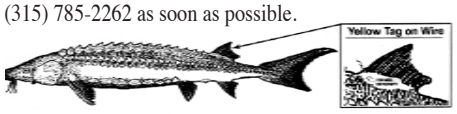
The OLA urges members to support our advertisers!

Report Tagged Sturgeon

Cornell Field Station
Bridgeport, NY 13030
(315) 633-9243

New York State
Department of Environmental Conservation

Sturgeon in Oneida Lake and nearby waters may be tagged. Biologists at Cornell University and NYSDEC need your help to track these fish. Yellow tags may be attached at the base of the dorsal fin. If you catch a tagged sturgeon, please write down the number on the tag and length of fish, release the fish immediately, and call Cornell University at (315) 633-9243 or contact NYSDEC at (315) 785-2262 as soon as possible.



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