

Waterworks

New York State Federation of Lake Associations, Inc.

Summer 2021

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AIS Transport Law Made Permanent Bill awaits Governor's Signature

Thank you NYSFOLA members! Once again, you made it possible for us to be a "Voice for NY Lakes."

As you may know, New York's Invasive Species Transport Law expired on May 31st putting lakes at risk from boaters introducing unwanted aquatic invaders. Several not-for-profit environmental organizations, particularly those in the Adirondack Park, reached out to NYSFOLA asking us to spread the word once again that the voice of lake associations needed to be heard in Albany before the legislature adjourned for the summer. You responded, and the Assembly and Senate heard you!

The new legislation, sponsored in the Senate by Senators Todd Kaminsky and Dan Stec and in the Assembly by D. Bill Jones makes the previous law permanent across the state. That's great news for all NYSFOLA members. It also calls for enhanced public education and awareness measures. Further, the bill adds additional protections for the Adirondack Region by granting the Department of Environmental Conservation the authority to establish several inspection stations in and around the perimeter of the Adirondack Park. The full text of the bill can be found at: <https://www.nysenate.gov/legislation/bills/2021/s7010/amendment/b>.

Aquatic invasive species threaten all of our NYSFOLA member lakes. Your responses to our survey regarding the value of watercraft steward programs and the impact of invasive species was used to formulate a letter to the NYS Senate and Assembly members on behalf of our members. Eighty three percent of those responding to our survey felt that watercraft inspections should be made mandatory in New York. Sixty two percent reported spending lake association funds to support watercraft steward program. Our letter to the legislature on your behalf can be found on page 3.



<https://www.dec.ny.gov/animals/48221.html>



NYSFOLA's mission is to protect the water resources of New York State by assisting local organizations and individuals through public dialogue, education, information exchange and collaborative efforts.

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President's Letter - Tarki Heath

Happy open water season to all!

The Citizens Statewide Lake Assessment Program is up and running thanks to our Executive Director, Nancy Mueller; Stephanie June, at the NYSDEC; Upstate Freshwater Institute (UFI), and all the fantastic volunteers. Many of you have already been entering data and collecting and sending samples to UFI. Those of us who missed testing last year due to COVID restrictions are eager to return to that special time with our CSLAP teams.

The 2021 NYSFOLA Conference "Freshwater Ecosystems: Learning to Coexist," was a resounding success. I hope you enjoy reading about the conference award winners for Lake Tear of the Clouds, Association Newsletters, the Martha Keppel Volunteer Service Award, the Scott Kishbaugh Secchi Disk Award, and the many incredible Lake Steward Awards. These awards say so much about the value of volunteerism and stewardship. Congratulations to you all!

We would like to thank the 2021 conference corporate sponsors:

Aquarius Systems
Clean Waters Consulting
In-Situ
Northeast Aquatic Research
The Pond and Lake Connection
Princeton Hydro
SOLitude Lake Management
Sonic Solutions Algae Control

Elections were also successfully conducted virtually this year, and the full slate of nominees, was approved. Renominations included Jan Douglass, Bill Harman, Tarki Heath, Dean Long, Terri Mayhew, Rebecca Schneider, and Robert Thill. We brought a new face to our board as well with Ina Cholst from Roaring Brook Lake. Ina has been a frequent attendee at NYSFOLA conferences and has also attended and helped with the Lower Hudson regional lake

conferences. Ina has been a CSLAP volunteer since 2014 and the president of the Roaring Brook Lake Property Owner's Association since 2016. We are pleased to welcome Ina to the NYSFOLA Board of Directors.

Unfortunately, our much valued board member, Gene Bolster from Conesus Lake will not be returning to the board. Gene decided not to accept a re-nomination as he pursues other endeavors. We thank Gene for his service sharing his skills and talents with NYSFOLA.

The Aquatic Invasive Species Transport Law has been renewed. Thanks to all our members for sending in survey responses. The results of that survey are shared in this edition of Waterworks, and with a letter from our director, was also shared with the NYS House and Senate Representatives. Your participation in this survey was critical, as it served to quantify the need for this important act.

Please enjoy this edition of Waterworks, with articles from guest writers, Glenn Sullivan (Project Manager, SOLitude Lake Management) and Dr. Lewis McCaffrey (Research Scientist, NYS DEC Finger Lakes HUB) along with the quality articles and information presented by Nancy Mueller (NYSFOLA Manager) and Owen Zaengle (Assistant Program Manager), and of course, Dr. Lake!

All of us at NYSFOLA wish you a safe and healthy summer.



Letter to the New York State Legislature in Support of the AIS Transport Law

“A Voice for New York Lakes”

May 18, 2021

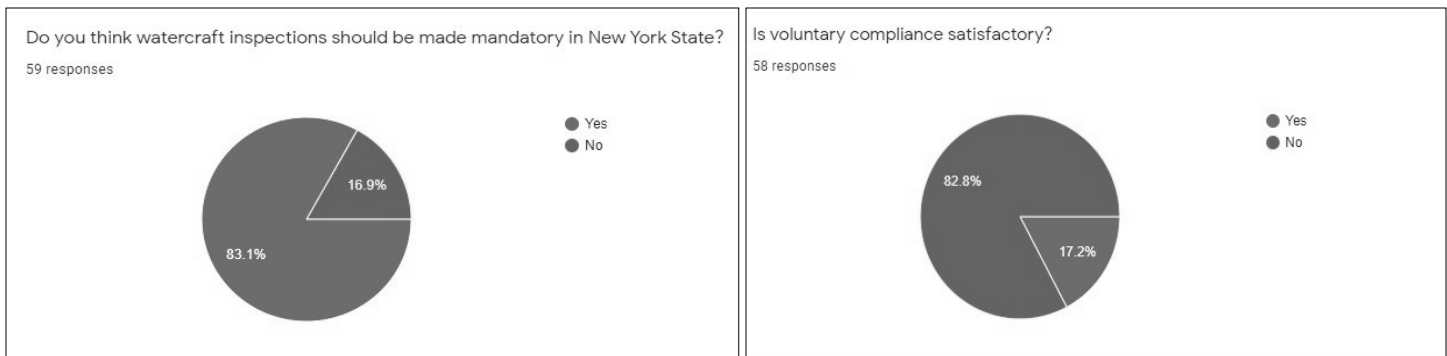


Dear Honorable Members of the NYS Senate and Assembly,

The New York State Federation of Lake Associations, Inc. (NYSFOLA) is a 501(c)3 not-for-profit organization whose mission is to “*protect the water resources of New York State by assisting local organizations and individuals through public dialogue, education, information exchange and collaborative efforts.*” Our membership is comprised of over 250 lake associations across the state as well as individuals and corporate members.

On behalf of our members, we would like to voice our support for the renewal of the New York State Invasive Species Transport Law which is set to expire on May 31st. Additionally, the members of NYSFOLA would like to see the law made permanent and strengthened by providing more robust enforcement and stiffer penalties for those who choose to violate the law. There is also strong support for making boat inspections mandatory, where practical, and allowing municipalities or other entities to work with lake associations to make that happen.

We surveyed our membership and received 60 responses—or about 25% of our membership. Note that many of our member lake associations are small lakes with limited or no public access. And yet, many of them have suffered the consequences of having aquatic invasive species introduced to their lakes.



Here are some of the results of our survey. As you can see, many New York lake associations are providing significant funding for watercraft stewards. They are also spending large amounts of money on the control of aquatic invasive species.

Editor’s note: Multiple graphics from the member survey results that were presented to the legislature in color don’t reproduce well in black and white and have been omitted from this “Waterworks” edition of the letter.

NYSFOLA would like to extend a sincere thank you to the New York State legislature for their support of programs to prevent the spread of invasive species. We also appreciate that the staff and resources at the New York State Department of Environmental Conservation and their program partners are limited. They have our highest regard. In addition, NYSFOLA member lake associations have expressed that support by providing financial support, volunteer and staff time, and other resources to partner with our state agency and the Partnerships for Regional Invasive Species Management.

It’s time to fully acknowledge the success that has been made and make the NYS Invasive Species Transport Law stronger than ever and permanent.

First Virtual Conference a Success



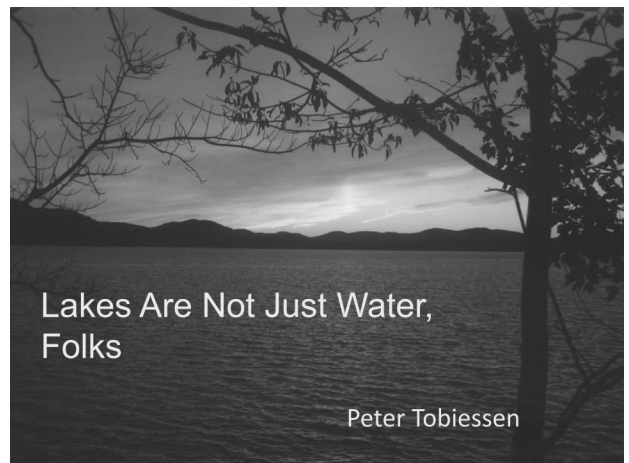
On April 28-29th, over 150 people joined NYS-FOLA for our virtual conference. The conference, titled “Freshwater Ecosystems: Learning to Coexist” included presentations on diverse topics covering both ecological and social aspects of New York State Lakes. Presentations covered subject areas such as watersheds, lake ecology, harmful algal blooms, native fish, aquatic invasive species, fundraising for lake associations, implications of short term vacation rentals, and a variety of lake management techniques. Attendees participated in several interactive sessions oriented around conflict man-

agement, dam safety, and lake ecology. While we missed being face to face this year, we are grateful for the opportunities that technology offers for us to be together in a virtual space.

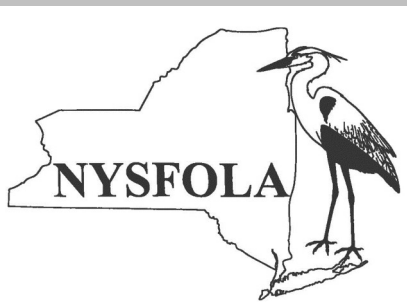
One of the highlights of this year’s virtual conference was a lake themed trivia show titled “Lake Lake Don’t Fell Me.” It was billed as “an exciting and completely useless quiz about New York State lakes”; it was that and more! The quiz was hosted by retired NYSDEC CSLAP Coordinator Scott Kishbaugh with ‘celebrity’ panelists Dr. George Knoecklein, Dr. Fred Lubnow, and Glenn Sullivan. After many informative and amusing questions, answers, and anecdotes - Glenn Sullivan emerged victorious, winning a \$200 prize for Lake Mohegan.

NYSFOLA would like to thank all those who made this years conference possible. Thank you to our presenters, sponsors, conference committee and attendees! We would like to extend a special thank you to Meredith Beckner Perreault and the other staff members at the Center for Sustainability Community Solutions/ Environmental Finance Center at Syracuse University for their technical leadership and guidance.

The conference PowerPoint presentations can be found on our website at: <https://nysfola.org/past-conferences/>.



We hope to be able to see you all next year in person, and we are tentatively scheduled to resume our regular conference at the Fort William Henry Hotel and Conference Center April 29-30, 2022. Depending on the COVID 19 situation, we plan to run a half day conference on Friday and a full day on Saturday. We will keep everyone posted as we begin to make plans. Please let us know if there are any topics that are of particular interest to you and your lake association.



NYSFOLA Annual Conference

April 29-30, 2022

Fort William Henry Hotel and Conference Center
Lake George, NY

Scott Ingmire Receives Lake Tear of the Clouds Award

The Lake Tear of the Clouds Award is NYSFOLA's highest honor. Named after the state's highest alpine lake, the award is given to a person who has shown the highest dedication to lakes and watersheds, assisted NYSFOLA in its mission, and produced exceptional performance in his or her field of endeavor.

This year, we recognized Scott Ingmire, Director of the Madison County Department of Planning and Workforce Development whose support for NYSFOLA, CSLAP, and our many member lake associations in Madison County have long been exemplary and very much appreciated. For many years, Scott has provided financial support so that nearly a dozen associations could participate in CSLAP. As such, most of the Madison County lakes have some of the best long term datasets in the program. He has given his time and professional expertise on planning and zoning issues and a myriad of watershed management practices to preserve and protect local lakes. In addition he administered the Madison County aquatic plant harvesting operation to the enormous benefit of those involved.

Scott is one of the unsung lake heroes of Central New York, and we sincerely appreciate all that he has done for NYSFOLA.



Scott Ingmire accepts the Lake Tear of the Clouds Award from NYSFOLA Executive Director Nancy Mueller.

Lake Association Newsletters Recognized for Excellence

The NYSFOLA Board of Directors would like to thank all of our member lake associations who participated in the 2021 Lake Association Newsletter Contest. The overall aim of the contest is to recognize newsletters that are informative, interesting, and educational with pertinent news about the lake and its residents.

Newsletters are judged based on: Overall appearance, photographs and graphics, publication information, Presidents message, committee reports, and articles/ or features by individual contributors.

And the winners are...

Small Lake Association Category

1st Place - BLCOA Newsletter, Butterfield Lake Cottage Owners Association

Medium Lake Association Category-

1st Place - Loon Lake Link, Loon Lake Association (Steuben County)

2nd Place - Melody Lake News, Melody Lake Association

3rd Place - The KLC News, Kinderhook Lake Corporation

Large Lake Association Category -

1st Place - Mailboat, Upper Saranac Lake Association

2nd Place - The Pearl of ESSLA, East Shore Schroon Lake Association

3rd Place - Laker News, Conesus Lake Association



2021 Lake Steward Awards

Each year, NYSFOLA recognizes lake association volunteers who go above and beyond the call of duty for their lake association. Nominations come from our member lake associations, and this year we had a record number of nominees. We are pleased to announce our 2021 Lake Stewards:

- ♦ **Brian Brennan**, Chenango Lake Property Owners Association - Brian initiated Chenango Lake's participation in CSLAP and has been a longtime volunteer. In addition, he conducts bacterial sampling on the lake and reports harmful algal blooms. He has also worked closely with the local water authority and maintains a good working relationship with them.
- ♦ **Pat Deyle**, Raquette Lake Preservation Foundation - Pat has been involved with aquatic invasive species prevention and management on Raquette Lake since 2004. Through his efforts, variable leaf milfoil was identified; and it continues to be managed and controlled under his supervision. He also spearheaded a watercraft inspection program and works closely with government agencies and academic institutions for the benefit of Raquette Lake.
- ♦ **Walter Dutcher**, Butterfield Lake Cottage Owners Association - For more than 20 years, Walter has participated in leadership roles for the Butterfield Lake Cottage Owner's Association. He has served as a CSLAP volunteer and identified harmful algal blooms on the lake. He has served on countless water quality committees and serves both NYSFOLA and the Indian River Lakes Conservancy. His nomination letter stated: "[Walter] has given generously and tirelessly of his time and talent in an effort to improve water quality in the lakes in our area."



- ♦ **Thomas Fiorillo**, Seven Hills Lake Property Owners Association - For decades, Tom has unselfishly given of himself for something he passionately believes in - the health of Seven Hills Lake, a glimmering jewel in the town of Kent. When any of the association members have questions, they inevitably turn to Tom for answers. Tom has become the most visible and reliable source of environmental information for his lake association. He has taken on many responsibilities including aquatic invasive species surveys, CSLAP sampling, aquatic herbicide applications, and working closely with local government committees.

- ♦ **Terry and Dorothy Gronwall**, Honeoye Valley Association - Terry and Dorothy have worked tirelessly for years and have dedicated themselves to the conservation of Honeoye Lake and its surrounding watershed. When they

Terry and Dorothy Gronwall accept the 2021 NYSFOLA Lake Steward Award

aren't on the lake collecting data, they are at meetings, on the phone or online working with a multitude of conservation organizations. They are subject matter experts and thought-leaders who willingly share their knowledge with towns' leaders, academics, and laypersons who seek out their expertise and advice. The Gronwalls' efforts towards the conservation and advocacy for Honeoye Lake have been momentous, but equally noteworthy is their heartfelt passion and unwavering commitment to Honeoye Lake. They have dedicated their energy and time to Honeoye Lake and their contributions are evident throughout the watershed.

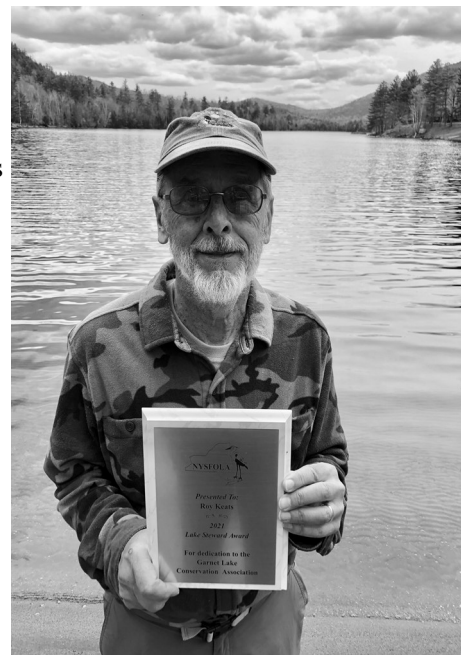
- ♦ **Jerry Hickey**, Mountain View Lake Association - For over 20 years, Jerry has pioneered milfoil awareness, management and control. He has led his association twice as President and when not in leadership, he has been vigilant on issues ranging from water quality to boating safety. He has worked closely with state and local agencies on a variety of lake related topics including aquatic invasive species and shoreline protection. He has obtained grant

funding and enlarged the association's membership to over 300 members while also promoting collaboration with other organizations, including NYSFOLA, the Adirondack Lakes Association and the Adirondack Watershed Institute. He is kind, generous, and friendly; the Mountain View Association is very much indebted to him.

- ♦ **Roy Keats**, Garnet Lake Conservation Association—Roy and his wife Sue moved to Garnet Lake in 1983, and since that time, Roy has taken on many roles and most importantly he now chairs the Dam Committee which ensures compliance with NYSDEC dam safety regulations. He has served as an association officer, helped to monitor for invasive species, and given countless hours to the association to benefit Garnet Lake. His contributions are heartily appreciated by all Garnet Lake residents.

- ♦ **Michael O'Keefe**, Lake Lincolndale Property Owner Association — Michael is a longtime CSLAP volunteer who dedicates much of his time to the protection of Lake Lincolndale. He operates the aerators, serves as the local person for coordination with lake management contractors, coordinates the annual lake drawdown, and is the point person for dealing with homeowners. This is an extremely demanding job that he handles with an even temperament. Michael understands the dynamics of a small lake, and he shares his knowledge effectively with the residents of the lake.

- ♦ **Bob Rosati**, Melody Lake Association — Bob's love for Melody Lake spans more than 50 years, starting when he was just 13 years old. His background in science, engineering and ecology, coupled with his love for Melody Lake make him a knowledgeable, effective and compassionate steward. Bob has worked tirelessly for the association as a CSLAP volunteer, officer, dam safety coordinator, newsletter editor, aquatic invasive species manager, and watershed steward. He is a great leader, offering support, solutions, and knowledge to the association. We should also note that Bob is the first-ever two-time Lake Steward Award recipient, a former NYSFOLA Board member, and recipient of the Lake Tear of the Clouds Award for his assistance to NYSFOLA with the NYS Dam Safety Regulations.



Roy Keats, Garnet Lake Conservation Association

- ♦ **Roy Sheppard**, Lime Lake Cottage Owners Association — A member of the Lime Lake community for over 50 years, Roy first started coming to the lake at 10 days old! Roy appreciates all of the fond memories and good times that Lime Lake has afforded him, and in the spirit of giving back, Roy has dedicated countless hours and energy as a volunteer for his community. Roy serves as the current president of the association, serves on multiple committees, and in the last 5 years has brought \$95,000 in grant funding to benefit the lake association. Roy also maintains the association website and jumps in to do whatever is needed to get a job done. His love of Lime Lake is contagious.
- ♦ **Bruce Sowalski**, Bowman Lake Association — Eight years ago, Bruce spearheaded the lakes participation in CSLAP, allowing the association to better educate its members, get more people involved with the sampling, and take actions to positively impact the lakes health. The wealth of data about Bowman Lake generated from CSLAP is the foundation for lake management efforts that will benefit future generations, and it is all due to Bruce's leadership. Bruce passed way last April after a hard-fought battle with COVID-19. The Bowman Lake Association is determined to carry on in his memory.



Join the NALMS Secchi Dip-In

The Secchi Dip-In is a demonstration of the potential of volunteer monitors to gather environmentally important information on our lakes, rivers, and estuaries. Volunteers have been submitting information during the annual Dip-In since 1994. Learn more at: <https://www.nalms.org/secchidipin/>

Theresa Mayhew Receives Martha Keppel Volunteer Service Award



The Martha Keppel award is named for the wife of former NYSFOLA treasurer Donald Keppel. For several years, Marty served as the untitled and unpaid office manager for NYSFOLA. She kept a newly growing organization moving forward. In her honor, we recognize individuals who have shown exemplary volunteer service to NYSFOLA, contributed to the organization's growth, and supported our mission

to serve member lake associations.

This year we recognize NYSFOLA Board member who has dedicated countless volunteer hours to our organization

and continuously provided thoughtful input on a wide range of NYSFOLA activities. Theresa Mayhew was appointed to the Board in 2004 and has served on numerous committees. She never fails to step up when assistance is needed. Over the years, Terri has donated an enormous amount of time revamping and running the Silent Auction at our annual conference, as well as coordinating the annual newsletter contest. In addition, Terri spearheaded the Columbia-Greene Lakes Coalition, providing educational opportunities for dozens of lakes in the Upper Hudson and Catskill regions. Before COVID changed our world, the regional conference which Terri coordinated was always very educational and well attended.

Although she retired from her professional role at Cornell Cooperative Extension this year, Terri remains a vital volunteer at NYSFOLA, and we thank her for her time, thoughtful insight and support.

Doug and Jane Conroe Receive the Scott A. Kishbaugh Secchi Disk Award

The Scott A. Kishbaugh Secchi Disk Award is named after the New York State Department of Environmental Conservation's first and longtime Citizens Statewide Lake Assessment Program (CSLAP) coordinator, and was established in 2019 by the NYSFOLA Board of Directors. This award



honors a CSLAP volunteer who has shown outstanding dedication to the program, his or her lake association, and NYSFOLA. This year's recipients are a husband and wife team, Doug and Jane Conroe, from the Chautauqua Lake Association who have served as volunteers nearly continuously since the program's inception.

Jane Conroe has been an active member of the Chautauqua Lake community for more than three decades. She has donated time to public education and service on behalf of the lake. She has spearheaded the creation, planting, and maintenance of a native plant demonstration garden at the CLA headquarters, has served as a conservationist with the Chautauqua Watershed Conservancy for several years, and has coordinated a summer lake walk program at Chautauqua Institution that features lake and watershed topics.

Doug Conroe, is currently the executive director of the Chautauqua Lake Association, where he has been actively involved in aquatic plant management and a myriad of other lake-related issues. He has also served on the Steering Committee that created NYSFOLA in 1983, and continued on as a member of the first NYSFOLA board of directors from 1983-1984.

For more than thirty years, the Conroes have worked as a team to help Chautauqua Lake, and have attended the NYSFOLA annual and western regional conferences almost every year. The pair were also featured in the April 2014 edition of the NYS Department of Environmental Conservation (DEC)'s The Conservationist magazine in an article entitled, "My Poor Little Lake." This article highlighted the issue of harmful algal blooms in New York.

Aquatic Plants and Grass Carp in Lake Adirondack

By Glenn Sullivan

Project Manager, SOLitude Lake Management

I clearly recall driving through the Central Adirondacks twenty or so years ago, and being shocked at the appearance of a turquoise-blue bay of the Caribbean Sea. Had I made a seriously wrong turn to the south??? No, I was in the town of Indian Lake, and driving past Lake Adirondack on Rt. 28. The Adirondacks are well known for their deep, crystal clear lakes, which is a large reason I was there looking for property. But turquoise blue, something about that didn't seem right. Years later, after my wife and I purchased property with rights to Lake Adirondack, I learned that this small Adirondack Lake had an abundance of plants, and the community had previously managed those plants with a colored dye called Aquashade®. I was glad that strategy was in the past.



Lake Adirondack measures approximately 198 acres, and has an average depth of 8' according to NYSDEC. The lake is shaped like a "Y", with the bottom cove containing most of the deep water, and the two upper coves characterized by large, relatively shallow bays. The littoral zone covers much of the lake, and historically has supported abundant submersed plant growth, including several native pondweed species. Most of the lake's shoreline is developed with classic Adirondack lakefront homes and camps, and the native plant community has been so dense as to

significantly impact use of the lake. To address this problem, the Town of Indian Lake formed a Weed Advisory Committee many years ago, which is supported by a dedicated tax for all residents with rights to the lake. The Committee's funds go to two specific tasks - controlling weed growth, and containing and annually relocating floating bogs from the adjacent bog in the north of the lake.

Over the years, many weed management strategies have been tried in Lake Adirondack. In the early 1980's, both drawdowns and a limited application of the herbicide 2,4-D were tried. Drawdowns continued into the 90's, often in combination with Aquashade® dye. After the weed control with dye failed to provide long-lasting results, the Town of Indian Lake eventually turned to grass carp in 1996. Those of you that know me know that I spent much of the past twenty years assisting NY lakes with invasive plant management using herbicides, so you probably won't be surprised to know that I'm not a fan of grass carp stocking. My reasons are many - Asian grass carp are not native species, they don't like to eat Eurasian watermilfoil (which is often what we're trying to control), and they're uncontrollable - at least until someone learns to fit them with GPS transmitters and controllers - which means it can be easy to overstock them and have serious impacts on a lake's plant community and water quality.

Regardless of my personal opinion of grass carp, they can be an effective aquatic plant management tool, and they were, in fact, a good fit for Lake Adirondack. Thanks to the lake's location in the Central Adirondacks far from the interstate highways, and its limited public access, Eurasian watermilfoil hasn't been introduced to the lake. Historical records indicate that the lake does contain brittle naiad (*Najas minor*), an exotic plant in NY, so it is not entirely devoid of invasive plants. Still, most of the nuisance plant biomass was the native plant large-leaf pondweed (*Potamogeton amplifolius*), a plant that is ranked "high" for feeding preference of grass carp in *Diet for a Small Lake*. So as long as the plant community was well-monitored, grass carp could provide a relatively low cost, low impact solution to nuisance plant growth.

Records show that the initial grass carp permit was issued in 1996 and was valid for three years, for a total of 1,500

carp. These carp were stocked in September 1996. Subsequent permits and stocking occurred in 2001 (1,000-1,500 carp, records vary), 2004 (500 carp) and 2007 (1,000 carp). In 2009, an additional 500 carp were requested, but were denied due to survey reports that indicated weed control was successful, particularly on long leaf pondweed, a plant abundant in the lake's shallow areas. DEC noted in their 2009 denial that after two years, the 2007-stocked carp should weigh a few pounds, and should live for another 7 years, reaching weights of 10-30 pounds. Eventually, a permit was applied for again in 2012, and another 1,500 grass carp were stocked that year.

Fortunately, Lake Adirondack has been surveyed almost every year for plant growth by the NYSDEC and Hamilton County Soil and Water Conservation District. For many years, the survey was conducted by Scott Kishbaugh of the NYSDEC and Lenny Croote of HCSWCD.

In the past few years, I was able to join Lenny to continue the annual survey. The survey uses rake tosses and visual observations at 12 points around the lake, most of which are transects along areas of the shoreline.

In December 2007, the NYSDEC issued a report written by Scott Kishbaugh detailing the Aquatic Plant Survey results from 2001-2007. Annual surveys during this time period identified 26 species of submersed and floating aquatic plants, with a low of 14 species found in 2001, and a high of 21 species found in 2005. In the discussion, the report indicated that, in general, aquatic plant densities in the lake decreased from 2001-2007. The report's summary stated that "grass carp appeared to shift the aquatic plant populations in the lake from one dominated by surface plant communities, such as large-leaf pondweed, to a greater abundance of bottom-dwelling plants, such as naiads and Robbins pondweed." This was not unexpected, and as of 2007, the lake still supported a variety of plants.

It appears that between the 2009 and 2012 stocking events, there was a lapse in survey information reaching the NYSDEC. By 2012, plant populations had continued to decline further, and the growth of not only large-leaf pondweed, but also Robbins pondweed and common elodea was significantly reduced.

The state of aquatic plant growth in Lake Adirondack apparently did not reach NYSDEC Fisheries, and a new permit was issued for an additional 1,500 grass carp. Over the next several years, aquatic plants continued to decline.

In 2018, I joined Lenny Croote to conduct the annual plant survey in Lake Adirondack. As a frequent kayaker on the lake, I was already aware of a substantial decrease in aquatic vegetation throughout the lake. In September, we surveyed the same 12 locations used in previous surveys, according to the same survey methodology. The difference in plant abundance and diversity from 2007 were alarming. The following chart shows plant species identified in the 2018-2020 surveys by year, indicating the type of plants and the number of sites each species was found at.

Aquatic plant	Plant type	2018	2019	2020
Yellow water lily (Nuphar sp.)	Floating	9	9	6
White Water lily (Nymphaea sp.)	Floating	-		6
Common bladderwort (Utricularia vulgaris)	Submersed	1		1
Water moss (Fontinalis sp.)	Submersed	2	2	1
Pondweed - undetermined (Potamogeton sp.)	Submersed	1	1	
Whorled watermilfoil (Myriophyllum verticillatum)	Submersed	1		
Leafless Watermilfoil (Myriophyllum tenellum)	Submersed	1		
Watershield (Brasenia sp.)	Floating	2		
Quillwort (Isoetes sp.)	Submersed	1	1	
Pickerelweed (Peltandra sp.)	Emergent	1		

From 2018-2020, species diversity dropped from 9 species to 4 species. Each year, at least two sample sites supported no plants, and at least two species were only found at a single site. The nine species found in the August 2018 survey represented a loss of 3 species from the 2017 survey and a loss of 17 species from the 2010 survey (Kishbaugh and Croote). The lack of plant life wasn't just recognized in the survey, but also by local residents that frequent the lake and expressed concern about the impact on the fish community in particular. Clearly something had to be done to restore plant life in the lake.

In late 2018, concerned members of the Lake Adirondack community formed an Ad Hoc Committee led by long-time lake resident Warren Tunkel to take action. After discussions with the Town of Indian Lake, the APA and the DEC, it was determined that a permit was not needed to remove grass carp from the lake. As a result, the The Great Lake Adirondack Grass Carp Harvest was born.



Our first attempt at carp removal was a learning experience for all involved. The event was advertised widely in the Adirondacks, and reached the ears of several serious carp fisherman, who gratefully participated in the event. To entice participation, the Town of Indian Lake authorized funds to pay a \$5/carp bounty for all carp removed, plus additional prizes for the largest carp and the most carp caught by one boat, using funds from the Weed Advisory District. At the town's request, the Harvest was organized during daylight hours on Saturday-Sunday, September 15-16, 2018. The Ad Hoc Committee successfully recruited more than 25 volunteers to help manage the event, covering set up, registration, carp disposal and break down. More than 15 boats registered for the event, some local to Lake Adirondack or the Town of Indian Lake, but also several well-outfitted carp fishing boats from throughout New York. Most boats were prepared to take carp by bowfishing, which is allowed in NY with a fishing license. Some

of the more serious carp fisherman had boats rigged with hunting platforms and multiple lights for spotting and night fishing.



By the end of the day Sunday, only three carp were taken, a disappointment since our goal was to remove 20% of the population, which by some estimates could be as much as 200 carp. As a result, two important lessons were learned:

- Grass carp are fast and flighty, and much harder to catch than common carp.
- Hunting grass carp needs to happen at night.

Despite only three carp being taken, all fisherman reported seeing and hunting large schools of carp in various areas of the lake. After the modest success of the 2018 Great Grass Carp Harvest, we knew another effort would be needed to thin out the lake's grass carp population.



With the leadership of the Ad Hoc Committee, and the continued support of the Town and the Indian Lake/Blue Mountain Lake Fish and Game Club, our second Great Grass Carp Harvest was conducted on September 21-22, 2019. This event was an over-night event, following the recommendation of the anglers from the previous year, and was considerably more successful. The results were summarized by the Ad Hoc Committee below:

- **37 Anglers** participated, several returning from last year
- There were **10 boats**, including 7 carp boats
- A total of **27 grass carp** were caught, with a combined weight of **over 550 lbs.!**
- **Biggest Fish Caught:** 25 lbs., 92 oz., 39" long
- **Most fish caught:** 2 anglers with 6 each

- Total Prize pool - \$1,235.00

So with 27 grass carp taken, the question became "what's next"? Would 27 grass carp make a difference in the lake's plant growth? That would be determined by the annual plant survey, and as noted in the table above, the 2020 plant survey found only 4 plant species, and very low plant density throughout the lake. Rather than schedule another Grass Carp Hunt for September 2020, the Town and the Ad Hoc Committee decided to wait an additional season and has scheduled the 3rd Great Grass Carp Harvest for June 26-27 this summer. Hopefully by this Fall's plant survey, we'll begin to see a resurgence of aquatic plant growth in the lake.

Thanks to Scott Kishbaugh, Lenny Croote, Warren Tunkel and Rita Rozboril for their cooperation with plant surveys and carp removal information.

When The Stars Align

By Dr. Lewis McCaffrey, Research Scientist, Finger Lakes Watershed Program

Taking a CSLAP sample when a satellite is overhead can be a little complicated, but NYS DEC scientists find the resulting samples uncommonly useful.

Every minute of each day a thousand satellites pass silently over our heads. Some of these satellites are looking down on us with powerful telescopes, able to see in colors beyond the ability of our own eyes. A small number are taking images which can be used by everyone at no charge. The latest satellites launched belong to the European Space Agency and are part of the Sentinel program, charged with observing the Earth. The two satellites have very predictable orbits, passing over each part of the earth at a precise time and date. The Sentinel spacecraft pass over the same part of New York, for instance, every 5 days around 11:30am. Look up and give them a wave.

Then we have CSLAP volunteers, taking lake samples every fortnight or so, particularly for nutrients and for chlorophyll-a, the green pigment common to most phytoplankton. Even at surprisingly low concentrations that green color is visible from space, if you know how to look. What scientists have been trying to do for years is to capture a sample of green water just as the satellite is taking the picture, so we can compare how much chlorophyll is in the water with how green the water looks from space. That way in the future, we can take pictures from space and accurately estimate – without the need to sample a lake - how much chlorophyll there is in the water.

We know that wind and lake currents move around patches of chlorophyll-laden water. For this reason, it is difficult to know whether we are really comparing satellite pictures with the corresponding water sample unless they are taken on the same day, or even the same hour. So, DEC scientists developed a unique calendar, showing when Sentinel 2 satellite passed over New York state during the 2019 and 2020 CSLAP sampling seasons. CSLAP volunteers were then able to schedule their sessions to take samples on the day a satellite passed overhead. Surveys after the field seasons showed that volunteers often could not or did not want to change the days they sampled. But the same surveys showed that in each year, across the 170 CSLAP lakes, 127 and 150 samples, respectively, were purposefully taken on satellite overflight days. This is in addition to the 20 to 30 samples each year which are taken coincidentally on days the satellite was overhead. Clearly the calendar program has been very successful at increasing the number of useful data points for analysis. A project to analyze the data has just started at SUNY ESF.

Thank you to every CSLAP volunteer, even if you were unable to change your sample dates. Every sample you take improves the accuracy of our forecasts and will one day help to improve our understanding of the quality of our lakes. If you want to see your lake from space, visit the website <https://earthexplorer.usgs.gov/>.

Information on Preventing and Managing Harmful Cyanobacterial Blooms

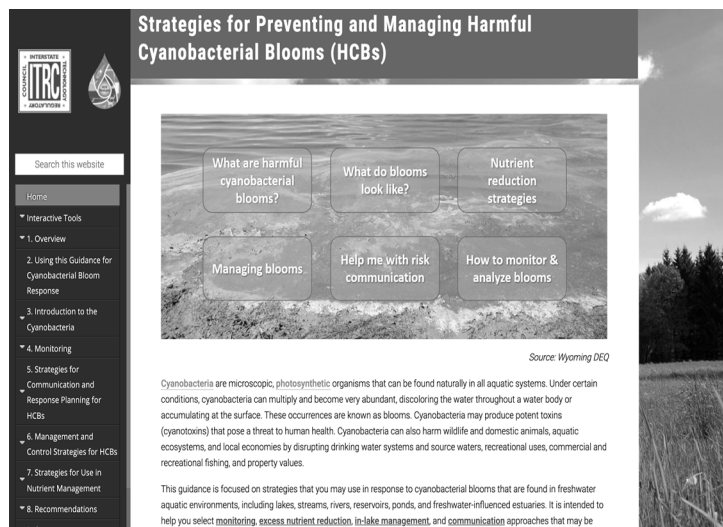
The Interstate Technology and Regulatory Council (ITRC) has compiled a valuable resource regarding strategies for preventing and managing harmful cyanobacterial blooms (HCBs). The resource aims to provide guidance to be used in response to cyanobacterial blooms in freshwater lakes, rivers, and streams. It is intended to “help you select monitoring, excess nutrient reduction, management, and communication approaches that may be suitable for use in your water body.”

The resource includes:

- (1) An introduction to Cyanobacteria, their biology, ecology, and their impacts on human and animal health.
- (2) An overview of common monitoring approaches for monitoring harmful cyanobacterial blooms.
- (3) Information about responding to and communicating about harmful cyanobacterial blooms.
- (4) A discussion of nutrient reduction as a preventative measure to reduce the occurrence of harmful blooms.

They provide several interactive tools for selecting appropriate monitoring approaches, nutrient reduction strategies, and other management strategies. They also provide several examples of how risks related to harmful cyanobacterial blooms can be communicated to the general public.

The resource can be accessed at: <https://hcb-1.itrcweb.org>



Ask Dr. Lake: A Lake With Stripes?



Owen Zaengle
Assistant Program Manager

Dear Dr. Lake,

I recently moved from Zebra Lake to Lion Lake. During summers at Zebra Lake, I often noticed several rows of white stripes running down the longest part of the lake. I thought this was normal, because - you know - zebras have stripes. After spending some time at Lion Lake, it turns out that it has stripes

too! I was very surprised because I didn't think lions had stripes. What's going on here?

Strianna Lines, Lion Lake

Dear Strianna,

Thank you for your question. I understand your confusion regarding striped lions. I am not aware of any species of

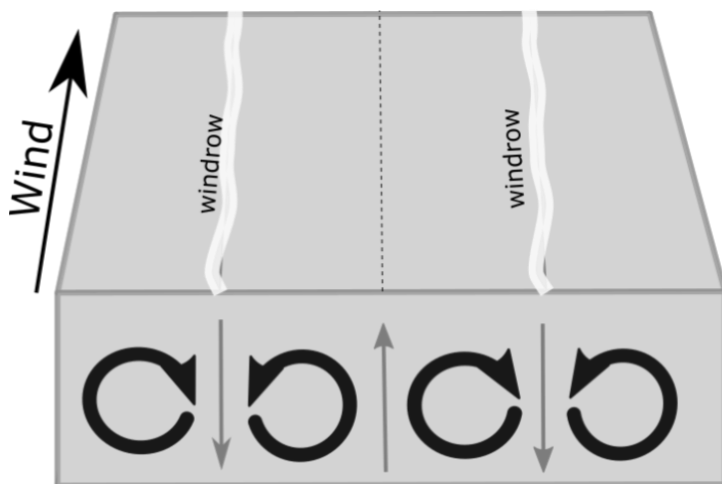
lions that have stripes. I have reached out to Dr. Feline for further information regarding the potential for lions to have stripes but have not heard back yet.

The first scientific account of this phenomena was by a scientist by the name of Ivan Langmuir - who, in 1938, noticed something similar to what you have mentioned - while sailing on the Atlantic Ocean. He noticed that some floating seaweed (sargassum) was aligned into rows; the direction of each row corresponded to the direction of the wind. When the wind suddenly changed direction, the rows disappeared and then a short time later formed again in alignment with the direction of the wind. Like you, Dr. Langmuir was curious about these stripes (or rows) and how they formed. Dr. Langmuir headed to one of his favorite lakes - Lake George - and carried out extensive studies on this and provided the very first scientific explanation for these stripes. This phenomena is now known as Lang-

muir circulation.

As you have pointed out, these stripes are not always present. They are formed through a variety of interacting forces, but the major force that create what you are seeing is wind.

Wind blowing at a speed greater than 7 miles per hour over the surface of the water interacts with the wave motion of the water to form a set of rotating cells (or you could think of them as tubes) within the water. The rows of white stripes appear from the interactions between these cells of rotating water; the cells adjacent to any given cell are rotating in the opposite direction of the given cell. For example, if one cell is rotating in a clockwise directions, the cells on the other side of that cell are rotating in a counterclockwise direction. This creates an alternating pattern of which direction water is moving between the cells, creating an area where the cells are converging (or moving towards one another) and areas where the cells are diverging (or moving away from each other). Water movement is downward where cells are moving towards one another, and upward where cells are moving away from each other. Thus, the white strips you see are at the boundary between converging cells, where foam, scum, and other debris are deposited by the movement of the water. The figure below provides a nice illustration of Langmuir circulation.



Now, if none of that made sense to you, (which is likely, as I often confuse myself) I've found that the best way to understand how this movement works is by rotating my arms about. It's best done with a friend (imaginary friends are acceptable).

Here's how I do it.

1. Stand up.
2. Put your arms out straight in front of you at shoulder level.
3. Imagine everything below your neck is underwater (or you may do it while standing in water if your are feeling adventurous).
4. (Optional) start blowing.
5. Make small circles with your right arm - rotating in a counter clockwise direction.
6. At the same time, start making small circles with your left arm - rotating in a clockwise direction.
7. Place a friend beside you (it doesn't matter which side), and have them follow steps 1-6.
8. Synchronize your circles.

At this point, each of your arms is an individual Langmuir cell. Where would the stripes in the water appear? They would appear at the convergence of these cells, so they would be either be directly in front of you, or between you and your friend. The correct answer is...directly in front of you! Your arms are converging towards each other at the surface of the "water", relocating any foam, scum, or debris there.

Now, if you do this in public, you may raise many an eyebrow and many a question. If asked as to what you are doing, you may respond in one of the following way: You may explain to them the complexity of the physical phenomena of Langmuir circulation, or you may tell them that you are, in fact, participating in the latest dance craze - "doing the Langmuir". And if the winds of change are blowing strong enough, it may just catch on, and the internet will be filled with rows of people rotating their arms in front of them.

Again, thanks for your question. I hope this answer was more helpful than confusing (at least you got some exercise?)

Sincerely,

Dr. Lake

PS - If you know anyone else who has questions that they'd like me to answer or topics they'd like me to cover - please send them to my assistant ozangle@nysfola.org.

2021 Membership Form

New York State Federation of Lake Associations, Inc.

Lake, Watershed and other Associations:

Small Association (10-74 members)	\$ 50.00
Medium Association (75-149 members)	\$ 100.00
Large Association (150 or more members)	\$ 175.00
Foundation (affiliated with NYSFOLA member)	\$ 100.00

Individual Memberships:

Individual Membership (not a member of a NYSFOLA lake association)	\$ 25.00
Individual Member of a 2018 NYSFOLA member lake association	\$ 15.00
Student Membership	\$ 15.00

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Location (County) _____

(important if your lake is one of many in the state with the same name)

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Address _____

City, State, Zip _____

Telephone _____

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