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STOPPING THE SPREAD OF AQUATIC INVASIVE SPECIES

Submitted by Cristina Connolly

The 2017 SLPID Stewardship program has officially come to a close. Stewards work seven days a week from May through October. They are employed to ensure that no aquatic invasive species are going in or coming out of Saratoga Lake. This year saw the inspection of thousands of boats from six stewards and the introduction of a brand new boat wash station. Stewards are employed by Saratoga Lake Protection and Improvement District (SLPID). Other duties include helping with water testing, pulling aquatic invasive species from the lake, assisting with the floating classrooms held on the lake, education and outreach to the public.



Lake Steward asking to inspect a boat.

Aquatic Invasive Species (AIS) threaten the diversity of our native species that are needed for the ecological stability of the lake. Billions of dollars are spent every year to control and stop the spread of AIS in the United States. Small steps from each individual make a huge impact on our environment. Please, when entering any body of water – clean, drain, dry. ■



Floating Classroom

“IT’S GREAT THAT SARATOGA LAKE IS TAKING ON THIS KIND OF RESPONSIBILITY.”

TRACY CLOTHIER
LA GROUP CONSULTANT TO SLPID

DAM WATER CONTROL

Submitted by Cristina Connolly



The Saratoga Lake water level has held steady all season, at the summer level. Thanks to cooperation with Mother Nature and Enel Green Power North America Inc., the privately owned dam on Fish Creek that affects lake levels. Saratoga Lake has a very large watershed coming into the lake. One inch of rain can raise the lake three inches which can make the water level hard to control for the dam operator. In consideration for Saratoga Rowing Association (SRA), after the last regatta is held for the season, the dam is open. You will begin to see the water level in the lake lower. With that and no rain in the forecast, be prepared. Unsteady water levels should be looked at as a fact of lake living. Please, realize that controlling the dam is not as easy as a push of a button. ■

LET'S STOP THE WEED GROWTH

Submitted by Cristina Connolly

Whether it is seen as good or bad, aquatic vegetation (lake weed) is a part of lake living. All summer long, the aquatic weed harvesting team is very busy on the lake with two aquatic weed harvesters cutting back the lake weeds. As the summer continues, the increase of warmer weather and sunshine has promoted more weed growth. The aquatic weed harvesters cut up to 15 truckloads or 20-25 tons a day.

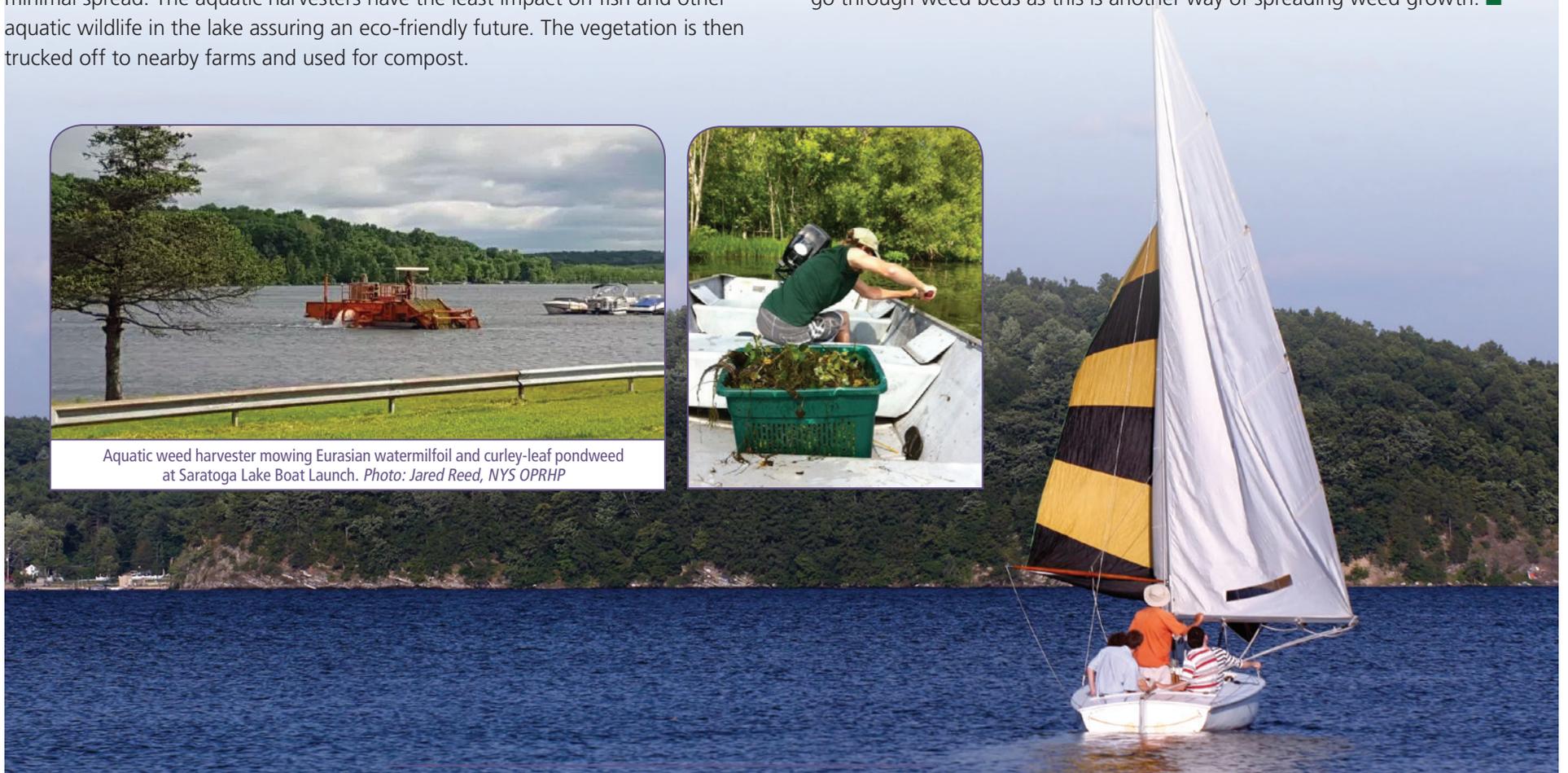
The weeds are cut and loaded onto a conveyor belt with minimal fall off. The harvesters cut leaving a band and then returning to pick up any fragments left behind. This is the best strategy that is followed in the state to assure there is minimal spread. The aquatic harvesters have the least impact on fish and other aquatic wildlife in the lake assuring an eco-friendly future. The vegetation is then trucked off to nearby farms and used for compost.

Some property owners like to maintain the weeds on their lake frontage. When clearing weeds on your lake frontage and around your docks, it is advisable that the weeds are removed out of the lake. Not only is this courtesy and respect to your other neighbors – so the weeds do not wash up on their frontage – but, this helps to control weed growth as the weed fragments are responsible for spread.

Piling weeds along the shoreline, on rocks or in a nearby stream or pond also facilitates the growth and is not suggested. The vegetation can be used as fertilizer and compost for garden beds or dried, bagged and brought to a nearby composting station. When boating, please take caution and do not go through weed beds as this is another way of spreading weed growth. ■



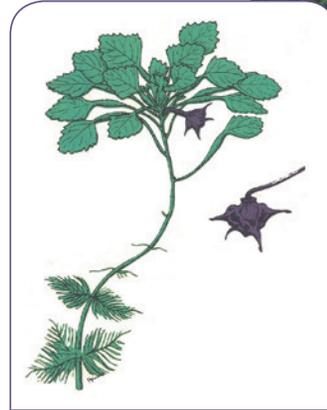
Aquatic weed harvester mowing Eurasian watermilfoil and curly-leaf pondweed at Saratoga Lake Boat Launch. Photo: Jared Reed, NYS OPRHP



ERADICATING THE WATER CHESTNUTS

Submitted by Cristina Connolly

Water Chestnuts (*Trapa natans*) The European Water Chestnut is an aquatic invasive plant that was introduced to the Northeastern United States in the 1800's. It is not as one would think; the same type of species used as a source of food in Asian and Asian-American cuisine. Rather, it is a plant native to Eurasia and Africa with its natural habitat kept in balance by insect parasites. These parasites are not native to North America, and therefore have spread uncontrollably throughout places like New York State and Vermont. They are a massive inconvenience to swimmers, fisherman, and recreational boaters alike. Currently, there is no known method to completely eradicate Water Chestnuts from an ecosystem once introduced. However, there are management techniques that state agencies and citizens can both learn to help control the spread of this invasive species. The Saratoga Lake Protection and Improvement District has worked diligently the past years trying to eradicate the water chestnuts from Saratoga Lake by hand pulling, machine pulling and spot herbicide treatment. This summer, the water chestnuts on the lake seemed to not be as dense as previous years. This is proof that the hard work is paying off. ■



SARATOGA LAKE HEALTH – A COMMUNITY EFFORT

Submitted by Cristina Connolly

Lake health is a concept that is important to anyone who lives on or near a body of water. The health of a lake includes a range of biological, physical, and aesthetic parameters. It also includes considerations in management, policy, and financial values. And while there are government regulations in place to help maintain order on any aquatic ecosystem, it is also the responsibility of a property owners to maintain the integrity of their shared resource, specifically through preventing and reporting any activity that would disrupt the ecosystem or biodiversity.

A lake ecosystem encompasses a variety of biological communities that interact with their environment and other organisms. In a healthy lake, these interactions can form what is known as ecosystem services. Ecosystem services provide many benefits to an aquatic environment such as regulating oxygen levels or temperature. The balanced coupling of production and decomposition is essential for the equilibrium of a lake. Therefore, these ecosystem services are a good way to measure lake health. External inputs,

such as dumping waste or over fertilizing ones property, can severely harm the biodiversity of a lake. Excess nutrients can cause decreased light penetration due to eutrophication and kill much of the life that relies so heavily on the sun for food. This can not only harm the biodiversity of a lake, but also the economic and social value of anyone's home that is also on the lake. Management based on scientific findings will help to preserve a lake ecosystems stability and integrity. Goals of

the management should consider the needs of the present as well as the needs of the future in terms of preserving biodiversity and natural resources. It should also build on the principle that it is also up to all residents of a lake community to help protect all aspects of their shared ecosystem. If a citizen were to see anyone doing obvious harm to either any animals living on the lake or to the lake itself, it is important to contact a conservation authority immediately. For an area such as Saratoga Lake, law enforcement from the NYS Department of Environmental Conservation can be reached at (518) 357-2047. ■



SIMPLE SAFETY GUIDE FOR OUR LAKE

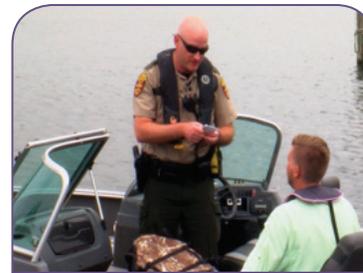
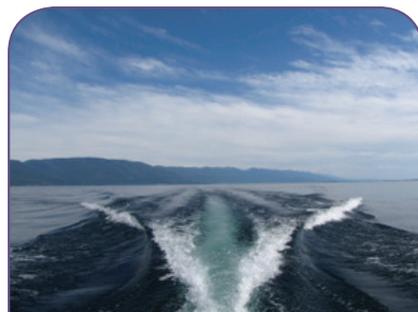
Submitted by Cristina Connolly

There are many steps to being a safe and responsible boater, all of which can be found in the latest edition of a NYS Boaters Guide. Here are a few simple steps to help provide any boater with the ins and outs of boating on Saratoga Lake.

The first and one of the most important steps you can take, especially as a new boater is to make sure you and everyone on board has access to a **LIFE JACKET**. A life jacket must be U.S. Coast Guard approved and there must be one for every person on board a boat. Children under the age of 12 must wear a life jacket on a vessel less than 65 feet long. Regardless of age or experience, anyone being towed by a boat, whether on water skis or a personal watercraft, should always be wearing a life jacket.



Following **SPEED LIMITS** is very important on any lake. On any open part of Saratoga Lake, the accepted speed limit is 45 mph during the day and 25 mph at night. There are many 5 mph zones all over Saratoga Lake marked as no wake zones that are heavily enforced and need to be respected for the safety of those boating and smaller vessels closer to shore.



ALCOHOL is a heavily controlled substance on a lake and under no circumstance is ever allowed to be drunk with the intention of or while operating a boat. The rules of the road apply to open water as well; a blood alcohol level 0.08 is considered legally intoxicated. If alcohol is to be consumed in a safe and concealed environment, ensure that there is always a designated driver to safely bring everyone back to where your launch site is.

A recent issue that has been coming up on water bodies all around New York, especially on Saratoga Lake, has been the issue of discharging human waste directly into a lake from an onboard bathroom. With a hefty increase in the number of recreational boaters coming to Saratoga Lake, this issue of **SANITATION** and bathroom use has only grown larger. The only pump station currently available on Saratoga Lake is at Point Breeze, and if population continues to grow, then pump station numbers must increase as well. If caught dumping waste into Saratoga Lake, you will be served a heavy fine. Likewise, if you see anyone visibly dumping his or her waste into the lake, please notify the NYS Department of Environmental Conservation.

The Saratoga County Sheriffs Department, the NYS Park Police, and NYS Environmental Conservation (ENCON) Officers are the main **LAW ENFORCEMENT** groups patrolling Saratoga Lake. They are the first line of patrol in terms of enforcing environmental and safety regulations across the water-body and have the full capability to charge anyone with a citation or arrest if seen breaking any law. They will also provide assistance to those who are in need of services such as towing, first aid, and search and rescue. By following the rules, you ensure that you will not be charged with any violation and will not harm anyone with reckless activities. ■



PROTECTING OUR LAKE AND LIFESTYLE

Submitted by Cristina Connolly

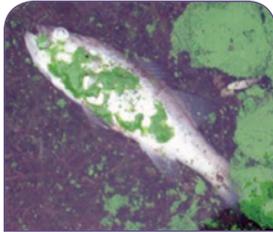
Water Quality – Various studies have proven that property values on lakes with clear and clean water are significantly higher than those with biological and chemical pollution. What you and your neighbor do to protect water quality affects all those who live adjacent to waterbodies. There are three main ways to protect your water and property values.

CURB POLLUTANTS

Pollutants are any material that might cause harm to a waterbody. While we typically think of pollutants as chemicals used to kill plants, fertilizers used for plant growth are just as devastating.

Simple Step 1 – Avoid using fertilizers that contain phosphorus. Phosphorus is an essential part of plant growth, however, too much promotes rapid growth of algae and weeds. This depletes oxygen and clarity

in the water, affecting fish and plant life.



Simple Step 2 – When planning a construction project, ensure that you have an erosion control plan. This plan helps prevent algae-feeding nutrients from washing into nearby waterbodies. Diverting runoff around disturbed areas also helps reduce erosion.

Simple Step 3 – Dispose of any hazardous waste in a responsible manner. DO NOT pour any old oil or pesticides in any ditch or opening adjacent to the lake. There is a link at the bottom of this page to help you manage what to do with excess waste.

Follow this link: http://www.dec.ny.gov/docs/materials_minerals_pdf/hhwma.pdf

REDUCE RUNOFF

Runoff is excess water that comes from surfaces such as rooftops, driveways, decks, and hard soil. Runoff water carries fertilizers and other pollutants into nearby watersheds. You can reduce runoff by letting water soak into the ground.



Simple Step 4 – Plant trees and shrubs or protect intact wooded areas. These areas form what is known as a Duff Layer. This duff protects soil from rain impact and absorbs water. Root systems keep this layer in place, keeping rainwater from going into the lake.

DID YOU KNOW?

Lawns Create More Runoff Because:

- Removal of trees and shrubs causes more rain to hit the ground
- Heavy equipment and foot traffic compact soils
- Excessive grading removes natural divots where water naturally soaks in and forms ponds

Simple Step 5 – Reduce hard surfaces on your property. When looking at additions to your property, first consider whether you could build up instead of out. If you are looking into a new driveway, consider using gravel. It becomes just as compacted with less runoff.

CAPTURE AND PURIFY

Rain barrels, shoreland buffers, and rain gardens are all effective ways to protect any water body adjacent to your property. This section will provide a brief overview of these methods.

Simple Step 6 – Rain barrels can be any sort of water collection unit that gets water directly from a gutter system on a house. The barrel should be covered to keep out leaves and insects.

HOW DOES IT WORK?

Building and Using a Rain Garden:

- Rain gardens are areas that soak up rain water and consist of native vegetation in place of traditional lawns.
- The plants in the garden act as filters for rain, slowing down runoff and preventing it from flowing into drainage ways.

Simple Step 7 – Shoreland buffers should be protected or restored if possible. Replant native trees, grasses, shrubs, and wildflowers. The area where water runs off your property is the best place to plant. Another simple, zero-cost way to improve shoreland is to simply not mow your lawn next to the water. ■



FLOATING CLASSROOM

The Saratogian 7/11/17 By Joseph Phelan

For the third straight year, the Saratoga Lake Protection and Improvement District offered a “floating classroom” in collaboration with the Adirondack Watershed Institute during the state’s annual Aquatic Invasive Species Awareness Week.

“This is really exciting for me because basically it’s for a lot of kids and a lot of people to learn about the invasive species, and some of the challenges to Saratoga Lake,” said Peter Martin, a Saratoga County supervisor. “It’s a great lake with a lot of recreational opportunities but we have to make sure that we’re protecting those opportunities and protecting the lake and nature that’s here. This is a first learning opportunity for a lot of these kids. It’s a great time.”

Cristina Connolly serves as chair of Saratoga Lake Protection and Improvement District (SLPID). About 30 participated in the annual program Tuesday. “We’re trying to just do outreach with all the younger people who are our stewards of the earth and teaching them that every little decision that they make has an impact whether it’s good or bad,” said Connolly.

Paul Smith’s Adirondack Watershed Institute sends a boat and stewards to teach participants about aquatic invasive species. “Awareness is the absolute No. 1 thing for the program. The stewardship part really works,” said steward Tiger Smith. “We do catch a lot of stuff coming into the lake, but we can’t be there all of the time, so teaching people about aquatic invasive species means we don’t have to do as much and that everybody is aware all the time that everybody’s a steward, which is great.” Smith’s station, called the Incredible Journey, described water molecules moving through the water cycle. “What we are showing kids here is that it’s so much more complex than [what they know of the water cycle],” said Smith. “Snowpacks, glaciers, underground reservoirs the size of countries are all a part of the water cycle, including you and me and animals.”

Lake Protection group holds an annual event to learn about aquatic invasive species. SLPID and Paul Smith’s Adirondack Watershed Institute have partnered on a stewardship program in the past.



Saratoga Lake has four stewards who check all incoming and outgoing boats for aquatic invasive species in the summer. “Saratoga Lake is such a busy lake,” said Connolly. “...it’s important to stop the spread of the aquatic invasive species. As because they are so damaging.” Karl Hardcastle, who represents Stillwater on SLPID, has seen Saratoga Lake at its worst years ago. The organizations website, <http://slpid.org/content>, shows how the lake has improved over the years. “You can see the reports. We’ve had watershed studies. I mean there’s a lot of data on this lake,” said Hardcastle “...The clarity has gone up, and it’s good.”

A Note from SLPID Commissioner Cristina Connolly

I would like to thank the Saratoga Lake Protection and Improvement District (SLPID) lake stewards and Adirondack Watershed Institute who have worked interminably for the past three years bringing this classroom to Saratoga Lake and the outside community members as it has been a success. We have developed our own lake steward and educational program to help stop the spread of aquatic invasives and promote education to not only property owners on Saratoga Lake but to all ages of the public.

The floating classroom program was established in 2014 to educate school groups and the public about the local waters and various natural science topics. The classroom is a hybrid program that combines on-the-water instruction with shoreline activities. Participants are given the opportunity to learn about, and actively participate in different aspects of lake water quality sampling procedures. Common components of the classroom curriculum include sampling for aquatic invasives, pH, dissolved oxygen and water temperature. SLPID partnering with the Adirondack watershed institute is the first of its kind on Saratoga lake. The Adirondack watershed institute and their team of highly educated environmentalists, professionally trained for this, along with the SLPID stewards work extremely hard seven days a week. It has been a mission of SLPID’s to create our own steward and education department, which has been successfully growing. This is such a benefit and an important concept to the future health of the lake and our environment. SLPID has been planning to expand and have more outreach programs in local schools and recreation departments.

Anyone wishing to attend a classroom, open to all age levels, please Contact Lake Commissioner Cristina Connolly. Cacconnolly@nycap.rr.com. Slpid.org ■

BOAT COUNT REPORT SARATOGA LAKE

Submitted by Tracy Clothier, The LA Group

INTRODUCTION

A lakewide boat count was conducted on Saratoga Lake on Saturday, July 16, 2016. The boat count was conducted by Tracey Clothier of the LA Group assisted by SLPID Commissioners Christina Connolly and Karl Hardcastle. The weather was fair and warm with a light breeze and believed to be one of the peak weekends of the season. An issue that likely negatively affected boat traffic was the sewage spill along 9P which resulted in an estimated 5,000 gallons of effluent reaching Saratoga Lake. This resulted in the closure of Browns Beach from July 4 through July 28 and likely had a significant impact on the number of boaters wanting to be out on the lake. Evidence that the count did not represent peak numbers included interviews with boat stewards at the State Boat Launch who observed 118 boats launching, representing 50% fewer launches that are typical for a peak Saturday, and reports from South Shore Marina who saw 21 launches on a day they would typically launch 80 boats, representing a 75% reduction in individual launches.

The 2017 boat count was conducted on Sunday, July 16. There were a total of 345 boats active on the lake between 12:15 and 2:00 p.m. This count includes 59 boats moored at Mannings Cove and 25 moored at Sandy Point. A full report is forthcoming.



METHODOLOGY

The lake was divided into 7 zones (see map attached). The route taken was up the center of each zone and boats were counted right and left with a clicker and time recorded and categorized on field sheets.

Zone 5 included the area on Fish Creek between the 9P Bridge to the SLPID boundary. Only active boats were counted between the hours of 1:15 and 3:00 p.m.

FINDINGS

Launching

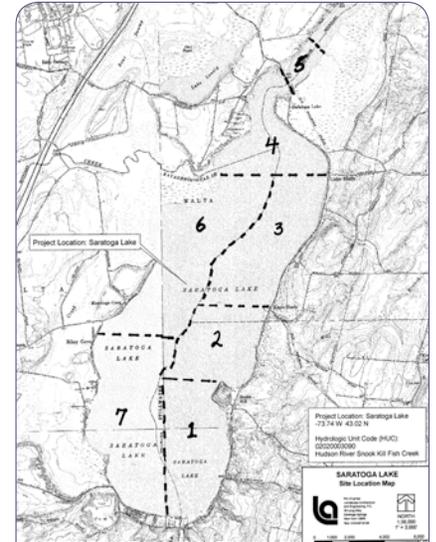
- Total approximate number of boats launched on the lake was 145. 118 of these launches were from the State Boat Launch.
- Approximately 50% of the launches at the State Boat Launch occurred between 12:00 noon and 2:00 p.m.
- The highest number of boats being retrieved at the State Boat Launch occurred between 3:00 and 5:00 p.m.

Rafting

- A total of 106 boats were rafted: 88 boats at Manning's Cove; 14 boats at Stoney Point; and 4 at other various locations.

Active Boats

- The total number of motorboats on the lake was 287.
- 50% of the motorboats on the lake were launched and 50% from resident or marina docks.
- 16% of all boats were non-motorized.
- Two out of 3 boats, counted as active on 7/16/16, were launched from the State Boat Launch or a private marina. Approximately 1 out of every 3 boats were "resident boats".
- 33 boats that were launched were still on the lake after 6:00 p.m.
- Approximately 68% of the boats were active in the southern half of the lake (including Manning's Cove).



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CARRYING CAPACITY

Saratoga Lake has approximately 4,000 acres of surface water. An estimated 840 acres are either too shallow or too vegetated for boats to navigate freely. Subtracting this acreage out leaves an estimated 3,160 acres that could be conservatively considered navigable. Utilizing a factor of 12 acres per boat to determine safe carrying capacity (a typical average that considers all boat activities), a maximum total of 263 boats on the lake at any one time is recommended. This assumes that boats are more or less evenly distributed on the lake surface.

An analysis of boat traffic on the lake on 7/16/16 yielded a total of 217 boats on the lake in areas outside the shoreline band of non-navigable area including group rafting areas. Applying 3,160 acres of usable lake surface would yield a general boat density of approximately 15 acres per boat. Considering that the date of the boat survey most likely represented only 50% of what a peak day would yield, a projected total of 325 boats is the more likely estimate of the number of boats out on a peak weekend day. This calculation would bring the average boat density down to 10 acres per boat on a peak weekend day. ■

RECOMMENDATIONS

Perform the boat count and analysis on an annual basis on a peak summer weekend. Have a second crew conduct a count of the inactive boats at all docks on the same day, and a count by the hour for boats being launched on the lake at all locations.



Number of Launches Recorded at Saratoga Lake State Boat Launch on 7/16/16		
Time	Number of Boats Launching	Number of Boats being Retrieved
8-9 a.m.	7	3
9-10 a.m.	5	8
10-11 a.m.	8	8
11-12 a.m.	8	6
12-1 p.m.	27	6
1-2 p.m.	23	4
2-3 p.m.	11	9
3-4 p.m.	14	15
4-5 p.m.	4	17
5-6 p.m.	11	9
TOTALS	118	85

ZONE	LOCATION	TIME	Boats Moving	Boats Anchored	Jet Skis	Sailboats	Canoes & Kayaks	TOTAL
1	East Side-Browns Beach to Snake Hill	1:15	12	1	4	2	2 3 SUPs	24
2	East Side-Snake Hill to Maple Shade	1:30	57	0	0	12	4	73
3	East Side- Maple Shade to Cedar Bluffs	1:45	14	1	0	0	1	16
4	Cedar Bluffs to 9P Bridge	2:00	31	1	0	0	14	46
5	9P Bridge to SLPID Boundary	2:15	5	1	0	0	0	6
6	West Side Kayaderosseras Creek to Riley Cove	2:30	37	88	1	0	2	128
7	West side Riley Cove to Mangino's	3:00	25	14	0	1	9	49
	TOTAL		181	106	5	15	35	342

OUR WATER QUALITY REPORT

The Citizens Statewide Lake Assessment Program (CSLAP) is a volunteer lake monitoring program run by the NYS Department of Environmental Conservation (NYSDEC) and the NYS Federation of Lake Associations, Inc. (NYSFOLA).

Citizen volunteers from NYSFOLA-member lake associations are responsible for collecting biweekly water quality data and samples from June through October. Samples are collected from surface waters (epilimnion) for shallow lakes. Bottom, or hypolimnion, samples are collected from deeper lakes. Parameters include water temperature, transparency, conductivity, pH, color, phosphorus, nitrogen, Chlorophyll a and calcium. Lakes may also submit aquatic plant samples, take lake level measurements, monitor for invasive species, conduct surveys, and provide other valuable information about the lake conditions.

All volunteers are trained to adhere to procedures in the CSLAP Sampling Protocol to ensure high-quality data is collected. Lakes are asked to commit to a five-year sampling regimen. Therefore, a firm commitment from volunteers and lake associations is required prior to enlisting in the program.

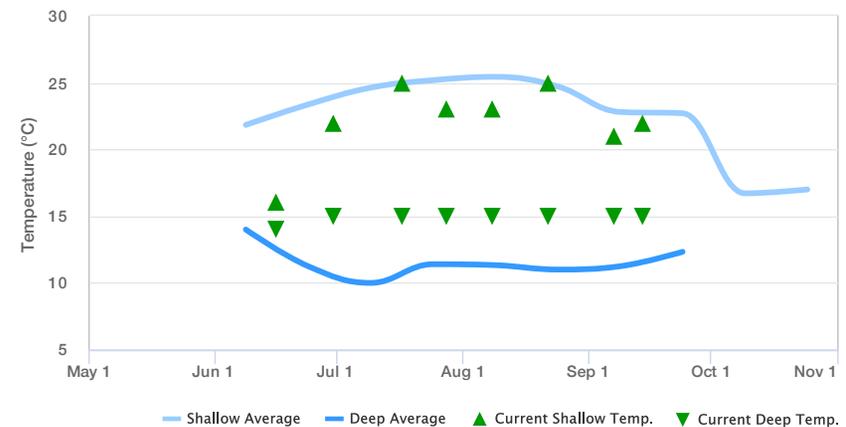
Water samples are sent to a state certified laboratory for analyses. These results and other lake measurements are forwarded to NYSFOLA and NYSDEC. Each participating lake receives a report highlighting the year's sampling results. In addition, results are stored electronically to allow for comparison of historical data and current conditions. This allows changes and trends in water quality to be observed and predicted for CSLAP lakes.

SARATOGA LAKE – WATER TEMPERATURE

Comparing 2017 with Prior Averages

The latest shallow water temperature reading is around the average of prior year readings for the period September 1 to 15. This year's shallow water temperature readings are tending to be lower than normal when compared to the average of readings collected from 1993 to 2016.

There are currently only 4 prior year records for the period September 1 to 15 which is not enough prior deep water temperature readings to determine if the latest reading varies materially from prior year averages. There are not enough deep water temperature readings to determine a trend for the current year when compared to the average of readings collected from 2005 to 2016.

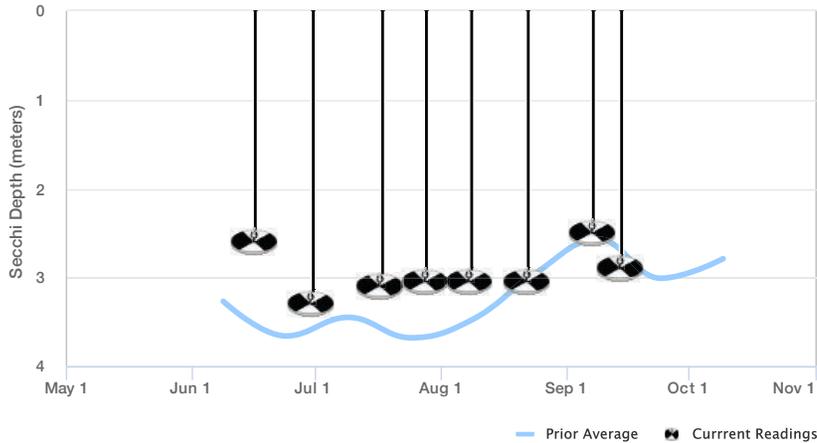


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SARATOGA LAKE – WATER CLARITY– SECCHI READINGS

Comparing 2017 with Prior Averages

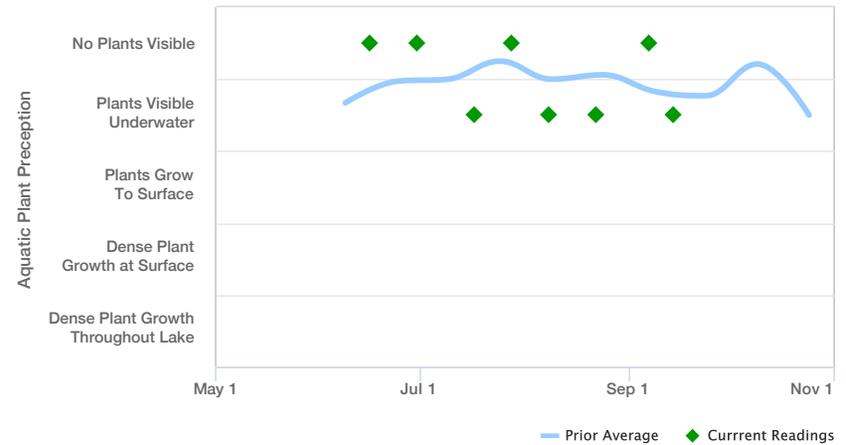
The latest Secchi disk reading is around the same as the average of prior year readings for the period September 1 to 15. This year's Secchi disk readings are about the same as the average of readings collected from 1993 to 2016.



SARATOGA LAKE – LAKE PERCEPTION – PLANTS

Comparing 2017 with Prior Averages

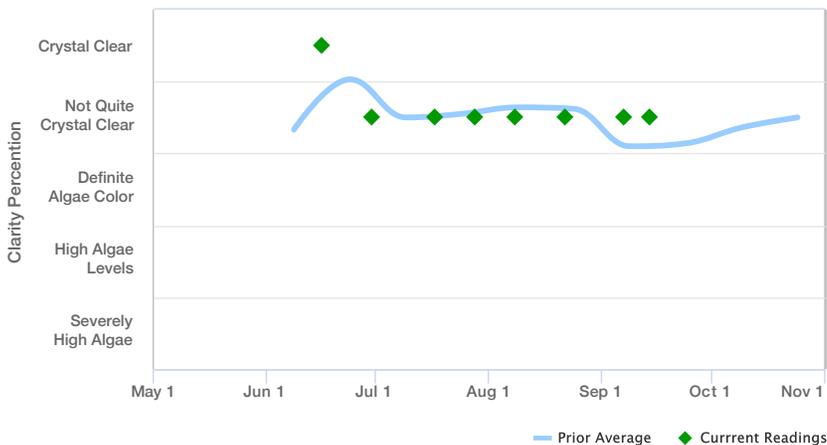
The latest aquatic plant perception is around the average of prior year readings for the period September 1 to 15. This year's aquatic plant perceptions are tending to be lower than normal when compared to the average of readings collected from 1993 to 2016.



SARATOGA LAKE – LAKE PERCEPTION – CLARITY

Comparing 2017 with Prior Averages

The latest water clarity perception is around the average of prior year readings for the period September 1 to 15. This year's water clarity perceptions are about the same as the average of readings collected from 1993 to 2016.



SARATOGA LAKE – LAKE PERCEPTION – RECREATION

Comparing 2017 with Prior Averages

The latest recreational use perception is around the average of prior year readings for the period September 1 to 15. This year's recreational use perceptions are tending to be higher than normal when compared to the average of readings collected from 1993 to 2016. ■

