

# *Raquette Lake Preservation Foundation*

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*June 2020 Newsletter*



## *“A View From Raquette Lake” By Gail Morehouse*

What a year to learn the ropes and wear the shoes of my predecessor, Ken Hawks, of 18 years! Every aspect of everyone’s life has been altered or changed or impacted in some way. And even if you know the ropes, there is no “business as usual”.

Our Spring Board of Directors meeting was held May 17<sup>th</sup> remotely on a conference call. We always cover a lot of ground. Besides the usual discussion of our budget, our invasives management plan, water quality sampling, etc., the addition of the DEC Environmental Protection grant to develop a Lake Management Plan has kept the board very busy over the winter. However, this year a larger part of our discussion was focused on the impact COVID-19 has had on the North Country. We are all very aware of the dangers this virus poses to our membership and the demographics of the Adirondacks. RLPF is focused on good health. The good health of our lake of course, but more importantly, the good health of our neighbors, members, friends, and families.

The Raquette Lake camps will not open this year. The Durant may not sail. My very first annual meeting as President, I will not be able to share donuts with you! Our 2020 annual meeting will be held via proxy vote.

Our by-laws and our Not for Profit standing require an annual meeting. However, even if NYS opens up for group gatherings, we do not feel it is beneficial to any of us this year to hold an in-person meeting. Therefore, in a couple of weeks, you will receive a proxy form to vote on RLPF’s essential business. The only thing essential this year, is the election or re-election of 2 directors and the approval of the treasurer’s report. It is

imperative that you return your proxy as we MUST have a quorum. You can return your proxy via US mail or email. Instructions will come with your proxy.

We can only count the vote of active members. That is, members who have paid their 2020 dues. Many of you typically pay at the annual meeting, but dues are due in January. So please, if you want to continue to support our mission, pay your dues now, or submit them with your proxy.

No one knows yet whether or not there will be a Labor Day picnic. We will not be having our annual kayak raffle fundraiser this year. Connie Perry, owner of Frisky Otter Tours in Inlet has always been very generous in donating a kayak to the RLPF at cost. With the economic stressors the COVID-19 Virus has placed on all small businesses in the Adirondack Park, we feel that skipping this fundraiser is the right thing to do.

Now, let me share some non-COVID-19 news. As I mentioned earlier, although NYS was “on pause”, our grant work was not. All of our grant “tasks” need to be completed within a certain time frame, and luckily, our winter work was almost planned around sheltering in place. Later in this newsletter I will summarize what has been done and what is planned for this year.

Financially, we are in good shape this year which makes it possible to continue our hand harvesting of the Marion River. I have to thank the Town of Long Lake for supporting us and really enabling us to focus on the areas of the lake that need harvesting the most. I also need to acknowledge a few of our very generous members who have donated thousands of dollars that allow us to continue sampling and monitoring our waters for nutrient analysis, clarity, etc. I also need to thank Rhonda Pitoniak. Rhonda’s husband John was a respected and valuable member of the Raquette Lake community. John passed away in early March. His family requested in lieu of flowers, that donations be made to RLPF. RLPF has received 44 donations to date from people not only NYS, but all over the country. These donations were a wonderful way to honor John’s legacy and his love of Raquette Lake.

We have a new website that is currently “under construction”, but should be on-line soon. It focuses on RLPF – who we are and what we do. There is also good information on Aquatic Invasive Species, free training possibilities and our partner organizations. New members will be able to join on line and we are working on how to be able to accept dues electronically. We are still making progress.

“When this is over, may we never again take for granted

A handshake with a stranger

Full shelves at the store

Conversations with neighbors

A crowded theatre

Friday night out

The taste of communion

A routine checkup

The school rush each morning

Coffee with a friend

The stadium roaring

Each deep breath

A boring Tuesday

Life itself.

When this ends, may we find

That we have become more like the people

We wanted to be

We were called to be

We hoped to be

And may we stay that way –

Better for each other because of the worst.”

-Laura K. Fanucci

My very best to you all.

Gail

*A View From The Bottom"*  
*By Pat Deyle*

I hope this finds every one safe and healthy, PLEASE follow the Hamilton County and the NY State current suggestions & laws to prevent the spread of COVID-19.

Raquette Lake Supply has increased the Boat Launch Fee to \$20. Please remember that every cent of this goes to the fire and ambulance funds.

There is a NEW Boating law going in to effect this summer (2020) that will concern all of us who drive power boats and Personal water craft. It is called "Brianna's Law". The requirement will be phased in during the next 5 years. Under the phase-in, all motor boat operators born on or after Jan. 1, 1993 must complete a safety course to operate a motor boat beginning in 2020. Those born after Jan. 1, 1988 must complete a safety course beginning in 2022. Those born on or after Jan. 1, 1983 must complete a safety course beginning in 2023. Those born on or after Jan. 1, 1978 must complete a safety course beginning in 2024. The requirement would extend to all motor boat operators beginning in 2025, regardless of age. Failure to comply could result in a fine of between \$100 and \$250 under the new law that goes into effect Jan. 1, 2020.

New York State will provide boating safety certificates to people who successfully complete a New York State Boating Classroom Course. The State also recognizes the Safety certificates issued by the US Coast Guard Auxiliary, the US Power Squadron, and U.S. Powerboating. For more information about the law and boater education, visit: [www.parks.ny.gov/recreation/boating/education.aspx](http://www.parks.ny.gov/recreation/boating/education.aspx).

Because of the COVID-19 virus going on this spring, the RLPF will not be holding our annual "Kayak" raffle this summer. Last year's winner was our Treasurer, Bob Rosborough on North Point.

The Village Launch site WILL be staffed again with trained college students via Paul Smiths College and the AWI starting on Memorial Day weekend.

Work on VLM removal in the Marion River will continue after July 1, 2020. This will give the water fowl time to get off their nests without us disturbing them but that's another story.

*“Water Quality Report”*  
*Home Water Treatment System for Raquette Lake’s Blue-green Algae Toxins*  
*By Lenny Schantz*

Last October the Raquette Lake community was shocked when the Hamilton County Health Department recommended residents to “not drink or cook with water from Raquette Lake.” They went on to say “a blue-green algae toxin was detected in the water above health advisory limit.” The health department later reported that no toxin was detected above EPA’s health advisory limit, and that their initial report was inaccurate. Nonetheless, this scare initiated a discussion within the Raquette Lake community about home water treatment systems and which ones can remove algal toxins.

The New York State Department of Health (DOH) *does* provide some general guidance on selecting a home water treatment system in their fact sheet, “*Harmful Blue-green Algae Blooms: Understanding the Risks of Piping Surface Water into Your Home.*” This DOH document also provides information on: 1) health effects of blue-green algae; 2) signs that indicate blue-green algae are in your water; and, 3) some tips to reduce exposure. If you are concerned at all about blue-green algae, you should take the time to read the entire [DOH fact sheet](#). The purpose of this article is to highlight some of DOH’s recommendations for home water treatment systems.

First, please note that I have no personal experience with in-house water systems for treating Raquette Lake water...yikes. But, for most of my working career, I was the Chief of Water Quality Operations at a 48 mgd (millions gallon a day) water filtration plant. This means I understand the basic concepts of treatment that are used for in-home systems. I hope this article provides a little clarity to a somewhat complicated topic.

***DOH Guidance: If you choose to explore in-home treatment systems, you are living with some risk of exposure to blue- green algae and their toxins and other contaminants. Please work with a water treatment professional who should evaluate credible third-party certifications such as National Sanitation Foundation standards (NSF P477) and consider your household needs to design and size a system appropriately.***

LS (Lenny Schantz) Comment: An unsettling fact regarding blue-green algae toxins is that all of the DOH recommended treatment options may not be 100% effective against every toxin. Theoretically, the DOH treatment strategies should work. However, unless a manufacturer’s claims of performance are verified by a third-party, the State cannot report 100% effectiveness. For example, the NSF P477 certification mentioned above is an NSF protocol that demonstrates whether a home water treatment process is capable of reducing the concentration of microcystin (an algal toxin) to less than 0.3 parts per billion. I visited NSF’s [website](#) to see which

manufacturers have met this standard, and only one is currently certified. However, since NSF certification is voluntary, it is quite possible that other manufacturers chose not to take the time or money to go through the certification process. In other words, because a system is not NSF certified, it doesn't necessarily mean that their process doesn't work. The bottom line is that the issue is complicated and that you need to work with a reputable water treatment professional.

***State Guidance: Water treatment systems that use some combination of ozone, chlorine, carbon filtration and reverse osmosis may reduce some blue-green algae and their toxins. Ultraviolet light, chloramines, water softeners and boiling water may not reduce blue-green algal toxins.***

LS Comment: Before you can select one of these treatments you need to first decide if you are going to install a whole-house system or a point-of-use system (single tap). Since the DOH also recommends to avoid all contact with water associated with a blue-green algae bloom, a whole-house system is preferable. However, if you are only concerned about drinking water, then a POU system is fine. For both options, because you are treating lake water, the first step should be to remove particles. If the tiny particles found in Raquette Lake are not first removed, they will interfere with whatever POU or whole-house treatment you decide to employ. For example, you can use a two-step filtration process using a 20 micron filter followed by a 5 micron filter.

Once particles are removed, the next step is pretty straight forward if you plan to use a POU system. POU systems are great because they typically also include a treatment to remove pathogens, which should always be your first concern. Many POU systems use carbon filtration to reduce organic compounds, which should also reduce the concentration of blue-green algae toxins. Since many POU systems use a proprietary treatment, it's difficult to evaluate and comment on what processes are used. Reverse osmosis units are extremely effective for all types of contaminants including algal toxins. RO systems do require power, as do some POU systems, and a percentage of the water treated using RO is wasted.

A reasonable whole-house-system would include a particle removal step, followed by a carbon filter capable of handling your home's water demand and, lastly, a UV light to inactivate pathogens. Because Raquette Lake has a relatively high concentration of dissolved organic carbon (Raquette's yellowish color) ozone and chlorine are not a practical choice in my opinion. Both ozone and chlorine react with dissolved organic carbon to produce a group of carcinogenic compounds called disinfection byproducts. You could first treat the water with a carbon filter to remove the organics, but the carbon filter would also remove the algal toxin. As mentioned earlier, you need to work with a reputable water treatment professional.

State Guidance: ***Never drink untreated surface water, bloom or no bloom.***

LS Comment: Without question, you should never drink untreated water from Raquette Lake. Raquette Lake's water quality is excellent, but it does not come close to meeting the rigorous standards for drinking water. The occasional giardia cyst, *E. coli* or any of the other possible water borne pathogens found in Raquette Lake can make you very sick, especially if you are an infant, elderly or someone with a compromised immune system. Therefore, the first priority for any in-home treatment system is pathogen (bacteria, viruses, protozoans) removal, not algal toxins.

Finally, whatever home water treatment system you decide to purchase, or currently use, it needs to be routinely maintained. Always follow your manufacturer's recommendations for routine maintenance. This includes having an inventory of spare parts (e.g. replacement filters). And when the next blue-green algae bloom occurs, put new filters into your system to ensure it's at its peak performance.

*Volunteers  
Making a Difference*

We'd like to add Nancy Barnett to our list of volunteers. Nancy is working to redesign our website. The new site is not live yet, so if you visit now you will only see our old website. If you have any thoughts or ideas you would like to see included in our new design please get in touch with Gail. We will be sending out an announcement when the new site is launched. [www.rlpf.org](http://www.rlpf.org)  
You can also contact us via email at [rlpf13436@gmail.com](mailto:rlpf13436@gmail.com)

**Do you know where this photo of Raquette Lake was taken?  
Answer is on the next page.**



*"Wireless Broadband for Raquette Lake"*  
*By John Merriman*

The wireless broadband service has been established at the North end of the lake and is working well at Watch Pt, Green Pt, the north side of Indian Pt and Sucker Brook Bay. More folks are on the list to connect as soon as possible. The next phase will be to determine a location on the north end of Antlers to service the southern shore of Indian Point and other properties within line of sight. If you are interested in the service I would encourage you contact the Internet Service Provider (ISP) and let him know your location on the lake to assist in planning the system. Below are some frequently asked questions with answers from Fred Engelmann, the ISP.

>>What will be the cost?

Our starting package will be a solid (not 'up to') 8 Mb/s down and 800 Kb/s up, for \$59.95 / month. For those that need connection all year (e.g. for home monitoring) it will be \$54.95 / month (like getting one month free every year). Those speeds are likely to increase but the price will not. Also, no contracts and no data limits; no franchise fees, taxes or any other recurring charges.

>> What equipment is needed for the service?

Subscribers will need to purchase a pre-configured receiver from us for \$130.00 including tax and shipping, along with a Wi-Fi router of their choice (we recommend Net Gear as one of the better consumer grade Wi-Fi routers).

>> How is it installed?

The small outdoor 8" radio antenna is typically self-installed with a special Ethernet cable that runs into the house to the router. Local install assistance may be available. Eventually we'll find a couple of people that are good at it and can help others. That worked extremely well on Lake George over the last 12 years or so.

>> How does someone get more information or sign up for the service?

They can email ([fengelmann@mac.com](mailto:fengelmann@mac.com)) or call Fred Engelmann at 518 494-0123. The actual signup process is done at the time of installation through our customer portal. That just requires a credit or debit card for the monthly billing.

**The photo on the previous page was taken from the Craggs which is the high point on Indian Point.  
It was the front of a postcard that has a stamped date of July 2, 1907.**



*Lake Management Plan Preliminary Water  
Quality Report  
By Gail Morehouse*

We have been talking a lot about the grant that we received from the DEC Environmental Protection Fund to develop a Lake Management Plan (LMP). Over the fall, we sent out Requests for Proposals, vetted the submissions, and contracted with Northeast Aquatic Research (NEAR). NEAR is a professional limnologic research and lake management company with over thirty years of experience studying lake systems. One of the first major tasks we had outlined per the grant for NEAR to complete, was to develop a preliminary water quality report. The report was based on information we provided them, some of which dated back to 1933, through our water monitoring results completed last October, 2019. The information was from our own data RLPF has collected since we began water sampling, as well as from the DEC, Adirondack Lakes Assessment Program, Hamilton County Soil and Water District, and SUNY Cortland.

NEAR took all of this data, organized and analyzed it, and provided us with an extremely thorough report – more than we expected! It included:

- A description of the monitor parameters
- Water clarity measured as Secchi Transparency
- Data organizing and cleaning report
- A profile data analysis including temperature, Dissolved Oxygen, pH measurements, conductivity and total dissolved solids
- An executive summary

I will only attempt to summarize for you the highlights of the executive summary as I am not at all competent in trying to explain any of the actual science!

I am happy to report that overall Raquette Lake has excellent water quality and should be considered “Oligotrophic”. This means that that the lake is relatively low in plant nutrients and contains abundant oxygen in the deeper parts. For the depth of the lake and size of the watershed, it has excellent oxygen conditions that do not appear to be worsening over time. NEAR suggested that the oxygen levels may be lower in the southern basin and that we may consider adding an additional water sampling site there in 2020. Although the watershed is relatively undeveloped, the high percentage of wetland probably contributes to the high dissolved organic matter in the lake, which naturally lowers the water clarity.

Nitrogen and phosphorus concentrations are decreasing and very low – indicative of excellent water quality. Alkalinity is increasing, signifying the lake is recovering from any past acid rain pollution.

And no surprise, Raquette Lake is much less influenced by road salt than many other lakes in the North East.

NEAR suggested that we add some other parameters to our current monitoring program, which will be discussed further as we continue the process of developing the final LMP.

This extensive report is not published. It is a preliminary document which is a tool to be used and will be significant in the final LMP. If you have any questions about anything more specific, please feel free to email us at [rlpf13436@gmail.com](mailto:rlpf13436@gmail.com).

*Board Highlights  
By Marion Goethals*

The change in leadership of the RLPF combined with the DEC grant award for development of a lake management plan initiated lots of new efforts alongside our ongoing ones. Ken Hawks' great years as president were celebrated at an all-come picnic in September at Dick Gentry's. As Gail Morehouse picked up the reins, her first BOD meeting on Sept. 3 approved the Treasurer's Report and began substantive discussions of the goals for the upcoming year. The minutes were approved in September.

In the fall, after we vetted submissions for the DEC contract work and adjusted the grant budget, Gail signed a contract with Northeast Aquatic Research (NEAR). The NEAR team met with the board. A spreadsheet was uploaded for in-kind grant contributions and historic water data was forwarded to them. A good working system developed during the fall. At the end of October the first quarterly report was submitted by Len to the DEC covering tasks, performance measures, and a narrative. Dick and Lynne procured and installed new signage at the boat steward shed for the RLPF's grant. Meanwhile, during our ongoing water sampling program members discovered a potential harmful algae bloom (HAB) which generated much investigation by the state and county. This discovery was deemed not worrisome, but we added septic education and home lake water usage to our growing list of items to explore for members.

With great in-house fanfare, articles written, layout and pictures uploaded, the first electronic NEWSLETTER was emailed to members in December. The e-version allows more content and color photos since printing and mailing costs are no more.

The "holiday" board meeting call was on Dec. 20. We accepted Bob's 2019 Treasurer's report. Gail led extensive conversation in response to the proposed 2020 budget: how to account for the grant expenditures and income; how to fund expanded public information and education efforts; what to do about Frontier service, etc. After items were resolved, the 2020 budget was accepted. The BOD approved the minutes in January.

During the winter, regularly scheduled calls with NEAR were held as they began drafting the Preliminary Water Quality Assessment Report. The DEC received their 2<sup>nd</sup> and 3<sup>rd</sup> quarterly reports as required. When the preliminary report was submitted, it received in depth attention from the entire board. While technical aspects and chemical analysis are challenging, the overview was written for a general reader. This preliminary report will lead to and inform the final lake management plan.

But first, before a final plan can be drafted, the value of Raquette Lake to all its 'people' must be understood. And too, the BOD wants the public to have a better knowledge of the RLPF in general. Consequently, in late winter and spring drafts of several documents were written: an online and hard copy survey questionnaire, a lake management plan pamphlet, and a more general RLPF brochure. Finally, thanks to Nancy Barnett, the great new website is currently under construction. Send photos and ideas to Gail.

The May 2020 BOD meeting call concentrated discussion on the COVID 19 pandemic and the upcoming season at Raquette. We discussed how to accomplish the DEC grant work, and, importantly, ways the RLPF could help the village and the community. Ideas and suggestions are welcome, send to anyone on the board.

<b>RAQUETTE LAKE PRESERVATION FOUNDATION, INC.</b>		<b>PREPARED BY: R Rosborough</b>	
TREASURER'S REPORT AS OF June 1, 2020			
<b>WORKING CAPITAL FUND BEGINNING BALANCE (AS OF 5/1/2020)</b>		<b>\$14,802.97</b>	
INCOME: DUES			
INCOME: DONATIONS		\$725.00	
INCOME: DIVIDENDS			
EXPENSES:			
ACH - Erie Insurance	\$180.00		
Chk # 1030 - Adirondack Lake Alliance	\$75.00		
Chk # 1031 - ADK Action	\$100.00		
Chk #1032 - Len Schantz - Pamphlet Printing	\$160.00		
ACH - Frontier Communications	\$49.99		
TOTAL EXPENSES	\$564.99	-\$564.99	
<b>TOTAL WORKING CAPITAL FUND</b>		<b>\$14,962.98</b>	
<b>AIS FUND BEGINNING BALANCE (AS OF 5/1/2020)</b>		<b>\$13,244.46</b>	
INCOME: DONATIONS			
INCOME: Raffle Ticket Sales			
EXPENSES:			
TOTAL EXPENSES	\$0.00	\$0.00	
<b>TOTAL AIS FUND</b>		<b>\$13,244.46</b>	
<b>TOTAL CHECKING ACCT</b>			<b>\$28,207.44</b>
<b>BUSINESS CERTIFICATE BEGINNING BALANCE (AS OF 6/1/2020)</b>		<b>\$0.00</b>	Check in Hand for New Certificate of Deposit
INCOME: DIVIDENDS			
<b>TOTAL CERTIFICATE OF DEPOSIT</b>		<b>\$0.00</b>	<b>\$ 3,755.03</b>
<b>TOTAL OF ALL FUNDS</b>			<b>\$31,962.47</b>

The purpose of the RLPF is to promote the cooperation and friendship among the inhabitants of the area and to unite its members in the material understanding of Raquette Lake, New York, so that the entire membership will go forward carrying out the preservation and conservation of Raquette Lake and its watershed through education, advocacy and broad based community involvement. *Please join us! Thank you!*

*New Members Welcome...all you need to join is to care about Raquette Lake and send us your dues with a membership application. Please consider making a gift of a membership to RLPF for friends and family who love Raquette Lake. The application is on our website: [www.rlpf.org](http://www.rlpf.org)*

*Notice That Dues May Be Due*

*Please check your subject line (email delivery).*

If it does not say 2020 or later, your dues are due!

Dues - \$20 / year / person. We ask for a donation of \$10 / year / person for AIS (combatting invasive species).

All your dues and donations to RPLF are tax deductible.

Please mail your dues to:

RLPF

PO Box 210

Raquette Lake NY 13436

As always we thank you for your support and your membership. We also want to deeply thank all those people who have so generously given donations to the RLPF. Your donations are put to use helping to keep our organization up and running and being involved in issues relating to protecting and preserving the Raquette Lake.

### RLPF Officers

President -	Gail Morehouse	2022	<a href="mailto:gmorehouse@frontier.com">gmorehouse@frontier.com</a>
Vice President -	Pat Deyle	2022	<a href="mailto:cpat4parts@msn.com">cpat4parts@msn.com</a>
Secretary -	Marion Goethals	2022	<a href="mailto:mariongoethals@gmail.com">mariongoethals@gmail.com</a>
Treasurer -	Bob Rosborough	2022	<a href="mailto:rrosboro@gmail.com">rrosboro@gmail.com</a>

### Board Members

Lynne Ballou-Gentry 2022	<a href="mailto:bal.gen1277@gmail.com">bal.gen1277@gmail.com</a>	Dick Gentry 2021	<a href="mailto:dickgentry47@gmail.com">dickgentry47@gmail.com</a>
Ken Hawks 2022	<a href="mailto:kbh13308@gmail.com">kbh13308@gmail.com</a>	John Merriman 2020	<a href="mailto:jm345@yahoo.com">jm345@yahoo.com</a>
Kevin Norris 2021	<a href="mailto:knrl57@frontiernet.net">knrl57@frontiernet.net</a>	Len Schantz 2020	<a href="mailto:lschantz7412@gmail.com">lschantz7412@gmail.com</a>

## *What Is That White Stuff?*

*By Lynne Ballou-Gentry*

While down on my dock on May 14<sup>th</sup> about noontime, I saw a 20"-22" bass that was close to the shoreline. I took some photos of the fish and then noticed that it had a growth on its side. The fish was staying very still but I could see that its fins were moving. Dick arrived home and we decided to try to net the fish. We found out that this fish could swim almost as fast as the speed of light.



I sent the photos to our board member and Invasive Chairperson, Pat Deyle. Pat followed up for me with Jonathan Fieroh, the same Aquatic Biologist who wrote the article at the end of this newsletter. Since then one of our RLPF members, Will Van Osten and his daughter, a veterinarian, also saw a few fish with similar growths along the shoreline of East Bay.

**From:** [Fieroh, Jonathan K \(DEC\)](#)

**To:** [PAT DEYLE](#)

**Sent:** Wednesday, May 27, 2020 12:19 PM

**Subject:** Re: The fish

Mr. Deyle,

This is a rather common occurrence at this time of year when fish become stressed by changes in temperature. The stress makes them more vulnerable to common fungal infestation. This can be prevalent when the fish are antagonizing each other during spawning activities. I can tell you that I have seen fish recover from infestations like this.

Jon Fieroh  
Aquatic Biologist  
NYSDEC Region 5 Fisheries  
1115 Rt. 86  
Ray Brook, NY 12977-0296  
(518)897-1337  
[jonathan.fieroh@dec.ny.gov](mailto:jonathan.fieroh@dec.ny.gov)



The following is an extensive article written by Jonathan Ferioh for RLPF. WE would like to extend our gratitude to Jonathan for providing us with his expertise and this update.

## Informal Raquette Lake Fisheries Update 2019

*By: Jonathan Ferioh, Aquatic Biologist, NYSDEC and special thanks to Neal McCarthy, Manager Chateaugay Hatchery, for facilitating the writing of this article.*

The following is a short, rough summary of some of the work NYSDEC has done in recent years on Raquette Lake, it is merely meant to informally communicate some results from recent surveys. Much of the work on Raquette has concerned lake trout, so these surveys are not fully comprehensive. This summary also contains rough numbers. Despite concentrating on lake trout, some other fish species have been sampled and some water chemistry has been done. In general the lake trout population size has decreased slightly. The population size decrease was purposefully initiated by NYSDEC by slightly decreasing lake trout stocking. This slight decrease, as intended, has increased lake trout growth and has also increased the recruitment of wild (naturally spawned in the lake) lake trout into the population.

Raquette Lake (R-P293) is a 5,263-acre water located in Hamilton County. It has been used as the primary egg source for the Adirondack strain of lake trout since 1933. Special lake trout angling regulations are in effect on Raquette Lake with a creel limit of 2 per day, a minimum length of 21 inches, and a year-round season with ice fishing permitted (6NYCRR §10.3 (b) (21) (j)). This lake trout population has been monitored using two different, yet concurrent, series of surveys: a juvenile lake trout assessment, which is undertaken roughly every five years, and the survey using the data collected yearly during the lake trout egg-take effort.

		1985	1989	1993	1998	2004	2012	2017
<b>2017 Juvenile Lake Trout Survey</b>	Stocked Adult	9	55	43	25	51	40	82
	Stocked Juvenile	97	91	104	96	80	168	139
	Wild Adult	33	30	33	33	28	10	14
	Wild Juvenile	55	16	43	48	3	4	24
	Total	194	192	223	202	162	222	259

As part a 2017 juvenile lake trout survey, a dissolved oxygen and temperature profile was generated. There was abundant dissolved oxygen for trout throughout

the water column (all the way to the bottom of the lake). The pH of Raquette Lake has never been problematic and it is currently near neutral (pH 7). As the fisheries component of the juvenile survey, twelve gangs of 3 110 ft. gill nets (1 ½, 2, 2 ½ inch) were set overnight at established sites in the North basin of Raquette Lake. In 2012 only 10 sites were used. These nets are primarily effective at sampling lake trout between the ages of 3 and 6. Additionally, two experimental gill nets were set to document other fish populations in Raquette Lake.

Fig. 1 Raquette Lake stocked and wild lake trout in juvenile lake trout surveys 1985-2017.

During the 2017 juvenile lake trout survey 259 lake trout were collected ranging from 6.6 to 24.8 inches long, they averaged 14.6 inches in length. The 2017 lake trout catch per unit effort was reduced when compared to the 2012 juvenile survey but only very slightly, from 22.2 to 21.9 lake trout per net-gang per night. In 2012 only 2% of the

juvenile fish collected were of wild origin, and this fact, among others, prompted a reduction in the lake trout stocking rate, to 5,000 spring yearling lake trout annually. In the 2017 juvenile survey the contribution of wild lake trout to the juvenile population was much increased. A total of 24 wild juvenile lake trout were sampled accounting for 14.7 % of the juvenile population. The total number of juvenile lake trout collected during the survey decreased from 172 to 163 despite the fact that two fewer net-gangs were set in 2017.

The 2013 stocking reduction appears to have had the desired effect of increasing lake trout growth and slightly reducing relative abundance. This reduction also allows for greater recruitment of wild fish into the population. In time, the increased numbers of wild juveniles in the lake trout population should translate to an increased presence of wild adults. The length of juvenile lake trout at age 2, 3, 4 and 5 were all increased in 2017 when compared to the 2012 survey. These ages represent year classes stocked after the stocking reduction that went into effect in 2013.

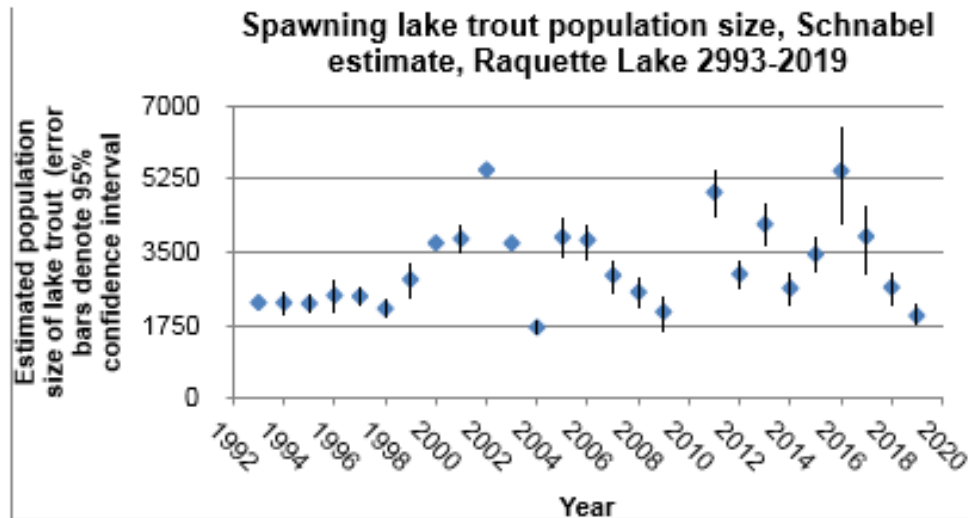
Other noteworthy fish species collected during the spring survey include brook trout, lake whitefish, and black crappie. Surplus brook trout (when available) are stocked here in most years in relatively large numbers, and although only a single brook trout was collected several anglers reported catches of brook trout. The presence of black crappie was first noted by NYSDEC in 2012 and this survey confirms angler reports of their presence. Seemingly, black crappie are currently quite common in Raquette Lake. Additional species collected during the survey include; smallmouth bass, largemouth bass, yellow perch, redbreast sunfish, brown bullhead, white sucker, and rainbow smelt.

### **Fall Egg-take Surveys**

The second series of surveys are undertaken as part of the annual monitoring that takes place during the fall egg take, they are conducted primarily by the staff of the Chateaugay Fish Hatchery. Regional staff generally collect length and weight information on about 200 lake trout each fall during the egg take to monitor age and growth. As discussed above; in 2012 lake trout stocking was reduced from 6100 to 5000 spring yearling lake trout yearlings annually as a response to reduced lake trout growth and decreasing numbers of naturally spawned lake trout.

In October 2019, Oneida trap-nets were set at several historically productive sites in the north end of Raquette Lake and tended daily. Except for those lake trout caught on the last day, all newly caught fish were given a caudal punch and recaptures were recorded, allowing a population estimate to be calculated. It should be noted that the population numbers are estimates, as conditions during the survey may cause the values to vary somewhat from year to year. Lake trout are an exceptionally long-lived species and their populations change relatively slowly. Adults were also examined for sexual condition and fin clip.

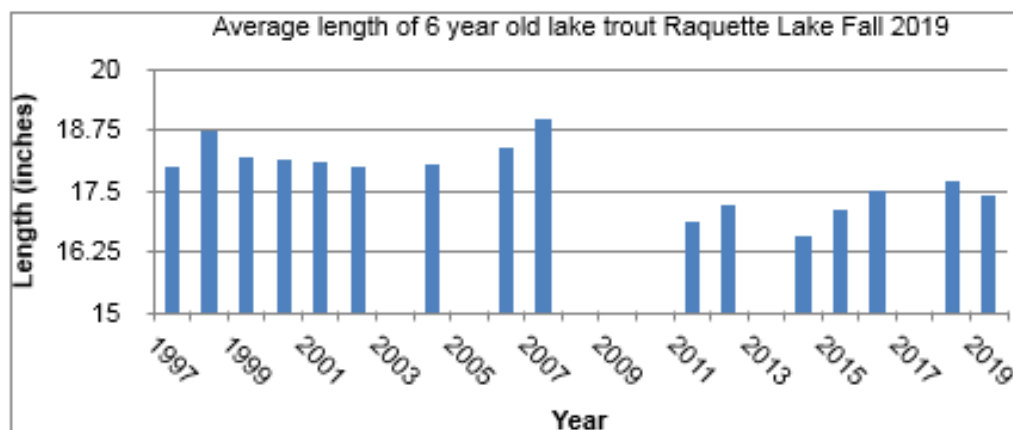
The population of spawning lake trout was calculated at 1,995 in 2019, which is below the target population size of 3,000  $\pm$ 500. However, it is likely the estimate under-represents the size of the spawning population somewhat particularly given the fact that the total catch per unit effort (the number of lake trout caught in each net on each night,



on average) was quite high at 36.2 lake trout per trap-net/night. The 2019 CPUE was dramatically higher than the 10 year average catch per unit effort of 25.1 lake trout per trap-net/night. The target for the number of 150,000 eggs to collect was easily reached in 2019.

The length of stocked 6-year old lake trout is ordinarily used to evaluate growth, and this length in 2019 was just below the 2018 average. This occurred after 3 straight years of measured increase in this average.

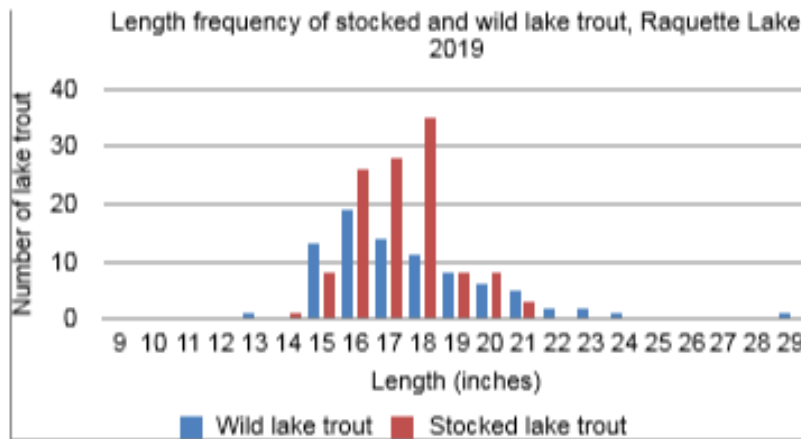
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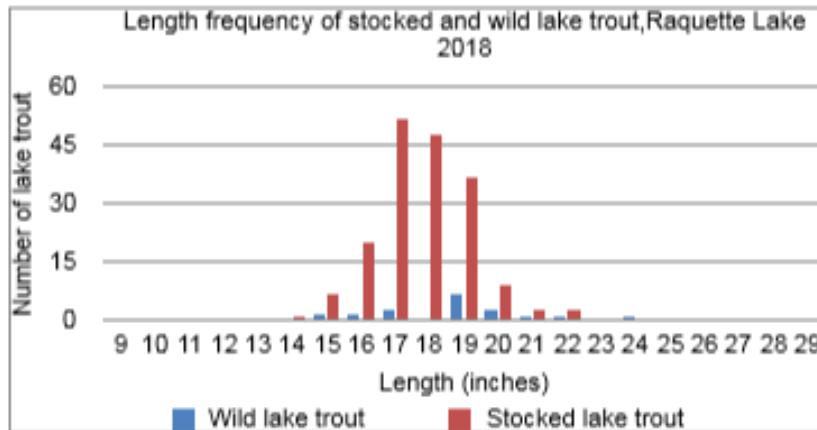


generally increasing average length at age 6 can be attributed to the decrease in the stocking rate as those fish enter the spawning population. Most female lake trout in Raquette Lake mature at age 6. The average length of a spawning lake trout caught during the egg take was 18.0 inches with an average weight of 1.9 pounds. Of the total of 200 lake trout that were measured and most were between 15 and 21 inches long. Year classes 5-8 comprise the bulk of the spawning population.

In 2019 it was also quite apparent that the increasing number of wild juveniles are starting to "age into" the spawning population. The total percentage of wild fish collected during the egg-take rose from 25% in 2018 to 30% in 2019.



This increase in wild fish can also be seen when comparing the length frequencies of the stocked and wild lake trout from 2018 and 2019. Some of this increase



may be due to the timing of the egg-take (perhaps the wild fish simply were ready to spawn during the egg-take) but it is unlikely that this accounts for all of the increase in wild fish numbers. In general lake trout populations change quite slowly but in general the lake trout population of Raquette Lake appears to be slowly improving.