

Newsletter

Spring 2024

PRESIDENT'S MESSAGE

BCLA!!! Welcome to our 2024 Spring Newsletter!!

I hope everyone, whether here on the lake or where it is nice and warm or back home in the city, enjoyed your winter holidays and your families!

I think it's important for all of you reading this to note the work your executive does and I think that shines by this newsletter! We are always looking for volunteers, more hands on-deck and thinking caps are instrumental in keeping BCLA alive and thriving! That also goes for other things in our community, a couple of examples are the Royal Canadian Legion which could definitely use our help whether it's stopping in for a coffee, a bite to eat, a beverage or taking it a step further helping out with an event! Another example is the Kennebec Recreation Committee. All of the organizations I mentioned only thrive with volunteers, but volunteering isn't a fulltime job; it could be as simple as providing an idea or giving a helping hand from time to time! Far too many times it falls on only a few. I have met and seen the love of all of you for our lake and community so don't be shy!

Well, if there are any nay sayers about climate change, we need not look any further than to our lake and the lakes around here with the shortest ice on time and soon to be off, let alone the less than two full months of safe ice! I have attached a photo from Tuesday March 12th! There are other lakes completely open with no ice at this moment - very sad!! In speaking about climate change, the MNRF has offered through our local fire department, (provided they aren't fighting fires like last year) to come and speak to associations about climate change and forest fires. I openly and gladly accepted and thanked Mr. Jeff Matson for reaching out to us. A survey will be sent out soon in regard to our AGM as per last couple of years with questions, concerns, ideas etc.! This year the AGM will be held at the Royal Canadian Legion on July 6 at 10 AM.

As we enter spring and into summer, I'd like to wish everyone a safe and fun time on our lake in our community! I truly look forward to seeing you all again!

Mitch Laufman



WALLEYE SLOT SIZE

Big Clear Lake is in the Ministry of Natural Resources and Forestry (MNRF) Fisheries Management Zone 18 that generally stretches from Belleville and Madoc at the west end, to Hawkesbury and Lancaster to the east.



The limit for walleye in Zone 18 for a sport license is 4, and 2 for a conservation license. Limits include fish that are already in the fridge and freezer at your home. There is also a slot size for walleye.

Walleye that are between 40 cm (15.7 inches) and 50 cm (19.6 inches) in length can be kept and those over and under the slot must be released. Fish are measured from the tip of the snout to the compressed end of the tail (total length, not 'fork' length). Released fish that are under the under the slot size can then grow to become sexually mature while the released fish that are over the slot size are already important spawners that will contribute to the population in the spring spawning season.



Walleye under the length slot size.



Walleye just over the length slot size.



Safely released walleye that was not in the slot size.

MID-LAKE AQUATIC LIFE

I am sure many recreational summer boaters and floaters have seen schools of small fish near the surface of the water in the middle sections of the lake. Last summer when I was stepping in for the very dedicated Gord and Blanche for the water quality Secchi disc readings, I noticed a nearby school of small fish, and I scooped a net into the school. The fish resembled a minnow species like emerald shiner and zooplankton were also caught that resembled cyclopoid copepods. Copepods are one group of very small crustacean plankton.

Some zooplankton are known to vertically migrate in the water column during certain times of the day and night. Whatever species of zooplankton this was, they seemed to prefer being near the surface of the water on a sunny, summer day (maybe the minnows were eating them as well).



School of minnows in the middle of Kelsey's Bay observed when taking a Secchi disk reading.



Minnow and zooplankton netted in the middle of Kelsey's Bay.

RECIPES

Fried Panfish Fillets

Ingredients

1 cup seasoned bread crumbs	1/4 teaspoon pepper
1 cup grated Parmesan cheese	6 eggs
1/2 teaspoon salt	1-1/2 pounds bluegill or crappie fillets
1/2 teaspoon lemon-pepper seasoning	1/2 cup canola oil, divided

Directions

- In a shallow bowl, combine the first five ingredients. In another bowl, whisk eggs. Dip fillets in eggs, then coat with crumb mixture. Dip again in eggs and crumb mixture.
- In a large skillet over medium-high heat, cook fillets in batches in 2 tablespoons oil for 2-3 minutes on each side or until fish flakes easily with a fork, adding oil as needed.

BELOW THE WATERLINE: GRADUAL LAKE CHANGES WITH POTENTIALLY MAJOR ECOSYSTEM IMPACTS

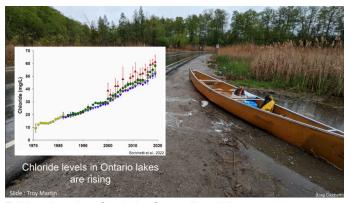
By John P. Smol, Queen's University (Summary of presentation at 2023 FOCA meeting)

Ontario has about 250,000 lakes but not all area "sparkling or beautiful". We tend to hear more concerning marine or terrestrial biodiversity loss, but freshwater ecosystems are in a biodiversity crisis, with monitored vertebrates experiencing an 83% biodiversity decline since 1970 according to the Living Planet Report, well outpacing terrestrial and marine declines (WWF, 2022). Fully 56% of Canada's freshwater fish species are at risk. Canada already has lost 13 species (10 extinct, 3 extirpated), and another 62 are considered endangered.

Stresses on lakes include various industrial contaminants, plastic including microplastics, as well as invasive species. Other pollution sources may be even less obvious, like road salt. 7 million tonnes are applied to roads and parking lots each winter in Canada.



Road salt flow to a lake



Rising levels of salt in Canadian lakes.

Ontario lakes are under multiple threats - many of which are occurring slowly, "under the radar", and difficult to track. With accelerated climate warming, everything is getting more complicated. One example is algal and cyanobacterial blooms.

Although we have reduced levels of phosphorus and nitrogen over the years, people are recording increased algal blooms, even in lakes with steady or declining nutrient levels. Cyanobacterial blooms are increasing in Ontario lakes and the number of waterbodies reporting cyanobacterial blooms for the first time each year is increasing. 84% of inland waterbodies with blooms had average spring total phosphorus less than 20 $\mu g/L$, the Provincial Water Quality Objective.

Climate change can also have an effect. With a shorter ice cover period in lakes in winter and longer "summers", thermal stratification in summer gets stronger and shallow lake water doesn't mix well with deep water. The water in the upper layer therefore gets warmer which can exacerbate algal blooms.

Lakes have been changing "below the waterline" and are now crossing important ecological thresholds. We are now seeing algal blooms, and especially Cyanobacteria blooms, occurring in nearby lakes with increasingly lower phosphorus concentrations. Lake managers may have to set even lower phosphorus guidelines for lakes, as climate warming continues.

There have been good news stories over the years, however, including acid rain. For example, emissions of sulfur dioxide from Sudbury smelters were reduced from 2500 kilotonnes in 1960 to less that 50 kilotonnes in 2020. What was needed to get action on acid rain?

- 1) Solid peer-reviewed science.
- 2) Scientists effectively explaining the science to policymakers and the public-at-large.
- 3) Cleaning up "our own backyards" before "we point fingers at others".

We have to start asking the right questions: not how much it will cost to deal with an environmental problem, but how much will it cost not to deal with it!



"Never doubt that a small group of committed people can change the world. Indeed, it is the only thing that ever has." Margaret Mead (1901 – 1978)

INVASIVE AQUATIC PLANTS

By Liana Hryniewicz, Aquatic Program Coordinator Invasive Species Centre (Summary of presentation at 2023 FOCA meeting)

The top 5 invasive aquatic invasive species include: Watermilfoil. Invasive Phragmites, European Water Chestnut, Water Soldier and Hydrilla.

Invasive species can decrease property value -Invasive species like Phragmites can diminish the aesthetics and usability of lakefront property, decreasing its value. They can also disrupt lake ecology through changes in habitat or species composition. For example, Red Swamp Crayfish can reduce native fish populations through egg predation, spread pathogens to native crayfish and reduce suitable vegetation.

Invasive species can also impact recreation through reduction of sportfish populations, blocking recreational waterways and altering waterfront areas. For example, European Water Chestnut forms dense floating mats that impede swimming and boating and produces hard nuts with barbed spines that can accumulate on the shore and cause injury when stepped on.

Eurasian Watermilfoil

- Perennial plant that grows under the water surface.
- Feather-like green leaves circle the stem in groups of four or five.
- Leaves have 12 or more thread-like segments (leaflets).
- Reproduced from fragments and seed, making total eradication unlikely once established
- Tiny, reddish flowers grow on spikes five to 20 centimetres long that rise above the water in late July and early August.
- Not sure if it's EWM? Snap a photo and report it!









Phragmites

- Native to Eurasia
- Up to 15ft tall
- Prefers wet ecosystems
- Allelopathic
- Grows in dense monocultures

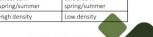


	45 7 2	
Invasive	Mitt Watershed Council	
Rough, dull stem	Smooth shiny stem	
Blue-green leaf	Yellow-green leaf	
Leaf sheaths remain attached, difficult to remove	Leaf sheaths easily removed in fall	

Rou

coloured in

High density



Base stem red

coloured in

European Water Chestnut

- An aquatic perennial plant that can grow up to 3.5-4.5 m
- Green floating leaves with sharply toothed edges are arranged in a rosette that can be up to 30 cm in diameter
- Leaf stems are up to 15 cm long and have spongy, swollen sections
- . Underwater leaves are feather-like with finely dissected leaf
- 8 mm long white flowers with 4 petals
- · Hard, "woody" seeds, 3-4 cm wide with sharp barbed spines



European water chestnut is prohibited under the *Invasive* Species Act, 2015.



Water Soldier

- Native to Europe and northwest Asia
- Looks like aloe plant, spider plant, or the top of a pineapple
- Native look-alikes include bur-reed, arrowhead, or eelgrass
- In Ontario, rarely produces flowers, 3 white petals
- Mature water soldier plants produce offsets

Water soldier is prohibited under the Invasive Species Act, 2015.

	Leaves
	40 cm long
	thin swords
sha	rp serrated edges
	bright green
f	orm large circle



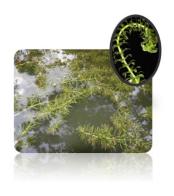




Hydrilla

- Introduced to North America in the early 1950s for use as aquarium plant
- Grows underwater with rooted stems and reaches up to 7.5 m high
- Serrated edges and prickly hairs on the underside
- · Spread by fragmentation
- Not yet detected in Canda

Hydrilla is prohibited under the *Invasive* Species Act, 2015.





What you can do!

- Identify species and prevent accidental spread <u>Visit our species profiles!</u>
- Avoid and reduce speed for infested boat areas
- Inspect your boat, trailer and equipment
- Ask garden centers and aquarium dealers for non-invasive plants or animals





LOONS AND YOUR LAKE

By Kathy Jones, Birds Canada (Summary of presentation at 2023 FOCA meeting)









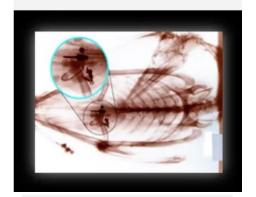


WOLFE LAKE ASSOCIATION LEAD FISHING TACKLE BUY BACK PROGRAM

The "Lead Fishing Tackle Buy Back Program," is a voluntary initiative that will serve to reduce toxic lead fishing tackle from accumulating in the environment where it is responsible for the deaths of millions of

birds and other wildlife annually. Loons, eagles, swans and waterfowl are especially vulnerable. Lead is very harmful to all living things, including people and it threatens our water quality.

HOW LEAD TACKLE ENDS UP IN A LOON



Loons eat a fish with ingested or attached tackle.

Loons grab your bait or fish from your fishing line.

They scoop up lead sinkers on the lake bottom when gathering pebbles to aid in their digestion.

Photo Credit - Avian Haven



Eagles Are Victims Too - Bald eagles are poisoned when they eat a dead or dying fish with broken line and lead tackle attached.

Photo Credit - Sandy Pines Wildlife Centre

Lead Fishing Tackle Buy Back & Exchange

The Wolfe Lake Association, Westport, through a generous grant from South Frontenac Township and with support from their partners and sponsors, has implemented a voluntary "Lead Fishing Tackle Buy Back Program." Working with participating sporting goods retailers and tackle shops, anglers can exchange their existing toxic lead fishing tackle for a \$10 voucher to be used on a purchase of lead-free tackle products at participating retailer locations

Participating Retailers

- · Norris Bait and Tackle Westport
- · Big Rideau Tackle Smiths Falls
- · Manotick Bait Manotick
- · Baitcasters Carleton Place
- Westport Hardware Westport
- · Home Hardware & Building Centre, Hartington
- Verona Hardware
- Bronson & Bronson Kingston
- Wild Birds Unlimited Ottawa
- Wild Birds Unlimited Kanata

Endorsements:

"When anglers lose lead fishing tackle, it accumulates on the lake bottom and in the surrounding environment, where it endangers the aquatic community, including loons, eagles and swans. Loons are especially susceptible because they mistake lead sinkers for pebbles, which they swallow to aid digestion or when they catch and eat a fish with broken line and lead tackle attached. Once lead is ingested, it breaks down and is absorbed into the blood stream, poisoning and killing the loon.

To protect loons and other vulnerable wildlife, I am pleased to announce the Wolfe Lake Association Lead Fishing Buy Back Program. The centrepiece of this initiative is to create awareness within the angling community on the harmful impacts of fishing with lead tackle versus the environmentally

supportive benefits of switching to non-toxic alternatives.

I am happy to endorse the Wolfe Lake Association Lead Fishing Tackle Buy Back Program — and together, let's "Get the Lead Out" of our tackle boxes and out of our lakes.

Visit fishleadfree.ca to learn more about the Wolfe Lake Association Lead Fishing Tackle Buy Back Program, including the Westport Lions lead collection location."

Office of Scott Reid - Member of Parliament Lanark - Frontenac - Kingston

THE TRANSITION TO NON-LEAD SPORTING AMMUNITION AND FISHING WEIGHTS: REVIEW OF PROGRESS AND BARRIERS TO IMPLEMENTATION (2019)

Vernon Thomas, University of Guelph Niels Kanstrup, A.D. Fox - Aarhus University

Abstract

This review presents evidence of lead exposure and toxicity to wildlife and humans from spent shotgun and rifle ammunition and fishing weights, and the barriers and bridges to completing the transition to non-lead products. Despite the international availability of effective non-lead substitutes, and that more jurisdictions are adopting suitable policies and regulations, a broader transition to non-lead alternatives is prevented because resolution remains divided among disparate human user constituencies. Progress has occurred only where evidence is most compelling or where a responsible public authority with statutory powers has managed to change mindsets in the wider public interest. Arguments opposing lead bans are shown to lack validity. Differing national regulations impede progress, requiring analysis to achieve better regulation. Evidence that lead bans have reduced wildlife exposure should be used more to promote sustainable hunting and fishing. Evidence of the lead

contribution from hunted game to human exposure should shape policy and regulation to end lead ammunition use. The Special Issue presents evidence that a transition to non-lead products is both warranted and feasible.



Mayfly larvae at outlet of swamp – Big Clear Lake (Late winter, 2024)

LAKE PARTNER PROGRAM

By Blanche Saarinen

The Federation of Ontario Cottagers' Association (FOCA) has partnered since 1996 in the Lake Partner Program (LPP). The LPP is a province-wide, volunteer-based, water-quality monitoring program. Each year, hundreds of volunteers collect total phosphorus water samples and 2 monthly water clarity observations on their lakes. Approximately 800 active volunteers monitor water quality in the lakes across Ontario.

Scientific analysis of the samples is conducted at the Inland Waters Section of the Environmental Monitoring and Reporting Branch of the Ministry of Environment Conservation and Parks (MECP lab). Samples are tested for total phosphorus, calcium, and chloride. After careful scientific quality-checking, the dataset is released to the volunteers, the public, researchers and other scientists.

Total phosphorus concentrations are ideally used to interpret nutrient status in Ontario lakes, since phosphorus is the element that controls the growth of algae in most Ontario lakes. Increases in phosphorus will decrease water clarity by stimulating algal growth. In extreme cases, algal blooms will affect the aesthetics of the lake and/or cause taste and odour problems in the water.

Lakes with less than 10 µg/L TP are considered oligotrophic. These are dilute, unproductive lakes that rarely experience nuisance algal blooms.

Lakes with TP between 10 and 20 μ g/L are termed mesotrophic and are in the middle with respect to trophic status. These lakes show a broad range of characteristics and can be clear and unproductive at the bottom end of the scale or susceptible to moderate algal blooms at concentration near 20 μ g/L.

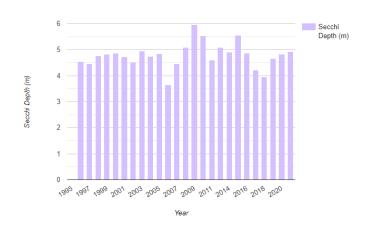
Lakes over 20 µg/L are classed as eutrophic and may exhibit persistent, nuisance algal blooms.

Big Clear Lake falls into the category of Mesotrophic with an average showing $6.96~\mu g/L$ which is good at this point but phosphorus and other pollutants entering Big Clear from human activity should be taken seriously.

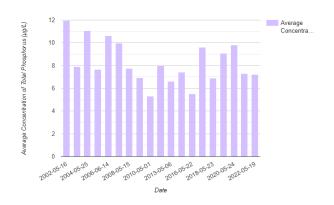
Below are results of long-term monitoring of water clarity and total phosphorus in Big Clear Lake. The first set is from Kelsey's Bay (blue marker) and the second set is from the main basin (orange marker).



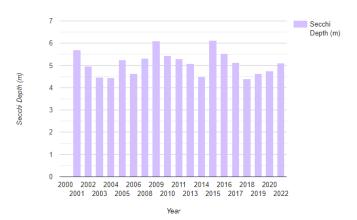
Water Transparency (Secchi Depth in meters)



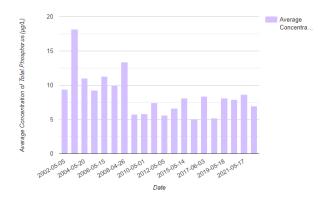
Average Total Phosphorus (TP) Concentration (µg/L)



Water Transparency (Secchi Depth in meters)



Average Total Phosphorus (TP) Concentration (µg/L)



The amount of phosphorus in lakes is not the only factor controlling light penetration, as the amount of dissolved organic carbon (DOC) (leaves raked into the lake, or grass clippings, etc.) or non-biological turbidity may also play an important role in some lakes. Water clarity can be altered by invading species such as zebra mussels. So, by using total phosphorus to evaluate the nutrient status of the lake is the best way to follow the phosphorus levels in lakes and its potential impact.

Essentially, too much phosphorus can result in an increase in weed and algae growth that can affect water odour and taste and loss of recreational aesthetics. Aquatic species that call Big Clear Lake home can also be negatively affected.

Chloride levels in the single water samples collected each spring in Kelsey's Bay ranged from 8.1 to 11.3 mg/L between 2015 and 2022, and from 8.3 to 9.6 mg/L in the main basin. When referring to the chloride figure in the article above, these levels seem pretty good.

Total calcium levels from 1980 to 2022 in Kelsey's Bay ranged from 29.6 to 35 mg/L and was 27.7 to 33.5 mg/L in the main basin. It is thought that at least 1.5 mg/L of calcium is required by many aquatic organisms to survive. Big clear lake is a type of lake that exhibits fairly high calcium levels which is good for animals like zooplankton, snails and native freshwater mussels. Unfortunately, invasive zebra/quagga mussels also thrive with abundant calcium.

In addition, the Big Clear Lake public beach is sampled for bacteria and water clarity for 12 weeks, between early June and Labour Day by the Kingston, Frontenac and Lennox & Addington Public Health from June to September to monitor for safe swimming. Let's face it, Big Clear Lake is excellent for swimming.

Big Clear Lake is also part of the NatureWatch Program under ICE WATCH. Nature Watch is a Canadian monitoring program that encourages the gathering of information that scientists need to monitor and protect the environment. It's an easy-touse environmental observing program of a whole range of Programs to become involved in. Information you submit to NatureWatch programs is pooled with information submitted by other participants across Canada and is used by researchers at several Canadian universities to improve scientific knowledge of changes in Canada's biodiversity, climate, and the natural environment. Being a NatureWatcher costs nothing and is a great activity for all. You choose the places where you go to enjoy nature - your backyard, a neighbourhood park, or a favourite forest, field or pond - and use the NatureWatch website on your smartphone to record

the frogs, flowers, worms, or ice conditions you observe there.

IceWatch is part of the NatureWatch suite of national monitoring programs designed to help identify ecological changes that may be affecting our environment. IceWatch allows Canadians to participate in discovering how, and more importantly, why our natural environment is changing.

The freeze and thaw dates of lakes and rivers are recorded yearly and monitor the effects of climate change on Canadian ecosystems. However, long-term ice data sets and records, from areas where we have little geographic coverage, are particularly valuable.

The ice-off date for Big Clear Lake in 2023 was April 23. Without freaking all out but it's March 2024 and the ice on Big Clear Lake and most other area lakes is all but gone.

Many Canadians particularly northern communities rely on frozen lakes & rivers as a key transportation corridor. Shorter ice duration is already making northern travel & transport more difficult and expensive. Winter recreation businesses across Canada are being affected. Winter employment is also affected in many rural communities.

Timing of ice formation and thaw also affects the ecology of lakes and rivers. Many wildlife species depend on consistency in the freeze for food sources, hibernation and migration.

FUTURE BIG CLEAR LAKE PROJECTS

1. Mill's Island Walleye Spawning Shoal Improvements

In October 2023, Watersheds Canada and volunteers from the lake association washed walleye spawning shoal rock at Mill's Island with a pump and fire hose and brushes to remove debris such as algae and zebra/quagga mussels.

Additional river rock supplied by Watersheds Canada was scheduled to be transported to the island in February 2024 and placed on the ice where the shoal was to be extended. However, ice was not thick enough in the winter to safely transport the rock to the site by snowmobiles and ATVs. The rock will be taken to the site in late summer (on barges, pontoon boats, etc.) this year or on the ice in February 2025. A big thanks to all the volunteers who offered to assist this winter and hopefully they are available to assist in the future.



Cleaned existing rock at Mill's Island



Stockpiled river rock to expand Mill's Island walleye spawning shoal

2. Assessment of Northern Pike Access to Spawning Wetland

The late Thomas Hughes of Arden had reminisced on several occasions about good northern pike fishing on Big Clear Lake. He often discussed how northern pike spawned in the wetland south of Big Clear Lake, south of Clark Road and the old rail bed. He also expressed concern about how northern pike migration to the south wetland to spawn in early spring may be impeded by the existing culverts at Clark Road.

The Big Clear Lake Association is consulting with Central Frontenac Township, MNRF and Canadian Wildlife Federation to determine if there is an issue with fish passage and, if so, propose possible solutions to improve conditions.



Culverts at Clark Road and south wetland



Big Clear Lake anglers from Garfield, New Jersey with their catch of mainly northern pike, guided by Amos Hughes (August 1947)

3. Big Clear Lake Lead-Free Fishing Program

Big Clear Lake Association is investigating the implementation our own version of a lead-free tackle program, figuring out how to do it and what the costs would be. Members will be consulted on both the process and the cost in the near future. For those of you who are concerned about lead in our lake, don't wait for our program; get the lead out of your tackle box now using the program mentioned above in the newsletter!! You can also learn more by watching this great short video entitled Loons & Lead: What's on the Line? at:

https://www.youtube.com/watch?v=6yadTMQzsl0 as well as referring to a study by Toxecology - Environmental Consulting Ltd. at:

https://www.canada.ca/en/environment-climate-change/services/management-toxic-substances/list-canadian-environmental-protection-act/lead/using-more-lead-free-fishing-tackle/lead-sinkers-jigs-executive-summary.html

There is an initiative by Wolfe Lake Association to incorporate several lake associations (including ours) under one "Fish Lead Free" umbrella to reduce lead in our lakes, and in fish and wildlife. More information to come.

WANT TO KNOW MORE?

Facebook

To access the Facebook groups discussed within this edition of The Stinkpot you can either search for the group name within Facebook or copy and paste their URL into your browser.

Big Clear Lake Association:

https://www.facebook.com/groups/139326222770935/

Arden Legion Branch 334:

https://www.facebook.com/groups/589688782745286

Kennebec Recreation Committee:

https://www.facebook.com/groups/1484608775146817

External Websites

Copy and paste their URL into your browser.

Big Clear Lake Association:

https://bigclearlake.com/

Ministry of Natural Resources and Forestry:

https://www.ontario.ca/page/ministry-natural-resources-and-forestry

Federation of Ontario Cottagers' Association (FOCA):

https://foca.on.ca/

Wolfe Lake Association- Buy Back Program:

https://wolfelake.org/fish-lead-free

Scott Reid - Member of Parliament:

https://www.ourcommons.ca/members/en/scott-reid(1827)

The Transition to Non-Lead Sporting Ammunition and Fishing Weights: Review of Progress and Barriers to Implementation:

https://atrium.lib.uoguelph.ca/server/api/core/bitstre ams/a9e184dd-2b5d-4ae8-84f4-845334ad47e2/content

LAKE ASSOCIATION EXECUTIVE

Mitch Laufman - President
Art Dunham - Acting Vice President
Vacant - Treasurer (WE NEED ONE!)
Blanche/Gord Saarinen-Communications/Lake
Steward
Theresa Smith - Advisor
Kent Smith - Advisor
Danial Biafore - Advisor
Dave Praskey - Lake Steward

BIG CLEAR LAKE: A FRESHWATER GEM