McGrath Pond — Salmon Lake Association

Newsletter

Spring 2020

Our 31st Year

In the spirit of the times, the MPSLA Board of Directors held its first-ever online meeting via Zoom a few weeks ago and decided that instead of cancelling our annual meeting, as many lake associations have done, we would hold ours online as well, using Zoom's conference software. That capability is being provided to us — along with technical assistance — by the statewide organization of lakes associations, Maine Lakes.

Thus, the **Annual Meeting of the McGrath Pond-Salmon Lake Association** will take place as scheduled on Thursday, August 6th, beginning at 6:00 p.m. Enjoy your own social hour and raise a glass to MPSLA. Our speaker this year will be Matt Scott, an aquatic biologist formerly with the Lakes Division at Maine DEP. His talk is titled, "All Maine Lakes are Vulnerable — Some More So Than Others." The talk will include a discussion of McGrath and Salmon. The Annual Meeting will take place wherever you have a computer, smartphone, or tablet connected to the internet. You must register to attend, which can be done now. Simply go to the MPSLA web site: **https://www.mcgrathpond-salmonlake.org** and sign up. *See you August 6th!*

Speaking of online meetings, members of the MPSLA Board realized this newly available technology means that we can have directors who are seasonal residents of our lakes because off-season Board meetings can be held online. In fact, it makes a lot of sense to have different viewpoints represented. We would like to have at least one new seasonal director from each lake. If that seems like it might be you, please get in touch with any of the current directors or send an email to the MPSLA address that you'll find on the back page of the Newsletter.

Because of Covid-19 concerns, the only summer activity currently planned to go ahead is the 4th of July Boat Parade on McGrath Pond, which meets off Pleasant Point Park at 3:00 pm and takes a leisurely tour around the McGrath shoreline, showing the flag. Boats are required to keep mechanical distance.

MPSLA Board of Directors

Jenny Allen, Pres.
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Bonnie Sammons, Sec.
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Lew Lester
Bill Scott
Cam McCafferty
Renee McCafferty

McGrath-Salmon LakeSmart Evaluators

Kim Hallee
Dave Hallee

Water Lilies in the Narrows
Photo by Robyn Deveney

Dirty Hands & Clean Lakes

By Bonnie Sammons

One morning near the end of the school year last spring, a group of 40 Messalonskee Middle School students, together with teachers Steve Price, Nicole Quirion, and Jamie Quirion, joined staff members from 7 Lakes Alliance and volunteers from MPSLA at the Town of Oakland's Pleasant Point Park, which is at the head of McGrath Pond. They had come to the park to get their hands dirty, placing a protective rock barrier known as rip-rap along the eroding lake shore, installing buffer plants, and spreading erosion control mulch near the shoreline.

Students worked hard and enthusiastically at those tasks most of the day. They wheeled load after load of mulch, lifted and carefully placed heavy rocks, and dug holes for the plants. They had a lesson in water quality from the 7 Lakes Alliance staff so they could understand how their tasks contributed to the health of our lakes, and those who were interested got to try fly casting with volunteers from Trout Unlimited. It was a very busy day!

Messalonskee Middle School teacher Amanda Ripa organized this work-and-learn effort and has been instrumental in designing and implementing a number of similar projects that have connected students with important real-world issues such as declining water quality in our lakes. These projects have multiple benefits for the students, including learning how to plan out work and the pride they feel from meaningful accomplishment in completing a job that benefits the community. Many of our students really thrive on and gain confidence from this approach. It's the classic win-win.

As the school day drew to a close, Oakland Recreation Director Eric Seekins offered heartfelt appreciation for the students' accomplishments that benefit both the park itself and the lakes that it abuts. Funds, materials, and equipment for the project were provided by the Belgrade Lakes Youth Conservation Corps, a program of 7 Lakes Alliance, the Town of Oakland, Lakeside Landscape, the Sheridan Corporation, and the U.S. Environmental Protection Agency under Section 319 of the Clean Water Act. This "319" funding is administered by the Maine Department of Environmental Protection in partnership with EPA.

Salmon Lake Boat Launch

If you attended either of the last two Annual Meetings, you will recall discussion about moving the utility wires that currently run right over the top of the ramp at the Salmon Lake boat launch site. The site is owned and managed by the Maine Department of Inland Fisheries & Wildlife (IF&W).

At the Salmon Lake Boat Launch

The utility wires come off the lines running down Spaulding Point and provide services to the camps and homes on the north side of the outlet stream all the way up to the edge of Camp Modin's property. CMP owns and maintains the poles and power lines.

Because the lowest utility wire running over the launch ramp is at a height of 28 feet, sailboats over about 16 feet in length are unable to negotiate the ramp with masts raised, a significant deterrent to their use. Accordingly, our Association voted during the 2018 Annual Meeting to request that CMP move one utility pole at the boat launch site in such a way that the wires would run parallel to the ramp rather than across it, and also to ask the Town of Belgrade join us in making this request of CMP. Subsequently, the Belgrade Select board voted unanimously to join us in making the request, and several months later CMP agreed.

However, despite the local lines department doing a site visit and approving the change, others within CMP decided this was the occasion to pursue the company's long-term goal of eliminating utility wires that span waterways because those wires are maintenance and repair headaches in winter and difficult weather conditions. So, moving the wires to run parallel with the launch ramp was relegated to Plan B. Plan A became finding a way to run the wires up an access road from Rt. 8 to the camps and homes on the lake.

After several false starts, CMP appears to have done just that, and we have received assurances that the company will set poles and string wires up one of the camp roads this summer. The CMP representative pointed out that in addition to the electric lines, there are telephone and cable lines on the poles at the boat launch, and those companies must be given a month to remove them after CMP finishes its rerouting work. Once all is finished, the wires will be gone for good.

On a separate note, it appears likely that Maine IF&W will do major work on the launch site four or five years from now, moving the launch ramp east to a location with the greatest drop-off to have a sharper incline. The Lake Association was told by an IF&W representative that it plans these projects three years out, and although the Salmon Lake site was not yet included, it was "on the radar" for not long after.

Dam Keeper's Report

Thankfully, we had a good season last year, with adequate rainfall to keep the lakes filled to their optimum levels from spring right through into fall. This was a real departure from the previous couple of dry years! Although 2020 started out just like 2019, by mid-to-late May the weather pattern shifted, and Maine has become much warmer and drier than normal.

The dam on the outlet stream of Salmon Lake, which controls water levels in both our lakes, is managed by the Belgrade Area Dams Committee as part of a coordinated effort to control water flow through the Belgrade Lakes chain. While there is some leeway in controlling levels lake-to-lake, the Dams Committee normally adheres to the standards for each lake set by the Maine Department of Environmental Protection. Those standards set target lake water levels throughout the year, taking into account such things as protecting the lake from shoreline erosion and giving room to accommodate heavy runoff from spring rains.

A gauge at the Salmon Lake Dam is used to determine the height of the water in feet above sea level. The level of our lakes at full pond (the optimum spring/early summer level) is 278 feet above sea level. Below, you will find a chart, summarizing the water level orders from Maine DEP that we do our best to follow.

Doug McCafferty, Chairperson
Belgrade Area Dams Committee
(207) 649-7484

Body of Water: McGrath Pond Salmon Lake	Belgrade Area Dam Committee **Salmon Lake Dam** Summary of Water Level Order	Spillway Elevation: 278.0 above sea level A minimum flow of 1cfs is to be maintained at the downstream side of the Dam's gate at all time
Seasonal Periods	**Water level Management Actions**	**Other Management Goals / Priorities**
Labor Day to October 31st	*Drawdown of lake water to winter storage levels Lower water level 1.0 to 1.5 ft by October 31st. * From full-pond level of 278.0 to 277.0 - 276.5 ft above sea level.	Proceed drawdown at slower rate until Sept. 30th to assist in maintaining public boat access between McGrath Pond & Salmon Lake
November 1st to March 31st	*Maintain sufficient in-lake capacity to accommodate winter and spring runoff. * Maintain water level as close a possible to the target range of 277.0 to 276.5 ft above sea level.	The winter storage level should be maintained above -1.5 ft or 276.5 ft above sea level. A minimum flow of 1 cfs is to be maintained on the downstream side of the Dam.
April 1st to May 31st	*Manage the gate to pass spring runoff water as needed to prevent flooding. * Gradually manage the lake's water level to the targeted full-pond elevation of 278.0 ft above sea level by the May 31st. During this time period the lake level should not exceed the elevation of 278.5 ft above sea level.	If possible, the water level should be managed as to not exceed the level of 277.7 ft before iceout or before any significant amount of frost is out of the ground to protect from the effects of shoreline erostion due to flooding and for the protection of wildlife.
June 1st to Labor Day	*Maintain the lake's water level as close as possible to the Spillway Crest * Manage the lake's water level as close as possible to the targeted full-pond level of 278.0 ft above sea level. During this time period the lake level should not exceed the elevation of 278.3 ft above sea level.	If possible, the water level should be maintained above the elevation of 277.5 ft above sea level at least until September 1st. A minimum flow of 1 cfs is to be maintained on the downstream side of the Dam's gate at all times.

McGrath-Salmon Water Quality Update

Dr. Danielle Wain, Lake Science Director, 7 Lakes Alliance
Data from the 7 Lakes Alliance-Colby Water Quality Initiative

Throughout the summer of 2019, on both ponds, students from Colby collected profiles of temperature and oxygen, in addition to Secchi disk readings and water samples for phosphorus analysis.

McGrath Pond:

McGrath Pond is one of the shallower lakes in the Belgrades and, as a result, typically remains well mixed through much of the summer. However, in 2019, we observed persistent stratification in July and August (days 180 – 240 in Fig. 1). Unlike 2018, when dissolved oxygen (DO) remained above 4 mg/L for the entire summer, this past year McGrath experienced 32 days of anoxia (DO < 2 mg/L). Below 2 mg/L, phosphorus can be released from the sediments, fueling algal blooms. Fortunately, the water samples collected over the summer indicate that the phosphorus (P) levels were all below 25 ug/L (P_{avg} = 10 ug/L), which is another important water quality threshold. When average lake concentrations of phosphorus exceed this value, a lake is trending towards eutrophication (i.e., blooms). The Secchi disk readings this summer, while good compared to other lakes, were worse than usual in McGrath, where you can often see the disk all the way to the bottom!

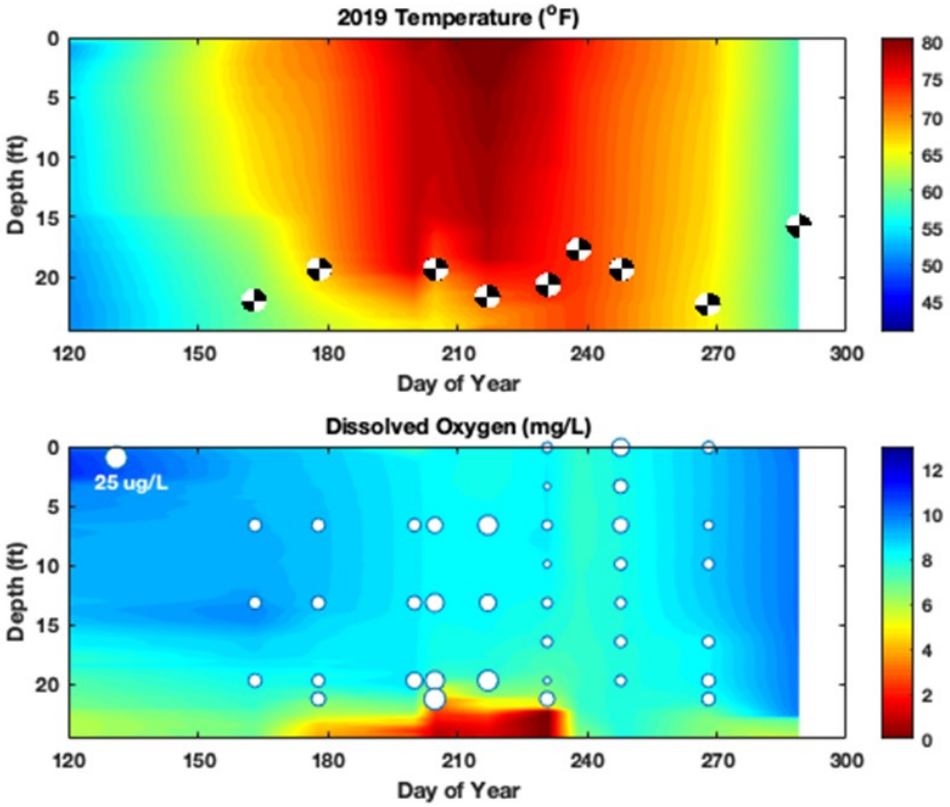

Figure 1. Top: Contour plot of temperature profiles versus time, with Secchi disk observations overlaid. The color bar on the right indicates the water temperature. Bottom: Contour plot of dissolved oxygen profiles versus time, with phosphorus observations overlaid. The color bar on the right indicates the oxygen concentration in the water. The size of the white dots indicates the phosphorus concentration (big dots mean higher phosphorus), with the 25 ug/L for scale in the upper left corner.

Salmon Lake

Salmon Lake is one of the deeper lakes in the Belgrades and, as a result, remains stratified through much of the summer of 2019 (Fig. 2), with the onset of stratification starting in May. The stratification cuts off the bottom layers of the lake from the atmosphere, and thus the dissolved oxygen decreases quickly in the summer, all the way down to 0 mg/L. This is why we see lots of phosphorus near the bottom through the summer. This phosphorus is trapped by the stratification in the deep, dark regions of the lake, where most algae (which need light to photosynthesize) are unable to use it, so the water clarity as indicated by the Secchi disk remains good for much of the summer. Only when the lake turned over in late October did that phosphorus become available to algae, and year-round residents noticed a bloom.

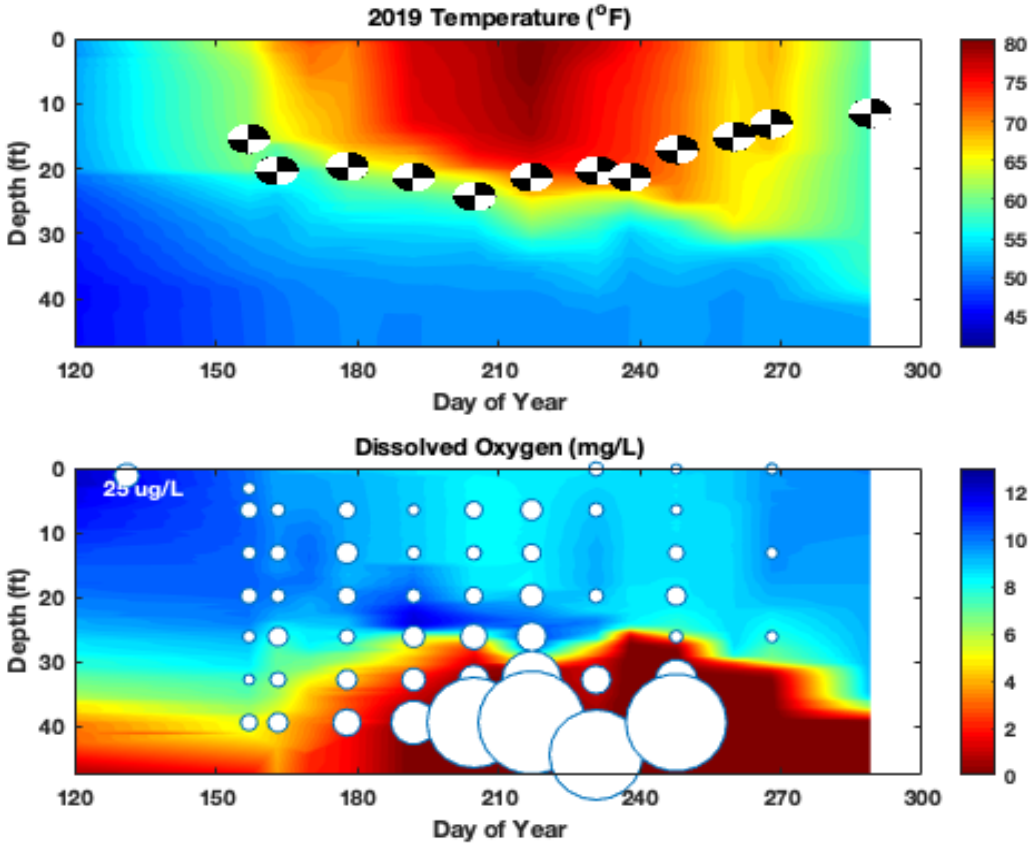

Figure 2. Top: Contour plot of temperature profiles versus time, with Secchi disk observations overlaid. The color bar on the right indicates the water temperature. Bottom: Contour plot of dissolved oxygen profiles versus time, with phosphorus observations overlaid. The color bar on the right indicates the oxygen concentration in the water. The size of the white dots indicates the phosphorus concentration (big dots mean higher phosphorus), with the 25 ug/L for scale in the upper left corner.

For more on McGrath & Salmon attend the Online Annual Meeting — August 6th — 6:00 pm.

Register now at https://www.mcgrathpond-salmonlake.org

LakeSmart Evaluations & Section 319 Clean Water Act Grants* Available

Our lakes' blue waters and the activities that go with them — snorkeling, swimming, fishing, and boating, even stargazing off the dock on a clear summer night — are in jeopardy.

The McGrath Pond-Salmon Lake Watershed Survey, conducted in the fall of 2017, revealed over 100 properties needing improvement to prevent sediment and nutrients getting into our lakes and causing water-quality problems such as algal blooms. These are problems that build over time. The State now lists McGrath Pond as "Sensitive" and Salmon Lake as "Watch List" on Maine DEP's Threatened Lakes Priority List, meaning that neither lake is in critical condition, but both have started down the slippery slope leading that way.

If you are wondering what you can do to help keep both lakes blue, then there's good news in the form of a free LakeSmart evaluation for your property plus matching funds to help pay for sedimentation and erosion-control projects that might result from it. The LakeSmart evaluation can help you stop nonpoint source pollution, protect the value of your property — maybe even enhance it — and, in the process, protect the lake experiences that you treasure. Fifteen minutes of your time (at appropriate social distance!) and giving permission to evaluate your property to a trained LakeSmart volunteer will provide you with a free evaluation.

If you are not yet sure you want to do that, or you want to start improving your property even before the evaluation, the LakeSmart team can send you an assessment form that will walk you through the process and show you what to look for. Just contact them below.

Federal water-quality funds under Section 319 of the Clean Water Act* are available as matching grants to help defray expenses of sedimentation and erosion-control projects identified in LakeSmart evaluations. These funds can also be used for road, driveway, and drainage projects, including culverts and ditches. They cannot be used for routine road maintenance. If you have questions about whether your project would qualify for Section 319 funding, please get in touch with charlie.baeder @7lakesalliance.org (see below). For further information, see **https://www.7lakesalliance.org/erosion.**

Please contact LakeSmart Evaluators Kim & Dave Hallee to get started, or 7 Lakes Alliance Program Manager Charlie Baeder if you have questions about Section 319 grants.

Thank You!

Kim & Dave Hallee, LakeSmart Evaluators
phone 314-0881 or LakeSmart@McGrathPondSalmonLake.org

Charlie Baeder, Program Manager, 7 Lakes Alliance
phone 458-1334 or charlie.baeder@7lakesalliance.org

* Funding for this project was provided by the U.S. Environmental Protection Agency under Section 319 of the Clean Water Act. The funding is administered by the Maine Department of Environmental Protection in partnership with EPA.

East Pond Alum Treatment

By Danielle Wain, 7 Lakes Alliance

In 2018, 7 Lakes Alliance, East Pond Association, and other partners conducted the largest alum treatment to date in New England at a cost of about $1 million. A fairly detailed description of the project appeared in the Spring 2019 issue of this newsletter, available on the MPSLA website. In 2019, the average Secchi depth — how far we can see into the water from the surface — was 19 ft, approximately 7 ft deeper than the average in years prior to the treatment (Fig. 1).

While early indicators suggest that the alum treatment has been effective, we are continuing to monitor Secchi, oxygen, phosphorus, and algae to understand how the ecosystem has changed after the treatment. We are also conducting experiments to help determine how long the alum treatment might last. With the help of Camp Manitou, we measured the currents induced by wake boats to see if they can affect the treated lake sediments. We will report on this data soon!

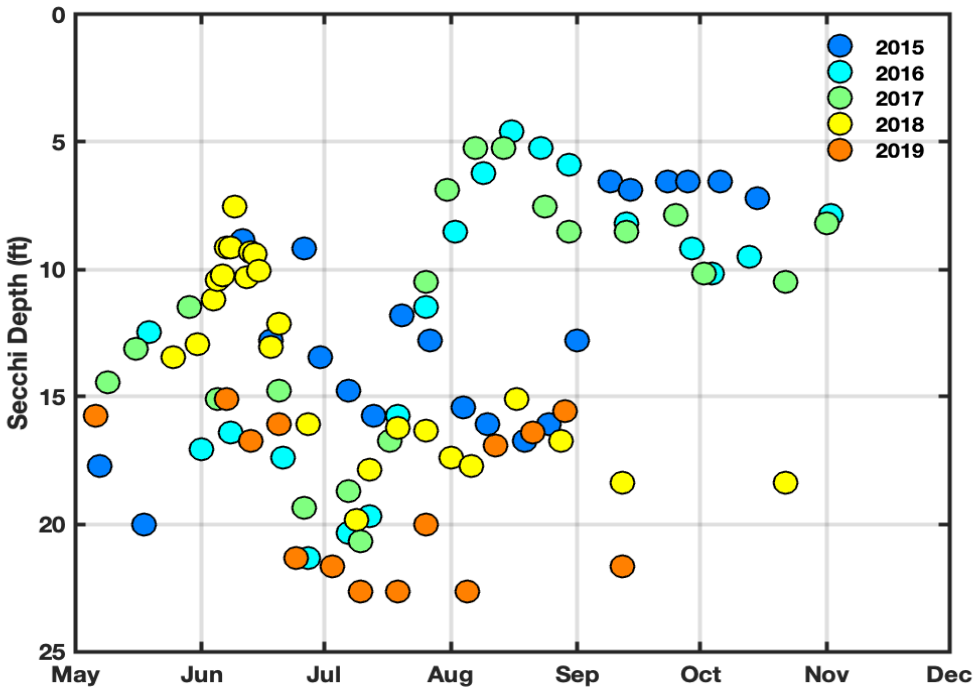

Figure 1: Secchi depth in East Pond from 2015-2019. Data collected by 7 Lakes Alliance and Colby College.

For comparison, the surface area of Salmon Lake needing to be covered in an alum treatment would be about half that of East Pond, so the cost would be perhaps $500-$600,000.

A June 2020 update has found surprisingly high phosphorus readings in East Pond: 20 parts/billion, compared to 10 last year. The good news is that sediments appear intact, and preliminary indications are that it's coming into the lake from runoff. It looks like East Pond Association has a lot of work to do, and quickly! Lake phosphorus content over 20 ppb invites algae blooms.

A Half-Century on McGrath Pond, 1970-2020

By Lew Lester

I have lived on McGrath Pond Road since 1970, and at the northwest corner of the lake since 1982. Our current home, once a town schoolhouse when Oakland was known as "West Waterville," later served as the central dining hall for Maple Nook Bungalows.

Recreation Areas: In 1999, the Town of Oakland acquired a large commercial campground in the northeast part of the Pond and turned it into Pleasant Point Park, a wonderful enclave for family gatherings, field sports, picnicking, swimming, walk-in boat launching, and fishing during the warmer months - and a staging area for ice fisherman from December to April.

Ice Fishing: Although there were always a few day-trippers, most of the ice fisherman before 1999 set their shacks out just after New Years and left them there until April. Now, these shacks are limited, replaced in large part by day-trippers on snowmobiles and a few walk-ins, sometimes taking shelter in light, tent-like structures. But ice-fish they do — on many weekends, the number of fisher-folk far exceeds anything in summer.

Boating: In the early decades of my residence here, the boat traffic was quite astounding, and almost entirely of fishermen. More recently, I have sometimes been alone on the lake. The hordes of fisherman have given way to solitary kayakers, occasional couples in canoes, macho folks on jet skis, and a few big-engine vessels pulling water skiers and kids on tubes. The late afternoon now is notable for a ritual procession of pontoon boats, slowly circling the shoreline as aging passengers check out their neighbors and sip beverages in the waning sun. Our personal watercraft fleet has tracked the dynamics of age, stage, and changing times; the aluminum fishing boat gave way to a small racing sloop, followed by canoes, kayaks, and paddle boards as children and grand-kids matured, and a pontoon boat in our golden years.

Painting of McGrath Pond
by Jenny Allen

Continued on next page

Open-Water Fishing: It ain't what it used to be! Anglers came from all over New England, reeling in honking-big catches of prized species. Few, if any, trailered their own vessels because the cottages and sporting camps offered rental boats for their clientele. Pulling in the big ones was a lot easier in the 1970s and 1980s than it is today.

Water Quality: As one of the headwaters and shallower lakes in the Belgrade chain, McGrath Pond has enjoyed the benefits of both a nearly constant stream-fed inflow and the absence of the oxygen-depleting stratification that plagues deeper lakes, such as our sister to the south, Salmon. But we have recently witnessed more abundant weed and algae growth, occasional fish kills, and a couple of concerning episodes of very low water. The Pond's northwest cove, where I live, has been badly compromised by the incursion of road sand and other deposits via a feeder brook, and the expanding sediment delta has required us to relocate our mooring several times. Because of the sediment, our dock was unusable during periods of low water. The sediment also brings nutrients into the lake, which is very bad because it adds to weed and algae growth.

The impact of both human and natural changes over the two-thirds of my life spent on this little Maine lake is readily apparent - sometimes uplifting, and sometimes frightening. What will McGrath Pond be like a half-century from now?

Sand delta at northwest corner McGrath Pond is completely exposed during period of low water. (Photo by Lew Lester)

McGrath Pond – Salmon Lake Association

2020 Annual Membership Form
January 1 – December 31

Our Mission is to protect the natural character, enhance the water quality, and promote the responsible use of the lakes for the benefit of ALL.

Your **tax-deductible** membership funds education and water quality improvement efforts, as well as Courtesy Boat Inspections at the public boat launch on Salmon Lake.

Please complete the form below or online at https://www.mcgrathpond-salmonlake.org

Name: _____Additional Name: _____

Preferred Mailing Address: _____

_____

Lake Address: _____

Email: _____ Phone: _____

Beginning in 2021, we would like to honor all of our members by printing their names in the Newsletter. Please check this box ☐ if you would prefer to be listed as "Anonymous."

I/We wish to be members of MPSLA for 2020 – (Please CIRCLE your choice below)

Individual	Family	Futurist or Business
$35	$50	$100

I/We would also like to contribute:

$_____to Water Quality (includes Watershed Protection Plan).

$_____to the Frances Fox Sandmel Environmental Education Fund.

Total Enclosed: _____ **+** _____ **+** _____ **+** _____

(Membership) (Water Quality) (Education) (TOTAL)

MPSLA is a registered 501c3 nonprofit organization. Your contributions are tax-deductible.

√**Please make checks payable to "MPSLA" and mail to: PO Box 576, Oakland, ME 04963**

Or – donate via our website at **https://www.mcgrathpond-salmonlake.org** with your credit card or PayPal.

• We plan to convert the Newsletter to primarily electronic format next issue to save MPSLA approximately $4.50 each in printing and mailing costs, money that can be put toward important lakes programs. However, we will be happy to honor requests for paper copies. Please check here ☐if you would like to receive a hard copy of the Newsletter in the mail.

I'd like to get involved!

☐ I'd like to join the MPSLA Board of Directors - non-residents welcome.

☐ I can help with Water Quality & Education and/or Social & Community activities.

☐ I am able to assist MPSLA in this Capacity_____

☐ We wish to participate in LakeSmart. Please contact us this summer via ☐ phone ☐ email.

THANK YOU!

MPSLA • PO Box 576 • Oakland, ME 04963

Facebook: **https://www.facebook.com/MPSLAssoc** Email: **mpslassociation@gmail.com**

McGrath Pond – Salmon Lake

❖ASSOCIATION❖

Our Mission is to preserve and protect the natural character, enhance the water quality, and promote the responsible use of the lakes for the benefit of ALL.

Visit our website: **https://www.mcgrathpond-salmonlake.org**

Find us also on FaceBook: **https://www.facebook.com/MPSLAssoc**

Email: **mpslassociation@gmail.com**

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Your support will help us cut down on printing costs. Thanks!

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