

Friends of Wilson Lake

February 2022

From Your President, Rob Lively

During a recent conversation with a friend about our beloved lake, he referred to it as, "Wilson Pond." I asked why he called it that instead of Wilson Lake and he responded: "I'm a map guy, and the USGS quadrangle maps and the Delorme Atlas and Gazetteer have it as Wilson Pond, so I generally think of it that way. I recognize that currently it's more often referred to as Wilson Lake." I too have heard both names used, but it raises the question: what is the difference between a Maine pond and a Maine lake? Fortunately for us, our editor Wynn Muller explores the topic in this newsletter, but as we will see, the answer isn't always as clear cut as we might like it to be.

BTW—as a point of general interest, what do **you** call our lake—"Wilson Pond" or "Wilson Lake," and why? Perhaps there is an interesting family story behind it, such as your grandparents built a camp on the lake decades ago and they would only call it by a particular name, or you are like our "map guy," or that is just what you have always called it. **Please send me an email at: friensofwilsonlake@gmail.com and let me know. Thanks!**

As we have come to expect with our editor Wynn, this newsletter is filled with interesting information, insightful personal profiles, and calls to action. While FOWL is strongly apolitical, we do venture into sensitive and awkward topics that can affect the lake, such as the enclosed article on the lake and fireworks. It is an effort to provide a thoughtful discussion of an issue that surfaces periodically.

And you will find your 2022 FOWL membership renewal envelope included with this newsletter. In an excellent overview of what your membership supports, our board secretary Holly Windle raises the question, "Does Wilson Lake Play a Role in Your Life?"

It certainly does, in different ways for different people, but together let's renew our memberships so that we can continue the good work of FOWL—regardless of whether we call it "Wilson Pond" or "Wilson Lake"!

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Loss of Ice Cover in Northern Hemisphere Lakes

Thanks for your continued support of FOWL.



Rob Lively

Visit our Website: www.friendsofwilsonlake.org





Does Wilson Lake Play a Role in Your Life?

by Holly Windle, Secretary of FOWL

When you tally up what you have to be grateful for, after two years of COVID challenges and uncertainty, do you include Wilson Lake? Whether you boat on, swim in, drive past, walk by, fish in, gaze across, or have wonderful memories of it, the natural beauty of this place is obvious. And let's add: drive on, walk across, or sit in an ice-fishing house above it, to address the many wonderful winter uses for the lake.



Sunset on Wilson Lake Jan St. Pierre

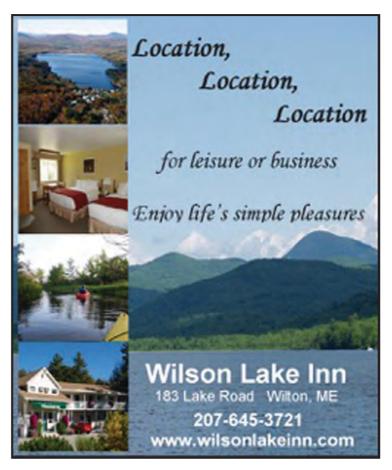
If you are grateful for the lake, you should also appreciate that Maine has several organizations dedicated to preserving our lakes for the future. The Friends of Wilson Lake (FOWL) works with those organizations on issues of water quality, invasive species, productive fishing, and protecting our loons. FOWL members have taken advantage of workshops and training to make us better understand what affects the water and wildlife we love. In addition, FOWL partners with both the Town of Wilton and the University of Maine at Farmington to keep our lake healthy.

FOWL membership dues support activities like this newsletter, water testing, Courtesy Boat Inspections, and educational programs—but dues alone aren't enough to cover our expenses. When we apply for grants or request contributions from local businesses, they like to see significant membership numbers. It's good to see how many people understand that the challenges of our changing world mean that Wilson Lake needs our help to keep the water clean, the fish thriving, and the loons calling.

Membership in FOWL is open to anyone and costs only \$12 a year—and that can be for the whole family,

no matter how many! Many families make additional donations of \$100, \$250, or even \$500 to enhance their membership fees. Last year we hit an all-time record of 328 members, besting the previous high of 313 in 2019. You will see a list of members elsewhere in this newsletter. FOWL can take electronic transfers through Zelle, but you'll need to make arrangements with our treasurer Wynn Muller at wynnmuller@comcast.net. Business memberships also sustain FOWL's work. We had 27 business members in 2021—you can see ads for them in this issue.

Please join us. Thank you! You will find a reply envelop enclosed for your convenience in renewing.





LAKE or POND? A Question Asked at the Annual Meeting

by Wynn Muller with help from Maine DEP

One of the most frequently asked questions posed of biologists in the Lake Assessment Section of Maine DEP, is what makes an inland body of freshwater a lake or a pond? About half of the 6,000 lakes and ponds that have been assigned a state identification number have been named, many having two or three names. At least thirty have one name with the word lake in it and the other with the word pond. For example, Bryant Pond is also known as Lake Christopher and Dexter Pond sports the name Wassookeag Lake! It is often these dual names that make folks wonder exactly where do we draw the line in Maine?



Wilson Lake Susan Atwood

One classic distinction is that sunlight penetrates to the bottom of all areas of a pond in contrast to lakes, which have deep waters that receive no sunlight at all. Another is that ponds generally have small surface areas and lakes have large surfaces. So, a combination of surface area and depth are considered from a technical perspective.

Some of our waters are definitely lakes—they are both large and deep—indisputably lakes. Others are ponds—small and shallow. And there is a transition between the two where the definition becomes fuzzy. If we held to the depth distinction, some ponds would become lakes mid-summer when algal populations limit light penetration to the bottom. The surface area distinction makes no sense for seven-acre waters that are 50 feet deep (like Maine's kettle ponds), or for 400-acre waters that have emergent vegetation across their entire surface.

So, to answer the question above:
no definitive line exists between lakes
and ponds. The one distinction that has
any legal application is the designation
of a water as a Great Pond. Maine state statues define
lakes and ponds greater than ten acres in size
as Great Ponds. If an impounded water is greater than
thirty acres in size it is also legally considered a Great
Pond; impounded waters less than thirty acres that
were greater than ten acres before dammed are
also Great Ponds.

Thus, there is no exact technical distinction between lakes and ponds. All lakes and ponds provide critical habitat for other living creatures – aquatic macroinvertebrates, plankton, fish, wildlife, and vegetation—and all need protection, so that clean fresh water continues to be one of Maine's premier natural resources.



Wilson Pond Susan Atwood

Referenced from: http://www.maine.gov/dep/water/lakes/lkepond.html

That said, is Wilson Lake really Wilson Lake or is it Wilson Pond? By the above definition it certainly should be Wilson Lake. However, doing a search for "Wilson" in the Lake Stewards of Maine "Lakes of Maine" (www.lakesofmaine.org/search-results) we find there are 10 bodies of water with the name "Wilson". Only one of these is called Wilson Lake which is in Acton in York County. Surprisingly, this Wilson Lake is about half the area and depth of our Wilson Lake (called Wilson Pond in the Lakes of Maine). The map on the wall in Calzolaio Pasta Co. shows it as Wilton Pond. However, since there is truly no definite "correct" answer, I firmly believe we should stay with the name Wilson Lake or else FOWL would become FOWP.

Friends of Wilson Lake

Adam Zemans, Executive Director, Lake Stewards of Maine, to Speak at FOWL Annual Meeting, July 17, 2022

by Wynn Muller

am very pleased to welcome
Adam Zemans as the new
Executive Director of the Lake
Stewards of Maine. Adam will
have a tough job in replacing
Scott Williams who has served
in that position for over 25
years. Scott was one of a very
few who took a state DEP
function and moved it into the
non-profit area where it has
thrived under his leadership,
serving as a national and inter-



Portrait of Adam Zemans
Lake Stewards of Maine

national model for its effectiveness in engaging, training and supporting volunteers.

Adam is well prepared for this position. He holds a JD degree from Georgetown Law and is an attorney licensed in Md. He also holds degrees from USC, George Mason York University in Toronto mostly in leadership, conflict resolution and sociology. He is a PhD candidate in Conflict Resolution Studies with a dissertation focus on stakeholder response to climate change impacts in Maine. Less you think he is only an academic, since 2008 he has been a licensed Maine Sea Kayak and Recreational Guide and recently obtained a black belt in Shito Ryu Karate.

Since 2008, Adam has worked with Lake Stewards water testing and monitoring and spoke at the 2017 LSM annual conference regarding social science elements of the Citizen Science Revolution. He seeks to include Maine citizens to facilitate conversations among those stakeholders about what "credible scientific information" means and help them respond to watershed vulnerabilities and risks. He asks, "What are the most important ways to holistically define and promote lake health?"

Adam has agreed to speak at the FOWL annual meeting on July 17, 2022. We will be speaking with him over the next months to arrive at a topic. Please share with Rob your ideas as possible topics. I know that in Connecticut, the current concern would be: "will this meeting be live or virtual?" I believe this will be determined by our Spring newsletter and how COVID conditions have evolved in the interim. Certainly, we will be most interested in your input. We are currently scheduled to be in-person at the Lions Club Hall.

Mary Ryan written up in Down East magazine, Franklin Journal, and Daily Bulldog

by Wynn Muller, extracted from all three of these publications.



Mary Ryan with Secchi Disk Sandy Muller

We all know well and appreciate the work Mary has done for Wilson Lake. This past summer, Mary was recognized by the Lake Stewards of Maine for 35 years as a lake monitor taking bi-weekly readings of the quality of the water in Wilson Lake. To do so, Mary uses a "Secchi Disk" which is an eight-inch black and white disk that is lowered into the water until it can no longer be seen. Mary has used a variety of local boats to transport her to the "deep hole" of the lake—presently located by the orange buoy that is moored there.

When Mary was in elementary school her parents built a camp near the head of Wilson Lake and she spent much of her summers at that camp. She received a bachelor's degree in biology from the University of New Hampshire and Masters from Ohio State. After teaching in Massachusetts for a while, she moved back to Wilton in the 1980's and in 1989 helped found the Friends of Wilson Lake. She was its president for over 10 years.

However, Mary began her testing of the water clarity prior to the inception of FOWL. Testing begins in the spring just as soon as boats can get onto the water

and it lasts into October. According to Roberta Hill of Lake Stewards of Maine, Mary "is in a very elite group of uber-dedicated volunteers placing within the top one percent of the hundreds of volunteers who have served." According to Mary, "I do this because it's a way to take part in keeping our lake healthy. I look at my monitoring efforts as a small but necessary part to play. Over the years I have had the opportunity to share this activity with friends and visitors to Wilson Lake. Most have never realized that we do this as a contribution to keeping Wilson Lake healthy. I try to emphasize to whoever observes the process that all our actions are important to keeping our lake healthy for all to enjoy."

In addition to founding FOWL, Mary was involved in the creation of the Foothills Land Conservancy at the head of the lake. Its creation was to limit the amount of erosion and runoff and nutrients entering the lake. That has been a most successful effort. President Rob Lively says, "Mary got involved in the testing process due to flocks of sea gulls that came to Wilton due to an open dump site and tended to locate on Wilson Lake. The dump is now closed and the sea gulls are gone, but Mary is still testing." Secchi testing is fun, gratifying, and a vital service to Wilson Lake, and FOWL and Mary are seeking those who want to continue in her footsteps; to carry on her important work for the next generation. We feel Mary has done her share, and being Mary, she has graciously said she would be happy to teach others how to conduct the testing over this next summer. Please let us know if you would like to help. 👆



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Fireworks on Wilson Lake

by Wynn Muller



Blueberry Festival Fireworks Shannon Smith

nother topic that frequently surfaces, is what can be done about fireworks on and around the lake? How harmful are they to the lake? This has been a topic of debate among your Board Of Directors, sometimes heated. I have spoken with Maine DEP and other top advisors around the state and the consensus with regard to the fireworks at the Blueberry Festival has been: "Yes they are bad for the lake. The heavy metals that produce the colors bring toxins to the lake. However, this is of greater concern to the swimmers at the foot of the lake than to the lake at large, since much of this pollution at the foot of the lake flows very quickly into Wilson Stream and is out of the lake. Of greater concern here is to the swimmers at the foot of the lake – perhaps they should be warned or restricted for a brief period of time. From a pure water quality issue, the one-time per year fireworks is of less impact than the season of power boating." Note this concerns fireworks purchased commercially for public display at the Blueberry Festival. These are referred to as "Commercial fireworks".

Within the past ten years the legislature has legalized "consumer fireworks"—those that individuals can purchase and display at their own discretion subject to state and local ordinances. The Wilton Ordinance in its entirety can be viewed at the Town's website. In essence it states that no consumer fireworks can be exploded except on days when the National Fire Danger Rating is low or moderate (Class I or Class II). Further under section "D" of this ordinance, "No person shall use, display, fire or cause

to be exploded consumer fireworks within the Downtown Village Zone or Residential I Zone".

Many have expressed concern with the many citizens who are exploding consumer fireworks around the lake. These fireworks have similar negative impact on the lake as mentioned above about the commercial fireworks which are part of the Blueberry Festival. Unfortunately, they are not a one-time event, but instead ongoing. Those of you who are concerned with the proliferation of these consumer fireworks, have been advised to take the matter before the select board. The select board could then arrange for this to be placed as an Article to be voted on at the Town Meeting. Town Manager, Rhonda Irish has suggested that the following would suffice to bring this before the select board for their action.

- "It is requested that the Town "Consumer Fireworks Ordinance be revised under Section IV.D to add the following:
- 1) 'Limited Residential and Recreational Zone' around Pease Pond and Wilson Lake (Pond) and
- 2) 'Resource Protection Zone' around Pease Pond, Varnum Pond, and Wilson Lake (Pond)."

Note: this has been discussed frequently among local residents and no one has yet asked the select board to undertake this revision to the Fireworks Ordinance. I leave it to you if you desire such action, I sincerely believe it could be passed. I know there are some on the lake who enjoy their fireworks and would be in opposition. Regardless of the outcome, anyone including the Blueberry Festival exploding any fireworks, needs to be sensitive to their neighbor's concerns for noise and debris.



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by Maggie Shannon, former Executive Director of Maine Lakes

/in' sideas/ Adjective: Proceeding in a gradual, subtle way but with harmful effects

Synonyms: stealthy, sneaking, indirect, treacherous

nopoint Source Pollution (NPS), the leading cause of lake impairment, is insidious. By definition, NPS is diffuse, minute and gradual in its encroachment on water quality. The algal bloom pictured here is possible for any lake in a developing watershed, however clear its water is today. The cause, Nonpoint Source Pollution (NPS), is everywhere at



Algal bloom on a lake Internet source

work, and so gradual in its encroachment on water clarity that it's difficult to see until it nears the tipping point. The fact that gathering impacts lie hidden in deep lake waters for decades and that the public is generally unfamiliar with lake dynamics make NPS even harder to recognize until the ultimate drop in dissolved oxygen kills fish or yields a bloom like the one pictured here. Though not inevitable, this repulsive outcome is possible wherever roads, homes, and public buildings—however sparsely—occupy a lake watershed.

In 1998, the head of Lake Assessment at the Maine Department of Environmental Protection informed my lake association we had maybe 20 years to avert serious damage to water quality in Great Pond of Belgrade Lakes. Although it had not bloomed at the time, its area of anoxia at depth is 35 times greater than it was in 1983, and professionally guided research suggests we haven't long to wait. Two upstream lakes in the Belgrade chain of ponds bloom and a third is flirting with it at fall overturn. One of

these three was treated with aluminum phosphate in 2018 and had a summer full of clear water for the first time in 30 years. It cost the community \$2,000,000 and in the words of the primary fundraiser, "It was worth every penny." This is no doubt true, but the fix is time-limited and may need to be repeated around 2040.

The point is, NPS is a Stealthy Enemy, and it's important for all lake associations to arm themselves against its approach. Because it's counter-intuitive for uninformed lake dwellers to think hardly noticeable stormwater runoff could affect something as large as a lake, effective communication and site-specific remedies are wanted. LakeSmart's unique delivery system, a friendly visit from friends and neighbors, is the surprisingly powerful answer. Leading edge research confirms that person-to-person conversation within a community is the best way to bring about change in behavior; snazzy brochures, advertising, and even expert advice can't move the average person to change day-to-day acts. Think about it: lake associations are perfectly positioned to answer the need, and they (I mean you!) possess the passion, the influence, and people power to get the job done. Act now. Sign up for LakeSmart before more harm comes your lake's way. We provide instruction, all materials, ongoing counsel and technical support without cost to our anti-NPS

As many of you know, Wilson Lake is a LakeSmart Gold lake, meaning that over one third of our properties are already LakeSmart. However, as you can see above, this is not enough. We need to keep working on educating the rest of the property owners, and yes, reminding those already LakeSmart that we need to do more. Our watershed survey in 2016 was a step in this direction, but while it resulted in much improvement to roads and culverts, very little impact was made in resolving issues identified of individual lake shore property owners. They were identified, but most chose not to address remediation of identified pollution issues.

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Wilson Lake Marina – Current Status

by Wynn Muller, with help from Franklin Journal

In our last issue of this newsletter, we mentioned that the marina proposed for the foot of the lake had been turned down by the Planning Board in August. It was then being referred to the Wilton Appeals Board. That board upheld the Planning Board's decision to deny the application on November 10, 2021. The Appeals Board agreed with the Planning Board's conclusion that the application did not meet all of the 24 review standards and unanimously voted that the Planning Board "acted in accordance with the town's zoning ordinance."

In response to this decision, the Wilson Lake Marina has filed an appeal of the decision in the Farmington District Court on December 14, 2021. As of that date through a request for "discovery" the Town of Wilton has been required to provide multiple documents within a 30-day time frame, which the town has done. We will try to keep you informed as to the future developments. No court date has been set as of this issue.

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Loss of Ice Cover in Northern Hemisphere Lakes

Article in Journal of Geophysical Research: Biogeosciences by Julia Daly, et. al.

This article is included for many reasons. First, our Wilson Lake is one of the contributors to the ice in – ice out data examined. Also, the study deals with the impact of climate change on the ice in – ice out impact on our lakes that has been discussed in previous issues of this newsletter.



Winter on Wilson Lake Tony Nazar

Abstract: Long-term lake ice phenological records from around the Northern Hemisphere provide unique sensitive indicators of climatic variations, even prior to the existence of physical meteorological measurement stations. Here, we updated ice phenology records for 60 lakes with time-series ranging from 107-204 years to provide the first re-assessment of Northern Hemispheric ice trends since 2004 by adding 15 additional years of ice phenology records and 40 lakes to our study. We found that, on average, ice-on was 11.0 days later, ice-off was 6.8 days earlier, and ice duration was 17.0 days shorter per century over the entire record for each lake. Trends in ice-on and ice duration were six times faster in the last 25-year period (1992–2016) than previous quarter centuries. More extreme events in recent decades, including late iceon, early ice-off, shorter periods of ice cover, or no ice cover at all, contribute to the increasing rate of lake ice loss. Reductions in greenhouse gas emissions could limit increases in air temperature and abate losses in lake ice cover that would subsequently limit ecological, cultural, and socioeconomic consequences, such as increased evaporation rates, warmer water temperatures, degraded water quality, and the formation of toxic algal blooms.

Plain Language Summary: The timing of lake ice-on and ice-off has been observed for decades to centuries because of its importance to refrigeration, transportation, recreation, and cultural traditions. Further, the timing of lake ice is a sensitive indicator of climate as freshwater freezes at 0°C. In our study, we found that ice duration was more than two weeks shorter per century in 60 lakes distributed across the Northern Hemisphere. In the last 25-year period, trends in ice-on and duration were over six times faster than in previous quarter centuries. More extremely late ice-on and early ice-off years, in addition to years in which a lake did not freeze at all, contributed to this alarming rate of lake ice loss. Mitigation of greenhouse gas emissions is necessary to preserve the existence of annual lake ice cover within

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Wilson Lake is a treasured resource in the community of Wilton, Maine.

We aim to protect the lake, its watershed, plants, and wildlife, but we cannot achieve our goals alone.

Find out how you can help.

Come and dig into our website. Here you can learn facts about Wilson Lake, review the Maine Boaters Safety guide, review the 2016 Watershed Survey report, view and link to our corporate members, and so much more!





Why is the Water Level So Low (or so High)?

By Wynn Muller

Lake comes up. Either the water level is too low and the low land at the head of the lake is too shallow or else the water level is too high and the permanent docks tend to wash or float away. Neither is desirable. Most recently, we have been in a time of drought and the water level has been too low. In fact, it has been so low that it has been difficult to remove boats at the boat ramp at the foot of the lake and many of those at the head of the lake have had to remove their boats early or find them situated on dry land. The question comes up as to why is the dam still open and allowing the water level to continue to fall?

The Town Website has a listing on the "Wilson Lake Dam Gate" that deals with the Town's Waste Treatment Plant Discharge Permit that governs the Town's permit to discharge treated water into Wilson Stream below the dam. This agreement states that the Town must "Make every reasonable effort, within its capacity, to operate the Wilson Pond dam such that a minimum stream flow of 7.5 cubic feet per second is

maintained in Wilson Stream at all times. To maintain that level of flow, approximately 5,000,000 gallons of water must clear the dam each and every day. Wilson Lake holds approximately 15,000,000 gallons for each inch of lake water at the crest of the dam. Hence, were no water to enter the lake, every three days, the lake would drop about one inch. In an attempt to increase the volume of water, "Flash boards" are installed at the top of the dam. This adds an additional 8 inches to the water level and provides for an additional 24 days of water flow during a dry season. These flash boards are normally installed in June after the spring runoff and removed in early September unless the water level has dropped below the flash boards before that time

Heinz Gossman is the Superintendent of the Water and Wastewater Departments and has the responsibility for maintaining the flow at 7.5 cubic feet per second and also attempting to maintain the level of the lake at a level appropriate to general lake use. As you can imagine, that is not always an easy task. To create an even greater volume of water, Heinz has added a 4 inch by 4-inch board below the flash boards to increase that extra level from 8 inches to 12 inches. Generally, that will meet the need for more water and higher lake levels. Unfortunately, should we have a

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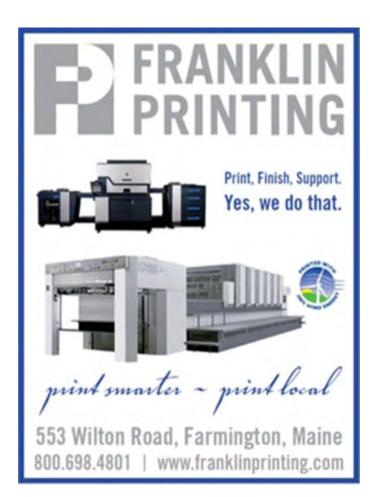
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Other Locations: Skowhegan, Rumford & Livermore Falls period of rain, there will be higher water than normal. The remedy for that is not merely to increase the flow aggressively, since doing so, might just cause a reduced water level later in the season. It is not a perfect solution, but remember, we need the flow to maintain the water treatment operation that is handling all our sewage treatment.



Sunset on Wilson Lake Susan Atwood















FOWL PO Box 560 Wilton, Maine 04294



