

WATERSHED VIEWS

NEWSLETTER OF THE KEZAR LAKE WATERSHED ASSOCIATION

FALL 2017



RICK PILSBURY

An Update on Evergreen Valley

by JIM STONE & HEINRICH WURM FOR THE COLD BROOK ADVISORY COMMITTEE

KLWA's most critical responsibility is to respond to potential threats to the watershed. This past summer we learned that a large tract of previously developed land (Evergreen Valley) in the Town of Stoneham was under contract for sale. The prospective buyer announced plans to develop the area into a site for multi-day mass gatherings and other similar events. Evergreen Valley is entirely within the Cold Brook watershed, and Cold Brook is a major tributary to Kezar Lake.

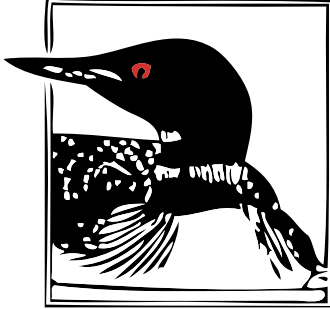
In an effort to protect our watershed from extensive and high risk development, the KLWA and the Greater Lovell Land Trust jointly formed the Cold Brook Committee. We also hired the legal firm of Drummond and Woodsum to review local ordinances and Maine DEP regulations.

Separately, the Town of Stoneham passed a Mass Gathering Ordinance in September, which would provide the town with a greater degree of control over events of this type.

Please rest assured that every effort is being made to ensure that any development is well planned and environmentally sound. We thank you for your support and patience, and will promptly notify you as events unfold. ♡



BRIAN FOX



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Kezar Lake Watershed Association

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President's Message

by JIM STONE

It seems incredible to me that it's already time to prepare the fall newsletter. Summer certainly passed quickly.

Our newsletters are written with the objective to both inform the membership of developments in the watershed which we think may have an impact on this environment, as well as about the activities of your Board of Trustees during the year to 'preserve and protect' this beautiful resource.

In that vein, please take a moment to read Heinrich Wurm's article on developments with respect to the Evergreen Valley area. I also think you'll find the articles on our new weather station and our new grant to study loons particularly interesting.

We welcome them to the board and look forward to their contributions.

Finally, as many of you know, we've been in a multi-year dialogue with the U.S. Forest Service (USFS) on their timber harvesting project known as "Albany South." Our discussions with the USFS have been focused on identifying and mapping all streams and using increased buffers to protect them. The USFS has informed us recently that they are hoping to release their plans for this project in the next few months. We will review those plans when available and communicate with the membership on potential risks to the watershed.

Board Update

After making significant contributions to the KLWA, Dan Ouellette left the board at the end of his term in July. We thank Dan for the considerable time, energy, and guidance he provided and wish him well in his new endeavors.

I am very pleased to tell you that we have five new trustees, all with significant environmental and organizational

skills, who have been elected to the board.

Tom Gilmore, owner of Gilmore Camps in the Lower Bay, brings substantial financial and organizational skills to the board and has been on the lake for over fifty years.

Tom's election to the board was announced at our Annual Meeting in July. Subsequent to that meeting, the board has elected the following new trustees:

Tom Hughes, on Horseshoe Pond, has served in the past on the KLWA board and Lovell's LIPPC board, and is currently a shoreline steward for LIPPC on Horseshoe Pond.

Lucy LaCasse of Stoneham has served on the KLWA board in the past and has spearheaded many of our initiatives including our dialogue with the US Forest Service on their Albany South project.

Steve Lewis, also on Horseshoe Pond, has served on the the KLWA and LIPPC boards, and is currently a shoreline steward for LIPPC.

Cecily Stone, on Pleasant Point, brings significant development expertise and is an ac-

credited South Carolina Master Naturalist. Cecily is also serving as a shoreline steward for LIPPC.

Membership

We would like to thank all our members who have generously donated over \$28,000 so far this year, up \$2,000 from a year ago. Our budgeted goal is \$39,000, which we must hit to maintain current activities. Typically, we receive a quarter of our contributions in the fourth quarter, so with your continued support we'll make it.

If you have not had the opportunity to join this year, we hope you will do so by year-end. A contribution envelope is enclosed in the newsletter for your convenience.

Lastly, I want to acknowledge the work and commitment of your Board of Trustees. To accomplish the activities described in the newsletter requires hours of communication, discussion, planning, and execution. It is a year-round commitment, which this board has shouldered with enthusiasm and creativity. ♡



CECILY STONE



KLWA WEATHER STATION

Air Temp:	52.5 F
Water Temp:	58.4 F
Wind:	3.7 mph from SW
Wind Gusts:	7.5 mph
Baro. Pres.:	29.63 in.Hg
Rel. Humid.:	72 %
Rain:	0.00 in. Today
Snow:	0.02 in. Today
Rate:	0.00 in/hr

View More Details

View Weather Forecast

Last updated 9 seconds ago



KLWA Weather Station Project

by DON GRIGGS AND RICK PILSBURY



How's the weather up there? What was the rate of rain fall yesterday? How much snow fell in January? Just how windy is it right now? How cold is the lake water? Will this be a good visibility day to hike?

Now you'll have answers. All the weather data all the time and it's truly local to Kezar Lake. Introducing the new Kezar Lake Weather Station, a joint venture of the Kezar Lake Watershed Association and the Climate Change Observatory.

We've wanted our own weather station for a couple of years but didn't have the funding until a member gave us a challenge grant to supplement funds from a recent CCO grant.

In August and September we installed a "Pulsar 600" weather station and an Axis 3025 web camera on the edge of Kezar

Lake just south of Boulder Brook. The output from these devices can be viewed on any computer or mobile device via the KLWA website (klwa.us) and on Weather Underground (www.wunderground.com and search KMELOVEL4).

The weather station is state-of-the-art with no moving parts. It measures rain and snow (rate and accumulation) with Doppler radar; wind speed and direction with ultrasonic sensors; lake water temperature as well as air temperature, barometric pressure, and relative humidity.

The webcam has a 90° view of the lake, western mountains (from Baldface to Speckled), a land view of trees, a closeup of lake water and a snow depth gauge.

On the KLWA website there is a display of a subset of the current weather data on the Home page, along with a button to get to a "Detail Page" with all the data and a high definition display of the webcam (sample shown above) and a button to get to the WU site. The KLWA website also shows the lake water temperature.

The Weather Underground (WU) site offers most of the same and more. Note that the WU site calls our location "Slab City."

We are excited to share with you current (updated every minute) and historical weather data and images of weather conditions on Kezar Lake at any time from anywhere. ♡



Wave Patrol

by RICK PILSBURY

By all measures the Lake Patrol program was successful again this year thanks to Captain Tyler Wilson and the cooperation of Kezar Lake boaters. The lake was safe and we have no issues to report.

Protection and preservation of our watershed are core values of the KLWA, and we need different tactics as new threats emerge. We all know about invasive plants, erosion and water quality. But now there's something new on the radar.

Tyler Wilson reported an increase in "wake boats" and "low-speed boating" this year. Wake boats have specially shaped hulls, ballast tanks, and sometimes hydrofoil devices that create big waves ideal for wake boarding and surfing.

The problem is that these high-powered boats carve deep profiles that can bring the propeller in contact with the lake bottom, thus churning up harmful sediments. Also, big waves add to erosion of shorelines and islands. This is especially evident in the Lower Bay.

What to do? The experts at North American Lake Management Society say best lake management practices address many wake boating issues. But the most effective practice is to start in water at least ten feet deep, and keep your tow route well away from shore. That way when you say, "Hit it," the propeller wash won't cut into the bottom. In addition, there will be less impact when the big waves hit the shore. Enjoy your ride and help keep the lake bottom right where it belongs. ♡

Update on Water Quality, Buoys, Acidity and the Healthy Watershed Grant

by HEINRICH WURM

The summer of 2017 was remarkable for its lack of extremes. At times, the Northeast seemed like an oasis during a summer of catastrophic weather events around the country. Is it unreasonable to think that its only a matter of time before a mass migration of population toward the Northeast ensues? Would we be ready?

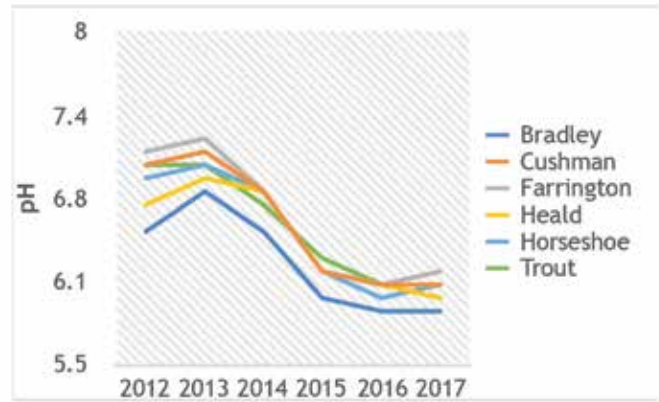
I am happy to say, we are doing our best and we are not alone. Our efforts to monitor water quality are complemented by our friends at LIPPC, whose “Eyes on the Water” effort, along with courtesy boat inspections, are crucial to keep our waterbodies pristine. This was brought home intensely this year with the detection of a massive milfoil outbreak at a marina on neighboring Long Lake in Naples.

Thanks to the Healthy Watershed Grant, which funded two red buoys, we now have one full season’s worth of data on temperature and dissolved oxygen in the Upper and Lower Bay. Sensors were deployed in May and are still storing data as I write this update. Looking at the forecast, we will be able to keep our loggers in place into November and capture both the spring and fall turnover—the point in time when surface water cools, gains density and eventually mixes with bottom water. Comparable to ice out, noting lake water turnovers adds another piece in the puzzle of tracking the impact climate has on our lake. A full evaluation of the data gathered will be available in the spring.

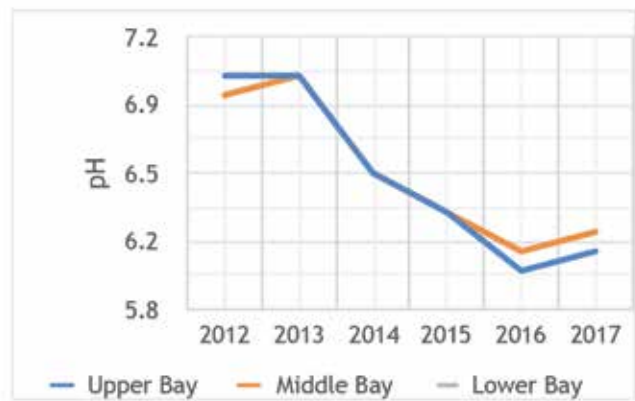
Our monitoring efforts were greatly enhanced this summer by the addition of board member Eric Ernst as a certified lake monitor. Eric went out every two weeks to measure clarity in the Upper and Middle Bay using his Secchi disk.

A review of this season’s water sampling data reveals no major abnormality. The full report will be published mid-winter 2018. Our concern over increasing acidity in lakes and ponds in our watershed and its associated effect on fish and invertebrates, like crayfish, continues, but summer and fall data show a leveling out and slight recovery.

Another snowy winter should lead to further correction—if our theory is correct: A solid snow cover prevents loss of car-



Watershed Ponds pH Trends



Kezar Lake pH Trends

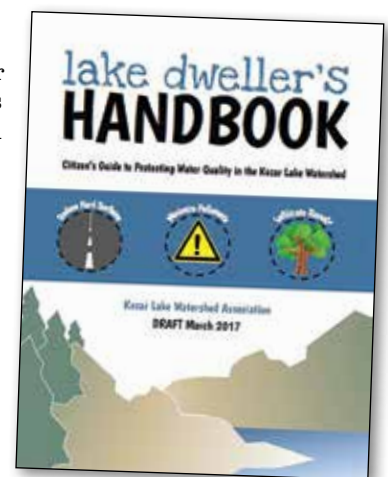
pH is the measure of acidity or basicity in liquid. Pure water is neutral at pH 7. Lower readings mean higher acidity. Higher reading mean more basicity.



LYNDA RASCO

bon dioxide from the forest floor into the atmosphere and makes it available for buffering acid runoff in the spring. For an in-depth discussion of this subject, our friends at Forrest Bell Environmental completed a research project entitled “Kezar Lake Watershed Baseline Acidity Study” this summer. This study was also funded by the Healthy Watershed Grant and will be available for viewing and downloading on our website shortly.

Last, but not least, our long awaited “Lake Dweller’s Handbook – A Citizen’s Guide for Protecting Water Quality in the Kezar Lake Watershed” will be published shortly. I am confident you will consider it a valuable resource in hard copy or on our website. ♪



Climate Change Observatory (CCO) News

by DON GRIGGS

The CCO was successful in securing grant funding to support essential monitoring, analysis and reporting for the next three years. During the summer months of 2017, CCO activities included the following:

- Collecting data from sensors deployed in several streams in the watershed
- Updating the CCO pages on the KLWA website
- Developing and staffing a climate change display for Lovell Old Home Days
- Hosting a graduate intern from Plymouth State University to assist in CCO activities and research climate change impacts on flora and fauna
- Assisting in the purchase of the KWLA weather station and engineering the station's installation and web interface (see details on page 1)
- Assisting in the development of a successful grant request, for a new project to study loons in our watershed (see details on page 6) ♪



LYNDA RASCO

2017 Brook Trout Survey

by LUCY LACASSE

On August 9 & 10, volunteers from KLWA worked with biologists from the US Forest Service and Stantec to survey Brook Trout in the Great Brook watershed.

2017 represented the second year of a three-year effort to assess the native Brook Trout population in the northern part of our watershed. As with last year, it was a fascinating two days, the results of which will continue to expand our knowledge and understanding of the watershed's native Brook Trout population.

This year's KLWA volunteers included the following: Chris Brink, Andy Chakoumakos, Tim Cyr, Don Griggs, Lucy LaCasse, Vanny Nelson, Tyler Simonds, Sarah Smith, and Todd Smith. Mark Prout, Erica Roberts and Terry Ashbridge were on board from the Forest Service; Jake Riley joined us from Stantec; and Jackie Boudreau came from FB Environmental. Our thanks to all for their time and effort.

As you may recall, we experienced drought conditions in 2016, and the waters were extremely low in all the brooks and streams. In spite of challenged conditions, the estimate of Brook Trout densities in the reaches sampled appeared to be very high in 2016 at all five sites when compared to prior sampling efforts at the Forest Service's long-term Great Brook Index monitoring site. In 2017, however, Brook Trout numbers appeared to have decreased 50 to 75%



LUCY LACASSE

compared to 2016. It was noted that adult Brook Trout densities were still near long-term averages at both the Willard Brook and Great Brook index sites. Two possible explanations for the large change observed in 2017 are the following:

- Stream waters were much higher in 2017, so the densities of fish appeared reduced because they were distributed over a greater area.



LUCY LACASSE

photo on left: Volunteer Vanny Nelson with Forest Service Biologist Erica Roberts. above: Jake Riley, Chris Brink, Tyler Simonds, Tim Cyr, Vanny Nelson, Jackie Boudreau participating in the survey

- There were several significant spring and summer high flow rain events in 2017 (lacking in 2016) observed over large areas of the White Mountains. The young trout that would have hatched in January may have been flushed out by those rushing waters. Young-of-the-year numbers were much lower this year in not only Great Brook, but in several other watersheds in the Whites, supporting this theory.

It was probably a combination of these two factors that contributed to this year's lower numbers. Inter-annual variability is common among fish populations in the face of changing weather and flows, which is why gathering three years of data is important. It will be very interesting to see what our 2018 survey shows us.

Besides the obvious scientific benefits, this collaboration between the Kezar Lake Watershed Association and the Forest Service provides great opportunities for learning and camaraderie. It was fascinating and fun. We appreciate the FS's commitment to this effort and look forward to repeating the survey next year as planned. If you'd like to volunteer next summer, please contact Lucy LaCasse: wnder@aol.com. ♪

Fishing 2017

by ED POLIQUIN

The fishing this year on Kezar was interesting. Starting this spring, the smallmouth bass fishery continued to decline. Also, the amount of nesting beds on the spawning bars was the worst I have observed in my 35 years on the lake.

The largemouth population seems to be holding steady and I caught many more of them on Kezar compared to smallmouth than any time in the past. I also observed many more juvenile schools of largemouth than smallmouth.

There used to be huge schools of white perch in the lake; sadly they are gone and I do not know why. Alewives and smelt no longer inhabit the lake in large schools like in the past either.

One positive thing I did notice—a lot less debris and fishing line along the shoreline. It seems people on Kezar are getting more conscientious about this. While fishing in Long Lake recently, I was disgusted to spot a couple hundred beer cans in the water on a large, shallow spawning bed.

This fall, the largemouth and pickerel fishing really turned on both in quantity and size. Cooler water and less fishing pressure



LYNDA RASCO

contributed to this. At this time of year, these fish are feeding to bulk up for winter. The best time is from 7 to 10 on the cool mornings. After that, they seem to shut down as the sun gets higher. Next season, I intend to involve a biologist who can help explain the changes occurring in Kezar. ♡



HEINRICH WURM

Loon Watchers – This is for You!

by HEINRICH WURM

Some of you may remember my first attempt three years ago to organize a “loon watch” on Kezar Lake. I was freshly retired and impressed by the efforts our neighboring states had undertaken to restore and preserve their loon population in the last four to five decades. It didn’t take me long to realize how difficult it could be to organize a loon watch in the month of May, and even June, and resigned myself to more traditional measures, like Audubon’s annual loon count expertly organized by Bonny Boatman for decades.

And yet, there were ongoing concerns: as many as six unhatched eggs one season; abandoned nests; nesting platforms unused; chick predation by Bald Eagles; few breeding pairs and fewer chicks. Taking these concerns together with the threat of climate change—earlier ice-out, warmer waters, fewer fish—I approached experts I met at local loon conferences and the beginnings of a grant submission developed.

Working with Don Griggs, chair of KLWA’s Climate Change Observatory, and Lee Attix, Loon Conservation Specialist with the Biodiversity Research Institute in Portland, a grant application named “Sustaining Loons in the Kezar Lake Watershed: A Community Response” was submitted to the Stephen and Tabitha King Foundation. To our excitement, confirmation of

funding was received this September. This grant will allow us to closely monitor loon behavior from early spring to late fall, identify nesting behavior, plus breeding and rearing activities, using both human and video enhanced observation methods. In order to keep costs reasonable, there will be a great need for volunteers to assist the work of the biologists from BRI and I have high hopes to not only find one or two observers on each lake basin, but would love to identify folks willing to work on four of our six ponds: Horseshoe Pond, Heald Pond, Trout Pond and Cushman Pond. All these ponds had successful breeding pairs in past years.

Why are we doing this and why aren’t we perfectly happy with rafts of up to 23 loons observed this year on our lake? Why aren’t we happy with one or two chicks per year in our watershed? The answer is simple. We are taking the long view. We believe the Common Loon is an indicator species subject to dislocation as temperatures rise both in the ocean and in inland lakes. We also worry about heavy metal contamination interfering with the reproductive success and health of our loons.

This is where capture and banding of loons, which is a small but important part of the program, comes into play. Healthy loons can only be captured safely when they have chicks. Capturing allows examination, blood drawing, feather sampling, gender determination, and color banding. Color banding provides information on migration between ponds and lakes, and seasonally to the ocean, tells us about mate switching, fidelity to a given territory, age and survival, and links local breeding populations to key winter habitat.

Wouldn’t it be cool to find one of “our” summer loons bobbing and diving in Biddeford Pool one winter? Or the proud father of this year’s Alaska Bay chick being displaced by an upstart Lower Bay teenager next season? We are far from such observations but we are about to lay the foundation of an ecologically valuable project that will have an impact on this region for years to come. The Stephen and Tabitha King grant allows us to study our loons for the next two seasons. Our lofty goal is to find funding to extend this effort for another three years for a five-year total, which would allow us a true picture of our loons’ demographic pattern, behavior and health.

Anyone interested in providing support—hands-on, check-book or otherwise, write, call or send us an email at whwurm@gmail.com. ♡

News From Greater Lovell Land Trust

by TOM HENDERSON, EXECUTIVE DIRECTOR

"My first bear," were words spoken by one of our three summer interns during their first days on the job. Hannah, Dakota, Kelley and I were building two benches at two view sites on our new property at Long Meadow Brook. As we started back to the vehicles for another load of materials, a medium-sized, healthy young black bear crossed into the clearing, stopped, and faced us before moving on. This "first" was just one of a summer filled with great experiences for these young people.

This summer we opened a new property for recreational use. It is an 88-acre gem of a property at Long Meadow Brook. The brook flows into the Lower Bay and this property advances further protections to water quality previously initiated with the donation of the Long Meadow Brook conservation easement by Linda and Heinrich Wurm. In July, we acquired a 145-acre parcel off the Hartman Road to advance water quality and wildlife habitat protection of the Lower Bay ecosystems. Our goal is to have a trailhead and hiking trail installed and open to the public during the summer of 2018, with the help of summer interns.

Education Director, Leigh Macmillen Hayes, and her volunteer docents have done it again. Among their many accomplishments, they offered "nature days" weekly to the 40-plus campers in the Lovell Recreation summer program. Currently, they are leading an environmental education program entitled Trailblazers one day a week in the after-school program at the New Suncook Elementary School. Guided experiences in nature for the public are scheduled monthly September-June and we hope you can attend these exciting and interesting events.

Thanks to volunteer board member, Jill Rundle, we have a new state-of-the-art website with lots of functional bells and whistles:



www.gllt.org. There you will find the full BuildOut Analysis document, the results of which were presented at our Annual Education Meeting and other interesting and useful items, including our calendar of walks and talks.

As always, contact me if I can be of any assistance. Happy Holidays! 🍂

LIPPC Update

by DIANE CARACCILO

Another summer has come to an end; our CBI program officially closed as of mid-October. Inspectors logged 2,831 inspections; an increase of 6% over last year, and the most in our history. This increase is a reflection of our expanded hours and our new coverage at the town beach.

Inspectors found 27 non-invasive plant samples on boats. Stewards brought in six additional samples and as a result of their thorough work we learned of two new plants in our watershed. *Metaphylon*, a green, cloudy-looking mass, was spotted in many shallow locations. Experts confirmed that this is not an invasive but is a normal occurrence in warmer, still waters. Another steward found Bryozoan colonies in Heald Pond, which was confirmed to be non-invasive, a sign of healthy water and should not be disturbed.

Our board would like to thank the 62 stewards that patrol our shorelines at every pond. We would also like to thank the KLWA, GLLT, and all the people who donate their time or dollars to inspections.

In addition, we would like to thank Logix Applications for developing and donating a plant ID App that contains pictures of all the plants in our watershed and all the invasives to watch for. This is a great tool for anyone who uses the lake. To download the free App, go to the Apple App Store and search for LIPPC.

As a result of this community effort, our program was voted Best in Maine 2017 by the Maine Volunteer Lake Monitoring



HEINRICH WURM

Program, VLMP, the same organization responsible for our annual watershed survey.

This year Farrington Pond, Heald Pond, Trout Pond, and the public ramps on Kezar were surveyed. We also added a few private ramps to the survey as a precaution given the milfoil finding on Long Lake. As of this fall, no invasives have been found, with the exception of the known infestation on Cushman Pond. Divers found a small amount of milfoil on Cushman late in the season.

Over the winter, our board will continue to look for ways to improve our program. We must continue our diligence and spread awareness in order to educate as many people as possible. Early detection is the best defense against invasive plants. 🍂

Corporate Sponsors

The KLWA has enjoyed a long tradition of partnership with local business. Each of these Corporate Sponsors has made a much-valued contribution to the financial stability of our organization and to the programs that we support. We are most grateful for their continued commitment and for their recognition of the many benefits that a vibrant and sustainable watershed brings to our community.

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