

# LOON PRESERVATION COMMITTEE NEW SLETTER

SUMMER 2024





# The Loon Preservation Committee 183 Lee's Mill Road, PO Box 604 Moultonborough, NH 03254 603-476-LOON (5666); www.loon.org

The Loon Preservation Committee (LPC) is a non-profit, self-directed and self-funded organization affiliated with New Hampshire Audubon. Autonomous in membership and fundraising, LPC works to preserve loons and their habitats in New Hampshire through monitoring, research, management, and education.

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# DIRECTOR'S MESSAGE

# Loons in a Changing World

Twrite often about the growing challenges facing loons. It is ▲a common theme in Loon Preservation Committee reports, public communications, grant proposals, and, yes, fundraising letters – and with good reason. Two examples of those many and growing challenges stand out since my Director's Message last November. Since that message, LPC analyzed data from 144 inviable loon eggs collected from failed nests throughout the state to test for PFAS, a class of chemicals found in stain repellants, food packaging, and firefighting foam among myriad other uses, and commonly known as "forever chemicals" because of their persistence in our environment. We still know very little about these chemicals, including their levels in wildlife and humans, how they move and magnify through food webs, and their toxicity. But the more we learn the worse it seems the news gets. We were surprised and concerned at the levels of PFAS found in loon eggs, particularly eggs collected from New Hampshire's largest lake, Winnipesaukee (please see pages 16-17 of this newsletter), and what that might mean for loons and other wildlife. LPC submitted a comprehensive report on these findings to the New Hampshire Department of Environmental Services in December to convey these results and suggest further research on this emerging issue.

A short couple of months after that found Senior Biologist John Cooley reprising his role as iced-in loon rescuer on the Broads of that same Lake Winnipesaukee. This rescue of loons from certain death on the ice has become something of a winter tradition at LPC, which is not to say that it is routine: it involves a very substantial amount of effort and skill to do this work safely and effectively. The difference this record-warm past winter was that the Broads, the last expanse of Winnipesaukee to freeze and the first to reopen, froze in for only five days. We had barely launched our rescue of an estimated 28 or more loons crowded into the last tiny pool of open water on the Broads when a warm south wind opened up the lake again. The 23 or so loons we hadn't yet rescued dispersed throughout the lake as it reopened; and, to our knowledge, that marked the first time that a substantial number of loons overwintered on Winnipesaukee, and perhaps a few other freshwater lakes in the state, without migrating to the ocean.

How and if loons can cope with the chemical and physical changes afflicting our landscape are open questions, and important ones, because these changes are significant and will be long lasting. LPC's ability to help loons overcome their various and growing challenges has been tested repeatedly over the past 49 years, and we have been up to every challenge – but those tests are getting harder all the time. With your help, we will continue our proven work of researching and addressing the challenges facing loons to help them continue their recovery in New Hampshire.

# Loons Overwinter on Some New Hampshire Inland Lakes

# Winter Rescues

The winter of 2023-2024 was NH. A late ice-in and patchy ice throughout the season allowed dozens of loons to linger in New Hampshire's Lakes Region. LPC staff and volunteers rescued 12 loons on six different lakes as they were iced-in, although at least as many loons remained present on other lakes, or in areas that did not fully freeze. At one point in mid-February on Winnipesaukee, a group of at least 28 loons were forced into a small patch of open water as the Broads skimmed over, one of a couple of brief ice-ins on the lake. To the best of our knowledge, this was the first winter that a substantial number of loons overwintered successfully on inland New Hampshire lakes, including Winnipesaukee, Newfound Lake, and Opechee Bay. Where rescues were warranted, LPC staff were grateful for prompt and efficient help from the Moultonborough Fire Department cold water rescue team and hovercraft, Rick Vollmer of HoveRecovery in Campton, NH, the NH Fish and Game Department, and the City of Laconia Parks Department for access to Opechee Bay. While one loon rescued in mid-February on Winnipesaukee had lead poisoning, and one had an untreatable respiratory infection, the other ten ice rescue cases this winter were all released on the coast. All released loons were banded to allow identification of individuals and track future sightings, and there was good news in May when volunteer Scott Powell photographed one of the rescued loons on Wicwas Lake in Meredith, having survived the winter and migration back to the breeding lakes.

# Keeping it Safe: A Mix of New and Old Precautions in 2024

LPC's field protocols for staff and volunteers continue to include nowfamiliar precautions to avoid the spread of aquatic invasive species, in compliance with New Hampshire's Clean, Drain, and Dry laws. Also in 2024, in response to the concerning uptick in reports of Common Loons and other waterbird species

infected with highly pathogenic avian influenza (HPAI) in northeastern states, we are reviving best practices and guidelines first implemented in 2022, when the current outbreak of the global HPAI pandemic began to affect North American birds. Although HPAI screening of loons then showed almost no positive cases, this year there is evidence that the virus may be spreading in loons. Following US Department of Agriculture guidance, LPC staff are using appropriate personal protective equipment (eyewear,



LPC Outreach Biologist Caroline Hughes holds a loon rescued from the ice in January on Paugus Bay, Lake Winnipesaukee. The loon was banded and released on the ocean. A recent band sighting on Lake Wicwas, by photographer Scott Powell, confirmed that the loon survived the winter and its migration back to the breeding lakes.

an N95 mask, and gloves) to handle loons, and disinfecting clothing and equipment after each rescue. LPC is also working closely with collaborating researchers at Tufts University, Dr. Wendy Puryear, a virologist, and Dr. Mark Pokras, to screen rescued or apparently healthy breeding loons for the presence of HPAI in the loon population.

# NELSWG 2024

The Northeast Loon Study Working Group (NELSWG) meetings at The Loon Center in March continued on page 4

To the best of our knowledge, this was the first winter that a substantial number of loons overwintered successfully on inland New Hampshire lakes, including Winnipesaukee, Newfound Lake, and Opechee Bay.

-John H. Cooley

# What do we notice?



Difference in bill depth?

Bill length/bill depth ratio

Angle of upper bill (around culmen)

Try this on a lake near you – female loons tend to have a smaller bill depth and flatter upper bill angle than males. The difference is subtle! The loon on the left in this photo is female, male on the right. Photo courtesy of Jim Paruk and Thomas Matthews.

included more than a dozen talks over two informative days, for a live and virtual audience. If you are on a lake with loons this summer, you'll want to try applying Jim Paruk and Thomas Matthews' new tool for distinguishing male and female loons, one of the NELSWG presentations. Jim's careful analysis of dozens of museum specimens and Thomas' modeling of hundreds of bill measurements from banded loons revealed that bill shape can be used to differentiate the two

sexes. Female loons tend to have a shallower angle on the upper edge of their bills. Conversely, male loon bills are angled more steeply near the base, and are deeper, viewed from the side. If you've had a hunch in the past about the identity of the pair members on your lake, this slight difference in bill shape between the sexes may be one of the features you've unconsciously relied on. Jim and colleagues are already hard at work perfecting an Artificial Intelligence image recognition



The 34th meeting of the Northeast Loon Study Working Group (NELSWG) included more than a dozen presentations on loons over two informative days, to a live and virtual audience.



Congratulations to Drew Major, a founding member of the Northeast Loon Study Working Group, on his recent retirement from the USFWS.

algorithm to take away some of the guesswork that's still required when the difference is too subtle to see.

We want to recognize and celebrate the work of one of the founding members of NELSWG, Drew Major, who retired at the end of last year from a career as an ecotoxicologist and wildlife biologist with the US Fish and Wildlife Service. Drew helped shape the study of loons as an indicator species for environmental mercury since the 1990s, and is a long-time adviser to loon researchers and conservation projects throughout the Northeast. We expect and hope that 'retirement' will let Drew carve out even more time for loons and LPC's work to help them.

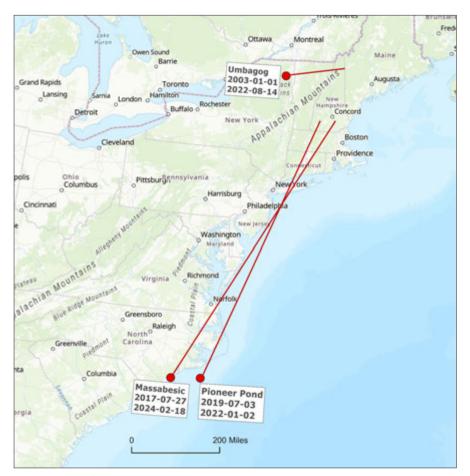
# Acknowledgements

As the field season gets underway, particular thanks are due to Malone Auto Racks of Maine and Zeiss and Vortex Optics for their support of our field crew equipment needs. We are also grateful for housing arrangements pos-

# **News from Afar:**

PC bands loons with unique combinations of colored leg bands to allow for identification of individuals. Banding allows us to track longevity, movements, and lifetime reproductive success of individual loons to learn about their life history and factors affecting loon survival and breeding success – a first step to mitigating those factors to help loons in New Hampshire. In the last few winters we've been sad to hear of the recovery of a couple banded male loons from New Hampshire, as mortalities discovered on coastal beaches. But we've been fascinated by where they were found: far to the south of the usual wintering range for our loons, especially males, who might normally be expected to winter anywhere from Bar Harbor, ME to Long Island, NY.

Another far-flung male dispersal, and a brighter note, was the re-capture in 2022 of a healthy breeding male on Fern Lake in the Adirondacks, 19 years after he was originally banded as a juvenile on Lake Umbagog. Like another old-timer, the Sweat's Meadow (Lake Umbagog) female banded in 1993, who has been re-sighted already this spring, the Fern Lake male will be back in 2024, we hope!



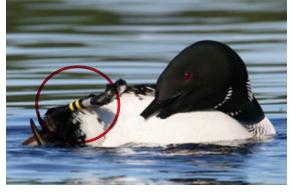




The carcass of a male loon originally banded on Massabesic Lake, NH in 2017 was discovered in February on a beach south of Wilmington, NC by Audubon staff. This is the southernmost report of a banded New Hampshire loon in winter. Photos courtesy of L. Addison.

continued from page 4 sible through volunteers in the Monadnock and Sunapee regions, and through the Graylag Nature Preserve in Pittsfield, and NH Fish and Game and UNH in the North Country.

~John H. Cooley



The male loon discovered in North Carolina in February of this year is pictured preening its feathers on Massabesic Lake. The leg bands made it possible for Audubon staff to identify the carcass and report the mortality to LPC staff.

Photo by John Rockwood.

# Lead Detecting for Loons: Turning a Hobby into a Force for Wildlife Conservation

For the past 22 years, Blaine Nelson has combed the land-scapes and lake bottoms of New Hampshire with her metal detector, unearthing hidden treasures. An avid detectorist, Blaine is a long-time member of the Granite State Treasure Hunters, New Hampshire's only organized metal detecting club, as well as a much-loved LPC member and volunteer.

Ten years ago, Blaine learned that ingested lead fishing tackle was (and still is) the number one cause of adult loon mortality in New Hampshire. This knowledge spurred her to put her hobby to use to help protect loons and other lake-dwelling species. Blaine began targeting popular fishing spots in the Lakes Region and northern New Hampshire, including Chocorua Lake, Lake Winnipesaukee, Silver Lake, Crystal Lake, and Conway Lake. Her goal was simple but impactful: to find and remove as much lead tackle as possible from the lake bottoms in order to make sure that loons would not accidentally ingest it. While the majority of lead tackle that kills loons in NH is consumed directly from an angler's line, or by consuming a fish that has broken an angler's line, some percentage of loon mortalities from lead poisoning likely occur due to loons ingesting lead off of lake bottoms. Loons can mistake pieces of tackle for small pebbles, which are commonly consumed by loons and used as grit to aid in digestion. In getting lead off of lake bottoms, Blaine helped to reduce the chance of this occurring.

On a "Lead Day", Blaine may spend anywhere from half an hour to several hours wading through the shallows with her

metal detector. The device is able to detect objects buried up to a few inches below the lake bottom. Different materials give off different audio tones a discarded nail, for example, causes the detector to sound a deep, dull tone. Lead, Blaine says, gives off a high tone, similar to coins or sterling silver. After identifying a spot where lead is present, Blaine uses additional specialized tools to pinpoint the exact location of the tackle and scoop it up. Over the years, Blaine has removed well over 1,000 pieces of lead tackle from lake bottoms across New

Hampshire. Since 2019, she has brought the tackle that she finds to The Loon Center for safe disposal, and in so doing has become one of the most stalwart participants in LPC's Lead Tackle Buyback Program.

Established in 2018, the primary objectives of the Lead Tackle Buyback Program are to educate the public about the danger that ingested lead tackle poses to loons and other wildlife and to incentivize anglers to switch to non-lead alternatives. LPC partners with tackle shops across the state to facilitate this program. At participating shops, anglers (or anyone else who has lead tackle in their possession, including metal detectorists like Blaine!) can trade in one ounce or more of now-illegal lead tackle (lead sinkers and leadheaded jigs individually weighing one ounce or less, the size most



Avid detectorist, and LPC member and volunteer, Blaine Nelson scans a lake bottom for lead tackle.

often ingested by loons) for a \$10 voucher redeemable for loon-safe, non-lead tackle or other merchandise. At the end of each calendar year, the participants who turn in the largest and second-largest amounts of lead tackle at each participating shop are awarded \$100 and \$50, respectively, as part of the "Collect to Protect" contest. In 2021, Blaine was one of the winners of this contest for turning in the second largest amount of lead tackle at The Loon Center.

As part of our Lead Tackle Buyback initiative, LPC is also working to increase the number of locations where lead tackle can be safely disposed of throughout New Hampshire. We have partnered with lake associations to install lead tackle collection receptacles at boat launches and other association-operated properties. We have also collaborated with Household Hazardous Waste (HHW) Planning Commissions to promote the responsible disposal of lead tackle at HHW events for more than 30 New Hampshire towns and have compiled a comprehensive list of all transfer stations across the state that accept lead tackle (see that list at LoonSafe.org).

# A Call to Action

LPC is doing everything we can to educate anglers and members of the public about the impacts of lead tackle ingestion on loons. We run educational advertisements in newspapers, on social media, and on the radio, distribute informational rack cards at key locations statewide, and discuss this topic in every presentation that we give throughout the state. But we can't end lead tackle ingestion as a significant cause of loon mortality in New Hampshire alone. The efforts of individuals and organizations can make a crucial difference for loons and other wildlife. We hope that Blaine's story inspires others to use their abilities to help protect loons. Do you metal detect as a hobby? Please consider looking for lead when you're detecting at lakes and ponds! Are you a member or officer of a lake association or conservation organization? Please consider becoming a location for members of the



After identifying a spot where lead is present with a metal detector, Blaine Nelson uses additional specialized tools to pinpoint the exact location of the tackle and scoop it up. Over the years, she has removed well over 1,000 pieces of lead tackle from lake bottoms across New Hampshire!

public to drop off their lead tackle. Are you a member of the angling community? Please take a moment to look through your tackle box for lead, and participate in our Lead Tackle Buyback! Do you know people who fish? Please encourage them to check their tackleboxes for lead and ask them to participate in our Lead Tackle Buyback program. To-

gether, we can end lead tackle ingestion as a significant cause of loon mortality in New Hampshire.

For more information about the Lead Tackle Buyback Program, including a list of participating shops and a list of other safe disposal locations, please visit <a href="https://www.loonsafe.org">www.loonsafe.org</a>.

~Caroline Hughes

# LPC Broadcasts Two Live Loon Cams in 2024

PC will be broadcasting live from several loon nests in the Lakes Region again this year, from early May through mid-July. There is no way of knowing what the outcomes will be by the time you receive this newsletter. But you can visit <a href="www.loon.org/looncam">www.loon.org/looncam</a> to see if a livestream is still active, as well as read the LoonCam 1 and 2 Event Logs.

Many thanks to Bill Gassman, our volunteer webcam guru, and to everyone who makes these livestreams possible!

# 2024 FIELD STAFF SELFIES!

# **LAKES REGION WEST**



**OLLIE KYLLONEN** 

Ollie is a rising senior at the University of Maine Machias where he is pursuing a BS in Marine Biology. He worked as a Duck Banding Technician where he gained valuable experience capturing, handling, and banding trapped ducks, as well as learning safe trap maintenance.

Cassie is a graduate of

Temple University with a BS in Environmental Science. She

gained valuable field experi-

Mass Audubon, monitoring nesting activity, interpreting

bird behaviors, and conduct-

shorebirds.

ing band re-sights of protected

Mike is a graduate of Central Connecticut State University

with a BS in Biology. He comes

experience having conducted

bird surveys for New Jersey

for the Salt Marsh Steward

program for Audubon CT.

grassland and secretive marsh

Audubon, and as Crew Leader

to LPC with extensive field

ence as a Field Technician for

# **PEMIGEWASSET**



JAYDEN MOWERY

Jayden is a recent graduate of the University of New Hampshire with a BS in Wildlife and Conservation Biology. He gained valuable field experience as a Saltmarsh Sparrow Volunteer Technician, performing nest surveys, setting up mist nets, and observing banding techniques.

# LAKES REGION EAST



**CASSIE WOLFE** 

# **SEACOAST**



MICHAEL CLASBY

Mike is a graduate of the University of Maine with a BS in Wildlife Ecology and a concentration in Conservation Biology. As part of his degree coursework, he gained valuable experience setting up mist nets for song and game birds, as well as handling and banding captured birds.

# MONADNOCK



MIKE DIGIOIA

# **SUNAPEE**



LEO DUTKEWYCH

Leo is pursuing a BA in Environmental Studies and Visual Arts at Eckerd College. Combining degrees, his illustrations of fish and invertebrate species colonizing artificial mini-reefs placed on Anna Maria Island were used in the Marine Species of Anna Maria Island Illustration Series.

# **NORTH COUNTRY**



LAUREN O'MALLEY

Lauren is pursuing a degree in Wildlife and Fisheries Biology at the University of Vermont. She recently worked as a Wildlife Conservation Intern for the US Forest Service, surveying northern spotted owls and assisting in raptor banding and data collection in Klamath National Forest.

# **WINNIPESAUKEE**



**JOCELYN BRIERLEY** 

Jocelyn is a third year Zoology major at the University of New Hampshire. She has participated in research at the Ecological Acoustics and Behavior Lab, on both giraffe and moose vocalizations, as well as at the Quantitative Marine Ecology Lab, on trophic levels and the diets of fish.

LPC's SQUAM LAKES region is monitored by Tiffany Grade, LPC's full-time Squam Lakes Project Biologist.

# **WINNIPESAUKEE - B120**



**CHRISTINE SANTOS** 

Christine will be monitoring loons on Winnipesaukee specific to the terms of the Bouchard Barge B120 grant award – to restore common loons affected by the oil spill in Buzzards Bay in April of 2003. She is a graduate of Bridgewater State University with a BS in Biological Sciences.

# **OUTREACH INTERN**



LYNDA MOORE

We are delighted to welcome back Lynda as LPC's Outreach Intern, having spent the summer of 2019 as a summer intern. She is a graduate of the University of New Hampshire with a BS in Wildlife Conservation Biology, and will put her knowledge of loons to good use educating the public!

# **TUFTS INTERN**



KATIE BAXTER

Katie is a DVM candidate at the Tufts Cummings School for Veterinary Medicine. Originally from Michigan, she worked as an assistant manager of a wild songbird rehab clinic. She is excited to tie her love of conservation and birds with her veterinary medicine aspirations!

# **TUFTS INTERN**



IZZY EISENDRATH

After graduating with a degree in Biology and Environmental Studies, Izzy is currently pursuing a DVM at Tufts Cummings School for Veterinary Medicine. She has some background in wildlife rehab and hopes to be able to use some of her vet skills in the future to help with wildlife medicine.

# How strange that Nature does not knock, and yet does not intrude! -Emily Dickinson





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The Board of Trustees and staff of the Loon Preservation Committee thank all our supporters for their passion and commitment to our mission. Every dollar and donation of goods and/or services makes a difference in our work to preserve loons and their habitats in New Hampshire. We regret that space limits this listing to monetary donations of \$100 or more, as every gift matters. Although we make every effort to be accurate, we would appreciate any notice of errors or oversights.

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Our deepest thank you to our Loon Leadership Circle members, and to all of our donors, for your generous support!



# 2024 LPC Benefit Raffle!

Tickets \$5.00 each or 3/\$10.00

# **Rustic Wall Art**

This colorfully handpainted vintage saw will complement most any decor. 27" long and 7" high. Donated by Montie Fiske.

# Vapor 10XT Kayak (paddle and life vest included)

A compact kayak with a lot of volume! The large cockpit opening, Comfort Flex Seat and stern Quick Seal Hatch, make the Vapor 10XT perfect for anglers, sportsmen and recreational paddlers alike. Donated by Irwin Marine.





# A Day at the Lake

This large LL Bean "Boat and Tote" comes with the essentials for a day at the lake—ultra-absorbant Sand Cloud beach towel; 25 oz. Camelback Eddy water bottle; and the newly released Loons of New Hampshire: Preserving a Natural Treasure by local author and historian Glenn Knoblock.

Drawing November 30, 2pm at The Loon Center

# The results are in! LPC's PFAS Testing of Loon Eggs Raises Concerns

The results are in for LPC's testing of PFAS in inviable loon eggs from failed nests in partnership with New Hampshire Department of Environmental Services (NHDES). Per- and polyfluoroalkyl substances (PFAS) are a group of nearly 15,000 closely-related chemicals that have been used since the 1950s as stain repellants and surfactants. They are found in products such as Teflon<sup>TM</sup>, Gore-Tex<sup>TM</sup>, other stain- and water-repellant products, food wrappers and packaging, firefighting foam, and other consumer goods. PFAS chemicals have been found to persist in the environment (hence the popular name for them of "forever chemicals") and in wildlife and have been linked to a range of health problems in humans. PFAS chemicals have also been linked to reduced hatching success in birds, possible disruption to hormones and enzymes, oxidative stress, and other health effects.

LPC and NHDES teamed up to test 144 loon eggs from across the state to study PFAS levels in loon eggs and identify areas of potential concern due to elevated PFAS levels. As a long-lived, fish-eating bird that is high on the aquatic food web, loons serve as important indicators of environmental contaminants that can increase through the food web (biomagnify) and increase over time in longlived animals (bioaccumulate). LPC had previously found particularly elevated levels of PFAS in loon eggs from Canobie Lake and Arlington Mill Reservoir, as well as from a handful of eggs from Lake Winnipesaukee (see LPC's Summer 2022 newsletter, pgs. 15-16). Follow-up fish testing by NHDES at Canobie Lake and Arlington Mill Reservoir subsequently resulted in a PFAS fish consumption advisory for Canobie—although, strangely, not Arlington Mill. The situation at Arlington Mill remains puzzling but is likely linked to the lack of information on how PFAS moves through the aquatic food web.

The inviable loon eggs from failed nests we tested were collected between 2017 and 2022 and represented 77 lakes and 94 loon territories. The mean of total PFAS was 306 parts per billion wet weight (ppb ww) with a range of 86-1,938 ppb ww. Researchers quantify the danger of a chemical to animals by recording levels at which they adversely affect animals, called the lowest observed effects level (LOEL). There is uncertainty regarding LOELs because different species may have different sensitivities to contaminants. The effects of PFAS chemicals on loons is unknown, so the best we can do is compare levels in loons with levels found to harm other bird species. For PFOS, the best-studied type of PFAS in wildlife research, 22% of the lakes tested (and 32% of the loon territories tested) had at least one loon egg exceed lowest observed effects levels in other bird species. Not surprisingly given the distribution of the human population and industrial activity in the state, higher levels of PFAS contamination were found in eggs in the southern (and especially southeastern) parts of the state

Levels of PFAS on Lake Winnipesaukee were particularly notable. In comparison with the statewide mean of total PFAS of 306 ppb ww, the geometric mean of the 16 eggs tested from Lake Winnipesaukee (representing nine loon territories) was 1,033 ppb

ww (range: 325-1,938 ppb ww). Only one egg on Winnipesaukee was below the lowest observed effects level for PFOS (again, the best-studied type of PFAS) at 92% of the LOEL, while the highest egg was 678% of the LOEL. We had seen elevated levels of PFAS in the four eggs LPC had previously tested from Winnipesaukee outside of this study, but the levels seen in this study and that the elevated levels were consistent for virtually all the eggs tested were unexpected and concerning.

A surprising finding was elevated levels of a type of PFAS known as 7:3 FTCA in loon eggs. There is little information on 7:3 FTCA in bird eggs in the scientific literature and little is known about its toxicity, although there are indications it may be more toxic in some biota than other common types of PFAS. We found 7:3 FTCA in all but two eggs tested. Mean levels of 7:3 FTCA in eggs were 32.6 ppb ww and levels exceeded 100 ppb ww on 4 lakes, including a maximum level of 174.0 ppb ww in an egg from Lake Winnipesaukee. Mean levels in our study were 12 times the previous highest level from a bird egg reported in the scientific literature of 2.7 ppb ww (Eriksson et al. 2016).

The results from our testing were concerning, especially for the southern part of New Hampshire and Lake Winnipesaukee in particular. Our report for this study recommends testing of fish on Lake Winnipesaukee, as well as other lakes with elevated PFOS levels, to investigate any potential risks to human health from consumption of fish from these lakes. Our results suggest that investigation of potential source(s) of PFAS on Lake Winnipesaukee is necessary. We also recommend con-

tinued testing and monitoring of PFAS levels in loon eggs or other species occupying a high position on aquatic food webs to identify additional lakes of concern and to monitor trends over time. Finally, we recommend research on how PFAS moves through aquatic food webs to increase our understanding of how PFAS accumulates to concerning levels.

Looking at the southern (and especially southeastern) part of New Hampshire in Figure 1 shows us just how many lakes there are where PFOS levels are at or above levels which may impact loons. As much information as this study and LPC's previous testing have given us, it raises so many more questions: how many other lakes are out there with elevated levels of PFAS in loons? What about those areas of Winnipesaukee we haven't tested yet? What do these levels really mean for the loons? Loons are important indicators of ecosystem health, but how does PFAS move through lake ecosystems? What do levels in loons tell us about the broader ecosystem and possible impacts on other species? Is there a risk to human health from consuming fish from lakes where PFAS is elevated in loons? We will work to continue testing inviable loon eggs as funding allows, highlighting lakes where levels in loon eggs suggest follow-up fish testing could be important, and investigating the impact of PFAS and other contaminants on loon breeding success.

We thank NHDES for partnering with us and funding this study. You can read our report to NHDES at <a href="www.loon.org/PFAS-report">www.loon.org/PFAS-report</a>.

~Tiffany Grade

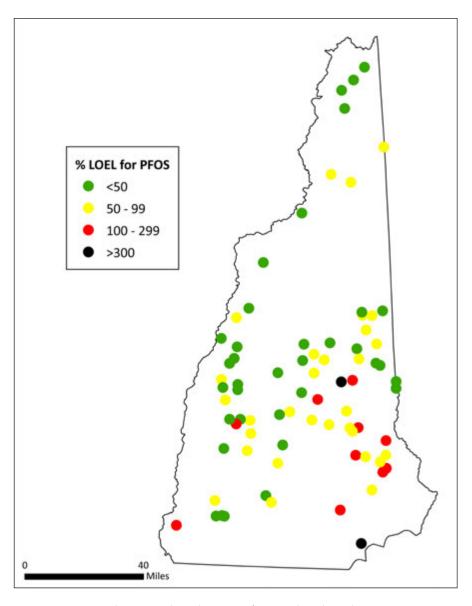


Figure 1: Map showing distribution of PFOS levels in loon eggs in New Hampshire as percentage of lowest observed effects levels (i.e., levels shown to affect the health or reproductive success in other bird species).

# Literature cited:

Eriksson, U., A. Roos, Y. Lind, K. Hope, A. Ekblad, and A. Kärrman. 2016. Comparison of PFASs contamination in the freshwater and terrestrial environments by analysis of eggs from osprey (Pandion haliaetus), tawny owl (Strix aluco), and common kestrel (Falco tinnunculus). *Environmental Research* 149:40-47.

Can anyone believe it is possible to lay down such a barrage of poisons on the surface of the Earth without making it unfit for all life? -Rachel Carson, <u>Silent Spring</u>, 1962

# LOON PRESERVATION COMMITTEE ACTIVITIES

# Len Burrell shares his handyman skills to benefit LPC!

It was LPC shop volunteer, Lois Kessin, who first introduced her friend Len Burrell, handyman extraordinaire, to the Loon Preservation Committee. Len attended a loon raft building workshop where he put his woodworking skills to good use, helping to ensure a full fleet of rafts for the upcoming field season. That was back in April of 2023 and Len has been helping out at The Loon Center ever since!

Once a week we have the pleasure of Len's company as he attends to myriad projects — from installing ceiling fans, to staining porches, to helping repair the bridge that crosses Halfway Brook to the Markus Wildlife Sanctuary hiking trails. And that's the short list! To say he is a jack-of-all-trades would be an understatement. We have benefitted greatly from his skilled carpentry and good will!

After globe trotting for many years, including 18 in Nebraska, Len and his wife, Wendy Shermet (an ordained cantor), settled in the Lakes Region, where they enjoy the tranquility of the lakes and mountains. Their son Sam also works in the field of environmental

conservation as a Marine/Coral Biologist, researching and restoring Florida's delicate coral reefs—another casualty of a warming climate. Making the world a better place is clearly a trait shared by the whole family!



Thank you Len for your wonderful spirit and generosity of time and talent. The Loon Center campus has benefitted greatly from your volunteerism, and the LPC staff is most appreciative!

-Linda Egli Johnson

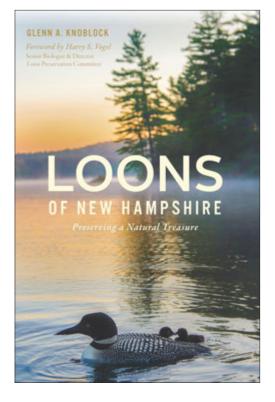
# Loons of New Hampshire:

Preserving a Natural Treasure

By Glenn A. Knoblock Foreword by Harry Vogel, LPC Senior Biologist/Executive Director

ocal author and historian, Glenn Knoblock, captures the story of New Hampshire's loons and the Loon Preservation Committee's work to help them. Glenn spent countless hours combing through LPC's archives, interviewing LPC staff—past and present—as well as other key players in the loon recovery effort in the state. The book is an intimate portrait of that journey and the work started by LPC's founder, Rawson Wood, to preserve this iconic bird.

Loons of New Hampshire is available at The Loon's Feather Gift Shop, as well as LPC's on-line store at <a href="www.loon.org">www.loon.org</a>.



A portion of the proceeds of the sales of this book go directly to the Loon Preservation Committee's work to preserve loons and their habitats in New Hampshire!

# Tamworth area Birdathon/Bloomathon results are in!

The Tamworth area Birdathon/Bloomathon is a time-honored tradition, with the distinction of being the longest-continuously-running "Birdathon" in New Hampshire!

The event was held on the 20th of May and dawned overcast and warm, bringing out the black flies and mosquitoes—a banquet for birds! Birders were out as early as 3:30 a.m., while "Bloomers" began by 7:00 a.m.

This year's "Bird" team included: Ned Beecher, Mary Cronin, Dana Duxbury-Fox and Bob Fox, Barbara Drake and John Gotjen, Tiffany Grade, Lynne Hart, Ken Klapper, Jane Rice, Tony Vazzano, and Bob Ridgely, ex officio; and the "Bloom" team: Chris Clyne, John Cooley, Mary Cronin, Juno

Lamb, Lynne Hart, Jane Rice, Ned Beecher, and Amy Carter.

The final tally for 2024 was 124 Birds and 79 blooms—four species shy of last year's B/B record of 207 species. Still a very impressive tally for the amazing "Bird" and "Bloom" teams!

To receive a detailed listing of the birds and blooms counted this year, please call or email Holly Heath at 603-476-5666/hheath@loon.org. You can support the event by sending a check to LPC or by visiting <a href="www.loon.org/birdbloom">www.loon.org/birdbloom</a>. Your gift will help loons as well as provide funding for the Lakes Region Chapter of NH Audubon's free nature talks held at The Loon Center.

~Lakes Region Chapter, NH Audubon



"Birder" and "Bloomer" Lynne Hart had the pleasure of hearing a Cape May Warbler at Hemenway State Park in Tamworth.



"Bloomer" Juno Lamb identified Velvet-leaved Blueberry by the Chocorua River.

# Annual Meeting August 22, 2024

# The Loon Center

5:00 pm Gather & Potluck Dinner

6:30 pm Annual Meeting

7:00 pm End of Season Loon Report

The Annual Meeting will be held both in-person and virtually. If you would like to join us virtually, please visit <a href="https://loon.org/annual-meeting">https://loon.org/annual-meeting</a> for information. If you plan to attend in-person and would like to participate in the potluck dinner, please email <a href="yolunteers@loon.org">yolunteers@loon.org</a> to let us know what you'd like to bring. We hope to see you there!



Ray Hennessy Photo

# The Great American Eclipse - April 8, 2024

Ty husband and I trav-Leled from Meredith (NH) to Newport (VT) to experience eclipse totality. The day dawned bright and clear and remained that way, which made for spectacular viewing. As we staked out our spot on a baseball field, a nearby spectator (with an impressive array of optical gear) excitedly announced "first contact." That brought us to attention as we watched the slow crossing of the moon between the Earth and sun. As humans we anticipate the landscape gradually growing darker and colder, giddy for totality when we can view the eclipse with the naked eye. And it was truly a moment of awe! But birds and animals have no idea what's coming.

In my search for wildlife observations during the eclipse, backyard birds were among the most common subjects. Active feeders grew quiet and birds stopped singing. Certain species began to roost, as if nightfall was approaching. Nighthawks took

flight in the afternoon and wood-cocks engaged in courtship rituals. Several bloggers noted that loons began to wail for their mates, also more common at night. There is likely wide variation in how animals respond to an eclipse – from unbothered to anxious – even among members of the same species. Given the rarity of a total solar eclipse it is difficult for scientists to document broad observations.

As quickly as the world fell silent, dawn broke for a second time on April 8 and the spring chorus of backyard birds resumed! The next total solar eclipse that can be seen from the contiguous United States will occur on August 23, 2044 – 20 years out. We plan to be around (God willing!) and look forward to staking out our spot again in the path of totality. Perhaps this time we will paddle out on a lake and experience that moment of awe with the loons!

~Linda Egli Johnson

# Paradox of Motion

Loons Float wave or breeze Till nature briefly cruel Water birds to ground *Nest and progeny procure* Duties shared with mates Shoreline flopping gaits Four weeks incubation Hatched loonlets hasten But one day nesting! Seek adventurous recreation All summer schooled Autumn chills harbinger Shivering calls adieu Flag-waving wings Arise northern lakes Aloft lucent beams Asylum southward Coasts and lakes alight Quiet sanctuary Winter rest

by Mike Mignano

# Loon Legacy Society Remembering Loons Now – Protecting Loons Forever Did You Know That You Can Name LPC as a Beneficiary of: IRAs or Other Retirement Funds Life Insurance Policies Donor Advised Funds (end beneficiary) For information on planned giving, contact your financial advisor, or reach out to LPC <a href="https://loon.org/bequests/">https://loon.org/bequests/</a> Betsy McCoy bmccoy@loon.org

# SUMMER BULLETIN BOARD

SUMMER NATURE TALKS: Thursdays at 7pm, July 11 - August 22

LOON CENSUS: Saturday, July 20; 8am - 9am (see census form, page 23)

LOON FESTIVAL: Saturday, July 20; 10am - 2pm; FREE

Come by and celebrate loons with arts & crafts, face painting, educational loon slide shows, live animals and exhibits, music, refreshments & more!

# LPC ANNUAL MEETING: Thursday, August 22; 6:30pm

You are also welcome to attend the volunteer gathering and potluck dinner beginning at 5pm (contact <u>volunteers@loon.org</u> to reserve your space) and/or the End of Season Loon Report immediately following the Annual Meeting (see page 22 for description).

Earth laughs in flowers. -Ralph Waldo Emerson

# **Great Bay Pottery**



Both beautiful and practical!

Great Bay Pottery is rugged stoneware made from lead free clay and glazes and designed to handle daily use. The pottery is microwave, dishwasher, and oven safe.

These one-of-a-kind mugs are generously sized and a pleasure to hold. Proudly made in New Hampshire!

14 ounces; \$37.50 each

# STAYING CONNECTED

Follow LPC on social media!

FACEBOOK: @LoonPreservationCommittee

INSTAGRAM: @LoonPreservationCommittee

TWITTER: @LPC NH

YOUTUBE: @LoonOrgNH



# **Loon Center Summer Hours**

Daily July 1 through October 14 9:00 am - 5:00 pm

Open Labor Day and Indigenous Peoples' Day

Trails are open year-round, dawn to dusk.

(see <u>loon.org/loon-center</u> for year-round hours)

# 2024 Summer Nature Talk Schedule

# Thursdays, July 11 - August 22, 7pm + at The Loon Center

# July 11 - Wiggles & Waggles - Loon Families with John Rockwood

Follow these comical loon twins from the day they hatch until they migrate to the ocean. An in-depth peek into the common loon's fascinating and often mysterious behaviors. You will feel as though you are sitting alongside John in his kayak as he captures these incredible images!

# July 18 – New Hampshire Moose: Past and Present with Henry Jones, Moose Project Leader & Wildlife Biologist, NHF&G

Learn about moose and what caused the New Hampshire moose population to increase and decrease since 1900. Henry Jones will help us understand the current factors influencing moose and the future of moose in the state.

# July 25 – Otter Amazing: Dive into the fascinating world of otters with Susie Spikol, Director and Naturalist, Harris Center for Conservation

Join us for a family-friendly talk on the bounding, sliding, and swimming otter! We'll spend time getting to know this charismatic local mammal and learn how to recognize its tracks and signs. It's bound to be "otterly" amazing!

# August 1 - Loon Cam Recap with Bill Gassman

LPC Loon Cam operator, Bill Gassman, will give an overview of the 2024 Loon Cam season, including unique photos from 24/7 footage, and fascinating observations and anecdotes. Bill will also discuss how the Loon Cam works and the challenges of installation and operation.

# August 8 - "Loons of New Hampshire" by local author Glenn Knoblock

Author Glenn Knoblock joins us to discuss his new book, Loons of New Hampshire, written in collaboration with The Loon Preservation Committee (LPC). The book is a detailed historical narrative of loons in New Hampshire and LPC's work to help them. Copies of the book will be on hand for purchase and Glenn will be happy to sign them!

# August 15 - Squam Lakes Natural Science Center (SLNSC) and Owls

Join a Squam Lakes Natural Science Center naturalist and meet three live owls that you may encounter in our forests, fields, or wetlands. Learn about their place in our ecosystem and discover what makes these animals well suited for life in New Hampshire. It'll be a hoot!

# August 22 - End of Season Report with Harry Vogel

LPC Senior Biologist/Executive Director, Harry Vogel, will present preliminary numbers and trends on New Hampshire's 2024 loon breeding season, including photos of loons and LPC at work helping loons this summer. Harry and other LPC biologists will be on hand to answer questions about loons and LPC's work to help them.

Nature talks are FREE and open to the public! Come and enjoy informative programs by experts in their fields of wildlife conservation.

Save paper and send us your sightings on-line! You can submit this form at www.loon.org/census.php



# **New Hampshire Loon Census** Saturday, 20 July 2024 8:00 AM - 9:00 AM

Lake:				Town:	
Observer(s	s):				
Telephone:			E-mail:		
Address: _					
Total num	BER OF PE	OPLE IN PART	Υ;		
Observat	ions:				
	Тіме	# Adults	# Chicks	# Immatures	*Location/Direction
EXAMPLE	8:17	ı AD			FLEW IN FROM EAST
I.					
2.					
3.					
4.					
TOTALS					
Please note	ANY BALD E	AGLE SIGHTINGS	DURING THIS H	OUR & THE LOONS' I	RESPONSE (I.E. VOCALIZATIONS):
				OUP, THEN BE SURE TO	TOTAL THE NUMBER OF LOONS OB

- ΗE APPROPRIATE LINE. NOTE THE DIRECTION IN WHICH THE LOONS MOVE OR FLY.
- (2) IF POSSIBLE, PLEASE ATTACH A SKETCH/MAP OF CENSUS AREA AND THE LOCATION OF ANY LOONS YOU OBSERVE.
- (3) It is CRITICAL that observations continue for the ENTIRE HOUR.
- (4) REMEMBER, A REPORT OF ZERO IS JUST AS BIOLOGICALLY IMPORTANT AS A REPORT OF 10 LOONS.
- (3) Yoursightingsfromthroughout the summer are also valuable. Please comment on loon activity observed atother times ON THE REVERSE OF THIS PAGE.

# CENSUS FORMS MUST BE RECEIVED BY JULY 27 TO BE INCLUDED IN THE FINAL TALLY.

Please return this form to the LPC: PO Box 604, Moultonborough, NH 03254, or you can fax it 603-476-5497 or email it to volunteers@loon.org.

If you were part of a coordinated census effort on a larger lake, please send this form to your coordinator so they can send the forms in all together.

NON-PROFIT PRESORT AUTO N. CONWAY, NH 03860 PERMIT #160

