

SMWS 2025 Report – Year in Review Summary

Greetings from Somes Pond! It is hard to believe how fast the year has gone by, now well into another winter. A lot has happened in our watershed and across Mt. Desert Island since last winter in terms of wildlife migration, breeding seasons, and programs to take advantage of education opportunities we have before us in every season.

Last winter we had good snow cover and solid ice on our lakes for a longer stretch than we have been used to in recent years. These conditions allowed us to host several Frozen Classroom field days on Somes Pond with over 200 local and more distant school students able to learn about winter ecology, animal tracking, ice fishing, water quality sampling, and campfire skills. It took three complete “ice ins” and “ice outs” on Somes Pond in December of 2024 and early January before we finally had solid ice that lasted until the end of March. As ice starts to recede and lakes open up, loons begin checking their old territories to see if there is enough open water to land and start defending the territory once again. That started to happen on MDI lakes at the very end of March and beginning of April 2025.

We had several cold mornings last January, down to minus 9 degrees, but not cold enough to knock out a significant number of the relatively new to MDI forest insect pest: hemlock woolly adelgid (HWA). This aphid-like insect native to Asia has plagued eastern hemlock trees in the Appalachian Mountains beginning in the 1950s and is now all the way up to our island in Maine where we know that it is spreading in our forests.

Partner organizations including Acadia National Park, the Maine Forest Service, Land & Garden Preserve, and the Sanctuary have teamed up for several years to identify HWA locations, provide educational resources to landowners, and to start treating affected trees with predatory beetles that feed only on the adelgid insects. The beetles are costly (about \$3 each!), but we are trying to buy time for the hemlock trees by providing an ally who will hopefully put a dent in the adelgid population. With landowner permission and cooperation, we place beetle colonies where adelgid numbers are the highest in the watershed, recognizing that the adelgid knows no property boundaries, and that slowing their spread helps hemlock trees on everyone’s property.



Hemlock woolly adelgid infested branches: left image – predatory beetles, some circled in red, attacking individual HWA; right image – a heavily infested hemlock branch (white, fuzzy coverings of female adelgids on stems)

Alewife Project

Our spring and early summer were cool and very wet, with rain every weekend for 13 weeks! The lakes and streams were high, and aptly named herring gulls standing alongside the outflow channel below the Somesville Mill Pond, osprey hovering above the cove, and harbor seals patrolling the upper harbor told us that alewife were ready to head inland by mid-May (the first alewife entered the Mill Pond on May 15th).



Herring gulls ready to grab incoming alewife below the Somesville Mill Pond spillway (left image) and at nearing low tide in the upper cove (right image), May 2025

Alewife, a species of river herring, are a vital part of the Somes Pond-Long Pond watershed food web. The Sanctuary has worked for 20 years to create and maintain better passageways around dams and other obstacles so that the resilient fish can make their way to their spawning grounds and then return to the ocean. The ponds, streams, and saltwater cove in Somesville are truly a wildlife spectacle zone when the fish are on the move! Eagles, osprey, gulls, loons, foxes, otters, mink, seals and many others try to get some of the alewife action while they can.

These fish are anadromous migrators, spending most of their lives in saltwater and coming to spawn in freshwater, hopefully, multiple times. They spawn in the ponds and lakes where they hatched for the first time as three- and four-year-olds and show very high fidelity to their natal water body. Adults return to the ocean within a couple of weeks of arrival and most of them are in and out in a month, although some stay longer. Consequently, what happens in our watershed throughout the year affects the ability of the fish to make it to their destination and get back out.



Left image - alewife on their way to Long Pond; right image – a dense school of alewife ready to ascend the Mill Pond ladder, May 2025

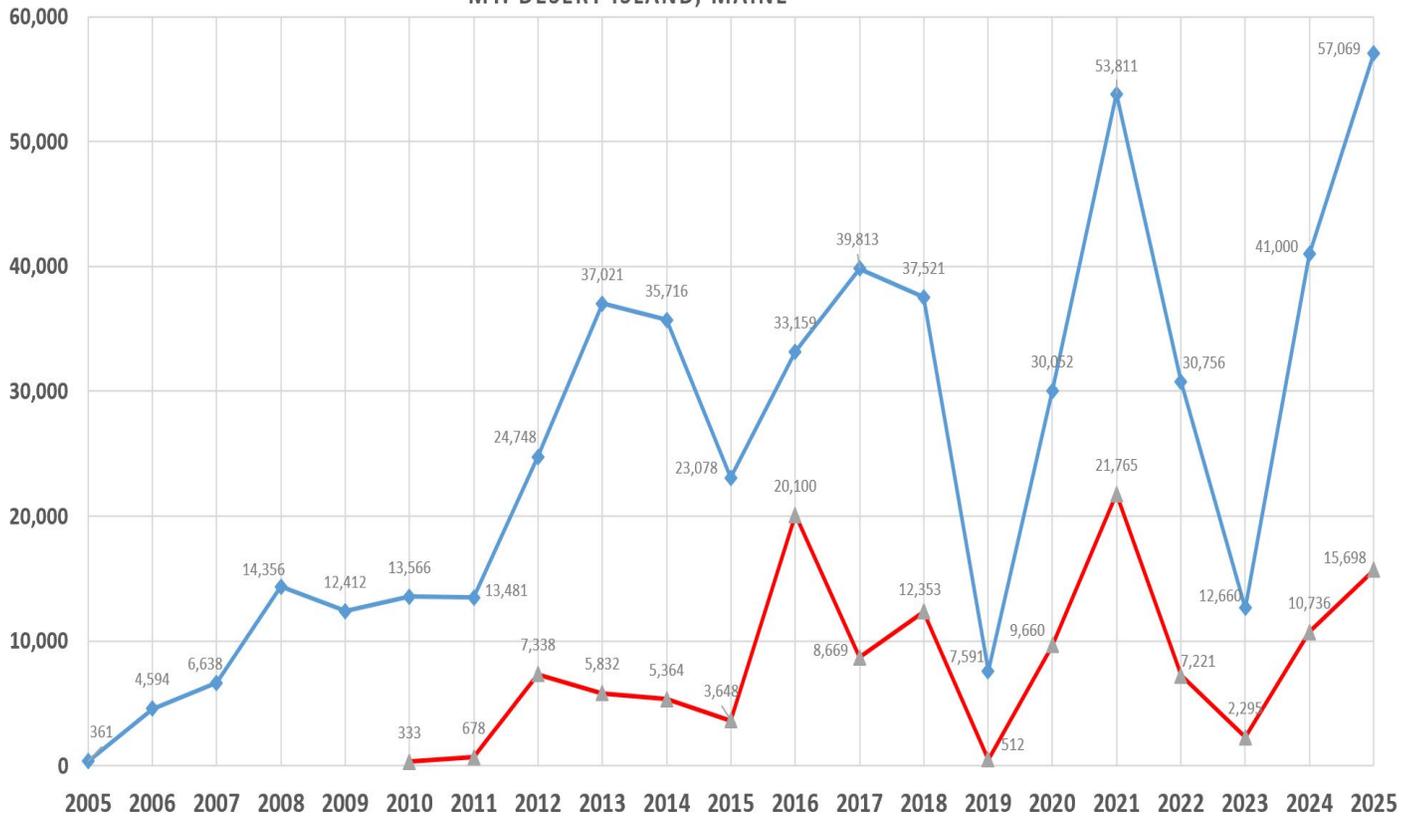
Drought conditions and stream blockages from debris are significant challenges for adults and the one- to three-inch-long juveniles, who emigrate from summer to late fall. A down year in number of fish spawning in year one often means a down year three and/or four years later. We spend a lot of time making water flow adjustments to our fish ladders and removing blockages year-round.



Long Pond outlet spillway (left side) and fish ladder (right side) channels: June 8th, 2025, left image and September 22nd, 2025, right image showing extreme difference due to drought conditions – the lowest we have seen in many years

In 2005 there were only 361 alewife counted at the Mill Pond (the blue line in the graph). Through fish ladder improvements, supplemental stocking to jump start the re-population, and careful monitoring of stranding conditions and blockages the numbers have increased substantially on average, with dips along the way due to the effect of small cohorts showing up in later years. See the graph below for the variability of alewife counted (actual counts, not estimates) by Sanctuary staff and volunteers over the years at the Mill Pond and Long Pond. The Sanctuary started monitoring Long Pond alewife numbers in 2010 (red line).

TOTAL INCOMING ALEWIFE/YEAR, SOMESVILLE MILL POND & LONG POND INLET, MT. DESERT ISLAND, MAINE



Inbound alewife migration counts at the Somesville Mill Pond (blue line) and at Long Pond (red line) from 2010 to 2025

We had a multi-decade record number of adult alewife entering the Mill Pond in 2025 with 57,083 counted and 15,698 hand-netted into Long Pond. For a bigger picture of how our migration compares to others in the State of Maine and other northeastern states, visit the Shad and River Herring Data Portal managed by Manomet Conservation Science and supported by the Gulf of Maine River Herring Network, which we are a member of (<https://manomet.shinyapps.io/shad-river-herring/>).

Juvenile alewife started heading out to Somes Harbor in early July but the total switch from wet to dry conditions starting in mid-June limited potential outbound migration, and from late summer through mid-fall movement was impossible. Prior to the 1.75 inches of rain received September 6th and 7th, the watershed around Somes Pond had only received about 1.5 inches in 2.5 months. Very low lake and stream levels resulted in minimal stream flow and sections of fish ladders were disconnected from one another. It wasn't until late October that enough rain raised lake levels and stream flow enough to make passage to the sea possible for the 1–3-inch juvenile alewife. When they have a chance, often after a big rainfall, the juveniles go out in huge pulses, with numbers in the tens of thousands heading downstream.

The low water levels during late summer and fall allowed for work on fish ladder and dam maintenance at Long Pond outlet by the Mt. Desert Public Works crew and at the 2nd and 3rd ladders by Rusty Taylor and other Sanctuary staff. A good opportunity to take advantage of.



Sanctuary field assistant Rusty Taylor catching fish below the 2nd dam spillway (dead end) to lift over the top, May 21st, 2025; tiny juvenile alewife measured for mass & weight, July 23rd, 2025

We were able to sample fifty juveniles in late October and fifty in mid-November below Somes Pond to supplement samples in early July. We provide the Maine Division of Marine Resources with length and mass data to be able to compare growth rates throughout the season and across the runs in other parts of the state. We don't have results yet of comparisons with other migrations north and south of us, but I am curious about what we'll find out. Seeing juveniles make it to Somes Harbor is very rewarding—it completes the cycle necessary to have a sustainable population. We hope that a good portion of the young alewives will be back in 3-4 years, entering the Mill Pond in Somesville to spawn for the first time, on the other side of that cycle.

Education Programs

After our winter highlight *Frozen Classroom* field days on Somes Pond, we start to plan for programs in the lower part of the watershed tied to the wonders of fish migration. We had over 400 students and 150 parents, teachers, and other visiting adults from around the Northeast participate in education programs focused on alewife and American eel migration, as well as Somesville history. For many of these programs, our staff and volunteers are joined by Acadia National Park education rangers and Mt. Desert Historical Society staff—a great team effort! This year we conducted programs for two university groups, one from Tennessee and the other from Alabama. It is always a pleasure to introduce students and faculty to our local habitats, projects, and wildlife. We also hosted a watershed science/lake ecology education program for Acadia Teacher Fellows stationed with Acadia National Park, as we have in the past. We try to make connections from what we see and do on and around Somes Pond to lessons and field trips that teachers from all over the country can implement at their schools.



Adult alewife in container for scale sampling to determine age before being released into the Mill Pond; students getting a close up look, and feel, of the fish, May 2025



Students at one of our alewife & eel migration programs checking out elver (juvenile eel) movement below the Mill Pond spillway, May 2025



Acadia Teacher Fellows and Acadia National Park education staff water sampling Somes Pond during an aquatic ecology workshop, July 16th, 2025

We had another great season of *Floating Classroom* watershed science programs for area middle schools on Somes Pond and at Sanctuary headquarters in September. Students learn about healthy watershed conditions, scientific methods, the importance of fair comparisons, water sampling, and interpreting data. Students also practice their paddling skills to navigate canoes clamped together side by side and teamwork necessary to accomplish the goals of our data collection.

We usually have 80-140 students participate each fall in the *Floating Classroom* depending on the scope and sequence of each school's science curricula. Some schools bring both 7th and 8th grade students the same year and take off the next. The program provides a good starting point activity for science teachers to refer to throughout the year that applies to both life and physical science. This year we had 80 students and ten teachers and assistants, along with our staff and five education volunteers participating.



Students paddling on Somes Pond for a Floating Classroom field day of water sampling, watershed science, teamwork, and fun; Sanctuary assistant Stanley Grierson helping students with their sampling techniques, September 2025



Students ready to lower their Secchi disk to sample water clarity; dissolved oxygen titration underway back on the Sanctuary deck, September 2025

In early October the Sanctuary participated in a Fall Outdoor Skills Day co-sponsored by Camp Beech Cliff and the Maine Department of Inland Fisheries and Wildlife. Our session, that took place on Somes Pond and Sanctuary headquarters, focused on lake ecology with many activities exploring the factors that influence water quality, aquatic habitats, and watershed health. People from across the state participated in our session and gained a deeper understanding of the interconnected factors that help watersheds thrive and knowledge of how to help protect them close to their homes.



Outdoor Skills Day participants exploring the Somes Pond inlet area for native aquatic plants & animals, October 5th, 2025; and loon watching from the Sanctuary deck with one of our weekly nature walk groups, October 3rd, 2025

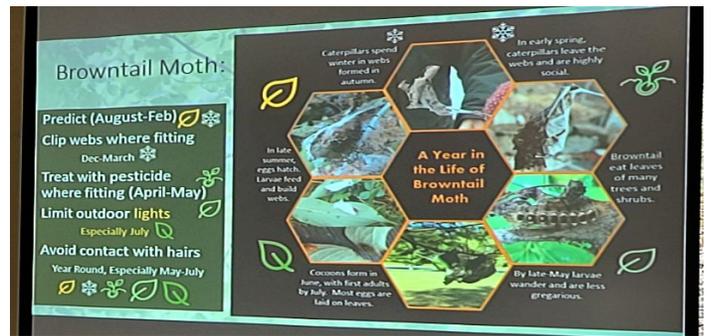
We offer public nature and bird watching walks most weeks of the year depending on weather and schedules, and we had a lot of great outings in 2025. The walks, like our other programs, are free and open to everyone. We explore what's happening in the natural history world on Sanctuary property often, but we also visit other parts of Mt. Desert Island regularly. During the summer months we also host public canoe and kayak paddles on Somes Pond to observe the resident loon family, check out other features of the pond, and enjoy each other's company in a beautiful, peaceful setting.

Evening and weekend programs included: a presentation by Sanctuary program assistant Nathaniel Austin on population dynamics of the Somes Pond-Long Pond alewife run (in Somesville and Augusta at River Herring

Network Meeting); American eel ecology and elver fishing Presentation by Sanctuary field assistant Rusty Taylor; a forest health and insect pest update by local presenters Jesse Wheeler (Acadia National Park), Tate Bushell (Land & Garden Preserve), and Billy Helprin (Sanctuary) plus Maine Forest Service entomologist Colleen Teerling; a loon appreciation day at the Sanctuary, Somesville fish ladder birding and fish migration tours for Downeast Audubon and Acadia Birding Festival, monthly breeding season loon walks for Land & Garden Preserve, weekly presentations for Appalachian Mountain Club Echo Lake Camp, a loon season summary for Friends of Acadia at the Terramor Resort, and an online talk with the Adirondack Center for Loon Conservation focused on the roles of biological specialization and MDI geography on loon territorial dynamics.



Weekly nature and bird watching walk at Echo Lake and public paddle on Somes Pond, summer 2025



Update from Maine Forest Service Entomologist Colleen Teerling on multiple insect pests in Maine, March 16th, 2025



Nathaniel Austin presenting analysis of alewife data at the River Herring Network meeting in Augusta, January 9th, 2025

MDI Loon Project

As always, we kept a close watch on loon activities on the MDI territories after they returned to the lakes after ice out—twelve territories in 2025 on 9 lakes. Eight eggs hatched early in the summer on five of the lakes, and five of those chicks survived to fledge (leave their natal lake). The Somes Pond solo chick was the first to hatch on MDI, on June 10th and a little more than 12 weeks later left for the ocean on September 8th. Mission accomplished for the Somes Pond parents! The other four young loons (two on Little Long Pond, one at Upper

Hadlock, followed suit, and the latest to leave was the Echo Lake South chick departing in early November after spending “extra” time hanging out with his father well after being flight capable to depart. Five chicks surviving long enough to fledge from MDI lakes is a pretty good number and five out of eight eggs hatched is a good ratio for survival. Five fledged chicks per twelve territorial pairs is a little on the low side. We look forward to seeing what happens during the 2026 breeding season.

MDI Loon Monitoring 2025				
<i>Territorial Pair</i>	<i>Nesting Attempted</i>	<i>Chicks Hatched / Eggs Laid</i>	<i>Chicks Surviving as of 7/26</i>	<i>Chicks Fledged In the Fall</i>
Seal Cove Pond	✓	0/?		
Long Pond (N. Neck Cove)	✓	0/1 (abandoned)		
Long Pond (S. Neck Cove)	✓	1/2 (abandoned)	0 Chick lasted 2 days, parental neglect	
Long Pond (North)	✓	0/2 (Predated by mink)		
Somes Pond	✓	1/1	1	1
Echo Lake North	✓	1/1	1	Chick killed by new male loon 8/4
Echo Lake South	✓	1/2	1	1
Upper Hadlock	✓	2/2	1	1
Little Long Pond	✓	2/2	2	2
Jordan Pond				
Eagle Lake	✓	0/2		
Witch Hole Pond	✓	0/2 (Abandoned)		
Totals	11	8/17	5	5
Total # of Chicks Fledged, Fall of 2025 = 5/8 (0.63), 12 terr. pairs *CS/TP=0.42				

* chicks surviving (CS) / territorial pair (TP) is the typical measure of population productivity

Some of the challenges experienced by MDI loons in 2025 are perennial ones facing loons across their continental range including: lead poisoning (more on that in the necropsy section below), fishing line entanglement, blunt force trauma from boat strikes, and aggressive behaviors (attacks by loons) during territorial disputes.



Left image: Echo Lake South male with his 14.4-week-old juvenile, October 19th 2025; right image: Upper Hadlock adult with 6-day old preening chicks, July 3rd, 2025, Ray Yeager photos

Loon Necropsy Project

We are moving into the fifth year of the Downeast Loon Necropsy Collaborative, an effort to search for causes of loon deaths; indications of health, disease, and injury; and collection of tissues for later analysis by many researchers across the continent, operating out of the College of the Atlantic's science lab. Retired veterinarian Edwin Barkdoll and I (Billy Helprin) have research associate status with the college that enables us to use the lab and to have work-study students help run the program. We are advised by retired Tufts University wildlife veterinarian and professor Mark Pokras. Our group tries to do two necropsies of loons from Maine every other week for much of the year.

Loon health is a good indicator of the health of their habitats—aquatic and marine. Learning about their pathology and causes of mortality helps us understand a great deal about their lives and how to protect them as best as we can. Students and Sanctuary staff learn about the anatomy and physiology of loons inside and out during necropsies and review of radiographs (x-rays), which helps make sense of their field observations of behavior on the water, under water, and in the air. Some cases have straightforward diagnoses and others are frustratingly obscure, with no clear cause of death or even identification of compounding factors that may have played a role (unlike forensic TV shows).

We usually have a backlog of loons to necropsy after periodic deliveries from the state Waterbird Biologist and Bird Group Leader, Danielle D'Auria. On January 18th, 2026, we did a necropsy of a large male common loon picked up by an Inland Fisheries & Wildlife official on June 4th, 2025, from the shore of Sabbathday Lake in New Gloucester, Maine. The loon had been observed to be sick and shortly thereafter was found dead. The male was in fantastic shape in terms of muscle mass, good amounts of subcutaneous fat (energy reserves), beautiful feather & skin condition, no signs of injury, and no observed parasites inside or out.



Gizzard contents of a common loon found dead along the shore of Sabbathday Lake in western Maine on June 4th, 2025. The left image shows 19 stones (intentionally ingested by loons to help process fish bones & crayfish shells), fishhook fragments and 2 small lead pieces of a lure, January 18th, 2026; Fluorescing metal pieces under UV light confirm lead content, from gizzard of common loon TV260012, necropsied January 18th, 2026

It is particularly sad, and maddening, when we have such an otherwise very healthy loon, killed by the ingestion of lead fishing gear. This male had not eaten in quite a while due to being so sick from lead poisoning that he could not successfully attempt to capture any food items. When loons get sick, from various causes, they often switch from fish to easier to catch prey like crayfish or even snails. This male, denoted as TV260012 (Tufts Veterinary archive, 12th loon to be necropsied in 2026) had no food on board.

The lead lure was likely ingested by swallowing a fish that had broken off a fishing line. The muscular gizzard chamber with its hard stones can break down bones and shells, and even non-stainless steel fishhooks, but the grinding action also abrades lead pieces that are part of some lures and sinkers, liberating highly toxic lead to circulate throughout the body. This affects brain function and many other organ systems, resulting in whole body shutdown in relatively short order. A lure may be broken apart and the hooks degraded, as was the case

within this big male, but lead pieces do not move readily from the gizzard chamber into the intestines and out of the body. That residence time is most always too long to survive.

There are alternatives to lead fishing gear and many states, including Maine, have laws prohibiting the use and sale of lead lures and sinkers to try to reduce the number of unnecessary deaths of many animals, particularly fish-eating birds. The website <https://fishleadfree.org/> has a lot of information about fishing gear laws, alternative equipment, tackle buy-back programs, and impacts to various species. Other valuable links include our partners [Maine Audubon \(https://maineaudubon.org/projects/loons/fish-lead-free/\)](https://maineaudubon.org/projects/loons/fish-lead-free/) and [Maine Department of Inland Fisheries & Wildlife \(https://www.maine.gov/.../fishing/lead-fishing-tackle.html\)](https://www.maine.gov/.../fishing/lead-fishing-tackle.html). We share case histories like this males' with as many people and groups as we can to try to reduce the preventable deaths of loons and other wildlife affected by lead poisoning through education. I include the above history in this report to that end.

Lead is not only highly toxic to wildlife but, of course, is to humans as well, affecting all body systems with no safe limit of exposure. A good summary of human effects can be found at the National Institute of Environmental Health Sciences website: <https://www.niehs.nih.gov/health/topics/agents/lead...>

Courtesy Boat Inspections

Maine has 2,700 lakes greater than 10 acres in size with less than 1% of these infested with aquatic invasive plants—and we would like to keep it that way. Maine's primary aquatic invasive species (AIS) prevention effort is the Courtesy Boat Inspection (CBI) program which started in 2000. The purpose of these voluntary inspections is to reduce the spread of AIS to Maine waters by boats, trailers, and associated equipment. Trained Courtesy Boat Inspectors alert boaters to the risks posed by AIS, show boaters how to inspect and remove vegetation from boating and fishing equipment, and urge boaters to inspect prior to and after each launch.

The Sanctuary has been operating a CBI station at the Long Pond boat ramp for over 15 years. We target this launch area because Long Pond is the only lake on MDI that permits unlimited horsepower motorboats and is the likeliest to have boats from farther away in Maine or out of state visit. Most invasive infestations are found in southwestern Maine and states to our west and south, but we do have some closer by and need to be on the lookout. In 2025 we had coverage from Sanctuary assistants Nathaniel Austin, Rusty Taylor, and interns Holly Tighe and Emma Flood. Ninety-five hours were logged with 386 boats inspected (266 non-motorized and 120 motorboats). Fortunately, no invasive plants or animals were found.

The boat launch area at the north end of Long Pond (Pond's End) is a very busy place on a nice summer day and inspectors play an important role in sharing information not only about AIS, but also about loons, fishing, and island geography for visitors. They do a lot of traffic management as well - directing canoes and kayaks one way so motorboats can launch more easily. We were sad to not have our long-time CBI volunteer and Sanctuary Board member Alan Parks (also known as the mayor of Pond's End) helping in 2025 due to moving to southern Maine, but we are carrying on in his good-willed spirit!



Long-time CBI volunteer extraordinaire Alan Parks arriving at his early morning station and talking with a customer

Infrastructure Improvements

Our new core operations building with garage, equipment storage, and shop space on the first floor and a small year-round office space upstairs is complete and we have been able to start using it in a variety of ways. The new building will be a huge help in addressing our administrative, program, and storage needs. Thanks to the team at Nate Holyoke Builders for their great work in fulfilling the vision we had for this building. We hope to renovate the existing, non-winterized headquarters building in the future to make it a better place for public events, teacher trainings, partner meetings, school programs, and seasonal staff housing.



Sanctuary office/garage/shop ready for use, October 2025

Sanctuary Staff & Partners

We had a great staff team in 2025 with 2024 intern Nathaniel Austin returning as a seasonal program assistant after graduating from the University of Maine in May; new interns Emma Flood and Holly Tighe, field assistant Rusty Taylor, and administrative assistant Stanley Grierson. All are multi-talented and were able to help with a wide range of projects.



Sanctuary staff after one of our regular nature walks, this one at Seawall Point, July 18th, 2025, from L to R: Nathaniel Austin, Holly Tighe, Emma Flood, Rusty Taylor, Stanley Grierson, board member & volunteer Greg Helbig, Billy Helprin

We are looking forward to the return of Holly and Emma as program assistants for the summer of 2026. Emma will be transferring to College of the Atlantic to finish her undergraduate degree, and Holly is working on hers at UMass Amherst, both with a focus on ecology and wildlife studies. With their knowledge of the island's lakes, streams, loons, alewife, and people they will be a huge help in their second year with the Sanctuary. Nathaniel found a great year-round position with Maine Audubon after his term with the Sanctuary this past fall. He is working with former Sanctuary director David Lamon at the Fields Pond Nature Center – all within our state-wide conservation, education, and science extended family! I believe that helping to support the academic and career trajectories of our younger staff members with a variety of learning experiences is a very important function of the Sanctuary.



Holly, Emma, and Nathaniel starting to examine a loon during a necropsy to try to determine cause of death with Dr. Mark Pokras; Holly and Emma loon watching on Somes Pond, June 2025

We plan, coordinate, and deliver our educational, conservation, and monitoring programs each year with many partners. In 2025 they included: Acadia National Park, College of the Atlantic, MDI Regional schools and teachers, Land & Garden Preserve, Appalachian Mountain Club, Camp Beech Cliff, Carson-Newman University, Northeast States Loon Working Group, Maine Coast Heritage Trust, Friends of Acadia, Gulf of Maine River Herring Network, the Downeast Loon Necropsy Collaborative, and the Town of Mt. Desert.

In addition to our staff, our Board of Trustees: Julianna Bennoch, Bill Ferm, Pat Foster, Maureen Fournier, Judy Goldstein, Greg Helbig, Dan Kane, David MacDonald, Janet Myers, Chris Petersen, Carole Plenty, Roberta Sharp, and Jesse Wheeler, has been critical, as always, in carrying out our mission.

In Memoriam, the Sanctuary board and I would like to thank Julie Bennoch and her family for her many years of service to the organization and to our community. She will be missed.

We are grateful to all our volunteers who help count alewife, provide loon observations, and assist with education programs and trail work; our agency and non-profit partners in education programs and wildlife projects; and our larger community of supporters, neighbors, and participants in the wide range of Sanctuary endeavors. Thank you to all!

Billy Helprin

Executive Director, Somes-Meynell Wildlife Sanctuary