



**Lamprey River Advisory Committee
Annual Report FY 2023 (Oct. 1, 2022 - Sept. 30, 2023)**

About the Committee:

The Lamprey River Advisory Committee (LRAC) is comprised of volunteer representatives nominated by the towns of the Lamprey River watershed and appointed by the New Hampshire Department of Environmental Services (NHDES). These volunteers serve as liaisons to NHDES and have two main duties: 1) Create a river management plan that protects or enhances the values for which the river was designated for extra protection under the NH Rivers Management and Protection Program under RSA 483 and 2) Review and comment on development or redevelopment project applications for the quarter mile corridor that parallels each side of the main stem Lamprey River and five designated tributaries and that require a state permit such as a wetlands, shoreland, or alteration of terrain permit.

The LRAC also serves as a partner to the National Park Service to protect and enhance the “outstandingly remarkable values” for which a 23-mile segment of the main stem Lamprey River was designated by the U.S. Congress as a National Wild and Scenic River. As part of this partnership, the LRAC receives funding from the National Park Service (CFDA # 15.962 National Wild and Scenic Rivers System) to support its activities.

For more information about the Lamprey River and the LRAC, please visit www.LampreyRiver.org.

Land Protection



The LRAC donated \$25,000 for the permanent protection of the 76.3-acre **Robert Rix Family Forest Donation in Deerfield**. The property has nearly a mile of frontage along the Lamprey River and a massive wetland system associated with the river which provides important flood storage, nutrient capture, and excellent wildlife habitat.

Photo courtesy of SELT

As of October 2023, the LRAC has contributed \$5,169,557 to provide permanent protection for 3,839 acres and 19.1 miles of river frontage. These project costs total \$22,472,064, meaning that the LRAC has provided 23% of total costs.

Recreation

Sliding Rock / Piscassic Park Improvements

Late last year, the LRAC approved a grant proposal from the Newmarket Conservation Commission to make improvements at Sliding Rock Park, also known as Piscassic Park. They had noted some hazardous trees that needed to be removed, tired signage and wasted kiosk space, and wanted to address kayaks that had been left on the ground and made the park look neglected.

Using the grant, the conservation commission was able to purchase a new canoe/kayak rack that can accommodate private boats and alleviate the need to store boats on shore, remove eight hazard trees from the Sliding Rock Trail, install three new kiosk signs, and get a professional assessment for future improvements that would make the trail universally accessible.

Welcome to Sliding Rock CONSERVATION & RECREATION AREA

This 2.3-acre park was donated to the Town of Newmarket in 1973 by Mr. Walter Cheney when he developed the surrounding area. The 1/2-mile loop trail offers a scenic walk under tall pine and hemlock, leading to an overlook where the Piscataqua River meets the Lamprey River.



Help care for this public space

- Open DAWN to DUSK.
- Pick up pet waste.
- Carry-in and carry-out any personal items and trash.
- Respect abating landowners and other visitors.
- Remove private watercraft when not in use.
- Avoid smoking, alcohol, fires, and loud noises.
- Avoid removal of plants and other natural materials.

Sliding Rock Conservation and Recreation Area is managed by the Town of Newmarket. For more information, contact the Town at 603-659-8581 or www.newmarketnh.gov.



Kayaking is one of the many adventures to be had here.

Piscataqua River View Sliding Rock, Newmarket.

Cardinal Peppers and other colorful plants can be found along the Sliding Rock trail.

Partners for the Sliding Rock Conservation and Recreation Area include the NH Fish and Game Department, the Newmarket Recreation Department, the NH Department of Environmental Services, the NH Department of Transportation, the NH Department of Parks and Recreation, and the Sliding Rock Advisory Committee.



Exploring the Lower Lamprey River

The map below shows the location of river access sites for those wishing to explore the beauty and serenity of the lower Lamprey River by boat. Note that some launch sites provide access to the freshwater reaches above the Moulton Dam in downstream Newmarket and others offer access to the saltwater portion of the Lamprey River and the Great Bay Estuary.

Kayak and Slip Rentals

The Newmarket Recreation Department rents kayaks at three locations from June to September:

- Schanda Park
- Schuyppenger Park
- Sliding Rock Conservation & Recreation Area

You can also rent a slip for your own boat at one of the above locations. For more information on kayak and slip rentals contact the Recreation Department at 603-659-8581 or reception@newmarketnh.gov.

Water Access

- Freshwater Access**
 - Sliding Rock Conservation & Recreation Area
 - Schuyppenger Park
- Saltwater Access**
 - Bryant Rock
 - Schanda Park
 - NH Fish & Game Lamprey River Boat Access

Boating Ethics and Safety

- Use caution around dams and rapids.
- Maintain NO-WAKE speeds to protect shorelines and to respect other boaters.
- Do not leave your watercraft (kayak, canoe, paddleboard, etc.) unattended and avoid chaining it to a tree or structure.
- Do not litter on shore or in the water; carry-in/carry-out.
- Avoid loud noises.
- Respect shoreline property owners.
- Maintain safe distances from wildlife to prevent tension and disturbance.
- Respect and clean boats and trailers of aquatic plants to prevent introduction of non-native species.



To learn more about the river visit LampreyRiver.org or use the QR code.



Thank you for your help in keeping the shorelines and waters of the Piscataqua and Lamprey Rivers clean and healthy.

the new main kiosk panel at Sliding Rock Park

Our Shared Lamprey River Watershed

The Lamprey River begins in Northern Maine and travels 120 miles through various towns before it meets the Moulton Dam at the Mill in Newmarket. Before the dam, the Lamprey continues as a wild river to Canal Bay. From there, the river flows down the Piscataqua River to the Gulf of Maine.

On the right river flowing to Canal Bay, the Lamprey River watershed contributes the greatest volume of sediment, silt and organic matter to maintaining the vital health of the estuary.

These health and water are of "Outstandingly Remarkable Value". Identify these values of the Lamprey - from New England to the confluence with the Piscataqua River - are designated as a National Wild & Scenic River to preserve the river's "Outstandingly Remarkable Value" including clean and abundant water habitat for fish and wildlife, paddling, fishing, boating, and other outdoor recreational history or people and place. The entire Lamprey River and its five major tributaries - Little, North, South Branch, Frenchman, and Pease - are also recognized by the State of New Hampshire for outstanding natural and cultural resources.

Things YOU can do to help RESTORE and PROTECT our shared watershed

- Clean up Pet Waste to prevent runoff that can pollute our waterways.
- Respect the Watershed by staying on and dropping loads to the water's edge to prevent erosion.
- Dispose of Chemicals Properly by never dumping them down drains or dumping them away.
- Maintain your Septic System by pumping it every 3-5 years to avoid failure that pollutes water.
- Capture the Rain by installing rain barrels on driveways and using the water on lawns & gardens.
- Build Healthy Soil by setting lawn mowers blades at 2" or higher and never dropping in place. This reduces the need for water and fertilizers.
- Maintain Native Shoreline Vegetation to support habitat for wildlife and prevent erosion into the river.
- Maintain the local conservation group or team based on your citizenship: workday, check out Extension/NEH/State/Nonprofit.

ATTENTION:

KAYAK, CANOE, and PADDLEBOARD OWNERS

- Do not leave your watercraft unattended.
- Do not chain your watercraft to a tree.
- All private watercraft must be taken away after each use.
- Carry--do not drag--your watercraft to the water's edge to help prevent shoreline erosion.

THANK YOU for helping care for these public lands and waters.

Interested in Kayak or Slip Rentals?

Please contact the Newmarket Recreation Department by calling 603-659-8581 or emailing rreception@newmarketnh.gov.

other new kiosk signs and the new canoe/kayak rack

We hope all users will appreciate the improvements and do their part to keep the park attractive and welcoming.

Lee Public Canoe Launch

The committee had planned to address the deep drop-off from the bottom step of the boat access by installing two additional granite slabs and mitigate erosion next to the stairs this summer, but the record-breaking amounts of rainfall this summer curtailed these efforts. The granite has been purchased and we hope the needed improvements will take place before the peak paddling season of next summer.

On a brighter note, the Lee Conservation Commission started a multi-year effort to eradicate glossy buckthorn from the site. Before doing any work, they assessed the number and types of desirable native plants to ensure good vegetative cover during and following glossy buckthorn removal. Once that was accomplished, volunteers cut the invasive trees at the base and bagged them with black plastic to prevent regrowth. We appreciate the planning and care that went into this project and thank the Lee Conservation Commission for all its hard work.

Water Resources

Tributary Instream Flow Study Update

As of August 2023, the Lamprey River and all five major tributaries now have active stream gauges to measure the flow of water and all offer near-real time data to the public. These gages and the data they generate are important to understand what constitutes “normal” flow. This will take several years of recording heavy flows, drought flows, and everything in between year-round. Once these data are collected, NHDES can create a custom instream flow management plan for each tributary and the main stem Lamprey River. The ultimate goal is to ensure that fish have enough water to survive in the context of human activities and alterations to the landscape. For full details of the NH Protected Instream Flow program and specifics for the Lamprey River and its tributaries, including near-real time data, visit [Instream Flow | NH Department of Environmental Services](#) and scroll down to the Lamprey River.

On-going Bacterial Tracking, Problems in Newmarket’s Moonlight Brook

This was the third year that the LRAC has funded targeted bacterial tracking research at several recreational areas along the main stem Lamprey River. This research included monthly samples to determine levels of bacterial contamination and it also identified the species of animal(s) that contributes to the overall bacteria, such as human, dog, horse, or waterfowl. We had an exceptionally rainy summer this year and all that rain washed a lot of potentially unhealthy bacteria off the land and into the water. Preliminary results along the river showed unsafe fecal bacteria levels at most sites in June and all sites in

July. After seeing the full scope and implications of the problem state-wide, NHDES issued a general warning in July to the public about the potential of encountering unhealthy water associated with heavy rainfall.

The Moonlight Brook sampling site at Schanda Park in Newmarket continued to be seriously contaminated with human fecal bacteria. To help isolate the location or cause of this contamination, the LRAC funded expanded bacterial assessments this year that included 5 sites upstream of Schanda Park.

The final report for 2023 should be available in December. Results will be shared with all towns in the Lamprey River watershed and summarized in the LRAC winter newsletter.

Other Newmarket Pollution Issues

In January, an oil spill of 250 gallons of home heating fuel was detected in Newmarket Harbor. The NHDES quickly deployed oil absorbing mats to contain and remove the oil. The cause was determined to be a rupture of an older oil tank in a private home. The oil went down a cellar floor drain and straight to the river. This served as a reminder to owners of older homes to keep an eye on oil tanks and to ensure that (now illegal) floor drains are sealed.

In addition to on-going bacterial contamination issues with Moonlight Brook, Newmarket also had to contend with a sewer main break under the river in Newmarket Harbor. The break was detected on May 21 and reported to NHDES. Given the complexity of repairing the buried pipe, outside experts had to be contracted to perform the necessary work. The repairs were completed in early July.

Epping Waste Water Treatment Facility Issues

Over the past few years, the Epping Wastewater Treatment Facility has had problems that have resulted in the release of partially treated sewage, especially in colder weather. ("Partially treated" means that solids are removed, chlorine is added to kill pathological bacteria, and then the water is dechlorinated so that it does not impair the river ecology downstream. Partially treated effluent can still have unacceptably high fecal bacteria.) At the time of installation, the technology behind the upgrades seemed to be good and NHDES approved the upgrade, but the real-world effects of a New Hampshire winter greatly hindered effective treatment. The facility was placed under the control of NHDES personnel. As part of the requirements imposed by the NHDES and the EPA, whenever a release of partially treated effluent is anticipated, the Town of Durham must be notified so it can curtail using the Lamprey River as a source of public drinking water and signs must be posted at recreational areas downstream. Epping is working diligently to come into compliance with its wastewater permit, including ordering new filters and associated equipment, as well as building a temporary shelter to cover the sewage lagoons to keep them warmer against the cold. During the summer of 2023,

the wastewater treatment facility stayed in compliance with its permit and no such notifications were required.

Public Engagement

Herring Aid

While we do not yet know how many river herring utilized the Macallen Dam fish ladder or the Wiswall fish ladder in 2023, we do know that many human visitors were eager to celebrate Herring Aid on May 20. New Hampshire Fish and Game Department personnel were on hand to answer questions and assist folks who were curious and daring enough to touch river herring and sea lampreys. Little kids and big kids alike had a great time.



River herring, left; lamprey right.
Photos by R.H. Lord

River herring also played a key role in the State of our Estuaries Conference on June 2. River herring were the stars in a saga of daunting challenges, perseverance, and hope as presenters provided a fish-eye view of New Hampshire's coastal streams and rivers, estuaries, and the Gulf of Maine, all necessary to the humble river herring. The challenges are many: over-fishing, warming ocean temperatures, water pollution, loss of nursery habitat, dams, changing food supplies... Despite these obstacles, river herring still do as nature intended: fight for their survival, reproduce, migrate between salt water and fresh water, and remind us humans that we are not alone in facing big ecological challenges. To read the river herring's story, see [SOOE-2023-Digital.pdf](#) (stateofourestuaries.org), pages 10-20.

Salt Marsh Classes for Seniors

While the Lamprey River has only a small area of salt marsh, this habitat has an outsize role in the health and future of Great Bay. Salt marshes are known to absorb nutrients coming from the land, soften the impacts of coastal storms on towns and cities, provide critical habitat to fish and birds, sequester carbon and keep it out of the atmosphere, and contribute to coastal tourism appeal. At the same time, salt marshes are under extreme pressure from sea level rise, encroaching development, and misunderstanding and misuse from the past. Engaging seniors, our most active voters, is a good way to add their important voice to protect this valuable resource.



Participants in a fall salt marsh tour. Photo by Kevin McKeon

Stream Team, River Reporters

Several years ago, the Lamprey River Watershed Association did a thorough and rigorous assessment of conditions along the entire length of the Lamprey River (see [Streamwalk :: Lamprey River](http://www.LampreyRiver.org/videos) at www.LampreyRiver.org/videos). Despite the dedicated efforts of many, many volunteers, this project received little attention by the towns that could actually address any issues that were found. The LRAC and the watershed association began efforts this past summer to reinvent the Streamwalk as a less-intense, long-term, watershed-wide program that will engage the many recreationists who use the Lamprey River and will focus on issues that are most important to local municipalities. Undergraduate ecology students at UNH were the first to try out the less-intense format. Stay tuned for results and next steps.

Town Fairs

Town fairs are usually one of the best ways the LRAC can engage with the public. Despite our best efforts, we were not able to attend any this year due to the abundant

rain and attendant rescheduling. We hope to be back at our tent next year and look forward to meeting new friends then.

Reflections on a River video was made ADA compliant and posted to NPS You Tube channel.

Project Review

By statute, local river advisory committees are asked to review proposed projects that fall within 1500 feet of a designated river and send their comments to NHDES. The committee cannot approve or deny permits, but NHDES must consider their comments. This year, the LRAC reviewed and commented on 17 projects in 6 towns plus several multi-town projects for Eversource line improvements.

History

After many years of trying, the prospect of a historical kiosk at Wadleigh Falls started to come together this summer. The Lee Historical Association received approval from the town to install a short kiosk or kiosks near the Lee Public Canoe and asked the LRAC to be a partner in the project. Although details need to be worked out, initial plans include creating one panel that honors Indigenous history and culture and another panel that tells the story of colonial life and mills.

Wildlife and Ecology

Japanese Knotweed and River Bank Erosion



Typical patch of knotweed along a river.
Photo by Lauren Kaehler

In 2021, the LRAC provided funding to Lauren Kaehler who was working on her master's degree thesis in hydrology at UNH. Lauren suspected that Japanese knotweed might be contributing to river bank erosion and wanted to look at this scientifically.

Erosion is a natural process which drives structural change in river systems. It can damage human structures and ecosystems by moving lots of sediment. Large amounts

of sediment that are removed can leave an area vulnerable to more erosion, and deposition of large amounts of sediment can bury otherwise productive mussel beds or fish nurseries. Sediment carried by river currents can make the water cloudy and clog fish gills.

Lauren chose to study 26 patches of knotweed along 26 km of the Lamprey River, mostly focused around the urban area of Epping, NH and 50 patches along 21 km of the Sugar River, focused around urban areas of Claremont and Newport, NH. The vegetation type and density were similar between native vegetation patches and knotweed patches. Soil properties and erosional stressors were mostly similar between native and knotweed patches. The rate at which bank sediments become dislodged and carried away by river currents (entrainment) was not the dominant mechanism of bank erosion taking place at the study sites.

Despite the many similarities among the study sites, she did determine that more erosion was recorded on average at knotweed patches than at native patches. Exactly why this is so is not fully understood yet. A possible explanation for the difference between native vegetation and knotweed might be the greater extent of knotweed dieback in winter, which leaves more soil exposed. Where more soil is exposed near a river, knotweed fragments can be dislodged and carried downstream, resulting in even more knotweed.

In the recent past, knotweed was deliberately planted along some river banks to help *prevent* erosion. Knotweed has an extensive root system and it readily spreads, both by seeds and fragmentation. Compared to bare soil, knotweed might, indeed, help to reduce erosion. But compared to native river bank vegetation, knotweed is a poor substitute. We now know that knotweed is a highly invasive, undesirable plant along our rivers and roadways. It not only out-competes native plants, but it has no value to local wildlife. Once it becomes established, it is nearly impossible to eradicate. Knotweed thrives on disturbed soil. Going forward, we must all be diligent to give native vegetation the opportunity and conditions to thrive and to keep knotweed away.

A summary report is available at [knotweed erosion research slides.pdf \(lampreyriver.org\)](https://www.lampreyriver.org/knotweed-erosion-research-slides.pdf).

Glossy buckthorn removal at Lee Public Canoe Launch

As noted earlier in the Recreation section, the Lee Conservation Commission started a multi-year effort to eradicate glossy buckthorn from the site. Before doing any work, they assessed the number and types of desirable native plants to ensure good vegetative cover during and following glossy buckthorn removal. Once that was accomplished, volunteers cut the invasive trees at the base and bagged them with black plastic to prevent regrowth. We appreciate the planning and care that went into this project and thank the Lee Conservation Commission for all its hard work.

Miscellaneous: Conservation Heroes

At the September 19 LRAC meeting, three long-time conservation heroes were recognized by the NHDES River Management and Protection Program and the National Park Service, Partnership Wild and Scenic Rivers System.



Lamprey River Conservation Heroes
Dick Lord, Kitty Miller, and Joe Foley

Dick Lord of Durham was recognized for having served the Lamprey River as an appointed representative to the LRAC for over 30 years, and counting. Not only is Dick the longest serving member of the LRAC, he is the longest serving member of any Local River Advisory Committee in New Hampshire. He has long been active in history, public engagement, land protection projects, recreation, and wildlife research projects. In addition, his photography has recorded some of the best views of the river.

Eileen “Kitty” Miller of Lee was recognized for her 25+ years of service as an appointed representative to the LRAC. As a wildlife biologist, Kitty also helped to characterize the special ecological places and resources that earned special designation for the river at both the state and federal levels. She has guided ecological research and has been a tireless advocate for safeguarding nature during the LRAC’s activities with land protection and reviewing proposed development along the river.

Joe Foley of Epping was recognized for his efforts and leadership with the LRAC for twelve years, mostly as chair. He brought his experience as an engineer and town board member to the committee and helped to shape the committee into being an important partner to municipalities. He was heavily involved with land protection projects and in reviewing development projects along the river. Joe will be retiring from the LRAC to spend more time with his family.

Plans for FY 2024

- Complete the management plan revision.
- Develop Stream Team training and assess the pilot run.
- Continue funding bacterial tracking, especially to help isolate Moonlight Brook contamination sources.
- Continue offering community grants for worthy projects.
- Design and install kiosks for Wadleigh Falls Indigenous and mill history.