Newsletter Summer 2022

Herring Aid 2022 Wrap-up

May 7 was chilly and very windy, but the hardy participants did not seem to mind; they were too busy holding alewives, meeting a feisty sea lamprey and seeing its disc mouth full of teeth, having baby American eels swim among their fingers, and getting answers to their most pressing river herring questions. A few hats blew off, a few faces got misted by spray coming off the dam, but that's part of the package when you have a wildlife adventure.

Q&A session

Say hello to a sea lamprey!
All photos by RH Lord

Alewife passing through.

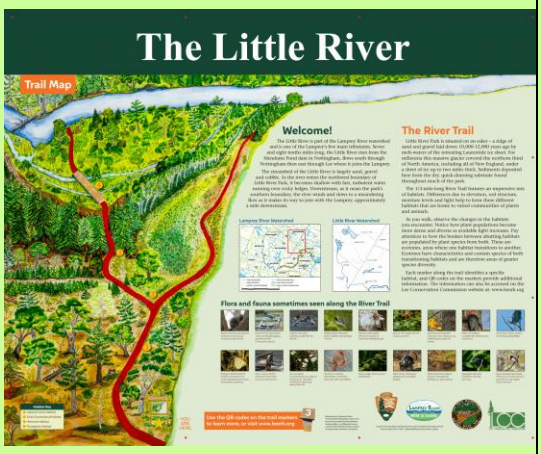
The Lamprey River continues to see good numbers of river herring (80,000 alewives in 2021!) returning from the ocean to spawn in the abundant freshwater habitat upstream; however, due to continuing stressors, such as dams and improperly-sized culverts, direct and indirect overfishing, and habitat loss, the river herring fishery in New Hampshire was closed in 2021 and remains closed.

River herring once were so abundant in New England rivers that it was rumored that a person could walk across a river on their backs during the spring migration. While that might be a slight exaggeration, with millions upon millions of river herring swimming to their spawning grounds, most people did not need to go far to catch a meal. In fact, river herring feed a multitude of animals, both at sea and in freshwater. If these fish have a job in life, from birth through adulthood, it is largely to nourish other animals. A robust population of river herring is good news. If we can help these fish thrive, they will help the rest of the food web. On the Lamprey River, Herring Aid is a success story.

Little River Trail Improvements

As a tributary to the Lamprey River, the Little River also designated as a protected river by the State of New Hampshire. And there is big news at Little River Park in Lee. The interpretive nature trail from the parking lot to the river is ready for visitors! The trail has existed for many years, but during that time, hikers had to navigate around a few wet areas and leave natural interpretation to a knowledgeable leader or their own imagination. No longer. An informative kiosk now greets visitors and provides a sneak-peak about the trail. Sign posts along the trail designate habitat changes and explain why those differences matter through a QR code that a smart phone can read. Thanks to two new foot bridges, mucky areas will have a chance to revegetate and erosion due to off-trail detours will be minimized. Visitors will be rewarded with a better appreciation of the trail's nature and a bench by the river to enjoy the water.

The trail improvements were a partnership between the Lee Conservation Commission members, who created the kiosk, tenaciously secured the necessary permits from NHDES, and organized the building of the bridges, and the Lamprey River Advisory Committee, which provided funding for the project through its Community Grant program.



Little River Trail kiosk panel

One of the new foot bridges
Photo by Martin Thornton

New Water Quality Testing Equipment at Wiswall Falls

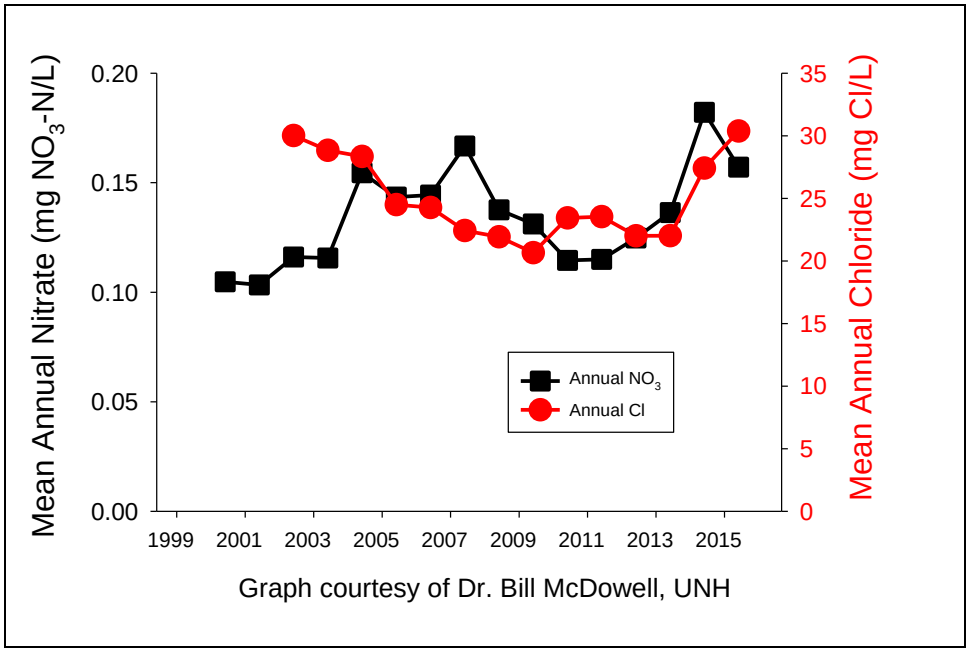
Researchers at UNH have been conducting water quality assessments at Wiswall Falls in Durham since 2012. The data they have gathered have been highly detailed and almost continuous. Unlike many water quality testing programs which rely on taking samples once a week or even once a month during ice-free months, the water at Wiswall Falls is assessed year-round every

few minutes by automated sensors. This level of detail has enabled scientists to understand the chemical and physical dynamics of the river in a manner that is exceedingly rare among most rivers. One researcher has likened this level of scrutiny to hearing a full symphony, rather than hearing a few sampled notes every so often.

When the LRAC learned in 2021 that existing, continuous monitoring equipment at Wiswall Falls was becoming more difficult to maintain due to its age, UNH was encouraged to apply for a research grant, which was quickly approved. The new sensors and analyzers were installed last summer and the flow of data was not interrupted.

These data are important for understanding the Lamprey River itself, but they are also of critical importance to understanding water quality in Great Bay. The Lamprey delivers more freshwater to Great Bay than the other local rivers. How much nitrogen is the Lamprey River contributing to Great Bay? Under what conditions is the amount of nitrogen highest? How has the river's chemistry changed over time? The answers to these questions have a profound impact on how we can try to address nitrogen pollution in the river and Great Bay.

The chart below is a sample of the kind of information being gathered. Black squares represent average nitrate (largely from human activities). Red dots represent salt (mostly from roadways). Both can cause big problems at even fairly low concentrations.



Graph courtesy of Dr. Bill McDowell, UNH

The LRAC is happy to support, and fortunate to be able to benefit from, this detailed level of water quality monitoring.