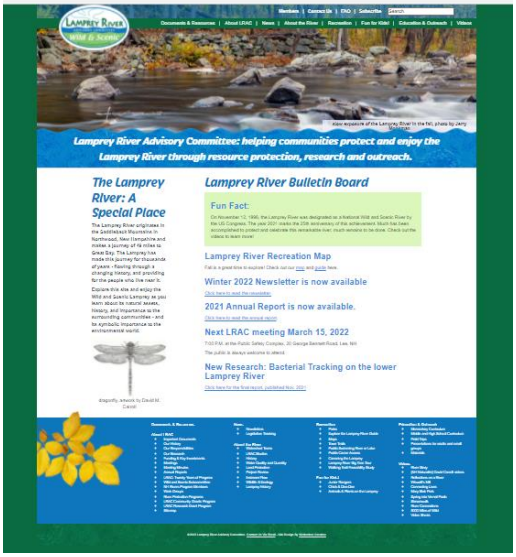
Newsletter Spring 2022

The New and Improved www.LampreyRiver.org!



We are happy to announce that we have updated and upgraded our website. Searching for specific topics is now much easier; current events and news are on the homepage; you can sign up for quarterly newsletters and event announcements to be sent to your email address (We do not share your contact information!); and the website is much better able to accommodate a variety of devices and screen sizes.

Please check it out and let us know what you think!

Bacterial Tracking 2022

Last year, the Lamprey River Advisory Committee funded research to assess fecal bacterial contamination of the lower Lamprey River. For four months, four sites were studied: one in Lee, one in Durham, and two in Newmarket. All sites showed some bacterial pathogens. Through a process that identifies differences in fecal DNA, researchers determined that the sites in Lee, Durham, and one in the tidal portion of the river in Newmarket had low levels from mixed sources, such as geese, dogs, deer, and mammals in general. Although some contamination was present, none of these three exceeded NH State limits. The fourth site, Moonlight Brook in Newmarket, was the exception and had excessive contamination from human sources. This seems to be a municipal wastewater infrastructure problem and town and state officials were notified.

For 2022, assessments will be done from April through November. We want to get a better idea of seasonal changes and capture stormwater events, which tend to make bacterial contamination worse. Three new sites will be added in 2022. With seven sites, we can assess a larger area for levels and sources of fecal bacteria: Carroll Beach in Raymond (new), Epping Town Hall (new), the Lee Public Canoe Access near Wadleigh Falls, Wiswall Dam in Durham, Piscassic Park (freshwater, new) in Newmarket, and the

outlet of Moonlight Brook into Newmarket Harbor. All sites were chosen due to their popularity as recreational areas.

Last year's study offered some much-needed information and confirmed that at least three sites along the Lamprey River continue to meet NH State Standards for "fishable and swimmable" waters. We now know not only the total level of fecal bacteria, but we also know the source of those bacteria. We know that Moonlight Brook poses a significant health risk to humans and work is underway to identify the exact problem so that it can be addressed. Knowledge is power and we hope to bring more power to our communities this year.

Stumpology

All this time we've been stumped and we probably didn't even realize it! Thanks to the creativity and curiosity of Catherine Fisher, a member of the Lee Conservation Commission, a whole world of stump studies awaits you. This winter, the *Lee E-Crier* featured Catherine's articles. If you enjoy reading the Lamprey River nature stories, you will love Stumpology.

Photo courtesy of Catherine Fisher

You can access the articles at E-Crier | Lee NH (http://LeeNH.org/e-crier).

- December 17, 2021: Part 1 – Hardwood Stumps
- January 7, 2022: Part 2 – Eastern White Pines
- January 14, 2022: Part 3 – Eastern Hemlock – The Dead
- January 21, 2022: Part 4 – Hemlocks- The Undead
- January 28, 2022: Part 5 – Dining Platforms
- February 4, 2022: Part 6 – Scent Posts
- March 4, 2022: Part 7- Nurse Stumps
- March 11, 2022: Part 8- Stump Children- Trees on Stilts
- March 18, 2022: Part 9- Deciduous Regeneration

Herring Aid Is Back!

alewife *Alosa psuedoharengus*

After two years without our annual river herring celebration due to Covid concerns, Herring Aid will return this spring when the river herring head back from the ocean to their birth places upstream to spawn the next generation.

While enjoying a nice day beside the river, visitors can see recently-completed engineered improvements at Macallen Dam, such as the new flood gate, reinforced sidewalls on the south bank, and a spruced-up yard at the NH Fish and Game staging area. As usual, visitors can witness first-hand the great annual migration of the river herring, ask the biologists all those fishy questions, handle the fish, and maybe, just maybe, be daring enough to hold a sea lamprey.

This event is free and will occur rain or shine.

Date: Saturday, May 7, 10-noon
Location: Macallen Dam, Newmarket, NH

Free parking is available along Route 108 and behind the Newmarket Public Library. Follow the fish signs to the top of the fish ladder.

In the Flow

The Lamprey River is one of two rivers in the NH River Management and Protection Program (NHRMPP) that was part of a pilot project to manage instream flows. The instream flow management plan is largely to protect fish communities from the worst

effects of drought. The process to develop a protected flow management plan was long and circuitous, but it was worth it. The Lamprey River Water Management Plan went into effect in 2013. Following the successful pilot program, the state legislature now requires the New Hampshire Department of Environmental Services (NHDES) to create instream flow management plans for all of the rivers designated under the NHRMPP.

The initial plan was designed for the lower Lamprey River (Epping to Newmarket), as that was the stretch that was originally designated as protected; however, the Lamprey River designation now includes the full length of the Lamprey River plus five major tributaries. A new plan is needed and work is set to begin this year.

In order to determine how much water should be in the river for management purposes, scientists need to get some background information: What are the typical flows through the year? What are the typical maximum and minimum flows? What fish communities are present in the rivers and how much water do they need at critical life stages?

This spring, NHDES personnel will be installing flow gages into the five tributaries to gather baseline data about river height and flow. Researchers will try to find correlations between observed flows in the tributaries and flows in the lower Lamprey. They can begin to tackle trickier questions about riverside habitats, the needs of fish communities, and long-term flow data to serve as a basis for future management.

Example of a flow data collection set-up Photo courtesy of NHDES

If the flow in the river is too low for too long, a “relief pulse” of water can be released from a dam in Northwood for 48 hours. This pulse is not enough to improve conditions for kayakers, but it does give fish temporary relief, resulting in an extra inch or two of water in the river when fish might otherwise be left high and dry. Most people never know when the Lamprey River is actively “managed”, because the management plan is mostly focused on entities that extract a lot of water from the river, such as the UNH-Durham Water System. Several towns might also be affected, such as when they post water-use restrictions during a prolonged dry period.

In 2022, the Lamprey River Instream Flow Management Plan will get its mandated 8-year review to see if any adjustments are needed. At the same time, a whole new era will begin to fill gaps in our knowledge and expand management to the whole watershed. It’s a good year to be in the flow!

Did you know?
In 2021, members of the LRAC provided approximately 1280 hours to keep the river and tributaries in good shape for today and the future. There is always more work to do. Please consider joining us! www.LampreyRiver.org