

## Newsletter Winter 2023



### **In the Flow: 5 New stream flow gages successfully installed and running**

The lower main-stem Lamprey River was fortunate to have been one of two New Hampshire-designated rivers to serve as a test site for the Instream Flow Program. A management plan was developed and has been in effect since 2013, helping to keep minimal normal flows for the protection of fish communities that should exist in the river. Based on the success of the pilot program, the NH General Assembly passed legislation in 2016 that directs NHDES to create instream flow management plans for all state-designated rivers. Because the Lamprey River's protected designation was expanded in 2011, instream flow management now needs to include the entire Lamprey River and its five major tributaries. This past year marked the tenth anniversary of the original plan, so it was a suitable year to assess its effectiveness, as well as an opportune time to begin gathering baseline information on flows in the tributaries.

As of November 2022, the Instream Flow Program personnel at NHDES had installed 5 new stream flow gages, one for each of the tributaries. Two of the gages were funded through a grant from the Lamprey River Advisory Committee and three were funded by NHDES. In all cases, these gages now transmit real-time flow data which are available to the public via [Instream Flow | NH Department of Environmental Services](#). Data will need to be collected for a few years to determine flows. Once these data are assessed, an expanded Lamprey River Instream Flow Management Plan will be drafted, made available to the public for comments, and officially adopted.



This is a stream flow gage recently installed in the Pawtuckaway River. The tall white stick (staff gage) indicates the height of water in the river for on-site inspection. The gray tube (stilling well) extends into the middle of the stream. A device inside detects water height based on the difference between air pressure and water pressure. The higher the water, the less impact air pressure has on the detector. The device on the tree transmits data to the NHDES website, so scientists and the public can follow the flow. The data obtained will help inform the goals and criteria of the instream flow management plan.



To determine stream flow, the entire width of the stream is assessed using a flow meter, located at the bottom of the hand-held stick. NHDES personnel must take multiple measurements to determine water height and flow at each depth. Several times each year, scientists record the various flows across the stream, the visual height on the white measuring stick, and the pressure differential to assure the reliability of automated data collection.

For most people, instream flow management is invisible and unremarkable. In short, if stream gages record below-normal flows for a certain period of time, often two weeks, the management plan kicks in: registered water takers, such as the UNH-Durham Water System, must refrain from taking any water from the river; towns that tap into aquifers that feed the river must enact certain water restrictions; and a “relief pulse” from dam impoundments upstream might be released for two days that will add an inch or two of water to the river, just enough to give fish a chance to wet their gills and potentially move to deeper water. Relief pulses do not affect conditions for recreational paddling.

### **What Do You Think about the Lamprey River? Survey Says...**

The last time a survey about the public’s perceptions of the Lamprey River was undertaken was back in the 1990s, prior to the river’s state and federal designations. This past summer, over 1000 surveys were sent to residents in the Lamprey River watershed towns through a joint project between the Lamprey River Watershed Association and researchers at Penn. State University. Of the surveys sent, 168 people responded with their perceptions and concerns. Most of those responding lived next to the river or within 1.5 miles of the river.

The following are some of the highlights of the study:

- Residents are connected to and engaged with the area and generally perceive the water quality to be good.
- However, they are also concerned about the river, perceive threats to the river, and support water policies and monitoring the river.
- Respondents perceived indirect sources of pollution to be more problematic than direct sources of pollution or climate change.
- The extent to which they are connected to some part of nature, are affiliated with an environmental group, are concerned about the river, and perceive threats to the river, the more they support policies addressing water issues.

We are pleased to learn that the public perceives the river as having good water quality, which reflects the reality that the water quality is, in fact, mostly good. We are pleased that people are engaged with the river and nature, wish to see them monitored and protected, and support legislation that will help to protect them. The survey also revealed topics that the public might not perceive as potential issues, such as climate change and changes to river flow caused by more development. As is often the case, surveys reveal what we think we know as much as they reveal what we do not know.



For more details about the survey, please visit [www.LampreyRiver.org](http://www.LampreyRiver.org) and type in “LRWA survey” in the search box.

## **Improvements Are Coming to Sliding Rock Park in Newmarket**

After completing trail and signage improvements at Heron Point Park this past summer using a Lamprey River Advisory Committee Community Grant, the Newmarket Conservation Commission applied for and was awarded a new Community Grant to make improvements at Sliding Rock Park, at the confluence of the Piscassic River and the Lamprey River. The grant will provide funding for a new kiosk panel, removal of eight hazard trees, a second kayak rack with anti-theft cables, fencing to allow recovery of an eroded area, and assessment of the trail. Work will begin in spring 2023 and will be completed before the busy summer season.

As a reminder, town conservation commissions and recreation departments are encouraged to talk with us about improving public access areas along the Lamprey River and its tributaries. We are here to help!

## **A Happy Closing for 2022**

- In late December 2022, we got word that two land protection projects that the LRAC had helped to fund had been wrapped up. These areas are now permanently protected against development and help the Great Bay region meet the goal of 20% conserved land. To date, the LRAC has played a big role in protecting almost 4000 acres of land along the Lamprey River!

The 137.5-acre **Mathes Family Limited Partnership in Epping** sits behind the new SELT (Southeast Land Trust) headquarters and has almost a mile of frontage on the Lamprey River. It provides habitat to a wide variety of mammals and reptiles.

*Photo courtesy of SELT*



The 76.3-acre **Robert Rix Family Forest Donation in Deerfield** 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*

- Other good news, just outside the Lamprey River watershed, is that the **York River** in Maine was designated by the US Congress as a Wild and Scenic River on December 23, 2022. The river is beautiful, full of history and habitats that are both diverse and mostly intact. The designation covers 30 miles of river in the towns of York, Eliot, South Berwick, and Kittery. To learn more about the York River, please visit <http://www.yorkrivermaine.org>.

## **Bacterial Report 2022**

For the second year, the LRAC sponsored research on amounts and sources of fecal bacteria contamination at six recreational sites along the Lamprey River: Carroll Beach in Raymond, Epping Town Hall, the Lee Public Canoe Access, Wiswall Falls in Durham, Piscassic Park in Newmarket, and the outfall of Moonlight Brook at Schanda Park in Newmarket. Most samples and sites showed levels of contamination low enough to meet fishable and swimmable standards, but Moonlight Brook continued to show unacceptably high levels of human fecal bacteria. To read the full report, please click [here](#). Research will continue in 2023, adding an extra site above Moonlight Brook.