Newsletter Summer 2016

www.lampreyriver.org

Lamprey River Water Testing Summary

New Hampshire recognizes the Lamprey River as worthy of extra protection and management. The US Congress recognizes it as a National Wild and Scenic River. So, how clean is its water? While the water is, for the most part, “fishable and swimmable”, the complete answer can be a bit tricky.

With that question in mind and armed with 23 years’ worth of data, we now have a much better response when people ask about the state of the water. Under the guidance of researchers from UNH and Lamprey Rivers Advisory Committee members, UNH student Mark Kotowski scoured lots of water quality testing data and analyzed trends. Here, in a nutshell, is what he found:

Dissolved oxygen (the amount of oxygen gas, O_2, that is dissolved in water and is needed by fish and other aquatic organisms to live) meets minimum standards in most places most of the time; however, some notable exceptions do exist. One North Branch River site along New Boston Road in Candia does not meet the minimum standard on average. The cause of this is unknown, but shallow, slow moving water in proximity to wetlands might be a factor. Other sites occasionally do not meet the minimum standard, but when this happens more than 10% of the time in summer, the water must be classified as “impaired.” Impaired status is a big deal and requires corrective action.

pH (a measure of acidity) in general is satisfactory in the Lamprey and its tributaries. The water is slightly less acidic and more neutral as one moves downstream. Newer data show some slight improvement compared to older data. Many sites show a trend of becoming more acidic following heavy rain events.

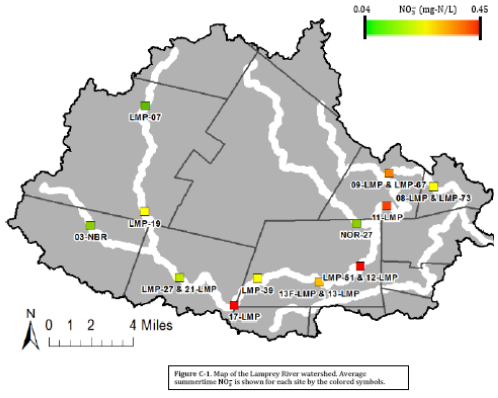


Figure C-1. Map of the Lamprey River watershed. Average summertime NO_3^- is shown for each site by the colored symbols.

Nitrate (NO_3-, a key nutrient) levels have held steady over the last 23 years at most sampling sites, but two sites showed a significant increasing trend. All sites were well below the maximum concentration (10mg/L) for human health.

Green sites have a NO_3- concentration of .04mg/L; red sites have a NO_3- concentration of .45mg/L.

In summary, the water in the Lamprey is fishable and swimmable; however, variability over time and location can lead to concerns. Dissolved oxygen and nitrate should be monitored carefully, as changes in these parameters can have a detrimental effect on the health of aquatic life. For the full report, see http://www.lampreyriver.org/UploadedFiles/Files/water_qual_23_yr_report_2016.pdf.

Boating Wake-up Call

Summer's here and folks can hardly wait to get out and play. The convertibles and bikes are out of winter storage, as are the boats. Bring on the sun and fun!

We are all well aware of speed limits on our roads and why they exist. Some roads are built for speed, others are not. Going fast on a road not built for speed is dangerous to the people on that road and often to the road itself. Hitting a soft road shoulder at a high speed can contribute to the undermining of the road.



Our rivers have speed limits, too, but people often do not understand why. Few rivers can tolerate speed. People in kayaks and canoes are at risk when big waves approach. Even when no paddlers or swimmers are present, almost all our local rivers have "soft shoulders" and are vulnerable to damage when water hits them hard, both from fast currents during floods and boat wakes. When soft river banks are hit by rough water, soil is loosened and eroded.

Once erosion starts, it tends to continue, cutting deeper and deeper into the banks. This makes the banks less stable and more likely to collapse. All that eroded soil clouds the water and ends up settling on the bottom, where it smothers plants and animals that live there as well as reducing the depth of the water. After a while, the river that was so enjoyable before becomes less and less attractive.

According to New Hampshire law RSA 270-D:2,VI, if you are less than 150' from someone's boat, dock, swim raft, shore, rocks, or almost any other object (except navigation buoys), then you should be at headway speed, whether a No Wake sign is present or not.

Boaters can step up and be peer advocates for no-wake zones. Watch the shoreline as you go past and make sure you do not jostle the plants. If you see other boaters leaving a wake, note the registration number and contact the NH Marine Patrol at 603-293-2037. Extend thanks to boaters who respect the safety of others and the integrity of the shore and our rivers.

Summer goes by fast enough; enjoy it more by slowing down.

Sharon Meeker Receives Conservation Community's Ashton Hallett Award

From *Durham Friday Updates*, June 2, 2016



Sharon Meeker accepting the Ashton Hallett Award at the Southeast Land Trust's annual meeting. Also pictured is SELT Executive Director Brian Hart who presented the award.

Sharon Meeker, former Durham resident now living in Lee, received the conservation community's Ashton Hallett Award at the Southeast Land Trust's annual meeting this week for her 36 years of service and leadership on three different Lamprey River organizations. Over the span of 36 years, hundreds of acres of land along the Lamprey River have been preserved, ensuring better water quality for the Lamprey River, a major source of Durham and UNH's drinking water. Congratulations, Sharon.

Get ready, get set, go!



June 26: Lee 250th Family Paddle, 1-3 P.M., Lee Public Canoe Access, Route 152
Enjoy a leisurely paddle upstream and back while taking in the view. Please contact dawn.genes@lrwa-nh.org for details and to register. Co-sponsored by the Lamprey Rivers Advisory Committee, the Lamprey River Watershed Association, and the Town of Lee.

Tuesday, July 19: 6:00-7:00 P.M., Smyth Public Library, 55 High Street, Candia.
Come learn what water science is and why it is important, as well as what we all can do to keep the water in our rivers clean.

Tuesday, July 26: Meet at the Harvey-Mitchell Memorial Library, 151 Main Street, Epping at 12:45. Join an experienced naturalist to find and learn about some the aquatic critters found in the Lamprey. Wear shoes that can get wet; no flip flops. All ages welcome. Rain date July 28.

Saturday, August 20: First Annual Lamprey River Splash & Dash canoe and kayak race, Schanda Park, Newmarket. Dip your toes and paddles into the Lamprey's tidal water for the afternoon. This event will feature a 3km race out to Great Bay and back, a ½km race for novices, and a Rock 'n Roll theme boat parade. Stay tuned, as final details are being worked out. Visit http://www.newmarketrec.org

Rain Garden Woes Erased with LRAC's Help

The Great Bay Stewards have a SOAK grant from the NH Department of Environmental Services to help homeowners increase the capacity of their land to infiltrate stormwater from roofs and driveways into the soil rather than going untreated into a storm drain, thus preventing dirty stormwater from polluting our rivers. As part of the grant program, the Great Bay Stewards work to locate homeowners who are willing to host demonstration projects for various strategies that help to reduce stormwater run-off. Once an agreement is formed, the Stewards, NHDES, and the homeowners create a plan for the project. The Stewards provide free volunteer labor, NHDES pays for half of the costs needed to purchase materials, and the homeowner agrees to pay for the remaining materials and participate in the installation.

The project in Newmarket was to build a rain garden to capture roof run-off and prevent it from washing into the Piscassic River. The project coordinator, Laura Byergo of the Great Bay Stewards, noted that the site has "rocky soil" and volunteers armed only with hand tools might have a difficult time digging the required garden basin. She requested and received help from the Lamprey Rivers Advisory Committee through a small Small Grant to pay an excavator to prepare the site.



One of two truckloads of rock removed from the 130 square foot site. Photos by Laura Byergo



Liz and Bill Arcieri with their new rain garden. Can you see the two pipes that will direct roof run-off into the garden?

After the installation, the neighbors were invited to see the rain garden and learn about other ways to reduce stormwater run-off. One lucky neighbor also went home with a new rain barrel. As Laura made clear, the project would never have gone through without the help of an excavator. That's a big bonus for a Small Grant.

Quotable Quote:

> Happiness lies in the joy of achievement and the thrill of creative effort.
> *Franklin D. Roosevelt*