

Newsletter Fall 2018



Eco-paddle 2018



Photo by Dick Lord

While many people were away or finishing summer projects during the Labor Day weekend, a small group of paddlers who were curious about the tidal portion of the Lamprey River took to the water for a first-hand look at some of the wildlife and learned about issues taking place below the water.

The first stop was at the Macallen Dam to learn why dams are problematic for migrating fish and how fish ladders can help, but not completely resolve, the issue. From the dam, paddlers headed out toward Great Bay and a rest-stop at the dock of an oyster restoration volunteer who is raising oyster spat for The Nature Conservancy's oyster restoration project. They learned that each adult oyster can filter up to 30 gallons of water every day, but the bay has lost much of its former oyster bed acreage. The next stop was at the mouth of the river at Great Bay. Participants learned about eelgrass (it's a land plant that spends its entire life-cycle under water, including flowering and making seeds!) and how eelgrass beds help to filter sediment out of the water and prevent erosion. Like oysters, eelgrass acreage has dropped significantly from historic levels, but researchers are working hard to restore it in the bay. Finally, the Great Bay water keeper talked about how a little bit of nitrogen is good, but a lot is really bad and is causing serious problems. Everyone can play a role in reducing nitrogen, such as not fertilizing lawns and preventing soil erosion.

Along the way, paddlers saw double crested cormorants standing on rocks and buoys drying their wings, belted kingfishers swooping low above the water, ospreys soaring high above looking for fish, flocks of turkeys crossing the river, great blue herons stalking prey in the shallows, and a pair of bald eagles supervising the goings-on from their perch in a snag.

Not a bad way to spend a perfect Saturday on a long Labor Day weekend!

The Wild and Scenic Rivers Act Is 50 Years Old



The United States has approximately 3.6 million miles of streams; 1.1 million are at least five miles in length. Only 12,754 miles are protected by the Wild & Scenic Rivers Act—only 0.35% of the rivers found here. We are most fortunate that the Lamprey River is in this elite group.

The Wild and Scenic Rivers Act was signed into law October 2, 1968 as a way to protect the free-flow characteristics of certain outstanding rivers during a time when developing hydroelectric power was a national priority. While the act had a clear focus on “no new dams”, the overall effect of Wild and Scenic designation has meant so much more to these special places and to all the people who enjoy them.

The Lamprey River has been a Partnership Wild and Scenic River since the US Congress designated an 11 mile segment in 1996 and another 12 mile segment in 2000. No land in this area is owned or managed by the federal government. As part of the designation process, an advisory river management plan was created. Using this plan as guidance, the partnership between the Lamprey River Advisory Committee and the National Park Service has been supplemented by efforts from towns, historic commissions, environmental groups, schools, land trusts, and others to make the Lamprey one of the best protected rivers in the rapidly-developing greater Seacoast area of New Hampshire.

The Lamprey River Advisory Committee has been able to help permanently protect almost 3500 acres of valuable wildlife habitat, agricultural, and water supply area by working with willing landowners. The committee has provided funding and technical support for volunteers to collect and process over 25 years of uninterrupted summer water quality data, even when state funding and support were cut. Significant research on wildlife and history has been undertaken. In partnership with conservation and historic commissions, town historic sites and parks have benefited from kiosks and physical improvements. River-related videos, children’s books, curricula, field trips, and articles have been developed and donated to local communities. Community grants have funded dozens of projects: lending library for invasive weed removal, rain barrels, videos, historic research, rain garden pilot project, mapping of natural or historic resources, school nature trail, community kayak racks, etc.. To view the Lamprey River’s *20 Years of Progress* report to the National Park Service, please visit <https://www.lampreyriver.org/about-us-lrac-twenty-years-of-progress>.

What the Wild and Scenic Rivers Act has meant for the Lamprey River is just the beginning. To view the trailer for a new film celebrating all our Wild and Scenic Rivers, click here <https://vimeo.com/290094402>.

Schoppmeyer Memorial Park Opens

Chris Schoppmeyer was an important man in Newmarket, serving on the conservation commission and organizing the annual fishing derby. “Nature Boy” or “Schoppsie” was a trusted colleague and leader in federal law enforcement, serving 35 years as a conservation officer. He accomplished much and touched many through his dedication to what was legally right, socially good, and often, just plain fun. He was a great man with enormous character who left the best of himself with others. Although his life ended too soon, his memory lives on in the stories of family, friends, and colleagues. And now his memory will live on in perpetuity nestled in a beautiful little park between the Newmarket Community Church and the Lamprey River.

The Lamprey Rivers Advisory Committee was pleased to offer financial and artistic assistance to create this special place. Elizabeth Dudley, landscape architect and LRAC representative, generously designed the contemplative space near the entrance to the park. LRAC representative Dick Lord designed the Lamprey River panel and assisted with layout for the memorial panel.



The Schoppmeyer family
Photo by Dave LeGault



The dedication ceremony
Photo by Dave LeGault



Lamprey River panel and Dick Lord
Photo by S. Petersen



A visitor reads about Chris's life and work
Photo by Dick Lord

Sharon Meeker: A Long Lamprey River Ride



photo by Emma Lord

On August 1, the Lamprey River had to say farewell to an ardent river advocate and inspiration. After 28 years of tireless commitment to the Lamprey Rivers Advisory Committee (LRAC) and all-out local involvement in and around the town of Lee, Sharon Meeker officially retired from her second career as a full-time super-volunteer.

Sharon was with the LRAC from its beginning. She had multiple stints as chair and took on more than her share of responsibility with almost all of the workgroups. She gently guided the committee through several big changes, including 2011 when the state designated the entire main stem Lamprey River and the five main tributaries as protected and

the committee expanded from the original four towns to fourteen towns. As noted in her thank you letter from the commissioner at the NH Department of Environmental Services, "I know that your investments of time, energy, and effort have been instrumental to the committee's work, and that your knowledge of the river, its tributaries and the people who live in the watershed will be greatly missed."

We thank Sharon for her dedication and recognize her many successes helping to connect local people to the Lamprey River for the betterment of both. We hope she will continue to be a part-time presence once she and her husband have gotten into the flow of their new life in Exeter.

Getting Past Obstacles

For the past several years, the Lamprey Rivers Advisory Committee and the Lamprey River Watershed Association have documented woody obstacles in the river between the Route 87 bridge in Epping and the Route 152 canoe launch in Lee. These significant blockages force paddlers to portage up steep slopes covered by poison ivy, walk on private land, and then go back down steep slopes to the river.

Addressing these obstacles has been a challenge, philosophically as well as logistically. Wood in rivers is a natural condition and one that strongly benefits wildlife, especially fish. On the other hand, people who are able to connect safely to a river through paddling are often strong advocates for protecting the river in its natural state. Balancing these two valid arguments required a lot of time and discussion. In the end, and in consultation with Trout Unlimited and the NH Department of Environmental Services, a pilot plan was created to remove enough wood at each blockage to allow safe passage at base flow while preserving the important functions of wood in the water and not impeding natural flow. Any wood removed during the paddling enhancement effort

would be placed back in the water nearby and secured away from the main canoe passage.



Workers take on blockages on the Lamprey Photos by Preston Samuel

The New Hampshire Charitable Foundation found the plan compelling and awarded a grant of \$5000 to the project. The LRAC agreed to assume additional costs. Trout Unlimited agreed to provide expertise and equipment. After a long planning process, a crew from Trout Unlimited and the LRAC completed the project at the end of August. This scenic section of the river is now passable for paddlers without having to contend with tricky portages. It is estimated that canoe passage will remain for five or more years without significant modifications, unless the weather delivers unusually strong winds, floods, and more wood.

To celebrate the completion of work and evaluate its effectiveness, the public is invited to join a leisurely guided paddle on October 13 beginning at the Route 87 bridge in Epping and travelling downstream to the Route 152 canoe access near Wadleigh Falls in Lee. Details are still being worked out, so please visit the calendar at www.lampreyriver.org. Please join us!

Molting: The Changing of the Guard

For the most part, a new outer layer is no big deal for vertebrates. Mammals shed and grow new hair. Birds lose and grow new feathers. Reptiles regularly shed the outer layer of skin. Fish scales grow as the fish grows. Some invertebrates, such as clams and snails, have a shell that grows as they grow, so a new outer layer is no big deal for them, either.

Other animals don't have it so easy. Some animals must literally squeeze out of their outer layer before they can grow. For animals with an exoskeleton, the process of getting a new outer layer is a difficult, bizarre process and takes many forms. Exoskeletons are hard, inflexible, and jointed. In order for creatures with an exoskeleton to grow, the exoskeleton must break open and the creature inside must get out. The animals are able to break shells from the inside using hydraulic pressure. The exoskeleton of insects breaks longitudinally down the back side of the thorax. The

insects exit the shell by pushing up and out; thorax first, then the head, and the abdomen last. Crabs break their shells side to side behind the carapace and the animal must back out. Spiders and their marine cousins, horseshoe crabs, break their exoskeletons at the front edge of the cephalothorax and exit from the front.

When an animal first leaves its exoskeleton, it is soft and very vulnerable. Even the pinchers of crabs, when soft, are of no use. People take advantage of this when they eat “soft-shell” crabs; just boiling and then eating them whole, shell included. After molting, most creatures find a protected hiding place and wait until their new exoskeleton hardens.



Dragonfly nymph molt. Note the gap between the wing buds.
photo by S. Petersen



Green crab starting to molt. Note the back of the shell is lifting up.
photo by Dr. Gabriela Bradt, New Hampshire Sea Grant.



Horseshoe crab molt. Note the gap at the front edge.
photo from www.gulfspecimen.org

People often mistake molted exoskeletons for dead animals. The easiest way to tell the difference is to hold the specimen. If it smells, it is dead. If it weighs what might be expected of an animal that size, it is dead. If it is lightweight and odorless, it is a molt. Once it is determined to be a molt, the exit point is usually easy to observe.

Molts are easy to find. Aquatic insect molts are often found on vertical surfaces next to rivers and ponds. Molts of saltwater animals can often be found on shore near the high tide mark or floating on top of the water. The next time you are near the river or Great Bay, see if you can find some of these old invertebrate suits.

Help Wanted: A River of Volunteers

The Lamprey Rivers Advisory Committee is looking for a few good people who want to be a voice for the Lamprey River and its five major tributaries. The full committee meets monthly on the second Tuesday evening. Each Lamprey River watershed town is allowed up to four representatives. Many interesting and relevant projects are being planned. Get in the flow and come be a part of the action! Applications for nomination are available at <https://www.lampreyriver.org/join-up>.