Newsletter Spring 2019

Better Buffers

In common parlance, “buffer” can be a verb (to lessen the shock of, to cushion) or a noun (a means or device used as a cushion). In environmental circles, a buffer is meant as the naturally vegetated land area that abuts a body of water.

A stream that flows through a natural forest has a big buffer. This buffer provides shade that is so important to wildlife for coolness and cover and also acts as a water filter. Rain that falls on a forest first encounters the tree canopy and then natural leaf litter or herbaceous plants before soaking into the soil. Trees and shrubs have deep roots and the soil of a forest is textured and porous. The roots hold or absorb most of the water as well as impurities that mix into the water. Water that is not absorbed by the plants continues to be filtered by the soil and eventually enters the groundwater. When this groundwater makes its way to the nearest stream, it is very clean. When rain falls on a forest, very little water actually runs over land.

A stream that flows through farmland or suburbs often has a narrow buffer or is dominated by grass with few shrubs or trees. Although lawns are technically vegetated, the roots of most grasses are shallow and the soil cannot withstand pounding rain without turning muddy. When it rains, some of the water soaks into the shallow soil where it gets cleaned, but some of it travels across the land, picking up dirt, animal poop, and pollution particles that fell from the sky before reaching the stream. Ecologically, lawn is a small step above bare soil or pavement, but it is a poor buffer if you care about clean water. A stream surrounded by lawn essentially has no buffer.

In cities or other highly developed areas, streams rarely have a good buffer, if any at all. In places where pavement and other hard surfaces abound, rain cannot soak into the ground. The water picks up oily debris and other chemicals from vehicles, cigarette butts, garbage, dog poop, air-borne pollutants, road salt, and dirt and then often it gets dumped straight into the nearest stream. Even if the parking lot or road is not directly on the stream, conventional storm drains eliminate the possibility of letting water soak into the soil.

In a paved city, keeping surface water clean is difficult and very expensive. Traditional storm drains can be retrofitted so that some of the water soaks in, but this involves engineered solutions, heavy equipment, and plenty of money.

Whether conventional or retrofitted, these human systems require frequent maintenance and periodic replacement.

The most efficient and inexpensive way to keep water clean is to keep a natural buffer at least 50-250 feet wide adjacent to surface water, such as streams, rivers, ponds, and estuaries (the bigger the body of water, the larger the buffer needed to keep it clean). Planting more shrubs and trees, especially adjacent to surface water, beautifies one's property and helps to ensure clean water for everyone.

For more information about what homeowners can do to keep our water clean by protecting or building a resilient buffer, check out *Landscaping at the Water's Edge*, (free!) from the UNH Cooperative Extension https://extension.unh.edu/resource/landscaping-waters-edge-book.

Think Mink


en.wikipedia.org

New Hampshire is home to several members of the mustelid family: skunks, otters, fishers, weasels, martens, and minks. Of these, otters and minks are the most likely to be seen in and around water.

Minks have a rich brown-to-black fur covering the sleek body. The total length is about 19 to 28 inches, with the tail about half the length. The minks' long neck, small ears, short legs, and semi-webbed feet are similar to those of otters, but minks are considerably smaller and have thinner tails.

What minks lack in size, they make up for in scrappiness. Their diet consists of fish, frogs, crayfish, water fowl, and rodents, including muskrats. They evade many predators through their mostly nocturnal lifestyle and many temporary tunnels, but do not shy away from self-defense, including a release of skunk-like fluid from the anal gland.

Minks mate in winter through spring, but the onset of actual embryonic development can be delayed by up to 45 days, possibly in response to the availability of food. Litters of 3 to 6 kits, but occasionally up to 16, are born in

spring. The young stay with their mother until fall, when they leave to establish territories of their own.

Minks are primarily aquatic and swim by undulating their torsos. When they run on land, they have a bounding, hunch-backed gait. They occasionally climb trees. Vocalizations consist of shrieking or hissing and are usually made during encounters with other minks or predators. Although their natural habitat is the forested corridor adjacent to rivers or around wetlands, they also can be found near urban streams.

If you are fortunate enough to catch a glimpse of one of these native creatures, be sure to give that mink a wink.

Rivers for Change Comes to NH

The Lamprey River community is fortunate to have been chosen as a focus river this year by the non-profit group, Rivers for Change. The mission of the organization is to connect people to rivers through Source to Sea adventures. They envision a world where people and communities are active stewards of river systems with a holistic understanding of their interconnectedness and interdependence. They accomplish their goal using three core strategies:

- Connecting People to People
    - fostering community dialogue about rivers
    - cultivating relationships and networks
    - acting as a conduit between geographically separate communities and organizations
- Connecting People to Rivers
    - actively engaging people in their backyard river
    - building people's understanding of a river from its source to the sea
    - telling a river's story from source to sea
- Connecting Rivers
    - building relationships between communities and organizations in different watersheds
    - creating a visual representation of the interconnectedness of rivers

In May, a small group of experienced paddlers will go Source to Sea, starting in Northwood and ending in Newmarket. Along the way, they will document what they encounter: flow, obstacles, developed vs. natural surroundings, wildlife, scenic views, erosion of river banks, etc.

From July 8-12, they will engage middle school Student Ambassadors in five days of paddling and experiential learning. Participants will become proficient in paddling kayaks, canoes, and standup paddleboards while learning proper technique, safety, and leadership.

On July 13, citizens are invited to help with a morning river clean-up using canoes and kayaks. That afternoon, the project leaders will offer a guided public paddle from Schoppmeyer Park in Newmarket to Packers Falls in Durham and back.

Scholarships and boat rental discounts are available to encourage maximum participation. There are also opportunities for partners, sponsors, supporters, and volunteers. Show your support for the Lamprey River by getting involved with this program!

For more information, please visit http://www.riversforchange.org/lampreyriver/.

Herring Aid

Sat., May 11, 2019, 10:00-12:00
Macallen Dam, Newmarket

Join the folks from NH Fish and Game and the Lamprey Rivers Advisory Committee as they help river herring returning from the sea to get back into the Lamprey River at the Macallen Dam in Newmarket. Participants might also view see-through baby American eels and prehistoric sea lampreys!

This rain-or-shine event is free and registration is not required. Park in the public lot behind the Newmarket Public Library on Route 108. Follow the fish signs to the event.