

Calais Lakes and Ponds Working Group

Newsletter- Summer 2004



Pollution of Our Lakes and Ponds: “Who is the Culprit?”

Do you know what the primary source of pollution to most lakes is? Shoreline septic systems? Boat engines? Actually, it's soil erosion! Soil is eroded from exposed ground surfaces, such as roads and ditches, when rain or snowmelt loosens particles and carries them downhill to streams, rivers, and lakes.

All soil contains phosphorus, a naturally occurring nutrient. When the phosphorus in soil is washed into lakes, it fuels algae blooms and excessive plant growth, reduces water clarity, and depletes oxygen. In addition, the sediment itself clogs stream beds and shallow lake areas, severely affecting fish and wildlife habitat.

Ground surfaces protected by vegetation and a duff layer do not usually erode. That leaves roads and driveways as the most significant pollution source. Good road maintenance is a crucial element in water resource protection, and one that often does not receive the attention it deserves. For this reason, the Vermont Department of Environmental Conservation has created the Better Backroads Program to provide information about erosion control on municipal and private roads. Small grants are available to assist towns with corrective actions. In the fall edition of this newsletter, information on how to apply for these grants will be provided.



This newsletter sponsored in part by:

There are four Principles of Better Backroads:

1. Get water off the road surface as soon as possible.
2. Stabilize and revegetate exposed areas.
3. Divert as much runoff as possible away from lakes and ponds.
4. Good maintenance will save money, as well as water quality.

What actions can shoreline residents take to prevent soil erosion on their property?

Here are some tips:

1. Maintain a buffer of shoreline vegetation. This slows runoff water and filters out much of the phosphorus before it reaches the lake or pond. Lawns, on the other hand, don't provide much filtration. If fertilizers are applied to the lawn, then even more phosphorus is added. Many native, low-growing shrubs can be planted along the shoreline to provide the essential woody buffer and still leave a view.
2. Do not build near the shore. When trees and bordering shrubs are cut down or removed, leaving open soil, rains erode the soil and dump phosphorus into the lake. Construction of buildings creates vast erosion potential unless special controls are put in place.
3. Do not create a beach at the water's edge. That load of gravel or sand dumped on the shoreline and into the water results in an immediate influx of phosphorus into the pond. Use a dock instead.
4. Channel your driveway runoff away from the lake. Runoff from driveways can create channels that flow directly downhill and deliver sediments and phosphorus into the lake.

Material for this article and portions of the Beaver article were taken from Out of the Blue, a newsletter published by the Vermont Agency of Natural Resources, Department of Environmental Conservation. We very much appreciate their willingness to let us use and reprint this information.

Lake Champlain
Basin Program



Survey of North Montpelier Pond August 28th 2004

The Lakes and Ponds Working Group, under the guidance of the Calais Conservation Commission, is planning another outing to continue assessing the water quality of our lakes and ponds. Everyone who has an interest in preserving and enjoying our waters is invited to participate in the in-lake and shoreline surveys of North Montpelier Pond on 28 August 2004. We will gather at 9 AM at the State Fishing Access, located just north of the junctions of Routes 14 and 214 in North Montpelier. Susan Warren of the VTDEC, Water Quality Division, will lead the surveys. Most of the work will be done on the water, so please bring a canoe/kayak or find friends with an extra seat in their boat. Some of the shoreline survey may be conducted by walking the properties which abut the shore. The activities will last into the afternoon and will take place rain or shine. Please pack a lunch and be prepared with raingear.

If there are people who would like to join the group, but do not have access to a boat, or if there are property owners who are concerned about having the group on their land, please contact

**David Webb at 456-1247 or
Rowan Jacobsen at 456-1661.**

We hope to see many of you. As Ratty said in The Wind in the Willows by Kenneth Grahame: *“Believe me, my young friend, there is nothing absolutely nothing half so much worth doing as simply messing about in boats.”*

Announcement of Grant Award

Curtis Pond *E. Coli* Monitoring

The Vermont Agency of Natural Resources has awarded the Calais Conservation Commission a grant to continue monitoring the water quality of Curtis Pond. In response to public concerns about the cleanliness of Curtis Pond, a group of volunteers began a program to measure the presence of the bacterium *Escherichia coli* (commonly called *E. coli*) during the summers of 2001, 2002 and 2003. This grant makes it possible to continue monitoring for summer 2004.

E. coli is a common (and necessary) intestinal resident in both people and animals. Measuring *E. coli* in open water helps determine the level of fecal contamination in the water, and the possibilities that organisms harmful to health (but harder to measure than *E. coli*) are also present. Thus *E. coli* is used as an “indicator species,” although, ingested in sufficient quantities, *E. coli* can cause gastrointestinal and respiratory infection in its own right.

Results from the first three years of monitoring indicate that the levels of *E. coli* in Curtis Pond are very low. The average result of 4.3 bacteria colonies/100 ml is well below the state standard of 77/100ml established to assure the safety of swimmers and others, such as boaters and fishermen, who come in contact with lake waters. The ability to continue monitoring for *E. coli* will ensure another summer of safe swimming in Curtis Pond.

Walk the Watershed of No. 10 Pond

As part of our efforts to develop an understanding of the water quality in No. 10 Pond, volunteers have looked into the pond to determine aquatic plants and bottom composition. They have surveyed the shoreline. This summer we will walk the watershed to observe the health of the streams and springs that provide the waters for the pond. Specifically, we will assess the roads near the pond to determine whether erosion from the roads is causing sediment to be deposited into the pond. Susan Warren of the Vermont DEC will lead the watershed walk of No. 10 Pond in September. More information will be provided in the Maple Corner Newsletter or contact Rowan Jacobsen at 456-1661 or rowan@together.net



Beavers (*Castor canadensis*)

are more than intriguing animals with flat tails and lustrous fur. Native Americans call the beaver the “sacred center of the land” because this species creates rich habitats for other mammals, fish, turtles, frogs, and birds. Since beavers prefer to dam streams in shallow valleys, much of the flooded area becomes wetlands.

As nature’s engineer, the beaver is the only animal besides humans that performs large scale manipulations of its environment. Beaver dams and lodges are well-known sights in much of the United States and Canada.

An adult beaver generally weighs 45 to 60 pounds, but, in the past, beavers weighing more than 100 pounds were common. They mate for life during their third year. Both parents care for the kits (usually one to four) that are born in the spring. The young normally stay with their parents for two years, and yearlings act as babysitters for the new litter.

Beavers are endowed with long, sharp, chisel-like incisor teeth with which they gnaw down trees. They gnaw a V-shaped groove around the trunk until enough wood is chewed away and the tree falls. Downing a tree is a time-consuming process for beavers. They have been known to drop a six-inch tree in less than ten minutes, but generally it takes them a while to chew through a tree, often several nights.

Beavers are often credited with being able to drop a tree exactly on target, but this is a myth. They cannot predict where a tree will fall, and occasionally take out their comrades or themselves in the process.

After felling trees, beavers trim branches and stick them in the ground at their dam site, anchoring them with mud and stones. When an extended structure

has been created, they waterproof it by packing mud and debris into the dam. Another beaver myth is that they carry and pack mud with their tails. They actually use their front paws.

Once the dam is completed, the area behind it fills with water, creating a beaver pond. These ponds have provided essential habitat to fish, otter, osprey, and many other types of wildlife for millennia. Moose rely on the aquatic plants that grow in beaver ponds for a significant portion of their food supply.

Over time, beavers abandon a pond site or die off. Without dam maintenance, the ponds eventually deplete, dry up, and become beaver meadows, attracting different wildlife. Eventually, shrubs and trees fill the meadows, completing the cycle.

Beavers inhabit most Calais streams and ponds. We usually don’t pay attention to them until they deprive us of valued land or trees. When human-beaver conflicts arise, working with the beaver is most often the best solution. Allowing the beavers to remain while addressing the specific problem (for example, flooded roads or tree cutting) also preserves the many benefits of the beaver-created habitats.

Unwanted flooding of roads can often be relieved by installing flow devices. Problems with objectionable tree cutting can often be solved with fencing or other methods suggested in the Vermont Agency of Natural Resources recent manual, *Best Management Practices for Resolving Human-Beaver Conflicts in Vermont*.

June and July are good months for beaver watching, as these are the months when the kits are born. At birth, kits weigh about one pound and have a full coat of fur. Kits are born strong swimmers, but may take more than a month to learn to use the membranes that close off their nose and ears and allow them to swim distances underwater. During that learning period, kits often are given a lift on their mother’s back.

If beavers are nervous about your presence, they give voice to their nerves by slapping their tails loudly on the water. This alerts the other beavers in the area that an intruder is nearby. When this happens to you, give them their space. You can continue observing, if you wish, with binoculars.

More information on beavers can be obtained from the website of the nonprofit group, Beavers: Wetlands & Wildlife. www.beaversww.org

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For volunteering or further information,
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