



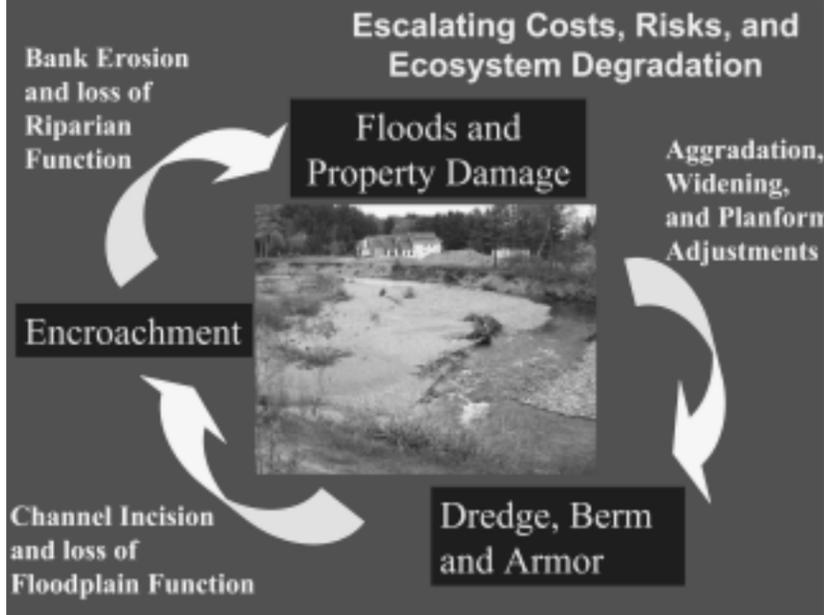

Calais Lakes and Ponds WORKING GROUP
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STREAM GEOMORPHIC ASSESSMENT

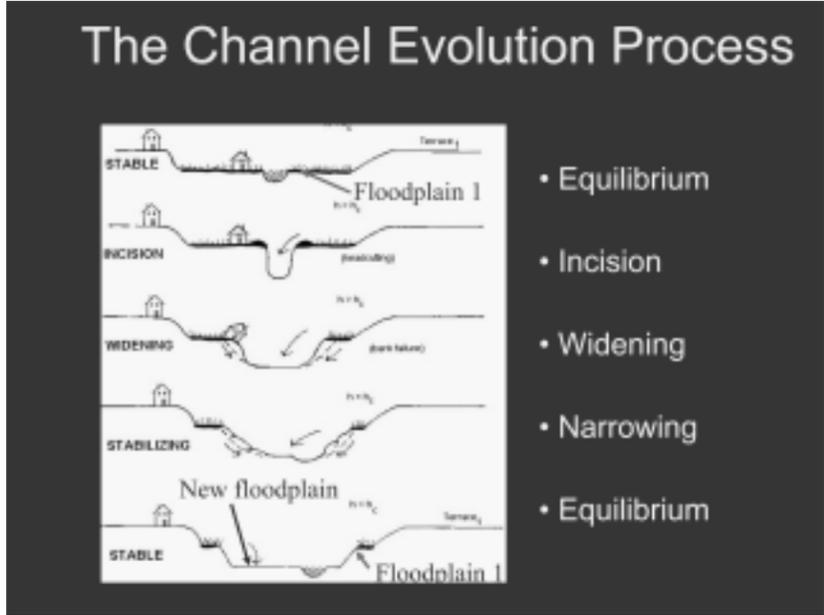
Kingsbury Branch and Pekin Brook

RIVERS IN THEIR NATURAL STATE ARE DYNAMIC SYSTEMS. Over very long periods of time, they will slowly adjust their course as banks naturally erode and sediment is deposited downstream along bends and on floodplains. Human management of

waterways, however, has greatly altered and in many cases accelerated a river's natural processes. In the past, rivers were managed primarily for economic purposes. Rivers were dammed, straightened, and ditched to accommodate agriculture, industry and homes. Many of Vermont's earliest settlements were along rivers, often at the confluence of two or more water-



ways. Roads and railroads were sited parallel to rivers. As rivers strive to 'rebalance' themselves in this dramatically altered landscape the result is economic loss through erosion and flooding and habitat degradation. In the past, this has led to another round of armoring, dredging or berming the river. And the cycle of destruction and degradation continued. In order to break this cycle, it is in our best interest to understand the natural patterns of rivers and to work within these patterns as best we can.



A stream geomorphic assessment (SGA) is systematic approach to understanding these natural patterns, forces impacting a particular stretch of a stream and how to best manage and protect the stream for multiple uses. The assessment examines factors that may be influencing the natural variations in the flow of the river; including dams, culverts, bridges, mining of gravel, eroding river banks, and development of impervious surfaces (buildings, parking lots) in the corridor. This holistic view helps us both better protect human infrastructure and the ecological function of the river. A geomorphic assessment was recently completed on the Kingsbury Branch in Calais and East Montpelier as well as a significant portion of Pekin Brook. The Friends of the Winooski River led the effort that utilized the State's river assessment protocols. Partners include the Winooski Natural Resource Conservation District, the Central Vermont Regional Planning Commission, Bear Creek Environmental and the Calais Conservation Commission.

The assessment results show a variety of conditions in the watershed. There are some areas on the Kingsbury Branch, such as from East Calais to Woodbury Lake, that still have good floodplain access although it may be in need of improved vegetation. Much of Pekin Brook also has good floodplain access although

The graphic shows how rivers react to human impacts and how they seek a new equilibrium.

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there are many areas where Pekin Brook Rd. encroaches on the floodplain. In other areas, the river is incising (cutting down and creating steep unstable banks). This is the case in many places along the Kingsbury Branch below East Calais village down to Pekin Brook as well as in some sections of Pekin Brook. The reach of the Kingsbury Branch, located immediately upstream of the Pekin Brook confluence, is heavily influenced by beavers. The Kingsbury Branch below Pekin Brook is strongly influenced by North Montpelier Pond.

The assessment results will be used to work with private landowners on a variety of protection and restoration measures. Some may be passive such as protecting the river corridor from further development. Active approaches may include riparian and stream bank plantings to improve stability and habitat. There are several programs that may compensate landowners for protection efforts.

For more information on the stream geomorphic assessment please contact Ann Smith at the Friends of the Winooski River at 655-4878 or fwr@sover.net. The Friends and their partners would be happy to visit with riparian landowners to discuss the results and protection or restoration options.

Nature Reveals her Secrets, One at a Time

One sunny afternoon in October a friend and I were walking down the pond road. The world was glowing gold as the sun lit the yellow leaves of the birches, beeches and striped-bark maples. The breeze ruffled the leaves and sent the gold shimmering and dancing. Under the canopy a solitary bat swooped and stalled, banked and turned. What a surprise! This was not dusk. Was there something wrong? After doing research I found that bats come out during the days in colder weather. When insects become scarce bats move their foraging activities to the daytime to catch those insects that have responded to the warmth and are airborne. How gorgeous—a cascading flutter of black amongst the gold!

If you have experienced a fascinating observation of nature and would like to share it with your neighbors, send it to Noreen at noreen1945@yahoo.com or Laura at laurarbrown@comcast.net.

Getting Rid of Loosestrife (*Lythrum salicaria*)

AFTER OUR LAST NEWSLETTER, which described the detrimental effects of loosestrife on native plants and animals, my neighbor suggested that information was needed on how to get rid of loosestrife. Like most exotic invasive species, loosestrife needs to be removed as soon as it is discovered before it has had a chance to spread. If loosestrife is allowed to form large colonies it is very difficult to eradicate. In small groups loosestrife can be removed by digging them with a shovel and then taking them to the landfill or allowing them to dry with the roots exposed to the air and then burying them in the compost pile. One or two year old plants are particularly easy to remove. Begin by “circling the wagons.” Start at the edges of the group of plants and work toward the center. This prevents the loosestrife from spreading while you are completing the removal. One caution- if the plants have already bloomed and begun to produce seed, it is essential to cut off and bag the seeded stalks to prevent sowing new plants during the removal process.

Large infestations of loosestrife can be controlled by hand by digging around the periphery, by herbicides or by biological controls, such as insects. In the United States three insect species have been approved. When these insects are present in high densities the plant is debilitated and flower spikes are destroyed or prevented from forming. These beneficial insects cannot completely remove loosestrife, but they can reduce populations to more manageable and less harmful densities. Vermont has for the past 10+ years been rearing and releasing beetles (*Galerucella* spp.) for purple loosestrife biocontrol. The project ended this year due to lack of funding. The state is looking for other partners to get it going again in 2009.

When you are shopping for new garden perennials don't be seduced by the striking fuchsia blooms of loosestrife. Read the label carefully and ask for suggestions for other alternatives, such as phlox or monkshood.

LET SLEEPING LOGS LIE

When a tree falls at the edge of the pond and drops its crown into the water far from shore, there is an almost universal human urge to remove the fallen trunk and tidy up. I know. A beaver felled a small maple last winter and it toppled into the water. It was hard to resist the desire to haul it out, cut it up and put it on the wood pile.

In this urge we are decidedly out of synch with the rest of the shoreline creatures, who immediately incorporate the fallen tree into their lives. I have watched neighborhood birds of many species sitting on the highest branches of the maple surveying the comings and goings in and around the pond. The submerged branches are a hubbub of fish activity. Numerous schools of fish fry swim amidst the tangle of submerged branches. Because of these little fish largemouth bass love to

lurk close to the shore in the dark of the fallen trunk and wait for their prey to arrive. Often another hunter, a bass fisherman, is waiting just above the surface hoping to snag that bass. These trunks are excellent places for turtles to bask in the sun. As many as 50 painted turtles can be seen on a partially submerged log. The sun is essential for them to dry their shells, get rid of parasitic leeches, absorb calcium from food, and control their body temperature. Without the fallen trees the turtles are forced to seek sun on the shore or atop seawalls, which exposes them to predators. In the water the maze of branches forms a safe haven for turtles. Like the bass, turtles use this habitat to hunt for food- insects, crayfish, tadpoles, mussels, small fish, carrion and aquatic plants. Where you can, resist that urge to clean up and leave the fallen logs for the wildlife!



Join the Lakes and Ponds Working Group

Are you interested in protecting the lake or pond in your neighborhood and want to encourage good stewardship practices? If yes, then consider joining the Lakes and Ponds Working Group of the Calais Conservation Commission. We are an all volunteer group working to gain knowledge about the lakes and ponds of Calais and to encourage all people who live near or play on these waters to act in ways that preserve the quality of these waters for today and the future. Contact Laura Brown at 602-454-7723 or laurarbrown@comcast.net or Noreen Bryan at noreen1945@yahoo.com.