Calais Lakes and Ponds WORKING GROUP

WINTER 2007 Ed. 07-02

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WATERSHEDS-a different way of thinking about your neighborhood

WHAT IS A WATERSHED? The smallest example of a watershed can be found by observing a road after it rains. The water from the high points of the road flows into the hollows and collects forming puddles. Some puddles collect water from a very small area of the road. Others pull from a much wider area. Where there is a track in the road, perhaps one created by lots of car trips, then the water may run a long way before ending in a puddle. The watershed for each puddle is composed of that portion of the road that sheds water into the puddle.

In fact ponds and lakes are just big puddles. Depending on the geography of the land surrounding a lake the waters that fill it may flow from near or very far away. Let's look at the lakes and ponds in Calais. Curtis Pond has a relatively small watershed — 917 acres. It is located in a headwaters meaning that all its water comes from springs or local rains and snowmelts that fall on the surrounding hillsides. By comparison North Montpelier pond has a large watershed, greater than 50,000 acres. It collects waters from most of Calais and more than half of Woodbury. Most of the streams and brooks in these towns find their way to the Kingsbury Branch, which brings the waters that fill North Montpelier Pond.

Whether its watershed is large or small a pond reflects the activities conducted in the watershed. The streams that fill a pond have traversed the countryside of the watershed before reaching the pond. They may have passed through woods and logging operations, may have flowed by houses and farms, and may have meandered beside and under many miles of gravel roads. Where ever they flow, the streams pick up bits of all they touch- silt, plant pieces, waste, such as manure and fertilizers from farms and households, and detritus from animals and insects. Some of this stew is deposited along the way but a significant amount makes it to the pond. It is because of this sharing with the surrounding landscape that one can only understand a pond by looking at its watershed. If a pond has good water quality and clarity then it reflects the good health of its watershed. By contrast when one is trying to understand a "sick" pond, one must examine the watershed not just the pond and its shoreline.

WHY ARE WATERSHEDS IMPORTANT? We all live in a watershed. In fact depending on how you look at it, we live in many watersheds. For example, consider persons who reside along the shoreline of No. 10 Pond. It is immediately clear that they live within the watershed of that Pond. But looking at the flow of the waters it becomes apparent that they also live in a wider world. The water leaving No. 10 Pond flows into Pekin Brook which feeds North Montpelier Pond, whose output flows from the Kingsbury Branch to the Winooski River and ultimately into Lake Champlain. So No. 10 Pond residents also live within the watersheds of North Montpelier Pond, the Winooski River and Lake Champlain.

The activities of people upstream have an impact on lives downstream. Each of us is dependent on our watershed neighbors to assure safe drinking water, flood protection, sustainable resources, protection from toxins and other elements that affect the quality of life. How do you respond when asked "Where do you live?" The typical response would be Calais, Vermont. We were taught to think of our geographic home as defined by lines on a map of North America. But these lines are political boundaries that define our town, state and nation. Watersheds are not constrained to the same boundaries. Lake Champlain, for example, has a watershed that extends beyond Vermont into New York and Canada. Protecting Lake Champlain takes cooperative efforts from all who live within its watershed. There are lots of ways to think of home. Being aware of one's watershed home is important. Caring for our watershed home is essential to preserve our well-being and that of our neighbors. For a map of the watershed of Lake Champlain go to http://www.lcbp.org. This is the site of the Lake Champlain Basin Program, which is a federal, state, provincial, and local initiative to restore and protect Lake Champlain and its surrounding watershed for future generations. For maps or questions about local Calais lakes and ponds, contact Noreen Bryan, noreen1945@yahoo.com.

Are You a VIP?

Vermont Invasive Patrollers is the name of the state organization of volunteers who watch for the appearance of exotic invasive plants or animals in their lake or pond. They become the first line of defense protecting our water bodies from intruders that can harm water quality and natural habitats.

As a VIP, you will:

- learn about native aquatic plants and animals and their habitats
- become familiar with harmful invasive species
- earn a great excuse to get out regularly and enjoy every nook and cranny of your lake or pond all summer long!

What it takes for be a VIP:

- participate in at least one basic VIP training workshop
- sign a Statement of Commitment promising to document survey results in accordance with standardized procedures and report them to VTDEC
- conduct and submit at least two surveys during the summer for the presence of invasive plants or animals in your lake or pond

If you are interested in becoming a VIP, please contact Leslie Matthews in the Lakes and Ponds Section at leslie.matthews@state.vt.us or 802-241-3798.

CALAIS PONDS - part of Survey of the Nation's Lakes

The United States Environmental Protection Agency (EPA) has implemented a survey of 909 randomly chosen lakes across the lower 48 states. The study will gather data to determine the ecologic health and recreational value of the lakes in our nation. This is the first comprehensive national lakes survey in thirty years, since a study done by the EPA in 1972–76. Bliss and Curtis Ponds will be included in the national survey.

Groups in each state, comprised of both citizens and government workers, will use consistent methods to gather data on the lakes in their region. This uniform methodology will allow comparisons to be made across the country and will provide a statistically valid description of the condition of U.S. lakes. The results will help determine the overall health of our nation's lakes, trends in lake health over the past three decades, and the effect of key stressors (such as nutrients and pathogens) on lake status. This will be done by sampling selected key indicators, and the results will help government agencies better manage lakes in the future. As part of the National survey, Vermont is choosing to augment the selection of lakes sampled within the State, to assemble a statistically-valid picture of the lakes in our State. The field work will be carried out during 2007 and 2008.

GARLIC MUSTARD- Eating our way to fewer exotic invasives

Invasive, the word brings up images of extraterrestrials or a huge army or disease. In some ways, invasive plants are like cancer: they invade, they colonize and they spread. Vermont is home to many invasive species that now threaten the state in several ways. There are ten least wanted weeds that the University of Vermont would like to eradicate. The usual ways to eradicate unwanted species are to pull and compost the plants before they develop seeds — a time consuming process that may need to be repeated for years before all the offspring from a single parent plant can be eliminated — or to apply an herbicide, which may damage indigenous plants as well.

A variation is to get rid of the pests by eating them. There are at least two plants on the least-wanted list that are edible: Japanese knotweed and garlic mustard. I have seen how Japanese knotweed affects the normally cast-iron intestinal tract of goats, so I am more inclined to pull its root balls and burn them. Garlic mustard is a more appetizing story.

Alliaria petiolata (the latin name for garlic mustard) arrived in the U.S. sometime before 1868, when it was first recorded in Long Island, New York. Most likely it was brought to the U.S. by a European immigrant as either a food source or medicinal plant. From its introduction 139 years ago, its rapid territorial take-over has been spectacular. It is now found from eastern Canada south to Virginia and west as far as Kansas and Nebraska. It likes moist, shady areas, river and stream floodplains, forests, roadsides, and areas where there are trails. This plant has a two-year life cycle; the first half of this life cycle is spent as a rosette of leaves that hugs the ground and stays green through the winter months. The next spring, the plant matures, meaning that it flowers, produces seeds, and begins to spread. A single plant can produce thousands of seeds that may be viable for up to five years.

Garlic mustard plant is easily recognized, with its attractive heart-shaped ragged-edged leaves. Crush these leaves and you will notice a distinct garlic odor. The plant is harmful to native Vermont species such as trilliums because it grows tall quickly and monopolizes light, moisture, and soil nutrients. Larger foraging animals such as moose and deer will pass up garlic mustard to eat less pungent plants. Their foraging tramples the ground, effectively plowing it for the seeds of the garlic mustard plant. Human activity is the other major aid to seed dispersal, as hikers and campers knock into the seed pods, causing them to break and the seed to fall to the ground.

How can you as a Vermonter help eradicate this plant? Turning it into pesto might be the most enjoyable approach. Learn to identify the plant. If the pictures herein are insufficient go to www.invasive.org and then get set for some late springtime gourmet meals. For best flavor and eradication, try to pull the young plant before it flowers or develops seed pods and try to remove the entire root. If you get behind the times, smaller leaves from older plants can be used in the recipe. Strip the stems and then wash and dry the leaves. Compost the remainder of the plant in black plastic for several months or send it to the landfill.

The impetus for this article was a pasta dinner served by a Vermont Master Gardener intern, using information from an article by Diane Lamb. The article, titled "Invasive Plant Information for Vermont: Weeds for Lunch," contains a pesto recipe from Bruce Kennedy, which I have modified, I hope for the better. Happy dining in the spring! And happy exotic invasive irradication!

Garlic Mustard Pesto Recipe

1-1/2 cups fresh-packed garlic mustard leaves
1/2 cup packed spinach
3 Tablespoons pine nuts or unsalted pistachios
2 or more garlic cloves (Experiment. For some folks, there is no such thing as too much garlic)
3 Tablespoons freshly grated parmesan cheese
1/4 cup extra virgin olive oil

Work the first four ingredients with a mezzaluna or process in a food processor or blender. When finely chopped, add the parmesan and oil. Blend well. This pesto is great on pasta or can be used as a base for other sauces. It refrigerates and freezes well, too.