



“In Wildness is the Preservation of the World”

“There are from time to time mornings, both in summer and in winter, when especially the world seems to begin anew, beyond which, memory need not go, for not behind them is yesterday and our past life; when, as in the morning of a hoar frost, there are visible the effects as of a certain creative energy. ...

The world has been recreated in the night. Mornings of creation, I call them.”

Journal of Henry David Thoreau



Introduction

In this edition of the newsletter, two topics about the wild world within Calais are presented. Amidst our houses and open fields are pockets, some large and some small, of wildness where a myriad of plants and animals dwell. For example, you may have a favorite vernal pool that you visit early in the spring to hear the frogs that sing only in the short-lived pools of ice and snow melt. Looking to preserve these special places, Calais has embarked on a path to gain a greater understanding of the wild at our doorsteps and has embraced a Natural Resources Inventory (NRI) to find and record its special features. Our article on the NRI explains how this is being done.

A second article addresses the water lilies in Curtis Pond. While their flowers and pads are beloved by critters big and small, in some places an over abundance is beginning to clog the waters and make it hard to swim, boat, skate and play hockey. Our article talks about why this is happening and what can be done.



Natural Resources Inventory for Calais

Calais's abundant natural resources represent much of what makes life in Calais unique and enjoyable. Surrounded by nature, Calais residents maintain a connection with the land and an appreciation of the wildlife that roams here. For most, preservation of natural resources is important and valuable. However, without fully knowing where our most significant and special natural resources are located, preserving them for the future is difficult, if not impossible.

Last March, the Town approved the first phase of a Natural Resource Inventory to catalog and locate Calais's natural resources. This is being done to meet goals set forth in the Town Plan for natural resource protection and land use planning. Matt Peters, an ecologist who lives nearby in Woodbury, was selected to do the inventory in consultation with the Calais Conservation Commission.

Examples of natural features being inventoried include special forest types; fens and bogs; vernal pools; unique geologic features or natural areas; and special wildlife habitat such as bear or bobcat dens, deer wintering areas, wildlife road crossings, and special breeding sites.

A report and map overlays, the products of this inventory, will provide critical information from which future policy and planning can occur. Careful identification of unique natural features will help protect the wild and rural quality of Calais, ensuring that adequate habitat is preserved to sustain the special plants and creatures that live here.

The research portion of the project, which reviews previously existing documents, as well as map and aerial photo analysis, is now complete. Some of the findings from this initial work include:



Photo courtesy of Drew Lamb

- **Identification of 554 wetland units encompassing over 2300 acres townwide (about 10% of land base)**
- **Mapping of natural community types, including 24 different types of wetlands and more than 100 vernal pools**
- **Prioritizing of sites for field work**

The next and on-going portion of the inventory process involves the town's consultant visiting properties that might contain notable natural features identified through map and air photo analysis. Data from these site visits will be used to refine a map layer and to develop detailed resource descriptions to be included in the final report.



Matt has developed a list of properties that he would like to visit during this portion of his study and has asked for the Conservation Commission’s help in contacting landowners. If your property has been identified for field work, it will not be visited without your explicit permission.

The second phase of the inventory will occur in 2016 if the townspeople allocate additional funds. After the inventory is complete, Matt’s findings will be presented at a public meeting before it is finalized. Anyone with concerns about the inclusion of their property in the report will be able to raise those concerns at that time.

As evidenced in other towns around the state, natural resource inventories are valuable when attempting to make smart land use and development decisions. A natural resource inventory for Calais goes a long way toward ensuring the protection of our special and often fragile natural features.

Some Definitions

Bog-a wetland in which peat accumulates; with minimal inflow or outflow; supports acid-loving mooses such as Sphagnum

Fen-like a bog, with peat accumulation but more input of water from outside

Marsh-continuously or usually inundated wetland with saturated soils and emergent vegetation

Vernal pool-shallow pool or pond that holds water in spring but is usually dry for much of the year



Chickering Bog Photo Courtesy of Gary Lewis



Catch of the Day

What is this huge and hairy creature with lots of tentacles that Ginger Clammer is holding? It's not a fish. It's not a mammal. But it is a dweller from the deep. It's the root of a water lily. To be more specific, it is one small portion of a huge bed of roots called rhizomes. The one in the photo is from a yellow water lily, (*Nuphar lutea*), which has particularly large roots. Think of hundreds of gnarly, muscular Arnold Schwarzenegger arms clasp hands and you have a picture of the dense mat of tuberous roots lying deep in the muck. Both yellow and white water lilies are native to Vermont and are common inhabitants of shorelines and other shallow areas. They thrive in nutrient rich ponds and love a sunny location. Native Americans used them for food and medicine.

TOO MUCH OF A GOOD THING

Waterlilies have beautiful flowers. They were beloved by Monet who honored them in his paintings. However, when too abundant, they can clog shorelines and make open water so congested that swimming and boating become difficult. Curtis Pond is experiencing an over abundance of water lilies in several locations: in the cove near the dam, north of the island, and in portions of the northern end of the pond. Those living nearby are concerned that the pond will become a marsh well before its time. This is not just a summer concern, as large clumps of dried water lilies poking through the ice pose dangers to skaters and hockey players.



WHY DO EXCESSIVE GROWTHS OF WATER LILIES OCCUR?

The richer the environment, the more water lilies thrive. The nutrient phosphorus is naturally in short supply in Vermont ponds. Add a little more and it is the elixir that causes plants to flourish as never before. Most additional phosphorus results from human activities and development. These sources include gravel eroding from roadways, fertilizer from lawns and gardens, failing septic systems, and removal of absorbent shoreline buffers that filter phosphorus before it can flow into a pond or lake.



WHAT CAN BE DONE?

Removal by Hand- State regulations allow individuals to pull water lilies by hand. The simplest approach is cutting off the lily pads and stems. This is a quick fix, but short lived. New lily pads rapidly reappear. The permanent solution is to dig up roots, a task that is relatively easy for new plants and very difficult for well-established colonies. It begins by wading into the lily bed, sinking into a foot or more of mud, finding the root system, and pulling. Ginger Clammer has pulled out rhizomes as large as eight feet and that is not a fish tale.

Mechanized Removal- If a permit is submitted and approved, the state allows mechanical devices to remove excessive growths of water lilies. This is a labor saving method that can deal with larger areas and dense colonies of water lilies. The drawbacks are the high cost and the risk of spreading water lilies to new locations. A group of concerned citizens is investigating the options for removing water lilies from Curtis Pond, including obtaining a permit for mechanical removal.

DISPOSAL – In whatever manner rhizomes are removed, great care must be taken to collect every bit of the roots. If only a small segment floats away, a new lily can grow. Strong wind or motorboat propellers can carry floating roots to distant locations. To successfully remove water lilies, the roots must be rigorously contained during digging and carefully transported onto land, not left in piles in or near the water. Gardeners take note: these plants do make great compost.





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