Meeting Minutes

ENFIELD CONSERVATION COMMISSION MEETING 04/03/2014

April 3, 2014

Present: Alan Strickland, Gary Gaudette, Shirley Green, Jeanine King, Phil King, Sue Hagerman

Excused: Dwight Marchetti, Steve Schneider

Call meeting to order at: 7:05

Review of December minutes: Revisions; Motion made by Gary to accept the minutes as amended; seconded; passed.

Reappointments: Phil is not going to renew his position on the Commission**.**

Approval of dues: NH Association of conservation commission; approved
Approval of payment of dues: Upper Valley Trails Alliance; approved

Wildlife Observations: Moose tracks and winter ticks – Alan; Sue reported that the Bear on Hardy Hill has been after bird feeders; Shirley went with Ben Kilham and Fish & Game when they went to care for a bear and she got to see three cubs.

New Business:

Wetlands Permit Application for Evenchance Road Subdivision, an eighteen lot subdivision at the end of Evenchance Road. Application must be signed by Commission if the application is to be expedited.
Discussion with handout: Jeanine asked about issue of sediment happening that occurred with a similar subdivision at Crystal Lake. Review of handout with maps. Alan said that it would disturb 5 acres of wetlands. Sue asked if we could add a comment to the application about concerns about runoff.
Decision: Motion made by Shirley not to sign to expedite the application; seconded; approved. The wording of a letter from the Commission is as follows:

"To whom it may concern:

We, the undersigned members of the Enfield Conservation Commission write to express significant concerns regarding the wetlands permit application 18-lot subdivision even chance road Enfield, NH. Currently, there is extensive run-off from the uphill side of 4A which causes icing on the road, erosion of the bank of Mascoma Lake and excessive siltation. We are concerned that further development on that uphill slope, especially of the extent proposed, will exacerbate the current problems to an unacceptable degree. As a commission charged with the protection of wetlands and the class a status of the lake, we have respectfully declined to sign the expedited application.

Sincerely,
Signatures of the Conservation Commission members"

Discussion re: snowmobile trail on town property and actions to take. Decision to have Gary talk with adjoining property owner, representing the Commission, to ask for a formal request for his plan for having a trail across town land with suggestion that CC could help design it to minimize impact.

Report from Canaan Conservation Commission: Enfield Reservoir
The Town of Enfield pays approximately between a $25 to $30 tax per year to Canaan for the Reservoir, Map#5. Lot#17. Most of the cost incurred with the property is with the dam. Payment is made to the State of NH Dam Bureau of about $1100-$1200 per year. Plus there is some labor cost by the Town of Enfield for weed whacking and mowing, about another $1000 per year. The dam is inspected every 3 to 4 years by the bureau. The dam must be maintained in a good condition because a number of residences downstream within the flood zone. If the land is sold, the owner would have to take responsibility and liability for the dam, which is not a selling point. There are options. One is to drain the reservoir and keep the land for wildlife habitat. Another is to use the dam and reservoir until it needs major money to repair the dam. Canaan Conservation Commission and the Mascoma Watershed Council would like to work together with the Enfield Conservation Commission to pursue ideas for the property. In light of the information on taxes and dam maintenance and liability, the Enfield Conservation Commission will revisit this topic and incorporate any suggestions from Canaan Conservation and Mascoma Watershed Council.
Discussion by Alan of above report and options. Makes sense to keep it, either in the dam form or in wetlands. We'll be paying the maintenance fee ongoing, so we should try to utilize it with minimal expenses. Will get together with Jim Taylor and Canaan Conservation Commission to review ideas, with perhaps a field trip. Pond area is 21 acres plus land = 25. 1903 dam constructed.

Old Business:

OLD BUSINESS:
Alan: Update on Town forest and grant proposal and direction for 2014; briefly discussed by Alan; deadline was missed. Will revisit in June.

Shirley:
(NOTE: see Shirley Green's attached Crystal Lake Water Quality Chart)
Shoreland protection brochure was discussed last year but held off on to wait for updated copy; has updated copy; looked into copying at town offices for .07 per copy on town's color copier. Paper $102; envelopes $69; comes in well under amount left on grant. Would like to get it out before people start spring work. May need help. 16 pages of suggestions for people to handle runoff. Will make 500 copies.
Motion made for Shirley to spend amount of grant needed to produce brochure; seconded; approved.

Earth Day, April 22, 2014:? Snow won't be gone; revise

Motion to adjourn made by Alan; seconded; Meeting Adjourned at 8:07

See Attachment Below (Shirley Green's Crystal Lake Water Quality Chart)

Crystal Lake Water Quality Chart

The attached charts represent the annual average findings for water quality samples taken from Crystal Lake, Enfield from 1997 through 2012. The samples are taken weekly from May through September each year and are evaluated by the UNH Center for Freshwater Biology. Crystal Lake is still rated as an Oligotrophic (pristine) body of water. However recent years have shown a higher rate of aquatic plant growth indicating increased phosphorus levels.

The four indices charted are indicative of the overall condition of the lake water in Crystal Lake. Each is impacted by annual rainfall and usage. While these are averages detailed data for each year is available.

Definitions courtesy of UNHLLMP

Water Transparency

Secchi Disk depth is a measure of the water transparency. The deeper the depth of Secchi Disk disappearance to the observer, the more transparent the lake water; light penetrates deeper if there is little dissolved and/or particulate matter (which includes both living and non-living particles) to absorb and scatter it. Secchi Disk measurements are generally taken over the deepest sites of a lake. Transparency values greater than 13.2 feet are typical of clear, unproductive lakes while transparency values less than 8.3 feet are generally an indication of highly productive lakes. Water transparency values between 8.2 feet and 13 feet are generally considered indicative of moderately productive lakes.

Chlorophyll *a*

The chlorophyll *a* concentration is a measurement of the standing crop of phytoplankton and is often used to classify lakes into categories of productivity called trophic states. **Eutrophic** lakes are highly productive with large concentrations of algae and aquatic plants due to nutrient enrichment. Characteristics include accumulated organic matter (muck!) in the lake basin and lower dissolved oxygen in the bottom waters.

Alkalinity

Alkalinity is a measure of the buffering capacity of the lake water. The higher the alkalinity value, the more acid that can be neutralized. Typically lakes in New Hampshire have low alkalinities due to the absence of carbonates and other natural buffering minerals in the bedrock and soils of lake watersheds. Decreasing alkalinity over a period of a few years can have serious effects on the lake ecosystem.

Total Phosphorus

Of the two "nutrients" most important to the growth of aquatic plants, nitrogen and phosphorus, it is generally observed that phosphorus is the more limiting to plant growth in our lakes, and therefore the more important to monitor and control. Phosphorus is generally present in lower concentrations, and its sources arise primarily through human related activity in a watershed. Nitrogen can be fixed from the atmosphere by many bloom-forming blue-green bacteria (cyanobacteria), and thus it is

difficult to control. The total phosphorus includes all dissolved phosphorus as well as phosphorus contained in orattached to suspended particulates such as sediment and plankton. As little as 10 parts per billion of phosphorus in a lake can cause an algal bloom. Generally, in the more pristine lakes, phosphorus values are higher after spring melt when the lake receives the majority of runoff from its surrounding watershed. The nutrient is used by the algae and plants which in turn die and sink to the lake bottom causing surface water phosphorus concentrations to decrease as the summer progresses. Lakes with nutrient loading from human activities and sources (agriculture, logging, sediment erosion, septic systems, etc.) will show greater concentrations of nutrients as the summer progresses or after major storm events throughout the year.

Crystal Lake is among New Hampshire's many pristine water bodies and we hope to keep it so. As population increases in the watershed, detrimental storm runoff created by land clearing, construction and road maintenance create greater strains on the continued high quality of the water body. Land clearing, especially along the lake shore, and the application of fertilizers to lawns and gardens are additional strains on the lake.

Crystal Lake Water Quality Data

Annual averages