

Draft Minutes

ND Water Quality Committee

Wednesday December 19, 2018 at 6:30PM

New Durham Town Hall

Present: Fred and Cynthia Quimby, Tom Rogenski and Art Hoover

Quimby opened the meeting at 6:30PM

1. Minutes.

Rogenski moved and Cynthia Quimby seconded a motion to accept the minutes of the New Durham Water Quality Committee for November 14, 2018 as written. The motion was approved unanimously.

2. Watershed Survey.

Quimby described the recent Watershed Survey of roadside erosion sites produced by our watershed management planners, FB Environmental Associates (FBE). This survey identified 78 sites where remediation of the erosion site would reduce the loads of total suspended sediment (TSS), total phosphorus (TP), and total nitrogen (TN) entering the Merrymeeting River (MMR). The report identified 78 sites, calculated the amounts of TSS, TP and TN which would enter the river from each site based on modeling using site specific characteristics (drainage area, land area and soils). This is the method of calculation recommended by the NH DES. Together, all these sites are projected to introduce 64,266 lbs./year of TSS, 132.22 lbs./year of TN, and 56.11 lbs./year of TP. Compare the latter figure with the 815 lbs./year TP introduced by the Powder Mill State Fish Hatchery (PMSFH). After photographing and describing each area our engineers, Horsley Whitten Group (HWG) described the best method to remediate the site and provided a high and low estimate to implement the remediation. Then FBE calculated the mean cost per site, the cost per pound of phosphorus reduced, and the impact weighted estimated average implementation cost per lb. of TP reduced. Projects were prioritized based on low to high estimated implementation cost per lb. TP reduced, and the Top 10 sites were presented in more detail. The Survey asked the following question on page 1, "If not already in place the town should consider incorporating strict regulations and enforcement of stormwater controls during construction of properties around the lake". Quimby explained that he talked with Scott Kinmond about this and here is how the current system works. When a construction project is proposed, which is within 250 feet from a shoreline, the construction plan is sent to the Town's Conservation Committee (CC) and also to the NH DES as part of an application for a wetland permit. The NH DES issuing the permit checks with the CC to be sure local problems have not arisen before issuing their permit. In their permit are details on control of stormwater and a copy is sent to the Town and filed in the Map and lot folder. Once a construction permit is issued by the Town the building Inspector goes to the site and reviews it with the contractor. Then the Town Building Inspector makes regular site visits to be sure the construction is proceeding as directed on both Town and State permits. It is the Town Building Inspector who informs the State (NH DES) if there is an apparent violation of the Shoreland permit regarding stormwater control. Once that is done the NH DES investigates. So, it looks like there is a system in place but it is cumbersome and depends on the timing of the Building Inspector's visits.

On December 12, 2018 a meeting was held for Town Administrators, Town Road Agents, members of the Cyanobacteria Mitigation Steering Committee (CMSC) and the public in the Community Room at 1PM. Sixteen people attended the meeting. The discussion of the top ten sites was vigorous and many different people participated including road agents. Among the conclusions arising from this meeting were: we should apply for section 319 grant funds from the NH Department of Environmental Services (NH DES) by packaging several small projects, which can be done without an extensive engineering design and specification, along with a complex project...here you can count the labor involved with town highway department staff doing the work against our 40% matching funds and have the project pay for the engineering design for the complex site; remember that for each remediation we must project the cost of annual maintenance of the site after remediation in the town's budget; plan to schedule grants annually over some period of time (like 10 years); don't request funds for work which cannot be completed in 2 years from the time the grant is approved; don't request funds in a grant for engineering design work on land owned by the State of New Hampshire; write grants involving State own land ourselves with our suggested remediation and that will begin a process where Jeff Marcoux (NH DES) brings all the parties together to hash out the details on who will do what and who pays for it. As a result of the discussion on particular sites several sites were demoted in priority and replaced by new sites in the top ten list. Many practical solutions were offered by Scott Kinmond based on his years of working on similar projects in the towns of Moultonborough and Ossipee. Our next steps include: be sure there is some matching funds in the 2019 town budget so work can begin in that year; complete the Watershed Management Plan (WMP) since all 319 grants require this to be approved by the NH DES first; don't begin to apply for NH DES wetland and shoreline permits now, wait until the grant is funded and it will pay to work on these permits; file a grant proposal in the Spring with the NH DES and if we are selected we will write the full proposal with Jeff's assistance during the summer. The total estimated costs for all 78 remediations will be between \$1,160,000-2,190,000. This will be shared by towns and the State (for 40% match) and the 319 funds (Federal-60%). So, about half of the projects are in Alton and the others are in New Durham, each town writes their own grant. Of the expected \$1,600,000 of total costs each town will be responsible for less than half (\$800,000) and the town share after the State funds are deducted are 40%. So, 40% of 800,000 = \$320,000 minus whatever the state pays divided over 10 years=less than \$32,000 per year. It's a lot of money and will need to be addressed this year in a warrant article. Quimby then told the group that Scott Kinmond has set up an account to receive private donations for remediations in New Durham.

3. Septic System Survey.

Quimby brought up the results of a 75% finished septic system survey of all homes within 250 feet of Merrymeeting Lake (MML) or MMR. Two striking problems arise from the results: first there are approximately 30% of the Map and Lot# folders have no information of septic systems and second there are congested areas along MML where some communal system should be considered. Quimby explained that is it not uncommon for the folders to have nothing about septic systems in them. The system may be a pre-1967 system when no approval from the State was required. Sometimes the State does not send the final certificate of operation back to the town to file (but this would mean that the system designer didn't submit his/her paperwork as well). Some folders are used by many different people and there is always a chance of paper being lost. The certificate may be misfiled (in fact I did find several which were in the wrong folders). Quimby's next step is to take all the Map and Lot folders without information and feed

the information into the State's electronic database; this will identify the last septic system approved by the State since 1986. Before that date it becomes difficult to find the information. Fred will do the database search next. If there are still many homes without any information on their septic system we should consider a warrant article which brings everyone into compliance. Fred has already called the NH DES subsurface systems bureau and they have said only the town of Meredith has such a regulation and it is for houses located within 250 feet of Lake Waukegan, Meredith's public water source. More information is expected from the Meredith people later in this week. Art Hoover agreed that something along these lines must be done to protect the lake.

4. 2019 Milfoil Treatment.

Quimby review correspondence related to 2019 Milfoil Treatment in Marsh, Jones and Downing Ponds. After reminding Amy Smagula that she forgot to ask Solitude Corp. for a quote on chemical treatment of Marsh Pond, Amy did request this. The new chemical quotation rose from \$22,000 to \$26,372. Unfortunately, when Amy then calculated the State's match for each town's request she accidentally used the earlier quotation. I emailed her to revise the quote and she told me that we could treat less area with chemicals and have DASH operators do a little more. She also asked Quimby to "confirm with me (Amy) by reply to this email that you are willing to go forward with this project at this grant level, and if so, I will be in touch in the next few weeks with the paperwork for the grant". Fred replied that the Town plans to proceed with this plan at some level next year.

Why did Quimby answer this way? Because this New Durham Water Quality Committee (NDWQC) asked Fred to meet with the Board of Selectmen (BOS) after the last meeting to show how much different the milfoil treatment quotes were from the budget projected by the NDWQC in August. Based on hearing that information the BOS wrote a letter to NH DES and NH Fish and Game (NH F&G) requesting that they pay the entire amount for Milfoil Treatment this year which was expected to be around \$40,000. Fred handed out the letter and Art Hoover noticed that the letter was not dated and asked when it was sent. Quimby said in the past two weeks. Quimby explained that he did not feel he could commit to Amy's request to accept the terms of the grant until he heard back from the BOS. Art Hoover remarked that the NDWQC did not want to lose the State 25% because the BOS doesn't respond in time. The NDWQC members urged Quimby to quickly re-contact the BOS and ask for their further re-consideration of this issue as soon as possible but not to exceed January 15, 2019. Quimby agreed to meet with the BOS as soon as possible to discuss this dilemma.

5. Water Quality Testing Invoices.

Quimby reviewed the final invoices for work conducted under the direction of the NDWQC. The invoice for the period August -December 2018 was \$684. That combined with the previous Spring/Summer invoices totals \$2756 (we were approved to spend \$4000). And our budget for Public Relations this year spent \$125 (from the budgeted \$500). There is a little left over here which can assist in milfoil treatment. The Milfoil CRF has been depleted of funds to pay for the Watershed Management Plan (which the BOS approved at \$20,000). Fred then explained he had a copy of all the test results from the UNH laboratory for the period August-December if anybody wanted to see them.

6. Water Quality in the watershed.

Quimby next presented the latest results on microcystin levels in the Marsh, Jones and Downing Ponds as well as Mill Pond Alton. Microcystin is a hepatotoxin made by many cyanobacteria in NH waters and it is the only cyanobacteria toxin for which the World Health Organization (WHO) has set limits for human exposure. The cyanobacteria growing in Jones and Marsh Ponds and causing blooms this year is *Oscillatoria*, and it did not appear to produce any microcystin. There was no bloom in Downing Pond and the water tested was also negative for microcystins. However, the cyanobacteria causing a bloom in Mill Pond Alton is *Microcystis* and it did make very high levels of microcystin. The WHO guidelines for drinking water are 0.3 parts per billion (ppb) and the level in Mill Pond on September 7 was 1.1 ppb; almost 4 times the maximum level for drinking water. The levels in MMR where Mill Pond discharges into the MMR were 0.28 ppb. Art Hoover asked Quimby if there was any new information concerning the Conservation Law Foundation's law suit. Quimby replied that he was unaware of any.

7. Jason Smith's letter to Scott Kinmond.

Quimby read from the letter Jason Smith (Director of Inland Fisheries, NH F&G) which detailed three actions Jason proposed as interim measures to reduce the phosphorus being discharged into the river until a treatment plant can be built. They included: removing 50,000 salmon and contracting to have the National Hatchery in Nashua, NH perform this activity for the NH F&G; Reducing the phosphorus in fish feed from 1.2, 1.1 and 1.0% (which is fed currently) to 0.9% phosphorus-this will immediately reduce the phosphorus in the system by 10%; and to hire HDR Inc. engineers to perform a 15% treatment facility design to reduce phosphorus in the discharge water as much as possible with a target of 20 ug/L. Fred researched these three interim solutions and reviewed his finding with the BOS. Quimby encouraged the BOS to write back to Jason explaining that their were encouraged by the elimination of salmon and reduction of phosphorus in the feed and agreed that HDR Inc should get started on an engineering design but that no final plan should be designed which would not also serve to reduce phosphorus to a lower level (say 10 ug/L) should the final scientific calculation on the maximal discharge be lower than 20 ug/L. The BOS agreed to write this letter but it has not been sent at this time. Quimby then discussed the calculated annual phosphorus load reported to the Environmental Protection Agency (EPA) by the NH F&G as a result of their quarterly testing. Based on figures given to them by the EPA, the NH DES has calculated the average phosphorus load at the hatchery to be 800 lbs./year. There are some questions about this figure which arise when residents actually see a modification of daily Best Management Practices occurring at the hatchery around the time these quarterly tests are performed. Fred brought this up because if HDR Inc. is given the phosphorus load of 800 lbs./year and it is a lot higher, the design may be way off. In fact Mike Gelinas has researched this topic and found that hatcheries in Washington State and Vermont do not calculate the phosphorus in their discharge using these a chemical test of the discharge water but rather they assume that all the phosphorus entering the hatchery discharge comes from input water and fish food. They take the food in lbs./year and the average %phosphorus in the feed (say 1.1%) and the biological incorporation rate (20-30% of the phosphorus in the feed is incorporated into fish flesh) and use this calculation. If we do this for PMSFH the phosphorus load is over 1200 lbs./year. This is a 50% error in the load and enough to cause HDR to fail in their design. Tom Rogenski agreed that an error of this magnitude might lead to a facility design which could not reduce phosphorus to 20 ug/L. In this

case the State may try to blame HDR Inc..The group talked about this and decided this information about Washington and Vermont should be shared with HDR Inc.

8. Quimby handed out an article summarizing the 2018 water quality testing in the Watershed he wrote for publication on the Winnepesaukee Gateways website (Lake Winnepesaukee Association). He would like to use this document as the basis for the Town's Annual Report from the ND WQC this year. Of course, it would only contain the information on the New Durham end of the watershed. Fred would like NDWQC feedback on this.
9. Cynthia Quimby moved and Fred Quimby seconded a motion to adjourn. The motion was passed unanimously at 7:45PM.

Respectfully submitted,

Fred Quimby, chair, NDWQC