

Draft Minutes
New Durham Water Quality Committee
October 20,2021
Community Room 6PM

Present: Fred Quimby, Bill Meyer, Maureen Knepp, Casey Buell, Keith Barnard

Absent: Cynthia Quimby(alt.), Mike Gelinias and Penny Meyer

Quimby called the meeting to order at 6:03PM

The Draft Minutes of the August 18, 2021 meeting were discussed and Bill Meyer moved and Keith Barnard seconded a motion to accept the minutes as written. The vote in favor was unanimous.

New Business:

1. Quimby brought the Committee up to date regarding the activities of stormwater engineer, Eric Reitter. Last week a letter was sent to Jeff Marcoux at NH Department of Environmental Services (NH DES)explaining that new engineering plans were created and distributed to NH Fish and Game (NHF&G) and NH Department of Transportation who have approved the plans(attached); NH DES has issued a Shoreland Permit; the construction of the entire Best Management Practice (BMP) will now be undertaken by New Durham Department of Public Works (NDDPW); the Engineers for the project were selected using a NH DES approved RFQ procedure; and the Site Specific Project Plan was attached. Permission was requested to proceed with construction. Photographic documentation of the worksite has begun.
2. Reitter was also involved with engineering two additional projects recommended for BMPs in the Watershed Management Plan (WMP): culvert replacement at 284 South Shore Road and elevation and drainage of the road at 15 Meaders Point Road. Before and after pictures are in the process of documenting the work.
3. An email, from Amy Smagula at NH DES, providing insight into the density of variable milfoil in Marsh and Jones ponds agreed with assessment by Gelinias and Quimby that herbicide will be needed to treat this area next year. Amy was to complete her assessment of Downing Pond in the past week.
4. Quimby described a mass fish die off on Merrymeeting Lake (MML) this year which occurred between August 20-27,2021. Thousands of born this year yellow perch were found dying or dead near the shoreline all around the lake. Quimby contacted the NH F&G biologist in charge of the Diagnostic Lab, Matt Pehrson, who came to view the situation and collect specimen for pathology and cultures of bacteria and viruses. The final report concluded the death was due to a combination of factors including infection by Flavobacterium columnare present in the kidneys of most fish, co-infection by the plasmodium, Henneguya, in the gills of many fish, schooling behavior and very warm water temperatures near the shoreline. As these perch began to school up they were chased by larger predators into extremely warm water along shore when they became exhausted and died. A resident on South Shore Road brought this to Fred's attention. Fred later took his boat around the lake and found dead fish everywhere. Henneguya has not been previously described in Native NH fish.
5. On September 8, 2021, Quimby was contacted by a resident at North Shore Road who described a bloom in the entrance of a perennial brook into MML. Fred investigated and found large

numbers of a diatom growing in the water, later confirmed by NH DES as Eutonia. Water quality testing showed the brook as pristine with a Total Phosphorus(TP) level of 4.7, temperature of 20.3C, Dissolved Oxygen of 93.1%, and specific conductivity of 61.8 uS/cm.

6. Marsh Pond sampled by Gelinas and Knepp in August had 300,000 and 400,000 Planktothrix cells per mL of water, these samples plus another collected by the same team in Jones Pond were submitted for toxin analysis. In early September NH DES team resampled Marsh Pond and found 700,000 Planktothrix cells /mL and on September 20, 2021 Gelinas and Quimby sampled the same site in Marsh Pond and found 500 cells /mL. At this point NH DES asked the advisory signs be taken down. The Advisory on Marsh Pond went from 21 July to 21 September, 2021. No other advisories were posted in New Durham this year.
7. Dilichospermum, Aphanocapsa and Coelosphaerium were all documented by NH DES in a localized bloom occurring on September 22, 2021 by John McLaughlin on North Shore Road. All these cyanobacteria were in a state of dying perhaps due to exhaustion of phosphorus in the lake. The most likely cause of this transient event was application of high phosphorus lawn fertilizers coupled with intense stormwater runoff. A letter was sent to the North Shore Road resident who reported the incident, explaining this. Several Committee members thought it a good idea to send examples of local business who carry low or no phosphorus lawn fertilizers along with the tax bills in December.
8. Quimby brought the results of cyanobacteria toxin analyses on three samples of Planktothrix isoetrix. They were found to NOT be making anatoxin-a, saxitoxin, cylindrospermopsin, or microcystin/nodularin. These are the four toxins previously identified world-wide as Planktothrix isoetrix toxins. Conversations with the Director of the Bend Genetics Lab confirmed that the cell wall of Planktothrix contains Lipopolysaccharide (LPS) which causes rashes upon dermal contact. This was reported by one New Durham resident living and swimming on Jones Pond in 2018.
9. Quimby showed an example of a stream (intermittent) which turned orange after roadside ditching. It was caused by iron oxidizing bacteria after exposure of a source of iron in the ferrous state. This scene occurred all over the State this year and even was reported several times by residents of New Durham, it is harmless.
10. There was some confusion while trying to close the account for developing the WMP this year but in the end all invoices could be accounted for and unintended filing of invoices in the water quality account and the Milfoil account when all invoices should have been sent only to the Watershed Management Account. Based on this experience, Fred and Bill called a meeting with the financial and accounting staff of New Durham to set up a new accounting system for the s319 grant project. The s319-1 account will take receipt of all invoices and wages with this designation. The participation of any NDDPW employee and or volunteer resident on this project will be recorded daily and summarized weekly and at the end of the project. Should the Budget Committee also approve the funds for a part time student to work on the septic system inventory this summer (the Board of Selectmen have already approved this) a new separate accounting system will be set up for this activity and all invoices and wages marked with the designation , Septic System Inventory, will go directly into this account. Fred handed out the new/revised Water Quality Testing and Septic System Budget which includes funds for student workers to assist in deep site water quality testing and septic system inventory.
11. The NH Legislative Shoreline Septic System Commission completed its report in 2020 with 14 recommendations to better evaluate and replace failing system systems within 250 feet of

surface water. The report is available online. Unfortunately, the 2021 Legislative session took no action on these recommendations.

12. Amanda McQuaid, NH DES, has taken on our request to de-list Downing Pond from the 303(d) list of impaired waterbodies.
13. Fred asked Maureen if she and Chrissy Moran could kayak around Chalk and Marchs Ponds next Spring and see if any variable milfoil was growing. Maureen agreed to do this. Keith and Casey asked if Amy Smagula could send the promised power point presentation on Merrymeeting River Invasive Plants and Animals. Fred will do this.
14. TA Nicole Zoltko requested that Fred complete a NDWQC membership listing and assign terms for each member and any special role they member assumes. The Committee agreed with the following terms and roles:
 - a. Fred Quimby 1 year remaining and chairman, committee budget
 - b. Bill Meyer , 1 year remaining and Stormwater BMPs
 - c. Penny Meyer, 1 year remaining
 - d. Keith Barnard, 2 years remaining, Variable Milfoil activities
 - e. Mike Gelinias, 2 years remaining, PREPA Grant initiative
 - f. Maureen Knepp, 3 years remaining, water quality testing schedule for 2022; Lake Observation by Citizen Scientist and Satellite (LOCSS) program; and Facebook with Casey
 - g. Casey Buell, 3 years remaining, Facebook with Maureen and taking cyanobacteria samples to Amanda McQuaid in Concord
15. Public Education. The NDWQC already provides a description of its annual activities in the New Durham Annual Report and send descriptions and online links to additional information out with the tax bills. A monthly Facebook announcement and re-publication of NH State announcements have been suggested. Maureen suggested these be combined into a monthly submission on Facebook of critical water quality news which helps the public understand the need for stormwater management; maintenance of functional septic systems; the proper use of lawn fertilizers, insecticides, and herbicides; keeping pet poop out of the surface water; and curtailing the use of other practices and activities which negatively impact surface water such as fire works. Everyone agreed with this approach. Some members thought the tax bill listing was a waste of time, nobody reads it.
16. Fred asked Bob Craycraft if he would lead a discussion at our next meeting which would summarize this years' water quality testing results and project what is essential to continue and what might be added to better understand the changes taking place in the surface waters of New Durham. Bob has agreed to do this. Fred also wrote to Forrest Bell, creator of our WMP, bringing him up to date on the Committee's activities vis-à-vis the Action Plan and asking which water quality tests he thought essential to continue or new tests to be added in the next year. Forrest and Laura Diemer responded that in general continued testing should occur in any waterbody which is impacted by changing BMPs and add any testing and stream gauges to any waterbody, especially perennial tributaries to MML, which appear to have issues. The meeting adjourned at 7:02PM.

Respectfully Submitted,

Fred Quimby, chairman

