

DRAFT MINUTES

Minutes of the Cyanobacteria Mitigation Steering Committee Meeting

March 1, 2018

Town Hall, Alton, NH

Present from Alton: Ray Howard and Bill Mannion

Present from New Durham: Fred Quimby, Bill Meyer, Bob Craycraft, and Rod Doherty

Present from the State: Jason Smith (NH F&G)

Guests: Sue and Art Hoover (New Durham), Mike Gelinas (New Durham), Sabina Perkins (Durham)

Absent: Reuben Wentworth and Cydney Johnson (BOS) and Gene Young (CC), Alton; Mark Sullivan (CC), New Durham; David Neils (State DES).

Fred opened the meeting in the first floor conference room of Town Hall at 6:50PM (this meeting was moved from the Gilman Museum which was locked).

Agenda Items:

1. Approval of the minutes of August 31, 2017. Bill Mannion moved and Rod Doherty seconded a motion to accept the minutes as written. Motion passed unanimously.
2. Bob Craycraft reviewed the features of the 2017 Merrymeeting River(MMR) Water Quality Survey. There were three figures and two tables which accompanied this review. Noteworthy was the fact that total phosphorus (TP) concentrations were very low arising from Merrymeeting Lake (MML) and immediately increased at Site 1, the New Durham Boat Landing 1000 feet from the Powder Mill State Fish Hatchery (PMSFH) outfalls. Concentrations throughout the New Durham segment of the MMR fell as you moved further away from the PMSFH until reaching Coffin Brook, where the concentrations again rose dramatically. Concentrations then fell the further from Coffin Brook you traveled until reaching Alton Bay. Also of note, as the season progressed the TP concentrations increased in the New Durham segment of the MMR due to tributaries in this region drying up and no longer diluting the TP concentrations. Samples from Coffin Brook were highest where it crossed Coffin Brook Road and fell at the Rt. 28 Bridge crossing of Coffin Brook. So, the upper reaches of the Brook appear to be where the problem arises. The median concentration in Coffin Brook was as high as the median concentration of the MMR at Site 1.
 - a. There was a discussion concerning how the TP gets into Coffin Brook. Mike Gelinas mentioned the presence of farms above the brook in this section of the watershed. Bill Mannion mentioned the presence of an old Town Dump also in this area. Fred brought up the fact that we should probably monitor tributaries above the Coffin Brook Road site this Spring in order to better nail down the source of TP. Fred also mentioned that unlike the New Durham segment of the MMR , Coffin Brook TP concentrations appear highest in the Spring and decrease in the summer, which is consistent with the Spring Runoff of Agricultural fertilizers.
 - b. Fred also mentioned that the Merrymeeting Marsh Wildlife Management Area along Rt.11 was probably a sink for TP due to the tremendous density of plants in this

segment. It may be of value to monitor TP loads into and exiting the WMA this Summer in order to see if the phosphorus assimilative capacity is decreasing in the future. This may alert the residents of Alton of an impending surge in TP in the lower ends of the watershed in the future.

- c. Fred asked if the Gelinas Survey team had a water velocity meter. Mike Gelinas said he had the one loaned by the MML Association but he could not get it to work. Fred suggested that Mike and Bob look at this together and determine if it is useful. It would be ideal, going forward, to measure Water Flow (and thus calculate TP loads) at the bridge collection sites.
 - d. Mike Gelinas reminded the group that what we were looking at on the figures and tables were phosphorus concentrations and this did not reflect the actual phosphorus load (lbs. of phosphorus per day or year) entering the MMR. To get loads you must know the flow and concentration but flows were not measured except at Main Street Bridge in New Durham. Bob agreed and said this is important to know.
3. Fred introduced the HDR Inc. Report to the group and handed out a cartoon which depicts the various equipment recommended by HDR for the removal of phosphorus from the PMSFH discharge stream. Fred noted that NH F&G arranged to have Matt Cochran of HDR Inc. visit the hatchery in December to tour and review the cleanout system and to review site elevations made by NH F&G throughout the hatchery in November. Matt Cochran was one of the same people who were present in 2002 for the last engineering report on the hatchery. Fred also noted that the Hatchery working group based its correspondence with HDR Inc. on the premise that the US EPA will place limits on the discharge of phosphorus from the hatchery in the new Draft permit. This permit has not been released yet so we still do not know for sure what the future recommendation will be. But, assuming phosphorus must be reduced, HDR Inc. advised on several fronts. First, planning must take place to find the best method for continuously collecting sediments from Fish Rearing Units (these include raceways, woods and show ponds and the circular tanks). A dedicated gravity fed waste water stream would run from the northern end of the hatchery to the southern end picking up waste water from each of the fish rearing units along the way and deliver them to a clarifier tank. Ferric chloride would be added to the tank as a coagulant to precipitate all the phosphorus. The sludge thus formed would be delivered to a storage tank with any overflow returning to the clarifier. All the rest of the water from the fish rearing units, hereafter called overflow water, would flow from north to south and pass through a microscreen filter before being discharged into the river. The backflow from washing off the filter would be delivered to the clarifier. This proposal takes advantage of collecting sediment as soon as possible while the percentage of bound phosphorus is high and gently delivering it to a clarifier where ferric chloride would remove both the bound and unbound phosphorus. In the overflow stream all particles greater than 30 microns in diameter would also be removed and sent to the clarifier. This should greatly reduce both total phosphorus and total suspended solids and associated nitrogen. HDR Inc. recommends that the next step involve creating a 15% engineering plan which can be used to test actual conditions in the hatchery and from which a total cost estimate can be calculated. This information is what Ray needs before introducing any legislation in the NH HOR.
- a. A discussion ensued concerning the results from the Hatchery WG's survey of phosphorus throughout the hatchery. Fred explained that the survey showed that the

percentage of soluble phosphorus was lowest in the fish rearing units and became higher at every other step from vacuuming, truck hauling and settling ponds. It appears from this survey that holding waste water for long periods in a settling pond actually causes the bound phosphorus to be released as soluble which cannot sediment and thus enters the discharge stream. Someone asked if ferric chloride could be introduced directly into the settling ponds and the answer was not in their current configuration, they would need to be rebuilt before adding a coagulant. In which case it is better to just build a clarifier tank.

- b. Bill Meyer inquired about the old clean out system already present in the hatchery and whether or not it could be used to deliver waste water to the southern end of the hatchery. Jason tried to recollect how that discussion went during HDR Inc's tour of the hatchery, since there was no mention of this in the HDR Report. Jason was not sure any final decision was made on the use of the clean out system. Bill also wanted to know if enlarged plans of the hatchery existed. Fred said he had an enlarged picture of the hatchery as present in the 2002 HDR Report and would make a copy for Bill. Jason said he had blue prints and electronic copies(pdf) which could be sent. Bill also asked for clarification on what the show ponds were and Jason explained them.
 - c. Mike Gelinas wanted to know if anything could be done now or in the next year while we waited for state funds for the construction. Fred explained how the modifications to the settling ponds does not look helpful. He did, however, believe that once construction began it could be done in stages where even the first stage would lead to a significant reduction in phosphorus. This could be accomplished by building the clarifier and storage facility immediately and delivering the vacuumed sediments directly to this tank for ferric chloride treatment and disposal.
 - d. Sabina Perkins asked what happens to the chloride after the iron binds to the phosphorus. Fred presumed it went into the discharge stream but didn't know for sure. Fred would enquire. Sabrina reminded the group that excess chloride in the freshwater was not real good either. There are already concerns about road salt runoff into rivers and streams in other parts of the State.
 - e. Fred introduced the possibility that the hatchery could consider increasing the number of fish rearing units in the space where the current settling pond exist. The waste system could be sized to accommodate this increase and the hatchery would then be able to supply a greater number of fish while still managing to reduce the phosphorus discharge. Jason agreed.
4. Aquatic Resource Funds. Fred told the group about a meeting he attended in Rochester held by the Strafford Regional Planning Commission in February 2018. Representatives from the NH DES Wetlands Bureau and the NH DOT presented information on how to apply for funds to mitigate wetland issues including stream bank erosion, broken culverts, and restoring fish passageways. We clearly have non-point source issues involving culverts and soil erosion in the New Durham segment of the river and I suspect there will be issues in Alton as well. The State DES has already identified many of the area's streams and culverts and noted some that need to be replaced or repaired. A DES Mapper easily identifies the locations of streams already recognized by the State. In addition, the NH DOT has funds to replace culverts but this is only done in conjunction with work being done on State roads in your town. Before coming to your town, Kevin Nyhan

will send a letter asking for the town's top 10 water passage problems. Once they arrive they will try to incorporate these town priorities into their work schedule. This applies to situations when the State is using State workers and vehicles to do road work. Since they have the equipment in town already, they will entertain doing other priority work. Fred mentioned the ARM funds were used by Alton to raise Coffin Brook Road to prevent flooding by Coffin Brook during storms. Jason Smith mentioned the availability of New England Forest and River Grants which also funds stream restoration in NH.

- a. Ray thought Coffin Brook Road was not a real good example since there was some concern it didn't accomplish the stated goal. Ray noted he had additional information about the availability of New England Forest and River Grants especially concerning habitat enhancement of Poorfarm Brook in Gilford, NH.
 - b. Bill Mannion asked if Fred could send contact information about ARM and the regional mapper. Fred will send it by email.
 - c. Jason mentioned that Coffin Brook has been recognized by the State as prime habitat for the brindle shiner and in the upper brook for wild brook trout, both are priority species for passage way funds.
5. Refer For Qualifications/ Proposals (RFQ/RFP). Fred has been working with the NH DES to begin an announcement for solicitation of bids for our Watershed Management Plan. If we had NH DES Funds to write this WMP we would need to announce the work as a RFQ where qualifications are requested for the described job and a committee reviews these qualifications and selects the most qualified consultant. Then, the consultant comes up with a bid. If the Committee feels the bid is too high, they go to the second most qualified consultant until they get a suitable bid. Fred was under the impression that Alton required selection of the lowest bidder and therefore he proposed a modified plan for the NH DES which is acceptable. In Fred's plan the announcement is sent to a few already known consultants (identified by DES as having completed acceptable WMP in the past) and they are asked to submit their qualifications and a bid. We could tell them that the qualifications count for 40% of the total score and the bid for 60%. We need a committee to review all these proposals and help in the selection. Fred mentioned that the present WMP Working Group consists of Quimby, Craycraft and Gelinas. Others are encouraged to join in this venture. Fred also mentioned that NH DES recommended posting the announcement on line with the Lake Winnepesaukee Association (winnepesaukee gateways.org) and allowing others, who feel they are qualified, to also respond. Fred has asked Pat Tarpey if we could post our announcement on their website and she answered in the positive.
 - a. Bill Meyer volunteered to participate as a working group/committee member.
 - b. Art Hoover also volunteered to serve as a member.
6. Timelines. Fred reviewed the time table for Hatchery Waste Water Treatment Funding and the WMP. The WMP announcement will take Fred another month to write and it will be reviewed by the NH DES and the WMP Committee before being sent out. So, let's say it goes out in early April with a 30-day response time. The Committee would meet in May to select a consultant and they can begin work. Once hired, the consultant will likely work on this plan for most of a year. However, since we have already collected so much data on the MMR and Tributaries, as well as deep water testing in the New Durham segment of the river and MML, this will provide the consultant much of the information they need to calculate phosphorus turnover and the

maximum annual load the MMR can handle (which may cause a review of the EPAs draft permit decision later).

Fred also discussed how to proceed with the hatchery noting that nothing can really be done until a US EPA Draft Permit is issued. Once issued we will be meeting with the US EPA in New Durham to discuss this draft. If the draft permit was issued today and phosphorus at the hatchery must be reduced, we next need a 15% engineering Plan drawn and a total construction cost calculated. This must be provided to Ray Howard so that he can initiate the process of introducing legislation to cover the construction costs for the coming year.

- a. Ray spoke about deadlines in order to get funding for 2019. This involves having the proposal and costs to him by July for the House Finance Committee to review, then if it passed their review, it goes on to a vote. If this passed in January we could possibly have money to spend in 2019. Ray suggested that the funding be spread over several years to make it more feasible. This is actually what we envision as well. Ray remarked that this is a good year because the State Biannual Budget will begin this June.
 - b. Bill Meyer asked what the 15% engineering plan costs and where that money was coming from? Fred answered that that was a problem. We have asked HDR Inc. to give us this cost for the next step and they are working on it. All we actually have for money is the 70,000 dollars for the WMP. Bill Meyer suggested there may be a way to convince towns to allow these funds to be used for the 15% plan but someone else suggested that having a Special Town Meeting to get this done was a big deal. Fred thought if the costs for the 15% plan were in the \$10-15K range it may be possible to raise it rather quickly but if it is \$50K or more it was unlikely to happen this year. Certainly, NH F&G doesn't have this kind of money in their budget and it would likely take a year for them to raise it as well.
7. Fred Adjourned the meeting at 8:05 and thanked Bill Mannion for finding an alternative meeting place on short notice.

Respectfully,

Fred Quimby, chair, CMSC