

Town of Ayer Conservation Commission

Town Hall * One Main Street * Ayer, MA 01432 * 978-772-8249 * 978-772-8208 (fax)
Minutes for **12/3/2015** – Approved 12/10/2015

Location: Ayer Town Hall, 1st Floor

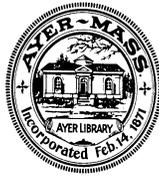
Present: Bill Daniels (BD, Chair), George Bacon (GB, Vice-Chair), Takashi Tada (TT, Member), Bonnie Tillotson (BT, Member), Jessica Gugino (JG, Member/Clerk)

Not present: Brian Colleran (CA, Conservation Administrator)

APAC taped: Yes

7:15 PM – Open Meeting

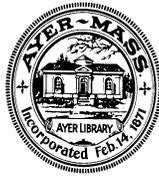
- **Review of October 2015 draft material, “Biological Survey, Assessment and Management Recommendations for Ayer’s Ponds,” prepared by Geosyntec Consultants.**
 - Chuck Miller, Chair of the Dam & Pond Committee, was also present.
- It was noted that, while the time of the meeting was incorrectly posted on the Town website’s calendar as 12 noon, the posting on the kiosk correctly listed the 7 p.m. meeting time.
 - The kiosk posting meets the State’s legal requirements; posting to the Town’s website is done as a courtesy and is not a legal requirement.
- Section One, Water Quality, was discussed.
 - BT questioned Geosyntec’s use of the Carlson Index to assess the Trophic Status Index (TSI) of biological productivity for each pond (Table 1.3, p. 15) and whether the ponds’ statuses have been underestimated.
 - The TSI scores for Ayer ponds were based on measurements of Transparency, Chlorophyll-a, and Total Phosphorous.
 - Trophic status indicates the level of eutrophication, the process by which a pond is naturally as well as artificially enriched with nutrients that fuel the growth of rooted aquatic plants (macrophytes).
 - Artificial nutrients can include phosphates from stormwater runoff, septic fields, or fertilizer use.
 - An oversupply of nutrients can induce the explosive growth of aquatic vegetation and, over time, may lead to a state of hypoxia, the depletion of oxygen, that can eventually lead to the death of aquatic animals (eg. fish kills).
 - The four trophic states are Oligotrophic (low biological productivity); Mesotrophic (moderate); Eutrophic (high); and Hypereutrophic (very high).
 - The six Ayer ponds measured (Pine Meadow, Flannagan, Long, Sandy, Balch, and Grove) indicated TSIs ranging from mesotrophic to eutrophic, with Flannagan the most highly eutrophic.
 - BT noted that the EPA has previously recommended that the Carlson Index should only be used for ponds with relatively few rooted plants.
 - Geosyntec did note the limitations of the Index on p. 15, writing that “if a pond is heavily dominated by macrophytes rather than microscopic plant algae, the Carlson TSI score may underestimate trophic status.”
 - However, BD found sources that indicate that the Carlson Index has nevertheless achieved general acceptance.



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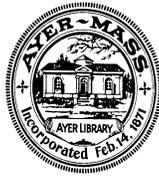
- Even so, given the single-snapshot-in-time nature of the Geosyntec profile, the accuracy of the trophic status assessments remains in question, particularly with regard to Flannagan Pond.
 - It was noted that there were several instances in the draft where reported high measurements for Flannagan Pond were suggested by Geosyntec to be anomalous or the result of lab error.
 - Since Flannagan Pond is singled out by Geosyntec for more costly weed treatments, this lack of an accurate ‘snapshot’ of data for this particular pond was deemed problematic.
- Testing Program and Management Recommendations
 - BD said the report as a whole underscores the need for the Town to support ongoing testing and data collection for the ponds so as to establish more accurate data indicating how each pond is trending.
 - For a shallow pond like Flannagan’s (a flooded wet meadow created by Balch dam in the early 1900s), a eutrophic reading is to be expected, leading to the next question of whether it can realistically be made any better.
 - Mr. Miller said it is also important to maintain this pond to curtail excessive biomass accumulation so that it at least doesn’t get worse.
 - BD said the report gives the Town a lot of valuable information, but the question is what do we do with it.
 - He expressed the dissatisfaction shared by all that the draft report’s recommended treatment regimen (“as needed”) left treatment decisions in a highly subjective realm.
 - What we were looking for were recommendations based on objective measurements (e.g. if chlorophyll-a or total phosphorous reach ‘x’-levels in such-and-such a pond, then treatment is recommended).
 - An earlier ConCom had hoped that the phosphorous loading in Sandy and Flannagan ponds would be alleviated after residences around those ponds were put onto the Town sewer in the 1990s.
 - The Geosyntec report makes clear, however, that phosphorous loading problems have continued regardless.
 - The report does not help clarify the degree to which phosphorous-based fertilizer use is a contributing factor.
 - Mr. Miller noted that we don’t have an historical benchmark of what, for example, the phosphorous load has been for each pond over time.
 - He also noted that initially, treatment decisions will need to be made more subjectively (a ‘fly by the seat of your pants’ approach) until more data is collected to develop an accurate trending picture over time.
 - To delay treatment decisions until after a data base has been developed over time would allow several ponds to degrade badly and result in a higher cost to rectify.
- BD then outlined some of the central questions:
 - what tools/resources are available to Ayer for data collection and treatment?
 - this includes financial resources, which are always in competition with other uses of money in Town.
 - how do we best identify each pond’s trending pattern, and where we want each pond to be (using objective indicators)?



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- what are realistic expectations for each pond?
- how do we measure progress? (objective indicators for need to treat, indicators that clearly tell us we're heading in the right, or wrong, direction)
- how do we control the ways in which the ponds are being 'loaded' with phosphorous, etc.?
- how do we develop and implement an adequate water quality testing program to track macro-changes and build a database?
 - such a testing regimen should be practical, simple, and inexpensive.
 - BT suggested the Town could buy its own Spectrophotometer for some measurements, to save costs.
 - BD considered this and said perhaps such a device could be stored at the DPW and used by their personnel to test.
- In terms of taking test water samples, BD said taking water from the middle of ponds to be tested would be ideal, but asked whether taking samples from specific bank locations (e.g. outflow, inflow points) might be adequate and more functional for a regular testing regimen (eg. once a month except when iced over).
 - GB pointed out that water flowing in deeper central channels would measure differently than bank samples.
 - BT said it would also still be important to measure transparency as well as plant biomass.
 - Mr. Miller added that contextual factors (water levels, temperature, steepness of grade of adjacent banks) were also important to understand as contributing factors.
- In developing objective target goals for each pond, TT said we need to be clear with Geosyntec about the nature of our goals for each pond (e.g. Sandy Pond, keeping it clean, swimmable, healthy fishing; Flannagan Pond, passable by canoe/kayak most of the year).
 - BD said this should include objective target measurement goals for each pond, re phosphorous and other levels.
 - BD again stressed the need for an objective, measurement-based way of justifying decisions to treat a pond – and to persuade the Town to support treatment proposals.
 - TT pointed to Table 2.16 on p. 43, under 'Water Quality Goals', which provides recommended Total Phosphorous Concentration goals for each pond.
 - BD questioned whether this provided enough information to bring a management plan before the Board of Selectmen (BOS) and Town Meeting.
 - Other factors besides Total Phosphorous – eg. biomass accumulation – should be included as determining factors.
- Mr. Miller said attention also needs to be paid to the Town's budgeting process.
 - Ideally a treatment and testing program would have its own operating budget, allowing for faster treatment responses when needed rather than constantly playing 'catch-up' by having to wait for Town Meeting votes on a case by case basis.
 - JG suggested one goal would be to have the BOS add a line item to the annual budget for consistent funding.
 - Mr. Miller spoke of the need to develop a bulletized action plan for the BOS based on the Geosyntec data.
 - He suggested having Geosyntec evaluate this action plan prior to BOS submittal since it would be based on their survey.
 - In developing an action plan/budget, Mr. Miller said the DPW will need to let us know what costs will be handled in their budget (eg. BMP sites) so as not to include those costs in our submission to the BOS.



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- JG pointed out that the cost estimate figures provided on Table 4.1, p. 110 (“Stormwater BMP Construction Cost Estimates”), do not match up with the cost ranges provided for the same BMPs on pp. 87-107.
- BT said the same applied to the BMP figures on Table 5.1, p. 112, as well.
- BD will ask Geosyntec to update the tables.
- JG also asked if she was reading the report correctly, because the recommended external Phosphorous Load reductions on p. 2 (lbs/year) for each pond, compared to the estimated phosphorous reduction from the BMPs (pp. 87-104, also lbs/year) could be interpreted as ‘not much bang for the buck’.
- BD said the ultimate goal of having Geosyntec conduct the survey was to understand the current condition of the ponds; what needs to be done to get/keep them healthy, usable, recreationally viable, safe; and develop a consistent treatment and testing program.
 - Mr. Miller will work on developing a 1-page analysis, with cost estimates, for presentation to the BOS.
 - He also said it would be advantageous to have written letters of support from other boards and departments (DPW, Parks & Recreation, Fire Department, etc.) to accompany a BOS presentation.
 - Going forward, BD will put together questions for Geosyntec that need to be addressed in the final draft.
 - Once a final draft has been accepted, the next step is to follow Mr. Miller’s suggestion and develop an action plan, with budgetary estimates, for a 5-year treatment and testing plan.
 - This management plan will be submitted to Geosyntec for their evaluation.
 - After this, ConCom and the Dam & Pond Committee will meet with the BOS.
 - Spring Town Meeting is on May 9, 2016, with the Town Warrant closing in April.
 - Mr. Miller said meetings will also have to be held with the Capital Planning Committee and FinCom.
- In the meantime, Mr. Miller added that we will also have to look for funding for weed treatment this coming year so as not to let some of the ponds deteriorate.
 - Mr. Miller will look into funding for weed treatment in 2016.
 - BT will look into getting cost estimates for water quality testing.
- BD asked everyone present to submit written comments in the next two weeks that he will summarize and communicate to Geosyntec for revisions to the final draft.
- **9:10 PM – Adjourn Meeting**
 - JG moved to adjourn; GB 2nd.
 - Motion approved unanimously.