

December 9, 2019

Board of Directors,

A summary of Water Quality activities is presented below.

Water Quality Plan

Action Points of a meeting among Don, Lee, Jack and Brian have been addressed:

- 1) Regarding funding needs and treasury planning, Don will ask Bill Keohan to elaborate on which properties may be going on the market.

Bill declined to discuss specific properties, citing the confidentiality and sensitivity of real estate transactions. He said he would involve HPWA at the appropriate time.

- 2) Don will ask about the level of HPWA commitment needed to move the Water Quality Plan forward. He will also ask if money can be saved by piggybacking on the Savery Pond septic search and if it would be possible to phase the WQP to ease HPWA's financial burden.

David Gould has said that HPWA's commitment must be firm before he will write the article for spring Town Meeting passage. The Herring Ponds Watershed Association septic search is completely separate from that of Savery Pond. Moreover, the Savery Pond study has already begun, having been approved by fall Town Meeting. The dollar commitment from HPWA cannot be phased. There is a possibility that HPWA may only have to raise \$10,000 as its share of the cost.

- 3) Don will ask Ed Eichner the usefulness of the Savery Pond shoreline probes. Quoted from Ed directly:

Shoreline probes are problematic in most settings because you would need a comprehensive installation across the whole shoreline and the 3D nature of groundwater inputs often means probes that need to be deeper than hand driving allows. Watershed discharge can occur 20 to 50 ft from shore, which means the probes must go down at least that depth at the shoreline. Since the pond captures all of the watershed inputs, it is usually better to measure the water quality in the pond.

- 4) Don will ask Meghna Marjadi if she has any useful information for HPWA and if she is aware of the work of the others studying GHP and LHP.

Meghna can provide some quality data and will be able to supply data on herring numbers at some future date. She has taken Secchi data during all of our forays and can provide this if it is thought to be useful.

- 5) Don will ask Ed Eichner about the runoff study centered around total phosphorus variability with seasonality, and, in general, about seasonal rainfall variability and how these might affect the variability of the study results. Quoted from Ed directly:

When we complete the WQ Plan, we'll develop a phosphorus budget for the pond to understand the relative mass of P from various sources, both the watershed and internal loading from the pond sediments. We have found that stormwater inputs tend to be very pond-specific, hence the reason to do the runoff study. Runoff characteristics tend to be relatively immune to seasonal changes; most of the runoff is flowing over asphalt or concrete so seasonal changes shouldn't matter much. The WQ Plan will look at local weather to again develop pond-specific assessments.

6) Don will ask Ed Eichner *Are GHP and LHP are still considered impaired?* Quoted from Ed directly:

LHP and GHP were considered "impaired" based on the water quality data collected through PPALS and comparison to state water quality standards. Neither pond is officially listed in the latest (2016) MassDEP listing of impaired water largely because they haven't had a report reviewing your data; that's part of getting the WQ Plan done.

7) Don/Lee will ask volunteers to try to document presence of Red-bellied Cooter in our watershed. Jim Smith's response directly:

Don I will put some effort into checking with a neighbor that I'm told has pictures of red bellied cooters. I have already talked to Mass Fish&Wildlife about documenting them at LHP.

Meetings Attended

- Geri, Jerry and I attended the BOS meeting where the new long-range Plymouth water plan was discussed on November 12. This voluminous report was only posted publicly on the Plymouth website at 10 AM that morning. There are some major issues in that report: the expense, the pumping models and the consideration of siting a well on the old (tritium contaminated?) Entergy site. In addition, no town residents were invited to participate. I made the plea at the meeting that the Town would need all the help it could get to make this plan happen in a timely fashion. I have since been informed that the suggestion made at the meeting by Eric Cody that the plan be formally reviewed by the Planning Board (Malcolm MacGregor, Planning Board Chair attended the meeting and agreed to the review) will not happen.
- Meetings with our Rising Tide interns, Sam Sawler and Mary Haley with Don, Lee and Beth have continued. Searches for data that will be useful for a resident-friendly presentation have not provided enough substance/trends to warrant further pursuit. Instead, with Beth's help, we are focusing on another Educational matter valuable to HPWA – revamping the website. We will work together for the next 6 weeks or so to revise/adapt my website piece and to upgrade the website as a whole.
- I met December 5 with Peter Schwartzman, President of Savery Pond Watershed Association. He and SMAST and the Town of Plymouth have already started their Water Quality study, approved at fall Town Meeting. They will be gathering data for a year. He was excited about our preliminary data on the possible effect of runoff on algae blooms. He suggested that we start monitoring private wells on the aquifer upside of the watershed to ascertain the effect of groundwater on nutrient migration into our ponds. I will talk to him further about the logistics involved. He is a professional hydrologist and has provided me with some websites where I can learn more on my own.

Plans

1. I will try to schedule a meeting with David Gould, Lee and Brian to talk further on the Water Quality Plan.
2. I will try to learn more about studying the effects of groundwater on pond nutrient levels.
3. We will continue to monitor the LHP spring, LHP, Carters River for nitrate and total phosphorus to better understand our watershed.
4. I will persist in meeting with an Island Pond Watershed Association member