

Minutes of Water Quality Committee Meeting, 06/04/20
BOD Water Quality Committee Report

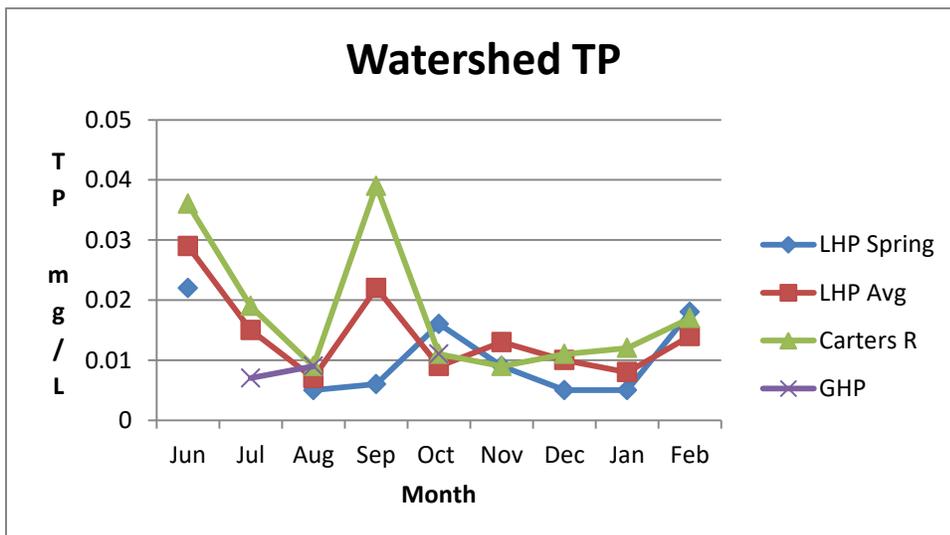
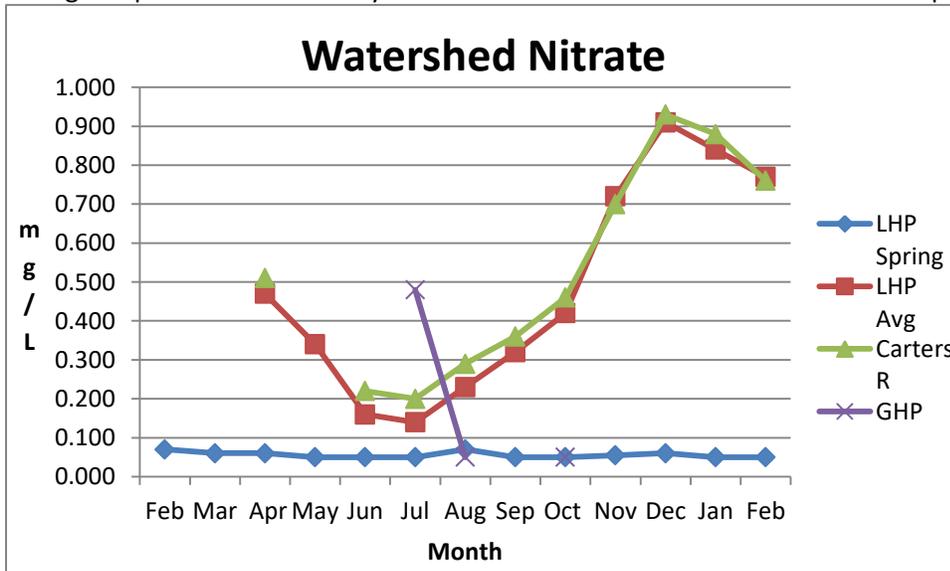
Attendees: Co-chairs Jack Kedian and Don Williams, Jerry Levine, Bob MacDonald, Morgan Wealti, Joe Solimini and Geri Williams

1. Introduce Morgan Wealti, new WQC Member

Morgan indicated an interest in WQC and Invasives Committee on her returned appeal letter, citing training in Marine Biology. Jerry and I contacted her and she helped Jerry take water samples for the GHP May sampling. She was introduced to the members. Welcome, Morgan!

2. Questions on LHP Spring to GHP Data, Total Phosphorus Data

Current data was provided to the WQC from the samples taken by Jim Smith. I had told Jim to stop taking samples since we had a year's worth of data for nitrate so the last data point is for February 2020.



The nitrate data has been very useful with a 6-9 fold increase in level going from LHP Spring to LHP Pond and a slight increase again in the Carters River. Although nitrate is nowhere near “dangerous” levels, the data is informative, indicating the extent of pollution by our watershed surroundings.

Jack asked why the Total Phosphorus level in the LHP Spring seemed to spike at times. I had talked to Peter Schwartzman, a professional hydrologist and head of the Savery Pond Watershed Association (their Watershed Management Plan has been approved by Plymouth) and Savery pond uses water sensors to measure ground water seepage into Savery Pond. He thought our variability in TP might be due to high ground water (due to rain) from the abandoned cranberry bogs north of LHP carrying bog phosphate fertilizer residues to the surface of LHP Spring from which the samples are taken. I thought that the sensors would be too complicated/expensive for HPWA to install; frankly, we would need professionals to help us. Geri suggested consulting with David Boutt.

Don asked the WQC if they agreed that Jim’s sampling should only continue during months that GHP water samples were taken. The WQC agreed that this data, (from May, August and October) should be sufficient to track these two pollutants.

ACTION POINTS: Don will talk further with Peter. Meanwhile, Don will arrange for collection of data from a system of water gauges around the watershed (Don’s gauge already installed). Don will see if Dennis, Lee and Jim Smith have water gauges. Don will contact Glorianna Davenport to see if David Boutt would be able to explain or whether his subsequent data might somehow be helpful to HPWA. Jim Smith will take samples for nitrate and Total Phosphorus at LHP Spring, LHP and Carters River in May, August and October to correspond with GHP sampling by the WQC.

3. WQ Sampling

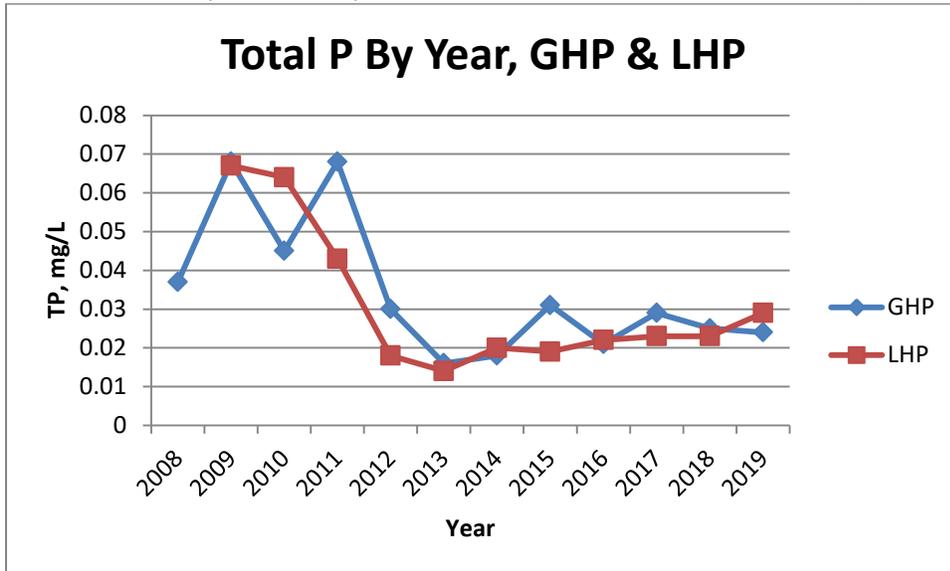
The 2019 GHP testing results have finally been received by SMAST. Unfortunately: 1) the April sampling (done by Kim) results have not been sent (Kim is looking into this) and 2) nitrate results (to compare with Jim Smith’s LHP Spring, LHP and Carters River results) were not measured (I thought I had specifically requested them) by SMAST. Kim told me that Plymouth had paid for the April 2019 sample analysis although we were originally told we would have to pay (approved by BOD). She did not need a reimbursement from HPWA.

The Total Phosphorus data chart for 2008 through 2019 was distributed to the WQC. The plotted TP numbers were averages of all the numbers received for a given year. As previously noted, there has been a decrease in TP since the start of our efforts, due variously, to a change in test procedure by Envirotech, change of testing venues (from Envirotech to SMAST) and/or remediation of 3 GHP runoff sites.

While we cannot claim any subsequent reductions, there is only a slight increase (perhaps within experimental error?) in TP over the last several years. We are no longer Eutrophic (> 0.03 mg/L) but we are still impaired. Interestingly, LHP and GHP show the same TP amount and trend for TP. Is it possible that most, if not all, of the phosphorus in GHP is originating in LHP? If so, the Water Quality Plan may identify LHP as a major watershed runoff target.

Don, Geri, Jerry and Morgan took May GHP samples for SMAST on May 26 at the deep hole at 0.5m, 3m, 9m and 1m off the bottom and Jim Smith took the LHP Spring, LHP and Carters River for nitrate and TP. We also and also took DO readings. The Secchi reading was 5.5 m. I've never seen it that high a good sign. We also took a nitrate sample from GHP for Envirotech. Cost is minimal and nitrate samples will

all be done by Envirotech and can be compared with Jim's LHP Spring, LHP and Carters River samples. The WQC agreed to this approach. Don asked how it should be decided who would do sampling since we were limited (coronavirus) to a maximum of 5 on the boat? The WQC said it would be fine for me



to choose samplers from those who were able to go in a "fair" manner. Kim had said that she would be able to pay for a GHP July sampling in addition to the other three. The WQC suggested we hold off turning down the offer but at the present time, there seemed no reason for the extra sampling. We will have samples during 3 of the 4 seasons. Joe did not know when his boat might be available again for sampling. Jack will not be coming north until July.

ACTION POINTS: Don will ask Kim again to find out where the April 2019 data from SMAST is (request to Kim already re-submitted). Don will schedule and populate sampling runs and inform Jim of the August and October dates for so he can coordinate sampling. Don will use his boat for the sampling.

4. E. coli Sampling

Jack will be staying in FL until July so Jerry and I will take the E. coli samples mid-June, mid-July and mid-August in invite others along. Geri suggested we sample the third week in June instead of the middle so that results would more closely reflect the conditions during the big July 4 weekend. The WQC agreed.

ACTION POINTS: Don will schedule E. coli testing, look for a copy of Jack's testing site map (found) and use Don's boat for the testing.

5. Water Quality Plan

Don outlined the need for a Water Quality Plan to identify the sources of pollution and possible remedies. David Gould had indicated the last time he met with us that he was "fairly certain" that Plymouth would be able to pay for the entire \$80,000 cost of the Plan. He was grateful for HPWA's financial support of the Condon property purchase.

6. Elbow Pond Sampling?

Don reminded the WQC that the BOD had approved funding the cost of testing the two lobes of Elbow Pond in August 2019 to get a quality baseline to use as leverage for improvements and lend perspective to future testing. Don asked for the WQC recommendation as to whether or not HPWA should ask the

Elbow Pond homeowners to pay the \$218 for sampling 2 sites. The WQC suggested that the homeowners be asked to cover the costs and go from there.

ACTION POINT: Don will contact Tom Oertel to make this request (done, draft letter to homeowners sent as requested; needs approval at the BOD June 8,2020 meeting).

7. Other issues from the Committee?

Jerry Levine officially welcomed Morgan to her first WQC meeting and commented that she was a major asset helping to take the water quality samples.

Bob reported that he found out that Fred Kurker had Matt Devine's herring counter buoy; he had rescued it this winter. Matt is the UMass Amherst grad student working with Meghna Marjadi in a PhD project to correlate phytoplankton with herring numbers.

ACTION POINT: Don will call Fred to verify and inform Matt (done, Matt has been informed and will arrange for pickup).