

Approved Minutes

The New Durham Water Quality Committee (NDWQC)

Wednesday December 14, 2022 at 2:30PM

New Durham Community Room

New Durham, NH

Present: Fred Quimby, Mike Gelinas, Maureen Knepp, Casey Buell, Penny Meyer, and Bill Meyer.

Absent: Keith Barnard

Fred called the meeting to order at 2:39 PM.

The minutes of 16 November 2022 were discussed and Bill moved and Penny seconded a motion to approve the minutes as written. The vote in favor was unanimous.

Fred had previously distributed the proposed Annual Report from the NDWQC to the Town of New Durham. Several typos, picked up by Cynthia Quimby as noted by Mike, were corrected by Fred and brought to everyone's attention.

Fred referred to data in Tables 1, 2 and 3, to open his discussion. Shaws Pond had a September deep water test which deviated from all other tests this year; chlorophyll and phosphorus were both much higher than normal and transparency was lower than normal, placing Shaws Pond as mesotrophic by seasonal average. There was a discussion about tributaries and especially the Washington Street sample site, and the lack of inclusion of the south Shaws Pond tributary as a possible source of pollution. It was agreed upon to sample these site again now and sample them all summer next year. Other possibilities were two new lots on the Pond which were clear cut during the summer with possible stormwater runoff contributing to the pollution. The August deep water sampling of Marsh Pond was also remarkable in that chlorophyll was 86.2ug/L and phosphorus was 85 ug/L. Fred discussed this with Bob Craycraft who told him there was something unusual in that sample. Because the water was green in color, Bob filtered it and found there was an ongoing bloom of the dinoflagellate, Ceratium. This organism has chloroplasts and it grow rapidly in response to filling a niche left by diatoms. Diatoms are silicate containing algae which reproduce rapidly in the Spring while stream water is high and brings silicates into the main river. Once there numbers begin to fall off they are replaced by Ceratium, which due to their chloroplasts, turn the water green. This finding explains both the chlorophyll and phosphorus high values. Fred explained that in Table 3 he agrees with Mike, there is something wrong with the Stream Gauge at Main Street Dam. Fred showed the group how the volume of water generated by the gauge was unreasonably high. This could have been moved inadvertently by fishermen. Fred suggested the NDWQC replace this stream gauge and recalibrate it next year. That reminded Fred that the Main Street Bridge is to be replaced in 2023 by the State and Bill suggested we put off replacing the stream gauge until after the bridge is replaced to avoid someone moving it again. Everyone agreed with Bill's suggestion. Fred asked if everyone approved the annual report and there was unanimous approval.

Next Fred brought out a new Graph he created based on information collected from the hatchery. Monthly values were plotted for fish weight in pounds/mo., fish food fed in pounds/mo. for the months June through October. These two variables increased monthly in a straight line over the course of these 5 months. Next Fred plotted monthly average total phosphorus (TP) in pound/mos. for 2021 and 2022, which showed a much greater decrease in TP in 2022. Finally, He plotted TP concentration (ug/L) at site

one below the hatchery. This last variable did not follow the trajectory of any of the other variables and led Fred to believe that TP concentration in the river was not a good measure of TP discharged from the hatchery.

Casey and Maureen agreed followed Fred home and picked up sample bottles for phosphorus sampling at Shaws Pond.

The meeting was adjourned at 3:35 PM

Respectfully submitted,

Fred Quimby, chair