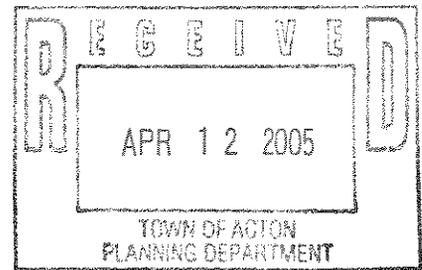


Matthew Liebman
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Acton Conservation Commission
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Commissioners:

Here are my comments on the Water Quality Monitoring Program and Baseline Data Collection Program, for the Quail Ridge Country Club, prepared by John Bresnahan of Turfgrass Environmental Consultants. I am writing these comments as an independent citizen with professional and volunteer knowledge in surface water monitoring (as a member of Acton's "Stream Teams", and with the Organization for the Assabet River). I restrict the majority of my comments to surface water monitoring, as comments on pesticides and groundwater have been made, and I hope amplified, by the Acton Water District and Acton Citizens for Environmental Safety.

The plan suffers from two problems. First, it is inadequate for monitoring the effects of runoff from the golf course. Second, the monitoring in the first two years has not followed the approved plan.

Regarding the first point, there are no surface monitoring stations downstream from the golf course. One station (SWQ-2) appears to be in Nagog Brook, which flows through the middle of the course, approximately in the midpoint of the course. Although there are upstream stations for Wills Hole Brook, and a tributary to Nagog Brook, it is not clear from the map whether the outlet of Nagog Pond, the major source of water to the brook, is sampled.

The main nutrient of concern is phosphorus. The reporting limit for orthophosphate, however, is much too high. The reference condition for total phosphorus in this region is about 40 ug/l (<http://epa.gov/waterscience/criteria/nutrient/index.htm>), which is lower than the reporting limit of 50 ug/l. In my experience, orthophosphate in streams is usually about 50% of total phosphorus, depending on the season. I recommend measuring both orthophosphate and total phosphorus. By reducing the reporting limit, the plan would be much more useful.

A major indicator of erosion, and a contaminant as well, total suspended solids, should be measured. The main problem with the course is erosion; based on the observations of the environmental monitor, there have been many times when inadequate erosion controls were observed. I recommend that additional monitoring be conducted during wet weather events to determine whether these controls are working.

Observations of flow during the critical low flow period are also important. The plan states measurements will be made in June, July and September. I recommend sampling in August at the lowest flowing time of the year. If flow is not observed, this should be documented.

The plan was not followed. It states that three measurements per year would be made – only two were conducted in 2004. Measurements were supposed to have been made in June, July and October, yet in 2004 measurements were made in April and September. No measurements for dissolved oxygen, and conductivity and limited measurements for pH were presented. Were they not measured?

Quality assurance and quality control were briefly mentioned in the plan, but with the exception of two blanks, no quality control information was presented. I recommend that both field and laboratory duplicates, field and laboratory blanks, and laboratory controls be performed for every sampling event. If the QC was performed, than the Commission should see these data to increase confidence in the results. (I noticed several errors in the document itself which leads me to believe that attention to Quality Control is not performed adequately).

Given the inadequacies in the plan and the implementation of the plan, I recommend that an independent group, such as the environmental monitor, perform this monitoring function. I also recommend that an independent group, such as Organization for the Assabet River (of which I am a member), which has over 10 years of experience monitoring surface waters in this watershed, and has an approved EPA Quality Assurance Project Plan, conduct duplicate, or split sampling at co-located stations.

I am also concerned with the pesticide monitoring and the ground water monitoring. At a Conservation Commission meeting, it was mentioned by the Commissioners and a representative of the Acton Water District that the ground water core samples were too deep to detect the influence of the golf course on the District's drinking water wells. Nevertheless, perchlorate was detected in the cores. In addition, the point was made that pesticides being proposed for the course were not monitored.

The developers of QRCC have consistently maintained that they are sensitive to environmental concerns in the development of this golf course. On-site observations and ambient water quality monitoring are the major tools for the Commission to ensure that the Order of Conditions is met, and that QRCC can demonstrate that it is meeting its obligations to the citizens of the town to protect its water resources.

Thank you for considering these comments. If you have any questions, feel free to give me a call at 978-635-9652.

Sincerely,

Matthew Liebman