

MEMORANDUM

To: Groundwater Advisory Council
From: H. Bokuniewicz
Re: Minutes of the meeting of October 21, 2013
Date: October 23, 2013

PRESENT

N. Bartilucci
H. Bokuniewicz
K. Roberts
M. Scorca
W. Spitz

REGRETS

M. Alarcon
R. Alvey
S. Colabufo
C. Gallagher
P. Granger
L. Koppelman
R. Liebe
R. Mazza
M. Nofi
D. Paquette
A. Rapiejko
S. Terracciano

1. The minutes of the last meeting will be revised to include Michael Scorca. There were no other comments on those minutes.

2. Newsday ran an editorial in support of the proposed new “LI Groundwater” Commission. Mr. Sweeney’s bill (the “Long Island Pollution Control Act”) discussed at the last meeting includes a Technical Committee with representatives from Stony Brook University as well as New York Institute of Technology, where Sarah Meyland is an adjunct faculty member. On a parallel track, legislation (Resolution No. – 2013 Establishing the Long Island Commission on Aquifer Protection) supported by the SCWA and the LI Water Conference (Dennis Kelleher) has passed both the Nassau and Suffolk County Legislatures. (SBU’s Groundwater Institute would be an ex officio member).

Any new commission would not include NYC nor the Federal government. A commission would make regulations, similar to the Pine Barrens Commission that would have to be adopted by the Towns. Federally promulgated regulations would also have to be adopted by the Commission.

Senator LaValle is holding a roundtable on the issue this week; the DEC will attend. The DEC may be required, should this legislation be enacted, to generate a “Long Island Clean Water Protection Plan”. It was noted that “plans” especially those required by law, have been extremely controversial in the past.

3. A “citizens” lawsuit is in progress against five State parks and, perhaps, SBU at Southampton for being in violation of the “Underwater Injection Control Program” (UIC) which outlawed

large-capacity cesspools. A “large capacity” is equivalent to multifamily units or facilities serving more than 19 people. To be compliant, the cesspools have to be replaced by septic systems. This is not necessarily a difficult operation. The suit against SBU may have been dropped; it’s not clear. DEC has entered into a consent agreement with NYS Parks (but not SBU) under which the parks will be fined and have three to five years to correct the violation. This is likely to be seen by the courts as a resolution of the non-compliance, but it also asserts DEC jurisdiction over “large-capacity” cesspools. There are probably thousands of these facilities on Long Island.

4. The proposal by “Peconics Green-Growth” to the LI Economic Development Council was discussed at the last meeting. As noted, the proposal is notable in recognizing the critical limitations of available technology for home-owner systems on Long Island. These have been recognized earlier in a report by H2M and Suffolk County: these include the expense (perhaps \$25,000 plus operation and maintenance) the lack of space on individual lots, and the maintenance needs. The requirements of existing technology are well-documented and have been under investigation for many years. Early studies were done at BNL by D&B using tile fields and buried carbon sources. The proposal calls for a panel of experts to develop a plan for a testing facility similar to that in other states. Massachusetts, Rhode Island and Maryland were mentioned. The Massachusetts facility on Cape Cod, MASSTC, covers several acres. It is run by the Health Department and constructs field-sized demonstration projects, on-site, for testing. The President of SBU has suggested Stony Brook Southampton as a possible site. In discussion it was suggested that it might become an important part of SBU’s Civil Engineering Program.

In NY State the standard for discharge is 20 ppm, two times the drinking water standard, but on Long Island, both the ambient standard and the discharge standard is 10 ppm. The oft-quoted “2 ppm” standard appears to have its foundation in surface water studies which show impacts at very low concentrations. Groundwater nitrate, however, is susceptible to significant denitrification, not in the aquifer itself, but in the final pathways of its travel before it reaches surface water. Available nitrogen can be rapidly bio- assimilated in open waters resulting in low dissolved concentrations. Surface water impacts also vary by the type of receiving water like ponds, creeks, marshes, etc. but the Clean Water Act required states to enact “surface water standards”.

In discussion, there was concern over the apparent preoccupation with these efforts on nitrogen. Nitrogen is a problem but it is not the only problem and may not even be the most important one. A new program focused entirely on groundwater nitrate may become open for the same criticism that the Long Island Sound Study faced.

In Nassau County, sewers were put in the 1980’s and were effective in reducing nitrogen concentrations in the upper layers of the aquifer. Some three decades later, however, some wells at depth (600 feet) are beginning to see the inherited contamination. Several have reached 9 ppm and required denitrification systems. Such a system may cost \$7 million. The water suppliers (and rate-payers) must pay for the contamination. At large volumes, the disposal of brines from denitrification systems is a looming problem. These are sent to STP’s which tend to take out sulfides as a result odor problems develop as sulfides are converted to H₂S upon injection. Offshore, open water disposal avoids this problem

Reputable sources dispute the hypothesis that brown tide is caused by excess N. Although nitrogen has repeatedly been cited as the cause of nuisance algal blooms, nitrogen inputs were very high at the peak of the duck-farming industry well before the brown tide. Various

causes of these blooms have been discussed and the matter is still unresolved. Early on the blooms were thought to be initiated during droughts when groundwater nitrate input was diminished. The opening of The new Old Inlet by Sandy was also thought to be a retardant to blooms. Last summer, however, a bloom occurred after one of the wettest Junes on record with the new inlet open.

In the search for alternate septic systems to reduce nitrogen, sewer systems of proven effectiveness have been probably dismissed because of costs and public inconvenience.

5. The Long Island Sound Study is under review and a revised plan is to be set by 2015. They believe that revisions need to address “emerging” issues specified as climate change, storm water runoff and development. New strategies are to include watershed planning green infrastructure, “resiliency and sustainability” ecosystem-based management, land protection and bio extraction. This may be a shift in focus to non-point sources and inland management. They would like comments on the scope; appropriateness of the metrics; suggestions for changes in the objectives or strategies; suggestions for prioritizing the objectives.
6. Following up on suggestions for a student project on beach closures. Christie Pfoetner is hoping to do DNA analysis on fecal coliform to determine the source. Christie had worked on Laurel Hollow Beach before. She is now at the Cooperative Extension Office out east and enrolled in our (SoMAS) master’s program. I will be helping her secure funding; nothing yet.
7. The SBU Hydrology Program continues but at a very low level. There are only a few students in it. For several years Martin Schoonen had a plan to increase enrollment by offering the program, at least in part, on-line. Martin is now at BNL, and the Geosciences Department who runs the program has recently lost Teng-Fong Wong who taught required courses for that degree. They (Geosciences) intend to keep the program viable, but with low enrollment, other programs are taxed to keep up enrollment figures. In discussion, it was suggested that the program might be folded into the new Civil Engineering degree. Such reorganization might have the additional advantage for graduates of obtaining a professional license which greatly facilitates advancement in the workforce.

We are now advertising to fill a new faculty position for a coastal hydrologist.

8. The next meeting will be on Monday, November 18, 2013 at the offices of the SCWA in Oakdale.