

MEMORANDUM

To: Groundwater Advisory Council
From: H. Bokuniewicz
Re: Minutes of the meeting of 13 May, 2013
Date: May 13, 2013
Date: April 9, 2013

PRESENT:

N. Bartilucci
H. Bokuniewicz
S. Colabufo
C. Gallagher
P. Granger
D. Paquette
A. Rapiejko
K. Roberts
M. Scorca
W. Spitz
S. Terracciano
D. Tonjes
A. Woodroof

REGRETS:

M. Alarcon
R. Alvey
L. Koppelman
R. Liebe
R. Mazza
M. Nofi

1. The minutes of the last meeting (April 8) were distributed. There were no comments at this time.
2. Paul Granger, formerly of the Plainview Water District and now at H2M, joined the Council for the Water Conference. We are happy to have him on board.
3. There will be a workshop at Stony Brook (120 Endeavour Hall, School of Marine and Atmospheric Sciences) with the Corps of Engineers on habitat restoration in the Great South Bay after Sandy: Tuesday 25 June and Wednesday 17 July 2013. The Corps has had a number of restoration projects planned and would like to take the opportunity for funding to implement some of them in response to Sandy.
4. Doug Paquette presented an update of renovations of the BNL Sewage treatment plant. He described the project last year. The reconstruction was done, in part, because of problems with meeting the Hg discharge limits to surface water. BNL had looked carefully at sources of Hg in the lab. A program of Hg minimization produced a measurable decline of Hg concentrations in the wastewater although there was still a legacy of Hg in the plumbing systems. Rain water alone contains a concentration of Hg of about 9 ppt. (Doug can arrange to provide the data for [Hg] in rainwater to the USGS. The USGS maintains other precipitations monitors, at, for example, Eisenhower Park and in the Bronx).

In brief, BNL is eliminating discharge to the upper Peconic River and instead will recharge treated wastewater through seepage pits. New pits have been constructed immediately south of

the old ones. The lined, emergency holding basins will remain in place and a new filter building will also be constructed to polish the effluent before recharge. \$1.5 million was available this fiscal year to begin construction and \$1.6 million next year to complete construction by December, 2013.

The plant has a capacity of 2 MGD but loads during the summer are about 0.6 MGD. The basins are oversized to cover the presence of intermittent clay layers and the shallow (5 feet) depth to the water table. While discharge to groundwater is considered waste disposal here, in other parts of the county it is considered water re-use. Mounding under the existing tile field has occurred because the field leaks 10 to 15%. Mounding in the new configuration is not expected to be a problem but will be monitored.

The old system required state permits for discharge into surface water, but, being a federal agency, the new system would not. However, BNL will voluntarily comply with State regulations. It will meet current limits of the SPDES permit in regard to the usual standards. In addition, radio nuclides, like tritium as well as gross- α and gross- β are monitored.

This section of the upper Peconic River had maintained a year-round flow only due to the discharge from the old STP discharge. Because this discharge will be eliminated, this stretch of the River will be dry seasonally, but these impacts have been evaluated and deemed acceptable by BNL and the DEC. BNL is also considering removal of stream gages downstream, which would facilitate fish migration.

5. The cooperative agreement for monitoring that the USGS had with the NYC-DEP for thirty years has been terminated by the City. This represents the loss of a one million dollar program with more than 200 sites for monitoring groundwater and surface water. One of the monitoring sites was in the Bronx River and a kiosk had just been set up in the Bronx Zoo to allow visitors to follow the results. The City does not do any monitoring on their own. Monitoring in Westchester is handled by the USGS in Albany.

The City Council, however, has requested more information. NYC is still facing interruption of its upstate water supply for reconstruction of the water tunnels. About half of the tunnels will be turned off for repairs but the date has been pushed back to 2020 or 2021. They may build a parallel underground aqueduct along that section of the pipeline where most leakage occurs. NYC has had discussion with water suppliers in Nassau to maintain water supply during reconstruction but other options include additional water from Staten Island and New Jersey and/or reactivating some of the 68 wells in the Jamaica water district. Reactivating the Jamaica wells will lower the water table and may exacerbate problems of salt water intrusion. Historically, the watertable fell some 30 feet when the Jamaica wells were pumping and monitoring wells at JFK even now hit chloride concentrations in excess of 11,000 ppm. Flooding however, has also been an issue since the wells were turned off.

Aquifer storage recharge (ASR) is no longer an option. The technique has been used successfully in other areas, but A SPDES permit for a pilot program in Brooklyn and Queens was denied. There is now a moratorium on the use of the Lloyd aquifer.

Facing decisions on reactivating the Jamaica wells, it seems short sighted to discontinue monitoring. Renewed pumpage could affect well field in Nassau soon and will exacerbate saltwater intrusion. The Water Conference might consider sending a letter to the NYCEP Commissioner voicing these concerns.

6. The USG, SCDHS, and the EPA will not have internship opportunities for this summer. They may be accepting volunteers but even volunteers incur a cost to the agency. If it helps, interns can arrange to get university credit even if they are unpaid.
7. The organizers were pleased with the Groundwater Symposium on Friday. Almost 200 people attended. The sessions were without controversy and good questions were raised by the audience. The need for funding the USGS monitoring programs was raised and the DEC understaffing was recognized as a problem. The SCWA and the Water conference may make this an annual event although future events may be shorter. The State of the (Nassau-Suffolk) Aquifer Report may be finished soon and could be the foundation of a symposium next year.

There seems to be four visions of a new “Council” for oversight of groundwater issues. Senator Sweeney’s bill would seem to create a large council with, perhaps, a hundred members, but may not be broad enough in scope. Senator Martins has a competing proposal while Sarah Myland champions a third vision, and other environmental groups, a fourth. There seems to be some discussion orchestrated by Senator Lavelle to resolve the issue. In any event, water provides need to be at the table.

8. The erosion of monitoring programs, and groundwater research in general, has been going on for a decade or more. The Suffolk County Comprehensive Water Management Plan, for example, is still pending even though the data it was based on is now more than six years old. This is in part due to the complexity of the issues, but, in part, to a shrinking data base and reductions in professional staff. It seems to be a struggle to maintain continuity of the most basic data let alone to provide research new, emerging problems or to proactively train the next generation of professions (see item # 6).

Research can benefit the modeling work that managers have come to rely on. There is no model in Brooklyn and Queens comparable to the models routinely used in Nassau and Suffolk. Even these could be improved by up-to-date data and new techniques. Paul Misut, for example has been developing a Markov chain treatment to be used in groundwater models to statistically model flow in the presence of discontinuous clay layers. These are common all across Long Island. Paul’s work is based on cooperation between the Navy and the USGS at Bethpage but a similar approach might improve modeling at, say, BNL.

9. Student projects were briefly discussed:
 - a. Caitlin Young is finishing her work on groundwater and nitrate influx into Stony Brook Harbor and Port Jefferson Harbor. She has given several presentations to this group before. This was a two-year project funded by Sea Grant. She should complete her Ph.D. over the summer.
 - b. Following Caitlin’s work, Joe Tamborski and Mike Thorpe are beginning work on groundwater underflow at the shoreline. They will use some new techniques involving both naturally-occurring radon and thermal imagery to examine the connection between groundwater and surface waters. They are not funded at present but we are preparing a grant proposal to Sea Grant now.

- c. Amy Pritt has been working on permeable reactive barriers for the remediation of nitrate plumes. We intend to run a pilot program along the Forge River but funding from the Town of Brookhaven has been slow in coming.
- d. Coreyn Goddard is interested in the impact of chemical plumes from compost piles in groundwater. After the semester, will meet with Andy Rapiejko to discuss the data. Coreyn has a stipend for her personal support, but the project itself is, at present, unfunded.
- e. We had discussed salt contamination in the vadose zone resulting from flooding during Sandy. A student started working on the issue. He had identified some relevant studies in agriculture and a promising model but he has since decided to commit to a different (funded) project. I'll try again with the incoming students.

10. The next meeting will be on June 3, 2013 at the offices of Dvirka and Bartilucci in Woodbury.

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