

MEMORANDUM

To: Groundwater Advisory Council
From: H. Bokuniewicz
Re: Minutes of the meeting of December 15, 2014
Date: January 6, 2015

PRESENT

M. Alarcon
H. Bokuniewicz
S. Colabufo
D. Paquette
J. Pilewski
A. Rapiejko
M. Scorca
D. Tonjes

REGRETS

N. Bartilucci
C. Gallagher
R. Liebe
R. Mazza
M. Nofi
S. Terracciano

1. The minutes of the last meeting (November 10, 2014) were available. There were no additional comments.
2. Steve Colabufo discussed LICAP. This bi-county group is jointly chaired by Jeff Szabo (SCWA) and Mike Levy (LIWC). They met last year the end of November. One of their principal objectives is the formulation of a Water Resources Planning Document. The last (DEC) management plan had been done in 1986 although Nassau County had an overall plan completed in 1998 and CDM is now updating the "COMPS" study for Suffolk County.

LICAP intends to produce three to five "white" papers, treating, for example, agricultural pumpage and have a comprehensive plan done by 2017. The NYC plan to reactivate the Jamaica Water District wells needs to be in place by 2021, so LICAPs plan will incorporate any NYCs intentions. These wells are permitted but should be up for renewal before 2021.

At this stage, it seems that LICAP's plan will address the fundamental need to expand and maintain monitoring of groundwater quality. Nassau County, for example was more actively monitoring groundwater quality a decade ago, but little funding is currently available.

Safe yield also remains an issue because of incomplete data on some 200,000 "S-numbered" agricultural, private and industrial wells. DEC requires well pumping less than 45 gpm to be registered and those over 45 gpm need to be permitted. The DEC currently has a project underway to verify the physical location of all supply wells and to add locations (latitude and longitude) of all registered or permitted wells. Soil Conservation (Paul TeNyenhuis) is also assembling the (GPS) locations of agricultural wells on the east end of Long island. These have an influence of the public potable water supply; in some supply wells chloride concentrations rise when irrigation wells are in use.

3. In cooperation with LICAP's effort, the USGS has prepared a "State of the Aquifer" web-page. This is intended to be similar to the 1970's LI Atlas, but also to be a "living document" of tools and basic information on, for example, water demand and hydraulic heads. The data is based on the 2010 water year, but the intention is to update it, perhaps, every five years.

Data on water quality was found to be poorly distributed in both time and space, inaccessible, or absent all together. A "water quality" portal is recently becoming more functional; data from N-list and the EPA's STORET site can be included. New issues, like sea-level rise is intended to be incorporated into any update.

4. BNL has two unused Lloyd wells some 1600 feet deep. There is continuing interest in coordinating data bases but the USGS no longer has cooperative monitoring programs. All agencies have made important advances; water quality data is archived by the health departments, EPA (SDWIS) and (EQuls) (pesticides) but combining these into "one-stop shopping could still be an engaging task, one perhaps best assumed by the USGS. Available data on a wide variety of monitoring wells island wide is currently in different formats, without uniform units or parameter names. Currently, costs for reformatting and standardizing data must be borne by each agency itself.
5. EPA has recently held the third "Long Island Groundwater" meeting. The last meeting (3 December) had presentations by Walter Dawydiak (SCDHS) and Scott Horsly (Cape Cod Management Plan) as well as a discussion of sewerage in Nassau County and harmful algae blooms. Some fifteen different options for nitrogen abatement have been discussed, like permeable reactive barriers on Cape Cod. The use of treated wastewater for irrigation, called "fertigation", was also discussed. On Cape Cod, particular options are being considered for specific areas; the population of Cape Cod, however, is much smaller (200,000 to 500,000) than that of Long Island.

Water quantity issues do not seem to be a priority, although this had been a major issue in pat sewerage initiative (e.g. the FANS study). Sewerage is known to reduce underflow (the seepage of groundwater under the shoreline that prevents salt water intrusion). Seaward migration of the start-of-flow in streams and the shrinkage of ponds, wetlands and other groundwater based ecosystems are other possible impacts of lowered water tables.

There seemed to be a consensus to address the "low-hanging-fruit", that is, to reduce nitrogen concentrations in areas near the shore that have groundwater travel times of 2 years or less to embayments. Topics for future meetings may include (a) markets for nutrient reduction (b) quantifiable groundwater quality targets, perhaps like those used in Tampa Bay, (c) impacts on sea grasses in NY and FL and (d) the boarder spectrum of industrial contaminants.

6. The role of LIGRI in the University's Center for Clean Water Technology (CCWT) was discussed. There doesn't seem to be one. The CCWT is focused almost exclusively on improving the efficiency of nitrate removal in household septic systems. CCWT is considering projects on the identification of microbial communities involved in denitrification, pressurized shallow drain fields, identifying denitrification pathways and passive denitrifications systems. Of course, LIGRI has addressed relevant issues in the past, but it is not clear how this will be incorporated into CCWT. CCWT has two million dollars in undistributed funds and, as discussed at the last meeting, is developing a research plan. LIGRI, on the other hand, is unfunded as an Institute but operates on specific individually funded projects by, for example, the EPA and the

NY Sea Grant Institute. Without some sort of relatively stable base funding, like that of the CCWT, the continuation of LIGRI may be in jeopardy.

7. Discussion of student projects was postponed because time was short. These will include:
 - a. Proposals being developed for the Environmental Research and Education Foundation for a study of the groundwater impacts of composting. A companion proposal may also be submitted to NS Water Resources Institute.
 - b. A possible permeable reactive barrier (PRB) on the shore of the Forge River. (Thanks to Mike Scorca for sending PRB papers).
 - c. A new student project on recharge basins being done by Tom Fitzpatrick.
 - d. A SUNY "4E" project on the Integrated Water System in the Great Lakes.
 - e. Perhaps, a student could work with the USGSW on an examination of the start-of-flow data?

8. The next meeting will be on February 9, 2015. (Subsequent meetings are tentatively scheduled for March 16, April 27, and June 1).

HB/ed
GWminutesDEC2014