

MEMORANDUM

To: Groundwater Advisory Council
From: H. Bokuniewicz
Re: Minutes of the meeting of November 19, 2012
Date: November 27, 2012

PRESENT

N. Bartilucci
H. Bokuniewicz
S. Colabufo
D. Paquette
K. Roberts
M. Scorca
S. Terracciano

REGRETS

M. Alarcon
L. Koppelman
R. Liebe
R. Mazza
M. Nofi
A. Rapiejko
W. Spitz

1. There were no comments on the minutes of the last meeting. They were approved.
2. The impacts of Hurricane Sandy (October 29, 2012) were discussed. The impacts of Sandy differed substantially from those of the '38 Hurricane. Not only is there, of course, significantly more coastal development now, but the '38 Hurricane was accompanied by almost a foot of rain. Sandy, on the other hand, was fairly dry, but the flooding came from the seaward side due to the storm surge. Except on Fire Island and other flooded areas, there was no loss of water supplied by public groundwater utilities. The SCWA, in fact, noticed an increase in demand after the storm due, presumably, to people hosing down cars, driveways etc. There did seem to be persistent, public suspicion of utilities, and to be reports of people "stocking up" (hoarding) bottled water. One of the frequently asked questions has been "Is my water safe?" so it's important to separate water quality issues associated with surface water and shellfish from unlikely threats to potable water. Some public service announcements still advise people to "fill up bathtubs" etc. The Nassau County Executive announced that the water was contaminated and there were alerts to boil water in NJ and NYC. Water suppliers in Nassau County were required to do additional, water-quality sampling, for bacteria in particular. Contamination could have entered the system through broken pipes or flooded well heads. The public water supply was reliable; pump stations have back-up generators for power and there is a multiplicity of wells so that a good number could be taken offline while still maintaining the water supply. There were water-main breaks (at least one, in fact, caused by electrical repair efforts¹), generators failed after days of continuous use or simply ran out of fuel, but there was enough redundancy in the system to cope with such problems.

In flood areas, sewage in surface waters was a problem. STP's that lost power or were flooded caused back-ups in the system and the release of untreated sewage at outfalls. Bay Park STP is

¹ Eatons Neck is supplied by a water main along the Asharoken barrier beach. The SCWA has proposed a well in Eatons Neck as a precaution in case the pipeline was damaged. A test well, however, found only saline groundwater below 250 feet (to 400 feet when drilling stopped). In Sandy, however, the water main was broken by a crew replacing utility poles.

the notable example. In flooded areas, too, oil and gasoline from ruptured storage tanks submerged vehicles, broken pipelines contaminated flood waters. There may also be issues with household hazardous wastes released or discarded after the storm or used during clean-up activity. This type of contaminations, however, is outside, mostly south of, the recharge zone and does not pose a threat to groundwater reserves.

Although there are hundreds of superfund sites in the region, it seems that only a small number were directly impacted by Sandy. At one NJ location in Raritan Bay, called the “slag site”, a seawall had been built years ago with waste lead slag. This was damaged and left some large pieces of lead spread along the beach by the storm waves. Some pump-and-treat systems had to be turned off when the STP’s lost power or power was lost to the systems themselves.

3. In conjunction with the USGS Surface-Water Division in Washington and FEMA, the USGS office here has deployed 40 storm-surge sensors up the Hudson River between Staten Island and Montauk. In addition, fourteen teams were deployed to document 350 high-water marks. About half of those have already been leveled in. The high-water reached 16 feet in Staten Island, 12 feet at the Battery, 10 feet in Long Beach, and about 8 feet in the Peconics.

The USGS is also surveying the inlet that opened at Old Inlet on Fire Island using a remotely operated boat equipped with an Acoustic Doppler Current Profiler (ADCP) and a GPS. The inlet is five to six feet deep and another survey is scheduled for tomorrow (20 November 2012). All results are (or will soon be) available on a USGS web site.

4. The State has issued water-quality waivers for dewatering tunnels, subways, etc. SPDES permits would not be required for discharges into streams associated with dewatering. In Hempstead Harbor, the USGS water-quality monitor continues to operate. Data, like nitrate levels, should be available on the web. No special, groundwater quality measurements are planned at monitoring wells.
5. The USGS will be developing a “Science Plan” for post-Sandy studies. Such a plan was put in place, with funding, after Katrina. Such a plan might include expanded monitoring of the salt-water interface.
6. After major disasters like after September 11th, the NYC Blackout and Katrina, the EPA (Edison Office) activated a Regional Response Core of EPA volunteers. The “incident response” teams mobilized about 100 volunteers from the EPA staff for about a six-month interval, to respond to request, do site assessments, etc. as needed.
7. Student projects had been presented to incoming students. Caitlin Young’s project on groundwater influx into Port Jefferson Harbor is nearing completion. Associated with this project, Josephine Durand, is looking at geophysical measurement to delineate the freshwater distribution under the shoreline. A new student, Joseph Tamborski, has begun work focused on geochemical signature of groundwater as they might be expressed in flora and fauna. We are working with the Town of Brookhaven to study permeable reactive barriers. These are buried carbon sources (sawdust and wood chips) that are intended to intercept and denitrify groundwater nitrate plumes. It is intended to be used at a site on the Forge River. This had been tried years ago and it was pointed out that anoxic groundwater conditions are required.

Gil Hanson and Stephanie Rosenstern, a USGS employee in the SBU Hydrology program, are working with lysimeters to access the performance of these instruments based on land use. The Hydrogeology Program, however, has only a handful of students in it. This decline seems to be a

trend common to engineering and applied science programs. The SBU program as yet needs to be revised.

8. Twenty years ago the University hosted a major symposium on the quality and quantity of Long Island's groundwater. Internally, we were considering doing this again when Sandy hit. The impact of Sandy on water resources could be an overriding topic. Such a symposium could get out the message of the resiliency and reliability of the Island's public groundwater utilities, the susceptibilities of STPs, the issues of surface water flooding from storm surges and, perhaps, even the impacts of climate change and sea-level rise.

The strategy would be to host a technical/scientific symposium with recognized, "big names" in the field. The actual attendance at the conference might be limited (100-300 people) but a newsworthy gathering of experts would be intended to get a message out to a much larger audience through media coverage. With support, we might be able to mount such a conference for May in advance of the hurricane season.

9. There is another (the third) legislative meeting being held on December 3 by Mssrs. Spensor and Bosworth. As is often the case, there still seems to be a need for public re-education on water issues; misconceptions seem to be common. One issue would seem to be a perceived need for some single oversight agency to co-coordinate groundwater withdrawals. Perhaps some sort of organizational chart showing the existing structure of checks and balances governing water withdrawals would be helpful.

10. Miscellaneous:

- a. The NYS Water Resources Institute FY 2013 Grant RFA came out and the deadline has now passed. We had discussed a couple of projects at the University but none were developed to fit the requirements so there were no submissions this year.

- b. There are new technical videos available from the USGS on the issue of contamination (utilization and toxicity of) coal-tar sea coats. These can be found at:

Short version on Youtube--

<http://www.youtube.com/watch?v=g4S1aBBovf0>

Long Version on Youtube

<http://www.youtube.com/watch?v=sNAMSEriCzE>

Short version on USGS Gallery:

<http://gallery.usgs.gov/videos/595>

Long Version on USGS Gallery:

<http://gallery.usgs.gov/videos/596>

- c. Marilyn Jordan and TNC had a public opinion poll out to explore groundwater issues. The idea was "to help us gain a little qualitative understanding of Long Island's perceptions and ideas about local and regional water quality . . . to plan effective communication strategies to protect and enhance water quality . . .". The responses were due on 15 October. I haven't seen any results.

11. The next meeting will be on e a Monday, 17 December. It will be held at Stony Brook with a special discussion on the SBU Civil Engineering Program.

HB/ed
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