

MEMORANDUM

To: Groundwater Advisory Council
From: H. Bokuniewicz
Re: Minutes of the meeting of 26 September 2005
Date: October 19, 2005

PRESENT

H. Bokuniewicz
S. Colabufo
S. Jones
J. Milazzo
M. Nofi
D. Paquette
G. Proios
S. Robbins
K. Roberts
W. Spitz

REGRETS

M. Alarcon
N. Bartilucci
R. Liebe
B. Nemickas
K. Willis
P Witkowski

1. The minutes of the meeting of May 9, 2005 had been sent to all members. There were no comments at this time.
2. The meeting of 13 June, 2005 had been a special workshop on modeling and the groundwater clearinghouse. It was attended by representatives of the DEC, SCWA, USGS, SCDHS as well as Dvirka and Bartilucci, the H2M Group, CDM, Malcolm Pirnie and S. S. Papadopoulos and Associates. The meeting report included eleven, technical recommendations for the clearinghouse. As a follow-up, it would be useful to assemble a working group of people who are actually using the model in practical applications in order to discuss experiences, problems and modifications. I will try to assemble such a group. Unfortunately, the technical specialist we had dedicated, half-time, to the project took another job in North Carolina. As a result, the project is temporarily inactive. This is the second technical specialist for the clearinghouse that I've lost. If we're going to continue to make progress, the MOU establishing a dedicated source of financial support needs to be finalized. Apparently, there remains a question about who in the county would handle the funding and accounting of SCWA contributions.
3. Frank Amendola ran the "Groundwater University" at Camp Seawolf in August, 2005, as he did last year also. This is a week-long program of groundwater education. Eleven students in grades 7 through 10 attended as well as one high school student and four camp counselors. Ken Hill arranged a tour of the Suffolk County Health Department's lab as part of the program.

4. In September, we hosted a three-day workshop on PEST (parameter estimation software appropriate to groundwater modeling). The sessions were run by instructors from Papadopulos Inc. There were eight participants.
5. On 22 September, 2005, with the help of Paul Ponturo and Tamson Yeh, we held an afternoon educational workshop for the Long Island Water Conference on turf management. Ninety-one people registered for the workshop. The notice and agenda is attached. This revives an effort that used to be offered routinely by the Nassau County Cooperative Extension. The final session, which included a brief description of subsurface irrigation systems, seemed to attract the most attention. It was suggested that perhaps we should do something on alternative septic systems and subsurface irrigation systems. Karin Bloomer is now working on a handbook for landscaping protocol for the Suffolk County Water Authority. It might be helpful to bring this before a wider audience when it is completed.
6. Gil Hanson continues to maintain a group of four graduate students working on nitrate contamination and beginning research on perchlorate. Jennie Munster has completed her master's thesis on nitrate leaching from turf maintenance and will defend her Ph.D. proposal titled "Geochemical fingerprints of nitrate and perchlorate sources in Suffolk County" (abstract attached). The institute is supporting her travel to the Geological Society of American Meeting in Salt Lake City (16-19 October). There is a special session on "Naturally occurring perchlorate in the hydrologic cycle-origins, accumulation, transformations and transport." We have also nominated Jennie for an EPA "STAR" fellowship.

Over the summer, Gil's group sampled monitoring wells around an isolated septic system in Cathedral Pines with the help of the SC Health Department. He also has a student studying the soil biology in association with nitrate loading. At the moment, they are concerned about possible artifacts in the lysimeter samples. They show some indication of differences between the lysimeter samples and ambient pore water compositions, in particular, differences in pH and an absence of fungi in the lysimeter samples.

Bruce Brownawell is on sabbatical but his projects continue as does the research of his student, Mark Benotti. They have recently made progress reports to the EPA. I will arrange for a briefing to this committee later in the year.

J. K. Cochran and I have a project funded by the Sea Grant Institute to study underflow and chemical transformation in Jamaica Bay. This will begin in January. I will also be attending the Geological Society Meeting in Salt Lake City to present an invited paper in a special session on "Interactions of Groundwater and Surface Water at the Land-Sea Margin".

7. An important current issue on Long Island involves determining the strength of the source of nitrogen from underflow. The issue is complicated by the conversion reactions that occur in coastal sediments. The Sea Grant project, mentioned in item 6, will allow us to further develop the capability for such investigation that could be applied elsewhere. Port Jefferson Harbor or Smithtown Bay might be likely sites. To pursue this, we might contact the Non-Point Source Coordinating Committee on the Long Island Sound Study and review the SC Department of Health Services (unpublished) North Shore Embayment Study. (Jeff Meyers NYS DEC?) .

We might also consider investigations of nitrogen reduction due to different septic systems. CDM did a study on small denitrifying systems. (Marty Trent? Recent, 100-page nitrate study?).

8. Another important research topic could involve Laundromat wastes. There is a trend toward very large laundromats with several hundred washing machines. These might have a SPDES permit. The bulk of wastes from these facilities are removed mechanically. Lint in the wash itself absorbs detergent and is readily filtered out. Final polishing is done with carbon filters but to remain effective these have to be changed every three days. Treatment systems are in place but they may not be being properly maintained. The detergent standard furthermore, is an aesthetic one not a toxic one; in the face of limited resources the inspections involving toxic standards must take precedence. Nevertheless, these discharges are not in industrial areas but, because of the nature of the business, in high density residential areas. Sudsy tap water was reported near one such facility in Shirley. Three non-community wells have been contaminated there but public supply wells are not threatened.

More of the large facilities are inspected, especially on the south shore. Monitoring might look for MBAS's over 10 ppb as well as, oil, surfactants, trace chemicals like DEET, and fabric plasticizers. We might also be concerned with changes in the formulation of detergent. The usual tests may not be adequate because, for example, new components may not be methyl-blue active. It would be useful to get some samples from the Shirley site and analyze them on Bruce's mass spectrometer.

9. The Suffolk County Comprehensive Study is underway. The contract was signed at the end of May. A steering committee will be established with a sub-committee for evaluating models including model ability to represent non-uniform boundary conditions and the problem of accurately modeling (scale dependent) dispersion. The first steering committee will be Tuesday, 18 October (1 to 4 PM) in Yaphank. High priority issues include re-evaluating the sanitary code and "work force" housing with densities greater than 1/4 acre without sewing. (It seems that, in the rest of the country, there is no density greater than 1/2 acre allowed without sewerage). The steering committee will also consider:
 - a. Emerging chemical surfactants
 - b. Water conservation and irrigation
 - c. The cost of private wells including irrigation wells
 - d. Directions for fine-tuning the study
 - e. Decision matrix to weigh various factors
 - f. How to get implementation (why weren't earlier recommendation implemented?)

As part of the Comps study, the old CLEARs (Cornell Laboratory Environmental Application of Remote Sensing) maps showing hazardous waste sites and cleared lands will be scanned, digitized, and posted on a web site in six months. The historical aerial photographs upon which these were based will also be made

available over the internet. (The Pine Barrens Commission is engaged in a similar exercise to document land-use changes).

Ultimately, the SWAP models will be rerun with refinements including new and projected wells. The COMPS Study is to be completed in 30 months.

10. Last spring we had discussed the use of SWAP maps for zoning and related decision. Steve Jones and See Robbins are offering a session at the Suffolk County Planning Federation at the end of October to discuss the models and their application for Town managers. I will send the meeting notice to all members of the Advisory committee.
11. Future meeting include the Pine Barrens Research Forum on 6 October, a workshop on MTBE remediation for the DEC to be held at Stony Brook on 13 October and a future USGS groundwater symposium in late 2006 or 2007.

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Enclosures: LIWC agenda, J. Munster's abstract)