



# NJ Water Monitoring Coordinating Council

## Measuring What Counts for Clean & Plentiful Water

September 6, 2007  
MEETING MINUTES

### Attendees

Leslie McGeorge, Rick Kropp, Alena Baldwin-Brown, Kirk Barrett, Gary Buchanan, Bob Connell, Becky Cosgrove (for Bill Simmons), Danielle Donkersloot, Tom Fikslin, Jack Gibs, Jawed Hameedi, Nancy Immesberger, Mike Kennish, , Al Korndoerfer, MaryAnne Kuserk, John Kushwara, Judy Louis, Diana Morgan (for Joan Ehrenfeld), Karl Muessig, Caitlyn Nichols (for Boris Rukovets and Howard Golub), Nick Procopio, Greg Rusciano (for Lisa Galloway Evrard and Chris Obropta), Mike Serfes, Amy Shallcross, Bob Tudor, Eric Vowinkel, Paula Zevin

### Absent

Lisa Barno, Randy Braun, Ed Konsevick, Steve Nieswand, Bob Reiser, Ed Santoro, Mike Weinstein

### Guest Speakers

Marzooq Alebus – NJDEP/DWM  
Tom Belton – NJDEP/DSRT  
Suzanne Bricker – NOAA  
Mary Chepiga – USGS NJ Water Science Center  
Bob Limbeck – DRBC  
Tom Vernam – NJDEP/WM&S

### Guests

Kevin Berry, NJDEP/WM&S  
Debra Hammond, NJDEP/WM&S  
Trish Ingelido, NJDEP/DWM  
Steve Lubow, NJDEP/WM&S  
Helen Pang, NJDEP/DWM  
Bob Schuster, NJDEP/WM&S  
John Yagecic - DRBC

### ➤ **Old Business**

- Minutes from the 5/30/07 Council meeting were approved.

### ➤ **Member Updates**

- NJ Water Monitoring Inventory: Leslie McGeorge and Alena Baldwin-Brown announced that the NJ Water Monitoring Inventory was moving into the Functional Requirements phase of development and that associated sessions would be held Sept 25 & 26. Council members from NJDEP, IEC and DRBC currently comprise the Design Team. Any additional Council members wishing to be part of the Team should contact Alena, who is the Team Lead [NOTE: Judy Louis, NJDEP/DSRT, has joined the Team]. Leslie & Alena promised to keep Council members apprised of outcomes from this phase of development.
- USGS & DRBC Changes: Rick Kropp and Tom Fikslin announced several changes/areas of restructuring that have occurred at both USGS and DRBC. Rick announced that both Bob Schopp and Steve Nieswand will be retiring shortly. Tom announced that DRBC had restructured into 3 line functions: 1. Monitoring, Modeling & Assessment (reporting to him), 2. Water Resources Management (reporting to Bill Muszynski), and 3. Planning & IT (reporting to Ken Najjar).
- World Water Monitoring Day: Alena reported progress on planning for the NJDEP/USGS/EPA R2/MERI event being held at Liberty State Park on October 18. NJDEP Commissioner Jackson and

EPA R2 Administrator Steinberg are confirmed for the Welcoming Remarks portion of the day. Students from schools in Newark, N. Arlington and Montclair are expected to participate. [NOTE: Jersey City Mayor Healy and Rick Kropp (USGS) also participated in the Welcoming Remarks. Only students from N. Arlington and Montclair actually participated in the event.] Other Council members mentioned the following WWMD-related events that were being held around the state: Pinelands Commission event @ Batsto Lake (Oct 18), IEC sampling in Upper East River & W. Long Island Sound (Sept 18), Americorps working with multiple school groups, some volunteer monitoring groups/organizations holding WWMD events. Alena will be developing a running list of these activities, from Sept 18-Oct 18, which will be posted to both the Council and NJDEP WM&S websites. Additional activities should be sent to her for inclusion.

- Volunteer Monitoring Summit: Danielle Donkersloot announced that the call for papers for the Summit (scheduled for Nov 28 & 29 at the Cooper River Boathouse in Pennsauken) would be open until September 27.
- IOOS Workshop Report: Jawed Hameedi announced that the report from the IOOS-related workshop (held in 2005) is now available. Workshop attendees will automatically receive copies. Any other Council members interested in receiving copies of the report should contact Jawed directly.
- NJ Surface Water Quality Standards Readoption: Leslie announced that NJDEP is seeking readoption of the Surface Water Quality Standards. As part of this process, NJDEP is soliciting potential areas of focus. If Council members have suggestions, they should provide them to Debra Hammond who is overseeing this effort.

➤ **National Water Monitoring Council Meeting**

Leslie & Eric Vowinkel provided a summary of the National Council meeting that was held in July in Philadelphia. Updates included status of the National Water Quality Monitoring Network as well as planning for the 2008 National Conference. State monitoring programs was one of the areas of focus for this meeting. PA and VT are new members of the National Council and provided presentations on their programs. Leslie also provided a presentation on both the NJ Council as well as NJ's monitoring program. Other NJ Council members who attended at least 1 day of this meeting included: Bob Connell, Al Korndoerfer, Bob Tudor, Rick Kropp and Danielle Donkersloot.

National Network – Presentations were made on the 3 pilot areas chosen for the National Network (Delaware Basin, San Francisco Bay and Lake Michigan). Bob Tudor provided a presentation on the Delaware Basin Pilot development to date, which he shared with the Council at this meeting.

Methods Board – Eric announced that the Index currently has close to 1000 methods. The Data Elements workgroup is focusing on physical habitat; publication is expected in 2008.

National Conference – May 18-22, 2008, Atlantic City.

Eric announced that the deadline for abstract submittal has been extended until September 24. Leslie mentioned that she, Rick and Alena were co-authoring a NJ Council-related abstract that would be submitted for consideration. Other Council members were asked if they were planning to submit abstracts – NJDEP/WM&S, NJDEP/NJGS, Monmouth County Health Dept., Pinelands Commission, Rutgers IMCS, DRBC and USGS all indicated that they were planning to submit.

The idea of having a NJ Local Monitoring session, at the conference, was also discussed. Ideas suggested by Council members included:

- Using monitoring data to establish antidegradation thresholds for interstate waterbodies (multijurisdictional areas)
- Pinelands long-term environmental monitoring program
- Ocean observing systems

- Presentations by various volunteer monitoring groups

The ideas for workshops, sessions and field trips, developed by the Council at the May 30 meeting, were shared with the Conference Planning Committee. Additional discussions regarding these topics will continue through the Conference Planning Committee.

- **Technical Presentations** (Copies of most of the following presentations have been posted to the Council's webpage - <http://www.state.nj.us/dep/wmm/wmccmeetinginfo.html>)

The Council heard technical presentations on the following related to Nutrient Monitoring and Assessment:

A. *Nutrient Standards & Assessment* – Nancy Immesberger (NJDEP/WM&S)

Nancy Immesberger provided an overview of how nutrient data are used in development of NJ's Integrated Water Quality Monitoring & Assessment Report (IR). She explained the criteria that are used and the suite of parameters against which the criteria are applied. She also reviewed where nutrients fell in the list of impairments from the 2006 IR and explained delisting procedures for nutrients.

B. *Nutrient Monitoring for TMDLs* – Marzooq Alebus (NJDEP/DWM)

Marzooq Alebus detailed an effort to use response indicators in water quality modeling efforts to determine possible reduction(s) in nutrient loads from TMDL implementation. His presentation focused on efforts in the Raritan and Passaic basins where an attempt was made to establish a linkage between nutrient overenrichment and nutrient impairment. Data collected for this study included flow conditions, nutrient chemistry, biology and DO. Results indicate that, when collected at the proper time, diurnal dissolved DO is critical to evaluating nutrient impairments.

C. *NJ's Freshwater Nutrient Monitoring* – Tom Vernam (NJDEP/WM&S)

Tom Vernam provided information regarding the nutrient parameters that are sampled as part of the Cooperative Ambient Stream Monitoring Network (conducted by NJDEP and USGS) and NJ's Ambient Lakes Monitoring Network (conducted by NJDEP). For the Cooperative Ambient Stream Network, monitoring is quarterly and a variety of nutrient-related parameters are sampled including: TP, dissolved TP, dissolved ortho P, TN, dissolved TN, dissolved TKN, dissolved ammonia & sediment phosphorus among others. For the Ambient Lakes Network, sampling occurs 3x/year (spring, summer, fall) and parameters sampled include: TP, NO<sub>2</sub>+NO<sub>3</sub>, ammonia, & TKN, among others.

D. *NJ's Groundwater Nutrient Monitoring* – Mike Serfes (NJDEP/NJGS)

Mike Serfes presented nitrate contamination results from NJ's Ambient Groundwater Monitoring network. Data from 1999-2004 show that 9% of the wells in the network have nitrogen (nitrate + nitrite) problems; these are wells in agricultural and urban areas. Wells in the undeveloped areas did not exhibit these problems. Also, the majority of wells with problems appear to be concentrated in the southern portion of the state. Mike also shared some results from the 1<sup>st</sup> 2 years of Private Well Testing Act monitoring (2002-2004). Under PWTA, all ~45,000 wells are required to sample for nitrate. 2.6% tested about the drinking water standard of 10 ppm.

E. *Use of SPARROW Model to Predict Nutrient Loads in Delaware River Basin* – Mary Chepiga (USGS)

Mary Chepiga provided an overview of the SPARROW (Spatially Referenced Regression on Watershed Atributes) model and its application to Delaware River Basin nutrient data from 2000. SPARROW relates measured loads at monitoring stations to stream & land attributes. Using the model, predictions are able to be made for all reaches (stream & basin), not just those that are monitored. Using the model, she showed how major sources of nutrients (nitrogen and phosphorus) can be predicted. In the Delaware Basin, the model was able to show amounts of total nitrate, by source & basin, as well as total nitrogen delivered to the entire Delaware Estuary. She also showed applications of the model with other water monitoring information

F. *Nutrient Strategy for Non-Tidal Portion of the Delaware River* – Robert Limbeck (DRBC)

Bob Limbeck provided information regarding development of DRBC's nutrient strategy for the non-tidal portion of the Delaware River including remaining items. In addition, he presented various nutrient-related monitoring DRBC has or is undertaking, which include macroinvertebrate and periphyton studies. Results from the periphyton study indicate that the Delaware River diatom community is generally indicative of high water quality & high biological integrity. Bob also showed some results from phytoplankton algal assimilation studies using phosphorus and nitrogen in which algal growth may be stimulated or inhibited by nutrient addition.

G. *Nutrient Monitoring Research* – Tom Belton (NJDEP/DSRT)

Tom Belton detailed nutrient-related research that has either been completed, is currently ongoing or is planned for the future. These include: diatom trophic index development, MUA study of diatom trophic index, tiered aquatic life use study, paleolimnology lake study, nutrient biotic index study, as well as future estuarine and oceanic studies. Reasons that these types of research are needed include: development of monitoring & regulatory tools, characterization of nutrient enrichment & biological response, as well as consistency with extant state nutrient criteria.

H. *NOAA's National Estuarine Eutrophication Assessment* – Suzanne Bricker (NOAA)

Suzanne Bricker shared the results of NOAA's recently completed National Estuarine Eutrophication Assessment. The approach taken by NOAA was to use the pressure-state-response indicator model to determine management, research &/or monitoring that was needed related to nutrients in estuarine areas. While this was a national study, the mid-Atlantic area showed moderate-high overall eutrophic conditions. HABs and Chlorophyll a were two primary areas of concern. This area, however, also showed potential improvements as far as future outlooks.

➤ **Potential Topics for Next Meeting**

2008 National Water Monitoring Conference  
Managing Monitoring of Emerging Contaminants  
Air Deposition: Impacts to Water

➤ **Next Meeting**

January 23, 2008 at USGS NJ Water Science Center. (snow date – Jan 30)