



FINAL

NJ Water Monitoring Council

Measuring What Counts for Clean & Plentiful Water

May 19, 2016
MEETING MINUTES

Member Attendees

NJDEP – WM&S: Leslie McGeorge, Alena Baldwin-Brown, Brian Henning, Helen Pang, Vic Poretti *DSREH*
Nick Procopio *DWQ* – Marzooq Alebus

NJDOH – Doug Haltmeier

USGS – Bob Reiser, Tom Imbrigotta

USGS (retired) –

DRBC –

EPA R2 – John Kushwara

IEC – Robin Jazxhi

NJ Pinelands Commission –

NJ Water Supply Authority – Heather Desko, Sarah Helble

Rutgers (Coop Extension Service) – Lisa Galloway Evrard

Rutgers (IMCS) –

Rutgers (Env. Bioengineering) – Eric Vowinkel

Montclair University – Meiyin Wu

Monmouth University/Urban Coast Institute –

Stockton College –

Meadowlands Environmental Research Institute – Cheryl Yao

NOAA –

Monmouth County Health Dept –

Barnegat Bay Partnership –

Stony Brook-Millstone Watershed Association – Erin Stretz

Musconetcong Watershed Association –

Raritan Headwaters Association – Angela Gorczyca

Great Swamp Watershed Association –

NJ Harbor Dischargers – Ashley Slagle

Brick Township MUA – Rob Karl

Guest Speakers/Discussion Leaders

Francisco Artigas – MERI

Ron Baker - USGS

Kimberly Cenno – NJDEP/DWM&S

Sandra Cohen – NJDEP/DWM&S

Steve Domber – NJDEP/DWS&G

Kathleen Drake – EPA Region 2

Mihaela Enache – NJDEP/DSREH

Dorina Frizzera – NJDEP/DSREH

Martha Maxwell-Doyle – BBP

Kathleen Walz – NJDEP/SFS

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Other Attendees

Yaritza Acosta – MSU
Anika Andrews-Spilman – NJDEP/DLUR
Kevin Berry – NJDEP/DWM&S
Joe Grzyb – MERI
Nancy Hamill – NJDEP/SRP
Mariel Hathaway – NJDEP/DLUR
Jo Dale Legg – NJDEP/DLUR
Susan Lockwood – NJDEP/DLUR
Anna Signor – NJDEP/DWM&S
Larry Torok - NJDEP/DLUR
Mike Weinstein - MSU
Christine Wieben – USGS NJWSC

- **Council Business** (Copies of the agenda, minutes and many of the information updates and presentations are available on the Council’s webpage, under “Meeting Information” - <http://www.state.nj.us/dep/wms/wmccmeetinginfo.html>)
- Jim Waltman, Executive Director, welcomed NJWMC members and attendees to the Stony Brook Millstone Watershed Association’s facility
- Minutes from the 01/21/16 Council meeting were approved
- The final 2016 meeting will be September 21 at the USGS NJ Water Science Center (changed from the original location of the Delaware River Basin Commission). The Technical Theme is Sediment Monitoring. Suggested presenters/presentation ideas should be sent to Leslie, Bob or Alena.

Information Updates, Presentations and Announcements:

1. Membership Updates – **Resigning Member:** Ashley Slagle announced she will be relocating to San Antonio, TX this summer. PVSC/NJHDG will provide a replacement member.

2. Announcements –

- Vic Poretti announced the development of a 2016 CyanoHAB Freshwater Recreational Response and Comprehensive Strategy Workgroup, as well as an online CyanoHAB Reporting Form. NJWMC members interested in providing input to the workgroup should contact Vic or Leslie. Erin Stretz indicated SBMWA would be interested in the Reporting Form, when it’s available. Robin Jazxhi (IEC) mentioned the NEWIPCC HABs Working group and HABs app and suggested they could provide support/ideas. Meiyin Wu offered that Montclair U has the capability to do CyanoHABs cell counts and identifications.
- Leslie provided a brief summary of the monitoring and follow-up done by DEP resulting from the West Portal Creek detergent spill.
- Montclair University provided information about its 8th Passaic River Symposium October 13-14. The theme is “Environmental Management for a Sustainable Passaic”. Additional information is available at: www.csam.montclair.edu/pri/conferences.

3. National Water Monitoring Information from the National Water Quality Monitoring Conference (NWQMC - <http://acwi.gov/monitoring/>) – Leslie McGeorge provided a summary of the National Water Quality Monitoring Conference, May 2-6, in Tampa including attendee information (700+), highlighted topics, and NJ Council organization/member participation. Key topics included cyanobacterial harmful algal blooms (HABs), new data analysis tools, advanced monitoring technology, monitoring designs, nutrients, volunteer monitoring, need for long-term monitoring data sets, contaminants of emerging concern (CECs), pathogens, biological monitoring & communicating water quality results. Several NJWMC member organizations presented at the conference, including NJDEP (DWM&S, DLUR), USGS NJWSC, and DRBC. (*see www.state.nj.us/dep/wms/wmccmeetinginfo.html for presentation*).

4. Presentations:

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- **WQX/STORET & WQDE Water Data Entry Status** – Leslie (in Paul Morton’s absence) provided an update on water quality data entry from NJWMC member organizations into either WQDE or EPA’s WQX/STORET, including results by year, organization, media, location, and characteristics. DEP’s water monitoring data is supplemented by many partners including Council member organizations such as BTMUA, NJHDG, DRBC, NJPC, EPA R2, MCHD, RU/CES, and MERI. Data was also broken out by chemical/physical parameters vs biological (macroinvertebrates and fish). In addition, there was an update on biological data that are now available from the National Water Quality Portal (*see www.state.nj.us/dep/wms/wmccmeetinginfo.html for presentation*).
- **2014 Integrated Water Quality Assessment Report** – Kimberly Cenno and Sandra Cohen (NJDEP/DWM&S) presented on the data acquisition, the assessment process (including the rotating basin approach), and the key findings from the draft 2014 NJ Integrated Water Quality Assessment Report (IR). They also provided next steps for finalizing the 2014 report as well as information related to development of the 2016 IR.
- **Screening Level Assessment of Uncapped Landfills in the Pinelands Area** – Ron Baker (USGS) presented information on a new tool, developed cooperatively between USGS NJWSC and the Pinelands Commission, which allows levels of concern related to contaminant concentrations in ground water to be assigned to closed, uncapped landfills in the Pinelands area. The journal article about this project is available online at: <http://www.sciencedirect.com/science/article/pii/S0956053X15002810>.

Session – Wetlands Monitoring

- A. **NJ’s Wetlands** – Kathleen Walz (NJDEP/SFS) provided an overview of NJ’s wetlands, including the NJ Wetland Program, the NJ Wetlands Program Plan, wetland ecology basics, types of wetland assessments, wetland monitoring and assessment, data management, and various National and Regional wetlands workgroups. She explained wetland ecology basics (classification, diversity, ecosystem services & functions), types of wetlands assessments (condition vs. functional), monitoring & assessment (EPA’s 3-tiered approach, reference standard & reference gradient, restoration & mitigation tools), and data management approaches (storing and sharing wetlands data via various databases). [*see www.state.nj.us/dep/wms/wmccmeetinginfo.html for presentation*].
- B. **National Wetlands Condition Assessment (NWCA) 2011 and 2016** – Kathleen Drake (EPA R2) presented on National Wetlands Condition Assessment, the first NARS to sample wetlands nationwide. Details about the 2011 NWCA included site selection, reporting groups, assessments by region/type, categories of data collected, data collection and analysis activities, and indicator/indices development, as well as anticipated uses of the data/information. This information is included in the recently released 2011 NWCA Final Report available at: <https://www.epa.gov/national-aquatic-resource-surveys/nwca>. She also reminded attendees about the June 16 webinar to present results from the 2011 report as well as plans for the 2016 NWCA.
- C. **NCWA 2011 Mid-Atlantic Tidal Wetland Analysis** – Mihaela Enache (NJDEP/DSREH) summarized both the need for as well as the methods used to analyze a subset of tidal herbaceous estuarine wetland data from the Mid-Atlantic sites sampled during the 2011 NWCA. Mihaela explained that this was important because NJ’s estuarine wetlands are known to have naturally low floristic diversity but are also impacted by numerous stressors. In addition, algae and diatoms were not included in the final nationwide analysis and reporting of wetland condition. Results showed the best wetlands diversity was in VA, with some good sites in both MD and NJ [*see www.state.nj.us/dep/wms/wmccmeetinginfo.html for presentation*].
- D. **The Springs of NJ** – Steve Domber (NJDEP/DWS&G), Kathleen Walz (NJDEP/SFS) and Brian Henning (NJDEP/DWM&S) presented on various aspects of springs, including their relationship to wetlands. Steve discussed the characterization and assessment of springs. While NJ is geographically small, Steve explained that all spring varieties are found in the state. He also provided information on locations where they form, the benefits of studying them, their relationship to ground water quality, as well as their importance to and impact on headwater wetlands. Kathleen shared information on a companion project to assess the ecological integrity of headwater wetlands that were associated with 8 spring monitoring sites in Sussex, Camden, Monmouth, Burlington, Warren and Hunterdon Counties. Kathleen explained the metrics used (e.g., landscape, buffer, vegetation, hydrology) as well as how wetland condition is impacted by stressors such as development, non-native vegetation, natural disturbance, and alterations to hydrology. She

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also shared the resulting Ecological Integrity Assessment (EIA) scores for each site. As a biological complement to Kathleen and Steve's presentations, Brian spoke about characterization of aquatic vertebrate fauna (fish and amphibians) in NJ's springs. Sampling at 8 sites (some co-located with both Steve and Kathleen's sites) in Northern NJ, Brian described the methods, species found and measures used as well as the preliminary findings of the investigation. [see www.state.nj.us/dep/wms/wmccmeetinginfo.html for presentations]

- E. **Status & Trends of NJ Coastal Wetlands: Monitoring & Sea Level Rise** – Martha Maxwell-Doyle (BBP) spoke about the status & trends of NJ coastal wetlands, including monitoring and sea level rise, using information from the Mid-Atlantic Coastal Wetlands Assessment (MACWA). MACWA is designed to establish an integrated wetlands monitoring and assessment program in the Delaware Bay and Barnegat Bay estuaries (and beyond), which will allow for the understanding of multiple stressors on salt marshes from a regional perspective. MACWA's central questions are: are wetlands keeping up with sea level rise?; and what are the spatial and temporal variation in wetland structure and function over time? Martha used MACWA data/results to show areas of concern as well as describe next steps. MACWA reports are available through either the Barnegat Bay Partnership (<http://bbp.ocean.edu/pages/1.asp>) or Partnership for the Delaware Estuary (<http://delawareestuary.org/>) websites. [see www.state.nj.us/dep/wms/wmccmeetinginfo.html for presentation]
- F. **Monitoring Water Quality in a Tidal Estuary** – Francisco Artigas (MERI) summarized the various types of water quality monitoring performed by the Meadowlands Environmental Research Institute. He explained that there are >4000 acres of wetlands in the Meadowlands and, within this geographic area, MERI maintains 14 monitoring stations (with data going back to 1997) as well as employs remote sensing – using chlorophyll a as the indicator – to determine water quality in this urban area. Water quality data are available from MERI's website (<http://meri.njmeadowlands.gov/>). In addition, MERI maintains a DEP-certified laboratory. [see www.state.nj.us/dep/wms/wmccmeetinginfo.html for presentation]
- G. **A Multi-Metric Site Evaluation Tool for Restoration of NJ's Tidally Influenced Wetlands** – Dorina Frizzera (NJDEP/DSREH) presented information on a multi-metric site evaluation tool, for wetlands assessment, that can now be used for restoration of NJ's coastal, tidally-influenced wetlands. The tool is an interactive, web-based database, known as the Riparia Reference Wetlands Database, which combines a data interface with geospatial capabilities. The tool allows for a 3-phased approach to wetlands assessment: landscape assessment, stressor identification, and intensive assessment. The intended use of the tool is to inform wetlands restoration projects through adaptive management. [see www.state.nj.us/dep/wms/wmccmeetinginfo.html for presentation]

➤ **Technical Topic for Next Meeting**

Sediment Monitoring

➤ **Next Meeting**

September 21 at Delaware River Basin Commission [Note: meeting location changed to USGS NJ Water Science Center]

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Gaps/Needs Related to Wetlands Monitoring

- Need for shallow ground water quality data from wells in and around wetlands - would enable verification of solute transport modeling
- Need a wetlands database for NJ with a data dictionary
- Need to adopt a “systems approach” for studies to answer wetlands connectivity questions from uplands to the coast
- Need for increased Technology Transfer
- Measures of biological productivity are missing (NOAA’s EFH Tier 1 presence/absence, Tier 2 Density, tier 3 growth and survival, tier 4 production estimates)
- Need data on the flow rates of springs
- Need to refine Site-Specific Intensive Monitoring (SSIM) and Mid-Atlantic Tidal Rapid Assessment Methods (MidTRAM)
- Need to compare data analyses to management recommendations
- Cross comparison of SSIM and MidTRAM methods is needed
- Need for continuation and expansion of SSIM
- Need to determine impacts of Open Water Marsh Management in Barnegat Bay
- Link data with other research assessment activities (e.g., Water quality monitoring networks, NRCS subaquatic soil mapping)
- Determine the cause(s) of variations in metal concentrations in Meadowlands water column
- Compare and contrast the effects of beneficial reuse of dredge material
- Need additional coastal wetlands monitoring sites
- Need installation of 2 more SSIM in the Raritan watershed to enhance the Mid-Atlantic Coastal Wetlands Assessment network and link to MERI