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NJ Water Monitoring Council

Measuring What Counts for Clean & Plentiful Water

May 24, 2017

MEETING MINUTES

Member Attendees

NJDEP – *DWM&S*: Leslie McGeorge, Alena Baldwin-Brown, Brian Henning, Helen Pang, Vic Poretti, Bob Schuster *DWS&G*: Jeff Hoffmann *DSREH*: Nick Procopio, Sandra Goodrow *DWQ*: Marzooq Alebus

NJDOH – Doug Haltmeier

USGS – Bob Reiser, Pam Reilly, Tom Imbrigotta, Heather Heckathorn

USGS (retired) –

DRBC –

EPA R2 – Emily Nering

IEC –

NJ Pinelands Commission – Marilyn Sobel

NJ Water Supply Authority – Heather Desko

Rutgers (Coop Extension Service) – Lisa Galloway Evrard

Rutgers (IMCS) –

Rutgers (Env. Bioengineering) – Eric Vowinkel

Montclair University – Meiyin Wu

Monmouth University/Urban Coast Institute – Jim Nickels

Stockton College –

Meadowlands Environmental Research Institute –

NOAA – Matthew Poach

Monmouth County Health Dept. –

Barnegat Bay Partnership – Stan Hales

Stony Brook-Millstone Watershed Association – Nik Hansen

Musconetcong Watershed Association – Nancy Lawler

Raritan Headwaters Association – Angela Gorczyca, Kristi MacDonald

Great Swamp Watershed Association – Sandra LaVigne

NJ Harbor Dischargers –

Brick Township MUA – William Ruocco

Guest Speakers/Discussion Leaders*

Chris Doyle – Solitude Lake Management

Hollie Ezze – NJDEP/PL&O

Paul Morton – NJDEP/DWM&S

Ian Pflingsten – USGS

Pat Rector-Woods – Rutgers Coop Extension of Morris County

Melissa Riskin – USGS

Michael VanClef – Friends of Hopewell Valley Open Space

Other Attendees*

Yaritza Acosta – Montclair State University

Kevin Berry – NJDEP/DWM&S

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Stephen Bross – NJDEP/PL&O
Joe DiMatteo - BTMUA
James Duffy – Musconetcong Watershed Association
Teresa Guloy – NJDEP/DWQ
Toni Heater - NJDEP/DWM&S
Debbie Kratzer - NJDEP/DWM&S
Chris Kunz - NJDEP/DWM&S
Mike McConville – NJDEP/PL&O
Jennifer Noblejas - NJDEP/DWM&S
Alessandra Rossi - Montclair State University
Nick Zemlachenko - NJWSA

- **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>)
- Minutes from the 01/19/17 Council meeting were approved
- The next meeting will be September 20 at DRBC. Fish/Shellfish Tissue has been suggested as the potential technical theme. Members/member organizations who are interested in presenting should contact Leslie, Bob or Alena.

Information Updates, Presentations and Announcements:

1. Announcements –

- Jeff Hoffmann announced that central NJ is still in a drought warning status but that the warning had been lifted from the rest of the state as well as PA and DE. Drought information can be found on the DEP website at: <http://www.nj.gov/dep/drought/>.
- Jeff Hoffman also announced that the Draft Water Supply Plan 2017-2022 was available for public comment. The deadline for submitting comments is July 21. Additional information, including the draft plan and how/where to submit comments can be found at: <http://www.nj.gov/dep/watersupply/wsp.html>.
- Pam Reilly announced that the USGS website is undergoing some enhancements, which are expected to be “live” in October. She also announced the publication of 2 new USGS publications – one related to water quality trends in NJ streams (1971-2011) and the other related to methods used to characterize the chemical composition and biological activity of stream waters across the US. These publications can be found online at: <https://pubs.er.usgs.gov/publication/ofr20171011> and <https://pubs.er.usgs.gov/publication/sir20165176>.
- Leslie McGeorge and Bob Schuster announced that, on Friday May 19, the newest boat in the DWM&S fleet was dedicated to former DEP Commissioner Robert C. Shinn, Jr. The dedication took place at the Farley State Marina in Atlantic City. The R/V Shinn, a 32-foot marine water quality research vehicle, will be used to deploy real-time telemetry buoys that are instrumental in monitoring the quality of the coastal waters. Data collected by these buoys is available online at: <http://njdep.rutgers.edu/continuous/>.

2. National Water Quality Monitoring Council (NWQMC - <http://acwi.gov/monitoring/>) – Leslie provided a summary of the National Water Quality Monitoring Council’s spring web meeting, as well as copies of the meeting minutes. Key topics included Sensors Workgroup updates on the Nutrient Challenge winner as well as new decontamination protocols that are under development, the availability of 6 monitoring design fact sheets (A guide for Informed Decision Making, Targeted Monitoring, Fixed Site Monitoring, Statistical Surveys, Remote Sensing and Rotating Basin) and 1 water quality index-related fact sheet on the Council’s website, the publication of the Spring edition of the Council’s newsletter, work by the Volunteer Monitoring (VM) Subcommittee to add VM data to the Portal as well as clarify VM-specific protocols for cyanobacteria monitoring, and the announcement that the 2018 National Conference is expected to be held in Kansas City in April. In addition, Leslie provided a brief recap of the NJ training on the National Water Quality Portal,

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provided by Dwane Young from EPA HQ. [see www.state.nj.us/dep/wms/wmccmeetinginfo.html for presentation]

4. Presentations:

- **Draft CyanoHABs Strategy** – Leslie & Vic Poretti (NJDEP/DWM&S) updated the Council on DWM&S/Bureau of Freshwater & Biological Monitoring’s development of the draft NJ Cyanobacterial Harmful Algal Blooms (HABs) Freshwater Recreational Response Strategy and Guidance document which is being put together by an Interagency Workgroup (NJDEP and NJDOH). Updates included status of the document review by DEP management and development of accompanying resources (e.g., fact sheets, online reporting form and website). There was also a brief presentation of a few of the draft website pages. [NOTE: the Strategy and website (www.state.nj.us/dep/wms/HABS.html) were released on August 28, 2017.]
- **Status of NJWMC Member Organizations Data Entry into WQDE/WQX** – Paul Morton (NJDEP/DWM&S) shared a summary of both the types of data that should be included in WQDE/WQX as well as the types of data that are currently included (rivers/streams, lakes, ocean, wetlands, biological, tissue, habitat, sediment, etc.) and which NJWMC member organizations are contributing that data. He also provided information on where to find continuous data (WQDE/WQX is for discrete data only), options for entering data into WQX, as well as queried attendees as to a desire for refresher WQDE/WQX training (NJDEP/DWQ, Montclair, Great Swamp WA and Musconetcong WA indicated they would be interested in such training). DWM&S will pursue arranging this training for interested members/organizations. [see www.state.nj.us/dep/wms/wmccmeetinginfo.html for presentation]
- **Water Quality Trends in the Nation’s Rivers: Recent Products & Interactive Mapper** – Melissa Riskin (USGS) provided an overview of the recently released comprehensive evaluation of water-quality trends in the Nation’s rivers and streams along with 5 related data releases and an interactive trend mapper, as part of the NAWQA program’s goal to document and explain how water quality has been changing over time. Time periods of data, analyzed for this, are from 1972 through 2012 and include 185 million water quality records from 480,000 sites and more than 600 organizations. Nutrients, pesticides, sediment, carbon, salinity, fish, invertebrates and algae are included in the trends analysis. The report and interactive mapper contain information on approximately 8 sites in NJ. The report is available online at <https://pubs.er.usgs.gov/publication/sir20175006> which the interactive mapper can be found online at: <https://water.usgs.gov/nawqa/> [see www.state.nj.us/dep/wms/wmccmeetinginfo.html for presentation]

Session – Biological Monitoring (continued from 1/19/17 meeting)

- A. **Great Swamp Watershed Association (GSWA)** – Sandra LaVigne shared information regarding the types of monitoring that are performed by the GSWA, with special focus on the biological monitoring activities. As of 2017, GSWA is now also monitoring the Passaic River in addition to the tribs within their watershed. They do chemical, biological and bacterial monitoring. Biological monitoring focuses exclusively on macroinvertebrates. Macro sites are chosen to align with visual assessment sites. Macro sites are also chosen with the knowledge of nearby NJDEP AMNET sites. GSWA has been performing macroinvertebrate assessments since 2000, and has used the NJ High Gradient Macroinvertebrate Index since 2015. Macros are identified to the family level by a certified lab. GWSA is in the process of preparing a report card and technical report with results from their monitoring data. They also submit their data to NJDEP, where it has been used in preparation of the NJ Integrated Water Quality Assessment Report, and are trying to get their data submitted to WQX-Web. [see www.state.nj.us/dep/wms/wmccmeetinginfo.html for presentation]
- B. **Musconetcong Watershed Association (MWA)** – Nancy Lawler summarized the biological monitoring conducted by MWA as well as how MWA uses that data to assess and prioritize dam restoration activities within the watershed. Nancy explained that stream and dam restoration are a big part of MWA’s activities and that the biological monitoring information that is collected is used to assess the effects of various activities on the river (e.g., dam removal) on the water quality and habitat. Types of biological data that are collected include benthic macroinvertebrates and mussels. Benthics are collected at 6 sites annually by volunteers, using the same methods as the AmeriCorps NJ Watershed Ambassadors (Nancy noted that MWA may be expanding beyond 6 sites in the future). Results, which are provided to NJDEP and have

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been used in preparation of the NJ Integrated Water Quality Assessment Report, are used for river health tracking, prioritizing future work as well as preparation of an annual watershed report card. Mussel results help to evaluate restoration methods. [see www.state.nj.us/dep/wms/wmccmeetinginfo.html for presentation]

Session – Aquatic Invasive Plant Monitoring & Control

- A. ***Aquatic Plants in NJ and Aquatic Plant Mapping Using Point Intercept Methods*** – Chris Doyle (Solitude Lake Management) provided an overview of aquatic plants in NJ including both benefits (aquatic biota habitat, wildlife habitat and food, nutrient sink, shoreline & benthic stabilization & aesthetics) and detractions as nuisance quantities (restricting recreation, ecological imbalances and attraction of invasive species). The presentation included a variety of information on commonly found aquatic plants in NJ – both submerged as well as floating species – and also summarized the types of surveys that are done to map aquatic plants in waterbodies (visual, biomass, transect, remote sensing, and the point intercept method or PIM). Point intercept is relatively new (developed by the Army Corps of Engineers) and revolves around the assignment of plant mass densities which are then used to produce maps of distribution and abundance. The method is useful because it uses standard practices, is repeatable and can be utilized by volunteer groups. [see www.state.nj.us/dep/wms/wmccmeetinginfo.html for presentation]
- B. ***The USGS Nonindigenous Aquatic Species Database and its Relevance to NJ***– Ian Pflugsten (USGS) summarized the USGS Nonindigenous Aquatic Species (NAS) database (<https://nas.er.usgs.gov>) which contains >90,000 records for 250+ plant species in the US, most of which are freshwater species. This includes 427 specimens for 27 plant species in NJ. The database was created as an outgrowth of the Aquatic Nuisance Species Task Force and includes both exotic and transplant species. In addition to plants, the database also contains information on invertebrates and vertebrates. High profile plant species, found in NJ that are in the database, include hydrilla, Eurasian watermilfoil, water hyacinth, water chestnut & curly leaf pondweed. In addition to information about the species (what it is, where it’s found, photos, etc.), the database also contains an interactive map which depicts information at the HUC 8 level. The database website also contains fact sheets, search capabilities, reporting of sites, an alert system, as well as the ability to report new sightings [NOTE: Ian indicated there is also a mobile app for this - NAS Siting, which is available from either the Apple app store or through the USGS website at: <https://nas.er.usgs.gov/mobilesightingreport.aspx>]. Data sources for the NJ plant species include the NJ Invasive Strike Team, Flora of NJ Project, Brooklyn Botanic Garden and Early Detection & Distribution Mapping System, and Consortium of Northeastern Herbaria. Ian indicated that additional NJ aquatic species data could be shared for input into the database. [see www.state.nj.us/dep/wms/wmccmeetinginfo.html for presentation]
- C. ***NJ Invasive Species Strike Team*** – Michael VanClef (Friends of Hopewell Valley Open Space) shared information about the NJ Invasive Species Strike Team, which began in 2008 and serves as a clearinghouse for all invasive species in NJ. The Strike Team consists of >200 partners representing all levels of government, non-profit conservation groups, consulting foresters and related businesses, as well as interested individuals. The Strike Team relies on early detection and rapid response for invasive species control – since 2008, ~720,000 acres of the state have been searched with >8600 detections of target/watch species (~2500 eradications either complete or underway) and >2500 detections of widespread species (~850 eradications complete or underway). The Strike Team has a mobile app (available via the Apple App Store or Google Play) which can be used as an identification and reporting tool, a field guide, a listing of reported pesticide applications, a repository of best management practices, a tracker for work begun/in progress/completed, and includes the ability to send photos. For 2017 there are 148 target species – 102 plants and 46 animals. Also in 2017, the Strike Team will perform a “fee for service” for some County Parks. Additional information about the Strike Team is available online at: <http://njisst.org/>. [see www.state.nj.us/dep/wms/wmccmeetinginfo.html for presentation]
- D. ***Hydrilla in the D&R Canal*** – Heather Desko (NJWSA) provided an in-depth update on the presence of Hydrilla in the D&R Canal (Heather had provided a brief announcement about this at the September 21, 2016 NJWMC meeting). Heather explained that Hydrilla has only been confirmed in a few locations in NJ but she also shared the reasons why Hydrilla is such a challenge to manage (e.g., tubers can remain viable in sediment for 6+ years, it can grow in lakes/ponds as well as in flowing water, it crowds out native submerged aquatic

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vegetation and affects water flow, and there is a toxic cyanobacteria which can be associated with it). She also shared the various actions that have been taken to survey/map its locations in the D&R Canal, monitoring the tubers, as well as proposed methods of management (including herbicides). Heather also provided a fact sheet explaining the Hydrilla discovery in the Canal as well as the difference between Hydrilla (an invasive) and its lookalike Elodea (common waterweed) which is a native aquatic plant species also found in the Canal. In addition to the fact sheet, Heather also brought live samples of both so meeting participants could see them both up close. Heather encouraged reporting of Hydrilla to either the NJ Invasive Species Strike Team or to the NJ Water Supply Authority. More information about Hydrilla is available on the NJWSA website at: <http://www.njwsa.org/hydrilla.html>. [see www.state.nj.us/dep/wms/wmccmeetinginfo.html for presentation and fact sheet]

- E. Water Chestnut: Successes and Challenges** – Pat Rector-Woods (Rutgers Coop Extension of Morris County) summarized her work with water chestnut, which is an aquatic invasive that is a floating leaved plant, with toothed leaves, forms a rosette that is an identifying trait. Water chestnut has a 4-pronged nut or fruit, that is also used for identification. The water chestnut fruit rests on the sediment at the bottom of a lake or pond, lightly buried. Like hydrilla, water chestnut is a recent invasive to NJ that spreads aggressively and is highly disruptive. However, it is easy to identify and, with early detection, can be managed. Pat shared information on several control-related research efforts as well as other control mechanisms, such as hand pulls and mechanical harvesting. She also shared an online Water Chestnut Sighting form (https://docs.google.com/forms/d/e/1FAIpQLSe8vH8Xx7qc0ycNXcbjXJQ9nO6mf3ZY4Icu7X3xnOmMTi3xUQ/viewform?usp=send_form) that provides information about this invasive to the Water Chestnut Task Force. This form, as well as other information about the water chestnut are also available on the Rutgers Cooperative Extension of Morris County's website - http://morris.njaes.rutgers.edu/ag/Aquatic_invasive%20species.html. [see www.state.nj.us/dep/wms/wmccmeetinginfo.html for presentation]
- F. NJDEP's Aquatic Pesticide Use Permits** – Hollie Ezze (NJDEP/PC&E) provided an overview of the Aquatic Pesticide Permitting Program including who needs a permit, who is exempt, what is required to apply for a permit, how to apply (which can be done online at <http://www.NJDEPonline.com>), as well as conditions for permit approval. Hollie also shared the most common target species treated with aquatic pesticides in NJ – among them are the curly leaf pondweed, Eurasian watermilfoil, and filamentous algae. [see www.state.nj.us/dep/wms/wmccmeetinginfo.html for presentation]

- **Technical Topic for Next Meeting**
Fish and Shellfish Monitoring
- **Next Meeting**
September 20, 2017 at the Delaware River Basin Commission

*Speaker/Attendee Organization Acronyms (other than NJWMC member organizations):
NJDEP/PL&O – NJDEP Pesticide Licensing and Operations

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Gaps/Needs Related to Aquatic Invasive Plant Monitoring & Control

- Potential need for coordinated Aquatic Invasive Species effort for NJ (maybe similar to NYDEC)? Such an effort/program could coordinate all aquatic invasive species activities, including monitoring and reporting activities.
- Need for greater awareness of information sources for identifying, monitoring and reporting aquatic invasive species plants in NJ.
 - Reporting options
 - Training
- Need for more general information/outreach regarding prevention and decontamination procedures related to aquatic invasives. Could be for monitoring organizations and others.
 - Need for Statewide decontamination protocols
 - Initial evaluation of what other entities are doing
 - Potential development of NJ decontamination protocols catalogue (NJWMC product)?