



Water Quality Work Group Meeting

June 6, 2023

Location: Zoom (online only)

Minutes

Attendees: Marco Alebus (NJDEP), Lisa Congiu (NJDEP), Mick DeGraeve (NJHDG/GLEC), Phil DeGaetano (IEC), Jason Fagel (NYSDEC), Mike Flood (EPA), Biswarup (Roop) Guha (NJDEP, NJ acting co-chair), Siddhartha Hayes (HRPT), Wayne Jackson (EPA), Lingard Knutson (EPA), Michele Langa (NY/NJ Baykeeper), Tom Laustsen (NJHDG/PVSC), Kelly Mascarenhas (NJDEP), Rosella O'Connor (EPA), Rosana Pedra Nobre (HRF/HEP), Robert Pirani (HRF/HEP), Susan Rosenwinkel (NJDEP), Clay Sherman (NJDEP), Dan Shapley (Riverkeeper), Shino Tanikawa (NYC Soil & Water Conservation District, NY co-chair), Isabelle Stinnette (HEP/HRF), Makini Valentine-Turton (EPA), Ryan Van Manen (EPA), and Greg Wilkerson (NYCDEP)

Next Meeting: Tuesday, August 29, 2023 at 10:30 AM

1. Overview of Agenda, Introductions, and Minutes Approval

Roop Guha opened the meeting and provided an overview of the agenda. March minutes were introduced and motioned for approval by Mick DeGraeve and seconded by Lingard Knutson.

Action: March 2023 minutes were approved.

2. Partner Updates

Roop Guha shared that the partner updates will be moved at the top of the meeting agenda to give partners more time to share updates if any. Moving forward, partner updates will be at the beginning of each meeting.

Rosana Pedra Nobre shared that HEP has closed on the four grant opportunities that were advertised, building climate capacity, habitat restoration, City of Water Day, and the Harlem River Greenway in the Bronx. Letters of Inquiries (LOI) have been received and HEP staff are currently in the mix of reviewing LOIs and requesting full proposals. In a future meeting, HEP staff will share water quality-related grants.

3. NYSDEC Proposes Amended Water Quality Standards for Saline Waters

Jason Fagel provided an update on the Proposed Amendments to Water Quality Criteria in NYS Saline Waters which is closely related to the Advanced Notice of Proposed Rulemaking process for which NYSDEC will provide an update on a later date. All supporting documents and notice for the Proposed Amendments to Water Quality Criteria are available on the state's website: <https://www.dec.ny.gov/regulations/127310.html>. The proposed amendment includes new standards for Class SA waters (to protect shellfish) and the inclusion of Enterococci for Class SA/SB waters for best use, and primary contact recreation suitability for Class SC waters. Class I also includes Enterococci to protect

secondary contact recreation as the best use. The fact sheets found on the website detail how the proposed criteria to the secondary contact recreational waters were determined. A Wet Weather Limited Use is also included in the proposed amendment, however, there is no waterbody that is being assigned a wet weather designation with this update. NYSDEC will need to complete a Use Attainability Analysis (UAA) in the future to assign a wet weather designation. For details about the water quality standards, please visit: <https://www.dec.ny.gov/chemical/23853.html>.

A question was asked if there was a table generated to compare existing standards to proposed amendments. Jason noted that there are no tables, however, the existing standards only include fecal coliform as the bacterial indicator. NYCDEC's proposed amendments would add Enterococci as a criterion. Ryan Van Manen shared this link to view the current regulations simply and the new express terms are found on the state's webpage. The amendments will not change the definition of primary contact recreation. A question was asked about wet weather standards, specifically how New York speculates its implementation as it relates to discharges and recreational activities. Jason indicated that wet weather limited use would not apply to SA or SB class waters, but something that could be applied to a lower classification as an intermediate step to a UAA.

Action: Public Hearings will be held on Tuesday, June 13th at 2pm in the NYSDEC Region 2 Office and a virtual hearing will be held on Thursday, June 15th at 2pm. Written comments may be submitted by June 20, 2023.

4. IEC/NJDEP Harbor Monitoring Network

Evelyn Powers shared that in 2019, IEC and NJDEP initiated a Memorandum of Understanding (MoU) to establish a monitoring network for NJ waters in the NY/NJ Harbor. The water quality data collected through this network will be used to assess current water quality conditions for the 305(b) report, and will serve as the foundational data to validate the NY/NJ Harbor's Systemwide eutrophication model calibration, validate the Pathogen Model developed by PVSC, and revisit the downgraded status of the waterbodies from the 1985 UAA. The network launched in 2021 covering 26 sites with a wide geographic spread for weekly surveys (May-Sept) and monthly surveys (Oct-April) for three sampling days (two by boat, one by land). Bacterial indicators monitored include fecal coliform and enterococcus for SE waters, and E.coli for FW2 waters) weekly during the recreational season. Other water quality parameters monitored include nutrients (nitrite and nitrate, ammonia, and total nitrogen; orthophosphate/total phosphorus in the Hackensack) monthly and year-round, as well as water temperature, dissolved oxygen, salinity, turbidity, chlorophyll, and secchi disk at depth, where possible. All of year one and half of year two discrete monitoring data are available on the water quality portal and an NJDEP-approved QAPP is available. For 2023, the year three scope of the program has the same basic frequency for the ongoing parameters, but eliminated some sites where NJDEP felt there was sufficient data, re-assigned stations that were time-intensive for IEC to get to and added seven new sites (tributaries to the Hackensack and adjacent to the Arthur Kill) for a total of 24 sites across two sampling days. It is anticipated that four continuous monitoring stations will be installed by the end of the summer 2023. In 2023-24, parameters monitored will also include metals.

Mick DeGraeve asked whether there is interest in IEC/NJDEP discussing with the NJHDG to identify overlaps and determine the scope to improve collaboration between the two monitoring programs and

whether NJHDG should consider modifying their programs. Evelyn acknowledged and welcomed further discussion. She also indicated that they will be reviewing stations every two years as part of their QAPP and would also be interested in discussing QA/QC comparisons between the two programs. Isabelle Stinnette asked which metals will be monitored in 2023. Evelyn shared, new for this year, they will be monitoring for silver, arsenic, cadmium, copper, mercury, nickel, lead, zinc, selenium, chromium, chromium +6, manganese. Roop Guha asked the work group if there are any known water quality issues with silver in the Harbor.

Greg Wilkerson noted that the Long Island Sound (LIS) modeling team would be interested in the data that is being collected and how that may be beneficial to calibrate the model. It would be interesting to see this latest data set and how the model predictions compare to the 2021-2022 data in areas like the Hackensack as part of a post-audit. Mick DeGraeve indicated that there was interest in expanding the LIS model to include shared waters, an interest for the NJHDG. Roop indicated that the main LIS model will include the full scope of the Harbor and hopes that once calibrated to some extent, the refinement may be sufficient for NJ waters and be leveraged across the estuary. Greg added that there may likely need to be some tweaks to the model for NJ waters, but the state is focusing on ensuring we have the data to complete a good calibration effort.

Action: Evelyn Powers to engage the NJHDG to discuss the Harbor Monitoring Program and opportunities for efficiencies across the two programs and QAPPs.

5. Integrated Model and Graphical User Interface Tool for the LIS Update

Greg Wilkerson provided an update on the LIS Modeling effort which was triggered after a large investment by NYCDEP to reduce nitrogen loads and EPA's announcement on Nex-Gen Nitrogen strategy which required improving the existing SWEM model to address the limitations. The primary elements of the LIS model will include an open-source version and NYCDEP wanted to have a graphical user interface and decision support tool. Several milestones have been completed to date, which included the model selection, setup memo, and the selection of ROMS for hydrodynamics (different from what is used in SWEM) and RCA for water quality model (same as SWEM). The model domains (spatial extents) for both the models (LIS and SWEM) are identical. Testing memos were then completed to analyze the same SWEM data into the new model (the new model is not calibrated) to check if the new model was working to move forward on the next step. The years 2005-2006 was considered a data rich year for the LIS and NYCDEP had consultants develop a pre-calibration approach with that data to allow the MEG and stakeholders to see how the consultants would do the calibration before fully calibrating a larger data set covering 2005-2019.

The team is currently working on the water quality recalibration report (similar approach to hydrodynamics) and NYCDEP expects to receive this report by HDR later in June. Greg provided an overview of some of the comments the MEG has had through the process to date. There is still some work to be done in getting the RCA model to run as efficiently as the ROMs and this is largely around the predictions for dissolved oxygen. Greg pointed out that included in the RFP, NYCDEP seeks to have the model work for the entire domain of the NY Harbor and NY Bight. HDR did not calibrate the model for a large area of the NJ Shelf and indicated only some data was available from Sandy Hook to Cape May. Greg called to action the Water Quality Work Group to share any data sources for the years 2003-2018. Lingard

Knutson, Roop Guha, and others indicated data may be available through NJDEP for water quality parameters through their gliders program as well as other monitoring efforts around wind farm siting.

NYCDEP is currently working on a change order to include living resource modeling for sugar kelp, eelgrass, and oysters. The draft scope of work looks to develop three index models that identify areas where habitat is suitable for developing the three living resources of focus which also include three dynamic models to determine population/biomass size. This living resource model will then be fully integrated into the LIS model. NYCDEP expects that this dynamic model for oysters would interact with the water quality model to capture the benefits. Phil DeGaetano asked when NYCDEP hopes to have the model completed. Greg indicated that the goal is 2025, however, the management scenario simulations will be completed in 2024 if the calibration work can be completed in time to inform those simulations. Greg asked the Work Group whether there are any questions that the management scenarios should aim to answer. It was suggested to look at what levels of treatment are achievable for point and nonpoint sources. Choosing a level above what is currently being achieved would provide a realistic boundary rather than saying a 50% reduction of nonpoint source pollution which is doubtful. Considerations around climate scenarios such as temperature, precipitation, sea level rise are other areas of interest, however, it was noted by the consultants that this line of questioning can be a little murky as the model will be dependent on past data.

Action: NYCDEP is seeking available data from 2003-2018 along the NJ Shelf which consists of Sandy Hook to Cape May. If you are aware of any available data, please share that with Gregory Wilkerson at gwilkerson@dep.nyc.gov.

Action: Email Gregory with ideas and suggestions to the following management questions to be considered by NYCDEP, MEG, stakeholders, and consultants working on the LIS model: What are questions that the management scenarios should aim to answer? Given the HEP's interest in restoring and improving habitat, what suggestions do you have for the LR modeling effort (which will develop tools to leverage ROMS-RCA models)?

6. Overview of the Use Attainability Analysis

Wayne Jackson from EPA Region 2 highlighted the Clean Water Act and the function of water quality standards to provide a regulatory basis for management activities. There are three components of water quality standards: designated uses, criteria to protect those uses, and antidegradation requirements. Wayne's presentation detailed each of these components and provided definitions. To provide clarification around existing uses, Wayne shared that this would be the 'floor' of protection that has been achieved since November 28, 1975, and not only how the water is being used, but also the quality. Consider existing use as a scale. Designated use of a waterbody can be the goal and the desired conditions for the waterbody. Under the Clean Water Act (CWA), all waters should be fishable, swimmable unless the state can show through a Use Attainability Analysis (UAA) that the water cannot achieve these uses. Revising designated uses can be done to reflect more specific desired conditions or when downgrading through a UAA which is a structured assessment of the physical, chemical, biological, and economic factors affecting the attainment of the use. It does two things – provide the justification of why the CWA goal is not attainable and identify the highest attainable use that is as close as possible to the CWA goals of fishable, swimmable. Wayne shared an overview of the six factors for revising designated uses. The other



option for changing a use is through a water quality standard (WQS) variance which is a time limited designated use and criteria. An example was shared in the presentation. This is a useful tool to make incremental progress (usually 5 or 10 years, but really no time frame) and assess whether you achieve the fishable swimmable goal. It's a novel way to make progress in a waterbody.

Action: Members are encouraged to reach out to Wayne Jackson with any questions regarding the presentation shared via email at jackson.wayne@epa.gov.