



Water Quality Work Group Meeting

November 1, 2022

Location: Zoom (online only)

Minutes

Attendees: Marco Alebus (NJDEP), Liz Balladares (HEP/UWFP), Emma Blackford (HRF), Jessica Bonamusa (NYCDOHMH), Brett Branco (CUNY, STAC), Rob Buchanan (NYC Water Trail Association, CAC), Kathryn Cahalane (USGS), Alda Chan (NYC Parks), Lisa Congiu (NJDEP, NJ co-chair), Mick DeGraeve (NJHDG/GLEC), Mike Dulong (Riverkeeper), Jason Fagel (NYSDEC), Shawn Fisher (USGS), Mike Flood (EPA), Finola Fung-Khee (EPA), Brent Gaylord (EPA), Biswarup (Roop) Guha (NJDEP), Kathy Hale (NJWSA), Sara Harrison (HRF), Heather Heckathorn (USGS), Molly Jacoby, Jon Janowicz (USGS), Jonathan Keenen (USGS), Chris Kephart (USGS), Lingard Knutson (EPA), Dwayne Kobesky (NJDEP), Michele Langa (NY/NJ Baykeeper), David Lipsky (NYCDEP), Jim Lodge (HRF), Renata Martinez, Greg Mayes (NYCDEP), Cherry Mui (NYC Mayor's Office), Sarah Neilson (NYC Parks), Esther Nelson (EPA), Rosella O'Connor (EPA), Rosana Pedra Nobre (HRF/HEP), Robert Pirani (HRF/HEP), Pam Rielly (USGS), Susan Rosenwinkel (NJDEP), Carissa Scarpa (USACE), Clay Sherman (NJDEP), Zoltan Szabo (USGS), Shino Tanikawa (NYC Soil & Water Conservation District, NY co-chair), Danielle Tommaso (USACE), Judith Weis (Rutgers, STAC), Peter Weppler (USACE), Samantha Wilder (IEC), Bryce Wisemiller (USACE), and Meiyin Wu (Montclair State University, STAC)

Next Meeting: To Be Determined

1. Overview of Agenda, Introductions, and Minutes Approval

Lisa Congiu opened the meeting and provided an overview of the agenda. Shino Tanikawa introduced the August minutes. Minutes motioned for approval by Roop Guha and seconded by Michele Langa.

2. Microbial Source Tracking (MST) Across the Harbor Estuary

Shawn Fisher highlighted work in the Bronx and Harlem River as an effort to understand the potential sources of elevated fecal indicator bacteria (FIB) and whether boat wakes contribute to higher levels. A three year study was conducted where data was collected from transects, near-shore, mid-way in the channel, and continuous monitoring. Data shows potential linkage between FIB and large vessel passages. The continuous monitoring will help to further understand the impacts of turbidity and tidal flux to the levels of FIB found. A beta system for E. coli has been launched at Roberto Clemente State Park as part of the continuous monitoring system. Overall, the data will help to inform users of public access sites, supplement NYCDEP CSO track-down effort, provide a baseline and correlations of FIB, and help address components of several management plans.

Pamela Reilly shared work that USGS partners with PVSC through the Urban Waters Federal Partnership. The focus was on the tributaries of the Passaic given the increased public use of the river and on-water recreation. In addition to FIB, they looked at chemical indicators and genotypic indicators, like Shawn's project in NYC, as well as precipitation, land-use, and general geomorphology/hydrography (e.g., influence of "Stink Creek" tributary). Like the results shared by Shawn, you can only compare Microbial Source Tracking (MST) results from the same site overtime. Ruminant markers were found in the park-like

areas in the upper portions, canine markers are visible and further downstream human markers are found. In the Saddle River Basin, canine was dominant in every site with a spike of human markers downstream of a WWTP. An area of more research is separating non-viable DNA markers relative to WWTP effluent. When comparing upper to downstream sites, there is a minimal human marker in the upper sites regardless of weather event. In the lower sites, the human markers indicate that there are potential pathogen loadings into the Lower Passaic from the tributaries. Ruminant markers include cattle, deer, sheep, and elk.

Mike Flood provided an overview of preliminary work by EPA, focusing on the Lower Raritan River. The focus on Lower Raritan was led by a number of factors including Perth Amboy which will be spending upwards of \$350M to reduce CSOs and is concerned that eliminating CSOs may not be sufficient to meet ambient water quality standards. There is also an increased interest in restoring Perth Amboy's shoreline and other sites along the Raritan for on-water recreation. In 2021, partners began a baseline characterization of bacterial loadings under precipitation and tidal conditions. Results did indicate elevated levels of enterococcus and some genotypic indicators were assessed for five of the highest pathogen sites. EPA has advanced more intensive sampling in 2022 within the subzones from 2021 for further genetic marker analysis of highest readings. From the results, intense rainfall of over 1/2 inch is where high levels of pathogens are seen but human markers were not as significant. Power BI, a Microsoft tool which is part of a suite with Microsoft Teams, was used to share results with all partners (internal and external). Very similar to Microsoft Excel, but it can take in dynamic and static data together to provide the capabilities of applying filters to refine data queries. The maps created do provide some high-level overviews and it can be in play with the other information from the metadata; however, it is not like ArcGIS mapping.

A discussion was held around concerns on the human markers found off the WWTP. It was further clarified that the data indicate that there may not be 100% compliance or that there is a management issue. Often canine and human markers are seen together since they cohabitate, but the decay of markers is not well understood. It could mean that a lot of non-viable DNA past the WWTP were picked up during USGS's study, but it is something that needs to be further researched. In addition, the data indicates the "pooper scooper" laws to pick up after dog waste are being ignored. It will require an increased effort in enforcing those laws and building relationships to encourage residents to follow through. Meiyin Wu added that MSU completed an MST effort in the Third River which also showed high canine markers further supporting that people are not picking up after their dogs regardless of laws, ordinances, and signs. Overall, there was interest as to whether correlations between wet weather events and high pathogen levels were seen and the number of samples taken. EPA also sponsored a presentation on real time risk characterization tool for Harmful Algal Blooms (HABs) available here: <https://www.epa.gov/water-research/water-research-webinar-series>.

Action: USGS will be presenting their NJ data to NJDEP in December with further statistical analysis. Anyone interested in another MST project in Alley Creek, Queens, NY there are additional methods and explanations of marker use available here: <https://doi.org/10.3133/sir20225068>.

3. NY & NJ Harbor & Tributaries Focus Area Feasibility Study (www.nan.usace.army.mil/nynjhat)

Bryce Wisemiller shared an overview of progress for the HATS along with an overview of the pros and cons of each alternative that has been considered. The Corps is tentatively recommending Alternative 3B based on feedback received from partners as well as the public. However, each is being heard and further

explored as the draft report is open for comment period until January 6. As the Corps considers designs, they are looking at all future projections (750-, 500, 10-, 5-year storm event) that would not include any intervention of the study and then assessing the proposed alternatives against these future projections. There are also a number of projects that have been implemented or are under design. The draft Tier 1 EIS Report broadly discusses the scope of cumulative impacts. Bryce suggested that the Work Group focus on the NY Bight Ecological Model which is detailed in the Tier 1 EIS report available on the project website. The website includes links to the Draft Integrated Feasibility Report and Tier 1 Environmental Impact Statement and technical appendices, which includes the technical details of today's presentation. The website also includes a link to a StoryMap Hub, which contains various interactive maps and tools that allow you to examine the features, measures, and alternatives examined by the study team. The StoryMap Hub can be accessed at <https://hats-cenan.hub.arcgis.com/>.

Concerns for Port operations require more studies to understand the complications. There are smaller gate structures throughout the estuary along with contamination concerns to address within the region. Auxiliary gates to increase ambient flow between the proposed island housing the gate infrastructure and gates are aimed to keep flow going during normal days. Judith Weis's concern is that the gates will obstruct water flow, even when they are open. A suggestion to look at other tidal gate designs such as Venice was suggested. Bryce indicated that this is a valid concern, and the initial design is an engineering exercise but at the next phases of the study there will be a better understanding of water quality considerations, flow, and ecological impacts. Roop Guha added that similar surge gates not obstructing the waterways have been installed in the Netherlands. Bryce expressed there is a detailed (although initial) evaluation in the engineering appendices looking at how long the gates may be closed, and then how that closure criteria may need to change over time due to further sea level rise (part of the long-term adaptation plan). The Corps would certainly need to evaluate the water quality considerations when the storm surge gates were closed - right now they think it would be for a single tide cycle, but could change depending on how climate changes and, of course, details of the storm events driving the closure. The extratropical (nor'easter) could have the potential for longer closures, vs. the tropical cyclone systems which travel through the area more quickly. Lots more to be evaluated if this study moves into the design phase.

Rob Buchanan asked whether the Corps is prohibited from including ecological benefits into consideration when putting together the economic calculations. Bryce confirmed but indicated they have mitigation impacts and through the NY Bight Model the Corps can identify implications. Peter Wepler added that while it is not in the calculation, they do have guidance to incorporate ecological benefits, EJ, etc. into their system and are working to incorporate it into the work. Additional studies are needed but also direction in how to incorporate it into the study. Lingard Knutson asked whether the EIS looked at the alternative of moving housing/residents away from the most at risk areas. The Corps has looked at it, particularly along the Arthur Kill, but given the urbanization it is not feasible to relocate and draw back from the water's edge given the cost. It is an understandable viewpoint, and the Corps always seeks to add features that are economically justified and do intend to look at the framework where other opportunities to reduce more frequent flood areas could exist. Rob Buchanan followed up as to whether structural work could have the unintended effect of increasing development near the waterfront and that it seems like past flood control projects have aided in waterfront development.

Action: The next New York-New Jersey Harbor and Tributaries Study public meeting will be held this Saturday, November 5th at 10:00 am. You can access the webinar at <https://usace1.webex.com/meet/bryce.w.wisemiller>. Information about future public meetings

will be shared on the study website (www.nan.usace.army.mil/nynjhats) and via email. Please email the study team at nynjharbor.tribstudy@usace.army.mil if you are interested in receiving email updates about the New York-New Jersey Harbor and Tributaries Study and information about upcoming public meetings. The study team will add you to the email listserv, please email nynjharbor.tribstudy@usace.army.mil to be added. Public comment period for the Draft EIS Tier 1 Report closes on January 6, 2023.

4. Shared Waters Communication Update

Rosana Pedra Nobre provided a brief overview regarding the Shared Waters Communications task that this Work Group suggested to advance. Research on shared waters communication varies and interviews were held with several members of this Work Group as well as others. Rosana provided a summary of responses to the questions this Work Group generated and asked the work group whether there were others that we should interview before going off to the next phase of the project. Suggestions included Rondi Davies from the NY Open Water, Pinar Balci or Angela Licata from NYCDEP, and members of the Health Departments for local regulations such as NYCDOHMH.

Action: Rosana will be reaching out to members for contact information to set up additional interviews.

5. Partner Updates

- HEP's Annual Conference will be held virtually on Tuesday, November 29th and Wednesday, November 30th with an in-person event on Thursday, December 1st. All are welcome to join the Urban Shores 2022 conference where registration and agenda are available here: <https://www.hudsonriver.org/article/2022-hep-annual-conference>.
- NYSDEC has extended the data solicitation period for the public to help inform the possible reclassification of saline waters of the State and associated amendments to applicable water quality standards. An [Advanced Notice of Proposed Rule Making \(ANPRM\)](#) was filed with the NYS Department of State on July 27, 2022. The ANPRM is not a regulatory action, but an opportunity to gather stakeholder data to inform future regulatory changes, if appropriate. DEC has also made available a new [web-based survey tool](#) for sharing data in response to the ANPRM. **The data solicitation period will now close at 11:59PM on November 28, 2022.**
- Per the Water Quality Work Group's bylaws, Lisa Congiu's term is ending, and this was her last meeting as the NJ co-chair. Those interested in nominating themselves or someone else to fill in the role should contact Rosana at rosana@hudsonriver.org. You are welcomed to contact Lisa with questions regarding the co-chair role at Lisa.Congiu@dep.nj.gov.