



Annual Joint STAC/MACC Meeting Minutes (Number 59)

Thursday, May 24, 2022

10:00 AM – 3:00 PM

Remote Meeting Format - Hosted by the Partnership for the Delaware Estuary

Attendees:

STAC

Randy Brown (PACZM)
Greg Lech (PA Fish and Boat)
Danielle Kreeger (PDE)
Jason Morson (HSRL)
Irene Purdy (EPA)
Drew Reif (USGS)
Alison Rogerson (DNREC)
Dave Smith (USGS)
Kelly Somers (EPA)
Ken Strait (PSEG)
Namsoo Suk (DRBC)
Beth Watson (ANS)
Metthea Yepsen (NJDEP)

MACC

Bailey Adams (DRBC)
Alison Aminto (PWD)
Anna Boetsma (NJ Water Science Ctr)
Jake Bransky (DRBC)
Laura Craig (Princeton Hydro)

Ben Fritch (PWD)
Robin Irizarry (Mid Atlantic Audubon)
Chris Kunz (NJDEP)
Laura Lockard (DNREC)
Josh Lookenbill (PADEP)
Ron MacGillivray (DRBC)
Christopher Main (DRBC)
Meg McGuire (DE Currents)
Ian McMullen (DNREC)
Elaine Panuccio (DRBC)
Kevin Pregent (DRBC)
Kate Schmidt (DRBC)
Bob Schuster (NJDEP)
Steven Unger (PADEP)
John Yagecic (DRBC)
Li Zheng (DRBC)
Robin Irizarry (NJ Audubon)

Other members

Leah Morgan (PDE)

Agenda

1. Welcome, Call to Order, Review Agenda (Panuccio)
 - a. Call to order at 10:05 AM
2. MACC Business
 - a. A chair shall be nominated for the next MACC meeting (one of the Reserved Members)
 - i. A chair will be nominated at the next standalone MACC meeting
 - ii. Dave Wolanski retired from the MACC and his seat on the MACC is open

- iii. There are other openings for DE, Army Corps of engineers, NOAA representatives
 - 1. If anyone is interested, reach out to Elaine
 - b. A number of MACC positions to be filled (Reserved and Non-Reserved Member positions)
- 3. DRBC 2022 Monitoring Activities and Updates
 - a. Near-shore bacteria estuary monitoring (Yagecic)
 - i. Shore based bacterial monitoring taking place again in 2022
 - ii. Sampling for fecal coliform, enterococcus, and E. coli
 - iii. Fifteen sampling events between May and September 2022
 - b. Microbial Source Tracking study (Yagecic)
 - i. DNA markers being used to differentiate sources of bacteria to identify source (human, cow, horse, dog, etc)
 - ii. Three wet weather and three dry weather events
 - iii. May start is anticipated
 - c. Boat Run monitoring program (Yagecic)
 - i. Delaware Estuary Water Quality Monitoring
 - ii. Twenty-two sites throughout the Estuary
 - iii. Monitor DO, pH, temperature, secchi, turbidity, conductance, PAR, nutrients, sodium, chloride, Chlorophyll A, bacteria, metals
 - iv. All data available through the national water quality data portal
 - v. Any suggested parameters should be sent to John Yagecic
 - d. 1,4-Dioxane follow-up monitoring (Yagecic)
 - e. Cyanotoxins pilot study (Yagecic)
 - i. New for 2022, anticipated start in late summer
 - ii. Using a SPATT (Standard Operating Procedure for Solid Phase Adsorption Toxin Testing bag system: a mesh bag with polycyryn beads that's left in the water for 1-2 weeks and toxins absorb to mesh and then can be analyzed
 - iii. Analytical capacity is difficult to come by, but should offer a better picture of results
 - f. Biological monitoring of non-tidal Delaware River (Bransky)
 - i. Continuations of projects
 - 1. Macroinvertebrate sampling from Trenton NJ to Hancock NY – 25 stations sampled in August and September
 - 2. High flows interrupted sampling – upriver sites to be sampled this summer
 - g. Sturgeon Dissolved Oxygen Monitoring (Bransky)
 - i. Dissolved oxygen monitoring
 - 1. USGS logger in Chester is a few miles upstream from an area being used by juvenile sturgeon
 - 2. Hope to monitor low DO events to keep track of low DO at critical times of year in critical locations

3. Top and bottom loggers to be deployed throughout the stretch of the river being used by juveniles
- h. Thermal exceedance shading study in upper Delaware (Bransky)
 - i. Hemispherical camera technology to take photos as moving down the river which are later analyzed to see which areas of the river don't have canopy shading and could benefit from tree planting to mitigate higher water temperatures
- i. Expanded ions list for non-tidal chloride monitoring (Panuccio), Chloride/Salinity Monitoring Workgroup (Panuccio)
 - i. Compared 2000-2004 data to 2008-2011 data
 - ii. Longstanding chloride trend indicates chloride time series increase
 - iii. Freshwater salinization syndrome
 1. Involves complex interactions, "chemical cocktails"
 2. 27 sites – 19 tributaries, 8 mainstem
 3. Once per month monitoring, twice per month continuous conductivity logger maintenance
 - iv. Continuous conductivity loggers have been collecting data since April 2021
 1. Some data has been lost from fall 2021 hurricanes/storming and lost loggers causing lost loggers which have since been replaced except for one
 2. Some sites have strong relationships between chloride and conductivity, others have very weak relationships
 - v. Non-tidal chloride monitoring starting this week with an expanded parameter list
 1. Data will characterize ionic compositions between sites
 - vi. Future work to involve monitoring workgroup, modeling work of SPW mainstem and tributaries, ion relationships to conductivity
 - vii. Chloride/freshwater salinization workgroup
 1. Interested parties should reach out to Elaine via email
 2. Goal to approach increases in chlorides and salinization collaboratively
 - viii. Yagecic – prediction of the salt line movement
 1. Flow dashboard - <https://drbc.net/Sky/flows.htm>
 2. 18 day cumulative flow lagged by 2 days indicates a good relationship between salt line location and flow in Trenton and Schuylkill
 - a. Red line is model and orange dots are measures of uncertainty – provides a spread of potentials given different
 3. Water quality dashboard <https://drbc.net/Sky/waterq.htm>
 - a. Chesapeake is stratified – is the Delaware stratified?
 - i. Monitoring at Ship John Shoal Lighthouse and DE Memorial Bridge
 - ii. Temperature, DO, and conductivity are virtually identical in both places

- b. Profile of percent of DO saturation
 - i. Small blue dots are discrete DO saturation values, solid blue dots are median saturation values
 - 4. D. Kreeger asked: what's the cumulative salt contribution not only from the ocean but from runoff from urban areas? This could potentially be discussed as a future indicator to include moving forward.
 - j. Delaware River PFAS monitoring (MacGillivray)
 - i. DRBC has continued monitoring of PFAS – risks are associated with these compounds: e.g., human health, aquatic life impacts
 - 1. Never seen PFAS levels at source waters that are of concern but fish consumption advisory in the DE River has been posted before
 - 2. Bioaccumulation of compounds has occurred in fish
 - ii. DRBC has been sampling throughout the DE river for water, sediment, fish
 - iii. Sampling over a period of lots of changes through production and discharge of PFAS
 - iv. Bioaccumulation values of DE river to be compared to literature values
 - v. PFAS was added to boat run monitoring in 2021 and 2022 – two months each year
 - vi. More sampling in 2022 collecting water, sediment, and fish
 - vii. No PFAS in alewife floaters in nontidal or tidal despite typical high values of bioaccumulation
 - viii. Blue crabs to be collected near Pea Patch Island to analyze as well
 - ix. Preston Lutweiler – how does DRBC plan to share data regarding the PFAS project?
 - 1. Data has been published and presented at the TACC meetings
 - 2. Two reports coming out
 - a. Most recent funded by EPA for boat run
 - b. Another funded by NFWF, DE watershed conservation fund
 - c. DRBC is writing reports for both of these which can be shared later
 - 3. National water quality data portal also houses data which can be accessed online or anyone interested can get in touch with Ron
4. Roundtable updates
 - i. Greg Lech – PA Fish and Boat Commission is monitoring freshwater mussels and species occurrence in tidal portion of Estuary and upstream to head of tide at Trenton
 - 1. Data should be able to be shared as they become available
 - 2. PA Fish and Boat is exploring scuba to monitor mussels – this will allow for work in much deeper areas, channel areas
 - ii. Ken Strait – PSEG – no updates
 - iii. Laura Craig – Princeton Hydro – no updates
 - iv. Bob Schuster – NJDEP is doing marine water monitoring and ambient

shellfish water classification

1. Classifying shellfish waters; i.e., vibrio monitoring in shellfish tissues
 2. Dr Gary Richards at USDA is surveying predatory bacteria and developing methodology to compare predatory bacteria levels in shellfish tissue
- v. Christopher Main – DNREC – no updates
- vi. Laura Lockard – no updates
- vii. Drew Reif – USGS –is continuing work with PFAS with PA DEP in the Schuylkill drainage
1. Foam forming on streams are being analyzed for PFAS concentrations
- viii. Dave Smith – USGS – no updates
- ix. Anna Boetsma – NJ water science center is continuously monitoring water quality using two long term monitors in DRB
1. Several NGWAS monitors include Water temp, oxygen, and SC at two depths
 2. Water temp, oxygen, and SC being monitored at upstream locations of saltwater front
 3. Groundwater tracer study being conducted from Salem to Camden
 - a. A baseline ambient condition for select tracers is being established
 - b. Reach out to Zolten with questions or to discuss
 4. Ambient networks of surface water and ambient groundwater are being evaluated
 - a. Recent additions of PFAS beginning in FY22 for surface and groundwater
 - b. Passive PFAS samples are being evaluated with publication pending that will hopefully be released at the end of 2022
 - c. Other data are still pending final review
 5. Partnership with DRBC, UWFP – water quality assessment
- x. Kelly Somers – US EPA R3 is continuing to conduct an SAV monitoring program. There is not a survey plan in place yet but the current strategy is to survey using hydroacoustics and inventory SAV
1. Microplastic project will be beginning in August or September – field monitoring strategies are still being discussed
 2. EPA, PDE, and Seabin entered a partnership in the winter to collect plastic pollution data
 - a. More are projected to go into the water in the next few weeks.
 - b. To clean the device, it is pulled from the water, sorted for large pieces of pollution, then searched for microparticles which are then sorted and characterized
 - c. Later goal of this work is to deploy devices at Bartram's Garden

- d. There was also recently a site tour of Wiggins Marina in Camden, and project leaders are waiting on a decision from Camden Count Parks Dept to see if devices can be put into the water there.
 - e. Ron MacGillivray of DRBC indicated that Lisa Emili of Penn State Altoona is planning to do microplastic analysis in sediment.
 - f. Seabins have not harbored any fish or aquatic life that's been found in bycatch
 - g. Has there been any consideration of sample location relative to major storm drain discharges? E.g. local sources vs. upstream sources?
 - i. Flow, energy of site is considered – outreach to sites was done – locations were whittled down from there
 - ii. Weather, storm data being collected and compared to flow data to help select sites
 - h. Link to our SAV web app:

<https://epa.maps.arcgis.com/apps/webappviewer/index.html?id=92d4319f2a6743d3a9947c737b27d3fe>
- xi. Metthea Yepsen – NJDEP is conducting NJ tidal wetlands monitoring network as a coalition of long term tidal wetland monitoring.
 - 1. Surface elevation tables measure site elevation changes and are being used to collect data for this work
 - 2. Wetland monitoring network meets regularly
 - a. Network hopes to standardize methodology
 - 3. ArchHUB database will allow practitioners to upload and download their own data
 - 4. Also working on a data form app of sorts to allow users to more easily upload data in a standardized way
 - 5. All data will later be combined on a map to see which sites are more or less resistant to sea level rise and other stressors
 - 6. Long term annual funding in NJ will be implemented
- xii. Chris Kunz – NJDEP's monitoring networks are all active right now
 - 1. AMNET – macroinvert network sampling will take place in the lower DE river this year
 - 2. Fish tissue monitoring is also being done in the lower DE watershed on tributaries
 - 3. HAB monitoring is large focus
 - a. Eight of 11 continuous monitoring buoys deployed
- xiii. Robin Irizaray – Audubon Mid Atlantic DE River Watershed program manager
 - 1. Looking to hiring DE River Watershed Director for Audubon Mid Atlantic

- xiv. Alison Rogerson – DNREC Division of Watershed Stewardship
 - 1. Restoration projects and monitoring is ongoing in the inland bays
 - 2. Condition of wetlands in the Brandywine River watershed information is online.
 - 3. A SET user group for DE was active years ago and has recently been revived with various partners working on SETs to organize monitoring inventory.
 - 4. Brandywine Wetland Condition Report full: <https://documents.dnrec.delaware.gov/Watershed/Wetlands/Assessments/Brandywine-Watershed-Condition-Report.pdf>
 - 5. Brandywine Wetland Health Report Card: <https://documents.dnrec.delaware.gov/Watershed/Wetlands/Assessments/Brandywine-Report-Card.pdf>
- xv. Randy Brown – Pennsylvania Coastal Zone Management
 - 1. Side scan sonar for the season just started last month
 - a. The desire is to the entire river scan from NJ to DE
 - 2. Sonar will also consider SAV beds.
- xvi. **Steve Unger** –
- xvii. Preston Lutweiler – no updates
- xviii. Josh Lookenbill – fish tissue data collection for PFAS analysis in Neshaminy Creek and DE River Basin
 - 1. Reactive HAB monitoring in lakes and those that we receive reports on that have HAB conditions
- xix. Irene Purdy – EPA R2 – no updates
- xx. Alison Aminto – PWD – no updates
- xxi. Matthew Fritch – PWD conducted monitoring in Smith run, a first order stream that goes into the Schuylkill.
 - 1. PWD did a bioassessment which included a macroinvert survey
 - 2. Smith run and Meg’s run looked good
 - 3. Schuylkill Center for Environmental Education applied for and got two different grants to address impacts of runoff
 - 4. Construction has begun on the Manayunk Canal to rebuild gate structure at the dam – this will reintroduce the dam
 - a. \$21 million Pennvest loan
 - b. Targeted for completion in 2024
- xxii. Ian McMullen – DNREc – no updates
- xxiii. Pete Rowe – NJSGC’s strategic planning survey is now open until June 3. <https://njseagrant.org/take-the-njsgc-stakeholder-survey/>
- 5. PDE and STAC Updates and Business
 - a. Time use as Match in the Zoom chat thread
 - o Namsoo mentioned DRBC staff cannot be used for match because they already use a code for match for PDE work.

- Others who are not federal employees can indicate in the chat whether their time can be used as match.
- b. Approval of March 2022 Meeting Minutes
 - Danielle to send back a tracked edits version of the minutes to Leah with corrections on name spelling
 - Motion to accept the minutes contingent on fixing minor typos
 - Greg Lech moved to accept minutes
 - Ken Strait seconded motion
 - No oppositions were heard/seen
 - Minutes were unanimously accepted contingent on edits
 - Leah will post finalized minutes from the March meeting on the PDE website when approved.
- c. STAC Elections (Kreeger)
 - Terms are 2 years, starting on July 1 and ending on June 30
 - Representation of different expertise sectors is important
 - Standing rep for Delaware is vacant but Alison Rogerson from DNREC is on the STAC – DK will check with the EIC to see if we should convert Alison to be the standing rep for Delaware
 - Des Kahn retired from the STAC voluntarily, Jason Morson from HSRL is also stepping off the STAC, and Sue Kilham passed away last month, so three seats are open. If Alison converts to the standing rep we would have 4.
 - A ballot will be sent around to have votes submitted by June 15 prior to the July 1 start date.
 - Chair/vice chair
 - Dorina indicated she is willing to serve as chair for another two years
 - Greg Lech indicated he would be willing to be vice chair if no one else was nominated
 - Any members thinking of nominations after the meeting can send them to Danielle by the end of the week.
- d. TREB and MINA Update (Morgan)
 - TREB
 - Current progress point is after first review round and before second review round
 - Input from first round reviewers has been returned to indicator authors for implementation into draft 2
 - Draft 2 is due to PDE by late July
 - PDE/EIC input and involvement will be initiated in mid August 2022
 - If you have photos that you are willing to contribute to the report, please email them to Leah at lmorgan@delawareestuary.org.
 - Finalized PDF of the TREB will be on the PDE website this year to circulate to interested practitioners and partners.

- MINA
 - Updated every 5 years – next version will be completed in 2026
 - Annual survey for practitioners is now open and the link will be distributed to STAC and MACC and other Estuary practitioners
 - Survey information will greatly assist monitoring inventory update work in 2025-2056 and help update the top 10 priorities list of needs in the Delaware Estuary.
- Danielle suggested to incorporate a TREB session at the summit as well as making a poster about the MINA to remind about the survey
- e. PDE Summit Update (Burns, Morgan)
 - Summit will be in person January 31 – February 2, 2023
 - Harrah's contract has been signed
 - Will be a little bit more expensive than in previous years – fundraising will be more ramped up
 - Venue for the summit will have meal/exhibit space, general session space, and breakout space for sessions
 - We are working on identifying speaker options, keynote speakers
 - STAC members are encouraged to reach out to Leah or Haley with speaker suggestions
- Call for Special Sessions
 - Call for special sessions and save the date was distributed yesterday
- Call for abstracts to be open in early-mid June
- MACC involvement is encouraged!
- STAC and MACC are called on now to participate in moderating, suggesting speakers, planning sessions, etc
- Elaine suggested a session for her non-tidal chloride monitoring workgroup
- Ken Strait suggested PFAS, microplastics, salinity, etc; focus of the monitoring could build up a session as well
- STAC and MACC members can suggest ideas for sessions and hopefully be able to lead but is not necessary
- f. NJDEP Representative Replacement
 - Director of NJDEP estuary science has retired
 - Who will fill this role?
 - We should have this person come to the next STAC meeting
 - Nick Precopio should be the person who is reached out
 - Ron MacGillivray of DRBC indicated that Nick is the acting director who overtook Gary's position but will not be in that position permanently
 - We will try to get involvement with STAC with Nick or whoever fills this role
- g. Upcoming events
 - DE CIB is hiring a science director in place of Marianne Walch who is retiring
 - Bob Schuster of NJ water monitoring council indicated that national water quality monitoring council meeting will take place in April 2023 and call for sessions for this meeting will be out in June

- Will be taking place in either Virginia or Connecticut
- 6. Roundtable Discussion
 - a. PDE
 - i. SET readings will be occurring this year
 - ii. Mussels – small surveys being conducted over the next few years
 - 1. Most of our mussel efforts recently have focused on propagation
 - iii. SWEM (shellfish water enhancement model) models: a key piece of information is the composition of the surrounding water column that they can affect
 - b. USGS
 - i. Penns Landing NGWAS test bed site is always adding more info
 - ii. Seaport Museum work – interactive display that will show museum guests what the monitors are doing – tanks for kids to show how conductance and other parameters change
 - c. ARRC MOU is being updated and should be referred to with implementation of outreach programming
 - i. Freshwater mussel workshop being held by FMCS in Tennessee in two parts – survey techniques and symposium of trends, emerging topics, mark/recapture, etc.
 - ii. Sign up via FMCS website
 - iii. NCTC courses are also being held at the training facilities in Virginia
 - d. Next STAC meeting will be October 19 joint with the EIC
 - e. Anyone interested in joining MACC meetings should reach out to Elaine
 - f. BIL funding has additional funding for 4-5 years for NEPs
 - i. Unsure of when funding will come – best guess will be June or July 2022
- 7. Meeting Adjournment
 - a. Danielle, Leah to send TREB to Elaine to circulate to the MACC members for review

Attachments

- STAC-MACCAgenda_Draft_20220524_FINAL
- Combined MACC DRBC Presentations_20220524
- TREB Update for STAC 2022-05-24
- Summit Slides for STAC meeting 5-24-22