



Science and Technical Advisory Committee

Partnership for the Delaware Estuary: A National Estuary Program

www.DelawareEstuary.org

STAC Meeting (Number 51)

Monday, January 15, 2020

9:30 am to 3:00 pm

Partnership for the Delaware Estuary - Wilmington, DE

Attendees:

Jeff Fischer, USGS

Dorina Frizzera, Getting to Resilience, LLC

Doug Janeic, Sovereign

Jerry Kauffman, UD

Sue Kilham, Drexel University

Kathy Klein, PDE

Danielle Kreeger, PDE

Erin Penzelik, EPA Region 3

Kristin Regan, EPA Region 3

Alison Rogerson, DNREC

Pete Rowe, NJ Sea Grant

Kelly Somers, EPA Region 3

Namsoo Suk, DRBC

Ken Strait, PSEG

Mettea Yepsen, NJDEP

Meeting Minutes

9:30 Call to order, Danielle Kreeger, Agenda overview

- Sue has been chair for a long time and is stepping down
- Big products have been the focus of STAC, but other focuses might exist
- Introductions were conducted

- Draft Minutes Sent around, motion to accept the minutes, accepted with a few changes
- Kristin Regan interested in chair, but slightly concerned with potential EPA conflict in the future, do we need a vice chair was discussed briefly
- Out for discussion: Do we need to update charter? Add vice chair position? Serve as alternate if chair cannot attend and can switch out if needed due to conflict.
- Expand membership from 20 to 25...need lean mean STAC, but we have a large geographic area and different sectors, and cover expertise areas...21 members, 7 are named members by DELEP members...only 14 members for “flex” areas
- New Chair, one nomination, vote has already been taken, vote was confirmed for Kristin
 - Sue said she has liked being STAC Chair, has handed over the gavel
 - Kristin is excited too, she has been getting more involved, work with partnerships, etc.
- Doug thinks having a back-up chair is good idea, others don’t have rigid number, sometimes it handcuffs the group
- Kristin: why is it a 21 person limit?
 - DK, Other people have big STACs, but they don’t show up/aren’t engaged. We want a STAC that is engaged.
- DK-TREB is embedded in CCMP
 - What more can we be doing
 - How can STAC fill research gap? Can we? Capacity? More STAC briefs?
 - Kelly Somers-Chesapeake STAC is much larger and funded
 - We can only do so much
- Back to the Charter
 - Will send charter around with tracked changes for any thoughts
 - Pete Rowe-Sea Grant has Stakeholder group, very loose, but they wanted more formality---don’t go to more loose, bring different groups when you need them, but still need flexibility
 - DK, we do have subgroups and workgroups when needed, which can pull in other people if necessary
 - Pete—sub committees have 6 year cycles, past chair, upcoming chair, institutional model
 - DK-the chair position has always been informal, but it is already a struggle to find people
 - Kristin-we have institutional knowledge with DK
 - Dorina-we already have institutions where people change a lot...vice chair might have more nominations because less work
 - Kelly Somers-since 7 people are core partners, have rotating core partners after two years?
 - EIC might need to approve?
 - DK-it was hard to get EIC to look at

ACTION ITEM: DK will send around charter to look at for comment, couple weeks for response

- Put on EIC agenda for comment/approval
- Elections are coming up in the spring
- Back to Kelly’s comment—rotating position would be for chair/vice chair

- Kristin---rotating standing members for chair—vice chair open to other members
- Sue does not think it's a good idea, no restrictions on chair or vice chair
- Kelly-benefit would be fresh faces, more ownership, less scraping to find someone
- Dorina-the EIC said which program was best to go to STAC
- DK-Might be good to do to “force” engagement, but we don't want to force engagement
- Jeff-two year limit creates more problems

Quick vote---Adding a vice chair one nay, 8 yays

- STAC chair position should be rotated among partners—7 nays, 1 yay
 - Dorina-will the agencies do it?
 - DK-push back on mandated participation
 - Jerry-Vice chair rotates?
 - Sarah-co chair?
 - DK---all sounds like a lot of work, for what benefit?
 - Mettea—if there was rotating, could plan for it
 - DK-Election was for new members and chair
 - Dorina-Sue did a great job, everyone is complacent, but EIC could change who should come to the meetings
 - When you add a fixed position, it elevates things
 - Ken, simplifying, not complicate
 - Dorina—is it in the charter, that we can submit for grants
 - Kristin-Subcommittees sometimes apply for grants
 - How does that work?—Kelly: Marine debris action group, apply for CZM, one group member, project officer/grant recipient
 - DK, should be possible
 - Namsoo—charter does say help scope RFPs
 - Kristin-FWS co-op does that
- Namsoo-standing members, DRBC has two reps from monitoring and toxics sub groups, do they need both?, that is a lot of people from DRBC
- DK-Standings Reps core partners, advisory committees with elected seats
- We will circulate charter and move on
- Elections are in the spring

CCMP Monitoring Assessment Project

- Emily Baumbach—update on monitoring assessment work
 - **See presentation**
 - 620 monitoring parameters, 36 partners
 - Many products already out, final step, final monitoring report
 - List of monitoring priorities
 - DK-white paper, useful top 10 needs
 - Namsoo-Have we missed anything?
 - DK-think we got long term data sets, gap analysis is consensus based, will be repeated every 5 years

- Kelly-date? Sending something to EPA in next coming weeks, something by next STAC meeting
- Next meeting is STAC/MACC, which would be good time to vet
- DK-TREB completed in 2017, next will be 2022, talk about it at MACC meeting
- 2003-First State of the Estuary, 2008-Special issues State of the Estuary, 2010 deep dive TREB and public translation after (2012), 2017 TREB but no public because CCMP

Delaware Estuary Science and Environmental Summit 2021

- DK have expanded to environmental practitioners
- Special Session thoughts and themes and venue
 - Venue, move away from the Grand
 - Find ways to incentivize night time engagement
 - Everyone is pro change
 - Kelly-wildwood convention center, Trenton war memorial, Delaware Park, Association of Flood Plain Managers in Atlantic City,
 - No problems with outside the estuary
 - Rank priorities
 - Theme: Just words, might not have a formal theme, informal theme “fresh starts” “next gen”—young professionals, lots of newness,
 - Sessions:
- Speaker
 - Dorina-Jane Lochenka (sp?)—impacts on ocean, Sue and Dorina for invite
 - Pete Rowe-High level EPA officials, John Panuck, OAR Craig Mclane, William Penn
 - DK—NERRS, Sea Grant NEPs
 - Mettea-futurist
 - Alison-RAE, PEW
 - Doug-historic guy, for
 - David Orr-Oberlin college, post carbon institute
 - Jerry-Journalism, rise in environmental journalism, sea level and climate, Atlantic City press
 - RAE-Jeff Benoit, Hillary Stevens, Tim Dillingham
- Special Sessions:
 - Microplastics—Kelly Somers
 - PFAS
 - HABS
 - Emerging contaminants
 - Speed Dating with Students, student activity
 - Specialty schools, “prize” for coming MASS, MAIST
 - Career choices, challenges, issues of harassment, hidden “truths”—with Sue
 - EJ-speaker/training
 - Doug mentorship before presentation, volunteers
 - Coastal Flooding
 - Energy
 - Red Knots—lots of science they aren’t acting on it

- Manager attractive sessions, better collaboration among funding
- Funding in general
- STAC Need #1 in 2006 was creation of science and restoration trust, never happened, why don't we have that? Talk about funding with big funders, bring in places with invited trust, how do we make it shovel ready
- Dorina-decision makers, put it in the title
- Sponsorship
 - Might not want to sponsor the summit cause its political, but would fund other activities

Micro-Seminars

- Erin Penzelik (EPA R3 - ORISE fellow) – shoreline type and SAV health in the tidal Delaware river
 - Objectives: Shoreline characteristic inventory (remote sensing + field verif); collect AG biomass of SAV along shoreline types; test for relationships between biomass and shoreline type
 - Previous studies suggest shoreline hardening negatively affects SAV abundance – not sure if this is true for Delaware River?
 - Methods: VIMS shoreline types (plus emergent vegetation for natural shorelines); ArcMap to digitize shoreline types (NAIP imagery)
 - Field investigations planned for this year
 - Q&A
 - DK: considering hydrological, morphological aspects?
 - Reply: open to consider, perhaps include deeper studies at proposed LT monitoring stations
 - DK: also wave monitoring? (Deferred to Doug)
 - Doug J: provided brief strategy to study and consider physical forcings (wave break, fetch, infrastructure deflection/interference)
 - DK: consider bathymetry data
 - Jeff F: Other imagery (satellite)
 - Dorina F: consider distances to shoreline as a metric
 - Doug: consider historical imagery
 - Kristin – calling for other ideas and feedback?
 - Namsoo – 1) ground-truthing for sediment size/classes to help find high-low energy; 2) plan metrics to help inform modelling (e.g. SAV densities to help discern need to incorporate oxy demand, etc); 3) sidescanning by Sommerfield 2006/2007 (DK provided some history on those types of data layers – could incorporate these datasets to make study more robust)
 - Ken – may help translation to report out using river zones that are more similar to others (e.g., DRBC)
 - Metthea – how are you performing AG biomass? Replication?

- Erin: Still working on methods; Kristin not sure if sampling would occur through growing season, or by random transects
 - DK comments about seasonality of SAV growth; consider how blade lengths at low tide may influence % cover estimates from aerial imagery
- Dorina – comments about the big discussion on benthic restoration and carbon sequestration; if collecting good metrics, can incorporate into blue carbon estimates
- DK – in 2021 is there enough data to do a baseline chapter on SAV in the TREB?
 - Kelly – no trends, still need to synthesize data more to arrive at a baseline; also, only main stem, so need tributary data
 - DK – perhaps we should make a SAV TREB indicator a priority (similar to how tidal wetland program was developed)
 - Ken –mapping done by extrapolation and biomass estimates by random? Kelly – Yes
- DK – comments about being careful about questioning the negative aspects of rip rap
 - Kelly – yes, not enough data to make hard conclusions; being careful
 - Doug/DK - disturbances likely a key component of distribution as well as other mutualisms (e.g. with emergent vegetation, etc)
- Kelly – confirms that SAV is an important indicator
- Alison – excited to hear about data for SAV in the Bay –it is difficult to discern from imagery alone
 - Kelly – boat transects a challenge, but very useful
 - DK – comments about light attenuation-marsh erosion relationships
- Dorina – comment – NJDEP 2015 LULC dataset compared to current imagery to check for land use changes
- Metthea – comment – advisory committee on ‘how to map SAV’ at DEP, Metthea recommended Kelly/Kristin team
 - Feds working on getting a workgroup/plan to map SAV across the entire Atlantic seaboard
 - Blue carbon – NJ RGGI – blue carbon projects supported in NJ and need info, especially for SAV
 - Kristin comments that she’s working with other EPA labs to test soil chemistry in SAV beds (DK comments about FW mussel presence)
 - Metthea comments about salinity-methane emission relationships; DK agrees that tidal freshwater studies have been overlooked for blue carbon; Dorina agrees, and that most inventories are for Delaware wetlands-mentions report to consider

- DK – MuCWI update
 - Theme of natural capital – where is the most “bang per buck”
 - Focusing on bivalve filtration, living shorelines, etc
 - Holistic watershed wide shellfish restoration (headwaters (freshwater mussels) to bay (oysters))
 - PDE has done work on freshwater mussels restoration and reintroduction
 - Key problem: so few remaining beds that source stocks may not handle being a source for translocation
 - PDE includes FW mussels in living shoreline and restoration projects in the tidal river (citing Bartrams Garden project in Philadelphia)
 - Where do we get mussels for research, to restock, and to bolster populations?
 - Fairmount Water Works microhatchery – major production successes, but output not large enough (and outreach is its primary goal); 5 species
 - Needed a bigger space to enhance production of mussel stock
 - PennVEST investment/funding to construct hatchery in Philadelphia
 - 3 year timeline – currently on track (Jan 2020) to begin design reviews and engineering/management contracts
 - Need technical review for all aspects of production – tech workgroup formed last year
 - Bartram location (30 yr MOU signed)
 - Phase 1 and 2 environmental surveys confirm the location is viable (regarding contaminants, etc)
 - Still need City lease (city-owned land, Bartram manages the land)
 - Also a second part of the building is an education wing that Bartram would run
 - Need to draft business plans, etc
 - Break ground end of 2020, beginning of 2021; goal to start production in 2022
 - The scientific argument for the mussel hatchery
 - DK’s review paper
 - Upcoming research to better understand nutrient sequestration
 - Need research to help build the case to get economic benefit from FW mussels and inform BMPs
 - March 2020 Chesapeake STAC workshop to support investigation and consideration in the Chesapeake (hoping later that this work will help the Delaware Estuary)
 - Return on investment of N filtration ~\$15/lb N
 - Need to figure out how to sell enough stock to sustain the business (grants likely won’t sustain the hatchery – grassroots funding campaigns, etc ‘billion oyster project’)

STAC futures discussion

- Roles of STAC centered around peer-review; ad-hoc groups to review docs with numbers/science to ensure accuracy; bring science to contentious issues (briefs, white papers, etc)
- CCMP-TREB connections: find gaps and needs that STAC can address
 - Emily – gave tutorial on an excel database of CCMP-TREB crosswalk – good synopsis on how CCMP and TREB overlap, or do not, potentially highlighting gaps
 - Database has a sheet on: 1) CCMP-TREB nexus; 2) TREB outliers – conversations/suggestions from TREB that are not addressed in the CCMP (e.g. performance of TREB indicator is not mentioned in the CCMP); 3) metrics in TREB that could help inform/track CCMP goals
 - Recent EIC feedback suggests strengthening social science topics important
 - More feedback after next EIC meeting
 - DK wants to use the crosswalk to start STAC groups to address these gaps
 - Example of data gaps potentially associated with nutrient endpoints or biological thresholds (Namsoo says DRBC is currently considering proposals to help expand previous research and fill data gaps)
 - Ken – discussed how the crosswalk could be used to track what is being done to meet the CCMP goals; reports stating met goals might be helpful; DK responds that successfully met goals simply drop away in CCMP revisions
 - DK: is there any part of this crosswalk that no one is addressing? How do we develop a strategy to attack these gaps?
 - Kristin suggests crosswalk should include a check point on whether the topic is currently being addressed
 - Kelly – maybe add top 10 research needs to top 10 monitoring needs?
 - *Jerry reopens discussion later in meeting about how the 2006 white paper/summit was a strategy to develop top 10 needs
 - DK reviews history –summit had abstracts of 500 words (last 250 words author had to describe how the research contributes to the goals/needs for the estuary)
 - ***Jerry suggests revisiting this strategy for the next summit***
 - Emily in the future might crosswalk results from monitoring inventory?
 - Metthea – share this excel with STAC to ‘check off’ tasks
 - DK suggests STAC peruse this excel and check on CCMP and TREB items to see candidate ideas to address
 - ****ACTION ITEM**** STAC members review excel and make suggests on topics that are not currently being studied/address, provide draft top 10 list for next meeting

- Kelly suggests STAC member suggestions could go to Kristin/Danielle before the next meeting to combine results for a more productive discussion
 - ****LISTS BY 1 APRIL**** to be included as an attachment to the next meeting's agenda
 - Kristin manages responses
- Dorina – comment— ‘assessment’ of already existing data to address specific needs and ensure someone is synthesizing existing information; if there is an action/need, is someone collecting data but it is just not synthesized yet? Or are these data not resolved enough to suit our purposes?
 - Is this a MAC discussion point? – DK/Namsoo suggest that MAC is for monitoring coordination, rather than assessment
- Namsoo—comment— TREB by 2022, CCMP reevaluation every 5 years (only NEPORT reporting required)(goals/etc don't need to change just considered; new CCMP every 10 years; this tracking excel needed because CCMP needed to have trackable, measurable goals to track progress)
 - Needs and white papers on gaps essential to justify/substantiate institutional/broader/partnership investment
- *****Kelly suggests ‘stations’ at summit to submit CCMP-TREB centric data and provide add'l info*****
- DK how can STAC be more effective for the estuary program?
 - Kelly – remind NEP folks that STAC can provide peer review and additional sets of eyes
 - Metthea likes updates (microseminars)
 - Ken – feels like there is usually a lull between meetings; DK comments that with certain tasks (TREB) engagement can be pretty heavy, but agrees more engagement outside of those duties would be good (especially developing new proposals/projects);
 - Several small discussions on how to set up a platform for more active engagement (e.g. basecamp, shared drive, STAC newsletter)
 - Kristin says maybe she can do a STAC newsletter email for small updates, conversation topics

Roundtable workgroup updates

- Kristin - RSM – seems like point person at Army Corps left and no meeting recently
- Namsoo – WQ – DO priorities, future agendas to identify needs (minutes from DRBC online); discussion on criteria changes (DO and nutrients), other discussions on non-DO WQ were raised, ANS reviewing literature on these topics; Kristin mentions biological endpoints for criteria may be a data gap (e.g. SAV)

- Kristin – MAC – semi-intensive nutrient monitoring, USGS PFOAS monitoring; USGS microplastics in northern NJ (ending 2020)
- Namsoo – TAC – has not met since last June – main topic was PFOAS
- Jeff Fisher – USGS and NJDEP now including PFOAS in monitoring
- Kristin – F&W Coop – last meeting sept – good year for striped bass, shad stock assessment modelling near completion; bass stock assessment found catch reduction necessary; NOAA pushing back Army Corp on Del River projects, groups (private interests) developing to scientifically review time of year restrictions
- Danielle and LeeAnn – Wetlands – no meeting since fall 2018, Metthea proposals for MidTRAM training and MACWA workgroup meeting (RFP soon)
- Danielle – FW mussel update already given in meeting earlier; no in person meetings planned, large group so subcommittee formation ad hoc
- Alison – living shoreline – improving tools and outreach to landowners; annual 2 day workshop for professionals; standards of practice/design subcommittees moving; policy subcommittee – some advancement to make policies friendlier to living shorelines. Doug – site assessment guidance final draft (done very soon), tactic interpretation/design guidance up next (maybe the most difficult document to develop!).
- Metthea – NJTWMN – data workgroup goals and objectives developed; overarching goal to pull together all NJ SET data to investigate tidal wetland elevations changes relative to SLR; NJDEP received WPDG to develop a website and shinyapps for graphics
- Metthea – NJDEP living shoreline workgroup started back up! Internal. Led by Jill Aspinwall (goals not yet clear, organized now that a different set of people involved – not sure if group will become external, but just internal for now).
- Jeff – USGS next gen water observation system – Delaware chosen as a pilot, plans are still being developed, 20-30 new stages throughout basin (new wireless communication strategies for real time data), added temp and sp conductance to old and new stations; NEW flow monitoring stations in the estuary (at BF bridge, Del Mem bridge and C&D canal); Seaport Museum test station for new methods, continuous monitors, DO, new sensors for nutrients, pathogens, contaminants; undersea monitoring runs for DO, conductance; two stations for GW contributions for stream flow, etc in northern NJ; White Clay + Rancocas Creeks new nutrient monitoring (also in/out of tidal wetlands)
- Dorina – NJ passed bill 3215 – 20 year forecast horizon for climate change (depending on ‘relevancy’)
- Namsoo – flexible flow management plan revisions

Wrap up

- Action items
 - Charter edits before next STAC-EIC meeting
 - Email Kristin comments/top 10 notes for research/monitoring priorities identified through the TREB-CCMP crosswalk by 1 april
 - Nominations for new STAC members by 1 april
 - Next STAC meeting 29 April

3:00 pm Adjorn