



Science and Technical Advisory Committee
Partnership for the Delaware Estuary: A National Estuary Program
www.DelawareEstuary.org

STAC Meeting (Number 48)

Monday, April 1, 2019

1:00 pm to 4:00 pm

Partnership for the Delaware Estuary - Wilmington, DE

STAC Attendees:

Metthea Yepsen, Kelly Somers, Kevin Hess, Danielle Kreeger, Kari St. Laurent, Ken Strait, Dorina Frizzera, Greg Breese, Kristen Regan, Alison Rogerson*, Dave Bushek*, Laura Craig*, Demond Kahn, Namsoo Suk, Elizabeth Watson, Gerry Kauffman

Other Attendees:

LeeAnn Haaf, Joshua Moody,

*Participated via GoToMeeting: <https://global.gotomeeting.com/join/519768277> and
Conference Line: 712-775-7031, Pin: 880-019

- 1) Call to Order & Introductions** – Danielle Kreeger (on behalf of Sue Kilham, Chair) **1:00 pm**
 - With the CCMP and Science Summit completed, there is now more time to consider future STAC direction and activities (EIC may help with this). For example, how can the STAC help with implementation of new CCMP strategies?
 - Hopefully the STAC meetings can now have more time for roundtable discussions and sharing, micro seminars, etc.
 - The minutes from the last meeting were already approved and have been posted to the STAC webpage, since it was a joint EIC/STAC meeting.

- 2) PDE and STAC Business** **1:15 pm**
 - PDE Executive director change
 - Jen Adkins' last date at PDE was March 31, and as of April 1 Kathy Klein started serving as interim executive director. The PDE Board has indicated this will be for 6 months, allowing time to develop and implement a long term plan to fill the position.

¹ Minutes from 10/24/18 (STAC-EIC) were circulated via email

² CCMP: <http://www.delawareestuary.org/our-plan/>

³ TREB: <http://www.delawareestuary.org/wp-content/uploads/2018/01/TREB-2017-complete.pdf>

⁴ CCMP-TREB comparison matrix v4 was circulated via email

⁵ MuCWI fact sheet was circulated via email

- Namsoo Suk mentioned that the DRBC Commissioners formally thanked Jen Adkins for her contributions while at the helm of PDE. Also, Chad Pindar is replacing Ken Najjar as the DRBC representative to the EIC, because of Ken's recent retirement.
- The PDE Program Evaluation is scheduled for April 30 - May 02, 2019 and will be a site visit by regional and headquarters EPA staff. They will visit example project sites in all 3 states.
- STAC spring elections for new members and a new chairperson will be held by July 1st, 2019

3) CCMP, TREB and Summit Wrap-Up

1:30 pm

Summit feedback

- 340 people participated, despite the federal shutdown which ended the Friday before the summit/ We did lose ~5% of pre-paid folks due to government re-opening so close to summit start date.
- >110 oral presentations, 34 posters. This was on par with earlier summits, however student attendance was a bit lighter this year.
- The summit proceedings are on the website.
- STAC discussion of options for other venues:
 - Kelly Somers: have you explored anywhere else; Poconos, Water Gap?
 - Ken Strait: probably wouldn't get more people elsewhere.
 - Danielle Kreeger: we aim to preserve the retreat-like atmosphere, which has meant we try to get out of commuting range for most. But perhaps we could find other ways to incentivize people to stay for evenings
 - Dorina Frizzera: it will be tough to accommodate overnights for NJ people if within certain distances. Perhaps a future meeting could have a special session that brings back now-retired professionals ("Unboxed-Unfiltered" session)
 - Danielle: The Chase Center in Wilmington works very well for the DE Wetland Conference.
 - Des Kahn: maybe the Peterson Center could provide some type of field trip opportunity, since it has tidal marsh and is right down the road from the Chase Center.
 - Danielle: if anyone has other venue suggestions, please let us know by late summer (for early 2021 planning).
- Metthea Yepsen: very happy with programming – it was interesting and diverse in topics.
- Danielle Kreeger: we now have more flexibility to do special topics and workshops because there is a 3rd track. This also helped with funding since

some funders cannot support the meeting itself, but can fund a special session (e.g. Sea Grant, NOAA).

- Alison Rogerson: the special topics room is a tight fit, however. The Chase Center is cheaper than Dover Downs. One note is that the reception at Iron Hill has become too big for that venue, and there are not many other restaurant options in Wilmington. Chase will now supply the reception for DNREC in 2020.

Action Item: Alison will supply info on the Chase Center to Danielle.

- Danielle: The STAC should start thinking about a theme, keynote speakers and session topics for 2021.

CCMP² & TREB³ report copies

- Hard copies are available today for all who want one. DK saving a copy for key folks. Dave Bushek asked for a copy of each for the Rutgers HSRL library.
- The CCMP summary brochure will be available soon.

CCMP implementation & tracking

- We now need to start tracking the implementation, and not all strategies can be easily quantified.
- In the past we have tried to build tracking databases on several occasions, using paid outside consultants. For the new CCMP, Emily Baumbach has built a tracking tool with the EIC. You will be hearing more about this as the EIC and Emily refine the tool. Since the STAC has expertise in tracking, any STAC members who want to look over the tool are welcome to join with the EIC to help test and refine. The pilot tests will occur between 5/1 - 8/9, and then data will be uploaded to EPA by late August.
 - Metthea Y. and Kelly S. volunteered to help Emily in piloting tool and testing methods.

TREB actions vs. CCMP strategies⁴

- What comes next for the STAC?
- In reference to the STAC/TREB database: please refer to CCMP Strategies (Tab 6) and TREB Actions (Tab 5) in the Excel file that was sent around. The cross-walked TREB-CCMP is in Tabs 1 and 4.
- Please consider these high nexus cells as priorities for the STAC. Which of these might be areas where the STAC can help, this addressing multiple CCMP Strategies/TREB Indicator goals.

Action Item: Danielle asked the STAC to review this and bring ideas for discussion to the next regular STAC meeting. This might be the end of year meeting, since the next meeting will be with the MACC (early summer), followed by the annual meeting with the EIC (early fall).

4) Monitoring Assessment Project - Results

2:00 pm

Outcomes and report status:

- This was created to fulfill the first action in the Monitoring Approach section of the CCMP.
- In 2007, PDE worked with DRBC and many other entities to assess monitoring efforts basin-wide (DEWOOS). The effort was very helpful and spurred several new monitoring initiatives such as for coastal wetlands. However there was no funding for DEWOOS per se.
- Rather than trying to update DEWOOS, the new plan is to inventory monitoring activities and poll experts on needs every 5 yrs. The 2018 efforts will serve as a baseline for the future (e.g. 2023, 2028). The effort helps to identify redundancies and gaps.
- A wide range of experts participated in 2018.
- The database does not house data, but links to data that can be partitioned by type, spatial, temporal, project type, units, objectives, goals.
- Plenty of gaps still exist, but this is a good baseline/starting point.
- The inventory was shared with NOAA to be included in ERMA (see weblink on our website near CCMP info). NOAA offered to help visualize data through ERMA in a geospatial fashion. Zoom into map area of interest, and check datatypes in sidebar to visualize.
 - ERMA exists mainly to guide environmental response, but it is useful for many other applications.
 - Kari St. L: Is Ocean Data Portal through MARCO redundant? Is there data in one, but not the other? If so, ODP is also a valuable resource.
 - Dorina F.: I see that some monitoring efforts in southern Delaware Bay (e.g. by USFWS & DRWI) are missing, so that is another on-going effort that may not be represented here.

5) Micro Seminars

2:15 pm

a. Ground-truthing sea level rise models in New Jersey (Beth Watson)

- Lots of wetland loss is occurring. Wetland loss rates appear to be inversely related to the elevation in tidal prism relative to MHW. Wetlands sitting lower relative to MHW are being lost more quickly, when viewed along east coast.
- Census datasets used to track change are inadequate – they often have variable methods among surveys, are poor resolution, etc.
- Better data are needed to prepare for SLR and flooding, especially in NJ.
- The goals of this project were to evaluate and compare sea level rise vulnerability models at 7 MACWA (tidal marsh) study sites located in NJ (focus in NJ due to source of funding).
- Object-based analysis provides better resolution than other remote sensing analyses.

- Change analysis shows areas where wetlands were lost versus gained, e.g. Maurice River. Most new marsh creation is along marsh-upland edge, and most loss at seaward edge and due to channel widening.
 - At Reedy in Barnegat Bay, lots of loss in interior of marsh too.
 - Overall, saw 20% loss during 1975-2015, but 15% gain. So 5% net loss in studied watersheds.
 - Focusing just within the 1975 wetland footprint, losses were dramatic, 15-30%. In DE Bay, big edge losses, such as mouth of Dividing Creek. But there were also gains by forest conversion, but also some recovery of formerly waffled interior marshes by new vegetation, in areas.
 - Compared the Sediment Accumulation Model and Marsh Equilibrium Model to predict marsh responses to SLR at these study sites; Island Beach example.
 - Both models under-predicted marsh loss during 1975-2015, when hindcast. Neither model caught the large edge loss that was actually observed, and some losses in former impoundments. These models grossly underestimate marsh vulnerability and loss.
 - Hypothesis is that these erroneous results were so off because of faulty input data, such as fine elevation detail and the problem with benchmarks.
- b. SET data and marsh vulnerability to sea level rise (LeeAnn Haaf)
- LeeAnn reviewed MACWA history, and long-term study sites in Barnegat and Delaware Bays. Types of metrics, such as SETs, marker horizons yield data on surface accretion, shallow subsidence, and net elevation change for the wetlands.
 - Two questions: were rates of marsh accretion and vertical elevation changes exceeding rates of SLR? And how did tidal range affect these results?
 - Non-metric multidimensional scaling was used to visualize relationships between various datasets
 - Marshes in DE Bay have a much broader range in elevations, relative to MHW, compared to Barnegat Bay.
 - Water column DOC was inversely related to elevation change in Barnegat Bay.
 - Freshwater tidal marshes in the DE Estuary had high accretion rates and high rates of shallow subsidence
 - 57% of sites had problems with accretion rates keeping pace with SLR rates.
 - Data from long term monitoring can help plan restoration projects etc.
- c. Mussels for Clean Water Initiative⁵ (Danielle Kreeger) (skipped due to time)

6) STAC elections

- Danielle Kreeger: Members whose terms are up (DK listed them) are asked if they wish to continue. Sue Kilham and I have not received any nominations for new members this year (and the deadline has passed).

- Normally elections are held in late May or early June. Since no new nominations have been received and existing members polled so far have indicated a willingness to continue, there may not be a need for an election this year. Any new members should be elected to start terms on July 1.
- Sue Kilham has indicated that she wishes to step down as STAC Chair, after more than a decade of chair service. So we are seeking nominations for chair, which can be sent to either DK or Kathy Klein, preferably by June 15. Self-nominations are welcome.

6) Roundtable Partner/Workgroup Updates

3:00 pm

- Jerry Kaufman: An issue we should explore is PFOAs, HABs. I like it when the STAC tackles tough problems, preparing unfettered science briefs on hot topics. Commentaries are being requested, so STAC consensus might be useful.
 - Kari St. Laurent: she is also interested and noted that some well monitoring may be being conducted
 - Kelly Somers and Kristin Regan noted that EPA is also interested.
 - Metthea Yelpsen echoed this interest for NJDEP.
 - Danielle Kreeger: This sounds like a great topic for a new STAC brief. But every brief should have a clear goal or question to be address - what specifically would be the focu of this brief? STAC briefs tend to summarize what is known and unknown, helping to frame questions and priorities for research and monitoring, while also synthesizing science for managers. People often note that we don't have HABs in this estuary, but that may not be true, or we could be increasingly vulnerable to HABs with changing conditions.
 - Jerry: PFOAs might need more stringent standards (like is being tackled for DO criteria), and could the brief develop recommendations? Danielle replied that the STAC briefs need to focus on summarizing the science and cautions against making any specific recommendations with a nexus to regulations.
 - Greg Breese summarized the history and intent of DO brief (e.g., for sturgeon). He suggested that the STAC can explore emerging issues and divergence of regulations, but best to avoid specific regulatory recommendations.
 - Ken Strait: NJ already has some state guidance on monitoring, but ecological effects are less known.
 - Danielle K: how about if the STAC tees up a wish list of ideas for future STAC Briefs, for presentation to the EIC? Brief prep is usually handled by smaller STAC workgroups (who then become de facto authors).
- Namsoo Suk: provided DRBC updates, such as regarding nutrient model development and DO standards/criteria. Namsoo urged folks to attend the Water Quality Advisory Committee and Toxics Advisory Committee meetings if they have interest in discussing data, monitoring, and criteria/standards (see PDF shared by Namsoo).
 - HABs – monitoring is tough but conversations exist and are ongoing
 - Danielle K. asked whether altered nutrient ratios might fuel future HAB's, whether there might be increased vulnerability to HABs?
- Mid-Atlantic Coastal Wetland Assessment workgroup: the last workgroup meeting was

in October 2018. The next meeting hasn't yet been scheduled

- Freshwater Mussel Advisory Group – this is a newly established workgroup consisting of experts in mussel propagation, restoration and water quality. The workgroup kicked off its formative meeting at Bartram's Garden on February 19th. There was extensive discussion of the new Mussels for Clean Water Initiative. Subcommittees will be formed to provide expert guidance in best management practices to protect genetic diversity, optimize hatchery production, and guide appropriate mussel restoration. A research and outreach component will be added later. Any interested people can contact DK.
- Regional Restoration Work Group – no recent activity due to focus on CCMP, TREB, etc.
- Regional Sediment Management Implementation Workgroup. There were a couple failed attempts to get a winter meeting, and leadership is changing.
- Kari St Laurent: There is a meeting coming up for the Mid Atlantic Coastal Acidification Workgroup in Baltimore; and MARACOOS is meeting the following week in Baltimore. Contact Kari for more info.

7) Upcoming Events and Notices

3:40 pm

- Atlantic Estuarine Research Society, Woodbridge, VA, April 4-6
- Climate Change, Coasts & Communities Symposium, Monmouth Univ., April 17-18
- Coastal & Estuarine Research Federation, Mobile, AL, Nov. 3-7, 2019
- Delaware Wetlands Conference, Wilmington, DE, January 29-30, 2020
- Metthea Yepsen: NJDEP is updating its state wetland program plan, 2019-2022
 - Highlands and pinelands additions; and core element on climate change
 - Working with Penn State for wetland database
 - Workshop May 13th
 - NJ tidal wetland monitoring group establishment
 - Diatom ID guide for tidal wetlands – the first of its kind?
 - Namssoo – old species distribution data for Delaware estuary? Mahala and Marina have done work in the Del Estuary (MY will share)
 - Water resource registry to ID water projects (wetland restor, riparian buffer)
- Kelly – EPA undergoing “realignment”
 - Unsure when it goes into effect
 - Perhaps EIC changes, but Kelly/Kristin likely still be on STAC

8) STAC Business – D. Kreeger (for S. Kilham)

3:45 pm

- Review action items
- Future meetings – next meeting with MACC at DRBC - a Doodle will be sent

Adjourn

4:00 pm

For additional information, please contact **Danielle Kreeger**, Phone: 302-655-4990 x104,
email: DKreeger@DelawareEstuary.org

Current STAC Members:

Sue Kilham (Chair) – Drexel
Gregory Breese – USFWS
Dave Bushek – Rutgers HSRL
Lance Butler – PWD
Laura Craig – American Rivers
Jeff Fischer – USGS
Dorina Frizzera – Getting to Resilience LLC
Kevin Hess – PADEP
Desmond Kahn – Fishery Investigations
Jerry Kauffman - Univ of Delaware
Danielle Kreeger – PDE
Daphne Munroe – Rutgers HSRL
Kristin Regan – EPA Region 3 (EPA alt 1)
Alison Rogerson - DNREC
Peter Rowe – NJ Sea Grant
Kelly Somers – EPA Region 3 (EPA alt. 2)
Kari St. Laurent – DNERR
Ken Strait, PSEG
Namsoo Suk – DRBC
Elizabeth Watson - Drexel
David Wolanski – DNREC
Metthea Yepsen - NJDEP