# SCIENTIFIC & TECHNICAL ADVISORY COMMITTEE

Meeting Agenda

**DATE & TIME:** *February 10, 2023 -- 9:00 a.m. to 12:00 p.m.*

**HYBRID MEETING:** In-person: DNREC Lewes Field Office, 901 Pilottown Rd, Lewes, DE 19958

OR

Zoom: https://udel.zoom.us/j/97089727665

**Notes**

**In-person Attendance: 18**
**Virtual Attendance: 18**

**STAC (22)**
**CIB (8)**
**Guests (6)**
**(attendance list at the end)**

Call to order, Welcome, Introductions - *Jenn Volk, Chair*

*Announcements - Meghan Noe Fellows, CIB*

**Center Staffing Updates**

New Executive Director – Christophe Tulou

Currently open search for a Controller; please share the word.

**Welcome to new Executive Director, Christophe Tulou**

Christophe Tulou first talked about his background and connections to the CIB. In 1994 he was a on the Board of Directors and worked on first CCMP. He also was on CIB Board as DNREC secretary. It is fortuitous that he returns to the CIB to celebrate 30 years of the CIB in 2024.

He then provided some general comments for STAC – having scientists is incredibly important as well as Citizen's involvement. State of Bays report gives collective opportunities to chart future with creative ideas and funding will follow. The CIB will develop the resources needed. The action words are – climate change - climate change - climate change. It is critical to build resilience and create a strong defense against ravages of climate change to protect our valuable resources. Investments in doing better in all critical areas will have payback. Tighten seatbelts since CIB coming with atypical requests and looking for atypical solutions.

*Old Business*

**State of the Bays Report Update**

Press Release scheduled for March 27, 2023. Andrew McGowan gave status: finishing tech edits and then shipping to the graphic designers. Simultaneous release of web site as well on Eco Health Report Card (https://ecoreportcard.org/).

**Modelling Subcommittee Update**

Center receiving federal funds; work plan identified $400,000 for this project. Subcommittee re-energized and met in December, 2022. They reviewed the White Paper, discussed data gaps and reviewed next steps. The focus is on how to use the models and what questions should be answered.

Conceptual flowchart drafted (Rich and Meghan) and it is going out to Modelling Subcommittee for comments. Developing list of questions for other national estuary programs about their modelling experience and follow up conversations with those with modelling experience in the area. Focus on hydrodynamic model first as most critical. Subcommittee will be meeting soon.

*New Business*

**Environmental Monitoring Biannual Update***, Meghan Noe Fellows, Center for the Inland Bays*

With agreement from the EPA the Environmental Monitoring Plan will be updated every two years. The last update was FY21, making an update due September, 2023. This is a fast timeline, so must be completed by July 31, 2023. There will be an online survey sent out in March, 2023. Bring draft of the plan to STAC in May. Review comments in June.

Track the status and trends of key environmental indicators used to assess the chemical, physical and biological integrity of the estuary and surrounding study area and to evaluate goals of CCMP. Various indicator metrics identified, with at least 41 different metrics at least 8 different lead agencies/partners. Statistical and anecdotal tracking and trend analysis. Want this plan to guide future research and monitoring efforts. So to assist with natural resources planning

Each parameter has a cost; any additions or deletions. What does key mean? = responsive to CCMP and guide for future research.

CIB priorities previously identified were discussed

Development of hydrodynamic model Inland Bays

Upgrade UD Citizen's Monitoring Program database – work as can and un-funded, so slow progress and not highest priority; has spreadsheets, but difficult to enter into STORET.

Long-term monitoring of dissolved oxygen and chlorophyll at key stations

Monitoring of submerged aquatic vegetation

CCMP priorities many changed with new CCMP and will be the focus of environmental plan. Create a list of where monitoring listed in CCMP. Plan will help STAC Priorities (2023)

Survey in March will guide the writing of the plan. Any new ideas should be detailed using current criteria. Primary question is the focus of STAC and member priorities. This does integrate into work plans for CIB members

Discussion around Environmental priorities such as:

Rising sea levels and shore lines and reef

DNREC will be bigger partner for dredging; not Army Corps

Habitat restoration projects

Frequency and number of gauging stations – losing granulator due to limited data collection. What and how do you want to observe.

Mapping for regulations

Environmental Justice and monitoring efforts (working with EPA on Inland Bays vulnerabilities with cumulative impact communities) USG monitoring and DEIJ efforts

DEIJ committee being set up at the Board level

Wastewater disposal and biocides affecting communities; lack of available land for wastewater spraying is coming very quickly. Limitation on growth in Sussex County is

wastewater elimination opportunities.

Microplastics to be included in update; studying risks of microplastics is ongoing

**Lessons from San Francisco Bay Restoration,** *Dr. John Callaway, University of San Francisco, former Lead Scientist, Delta Stewardship Council*

Former lead Scientist for the Delta Stewardship Council, working to understand and direct San Francisco Bay restoration, John shared lessons learned from envisioning and enacting large scale, estuary-wide restoration, and lessons learned from managing a diverse watershed with competing and conflicting priorities.

Modeling and Monitoring Issues in the San Francisco Bay and the Delta

Largest in the West Coast (maybe Puget Sound larger depending on how measuring); very Mediterranean Climate with rain in spring and summer. How to manage water and much is diverted for agricultural use. Restricted water flow with Inland Delta and issues differences between Bay and Delta. 90% of wetland loss (development and many no longer tidal) and freshwater flows; invasive species; water quality improving.

San Joaquin Delta is less studied. Water management is the largest issue. Very important water, food, fisheries and habitat. Agriculture conversion in mid-1800s little remaining habitat for native estuarine and riverine species.

Delta Stewardship Council & Delta Science Program – provide long term reliable wagter supply; protect and restore delta ecosystem; protect the delta.

Modeling in Sacramento Delta; hydrological modeling is very well developed and guides water management. Key lesson – link models and do integration where it helps us better understand and address issues. Chesapeake Bay modeling is very effective and LA model.

2-day integrated modeling framework workshop Feb 28 and March 01, 2023 in Sacramento. Create a modeler physical space like a laboratory is a forefront issue

South Bay Salt Pond Restoration Project; large scale to try to reverse habitat loss. Very urbanized area and lots of public support but not from agriculture. More than double tidal wetland areas. Climate change challenges. Approach to framing and addressing uncertainties to achieve goals of a mix of habitats; flood management; wildlife-oriented recreation. How to balance these three goals.

Louisiana Coastal Master Plan adopted in 2012 (but prior efforts) and newest draft out in January, 2023. Use models to assess effectiveness of efforts and make future decisions. Integrate Compartment Model (ICM). How does it reduce storming impact and encourage habitats. Focus on restoration benefits and costs. One of the best modeling example of integration across different models.

Monitoring issues:

Efforts are relatively isolated with differences for Bay vs Delta. Discussed three efforts:

1. Interagency Ecological Program (9 state and federal agencies). Very large and complicated; mostly Delta focused.

2. Reginal Monitoring Program water quality in San Francisco Bay to support management decisions.

3. Wetlands Regional Monitoring Program (2019). Just getting started. How to monitor restoration program to assess long term historic restoration sites effectiveness. Goal is to imprve wetland restoration project success.

Take homes: connect monitoring to management questions with regular review. No single model or monitoring program answers every question – what is good mix. Integration is valuable but challenging. Identify restoration uncertainties upfront and outside review and input is invaluable

Questions

1. Permanent dischargers paying for monitoring programs. Who are major polluters - Sewage treatment plants causing nutrient issues.
2. What about non-point sources? Storm water issues? Non-point not as large in Bay but bigger in Delta due to agriculture
3. Restoration tactics – wetland restoration, but more and more about watershed improvements and harder to get funding and management, but there is awareness. Link water management with wetland and watershed restoration which is so challenging. Big push to think across issues and combine decisions but very difficult.
4. Buffer regulations/tree planting, but not on a regional scale, mostly county, but there is a state effort to get counties to think about, but up to counties.
5. Level of support and interest between Bay and Delta restoration. Achieved a parcel tax for restoration efforts across Bay from all 9 counties surrounding the Bay. Less coordination of land management in Delta. Efforts on what will it look like in future and how can continue to farm given subsidence of land. What happens if damage to levees, especially from earthquakes? Contentious about efforts to address issues; little consensus.

*Open*

Announcements:

Chris Main announcements:

1) the Delaware Environmental Monitoring Coordination Council (DEMCC) will be holding the third annual Delaware Environmental Monitoring Summit, hosted by the DEMCC. The Summit will be held March 15, 2023 8:30 – 4:00 at Clayton Hall on the campus of the University of Delaware. This year's conference is titled "WIN – WIN (What Is New – Who Is New)" and will include oral presentation sessions by environmental professionals, a poster session for students and professionals, a panel discussion, displays from vendors of monitoring products and software, and plenty of networking opportunities over refreshments and lunch. There is no charge for the event but registration is required. The registration web site is now being created, so stay tuned for more details and please feel free to share this announcement with colleagues.

2) Sergio Huerta retired Feb 1, 2023; worked 30 years with the state

Nivette Perez-Perez shared that all CIB volunteer trainings beginning at the end of February

Jenn Volk reminder that Friday, April 28 is the next meeting. She has reserved a conference room in Dover. Straw poll evenly divided among those voting for Dover or Lewes, so Jenn will set up an online poll asking STAC membership about meeting place preferences.

*Adjourned at 11:45am*

**Next Meeting:** April 28, 9:00am to12:00pm, Dover?

| STAC 9 AM-12 PM |
|---|
| DNREC Lewes Facility OR TBD |
| Friday, February 10, 2023 |
| Friday, April 28, 2023 |
| Friday, August 11, 2023 |
| Friday, October 20, 2023 |

The links to the presentations are here:

Environmental Monitoring Revision

https://docs.google.com/presentation/d/1lCuRZwta7-zxJ0eBZyK1Ngclq3c4hIPF/edit?usp=share_link&ouid=109490292773250961073&rtpof=true&sd=true

Lessons from the San Francisco Bay and Delta NEP

https://docs.google.com/presentation/d/1vc63z3iG7G4YuaiiE0mCs9oO_aFOFbLc/edit?usp=share_link&ouid=109490292773250961073&rtpof=true&sd=true

Attendance *February 10, 2023 -- 9:00 a.m. to 12:00 p.m.*

**STAC Committee Members (22)**
Susie Ball
Michael Bott (virtual)
Kristen Coveleski (virtual)
Meghan Noe Fellows
Aaron Givens
Ed Hale
Zina Hense (virtual)
Douglas Janiec (virtual)
Deb Jaisi (virtual)
Miling Li (virtual)
Christopher Main
Ram Mohan (virtual)
Mark Nardi
Ashley Norton
Bhanu Paudel (virtual)
Claire Simmers
Kelly Somers
Ashley Tabibian (virtual)
Jenn Volk
Richard Watson (virtual)
Edward Whereat
Andrew Wozniak (virtual)

**CIB (8)**
Bob Collins
Gabriella Fritz
Zachary Garmoe
Bryanna Lisiewski
Andrew McGowan (virtual)
Nivette Perez-Perez
Michelle Schmidt (virtual)
Christophe Tulou

**Guests (6)**
Lori Brown (virtual)
John Callaway (presenter) (virtual)
Tianyin Ouyang
Angelo Padeletti (virtual)
Holly Walker (virtual)
Stephen Williams (virtual)