SCIENTIFIC & TECHNICAL ADVISORY COMMITTEE

Meeting Notes

DATE & TIME: *April 28, 2022 -- 9:00 a.m. to 12:00 p.m.*
HYBRID MEETING - UD Kent County Cooperative Extension Office, Paradee Building, 69 Transportation Circle, Dover, DE 19901 and on Zoom

AGENDA ITEMS

Call to order, Welcome, Introductions - *Jenn Volk, Chair Announcements - Meghan Noe Fellows, Center for Inland Bays (CIB)*

Center Staffing Updates

Old Business

Environmental Monitoring Plan Update, **Meghan Noe Fellows**, **CIB Director, Estuary Science and Restoration**

Logistics – The Environmental Monitoring Plan (EMP) has been in place since 1995 with the current format initiated in 2015. There were two previous updates in 2018 and 2020; the current update (2022) is scheduled to be complete by July 31, 2023.

The current schedule for completion is as follows:

1. STAC completes online survey in March (done);
2. STAC reviews issues with strong disagreement in April. (top 10% of variance in answers – overall, there was general agreement on the majority of the document);
3. STAC prepares/reviews first draft by the end of May with review comments due by mid-June; and
4. Final EMP submitted to Center for Inland Bays (CIB) Director and Board by the end of July Final.

During March, STAC attempted to address the following issues:

1. Is the list of EMP parameters complete?
2. What, if any of the parameters could/should be phased out over the next two years?
3. Which of the parameters, new or proposed are of the greatest priority for the Center to collect? and
4. What are the STAC priorities and how do these priorities advance future action and management?

Results of the Survey - STAC conducted a survey of its members to address the above questions. The results of the survey were limited. There were seven respondents who commented that 21 of 41 metrics needed additional input. 14 of 21 metrics had a least one comment that no change was needed.

Possible Metrics to Retire? – a brief discussion about whether there were any metrics that could be retired. The first was *Point Source Wastewater Discharges*. It was indicated that now that the Rehoboth Wastewater Plant discharges to the ocean, there are no other major discharge sources to the Inland Bays. Michelle Schmidt, CIB Director of Conservation and Watershed Planning, indicated that she believed that the metric could be retired.

The next concerned the *National Aquatic Resource Surveys (NARS - https://www.epa.gov/national-aquatic-resource-surveys*); was there a need for CIB to review this? The NARS are collaborative programs between EPA, states, and tribes designed to assess the quality of the nation's coastal waters, lakes and reservoirs, rivers and streams, and wetlands using a statistical survey design. The NARS provide critical, and nationally-consistent data on the nation's water quality. Kelly Somers, EPA indicated that she would see if the Inland Bays were captured on these surveys. The consensus of the discussion was that no action was needed.

The *Seaweed Metric* was discussed next. Andrew McGowan, CIB Manager of Estuary Science, indicated that the seaweed surveys were not providing any useful data and that this metric could be retired.

Opportunities to Change Metric – Hard Clam Landings (Commercial)were discussed. Since this metric is not indicative of the Inland Bays health, it was agreed to change this in the business plan. The next metric discussed was *Shellfish/Blue Crab Abundance. It was stated that* many are low/not actively being restored. It was discussed to redirect the resources to more helpful metric such as recreational landings.

Fish Kills were discussed and how the data is being used (is there follow-up to determine the cause?). There was one request that we should investigate further. Next discussed was *Salt Marsh Acreage/Long-Term SET*. Is this a standard condition metric or a vegetation metric? A general discussion followed.

Tidal Flushing at Indian River Inlet – the discussion centered on whether this should be reviewed periodically and by whom. A question about funding was also raised. The current ARMY Corps/DNREC DIBDBC Study (see next paragraph) was discussed to see if data might be available form that study.

The Delaware Inland Bays and Delaware Bay Coast (DIBDBC) Coastal Storm Risk Management Study (CSRM) will explore potential small and large-scale Delawarean storm risk management problems and flood risk reduction solutions. The feasibility study will recommend coastal storm risk reduction solutions which increase community resilience to coastal storms for implementation.

The Delaware Inland Bay and Delaware Bay Coast have historically endured many coastal storms. In addition to the immediate flooding, power-outage, and safety risks that occur during coastal storms, Delaware's coastlines have also experienced long-lasting impacts such as public and private infrastructure damage, marsh degradation, sand dune degradation, habitat impacts, road closures, etc. Climate change is not only increasing the frequency of destructive coastal storms, but also causing sea level rise which will further increase the flood risk for coastal Delaware. The study will include three overarching efforts:

1. The study area's coastal flood problems and future flood conditions will be defined and assessed;
2. The feasibility of installing system-wide solutions will be defined and assessed; and
3. The feasibility of installing site-specific solutions will be assessed

Re-establish Atmospheric Monitoring Station in the watershed – the current situation was described by Andrew Wozniak who indicated that many of the stations have been shut down due to lack of funding. The closest station is on Assateague Island and no one was sure whether that station monitored Nitrogen deposition. In addition, there are local meteorological conditions for the Inland Bays which would not be captured by the Assateague Station. Without funding, no further work can be performed.

Non-CIB Opportunities – the following opportunities may be available

USGS/USACE/DNREC

1. Stream/Tide Gaging
2. Atmospheric Deposition of Nitrogen
3. Ocean Acidification
4. Climate Characteristics

DNREC (Can have outside partner)

1. Recreational Fishing
2. Hard Clam Landings
3. Shellfish (general)

Bird Metrics (no comments, just highly variable response)

1. *Breeding Bird*
2. Mid-Winter Waterfowl
3. Bald Eagle/Osprey Nesting

New Metrics

Plastics – there have been problems defining this metric in the past because it is hard to quantify how much exists and what impact it would have. If this metric is defined, how would this be used?

Sea Grass Suitability Monitoring - This would be used to determine generalized bay health "if it is good enough for sea grass, it is good enough for ____". Coastal ecosystems including seagrass, are in global decline. Mitigation approaches include restoration and other managed recovery interventions. To maximize success, these should be guided by an understanding of the environmental niche and geographic limits of foundational species.

Additional Stream (inflow) Monitoring – The nutrient loading is not completely defined and additional monitoring is required

Chlorophyll Monitoring - The chlorophyll concentration is an important indicator for the degree of eutrophication and algal bloom. Satellites can measure chlorophyll in the water because the satellite can detect subtle differences in the color of the water. As an example, Chlorophyll in Chesapeake Bay is calculated using an algorithm tuned specifically for the Chesapeake Bay by comparing in-water measurements from Chesapeake Bay with satellite measurements. The images represent a composite of all scenes imaged by the satellite on a single day.

Disease load in Aquaculture Oysters

Riparian Buffer Quality/ Forest Quality - Riparian forest buffers can deliver a number benefits including filtering nutrients, pesticides, and animal waste from agricultural land runoff; stabilizing eroding banks; filtering sediment from runoff; providing shade, shelter, and food for fish and other aquatic organisms; providing wildlife habitat and corridors for terrestrial organisms; protecting cropland and downstream communities from flood damage; producing income from farmland that is frequently flooded or has poor yields; providing space for recreation; and diversifying landowner income.

Groundwater Monitoring – The extent of nutrient loading from non-point source needs further assessment. Loadings from spray irrigation of wastewater and farmland runoff can create significant loadings on the bays.

STAC Priorities 2023

Question #4: What are the STAC priorities?

1. Refine Current Metrics?
2. Free up Time/Resources
3. Add new Metrics (how many is reasonable?)
4. Encourage Partners to Add new Metrics
5. Target Revisions

Hydrodynamic Model Development Discussion, Jenn Volk (Jenn Can you add please)

1. Why a phased approach?
2. What is covered in Phase 1?
3. Where does the model "live"? – Dr. Li has access to the older models
4. What is the maintenance and longevity plan?

New Business

Nearshore Impacts of Offshore Wind Subcommittee Center Habitat Plan, Michelle Schmidt and Bryanna Lisiewski

The 2024 Inland Bays Habitat Plan – This is a supplement to the CCMP and will provide the following:

1. Identify Terrestrial Habitats and Species
2. Identify Subaqueous Habitats and Species
3. Address Conservation Management Goals
4. Establish Action Plans

The schedule for preparation of this plan is as follows:

1. Prepare RFP – November to December 2022;
2. Service Agreement signed March 1, 2023;
3. Task A: Baseline
4. Task B: Climate
5. Task C: Goals and Strategies - Supplemental Analysis: LULC, Connectivity, Vulnerability, Prioritization Model
6. Task D – Stakeholder Engagement

The stakeholders for this program include:

1. Delaware Forest Service

2. Delaware Nature Society
3. DNREC
    - Coastal Programs
    - Fish & Wildlife
    - Division of Water
    - Parks & Recreation
    - Shoreline Management
    - Shellfish Program
4. UDEL Sea Grant
5. University of Delaware

Open
Adjourn
Next Meeting: August 11, 9:00am to 12:00pm, Fully Remote?