Delaware Center for the Inland Bays Scientific and Technical Advisory Committee Meeting

July 28, 2017 9:00 am – 12:00 pm

DNREC Lewes field Facility

Attendees:

STAC MEMBERS	CIB STAFF	OTHER
Scott Andres	Chris Bason	Scott Borsum, DSU
John Austin	Bob Collins	Gary Cannon, CAC
Judy Denver	Andrew McGowan	John Ewart, UDel
Mike Hoffmann	Roy Miller	Mikaela Kropp, EPA
Sergio Huerta	Morgan Pitts	Andrew Martin, DE Wildlands
Doug Janiec	Marianne Walch	Peter Martin, DE Wildlands
Chris Main		Frank Piorko, MCBP
Hassan Mirsajadi		A.G. Robbins
Steve Smailer		Tye Pettay, UDel
Kelly Somers, EPA		E. Anne Riley
Kari St. Laurent		Gary Taylor, CAC
Robin Tyler		Christina Valenti, UDel
Bill Ullman		
Ed Whereat		
Jenn Volk		

9:05 **Meeting Called to Order**, Scott Andres (DGS, Chair of the STAC)

- Tidewater Charity Golf Outing benefiting the CIB and helicopter ball drop fundraising event taking place on Monday, August 14th at Heritage Shores Golf Club

Announcements, Marianne Walch (CIB Science and Restoration Coordinator):

- Sign in sheet going around
- Decked Out tickets going fast, but still available on website, Thursday, August 3rd
- Emily Seldomridge, left CIB as their Watershed Coordinator; in process of rehiring that position
- Welcome to Morgan Pitts, who started 4 months ago as CIBs Outreach and Education Coordinator replacing Sally Boswell
- A federal partnership has announced a technology-accelerating water quality challenge. Teams compete for $150K in cash prizes by demonstrating effective use of low-cost continuous nutrient sensors and how data can be part of state and local decision-making. (https://www.challenge.gov/challenge/nutrient-sensor-action-challenge/)
- All members please update CVs and intention to serve; reply to Marianne; STAC Operating Guidelines require updates every 2 years
- The passing of Molly Murray was acknowledged; we are all shocked and saddened by her loss.
- Round robin introductions

9:15 **Emerged Contaminants Symposium Overview and Discussion**, Jenn Volk (UD) [see presentation]

- Symposium presentations highlighted current "emerging contaminants," regulatory procedures, practices to treat and remove practices, and research and other needs.
- Sergio Huerta (DNREC and Public Health) noted that the Delaware Public Health Lab does provide EPA with official reports of contaminant concerns observed in private well samples, though there is not an official procedure for this, and the EPA does not have the resources to keep up with all of the reported contaminants. EPA has a responsibility to address this.
- Which contaminants are the most concerning and relevant to the Inland Bays?
    - Judy Denver (USGS) asked if PAHs are a potential issue in the watershed because of their use in asphalt sealants. Kari St. Laurent (DNERR) noted that although we distinguish between 'legacy' contaminants such as PAHs and 'emerging' ones, in reality they all occur together in cocktails and could have synergistic impacts.
    - Consensus that we definitely need to understand the "cocktails" and synergistic effects more.
- The symposium was a CCMP action, and now we have checked the box on that. But what should STAC be doing next? Should we be making recommendations, helping to get research funding, making formal comments/positions on regulatory programs? – r, research, etc.
    - Several attendees noted that follow up by the CIB and STAC should be multi-faceted
        - Scott Andres (DGS) - The contrast between program requirements and the science is stark, and STAC needs to be active in this.
        - Both a groundwater and surface water issue
        - Kari St. Laurent (DNERR) suggested that the NOAA Mussel Watch program could provide useful data, using the mussels as passive samplers for organic contaminants.
        - Chris Bason (CIB) asked if anything needed to be added to the Inland Bays Monitoring Plan. More outreach needed on this topic – what are the messages that should be conveyed, should we recommend a collaborative effort with Sea Grant and others?
        - Scott Andres (DGS) suggested that STAC might be able to make some sense of existing data from wells, based upon where it was collected.
        - As STAC, comment on regulatory review processes
- Robin Tyler (DNREC) – take lesson from the nutrient story/history: 30 years ago, not much was being done or known about nutrients and now we know a lot. 30 years from now, some of these compounds may become routinely tested.

9:45 **Inland Bays Environmental Monitoring Plan**, Marianne Walch (CIB) [see handout and presentation]

- Need to be able to track progress toward CCMP goals
- Plan has been through facilitated workshop; key stakeholder questionnaires; STAC input; first draft developed with help of RK&K; CIB completed 2nd draft with stakeholder help; internal CIB

review; now at Final STAC review and approval; goes to EPA next for final approval and meet grant requirements

- 11 recommendations have been prioritized as high, medium, or low
- Will establish a standing subcommittee and procedures for oversight and regular plan review
- Emerging contaminants hadn't been included at the time the plan was drafted
- Report is available now on website
- **Comments from STAC members due to Marianne by August 25th. After that the plan will be finalized.**
- Frank Piorko (MD Coastal Bays) – looking for more partners for areal SAV surveys to make more cost affordable. MD Coastal Bays has a protocol for ground-truthing.
- Kelly Somers (EPA) - EPA Region 3 doing a survey in the DE Estuary (going through next summer) with single-beam ecosounder that hangs over the side of boat – can't do aerial surveys in turbid regions. They have equipment and might be an opportunity for collaboration. They send divers down at different depths with go-pro to confirm presence.
- Sergio Huerta– Can satellite surveys be used?
    - Scott Andres - Pixel size too big but sensor technology is intriguing. NASA is having a meeting next week and they are looking for partners.
- Robin Tyler – looking for SAV in the IB is like looking for a needle in a haystack. No substitute for getting out and getting dirty
- Roy Miller (CIB Policy Coordinator) – if DNREC's Division of Fish & Wildlife is looking for more shellfish harvest info, they have a dedicated database for anyone planning to fish or crab including names and addresses; they could survey by mail as a first stab. Cheaper than putting boats out and trying to intercept people.
- Andrew McGowan (CIB Environmental Scientist) – CIB has three continuous dissolved oxygen monitors looking for new homes after 10/31/17 – ideas, suggestions?
    - Robin Tyler – head of Pepper Creek; lots of past projects, known place for fish kills; not covered by DNREC general assessment; another place is "fish kill central" = Torquay Canal. Nothing to his knowledge since 2008; could possibly get additional old equipment for more locations;
    - Hassan Mirsajadi (DNREC) - DNREC has Massey's Ditch continuous monitoring
- Hassan Mirsajadi (DNREC) – Regarding the modeling work, building a well calibrated model requires significant data and a lot of time; 5 years $3M for Murderkill and that is much simpler than Inland Bays. Main use of models is predictive capability; for assessment, looking at data is much easier and defensible; if there is a need for a predictive tool, than need to plan for 2-3 years of data collection and a few years for data building/calibration.
    - Chris Bason (CIB Executive Director) – other National Estuary Programs have models and we don't; our older model had some issues too.
- Steve Smailer (DNREC) –Regarding local indicators for sea level rise, he has been having conversations with folks from the Delaware Environmental Observing System (DEOS) and Delaware Geological Survey for mapping state tidal wetlands (2 feet above local MHW); instead of static map is tie into LMHW so establishing stations to monitor that tie right in. Has looked into cost for getting spatial resolution necessary
- Gary Cannon (CIB Citizens Advisory Committee) – how toxic are the IBs to humans?; hospital admissions?; how serious are they?; not necessarily death but illness

- Good question, we don't know

10:30am Break

10:45am **Monitoring Oyster Recruitment in the Inland Bays**, Scott Borsum (DSU) [see presentation]

- 343 acres approved to be leased; wild populations poorly studied; goal to collect baseline prior to commercial aquaculture starting here
- Measure the genetic diversity of native populations and look for signatures of hatchery lines; measure current abundance and distribution of native species in Delaware's inland bays
- Not much recruitment but enough for statically meaningful study when looking at larger scale
- Looking for feedback on oyster surveys: rip rap using swath methods to acquire densities (start at high tide and work way down); quantify physical characteristics; goal to develop repeatable method for monitoring
- Looking for contacts working on oyster restoration in Assawoman Bay.
- Doug Janiec (Sovereign Consulting) – does type of riprap vary?
  - Yes. Very recent NOAA report saying granite and shale best substrate
- Bill Ullman (UD College of Earth Ocean and Environment) – oysters need hard substrate and we don't have much here. Is that why you aren't finding them or is there a problem with the substrate we have here?
  - Yes no natural hard substrate is why we don't find many oysters except where people have created the habitat. These areas are intertidal – they don't do as well because of freezing. Could be not enough sub-tidally.
- Roy Miller – no natural oyster bars in the IB, so all sampling done on hard substrates; will you sample at the aquaculture sites such as eastern side of Rehoboth Bay?
  - Could do on or near the cages.
- Roy Miller – Salinity relationships on populations?
  - Salinity, temperature, DO – all drive oyster recruitment and settling
- Steve Smailler – the genetics part is interesting – it will be interesting to see if aquaculture is helping or hurting the native populations

11:10 **Delaware Wildlands Field 7 Wetlands Restoration**, Andrew Martin (Delaware Wild Lands, Inc.)

- Delaware Wildlands, Inc. is the largest non-profit, non-governmental land owner in Delaware
- Great cypress swamp is the largest contiguous forest in DE
- Ditching diverted significant amount of water from Chesapeake drainage to the Inland Bays drainage through Vines Creek.
- 1970s first hydrological restoration; water control structures not effective
- 2000s started to look at forestry as both a restoration and revenue strategy; Sustainable Forestry Initiative; Certified Sustainable Forestry (natural, managed, reserve areas identified in Forest Management Plan).
- 2011 Hydrologic restoration - 6 water control structures and several ditch plugs; funded with NAWCA grant through Ducks Unlimited and forest revenue
- Attracting wildlife – herps, turtles, frogs, waterfowl, bald eagles, herons

- Lots of interest for visitation and research
- Frank Piorko – do you think the hydrologic restoration will address non-native competition?
    - Already seeing that
- Andrew McGowan - Do you do controlled burns?
    - Some, not successfully at this particular site though
- Robin Tyler – is Phragmites present?
    - Haven't seen it at this site; mile-a minute weed is biggest invasive
- Chris Bason - Quantitative monitoring of the trees planted?
    - Our foresters do this; deer browse is an issue – plant dense enough to minimize impact
- Scott Andres – size of staff to do all of this?
    - DWL total 8 (2 part time); At Great Cypress Swamp – there is myself and one other with Peter Martin 1 day a week (but he actually does much more)

11:30 **Horseshoe Crab Tagging Program**, Andrew McGowan (CIB)

- Data from 2002 through 2016
- Long term tracking for regional management
- 5,581 crabs tagged in 2002; 70% in last 4 years
- Volunteers do tagging; recaptures reported to USFWS
- 1123 resights reported (20% - considered very good); most in IB, DB, MD (Chincoteague), NJ (Barnegat Bay), but 2 in Connecticut
- Minimum distance traveled GIS analysis
- Evidence against site-fidelity
- Doug Janiec – plans for GPS chips?
    - Not sure it would work at the depths they go to

11:50 **Seaweed Monitoring in the Inland Bays**, Robin Tyler (DNREC) [see presentation – originally gave 5/11/12 – a recap]

- 12 sites, sampled monthly; 60 total samples each year – 2009 and 2011
- Majority fell into light presence category
- In 2009 Ceramium was dominant species vs mix of Agardhiella, Gracillaria, and Ulva in 1999
- Seaweed major decline likely due to good work being done and removal of point sources

Harmful Algal Blooms: Informing the Public [see presentation originally given to Georgetown University Medical Center Environmental Health & Policy on 11/30/16]

- 20 years ago this summer Pfiesteria hysteria was happening
- The media focus on this made funds available to do a lot of research on related topics
- All before the internet and "fake news" – what would happen now?

Final comments and announcements:

Today is Robin's last meeting as STAC Vice-chair and he will be retiring 9/29/17. His service was applauded. He will be around, involved, and probably writing books in-between fishing.

Sergio Huerto – heads up that DNA bacterial source tracking work in Love Creek is happening; N and P source tracking happening too.

Congratulations to Steve Smailer, who recently became an Environmental Program Administrator over several programs at DNREC.

Next Meetings: September 8th and December 1st - Send presentation ideas to Scott and Marianne.