DRAFT

Science and Technical Advisory Committee
Summer Meeting (Webinar Only)
Albemarle-Pamlico National Estuary Partnership

September 16, 2020

STAC Members: Brian Boutin (TNC), Bo Dame (Chowan U), Michelle Moorman (US-FWS), Jud Kenworthy (US-NOAA ret.), Wilson Laney (NCSU), Paul Angermeier (USGS/Virginia Tech U), Lee Bodkin (USGS), Heather Deck (Sound Rivers), Randall Etheridge (ECU), Don Field (US-NOAA), Joel Fodrie (UNC-CH-IMS), Tim Goodale (ECSU), Peter Kalla (US-EPA), Dan Obenour (NCSU), Hans Paerl (UNC), Donna Schwede (US-EPA), Doug Wakeman (Meredith U ret.), Rich Whittecar (ODU ret.)

Guests: Rachel Hart (US-EPA), Kelly Somers (US-EPA)

APNEP Staff: Dean Carpenter, Tim Ellis, Bill Crowell, Stacey Feken, Heather Jennings, Jimmy Johnson, Trish Murphey

Call to Order / Welcome and Introductions / Meeting Notes Approval / Meeting Objectives

Brian Boutin: Reviewed agenda and meeting goals.

APNEP Staff Update and Member Reports

Dean Carpenter: Briefly reviewed APNEP staff and STAC member updates (see document on website)

Submerged Aquatic Vegetation (SAV) Team Guidance on Monitoring Plan

Jud Kenworthy: Provided an overview of APNEP SAV monitoring (see single slide). APNEP has rightfully adopted SAV as a critical priority habitat, which is in line with North Carolina Coastal Habitat Protection Plan (CHPP). Reviewed the nuances between low- and high-salinity SAV and monitoring challenges. North Carolina has the largest and healthiest extent of high-salinity SAV on the eastern seaboard. Seagrass is declining in the United States and globally; decline linked to water quality degradation. North Carolina is behind the curve on monitoring low-salinity SAV. APNEP is about to produce the first-ever status report on high-salinity SAV…"this is a big deal". We have ~100K acres of high-salinity SAV in the Albemarle-Pamlico system. All indications are that the carrying capacity of the system hasn't been reached; SAV can occupy more habitat, but there is no striking evidence that SAV is increasing. Monitoring will help us better understand the resource. Available information suggests that we may have lost 50% of our low-salinity SAV resource. APNEP's monitoring of SAV ties into both the 2021 revision of the North Carolina CHPP and North Carolina Department of Environmental Quality's Nutrient Criteria Development process for Albemarle Sound. APNEP is on the hook to develop a monitoring plan and two subcommittees (one for high salinity and one for low salinity) of the SAV Team have been formed to help draft this plan; meeting biweekly through October.

Bo Dame: When is the monitoring plan due to EPA?
Carpenter: The monitoring plan is due by end of the year but need drafts for review and editing by November timeframe.

Kenworthy: Through the 2021 CHPP we've set SAV and water quality goals, which monitoring will help to inform progress on meeting those goals.

Carpenter: APNEP also wishes to develop interim "assessment points" toward those goals.

Boutin: Regarding the water quality components (PAR and water clarity) impacting SAV…what else beyond sediment input and chlorophyll-a? Storms often push tannic water into areas and decrease water clarity.

Kenworthy: Note Nathan Hall's contract work with APNEP to validate a bio-optical model for low-salinity in North Carolina. There are gaps in water quality data within high-salinity areas, Pamlico Sound, and some low-salinity areas of North Carolina; it will take a strong partnership to expand water quality monitoring.

Hans Paerl: Would like he and Nathan Hall to provide an update at the next STAC meeting on their work this summer in Chowan River and Albemarle Sound looking at nutrient sources and nitrogen budget. Bioassays this summer were similar to what they were in the 1980's, but nitrogen is more limited now. Note also the work of his student Haley Plaas on aerosolization of HABs (https://research.unc.edu/2020/07/29/algal-blooms-pose-possible-respiratory-threat/);

Tim Ellis: Haley was awarded the 2019-2020 APNEP-Sea Grant fellowship in estuarine research

Kenworthy: We eventually need to drill deeper with our monitoring than just SAV extent (Tier-1 data); Tier-2 and -3 data will require integrated and collaborative monitoring.

STAC Response to LC Charge Part 2

Boutin: Transitioned to the next agenda topic.

Committee Discussion: STAC Membership Recruiting Criteria

Dame: Reviewed APNEP's recent diversity, equity, and inclusion (DEI) statement and noted that it is aligned with what the STAC executive board was discussing earlier this summer. Looking for three things from new recruits - expertise, diversity, and engagement: Expertise - CHPP habitats and water quality. Diversity - underrepresentation by minorities and women; aspire to have a STAC reflect the diverse scientific and technical community of the A-P watershed. Engagement - show up to meetings and contribute. Need to align with APNEP priorities (SAV and water quality): How can STAC compliment ongoing efforts (e.g., NCDP); some STAC members are

already heavily engaged, but can we do more as a collective body? Can STAC lead or contribute to increasing expertise and advice on the APNEP priorities?

Paerl: Recommended that the STAC needs more remote sensing expertise; ECSU has a program in this field

Dame: Agreed, these technologies are needed to monitor low-salinity SAV and that ECSU is using their drones for wetland work in Piney Island Sanctuary with Audubon.

Wilson Laney: Asked about the matrix of existing STAC expertise that co-chairs Dame and Boutin had worked on?

Dame: The analysis suggested that more expertise on the STAC was needed to complement existing fish habitat and CHPP expertise, as well as more water quality expertise, particularly impacts of land use on water quality (e.g., logging, agriculture).

Kenworthy: What about coastal barrier island expertise?

Dame: There are several STAC members with expertise in geomorphology and coastal barrier processes, but more minds could be helpful.

Boutin: Engagement is an issue; usually only get half of STAC members to attend a given meeting and it is not always the same people for each meeting; need to recruit folks with expertise that have the energy and time to contribute. Suggested the STAC needed more landscape backgrounds (expertise on land influence).

Dan Obenour: He has been working a lot recently in this space with research on Jordan Lake. He recommended Natallie Nelson at NCSU (https://www.bae.ncsu.edu/people/nnelson4/) to join the STAC for this expertise need.

Kenworthy: Over the years he has noticed the STAC continues to be missing expertise in wildlife; are we weak in knowledge on waterfowl, marine reptiles, etc.?

Laney: Add sea turtles and bottlenose dolphin to the list.

Kenworthy: Agreed

Michelle Moorman: Suggested recruiting advanced graduate students because they are more up on the recent literature, writing skills, and have drive to focus on STAC needs.

Laney and Kenworthy: Agreed, adding that it could also be a mentoring opportunity for the student and their advisor.

Paerl: Suggested inviting advanced graduate students to present on their work instead of joining the STAC.

Moorman: It should be more than just an invited lecture - make a chapter of their dissertation about the management implications of their work.

Laney: Suggested creating a registrar of all graduate students to help with recruitment; Hans mentioned that UNC-IMS has this information readily available.

Ellis: The APNEP-Sea Grant fellowship may provide an existing framework to promote student engagement on the STAC. Fellows are already required to present their findings to the STAC, but perhaps there can be additional requirements to further support STAC needs.

Obenour: Suggested an award of $1-2k for the students would encourage engagement.

Ellis: Amount of funding doesn't seem to be as strong of motivating factor for fellowship applicants.

Obenour: There is a difference between committing to new fellowship work versus short-term engagement needed to link their existing work to STAC needs.

Dame: Let's transition this discussion from expertise to diversity

Paul Angermeier: What about environmental inequity, which was referenced in the APNEP DEI statement; do we have any ways of identifying areas of environmental inequity in the Albemarle-Pamlico system?

Laney: He knew of two recent publications that would be helpful: (1) Coastal Review Online, September 9: "Report Links Racial, Environmental Justice"; (2) Center for American Progress, September 2020: "Building a Just Climate Future for North Carolina: 6 Ways State Leaders Can Create Safe and Healthy Communities and Ensure Access to Clean and Affordable Energy".

Dame: Suggested that flood zone maps could help - that is where land is cheap and there are many underserved communities living there.

Angermeier: Suggested that STAC needs more social science expertise to better understand environmental inequities.

Field: Will talk to a former STAC member Maurice Crawford for his insight on environmental inequities in the Albemarle-Pamlico system.

Laney: Recommended Stacey Nelson at NCSU.

Moorman: Agreed, Dr. Nelson was on her graduate committee and has diverse students; if we give him our three requirements (expertise, diversity, engagement) then he will point the STAC in the right direction.

Bill Crowell: It's important to implement change for the future as well by getting students of diverse backgrounds interested in estuarine sciences.

Laney: Albert Spells, Virginia USFWS, recently retired and would be a good addition to the STAC; he is African American with expertise in fisheries and aquatic processes.

Committee Discussion: STAC Processes and Deliverables

Boutin: Transitioned to the next agenda topic and led a discussion on STAC process and deliverables.

Carpenter: Gave a brief overview of the responsibilities of STAC members to serve on one action team and one monitoring & assessment team (MAT) (see slides)

Kelly Somers: recommended that the leads of each MAT report out to the STAC at each meeting on team progress/milestones.

Boutin and Laney: Current STAC member assignments?

Carpenter and Ellis: Member information is on the STAC webpage.

Laney: Added that other MATs can still work on things even if they are not focused on SAV and water quality.

Carpenter: Agreed

Somers: Having the MATs report back to the STAC on what their working on, as well as their needs from the STAC, would be helpful.

Public Comments and Action Items

No public comments.