



Science & Data Committee

September 30, 2024 | Virtual Webinar

Summary

ACFHP hosted a Science & Data webinar on September 30, 2024, focusing on the challenges and opportunities in Submerged Aquatic Vegetation (SAV) conservation and restoration. The discussion included experts from diverse fields who shared insights on methodology standardization, climate impacts, and the importance of policy and public engagement in SAV initiatives.

Link to Recording: <https://youtu.be/zFJs6mvuyyw>

Guest Attendees: Phil Colarusso (EPA), Brooke Landry (East Coast SAV Collaborative), Chris Patrick (VIMS), Bruce Vogt (NOAA) | **Committee Members:** A.K. Leight, Alek Modjeski, John Young, Nina Colagiovanni, Eric Schneider, Michelle Bachman, Jessica Coakley, Chris Moore, Mark Rousseau, Russ Babb, Bob Groskin, Jeff Beal, Marek Topolski, Mari-Beth Delucia, Robert Atwood.

Key Discussion Points:

- **Mapping and Standardization:** Standardizing SAV mapping methodologies remains challenging due to the varied resources and capacities across states. New mapping technologies, such as drones and satellite imagery, offer potential cost-effective solutions.
- **Climate Change Impacts:** Attendees highlighted the need for better understanding of climate change effects on SAV, especially regarding temperature, storm patterns, and the range shifts of larger predator species using SAV habitats.
- **Seeding and Assisted Migration:** Seeding is increasingly seen as a successful restoration method, with Virginia leading in seed-based SAV restoration. Assisted migration trials (e.g., moving NC seagrass to the Chesapeake Bay) are underway, although policy restrictions on vegetative material transfer across state lines present obstacles.
- **Data Needs and Monitoring:** A shared database, such as Chesapeake Bay's SAV restoration and monitoring database, was noted as a valuable resource. Expanding citizen science involvement in monitoring could enhance data collection efforts, especially in states with limited SAV policies.

- **Economic Value of SAV:** Using fisheries production data, some economists are working to quantify the economic value of SAV habitats. However, data and modeling variability make these estimates challenging.
- **Policy and Public Education:** The group discussed ACFHP's potential role in policy advocacy, particularly around educating policymakers and the public about SAV. The need for a consistent definition of "seagrass meadow" was also identified as key to regulatory and conservation efforts.

This webinar underscored the complexity of SAV restoration and the potential for ACFHP to support policy education, public engagement, and research standardization across the Atlantic coast.

Chat Log (including important links):

Bruce Vogt

9:25 AM

- For the impact assessment will the focus be on env conditions or will it include things like shoreline development. Also is there any interest in looking at whether there are correlations between large scale oyster restoration and changes in nearby SAV?

Phil Colarusso

9:28 AM

- I'm involved in a study looking at the juxtaposition of eelgrass and oyster aquaculture and how that impacts ecosystem services (carbon sequestration, greenhouse gas exchange). One of Chris Patrick's students is also working on this issue.

Bruce Vogt

9:31 AM

- If quantifying the relationship between SAV and fish prod is not possible (I'm only aware of the TNC tool for this but mid Atlantic was a data gap) what would be the next best thing? And if there is interest in filling data gaps for fish prod, then there would probably be a need to conduct additional fish monitoring on and off SAV beds.

Brooke Landry

9:35 AM

- Satellite data is best for mapping distribution and density - not species unfortunately, although there are some folks out there working on determining color signatures for different species.

Brooke Landry

9:36 AM

- Chesapeake Bay Science Needs Database: <https://star.chesapeakebay.net/Need/ScientificNeeds>
- The planet imagery is best for identifying coverage of "dense" SAV meadows. Its too low resolution to capture lower density beds and definitely not species identity. For example, we recently used planet to map SAV in an area we don't map and then followed with an extensive ground survey. We found SAV coverage was 3x more than what we could see in Planet Imagery but the stuff that was missed was all lower density coverage whereas the beds we could see in the Satellite imagery were very dense (70-100% coverage). In contrast, other satellite products

that are high resolution (1m or finer) can be used for lower density beds, but those products are expensive and have use restrictions.

Bruce Vogt

9:42 AM

- There are likely changes in fish species as fish distributions change. Red drum becoming more prevalent in the CB is an issue that fish managers have brought up here.

Chris Patrick

9:44 AM

- To Bruce's points, I was recently involved in a project by TNC to estimate eelgrass contribution to fishery productivity and estimates varied wildly based on method, pretty low confidence. We have a new restoration project that may yield some important data in a few years though. Also as Phil pointed out, we are looking at eelgrass ~ aquaculture interactions, both from an industry perspective for clam aquaculture and for cobenefits of oysters.

Bruce Vogt

9:44 AM

- are there any telemetry studies tracking fish use of SAV?

Chris Patrick:

9:47 AM

- I'm not aware of northeast examples of telemetry studies but I am aware of some efforts to quantify habitat use in some areas using fyke nets, seines, trawls, etc. Mary Fabrizio's group has done this, we run trawl surveys in grass in the coastal bays and have done some similar work in lower Chesapeake Bay. I also have a PhD student using drone mapping in the lower Chesapeake to measure large animal habitat use in seagrass, primary focus is on rays but other taxa show up on those flights. He ran ~ 200 flights this past summer in Mobjack Bay area.

John Young

9:47 AM

- There has been a lot of recent work on using recreational grade side-scan sonar for mapping (large) fish, habitat conditions, and bottom type and apparently SAV (<https://doi.org/10.1002/nafm.10386>). It would have to be only one part of monitoring and assessment but seems it could augment other aerial or satellite techniques.

John Young

9:49 AM

- Recent publications presented at AFS 2024 on east coast telemetry networks for tracking sturgeon, and review paper on use of side-scan sonar for tracking fish (<https://doi.org/10.1002/fsh.11137>)

Marek Topolski

9:50 AM

- The assessment of fish production may benefit from an assessment of altered mortality... removals as opposed to additions to the population (if not already being considered).

Bruce Vogt

9:50 AM

- Chris- It would be good to connect on the Mobjack work especially if that study would help guide nearshore restoration efforts in that area like Guinea Marshes where NOAA, EPA and VWR are beginning to implement projects to project marshes with the idea that they will also help SAV.

A.K. Leight

9:52 AM

- With the recent additions to telemetry in Chesapeake Bay, seems possible to compare fish locations/movement with SAV bed maps, correct?

Chris Patrick

9:55 AM

- A.K., if there is high resolution spatially explicit fish movement data, then yes, this can be matched up with spatial layer of SAV meadows for habitat usage/overlap.

Chris Patrick

9:55 AM

- Bruce, sure happy to chat more about the work in Mobjack area.

Russ Babb

10:01 AM

- agree on the meadow definition. we have a lot of pressure from aqua industry, and even legislative, to relax CZM protections for historically mapped SAV habitat to allow for new lease development. this obviously concerns us given normal expansion and contraction. have to jump to another meeting. thanks all.

Brooke Landry

10:02 AM

- If anyone is interested in the East Coast SAV Collaborative, our website is www.eastcoastsavcollaborative.com

Chris Patrick

10:03 AM

- Similarly, if anyone hasn't checked out the VIMS website for the SAV Program it's here including our data and interactive map viewer: <https://www.vims.edu/research/units/programs/sav/>

Brooke Landry

10:09 AM

- Community science SAV data collection: www.chesapeakebaysavwatchers.com