Aquatic Life Quarterly Progress Meeting Summary
November 18, 2021

Submerged Aquatic Vegetation (SAV)

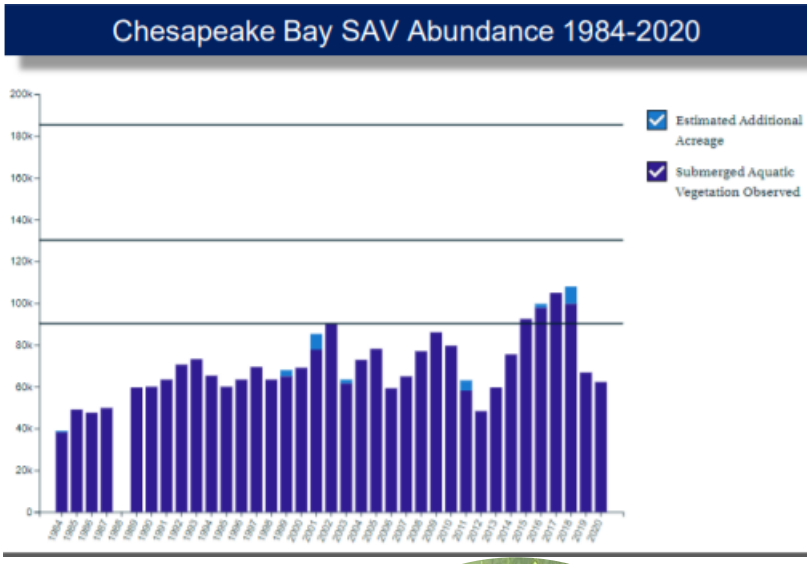
https://www.chesapeakeprogress.com/abundant-life/sav

Goal: *Vital Habitats*

Outcome: Sustain and increase the habitat benefits of SAV in the Chesapeake Bay. Achieve and sustain the ultimate outcome of 185,000 acres of SAV Bay-wide necessary for a restored Bay. Progress toward this ultimate outcome will be measured against a target of 90,000 acres by 2017 and 130,000 acres by 2025.

Expected vs. Actual Progress

- 2017 Target (90,000 acres) momentarily reached!
- NOT on track to achieve 130,000 acres by 2025*
- *After six years of consistent expansion, Chesapeake Bay SAV declined dramatically in 2019 and 2020. Prior to this loss, we were on track to meet our 2025 SAV restoration target of 130,000 acres. With the loss of over a third of the Bay's SAV, reaching the Baywide 2025 goal on-time is highly unlikely. Segment specific goal attainment is still possible and likely in some areas.



Success and Challenges:

1. Small-scale SAV restoration protocol complete, BUT restoration successful in expansion years, less successful in years of SAV decline.
2. CB SAV Watcher Program is a successful means of crowd-sourcing SAV data and engaging the public, BUT needs more resources and staff support.
3. CBSM project showed that waterfront property owners have a mixed response to SAV, SO need to work with them accordingly.
4. To withstand climate change impacts, sustained SAV recovery will require dramatic improvements in WQ, SO need to consider more significant N,P, TSS reductions and region-specific management actions.
5. Partners are engaged in the shallow-water use conflict conversation, BUT several questions and data gaps remain.

On the Horizon:

1. Climate-related increased precipitation and runoff negated six years of SAV expansion in 2019-2020.
2. Local jurisdictions must increase their efforts to reduce stormwater runoff and implement other nutrient and sediment reducing BMPs to mitigate/accommodate climate change impacts ($$$).
3. Some less-critical actions will be removed from workplan due to lack of time, staff support.

We plan to

1. Advocate for climate adaptation (more N, P, TSS reductions, more research)
2. Re-evaluate use of the small-scale restoration guidance (emphasize implementation when SAV is on up-swing)
3. Collaborate with the CRWG re: Blue Carbon Market (VA has paved the way)
4. Simplify workplan (we were overly ambitious again)

Equitable and inclusive restoration

1. 1. SAV WG will engage the Stewardship and Diversity Workgroups
2. The SAV WG will engage more underrepresented people and communities in SAV research, monitoring and outreach efforts.
3. SAV restoration projects in areas more traditionally used by underserved communities

Help needed

The SAV Workgroup asks that the Management Board advocate for further reduction of Nitrogen, Phosphorus, and Total Suspended Sediment loads to the Bay. Improving water clarity will be the most effective way to improve SAV resilience to climate stressors and the only means of maintaining viable eelgrass populations in the lower Bay.

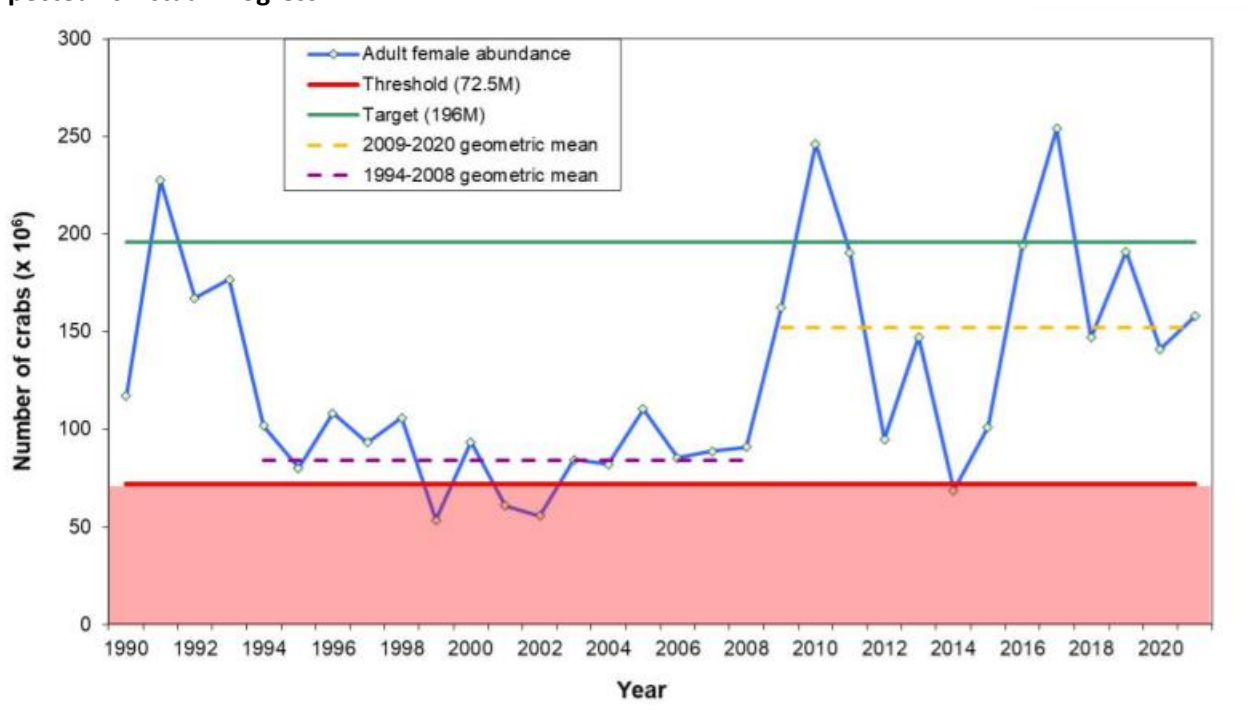
Blue Crab Abundance

https://www.chesapeakeprogress.com/abundant-life/blue-crab-abundance

Goal: *Sustainable Fisheries*

Outcome: Maintain a sustainable blue crab population based on the 2012 target of 215 million adult females. Refine population targets through 2025 based on best available science.

Expected vs Actual Progress



The graph shows a time series of the abundance of spawning-age female blue crabs in the Cheapeake Bay.

Success and Challenges

- Current management framework is working
- Updated the management reference Points

- Developed a harvest reporting document
- Struggling to meet science and research needs that require additional funding

On the Horizon

- Continue to focus on science and research that will improve the stock assessment model
- Develop protocols for future updates to the management reference points

We plan to:

- Continue conducting the Winter Dredge Survey and analyzing the results for stock assessment
- Continue applying for GIT funding and identifying other funding sources
- Continue providing the best available science to management jurisdictions

Equitable and inclusive restoration

- Jurisdictions are focused on maintaining a sustainable fishery throughout the Bay
- Consider broadening CBSAC membership and participation opportunities.
- Consider DEIJ in future Logic and Action Plans

Help needed:

- Support science and research needs for blue crab population assessment and management
    - Needs identified in SSRF
- Provide endorsement for research funding opportunities (e.g., GIT funding) that can address blue crab science needs

Oysters

https://www.chesapeakeprogress.com/abundant-life/oysters

Goal: *Sustainable Fisheries*

Outcome: Continually increase finfish and shellfish habitat and water quality benefits from restored oyster populations. Restore native oyster habitat and populations in 10 tributaries by 2025 and ensure their protection.

Expected vs Actual Progress:

On track
to meet the oyster outcome by 2025.

- Tributaries selected: 10
- Restoration plans completed: 10
- Restoration complete: 6 tributaries
- Remaining tributaries:
    - 2 slated for 2022
    - 2 slated for completion by 2025
    - 1 bonus tributaries completed in VA

Successes and Challenges:

- Developing a strong framework up front was time well spent.

- Oyster restoration is expensive up front, but the ecosystem service benefits (ex: denitrification, fish habitat) can make for a relatively quick return on investment. *See NOAA Fisheries Tech Memo on ORES research findings.*
- Monitoring could likely be streamlined.

On the horizon

- States have stepped up in recent years to help ensure the oyster goal will be met. These actions were largely possible due to the early intensive work of the partners in terms of common goal setting, tributary selection, planning, and consensus building. ○
    - Maryland passed legislation mandating the completion of its five tributaries.
    - Virginia allotted $10 million in additional funding to ensure its tributaries are completed.
- To streamline monitoring, partners are working on developing a rapid assessment protocol.

We plan to:

- Implement all planned reef construction to complete work by 2025
- Continue monitoring reefs at 3 and 6 year intervals, using a streamlined approach if appropriate.

Equitable and inclusive restoration

- Restoration tributaries were selected based on science and feasibility; achieved some geographic diversity.
- Partners need to evaluate opportunities for better inclusion. Education, outreach, and volunteerism may provide opportunities.

Help needed:

- Reaffirm commitment from states, other partners, to ensure we complete planned work
- Amplify success to date
- Support for DEIJ efforts

Forage Fish

https://www.chesapeakeprogress.com/abundant-life/forage-fish

Goal: *Sustainable Fisheries*

Outcome: Continually improve the Partnership's capacity to understand the role of forage fish populations in the Chesapeake Bay. By 2016, develop a strategy for assessing the forage fish base available as food for predatory species in the Chesapeake Bay.

Expected vs Actual Progress:

- The outcome is on track
- Science is progressing and being used to describe the status of forage in the tidal Bay

Success and Challenges:

- Received NOAA and CBP funding to address science priorities
- Linked variability in forage abundance with Bay conditions
- Prioritized indicators to describe forage status
- Remain interested in addressing monitoring gaps

On the Horizon

- Science
    - Some research findings show that environmental factors (e.g., spring warming, area of suitable habitat) drive forage species abundance; these findings inform indicator development

    - New data may enhance indicators (new VIMs vessel and mesh size, telemetry arrays, striped bass abundance estimates, hypoxia profilers).
- Fiscal
    - NOAA and CBP funding helped address science priorities

- Policy
    - Emphasis on implementing Ecosystem Approaches to Fishery Management facilitates management application of science

We Plan to

- Pilot utility and evaluate maintenance costs of four indicators that assess the condition of forage in the Bay
    - warming water temperature
    - habitat suitability forecast
    - benthic invertebrate biomass
    - shoreline hardening
- Establish a process to regularly communicate indicator results and implications to managers and the public

Equitable and inclusive restoration

- Modify funding opportunities to better support researchers at HBCUs and MSIs and include students of color in projects
- Identify opportunities to connect forage condition, recreational fishing, and fish consumption in urban areas
- Coordinate with Fish Habitat Action Team on more diverse recreational fishing engagement

Help needed:

- Connect information on forage status and trends to habitat conservation, land use, and other policy decisions (e.g., incorporate findings into CBC meetings)
- Emphasize the need for shallow-water fish surveys and plankton monitoring to explore possible correlations between living resource data with water quality parameters