



## **Submerged Aquatic Vegetation (SAV) Team**

Spring Meeting  
9:30 AM – 4:00 PM  
February 27, 2019

University of North Carolina at Chapel Hill - Institute of Marine Sciences  
3431 Arendell Street, Morehead City, NC 28557

<https://apnep.nc.gov/about-apnep/committees/action-teams/submerged-aquatic-vegetation-team>

### **MEETING HIGHLIGHTS**

#### **Team members in attendance:**

Brian Boutin (TNC; APNEP STAC) - attended remotely  
Anne Deaton (NCDMF)  
Matt Duvall (USDA - NRCS)  
Rob Emens (NCDWR)  
Don Field (NOAA; APNEP STAC)  
Jessie Jarvis (UNC-W)  
Jud Kenworthy (NOAA - ret.; APNEP STAC)  
Joe Luczkovich (ECU)  
Brandon Puckett (NERR)  
Mike Sanderson (NCDOT)  
Tyler Stanton (NCDOT)  
Shane Staples (NCDMF)

#### **APNEP staff in attendance:**

Dean Carpenter  
Tim Ellis  
Jimmy Johnson  
Trish Murphey

#### **Guests in attendance:**

Abigail Brewer (UNC-CH)  
Patrick Gillam (NCDMF)  
Jon Sherman II (ECU)

## Highlights:

- Don Field provided a recap and update on the interpretations of high-salinity SAV extent for the 2012-2014 and 2006-2008 mapping cycles.
  - 2012-2014: Don and Marygrace Rowe redid imagery interpretations for areas south of the Highway 64 bridge because the small minimum mapping unit used for all NCDOT interpretations resulted in maps with patchy SAV separated into too many polygons. Don and Marygrace also did a change-detection analysis and found that there were ~100K acres of high-salinity SAV total in 2008 and ~95K acres in 2014, with ~70K (half) located along the Outer Banks
  - 2006-2008: The change-detection analysis revealed some errors in the 2006-2008 interpretations; he also fixed an error in the 2013 data for North River. Don, Tim, and Anne will form a subgroup to iron out the details on the release of these updated and corrected data.
  - Jud suggested looking into e-cognition software (object-oriented classifier) for interpretation of 2019 imagery
  - Anne noted that *Gracilaria* (invasive but not SAV) was present around Bald Head Island during the 2006-2008 mapping cycle and extended south to Masonboro Inlet during the 2012-2014 mapping cycle.
- Rob Emens provided a brief update on what is known about two invasive SAV species.
  - *Hydrilla*: This freshwater invasive was detected in the Chowan River in 2012 and spread rapidly. It is only now found in coves and canals that are tributaries of Edenton Bay. A survey of western Albemarle Sound was done with agency and volunteer collaboration for over two years. This species is very unpredictable and there are currently no maps or reports of its distribution in the region. Rob noted that it doesn't require much sunlight (~10% of full sunlight). Joe noted he has observed the species in Bachelor Bay.
  - *Myriophyllum*: The estuarine invasive is primarily found in and around Kitty Hawk Bay. It has high interannual variability and there is little information on it in NC; therefore, not recommended as an indicator species. The APNEP SAV Team discussed this species and Kitty Hawk Bay in great detail at an earlier team meeting.
- Don and Jud provided an update of the high-salinity SAV extent metric report.
  - There was a 10.5% loss (615-acre loss) of SAV in Bogue Sound between 2006 and 2013, which was an "apples to apples" comparison because the imagery was acquired near the same date (around Memorial Day).
  - There was a net loss of ~1.48% per year, which is on par with the global average from meta-analyses.
- Don noted that the change-detection analysis also suggests that we are losing the deep-water edge for high-salinity SAV. This could be related to climate change with the Outer Banks moving West and the back shelf moving East, but it is not yet known how much this may be constricting seagrass habitat.
- Jud and Patrick provided an update on their evaluation of DMF SAV species composition data, including information available from mapping ground-truth data, as well as other DMF fishery-independent surveys. Compilation and preparation of these data is still ongoing, and they hope to begin an analysis soon.
- Dean reminded the team of an earlier effort to catalog all available SAV data in the region; he would like to move forward again with that effort and is looking for assistance from the team.
- The team had a lengthy discussion about upcoming 2019 SAV flights and associated field surveys. Brandon will do an assessment of agreement between the imagery interpretations and the ground-

truth data to determine if the number of ground-truth sites for 2019 can be reduced from what was done in the past. He will get data from DMF.

- Other topics of discussion included updates from Jessie and Joe on sentinel site monitoring and research, NCDOT data archives, an upcoming APNEP-funded economic valuation study of SAV, and the development of an SAV awareness strategy.
- ACTIONS:
  - Don, Tim, and Anne will work together to finalize the release of the updated and corrected SAV maps for 2006-2008 and 2012-2014.
  - Brandon will acquire data from DMF and perform an analysis of agreement between the imagery interpretations and the ground-truth data to determine if the number of field sites for 2019 can be reduced from what was done during previous mapping cycles.