APNEP SAV Partnership Meeting
East Carolina University's Greenville Centre, Room 1200
August 11, 2009

Attendees:

Chad Smith, APNEP
Kevin Dockendorf, NCWRC
Rob Breeding, NCEEP
Chad Boyle, UDBIF
Susan Wenzel, BBRF
John Gallegos, FWS Back Bay
Geralyn Mireles, FWS
Cecilia Krahforst, ECU
Joe Luczkovick ECU
Gayle Plais, NCSU
Don Field, CCRHR-NOAA
Michael Durako, UNCW
Jud Kenworthy CCFHR-NOAA
Steve Mitchell, NCDOT
Jimmy Johnson, OCCA
Doug Piatkowski, ACOE
Chuck Wilson, ACOE
Scott Chappell, NC DMF
Brian Conrad, NC DMF

1. Update on CRFL Project: Collaboration effort between NOAA, NC State, ECU and APNEP by Joe Luczkovich.

    - Examine monitoring changes in SAV distribution and abundance using Biosonic hydro acoustics, ECOSAV data processing software and underwater camera
    - Marine/low salinity species
    - Comparison of Video and acoustic techniques
    - Determining sample sizes: 20% change over 10

- NOAA (Jud & Christine) used High-resolution .003 lux (low light) camera in Newport River acquiring bottom images for an ~ 200 m^2 area. Joe Luczkovich mapped the same area with hydroacoustics. The results were compared to each other and to 2006 imagery digitized by Don Fields.
- Data so far show that camera transects seem to overestimate (captures very sparse SAV coverage) & hydroacoustics seem to underestimate (captures mostly tall, dense beds).
- They are comparing % cover, depth, and method to determine most accurate and efficient method in different conditions.

- Cecilia Krahforst working with Joe Luczkovich conducted recon of Sandy Point site in Albemarle Sound recently. Joe and Cecilia showed transect data from recent field operations in Newport River (Carteret County) and Sandy Point (Chowan County). The also showed camera recon (not using the low light camera).
- Cecilia and Joe measured depth and density of SAV with hydroacoustics. Noted conspicuous absence of SAV waterward of bulkheads. Cecilia, Joe and Jud discussed bulkhead and SAV interaction, with the possibility of future proposal.
- Deep edge mapping of SAV beds is necessary to detect % change. Can't detect deep edge of SAV with either aerial imagery or hydroacoustics, and the deep edge is where losses begin to occur (with water quality degradation). Hydroacoustics is also limited in very shallow water. The shallow edge is where losses due to physical factors (i.e., wave scour from shoreline reflectance) becomes evident.
- Joe showed differences in Biosonic ecosounder readings for SAV/No SAV and explained signals and algorithms for bottom types.
- Looking at the number of transects in polygons needed to detect % cover.
- Field work complete for this year. Awaiting funding.

2. Update on the ACOE Wilson Bay SAV restoration project – Chuck Wilson
   - Chuck mentioned the availability of SAV survey near Crab Hole Sanctuary. ACOE has side scan and mulitbeam data for the Crab Hole area, consisting of a 4x4 mile block near Old House Channel.
   - 2009 plan using mesh seed bags (Pickerell method) put out at Wilson Bay. One drying bed was converted to SAV growing bed area. Bags were transplanted to bed areas in Wilson Bay.
   - No seed source for this year due to early natural bloom, or other conditions, at site. ACOE could not find a SAV restoration seed source.
   - Suggested that an objective for restoration for the group be to have a seed source for SAV in NC.
   - Talked about SAV nursery facility on Wilson Bay – Sturgeon City. He suggested the facility could serve the planting needs of NC restoration efforts, given sufficient technical guidance.
   - Michael Durako suggested ACOE consider micro propagation of SAV species.

3. Update on the ACOE Currituck Sound Study – Doug Piatkowski
   - Talked about the Currituck Sound Ecosystem Feasibility Study
   - In early stages of study; need input on restoration techniques, site selection criteria, and target restoration levels. Expect target restoration levels at next phase.
   - Modeling water quality in Currituck Sound with different scenarios (i.e., salinity, inlet opening, river flow, sea level rise, water clarity with increasing development).
   - Discussed how the reduction in the extent of marsh islands appears to affect SAV habitat conditions; also suggests link between marsh island restoration and SAV

restoration. Dredge material disposal plans could factor into this, although current means typically deposit material less than 2 miles from source.

- Jud had question regarding ACOE interest in restoration efforts, and if the ACOE had set goal for SAV restoration. No restorations goals currently set. Discussed the need for the rerunning of the Sincock transects for both Back Bay and Currituck Sound.
- Discussed potential restoration measures and targets for performance measures for ACOE efforts.
- Scott mentioned NCCF assessment of restoration priorities in Currituck Sound – need to cross-reference with SHA assessment results.
- List of completed activities at www.saw.usace.army.mil/Currituck/index.htm
- Showed annual transect monitoring data from Back Bay for 1958-200X; documents major declines in SAV prior to 2007. Later years indicate a resurgence in SAV coverage in Back Bay.

5. Discussion of possible future aerial photography efforts-John Gallegos (USFWS)
    - John would like for group to examine possibility for remapping Back Bay and Currituck Sound in 2010. Back Bay has had an explosion of SAV in last couple years. Back Bay's water level has been extremely high.
    - Requested edits to Restoration Action Plan by the end of August.
    - John asked Brian Conrad about the status of the delineation and imagery and the $34k that APNEP is holding for efforts.
    - Brian stated that areas from Back Bay through Albemarle Sound have been preliminarily delineated, and that it could be late fall, early spring before DMF would possibly be able to continue the delineation effort due to being unable to hire a new GIS Analyst. Stated that he has heard about APNEP's 34k for a few years now, and that at one time they discussed that money being used for a second analyst, but that it never happened.
    - During conversation, Joe emailed Dean Carpenter and Bill Crowell letting them know we were discussing the issue.
    - Dean responded that APNEP needed transfer funds before September 2009, and that they would possibly use funds towards digitizing current imagery.
    - Joe took the action to discuss possibility with Tom Allen, ECU for funding for a grad student project that includes digitizing SAV.
    - Don Field stated he could digitize ~ 20,000 acres of SAV in 1 month based on the water clarity and complexity of areas similar to Bogue and Core Sound and the Outer Banks. This area represents about 13% of an estimate SAV habitat area of ~ 150,000 acres. Don also stated that he had delineated Bogue and Core Sound for his 2008/2006 comparison study, so those acres have already been delineated. Don also mentioned the possibility that he may be delineating some other areas on the Outer Banks if his time and schedule allow.
    - John took the action to email Bill and Dean regarding having this imagery delineated completed and the possibility of reflights for 2010.
    - Other agencies and partners commented that they currently had limited funding for projects or for possible imagery efforts.

6. Turbidity Curtains at Back Bay – Chad Boyce
    - Chad asked for thoughts on the use and placement of turbidity curtains in Back Bay to create favorable habitat conditions.
    - Jud mentioned looking at the wave baffles as mitigation for SAV loss from Sandy Point Development. The wave baffles were considered more stable and affective.
    - Suggestion also about looking at sites where they were used in the Chesapeake Bay, as well as suggestions regarding artificial kelp, recruitment issues, seed banks and the use of core samples to determine seed bank and seed source in the restoration site.