



EAGLES ISLAND COALITION
June 13, 2012
Wilmington, North Carolina

Attendance sheet separate.

Welcome and Introductions

The meeting was called to order at 2:05 by Vice Chair Niel Brooks.

PANEL DISCUSSION: Salinity and Tidal Changes in the Cape Fear River and Influences on Flora and Fauna

Mr. Frank Yelverton – US Army Corps of Engineers

Mr. Yelverton has served as the lead biologist for the long-term salinity monitoring study completed by the USACE.

The study was commissioned due to the harbor deepening project that took place from 2000-2006 (deepened 4 feet from 38' to 42'). With this work, there was concern that saltwater may come further up the river and cause issues. Monitoring was done to document the effects.

Prior to the project, modeling work was done and the modeling showed an anticipated 4 inch increase in tidal range and a small decrease in salinity.

The 10-year monitoring effort began in 2000 (9 months prior to dredging work); twelve monitoring stations established, recording salinity and tidal range elevations; looking at benthos and small fish. 10-year study included ~9 months pre-construction, ~4 years during construction, and ~5 years after construction. Results and monitoring documents are available on the USACE website.

UNCW was prime or subcontractor for 10-year effort.

Results summary:

- No consistent overall pattern in salinity and tidal range emerged and interpretation of results was complicated by several factors (drought and flooding events, short time period for pre-dredging monitoring)
- Assuming no consistent change in tidal range and salinity, should not be impacts to other issues

Not likely that dredging will be done by USACE upstream of Cape Fear Memorial Bridge due to limited use (just 1 user).

PANEL DISCUSSION: Salinity and Tidal Changes in the Cape Fear River and Influences on Flora and Fauna

Dr. Brooks Avery – UNCW Department of Chemistry and Biochemistry

Dr. Avery is an Associate Professor in the Chemistry Department at UNCW and has been responsible for a major portion of the monitoring that was done for the USACE study.

Data that was collected has been collected for USACE and used for other research related to sea level rise.

Most of the data has been collected on Eagles Island; each monitoring site on the river has 6 transects.

Salinity in the river is very important – (1) it controls plants and animal communities, (2) salinity intrusion will cause sediment to breakdown more rapidly, and (3) increases in salinity have been shown to promote wetland accretion.

Within the study time period, the drought of 2007-2008 was major factor that may contribute to the reason why no real trend in salinity can be established during study.

It should be noted that the research has documented quite a bit of variability in salinity at Eagles Island; sometimes nearly 0, other times, up to 16 (-half of saltwater).



It should also be noted that the rate of organic matter breakdown is increased when salinity increases; salinity intruding in a wetland can cause more rapid breakdown. It does not take very high levels of salinity to cause a shift into a more rapid breakdown process for organic matter.

PANEL DISCUSSION: Questions and Answers

1. With harbor deepening, don't ships travel faster and cause more wave action and damage? *F.Yelverton response:* this question has been raised and it is being considered, but not sure what this impact could be at this time.
2. What is causing change in environment that causes woody vegetation to die? Is this due to dredging and saltwater intrusion? *F.Yelverton response:* Over the history, this may be the case, but recent dredging is not showing a consistent trend in salinity changes. Compounding factors that must be considered are hurricanes and their effects. It is likely that we have already reached equilibrium of the effects that dredging has had; tidal range in Wilmington Harbor is roughly 4 feet at this point (similar to range at Caswell).
3. Did the USACE have a salinity study when dredging was done ~1970s? *F.Yelverton response:* No, consistent long term salinity records do not exist.
4. Are there current requests to deepen the river again? *F.Yelverton response:* Southport Port Project should not be an issue – USACE has no non-federal sponsor to look at this project. Currently looking to maintain existing depths and perhaps making turning basin wider, but no current plans to deepen the harbor anywhere.
5. Is there a list of animals that can exist or those that will thrive under new conditions? *B.Avery response:* This is included in the annual report.
6. Opening of Snow's Cut has had impact on cypress trees along River Road (1920s)... is it more likely that this occurred due to Carolina Beach Inlet and saltwater? *F.Yelverton response:* Consensus may be that Hurricane Hazel caused some of these problems – saltwater put into soils.
7. *B.Avery comment:* Changes in biogeochemistry are likely not occurring dramatically due to pulses of salinity change; long term trends/changes are more likely reason. Question is how rapidly plants will change to keep up with the sea level rise. Marshes will likely do better than cypress forests.
8. From a scientific standpoint, would you make any changes to the study you've done? *B.Avery response:* Station locations were good, monitoring parameters where appropriate; would have liked to do more methyl-mercury studies, carbon isotopes, CO2 fluxes.
9. How far does salt water go up the river? *B.Avery response:* Prince George's Creek, Fishing Creek, Horseshoe Bend – salinity seems to fall out.
10. What is the minimum level that salinity starts to degrade cypress? *B.Avery response:* 0.5 parts/1000.

COMMITTEE UPDATES – Land Acquisition & Conservation Plan – Chair Dru Harrison

- Committee has completed matrix of elements of the island that we'd like to include in the management plan; currently working to develop format for input from experts
- May be potential for a graduate student to assist with collecting the information from experts
- Committee is continuing to work on opportunities to secure Winner property
- Marilyn Meares added that Eagles Island is included in Gullah Geechee report as place of significance to conserve; after the report is finalized/adopted, there may be opportunity for funding.

COMMITTEE UPDATES – Education & Outreach – Committee Co-Chair Shawn Ralston

Results of Survey Monkey survey were reviewed:

- majority of respondents were residents of downtown Wilmington (~100 respondents);
- overall impression of island is mixed – range from “beautiful natural asset” to “scruffy and untended”;
- large majority of respondents were supportive of preserving island in natural state (only 1.1% not supportive of an organization that works towards conservation);



- majority of respondents left contact information as they would like to be involved in future efforts and they will be added to our distribution list

Committee will continue to work on items identified in 2012 Work Plan priorities:

1. Identify target audience for education
2. Develop education campaign strategy
3. Create & distribute educational materials

COMMITTEE UPDATES – Recreation & Cultural Resources – Committee Chair Niel Brooks and Rob Moul

- Committee working to map paddle routes to add signage... once trails are finalized, intend to apply for a CAMA permit for the trail markers. Vision is for larger entrance sign at the head of the creek areas. CAMA permit will include all potential sign areas, even if not all are installed (this will be easier than having to go back and reapply later)
- Yellow trail and orange trail accessible at all stages of tide; blue trail may be tide dependent. Intend to put maps on the website that will describe tidal limitations; this can also be explained on kiosks that are installed at head of creek areas at a later date

Charles Robbins made a motion for Rob Moul to proceed with CAMA permit for signage, Kemp Burdette second, unanimous approval.

- Dawn York mentioned CRFL fund grant opportunities; could be a good tie to recreational fishing and education opportunities.
- Rob Moul shared a map of walking trails and potential camping sites as longer-term project for future CAMA permit applications.
- Captain Terry Bragg mentioned that the Battleship is getting ready to bid project for overnight camping at the battleship (130 campers on board the ship).

Minutes – March 14, 2012

Two spelling corrections and one content edit was offered; *motion by Gordon Johnson to approve the minutes as corrected, second by Nancy Keith, March 14, 2012 minutes approved.*

Adjourn

Being no further business, a motion to adjourn was made by Jim Kapetsky, second by Kemp Burdette; the meeting adjourned at 3:44.