

NC COASTAL RESOURCES COMMISSION (CRC)
October 26-27, 2011
NOAA/NCNERR Auditorium
Beaufort, NC

Present CRC Members

Bob Emory, Chairman

Joan Weld, Vice-Chair

James Leutze (absent 10/27)

Pat Joyce (absent 10/26)

Renee Cahoon

Charles Elam

David Webster

Bill Peele

Veronica Carter

Melvin Shepard

Ed Mitchell

Jamin Simmons (absent 10/26)

Lee Wynns

Present Attorney General's Office Members

Mary Lucasse

Christine Goebel

Amanda Little

CALL TO ORDER/ROLL CALL

Chairman Emory called the meeting to order and reminded Commissioners of the need to state any conflicts due to Executive Order Number One and also the State Government Ethics Act. Chairman Emory stated the State Government Ethics Act mandates that at the beginning of each meeting the Chair remind all members of their duty to avoid conflicts of interest and inquire as to whether any member knows of any conflict of interest or potential conflict with respect to matters to come before the Commission. If any member knows of a conflict of interest or a potential conflict of interest, please state so when the roll is called.

Angela Willis called the roll. Jerry Old was absent. Joan Weld stated she has known the first Petitioner, Steve Holland, for many years and has worked on Boards with him but there is no conflict. James Leutze stated he knows the Petitioner in the Carolina Marina variance request and will recuse himself from voting or discussion. Based upon this roll call, Chairman Emory declared a quorum.

VARIANCES

Holland (CRC VR 11-07) Pender County, 30' buffer

Amanda Little

Amanda Little of the Attorney General's Office stated she represents the Division of Coastal Management staff. Mr. Holland is present and will represent himself in this variance request from the 30' buffer rule for property he owns in Burgaw. Mr. Holland proposes to construct additions to an existing restaurant to include a 28 x 28 foot covered and elevated porch; a 20 x 28 foot uncovered, elevated, wood-slatted deck; and a 6 x 24 foot elevated, wood-slatted walkway within the 30-foot buffer of the public trust shoreline area of environmental concern. Petitioner seeks relief from the strict application of 15A NCAC 07H .0209(d)(10). Ms. Little reviewed the stipulated facts of this variance request. Ms. Little stated that Staff and Petitioner agree on all four statutory criteria which must be met in order to grant the variance request. Staff would agree that

Petitioner's request is consistent with the spirit, purpose and intent of the rules; secures the public safety and welfare; and would preserve substantial justice provided that Petitioner meets the conditions for a stormwater management plan. Staff proposes that Petitioner be required to retrofit the site for an innovative engineer-designed stormwater management system meeting all applicable CAMA requirements to reduce the impacts of stormwater from impervious surfaces on the adjacent creek. Petitioner shall also provide the proper operation and maintenance necessary to insure that the engineered stormwater management system functions at optimum efficiency and insure that such obligation becomes a permanent obligation of future property owners. Any proposed grading within the 30-foot buffer from the normal high water must be contoured to prevent additional stormwater runoff to the adjacent creek. This area shall be immediately vegetatively stabilized and must remain in a vegetated state.

Stephen Holland, Petitioner, stated I have been on the property for thirty years. I started out with one room of about 700 square feet. I have about 5,000 square feet now and can seat 136 people. In 2008 we served a quarter of a million people and then the economy went bad. This variance request will help us get back on the road to recovery down the road when the economy turns around.

Melvin Shepard asked Mr. Holland if he agreed to the conditions of the stormwater system. Mr. Holland replied that he was confused about controlling the runoff, but would do whatever he had to do.

David Webster made a motion to support staff's position that strict application of the applicable development rules issued by the Commission would cause the Petitioner unnecessary hardships. Charles Elam seconded the motion. The motion passed unanimously (Leutze, Mitchell, Webster, Wynns, Peele, Weld, Shepard, Carter, Elam, Cahoon).

Jim Leutze made a motion to support staff's position that hardships result from conditions peculiar to the Petitioner's property. David Webster seconded the motion. The motion passed with nine votes in favor (Leutze, Mitchell, Webster, Wynns, Peele, Shepard, Carter, Elam, Cahoon) and one opposed (Weld).

David Webster made a motion to support staff's position that the hardships do not result from actions taken by Petitioner. Lee Wynns seconded the motion. The motion passed unanimously (Leutze, Mitchell, Webster, Wynns, Peele, Weld, Shepard, Carter, Elam, Cahoon).

Jim Leutze made a motion to support staff's position that the variance request as modified by the staff's conditions will be consistent with the spirit, purpose and intent of the rules, standards, or orders issued by the Commission; will secure the public safety and welfare; and preserve substantial justice. Bill Peele seconded the motion. The motion passed unanimously (Leutze, Mitchell, Webster, Wynns, Peele, Weld, Shepard, Carter, Elam, Cahoon).

This variance request, as modified by the conditions imposed by DCM, was granted.

**Highland Shores Community Association (CRC VR 11-08) Belville, ¼ width rule
Christine Goebel**

Christine Goebel of the Attorney General's office, representing DCM staff, stated this variance request is filed on behalf of the Highland Shores Community Association in Brunswick County.

This property is located adjacent to the Brunswick River. Petitioner proposes an extension and reconfiguration to the existing 30-slip docking facility. Petitioner seeks relief from strict application of 15A NCAC 07H .0208(b)(6)(J)(iii). Ms. Goebel reviewed the stipulated facts of this variance request. Ms. Goebel stated that Staff and Petitioner agree on all four statutory criteria. In 1999 there was adequate water depths but has since experienced some shoaling and Petitioner is attempting to minimize the existing impacts on the PNA bottom through this reconfiguration and extension instead of proposing dredging in the PNA. The proposed development does not propose additional slips and is unique because it is across from Eagle Island and located on waterway that is not highly navigated. Staff believes that the Petitioner has worked on resolving their problem of shallow slips without proposing dredging. We also agree that this meets the spirit, purpose and intent of the rules by proposing the reconfiguration and extension to reduce the current impacts to the primary nursery area bottom by removing the floating piers waterward and not seeking any new slips. Bill Raney is present and represents the homeowner's association.

Bill Raney of Wessell & Raney, LLP represented Petitioners in this variance request. Mr. Raney stated there is a little bit of a discrepancy that shows up as far as the depth of the water. Most of the stipulated facts refer to a survey done that shows the water depths deeper than what was observed by the staff in other stipulated facts. What we have said about the number of slips that are impacted are very conservative. There are probably more slips that are either dry or have less than one foot of water than the eight slips that are mentioned. This is a significant problem for the people that bought the slips in good faith from the developer when there was sufficient water. There was sufficient water when the docks were built and this is an attempt to alleviate the problem by avoiding dredging.

David Webster commented that there are other piers in the immediate area and he suspects that the Commission will see more of these variance requests in the future.

Jim Leutze made a motion to support staff's position that strict application of the applicable development rules would cause the Petitioner unnecessary hardship. Ed Mitchell seconded the motion. The motion passed unanimously (Leutze, Mitchell, Webster, Wynns, Peele, Weld, Shepard, Carter, Elam, Cahoon).

David Webster made a motion to support staff's position that hardships result from conditions peculiar to the Petitioner's property. Ed Mitchell seconded the motion. The motion passed unanimously (Leutze, Mitchell, Webster, Wynns, Peele, Weld, Shepard, Carter, Elam, Cahoon).

Veronica Carter made a motion to support staff's position that hardships are not a result from actions taken by the Petitioner. David Webster seconded the motion. The motion passed unanimously (Leutze, Mitchell, Webster, Wynns, Peele, Weld, Shepard, Carter, Elam, Cahoon).

David Webster made a motion to support the staff's position that this variance request will be consistent with the spirit, purpose and intent of the rules, standards or orders issued by the Commission; will secure public safety and welfare; and preserve substantial justice. Veronica Carter seconded the motion. The motion passed unanimously (Leutze, Mitchell, Webster, Wynns, Peele, Weld, Shepard, Carter, Elam, Cahoon).

This variance request was granted.

**Carolina Marina & Yacht Club, LLC (CRC VR 11-09) New Hanover County, ¼ width rule
Christine Goebel**

***Jim Leutze recused himself from discussion and voting on this variance request.*

Christine Goebel of the Attorney General's Office represented staff. Ms. Goebel stated Ken Shanklin and Cindy Baldwin are present to represent Petitioners, Carolina Marina & Yacht Club. Petitioner is an LLC, sole owner Tim Ward, which owns property adjacent from Carolina beach Inlet in New Hanover County. Petitioner seeks a modification to CAMA Major Permit 02-07 for the extension of three piers by approximately 32 feet, the addition of five transient slips, and other modifications to Petitioner's currently permitted but largely not constructed marina. Petitioner seeks relief from the strict application of 15A NCAC 07H .0208(b)(6)(J)(iii). Ms. Goebel reviewed the stipulated facts of this variance request. Ms. Goebel stated staff and Petitioner disagree on all four statutory criteria. Staff believe that a strict application of the ¼ width rule will not cause Petitioner an unnecessary hardship as this seems to be an enticement to a potential investor in the project and seems to be for financial hardships only. The water depths at the end of the 2010 proposal were sufficient for Petitioner and it is unclear why more is being asked for now. There are no peculiarities on this property. It is a well developed stretch of shoreline and is a busy portion of the Intracoastal Waterway. Staff is concerned that this will proposal will increase hardships to the boating public in this area. Petitioner already has an active CAMA permit to build the 200 boat dry stack marina without being in conflict with the ¼ width rule and the additions being sought now are purely financial. Staff feel that Petitioner has no unnecessary hardship at this time and there is no reason to increase possible impacts to navigation in this highly developed, well traveled area when the purpose for the modification is purely financial.

Cynthia Baldwin of Shanklin & Nichols LLP represented Petitioners. Ms. Baldwin stated Ken Shanklin is present as well as the client. This is a docking facility which needs deep water to operate. As stated in stipulated fact #12 dredging is not an option here as it is an area of PNA. This is also addressed in finding of fact #27 in Judge Elkins Order. In the Order, #48 he addresses the purpose behind the ¼ rule. The purpose behind this rule is to protect navigation and safe use of the water body. It is meant to prevent one pier from sticking way out into the water where every other pier on the water body is close to the shoreline. It is trying to get things to be of similar distance. The purpose of this interpretation is to allow all owners to have access to the same point of deep water and not to penalize those located on a cove or on a point along the shoreline. This project will not impact navigation as much as staff contend. The rule at issue is 15A NCAC 07H .0208. Reading from the Army Corps of Engineers Commander's Policy Memorandum Number 5, the ¼ length limitation does not apply in areas where the US Army Corps of Engineers has established an official pier head line, however the proposed pier/docking facility shall not be longer than the 1/3 width of the water body. The Intracoastal Waterway is remarkably similar to the proposal that we just heard from Mr. Raney. Our proposal is in between the 1/4 and 1/3 width of the water body which is 700 feet across or more. Pier head line is not defined in the General Statutes and I could not find it in the Administrative Code either. (A photo was shown of the ACOE setback line for navigation). The proposed development is nowhere near the 30-foot setback line for navigation. This is for all federal channels like the Intracoastal Waterway. The Wilmington District setback policy was revised this year on March 15. It does not allow construction of hardened or permanently fixed structures up to the setback. A pier head line is defined as a line in a navigable waterway established by the ACOE beyond which a pier cannot project. The lines (on the photo shown) are defacto pier head lines. Consistent with that and consistent with NCGS 150B-19.3 from

the North Carolina Regulatory Reform Act passed July 25, 2011, it addresses limitations on certain environmental rules. An agency authorized to implement and enforce state and federal environmental laws may not adopt a rule for the protection of the environment or natural resources that imposes a more restrictive standard, limitation or requirement than those imposed by federal law or rule if a federal law or rule pertaining to the same subject matter has been adopted unless adoption of the rule is required by one of five exceptions that are not applicable here. The ACOE has set the standard. The proposed expansion will not interfere with navigation and going into the other criteria, it will be less detrimental to the environment than the project's current placement. The photos on slides 2 and 3 show where our client is trying to operate a commercial docking facility. Note the shoaling. In some of the objections lodged against this application they were talking about shoaling in the area and wanting to protect PNA. Very similar to the prior proposal, we want to extend the docking facility so that PNA is not affected as detrimentally as it could be right now. This is a financial decision. He is trying to operate a business, unlike in the prior proposal where we are talking about residential use this is a commercial use. To not grant this variance could severely limit or restrict any use of it as a commercial docking facility. This has been used as a docking facility for over 40 years. We have build up of sand and sediment that you can see from the slide. Carolina Beach Inlet is maintained through sand relocation. Right across is Freeman Park at the northern tip of Carolina Beach. There are ordinances that maintain most of that area as public trust and that is a spoil area for the ACOE dredging. The inlet itself is dynamic. It is an artificially created inlet. The dredging and spoil deposit changes the shoaling areas with all the piers. Yards beyond the current docking/pier facility is the deeper water of the Intracoastal Waterway. There are proposed revisions to water dependent structures by Stroud Engineering inside your materials. I don't think our client is responsible for the shoaling or responsible for the ACOE's dredging activities. This has been in their family for over 40 years and pre-dates CAMA. We discussed why it would be consistent with the spirit, purpose and intent of the CRC's rules, standards and orders talking about navigation, PNA, the Corps' line, and we believe that the proposed changes will protect life and property more so than the current plan. This extension is in the public's interest, public safety and welfare and substantial justice will be done. We have more safety features in that proposal.

Melvin Shepard made a motion to support staff's position that strict application of the applicable development rules, standards, or orders issued by the Commission will not cause the Petitioner unnecessary hardships. Bill Peele seconded the motion. The motion passed with eight votes in favor (Webster, Wynns, Peele, Weld, Shepard, Carter, Elam, Cahoon) and one opposed (Mitchell).

Veronica Carter made a motion to support staff's position that no hardships result from conditions peculiar to the Petitioner's property. Melvin Shepard seconded the motion. The motion passed with seven votes in favor (Webster, Peele, Weld, Shepard, Carter, Elam, Cahoon) and two opposed (Mitchell, Wynns).

Melvin Shepard made a motion that hardships result from actions taken by the Petitioner. Veronica Carter seconded the motion. The motion passed with seven votes in favor (Webster, Peele, Weld, Shepard, Carter, Elam, Cahoon) and two opposed (Mitchell, Wynns).

Veronica Carter made a motion that the variance requested will not be consistent with the spirit, purpose or intent of the rules, standards or orders issued by the Commission' will not secure the public safety; and will not preserve substantial justice. Bill Peele seconded the

motion. The motion passed with seven votes in favor (Webster, Peele, Weld, Shepard, Carter, Elam, Cahoon) and two opposed (Mitchell, Wynns).

This variance request was denied.

**Casey (CRC VR 11-10) Carolina Beach, 30' buffer
Amanda Little**

Amanda Little of the Attorney General's office represented staff. Ms. Little stated the Casey's are here today and are represented by their attorney Clark Wright in this variance request. Petitioners propose to build a 2,366 square foot single-family residence on their property located at 819 Canal Drive in the Town of Carolina Beach. Petitioner seek relief from the strict application of 15A NCAC 07H .0209(d)(10). Ms. Little reviewed the stipulated facts of this variance request. Ms. Little stated staff and Petitioners agree on all four statutory criteria. When Petitioner's purchased this property in December 2010, CAMA Minor development permit number 2006-20 which was issued to the previous landowner was still in effect and authorized construction of 2,566 square feet of impervious area. Petitioners propose to construct a single-family residence with a smaller footprint than the permitted triplex, however due to the Town's denial of the variance request from the 20-foot street setback their proposed residence encroaches into the 30-foot buffer on the northern and southern sides of their property. Strict application of the buffer rule to this lot will cause an unnecessary hardship for Petitioners given their reasonable reliance on the CAMA permit issued to a previous landowner authorizing development consisting of a larger impervious area than Petitioner's proposed development. Staff contend that the hardships are caused by conditions peculiar to this property in that this lot consists of a three-sided bulkhead that extends landward on each side of the property. Staff agrees that hardships do not result from actions taken by Petitioners. Staff also agrees that the proposed development meets the spirit, purpose and intent of the buffer rule, secures the public safety and welfare and provides substantial justice provided that Petitioners be required to submit an innovative engineered designed stormwater system to reduce the impacts of stormwater for impervious surfaces on the adjacent water body. Petitioners have agreed to provide such a plan if this variance request is granted.

Clark Wright of Davis Hartman Wright PLLC represented Petitioners. Mr. Wright stated we do agree with all four staff positions. This is a case where we are trying to do something smaller with less stormwater runoff potential. The language in staff's position for criteria four is acceptable. The history here is important in terms of uniqueness. This was a situation where there was an existing structure with existing, grandfathered impervious surface area. The owners at the time got a permit to build something a lot bigger and a lot more dense, a triplex with 200 square feet greater surface area than what we have proposed. They moved the house planning to build a triplex, the economy changed, and they ended up selling it to my clients who relied on that if they could get the triplex permit then they could get something smaller permitted. There is a unique lot layout and the configuration is unusual. What we propose is in-line with the homes on the north and south.

Melvin Shepard made a motion to accept staff's position that strict application of the applicable development rules issued by the Commission cause the Petitioner unnecessary hardships. Jim Leutze seconded the motion. This motion passed unanimously (Leutze, Mitchell, Webster, Wynns, Peele, Weld, Shepard, Carter, Elam, Cahoon).

David Webster made a motion to accept staff's position that hardships result from conditions peculiar to the Petitioner's property. Jim Leutze seconded the motion. This motion passed

unanimously (Leutze, Mitchell, Webster, Wynns, Peele, Weld, Shepard, Carter, Elam, Cahoon).

Jim Leutze made a motion to accept staff's position that hardships do not result from actions taken by Petitioner. David Webster seconded the motion. The motion passed unanimously (Leutze, Mitchell, Webster, Wynns, Peele, Weld, Shepard, Carter, Elam, Cahoon).

Bill Peele made a motion to accept staff's position that the variance requested by the Petitioner will be consistent with the spirit, purpose and intent of the rules, standards or order issued by the Commission; will secure the public safety and welfare; and preserve substantial justice with the condition that the Petitioner submit an innovative engineer-designed stormwater system to reduce the impacts of stormwater from impervious surfaces on the adjacent sound. Lee Wynns seconded the motion. The motion passed unanimously (Leutze, Mitchell, Webster, Wynns, Peele, Weld, Shepard, Carter, Elam, Cahoon).

This variance request, as modified by DCM's conditions, was granted.

MINUTES

Ed Mitchell made a motion to approve the minutes of the August 24-25, 2011 Coastal Resources Commission meeting. Veronica Carter seconded the motion. The motion passed unanimously (Weld, Joyce, Cahoon, Elam, Webster, Peele, Carter, Shepard, Mitchell, Simmons, Wynns).

EXECUTIVE SECRETARY'S REPORT

DCM Assistant Director Ted Tyndall gave the following report.

Hurricane Irene Response

Yesterday the Coastal Resources Advisory Council heard some good details about what went on around the State. I want to commend the DCM staff for the fantastic job they did responding to Hurricane Irene. Immediately following the storm, our staff was out in the field assessing damage. On the Monday following the hurricane, we were able to work with DENR Secretary Dee Freeman to immediately implement the emergency General Permit to assist property owners in repairing or replacing hurricane damage. The General Permit allows us to very quickly issue CAMA permits for repairing or replacing docks, piers, bulkheads or other structures damaged or destroyed by the storm, and also waives the fee associated with these activities. Our permitting staff worked very closely with DOT's breach repair team to develop a strategy for dealing with the inlet breaches that the hurricane opened on Hatteras Island. We were able to issue emergency permits for the NC 12 repairs the same day we received the formal request from DOT. I would like to commend Doug Huggett and his staff, particularly Cathy Brittingham and Steve Sollod, for the extraordinary effort. In addition, staff worked with FEMA on a consistency concurrence to ensure temporary FEMA trailers for hurricane victims would be placed consistent with CRC rules. Stephen Rynas spent a lot of time with FEMA to make sure that the Division and the CRC rules were not a hurdle to getting this done. Fortunately, division offices were not significantly damaged by the storm, except for the Kitty Hawk Reserve office, which was flooded and did sustain major damage. This office is leased through the Town of Kitty Hawk, and town staff are conducting repairs to this facility. Five reserve sites were closed following the storm until staff could ensure the sites were safe for the public. All reserves are now open with the exception of the Buxton Woods reserve on Hatteras Island, which remains closed until roads can be cleared. I am very proud of DCM's quick and efficient response following the hurricane, even as some of them were also dealing with damage to their own property.

Our hurricane response is still ongoing, and you will hear more details about DCM's response later in the agenda.

New Director

We have a new Director that has been appointed as I am sure you have heard. Braxton Davis, the current director of the Policy and Planning Division of the South Carolina Office of Ocean and Coastal Resource Management, will begin his duties as DCM Director on December 1. Braxton has worked for the South Carolina coastal agency since 2006. He also serves as chairman of the national Coastal States Organization. Staff eagerly awaits his arrival and look forward to working with him.

NOAA 312 Review

The NOAA Office of Ocean and Coastal Resource Management conducted a performance evaluation of the North Carolina Coastal Management Program the week of September 12. NOAA evaluates all federally-approved coastal management programs about once every five years. The evaluation team met with representatives of the CRC, CRAC, other DENR divisions, environmental groups and local governments to assess how well NC Coastal Management is doing its job. Overall, the evaluation week went very well, and the team had good things to say about the program during their exit interview with DENR Secretary Dee Freeman. NOAA will issue a formal report on their findings in a few months. I would like to personally thank the Commission members, Advisory Council members, and local governments that gave their time and feedback in this evaluation.

LAC Meetings

Several of our Coastal Reserve and National Estuarine Research Reserve sites will hold Local Area Advisory Committee meetings in November. The committees consist of local residents, partners and leaders who provide DCM with guidance and feedback regarding management of the reserve sites. The meeting schedules and locations are available on the DCM and Reserve websites.

Raleigh Office Closing

The most recent state budget required DCM to close our Raleigh office and to move most of the remaining staff to Morehead City. Because no date for the closure was given in the legislation, it was originally decided to close the office no later than the end of the biennium in 2013, but with encouragement to staff to relocate as soon as possible. DENR was recently informed that it was the legislative intent for the office to close much sooner and given a Dec. 31 closure mandate. Steve Underwood, Guy Stefanski and Bonnie Bendell, the three employees directly impacted by the move, will see their positions relocated to the Morehead City headquarters by January 2, 2012.

Staff News

DCM's budget officer, Arthur Stadiem, will leave the division at the end of October for a position with DOT's Ferry Division. We are working closely with the Department on how to handle the vacancy and what to do in regards to getting it filled in the long run. Ward Zimmerman, who has served as one of DCM's attorneys for the past few years, has taken a new position with NCDOJ's Consumer Protection Division, and will no longer be working with Coastal Management.

CHAIRMAN'S COMMENTS

Bob Emory stated, I appreciate the hard work the staff did following the storm. The staff has perfected their ability to quickly respond to weather events and help people out to the maximum degree that we can and speed up permitting decisions. I also appreciate how well DCM has functioned in the absence of a full-time, permanent Director and I thank the staff for that. Our sea

level rise draft policy and sea level rise planning bench mark has come under some significant criticism in the last couple of months. NC20, an organization of county governments, had a recent meeting where the focus of their meeting was sea level rise and part of the discussion was the Commission's policy and the sea level rise planning benchmark that we asked the Science Panel to produce for us and that we adopted. They provided some input that we have asked the Science Panel to look at and give us a response. We will talk more about this later in the agenda.

CRAC REPORT

Mike Lopazanski stated the CRAC met for the first time since February of 2011, partly because of the budget and partly because of the new meeting format that we are trying to work out with the Commission and the Council. We asked the members of the CRAC what they thought about the format with the two subcommittee meetings and the general consensus was that it was difficult to say how well it works since we have just been through it once. We did hear some comments that they like the idea of not having to meet while the CRC is in session. The committee meetings not being concurrent allows people the opportunity to listen and participate in both meetings.

We had a presentation from the Albemarle-Pamlico National Estuary Program. Jim Hawhee gave an overview of the revisions that they have made to their CCMP. This document serves as the strategic plan for that Program. This is an EPA funded program and their mission has been to undertake a watershed approach to environmental management and apply a science initiative support decision making by coastal managers as well as local governments. Their previous plan which was written in 1994 included five priority issues centering on water quality, vital habitats, fisheries, stewardship and implementation. The new, revised CCMP will be structured around four questions. What is a healthy Albemarle-Pamlico estuarine system? What is the status of the Albemarle-Pamlico estuarine system region? What are the challenges facing that region and what actions should be taken moving forward for a healthier Albemarle-Pamlico Sounds by 2022? For each of these questions there are goals that are supported by several environmental outcomes, not unlike what you have heard in the CHPP. The revised CCMP goals are qualitative descriptions of what they want the environment to look like as well as some numerical indicators that they will use to give an idea of how the goals are being met. The goals themselves are similar to the CHPP supported by management actions. The plan is online for those that would like to review it at their website which is apnep.org. Public comments will be accepted through January 17, 2012. In addition to participating in the CRAC meeting, they will be holding six additional meetings throughout the meeting providing an overview of the plan and seeking public comment. These meetings will be held between November 24 and December 7, 2011. The locations and specific dates are available on their website. After the public comment period they will present the plan to their policy board, which is expected to approve it by early 2012.

The next item on the Council's agenda was an overview from several members on impacts of Hurricane Irene. We heard specifically from Charles Jones with a view of what went on in Carteret County and how the beaches fared fairly well due to the ongoing beach shoreline protection measures that have been in place for years. We heard from Bill Morrison that Topsail Island's beachfill project performed well and helped protect homes on the oceanfront. Judy Hills said that while the storm winds didn't directly affect structures, they did have significant impacts from trees being toppled over onto homes. There are still huge debris piles to deal with and they are struggling with who pays for removal. Christine Mele relayed specific impacts in Pamlico County recounting some of the human suffering that had occurred and is still being endured by the residents of that county. They had incidents where whole islands were lost and houses that had never had water in them before had water in them during this storm. Wayne Howell with Washington County stated

that were big impacts along the Scupernong River and that they received 13-15 inches of rain and a lot of trees ended up in the river causing problems to get the trees out of the river. He also noted that the soybean and cotton farmers were hit hard with hundreds of acres being lost due to the flooding. Rhett White of Tyrrell County reported that two tornadoes did major damage in the Columbia area. While the winds were not very bad, they did have significant flooding like they had never seen. Renee Cahoon gave us an idea of how Dare County had been fairing since the storm. She noted the major damage along NC12 and how the temporary bridge is helping. Everyone noted that the mosquitoes are horrendous.

The next item was a discussion of renewable energy. Donna Godfrey, planner from Perquimans County, gave an overview of the Desert Wind Turbine Project. This project consists of 150 wind turbines using the 500-foot high turbines that are planned for construction in an area that overlaps Perquimans and Pasquotank Counties. Construction is supposed to begin in 2012 and from the county's perspective we heard a lot about the development of the wind ordinance, the wind noise and shadow flicker being some of the primary concerns that the county was dealing with. She stated that this model ordinance would be applicable to any projects that were proposed in the county. She also briefly discussed another project. This is the construction of a solar panel installation consisting of a small to medium-scale sized facility. They are currently working on an ordinance related to that.

We ended the meeting with a discussion of regional issues brought up by the members including shoreline management, Nags Head beach nourishment project, terminal groins, an overview recounting the PCS Phosphate sulfur smelting facility issue, the air quality permit related to the Titan cement plant, a report on the military build-up and BRAC Report, and NC20's meeting.

PRESENTATIONS

Hurricane Irene Impacts and DCM Response Ted Tyndall

Ted Tyndall stated Hurricane Irene hit Cape Lookout on the morning of August 27. After that staff was back at the office on Monday morning contacting local governments and trying to see what kinds of storm damage they had and what support we could give to them to help assess damages and get them back to normal for their citizens. We were able to recommend to Secretary Freeman that it was appropriate to activate Emergency Permit .2500 that allows for the repair and replacement of storm damaged structures along the estuarine system. The Secretary activated that General Permit on Monday afternoon. A press release was sent out that day and staff began that action immediately. This was meant to give comfort to the people that received storm damage that they didn't need to panic about getting permits for their docks. This allowed them to focus on their homes and their properties safety as well as get their debris cleaned up and then come in and we can get your permits. The General Permit .2500 allows for the rebuilding of the structures on the estuarine system that includes docks, piers and bulkheads, allows for maintenance excavation of existing boat basins, canals and navigational channels, as well as dune reconstruction. The Secretary has the option of how many counties it will apply to and what activities will be allowed. This was such a broad reaching storm that all activities that could be authorized were authorized and all 20 coastal counties were included. The Secretary also has some discretion in how long the permit can be used for. He activated this one for one year. Property owners that had damage to their structures have a year to get the permit. Then they have the same year to have it completed. These permits are not very expensive ranging from \$100.00 to \$400.00; however this activation waives the fees. There were NCDOT breaches on Hatteras Island. Doug Huggett's permitting and consistency

staff put a dedicated effort and issued two emergency Major Permits. These are the full-blown review permits that they worked with DOT in fine tuning what information needed to be provided so we could expedite it. Within a day of receiving all of the information two emergency permits were issued. There was a lot of coordinated effort that took place and it went smoothly. The staff has issued approximately 375 General Permits under the .2500 waiving the fee for replacement to the structures. In addition, staff has issued or made statements authorizing over 400 repair calls. This is statutorily exempt and does not meet the criteria of development. We refer to this as the 50% rule. We saw a lot of this along the coast. There was a lot of damage, but not complete destruction. Everybody had damage but a lot of it was repairable. We took action with FEMA through the consistency process. We worked closely with FEMA and Emergency Management to define and describe the parameters that needed to take place to ensure that temporary FEMA trailers would be placed consistently with the Commission's rules. We expect in some of the areas where the flooding was the most severe that the numbers for the issuance of the .2500 to continue to go up. A lot of those folks haven't thought about rebuilding their docks.

Pat Joyce asked if you have less than 50% damage, does staff have to go and look at it? Mr. Tyndall replied no. This always gets into a legal determination, but by Statute if your damage is less than 50% and is repair then you are good to go. What we ask and what we try to encourage applicants to do is that if you have doubts or if you are unsure if it is 40-60% range then you should come to staff and get a determination. We will go out there and give you some guidance as to whether or not it will take a permit. By Statute if you undertake repair (and repairs have certain criteria) then you are good to go. It does not take, by law, any authorization. Pat Joyce commented that it would be advisable to take some pictures before you start the repair because you never know about disgruntled neighbors. Ted Tyndall agreed. The CRC's rules have changed and the rules in 7J explain what the Statute means by repair and replace and what is statutorily exempt. It actually allows for non-technical people to make a good call. It talks about just looking at the number of structural components of a structure and how many framing members and how many pilings. For water dependent structures, instead of having to go and get a professional do an appraisal then mom and pop can do it. If you have a pier that is 200 feet long and I still have 120 feet of it then it is less than 50% and will be repair. That was good for the Commission to make it easier to make the determination. It has been in place for several or eight years now and seems to be working good. Chairman Emory stated that Commissioner Joyce's comment that it is good to have documentation because there is always the chance that somebody wishes you hadn't done it and may challenge it after the fact. Pat Joyce stated that they may not have wanted you to build it to start with and they you do the repairs and they could then say that you did more than you were supposed to.

NC12 Update

Jerry Jennings, NCDOT Division Engineer

Jerry Jennings stated I am the Division Engineer for NCDOT Division I. Division I consists of the northeast 14 counties and includes all of the Outer Banks from Ocracoke north. Beth Smyre, Project Development Engineer is also in attendance to today. (photos were shown of the damage as well as the process that was involved in restoring access to Hatteras Island.) Northern Pea Island had some wind-blown sand, but very little problem in that area. The Rodanthe area had two areas of the island that breached. One breach was in the Mirlo Beach area at the end of the Pea Island National Wildlife Refuge. There was an existing ditch that had been there for many years and it increased in size quite a bit following this event. Highway 12 had pavement damage. This area has traditionally had problems. Following the Thanksgiving nor'easter about three years ago we lost pavement and then repaired it and installed some sandbags to protect the pavement. There are

significant cuts through private properties as water flowed through the area to the breach location. Several homes sustained significant damage. At the far south end of the Rodanthe breach area we hauled sand out of Avon and were beginning to fill the area moving from the south to the north. There were a lot of logistical challenges. The only access was by ferry, but to get to the other breach you had to get through the first area. One of our first goals was to get enough fill in to be able to get contractor's equipment to where the temporary bridge had to go. Repair was done to the sandbags. The road opened on October 10. The other breach was referred to as the mid-Pea Island breach, the old sandbag area or the Ranger Station and is now called the New New Inlet. A road was relocated in 1996. There were sandbags along the highway before it was relocated. We have had no problems at all from 1996 until August 27 of this year. There was a main breach area and several other cuts through the pavement. The southern end of the Wildlife Refuge is freshwater ponds and this is the highest area on Pea Island. The width of the breach at the road was a little more than 200 feet. Our first goal was to get access across one breach so the contractor could access the largest breach to begin work. Sand was trucked in. After the bridge contractor had mobilized, he began building pile templates. Sheet piling was driven to retain the fill. The bridge was built about ten feet higher, at its highest point, than the elevation of the existing road. The bridge that was utilized was a pre-manufactured structure. It came in on 35 truckloads that had to be assembled. The length of the structure was 662 feet long. The center span was 162 feet and there were two 125 foot spans on both ends. The operations were around the clock 24-hours per day. The road opened 44 days after the storm. The actual construction time was about 35 days. Something that was done that was very helpful was on August 31 there was an emergency meeting of all the resource agencies that had a stake in this issue. The DOT discussed the concerns that existed and what was proposed and received great feedback from all the agencies. There was great cooperation from all the agencies. From a NEPA standpoint, Beth wrote an exclusion for each of the locations. The majority of the work took place on US Fish and Wildlife Service property on the refuge.

Beth Smyre, Project Planning Engineer for NCDOT, stated my job is to oversee all the planning that has to occur before construction can start at the two breach sites. I want to thank DCM staff for all of the work that they did following Hurricane Irene. The two breaches occurred within the study area for the Bonner Bridge replacement project. This covers the entire area from Oregon Inlet to Rodanthe. Because of where the breaches occurred there is a process that we had to follow. These two areas now cover Phase Two of the Bonner Bridge replacement project. When DOT finally issued its decision on the Bonner Bridge project last year, the alternative that was agreed to was to first replace the Bonner Bridge with a bridge that crosses Oregon Inlet just to the west of the bridge that is there now. The second part of that was a four step process for determining what to do next, when to do it and what would actually be done. The first two steps involve DOT conducting an extensive monitoring program and an assessment of the vulnerability of NC12 in the entire area between Oregon Inlet and Rodanthe. We have already started some extensive work to determine what the shoreline is doing, what the island is doing, and what areas we need to look at next for future actions. We will take the data that we get, review the conditions on site and use that data to determine where to look next and alternatives to study. The final step is to work with our existing inter-agency team to determine what is going to be done and what the actual alternative is and ways to minimize the impacts. Hurricane Irene came in and told us exactly where Phase Two needed to be. We are taking the data that we got before and after the storm and know the two areas that we are going to focus on and we are trying to develop the alternatives for each site for future study. We expect to move into the last stage in our process in the next two weeks. Since the storm happened, we have had staff on site to look at site conditions. We have done extensive surveys to help us figure out what has changed as a result of hurricane Irene. We have had aerial photography taken

on a weekly basis since the storm and that will continue fairly often in the next couple of months to help us figure out what the sites are actually doing. This is a very dynamic area. Last week we met with the resource agency team to get their initial feedback. We have been studying this project for 20 years and we understand that they have provided comments over the years to tell us specifically what we need to think about. Earlier this week DOT convened a panel of coastal scientists and engineers, many of which are on the CRC's Science Panel, to give us some additional engineering and scientific feedback. DOT has to take the information that it has received from the agencies and the panel and determine what the alternatives are. We hope to finalize the alternatives in the next few weeks. Then we have to determine the impacts of the alternatives and meet with the public. This will be especially crucial in Rodanthe because whatever long-term option that is implemented there will impact traffic flow in that area. The next step will be to pick what we are actually going to do. We will then finalize all of the planning work and award construction contracts. We hope to have all of the alternatives set for each site by the end of this year. We also want to meet with the public by the end of the year. This will allow us to make a decision on what we will do for each site in early 2012. We realize that there may be more issues in Rodanthe because of the public feedback, so we may have to separate the two projects at some point. But for now we hope to make a decision in early 2012. That will allow us to finish our planning work, apply and receive permits, and do the final design for the two sites and have construction contracts awarded by the end of 2012. Depending on what we do we hope to start the Pea Island site first because of the expected longevity of the temporary bridge. The last thing I want to talk to you about is the Oregon Inlet Bridge. We are still replacing the Oregon Inlet Bridge. We determined that in 2010. We awarded a design-build contract in July 2011. They are working on the final design of the bridge. We expect to have the permit applications turned in by next spring. We expect to start construction on the bridge in January 2013. As we get closer to this date we will go out to the public to explain to them what the design is going to entail construction equipment and answer questions about what they will be seeing over the next few years. The contractor estimates that this bridge will take about 2 ½ years to build once they start. Then they will need another year to demolish the existing bridge.

Science Panel Discussion of Assessing Terminal Groin Adverse Impacts

Doug Huggett

Doug Huggett stated this is a follow up to the presentation given at the last Commission meeting. At that time Jim Gregson went through Senate Bill 110 which allows for the construction of up to four terminal groins in North Carolina. This Senate Bill changed CAMA to allow for these groins to be constructed. However, if you will remember there are a lot of steps that had to be gone through for an applicant or municipality to be able to get a groin permit. A lot of the requirements of the groin legislation were so new to Coastal Management and required us to make determinations on issues and set up thresholds that we have never done before that Staff recommended going to the Science Panel asking for some guidance on some of these issues. The Commission endorsed that concept. On October 6, we went to the Science Panel and asked for some help in some areas. Before October 6 DCM staff had to sit down and try to figure out exactly what questions we were going to ask them. We came up internally with some assumptions that we were going to base our questions to the Science Panel off of. The first assumption we came up with in our deliberations was the concept that we already have an existing permit process that we have been through several times with beach nourishment and inlet relocation projects. That process and all of the various agencies that are at the table during the process gives us some level of expertise and comfort on handling certain issues including biological components, impacts to fisheries, potential impacts to the marsh complex or SAV complex in inlet systems, and some of the benthic impacts offshore. We didn't believe it was the best use of our time or the Science Panel's time to look at those issues.

We were trying to go towards issues where we need the most help and that the Science Panel was more uniquely suited to be able to provide that input. The Science Panel would be better served answering questions specifically relating to the physical processes of a groin structure. The potential impacts a groin could have on downdrift public beaches, properties and structures. The groin legislation required the determination of thresholds for adverse impacts and when mitigation measures or accommodations if these thresholds are reached. We asked the Science Panel to concentrate on these issues specifically. The guidance that we asked the Science Panel to provide needs to be implemented within the framework of the permit process that we currently have. This framework needs to balance the informational needs that we have as resource agencies, regulatory agencies, the applicant and of the public while at the same time trying to limit the burden of these studies on the applicant. We do not want these studies to become so burdensome in scope and scale and cost that no community in the state of North Carolina can get through them. There is a balancing act in getting the information we need and not having the study design and the sampling design be so extreme that local governments walk away from it. We have projects that are already in the pipeline. Time is of the essence. The recommendations that we get back from the Science Panel should take the form of a set of tools that we can use as resource and regulatory agencies to help us design the inlet management plan that is required. We may be looking at a suite of different options to address a certain circumstance, not one specific option with vary specific criteria. We have to make sure that the recommendations not be so specific and so rigid that they constitute ad hoc rulemaking. We are looking for options or concepts that can be applied that we can take on an individual project and modify them to come up with an inlet management plan. We are not looking for the level of specificity found in the sediment criteria standards. We are looking for framework or a set of BMPs that we can work with the applicant to develop the plan. We wanted to put two specific questions on the table to the Science Panel and ask for advice on two specific items of the groin legislation. The application for a groin project has to include an inlet management plan that studies the estuaries and the beaches in the areas that are under the influence of the inlet. The inlet management plan has to provide for the description of post-construction activities that the applicant will undertake to monitor the impacts on coastal resources, define the baseline for assessing any adverse impacts from the groin, and the thresholds for when the adverse impacts must be mitigated. It also must provide for mitigation measures to be implemented if adverse impacts are reached. It also must provide for modification or removal of the terminal groin if the adverse impacts cannot be mitigated. We asked the Science Panel to address the post-construction activities that the applicant will undertake to monitor impacts to public trust beaches and structures and properties that may be under the influence of the inlet. We also asked the Science Panel to define the baseline for assessing any adverse impacts and the thresholds for when these adverse impacts must be mitigated. The general topic items that were discussed by the Science Panel started with monitoring boundaries. There was some discussion that we may want to use the inlet hazard area boundaries that we currently have as a starting point and expand off of that. There was also significant acknowledgement that the design of the groin project itself is probably going to have a lot of impact on where the monitoring boundaries are set up. This may be extremely project specific and it may be difficult to come up with specific recommendations. We then talked about pre-project monitoring. This is the step that will allow us and the applicant to set up the thresholds and baselines to determine any adverse impacts in the future. There was a lot of discussion about the timing and for how many years previous to the project and how many times do you monitor. There were also discussions on the types of data to monitor. We could use aerial photography as a starting point because that may be the most detailed long-term data that we have. Do we look at volumetric measurements of the sand on the beach, use survey data that a beach community may already have, or use bathymetric studies of the area to get an idea of baseline conditions? It is acknowledged by everybody that the best place to start is to see what existing data is already there to build a baseline

off of and see if the data is appropriate. There was also discussion of setting up a control site. This would be an area of the beach that would be outside the influence of the inlet with the groin. The next step would be looking at the post-construction monitoring. This is the monitoring that will help determine whether there are adverse impacts associated with the groin. There were discussions that monitoring may be front-loaded to do heavier monitoring immediately post-construction for a couple of years and then over time back the frequency of monitoring off. The monitoring plan developed when the permit application is submitted should not and cannot be so rigid that you never change it. You need to be able to look at the data that you get from individual post-construction monitoring events and you may need to refine your monitoring. The determination of adverse impact thresholds and how to separate background events such as storms has been the item that has given me the most problem trying to conceptualize if there are adverse impacts to the beach then how much of it is a result of a groin project versus natural circumstances. You may be able to come up with a great baseline of what takes place out there, but if you have a bad nor'easter and then try to take the storm data out of there and see if it is directly attributable to the groin then it could be a very difficult thing to do. Another thing we discussed was being able to determine adverse impacts down to an individual lot scale. The legislation mandated that we notify any potential property owner that may be within the sphere of influence of the project and financial obligations have to be put aside so that any adverse impacts to any individual lot owners or structures can be mitigated. While some of the discussion in the Science Panel was more homogenized-based, the groin legislation mandates that we look at things on a much tighter basis. If the project is working great for 95% or 99%, but three property owners feel that the groin is causing adverse impact to those properties then overall the project is working great but the legislation mandates that we treat those three property owners with a significant amount of importance and we have to determine impacts and do mitigation on them. The discussion ended on the metrics for determining adverse impacts. Do we look at shoreline change analysis based off of aerial photography or do we do it solely off of beach profile surveys pre and post-construction? A lot of different ideas were put forth, but since this is the first of a couple of meetings that will be held by the Science Panel we were not expecting to get final answers on all of these things. The Science Panel will meet again on December 9 and we hope to come out of that meeting with the guidance needed to move forward. We hope that we can come out of that meeting with a suite of options and ideas and concepts that we can use as a cookbook that will allow us to work with other agencies and the applicant and their consultants to develop project-specific inlet management plans.

There were a couple of issues during discussions that certain Science Panel members felt strongly about. The biggest one was a desire to see an independent third-party review of the inlet management plans and application packages. There is still a concern that the DCM staff do not have the expertise to be able to assess all of the technical information that is being provided. This is a valid concern. In the CRC's recommendations to the legislature it included a recommendation for an independent third-party review; however the legislature purposefully did not include that component for a mandatory third-party review into the groin legislation. There is ability for a third-party review if the Division, the Corps and applicant all agree to it. That would be a voluntary effort on behalf of the applicant. If the applicant chooses to not want to proceed with third-party review or does not want to pay for it then we don't believe that we have any authority to implement or to use a third party review.

Chairman Emory stated whoever is the final authority on the role of the Commission on this issue should be present at the next meeting to help resolve some questions from the Commission.

Impact of Hurricane Irene on Pivers Island Natural and Stabilized Marsh Shorelines

Dr. Carolyn Currin, NOAA

Dr. Carolyn Currin stated as Hurricane Irene approached, one of the things that I thought about was that it might be an opportunity to address a question that I have heard asked a lot. I have been working on estuarine shoreline stabilization and can we use living shorelines or softer approaches and are they effective? There are two living shorelines on the island. There is also a natural fringing marsh. One shoreline faces almost due east and one shoreline faces almost due west. We didn't have a lot of time, but I installed horizon markers. There was wind out of the east. The eye went over the island on the 27th and the peak winds were 60 mph. There was about a 3 foot storm surge and storm came in at a high tide. After the eye passed water levels went down to normal. We had much higher water levels on our east facing beach. We have said that marshes are really good at trapping sediment and marshes are really good at stabilizing the shoreline. This is very direct evidence of that. The main thing is that there is direct evidence that the salt marshes trap sediments, they maintained their elevation, and this was a net deposition event. We looked around elsewhere on the island and we did have over-topping of our bulkhead and some scouring behind it. We have some places where we have some riprap and we had some erosion on the unvegetated banks. John Fear went and took pictures of six or seven of the marsh sills around and found that overall the sills have done very well. There was no evidence of damage to the sill itself. Sometimes there is a little erosion on a soft shoreline that is next to the sill. We have found that the sill structures show no damage from the hurricane and the marshes associated with the sill structures remained intact. I was able to document sediment deposition associated with the salt marshes during the passing of this storm. We did see damage to the bulkheads and upland revetments. They were overtopped leading to scour behind them. Our observations are that slope is really important. If you have a gradual slope that is vegetated then it is pretty solid. In thinking about how we can move towards more sustainable estuarine shoreline stabilization, the oyster reef and marsh combination is a really good one. It provides a lot of ecosystem services and is really resistant to erosion.

Geographic Assessment and Change Analysis of NC Maritime Forests (CRC 11-24)

Graham Jones, UNC-W

Mike Lopazanski stated this is a follow up Commission item from 1989-1990. It is related to an issue that confronted the Commission dating back to 1986. Buxton Woods was nominated to be an AEC when someone proposed a golf course development. The CRC considered an AEC designation for the State's maritime forests. The CRC had the Division do an inventory of maritime forest resources along the coast. This information was provided to the Commission and was used to develop a management strategy for this particular coastal resource. They did not go through with a designation of a new AEC for maritime forests, but in the ensuing years we have created the Coastal Reserve program and have been successful in following through with some of the Commission's recommendations regarding protecting some of the more noteworthy areas of maritime forests.

Graham Jones stated I am earning a degree in environmental studies and a Minor in geospatial technology from UNC-Wilmington. I have been working on this maritime forest research study with Dr. Anthony Snyder for about a year. I am currently finalizing the data analysis and compilation as an intern with the Division of Coastal Management. Maritime forests develop as an end result of primary succession on coastal barrier islands. Generally they form within stabilized

dune and swale systems on the soundside of islands whose width, topography and orientation provide sufficient protection from storms. Their unique species composition has adapted to survive under coastal barrier island conditions such as salt spray, wind shear, poor sandy soils and low water availability. Maritime forests provide tremendous ecosystem services to coastal North Carolina. They filter pollutants from stormwater and slow its runoff. Due to these water retention characteristics maritime forests help greatly to recharge underground aquifers that many of the barrier island communities rely heavily upon. These forests provide necessary habitat to many plants and animals, some of which are endangered. These forests help greatly to help the shifting nature of NC barrier islands and slow and prevent the erosion that the coast constantly battles. They also provide tremendous benefits through their lessening of the effects of coastal storms and hurricanes. We do not precisely know the extent of the maritime forests that stood on the coasts before European settlement, however estimates based on historical accounts conclude that less than ten percent remained by the end of the Twentieth Century. Maritime forests, their importance and the destruction they were confronting were discussed at length as far back as the mid-1800s. These magnificent forests that had previously stood for thousands of years were decimated originally during colonization for raw materials used in ship building and naval stores. By the 1950's the real estate that remained beneath them had become some of the most prized in the nation for its tourism and vacation home values. This unrelenting pressure by industry, settlement and development has destroyed virtually all of the forests. The fraction of the original area that remains are isolated tracts which are steadily being encroached upon. North Carolina is far from alone in its lack of protection for these forests over the centuries and consequently maritime forests are now a globally imperiled ecosystem. The CRC first addressed the issue of maritime forest protection in the early 1980's when the draft set of AEC use standards was presented. Due to issues of beach erosion and coastal water quality, which took precedent, the CRC's ability to address maritime forest protection was limited. In 1986 when the AEC was again presented for Buxton Woods, it was decided to allow Dare County to institute their own protection plan instead. This rapid push to save Buxton Woods brought the issue of maritime forest protection back to the forefront of the CRC's concerns and prompted them to address the issue along North Carolina's entire coast. To begin an effort to save the maritime forests statewide it would require a complete understanding of how many forest sites remained, their extent and condition, as well as their current management and ownership. Researchers from Duke University were contracted to conduct a comprehensive inventory. This would be the first complete inventory of the forests and would serve for any baseline for future analysis. This effort was led by Mike Lopazanski, who had previously done research studying the effects of fragmentation on maritime forests. The goal was to provide the information necessary to allow future management decisions to be made on a more comprehensive and scientifically sound basis. The team from Duke in conjunction with staff from DCM identified the potential forest sites on aerial photography and then the sites were studied extensively in the field. The final report and assessment of maritime forest resources on the NC coast included a detailed write up on the ecology of the maritime forest and the general trends of their current management. In addition; they compiled site specific reports for each forest site. The 1988 study determined that only isolated forest tracts remained on 16 NC barrier islands. Based on their research, any sites left unprotected would likely be destroyed or irreversibly altered within the next decade. The management recommendations of the 1988 assessment determined that development of maritime forests should be drastically slowed as soon as possible. Also, consideration should be given to extending the AEC protections and to increase and strictly enforce local development standards. Another recommendation was to acquire and preserve high priority areas and collaborate with local governments and non-profit organizations as well as encourage future research and public awareness. The CRC resolutions based on the 1988 study were that no AEC designations would be given to any of the sites, but instead programs should be initiated for acquisition and preservation.

DCM was directed to convene a scientific panel of experts to determine the management strategy that would be necessary to protect the state's maritime forest ecosystems. DCM was also directed to implement a public awareness and educational program and compile detailed maps of what remained as well as a database for ownership and management.

We have made every possible attempt to utilize the latest computer based GIS technology so that the final product can be modified and updated moving forward. We have conducted a change analysis based on the 1988 study to determine where losses have occurred and study the changes in publically acquired and preserved versus private ownership. The project began with 2009 aerial imagery. We determined the existing perimeter through remote sensing of the forest sites by studying maps of the 1988 sites and working with the aerial imagery. We were also able to determine the rough areas of loss because of the differences in technology over the past 23 years. It was hard to delineate exactly where the old ones were, but the 1988 study was incredibly close. We then went into the field verification phase. The objective of the field verification was to ground truth the data that was collected during the remote sensing. The field phase assessed and documented current site-specific conditions and then compared them to those documented in the 1988 assessment. The protocol began on Bald Head Island and were tested and refined and then used throughout the state. During the field verification process we gathered GPS points to work with to mark the changes. Once field verification was over the adjustments were made we began to compile the data from all of the county GIS offices for the parcel data which would show ownership and assessed value. The current study identified 18 remaining sites. These 18 sites totaled 8,105 acres. There were six totally lost sites. Five of the six total losses were on Bogue Banks. All of the total losses were due entirely to residential development. There are eleven sites in decline since 1988. The majority of these have lost nearly half of their area or more. There are seven sites that have remained intact since 1988; however four of them were almost or entirely preserved before the 1988 assessment. We have tried to provide, in addition to this current assessment, a tool that can be utilized by many for further study. Throughout our research we have determined a number of areas in need of further study. We set out to find out as much as we could about maritime forests and found that there has been very little study on the effects of climate change or the possible adaptation measures that will be needed to implement mitigation strategies. We lack a comprehensive and thorough ecological study of the remaining forest sites. To help bring about awareness of the importance of preserving the maritime forest, we are creating a series of GIS based maps showing the current extent of each site with linked photos at each of the verified coordinates along with the amended site specific reports. These forests are vital to the stability of our barrier islands and the coast's natural systems, an integral part of our economics and tourism, and an important part of our natural heritage. Although much of this globally imperiled ecosystem has been lost in recent decades, many acres have been protected. From the hard work of many people within local governments, state and federal agencies, and non-profit conservation organizations the effort to protect these forests have gone a long way, but there is much work for us to do.

PUBLIC INPUT AND COMMENT

Tom Thompson stated I am the Chairman of NC20 which is a non-profit corporation that is sustained by dues from member counties of the CAMA counties. We have a serious concern with the sea level rise projections of the Science Panel. I am sure you are aware of that, but I did not want to miss an opportunity to let you know in person some of our concerns. We do question the science behind it. We have had no problem finding qualified scientists that dispute any acceleration in sea level rise. If the 39 inch sea level rise recommendation is maintained we think there will be serious economic consequences. I heard the term earlier today about unintended consequences. A state agency, the Division of Emergency Management, operating under the Department of Crime

Control and Public Safety has already picked up the Science Panel report and incorporated it into their planning for flood zones. They are doing flood maps as we speak. I represent Beaufort County as an economic developer. This is a very poor county with twenty percent poverty. If they take the existing flood levels that we have had and add 39 inches to that then a substantial portion of our land will be by and large worthless. You can use it but you would have to build up to accommodate this hypothetical sea level rise. I am asking you, if you will, please reopen this study and allow us to present and take part in a dialogue which brings in scientists of different opinions. There is adequate science out there showing that 39 inches is an extremely aggressive number. We presented some of that science at the symposium in New Bern a few weeks ago and Chairman Emory was there. There are a number of people who have excellent credentials that would be happy to share with you their experience and why 39 inches is over the top. I would like to conclude by saying that we are not questioning the motives or the intent of the Science Panel or any of the individuals concerned. We think they are probably concerned about perhaps if anything over protecting the CAMA counties from a sea level incident, but in fact what you have done is impose some development restrictions that would be catastrophic if they were implemented. Thank you.

Larry Baldwin stated I am also with NC20 and here to address sea level rise versus accelerated sea level rise and the CRC's Science Panel findings. We do appreciate the CRC's past dialogue that they have had with NC20 and the change of their policy that was going to be implemented and also the effort to direct the Science Panel to at least review their findings. Actions have impacts and Tom just mentioned the Emergency Management Act is using the CRC's study as its benchmark study. This last week there is a new study coming out regarding economic impact to the North Carolina coast that is also using this study and the same 39 inch sea level rise. This economic impact study is actually putting dollar figures on real estate loss, infrastructure costs, business impacts and on and on and on. NC20 is not just with this issue, but is very concerned about scientific method and data not used but rather what is called scientific consensus. The best way to explain scientific consensus is if you have a panel of five people that are of very like mind and of opinion, a guy named Rigley stated well you don't need four of them. That is scientific consensus. We also have great concerns with sea level rise. These future predictions are based on models that unfortunately do not work in reverse that match the historic data. They can't be calibrated, the historic data. It cannot replicate itself and historic data is a problem with the prediction that it is going out into the future. Science should be a comprehensive process that discusses all known data and all known science. Most of the accelerated sea level rise publications that have been reviewed do not address the other science regarding sea level rise that sea level rise is not at an accelerated rate. And even more unfortunately when you look into their literature search they don't even list the other science. The CRC policy was guilty of that. As Tom mentioned we did have a symposium and brought in some good people from the University of Florida and Duke and from Cary that regarded this as far as the data and impact that was used in these studies. NC20 will be quite interested in the CRC's advisory panel's review of their findings and we look forward to talking with you in the future.

PRESENTATIONS

**Amendments to 15A NCAC 07H .0308(a)(2) and 15A NCAC 07H .1705
Temporary Erosion Control Structures (CRC 11-22)
Mike Lopazanski**

Mike Lopazanski stated at the August CRC meeting we had the first meeting of the Ocean Hazards Subcommittee. We discussed the possible sandbag management strategies that came up during the stakeholder meetings. The stakeholder suggestions addressed everything from the existing rule looking at the configuration, the alignments, how they are anchored, as well as different possibilities for removal dates. We also heard proposals from some on returning to local government management of sandbags. We heard about incentive proposals as well. In addition to the stakeholder suggestions, staff also suggested an idea to extend the time limit for sandbag permits. This would more closely align the use of temporary erosion control structures with efforts of local governments and communities to secure a long-term solution. We currently have a two year time limit if the structure is less than 5,000 square feet or five years if your structure is greater than 5,000 square feet. You have five years if you are in a community that is actively pursuing a beach nourishment project. You have eight years if you are in an inlet hazard area and your community is pursuing an inlet relocation project. You can only use the sandbags to protect the structure once during its lifetime, however this provision was relaxed in the inlet hazard areas in 2009. Due to the nature of the inlets and their migratory habits, if your structure became threatened again then you would be able to use sandbags again to protect the structure, provided that the community is seeking a long-term remedy to the chronic erosion problem. We are proposing today to extend the timeframe to the oceanfront as we have done for the inlet hazard areas. You would have eight years to utilize the sandbags provided you are in a community pursuing a beachfill project. We are proposing to remove the provision of the one-time per property. This provides staff with a uniform set of rules that we can apply to the management of sandbags along the oceanfront and inlet areas. These provisions are dependent upon the removal of sandbags once they are no longer needed.

After discussion the Commission requested a presentation on the re-prioritization of sandbag removal efforts at the February 2012 meeting.

David Webster made a motion to send the amendments to 15A NCAC 07H .0308(a)(2) and 15A NCAC 07H .1705 to public hearing. Veronica Carter seconded the motion. The motion passed with eight votes in favor (Joyce, Mitchell, Webster, Simmons, Wynns, Weld, Carter, Cahoon) and two opposed (Shepard, Elam) (Peele absent for vote).

**Consideration of Public Comments on Draft Sea Level Rise Policy
15A NCAC 07M .1301 (CRC 11-23)
Tancred Miller**

Tancred Miller stated what we initially intended to do today was to report on the meetings we have had with the local governments and provide their feedback to the Commission. Based upon the feedback we had received we were not anticipating any changes to the draft policy and we were prepared to recommend that this begin moving through the formal rulemaking process. As you are aware, there has been a lot of renewed interest in the Science Panel's Report and how that is connected to the draft policy. For that reason, we are recommending no action on the Commission's part today until we have heard back from the Science Panel on their review of the critiques of their Report.

We have had a total of eight meetings this calendar year on the draft policy. At the regional Wilmington meeting we heard from the New Hanover County Planning and Inspections Department. They didn't like that the benchmark had been removed. Their second concern was that the land use planning provision was partially taken out of the draft policy. We also heard comments from the Kill Devil Hills meeting that the new policy was not very meaningful. Staff is

comfortable that the new draft policy does not tie anybody's hands in terms of the science, does not commit anyone to immediate action and does not increase any expenses on local governments or individuals, but it does get to the idea of setting the CRC on a path of planned adaptation. We are not hearing any major problems with the draft policy.

ACTION ITEMS

Fiscal Analysis Approval – 15A NCACA 07H .0308(a)(2) and 15A NCAC 07H .1705 Mike Lopazanski

Mike Lopazanski stated the property owners within CAMA's ocean hazard area AEC are the most likely to be affected by this action. We looked at the number of permits that have been issued since 2000. We also used the 2009 inventory of sandbag structures (there were 327 structures). There are about 56 properties that would directly benefit from the permit extension. The benefit would be anywhere from a one year to a three year extension on these existing permits. We are also basing our calculations on removal costs associated with sandbags which range from four to eight thousand dollars depending on the length of the structure and its exposure out on the beach. Using these assumptions, the benefits of the proposed rule amendments are a cost savings to property owners. The proposed amendments do not affect the cost of permitting for NCDOT. They currently hold five sandbag permits and one of their permits would benefit from a time extension. DOT will not experience any negative fiscal impacts from the proposed action. A negative fiscal impact is not expected for local governments as their sandbags are also protecting infrastructure. The amendments do not reflect a significant change in how various projects are reviewed or permitted by DCM and we do not anticipate a change in permitting receipts due to the proposed action. While there may be some increased monitoring activities due to the amendments, it is not seen as anything significant over what we ordinarily do. The group that would be most affected by the proposed changes are property owners along the oceanfront shorelines and within inlet hazard areas. We estimate there will be a savings range from about 12-58 thousand dollars based on delayed costs associated with removal of sandbags. The cost and benefits from these proposed rule changes do not exceed \$500,000.00 annually.

Veronica Carter made a motion to approve the fiscal analysis for 15A NCAC 07H .0308 and 15A NCAC 07H .1705 and send them to public hearing. David Webster seconded the motion. The motion passed unanimously (Joyce, Webster, Simmons, Wynns, Weld, Shepard, Carter, Elam, Cahoon) (Mitchell, Peele absent for vote).

OLD/NEW BUSINESS

Charles Elam stated that there are several commissioners whose terms expire in June. He said that he wanted to bring it to the Commission's attention in case they would like to be reappointed. Chairman Emory stated that this should be discussed as an agenda item at the February meeting. Staff should be prepared to discuss how reappointments are made and whose terms are expiring.

Chairman Emory stated that once the new Director is in place then we need to have the discussion about finding some way of moving these meetings around the coast. We are limiting practical access to these meetings. Ted Tyndall stated this is something that came up more than once during the 312 Review.

Lee Wynns stated that during the variances heard at this meeting he heard of piers that couldn't be used without a variance because the water had become too shallow due to shoaling or other factors. Coupled with that, both of them were located in PNAs. It might be an advantage to have staff brief us on what resolution dock owners have to get into deeper water besides trying to go beyond the ¼ width limit. Is dredging a possibility, especially in the southern areas? Chairman Emory said that it would be a good idea to hear how the pier and marina rules interact with PNA. Ted Tyndall stated that there are other factors that come into play, but staff can spell out the options available.

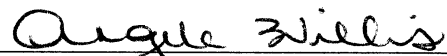
Renee Cahoon stated that Science Panel does a great job, but I recognize that everything we do now has economics attached to it. Would it be possible to consider adding a coastal economist to the Panel to be part of the discussion? Joan Weld that during the 312 Review the diversity of the Science Panel came up. We have said that if there are any areas of expertise that we do not have then we need to fill them and make sure that it is functioning as effectively as possible and that we have the right component of people on it. Chairman Emory stated that we should schedule an agenda item to look at the selection process for the Science Panel as well as the areas of expertise that are included and what are the guidelines to how we staff the Science Panel.

With no further business, the CRC adjourned.

Respectfully submitted,



M. Ted Tyndall, DCM Assistant Director



Angela Willis, Recording Secretary