

NC COASTAL RESOURCES COMMISSION (CRC)
February 11-12, 2009
Crystal Coast Civic Center
Morehead City, NC

Present CRC Members

Bob Emory, Chairman

Joan Weld, Vice-Chair (Chaired Meeting from 1:45 p.m. until 2:30 p.m. 2/12)

James Leutze

Chuck Bissette

Charles Elam

David Webster

Jerry Old (present at 1:30 p.m. 2/11)

Bill Peele

Wayland Sermons

Melvin Shepard

Ed Mitchell

Bob Wilson (present at 2:00 p.m. 2/11)

Lee Wynns

Veronica Carter

Present Coastal Resources Advisory Council Members (CRAC)

Dara Royal, Chair

Penny Tysinger, Co-Chair

Bob Shupe

William Wescott

Charles Jones

Rhett White

Tim Tabak

Eddy Davis

Ray Sturza

Randy Cahoon

Dave Weaver

Christine Mele

Bill Morrison

Joe Beck

Webb Fuller

William Gardner, Jr.

J. Michael Moore

Jerry Parks

Judy Hills

Carlton Davenport

Tracy Skrabal

Spencer Rogers

Anne Deaton

Al Hodge

Phil Harris

Travis Marshall

Present Attorney General's Office Members

Jennie Hauser

Christine Goebel

Ward Zimmerman

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.

Angela Willis called the roll and each Commissioner in attendance reported no conflicts. Renee Cahoon was absent. Based upon this roll call, Chairman Emory declared a quorum.

PRESENTATIONS

Terminal Groins Background; Use in Florida

Dr. Robert Dean, P.E.

University of Florida

Dr. Robert Dean reviewed an outline of what would be presented. The basic idea will be to distinguish between terminal groins (terminal structures) and the normal groins and the way they are used and applied. Dr. Dean stated that he has seen literature that explains that terminal groins will behave in the same way as normal groins. He stated he would do his best to explain the difference, explain the difference between terminal groins and jetties, and describe terminal groins and their placement on either the updrift side of an inlet or the downdrift side. He will further discuss the processes associated with terminal structures adjacent to inlets. He has surveyed the terminal structures in the Gulf of Mexico and along the Atlantic coast.

Dr. Dean stated that it is his view that terminal structures are not complicated. They have functioned effectively in many places including North Carolina and the bottom line is there has been no installation where they have caused bad effects. There has been no place where the effects have been unexpected or have caused erosion to the adjacent beaches. When there are two barrier islands with an inlet and a structure is placed along the northern boundary of the southern barrier island, this is an example of a terminal groin on the downdrift side. The long shore sediment transport or literal drift is headed from north to south. It has been my experience that most terminal groins are on the downdrift side, but that is not exclusive. The difference between terminal groins and usual groin application is that in many cases groins are placed along a long beach with the sediment transport from north to south. The sediment will collect against the north side of the groin and there will be associated erosion on the downdrift side. The normal application for a groin is designed to trap sand from the system and the key difference is terminal groins at the end of the system retain sand in the system. They do not trap it; they keep it from being lost from the overall system.

The difference between terminal groins and jetties are that jetties extend much further out. Jetties collect sand on the north side of the inlet. Jetties derive their name from the intent to jet sand out of the inlet for navigational purposes. This is not the intent of terminal groins.

During a flood tide when the water is flowing into the inlet, there will be currents that will carry sand into the inlet. On the ebb tide, when the currents are flowing out of the inlet, there is also sand that flows towards the inlet on both sides of the inlet. If you think about a terminal groin on the downdrift side, its purpose is to prevent the sand from being carried into the inlet and retain sand on the barrier island.

Dr. Dean stated he has been involved with Florida's beaches for 43 years and in 1966 he became interested in the 56 inlets and how terminal structures seemed to work. There are 19 inlets on the east coast and 37 on the west coast. An example was shown of an inlet on the west coast showing the erosion on the end of the island. The reason this island was eroding so rapidly was because there was a phosphate loading terminal which was dredged fairly deeply. This dredging caused the sand from the Gulf of Mexico side to peel off and go around and deposit in the deeper channel. There was a historic lighthouse that was being threatened and the first two terminal groins were designed. There has been no beach nourishment in this location. All of the sand has built up from sand flowing from north to south and prevented by the terminal groin from entering the deep channel. Another example was shown on the west coast of Florida. A terminal structure was built in 1981 and the benefits are on both the updrift and downdrift sides. The longshore sediment transport is not very much. There are two terminal structures and by looking at historic data, they have performed extremely well. An example was shown on the east coast of Florida. A terminal structure was built in 1975. A model study was conducted on this inlet. This terminal structure prevented the sand from flowing into the deepened channel and retains the sand on the adjacent barrier island that would be lost. On the lower east coast of Florida, an inlet was shown which was cut in 1928. Prior to the construction of the south terminal structure, the local and federal government would nourish this area. The sand would erode very quickly (within two to three years) and deposit in the bay. The sand would be dredged from the bay and put back onto the beach. There was nothing to prevent it from being carried back into the bay and the process was not very effective. In 1975 on the downdrift side, an engineer from the State of North Carolina designed a structure that has been very effective. Following the effectiveness of the structure on the downdrift side, a second structure was built on the updrift side and had a beneficial effect. Another example was shown further north. This inlet was cut in 1892 by a team of mules and it had caused the downdrift barrier island to erode at a rapid rate. This shoreline had eroded at 31 feet per year over more than a century. In 1981 a terminal groin was constructed at the north end and you can see the effects. If you cut off the flow of sand to the inlet you have to be careful that the sand on the inside of the inlet does not erode. The southern erosion was not due to the terminal structure. In 1975, Dr. Dean moved to Maryland and was asked by the Baltimore District of the Army Corps of Engineers to examine the cause of shoaling inside of Ocean City Inlet. The inlet was cut by a hurricane in 1933. We found that during major storms the sand would flow from the south to the north over the low portion of the jetty. The jetty was lower than the natural elevation of the beach. We reasoned if you could cut off this supply of sand then the island would erode less. We recommended raising the jetty and placing three detached breakwaters to stabilize the north end of the island.

North Carolina has two terminal structures (both on the downdrift side). These are Oregon and Beaufort Inlets. A terminal groin was placed at the north end of Pea Island in 1989 and completed in 1991. What happens if you take the structure away? You would recognize that the sand would peel off and go into Oregon inlet. The terminal groin acts as a support for the sand that has built up to the south. There is an extensive database for this area. There may be some controversies in this area, but I have watched this and as it was built the beach followed it out.

There is no uncertainty about whether this has been effective or not. In Margery Overton's review report number 33 dated December 2007, she says, 'that as of December 12, 2007 the project erosion rates are much less than the historical rates in the first four miles of the study area. In the fifth and sixth mile, the rates are mostly below the historical rates and do not significantly exceed the historical rates. In summary, the construction of the groin does not appear to have caused an adverse effect to the shoreline over the six mile study area.'

The other terminal groin in North Carolina is on the downdrift side of Beaufort Inlet. Locally, the net longshore sediment transport is from west to east. If you were to remove this groin, the sand would peel off and be transported into Beaufort Inlet. There is no uncertainty in my mind about whether these structures have been effective. I have recently examined the number of terminal structures on the downdrift sides of inlets starting with the Gulf of Mexico going clockwise to Massachusetts. There are a total of 22 structures and I did not see any adverse effects of these structures.

Terminal groins differ from the usual groin application. They also differ from jetties. We have reviewed the sand transport processes in the vicinity of inlets. There is generally sand transport toward the inlet on both the updrift and downdrift sides. We have reviewed a number of inlets with downdrift terminal structures and have not seen ill effects. There are two inlets in North Carolina with downdrift terminal structures that have proved to function effectively.

(PowerPoint presentation available at www.nccoastalmanagement.net)

South Carolina Hardened Structure Policy and Use of Terminal Groins

Dr. Paul Gayes, Director

Center for Marine and Wetland Studies

Coastal Carolina University

Dr. Gayes stated that South Carolina is experiencing some similar analysis and consideration of how to manage the coastline. Our state is different than North Carolina in terms of its processes, the morphology of the coast, and development patterns. We could break down the South Carolina coast into four zones based on the combination of morphology, process and development. The first one, close to the border of North Carolina, is referred to as the grand strand. It is centered on the city of Myrtle Beach where there is a large tourism based economy. The north-central portion of the coast is centered on Cape Romain which is an undeveloped stretch (about 1/3 of the state is undeveloped). There is a zone around the Charleston area where there are classic barrier islands. Around the Hilton Head area the coast is rather different, largely because the tide is tremendously greater as we move towards Georgia and tidal inlets become more important.

The grand strand area is a mainland coast. There are not many inlets and there is very high ground. The erosion rates here are fairly low (1/2 foot to one foot per year). This is the center of a lot of our developed, large-scale accesses to the State and the public. One of the things about the grand strand area, much like some of the southern North Carolina zones, is there is a limited amount of sediment in our area. There is a lot of renourishment going on, but some of our borrow sites are getting out of the three mile limit.

In the central portion of the coast down to the Cape Romain area, we have a dramatic range in coastal styles. None of this is developed, but some of our highest erosion rates in the state are in this area (eight to ten meters per year). We are under extreme sediment starvation.

When we get into the Charleston area there is a lot of population along the coast. The Isle of Palms has had a lot of interest in this area because as we get into this part of the state and the inlets become much bigger, the tidal ranges get greater, and there is a lot of variability around these inlets. Most of our erosion problems are associated with these inlet systems. Folly Beach and Morris Island are signature erosional areas for our coast. There are a fair number of groins and structures in Edisto Island's beachfront community. The Charleston area was dominated by some changes that happened in the 1860's. Charleston Harbor, prior to the construction of jetties for navigation in Charleston Harbor, the main flows out of the harbor were bent out to the south. Jetties were constructed in the mid-1800's and redirected these flows and some considerable changes in this section of the coast occurred. As we go further to the south, there have been groins established at Hunting Island State Park along with renourishment. Fripp Island to the south also has severe erosional issues. Hilton Head has been fairly successful in its management.

Like most coastal states, we have experienced an explosion of development rushing to the coastline. Prior to 1988, the State did not have much jurisdiction in managing the coastal zone. There was a critical line set up at the scarp or the landward toe of the dune and landward of that where the state had no jurisdiction. In 1987 the state assembled a blue ribbon panel that was asked to consider long-term solutions to beach erosion problems. That panel came back with findings that 57 miles of the state were critically eroding. The general consensus at the time was that the beach (width and health) is an important economic engine to our state. The panel viewed coastal erosion as a threat to the beach and dune system, the economy, coastal habitat, and property. Some important findings of fact taken into consideration were that sea level was scientifically documented but may increase and needed to be considered and that armoring the coastline had not proven to be effective. Retreat was determined to be the best long term strategy for the state. In 1988 the beachfront management act came out and implemented a lot of the panel's recommendations and established new jurisdictional lines. One line was in an area away from inlets called standard zones. The other was around inlets called inlet zones. From there a setback line was established which was a function of erosion rate. It became apparent that in much of our state we do not have a dune line from which to draw a jurisdictional line. We had to come up with another mechanism to do this. We took some long term monitoring of beach profiles and looked at areas that were disturbed and made projections of the volume of sediment that had been robbed from the beach system as well as the geometry which had been modified and project back where the ideal dune crest would be and draw the line there. The baseline that was drawn ten years ago is in the middle of some of our very populated areas. From the baseline there is a forty year times the annual erosion rate setback line and this is where development is regulated. The baseline is updated every ten years. The baseline migrates landward and the jurisdiction rolls with it. This has been some of our problems in implementing our regulations, because we are running into issues of restricting uses of property that had not been restricted before. In 1988, restrictions that came in with the beachfront management act included no construction seaward of the baseline, no new seawalls, if an existing seawall was destroyed it could only be replaced with sloping structures and they had to be moved back ten feet from the building foundations, and all vertical seawalls would be removed after 30 years and be replaced with sloping structures. Our first challenge was natural with Hurricane Hugo. This destroyed many houses along our coast and many were rebuilt further landward and behind the

baseline. There were also a number of seawalls that were destroyed and were replaced with sloping structures. The next challenge was legal. We had a large lawsuit involving two lots on the Isle of Palms that were seaward of the baseline and unbuildable under the 1988 Act. The owner sued the State claiming a taking of the property and it went to the U.S. Supreme Court which ruled in his favor and remanded it back to the State for damages. Around that time the State made some revisions to our Act. Construction seaward of the baseline could now happen under a special permit. We will allow these if they are no bigger than 5,000 feet, structures should be as landward as practicable, no structure could be further seaward than the adjoining neighbors, should never be on the active primary dune or active beach, seawalls cannot be part of the foundation, if the house is ever located on the active beach it has to be moved, destroyed seawalls cannot be rebuilt, the threshold for damages on seawalls decreased and the thirty year time limit was removed. While the court was determining damages, the State issued two permits to the property owner. The State purchased the land, transferred the permits, sold the land, and the property was built on in 1995 and 1998. We continue to be in a retreat policy and are committed to renourishment.

There have been 21 renourishment projects in the last 18 years. A total of 96 miles of coastline have been renourished. The cost of these projects is tallied at about 194 million dollars and the volume of sand pumped is close to 30 million cubic yards.

At present, existing groins can be reconstructed, repaired or maintained. New groins may be allowed only on beaches that have high erosion rates and are threatening existing development. This has been troubling for us as erosion rates being “high” are in the eye of the beholder. In addition to these requirements, any efforts for new groins or repair have to be in concert with ongoing renourishment. Monitoring is required to ensure there aren’t detrimental impacts downdrift. A performance bond or letter of credit is required that allows for the mitigation of any damages that would occur downdrift. If monitoring indicates that there is a downdrift effect then the groin is to be reconfigured, removed, or renourishment/mitigation is paid for downdrift. Adjacent or downdrift communities are to be notified of applications for groins. If there is a claim of effect, the State will require action on the part of the permit applicant.

In 2008-2009 the State established a shoreline change advisory committee to revisit the beachfront management act. We are trying to examine the effectiveness of this Act and to look for recommendations and modifications of this law to move forward into the future. We are getting to the public hearing phase and it is getting tense as we revisit this. The Governor’s climate panel had a recommendation to consider, in addition to carbon emission reduction, an establishment of a legislative panel to work on potential adaptation strategies for climate change and sea level rise. We are seeing concerns about effects in the long term and what our future may be. We have had some unintended consequences as a result of our success in South Carolina. Effective structures are in the eye of the beholder. You have to ask yourself if you are trying to protect the beach, are you trying to protect the structures or are you trying to protect both? For some of the beaches, if you ask if they are successful under each of these criteria, you would get a different answer. There is some discussion in the State about what it means when we protect structures instead of the beach. The conceptual goal of retreat in South Carolina has not been happening in the midterm and this is due to persistent renourishment projects. There are a few issues to deal with in the long term. There are concerns about continued sea level rise, changes in climates, concerns about the economy, and concerns about episodic events. None of

these structures will do anything to protect the coast from large hurricanes. (*PowerPoint presentation available at www.nccoastalmanagement.net*)

Geomorphology of N.C.'s Northern Inlets; Sediment Budgets; Sea Level Rise

Dr. Stanley Riggs

East Carolina University

Dr. Riggs stated that our coastal systems are complex. If we are going to talk about locking up inlets with terminal groins or stabilizing the barrier islands in a time when sea level is rising at fairly significant rates, we have to think longer term than today, tomorrow and next year. If we want to preserve a vital coastal economy and the resources upon which that economy is based we have to start thinking about sea level rise and sediment supply. None of this works if you don't have any sediment. It is not an equal world out there. No two barrier islands are equal when it comes to sediment supply. Some beaches are very lucky and have a large sediment supply, some beaches are very unlucky and don't have any, and the human processes have played a very large role in changing those sediment supplies.

Whether we like it or not we live in the ice age world. A slide was shown of what the earth looked like eighteen to twenty thousand years ago when glacial ice covered a good share of North America. Sea level rises and falls continuously. At this moment in time we are at an interglacial episode (warm period) between glacial episodes. When the climate is warm, the ice is mostly gone and sea level is high. This has been occurring for about two million years and there have been about forty of these episodes. This is a very well established climatic pattern. The last interglacial period was the last time the climate was as warm as it is today (and maybe a little bit warmer). This was 125,000 years ago. We had a shoreline in North Carolina where the ocean occupied the shoreline during this period. We are on a plateau today. The importance of this is that there will always be a shoreline where the ocean intersects the land surface. The shoreline will change as the climate changes and as sea level changes. For 18,000 years the shoreline has been moving. We know how it has moved. If the rest of the ice in Greenland and Antarctica melt, most of the North Carolina coastal plain goes under water. All of the sediments and marine deposits in response to the rise and fall of sea level have been going on for a long time. The barrier islands were not there 18,000 years ago. About 9,000 years ago we began flooding up the river valleys. Pamlico Sound was not as deep and we did not start to begin to get marine sediments in it until 7,000 years ago. All of the estuaries are drowned river valleys. Around 3,000 to 4,000 years ago we began to produce our barrier islands. The rate of sea level rise is a variable rate. Barrier islands come and go and are not permanent. The barrier islands are still moving. In the 1800's the sea level rate changed again. The sea level rate in North Carolina doubled. By 1900, it doubled again to 16 inches per 100 years. In this period of time all of our barriers began to recede. In general, all the barrier islands are receding. The Duck tide gauge has been there for twenty years and has measured 18 inches per 100 years. An important thing to remember is that our coastal system is very low. Most of the barrier islands are only three or four feet above sea level. Many counties (Pamlico, Hyde, Dare, Currituck, large parts of Carteret) are only one foot above sea level. When we are talking about climate change and rising sea level, we are talking about very dramatic changes taking place to our coastal system. Our barrier islands are receding on the front side. An 1852 survey shows one piece of barrier island on the outer banks has receded 2,500 feet in 151 years (this is 75% of the island width that has been lost). In the 1950's Highway 12 was built and it has been rebuilt and moved landward four

times since then. It is now on Pamlico Sound and there isn't any place for it to go. This is an area that needs to breach, form an inlet and develop new width. This is the process by which these islands migrate uphill and landward in response to rising sea level. In North Carolina we are already at the mean of what IPC says will happen at 2100. This is important to keep in mind when managing the barrier islands.

Sediment supply becomes the next big component for the long term. If you don't have any sediment available, you end up producing a little bit of sand that is sitting on top of older stuff. About 70-80% of our barrier islands are a simple barrier island. You can dig down and hit older sediments or rock very quickly. These islands are low and narrow, they overwash and breach and are not the best places to put houses. If you have a lot of sand available you build these complex islands. You prograde seaward if you have a lot of sand, you get big back barrier dune fields, you get ridges and swales. Kitty Hawk Woods, Buxton Woods, and Bogue Banks are all examples of complex islands. They have maritime forests on them. There are three basic sources of sand we are dealing with out here. The paleotrunk rivers (Roanoke, Cape Fear) that come off of the piedmont and the Appalachians carry sand during climatic times, there are big delta dumps on the continental shelf, and there is a lot of old sand. As sea level rises across these, they build the barriers. In the Nags Head Woods and Kitty Hawk Woods area it is all old paleo, river channel, and delta sands. Most of our coast doesn't have these rivers associated with them. Large portions of our shelf are rock. The two big sources of sand are the cape shoal structures (Lookout, Frying Pan). With rising sea level, these were important in the production of the barrier islands.

Oregon Inlet opened in 1846 in a hurricane. It migrated from 1846 down to its present location. In 1989 the inlet was hardened and stabilized. It had moved about 2.5 miles in this period of time. There is a bridge over Oregon Inlet and the groin is already in there. The highway on Pea Island was paved in 1952. The bridge was built in 1962-63. As the Oregon Inlet migrated south, it got to the end of the bridge and was about to leave the bridge stranded in the inlet. The decision was made to build a groin and put a rock revetment around the end of it to stop the migration of the inlet. The Oregon Inlet was migrating from 1849-1980 at a rate of 77 feet per year. In 1980-1988 it really picked up and increased by several times. By 1988-1989, in one or two little storm events, it threatened the bridge completely. When the bridge was built, it was built with a fixed navigation span with the assumption that the channel was going to stay there under the fixed navigation span. The inlet was migrating. From day one, they had to start dredging. All of the dredging that has been done since 1962 was dumped offshore and out of the system. As you dump more and more of the inlet sand offshore, the rate of migration increases which threatened the end of the bridge. The terminal groin was built to save the bridge and it was a success from this point of view. But, let's look downstream to see what the consequence was. The Pea Island Wildlife Refuge is twelve miles long. After the construction of the terminal groin, the first six miles of Pea Island beach were nourished with sand from the annual inlet dredging instead of dumping it offshore. Somewhere between seven and eight million cubic yards of sand were pumped on the first six miles. The bottom line is even with all of the sand that has been pumped up there, Pea Island's ocean shoreline is continuing to erode at rates up to 22 feet per year. This is the fastest in the state by quite a bit. There are three D.O.T. hotspots. The first is one to two miles south of Oregon Inlet. This road has not gone into the sea because we have pumped all of the sand in there and it builds up a very large dune field (which has been very expensive). With every nor'easter the D.O.T. bulldozers are out there trying to keep the road open from the sand moving across it. A large storm will come along that will take this road

out. When we go down four to six miles in an area they call the sandbay, three miles of road had been moved inland of the power lines. This event cost 3.5 million dollars and erosion continues. By the time we get to eleven to twelve miles down at site number three (the S-Curves), this road was replaced in 1988 and formed the S-Curves which is now in the ocean again. This whole system is eroding at incredibly high rates of recession. The D.O.T. has put sandbags in as a desperate effort to protect the road. The Pea Island Highway 12 maintenance costs, which are post terminal groin, have been a minimum of ten million dollars plus seven to eight million cubic yards of sand that has been dredged just to try to hold the line on Pea Island. The one to two mile area beyond the terminal groin has accumulated sand beautifully, but no place else is there any evidence of anything other than increased rates of erosion in the downstream section.

The N.C. State Port in Morehead City has had dredging since the early 1900's. The groin was built in the 1960's. This is now a 45-foot deep channel and for a long time all of this sand associated with the Port was dumped offshore. A lot of the ebb tide delta is a result of dumping. The County has recently sued the Corps over this. Because of this, this area has had a tremendous amount of nourishment sand put on it. The erosion rates from Fort Macon down to Atlantic Beach have increased. The groin does trap sand, but it increases erosion rates. From 1978 to 2004, Fort Macon and Atlantic Beach (the east six miles) have received 13 million cubic yards of sand. This is a direct consequence of the structure (terminal groin) and this downstream cost has to be considered.

We know a lot about the science of these areas. North Carolina's ongoing shoreline recession is a direct consequence of storm dynamics and a rising sea level with minimal sand supplies. We do not have a whole seafloor of sand out there. If there is an island that is in trouble, it is in trouble because it never has had a lot of sand available. The sediment budget becomes really crucial and the rising sea level is not going to get any better. A terminal groin will not solve either the sea level rise or the minimal sediment supply problem except on a very local basis where it may trap sand and it may very well exacerbate the shoreline erosion problems in the downstream, and in some cases the upstream, areas. North Carolina must begin adapting to the changes in sea level in order to maintain a sustainable coastal economy and protect those resources (the barrier island resources, the inlet resources, the estuarine resources). This is what the economy is based on and if we lock it all up, ultimately you will not have a barrier island system and you will not have the beaches without pumping sand. If you don't have the sand to pump, you are in trouble. It is time the CRC, the DCM, and the State of North Carolina really take this serious. We cannot think about just today's storm event. We have to think about a decadal scale impact of these storms. We have to think in terms of where we are going to be ten and twenty years from now. The decisions we make in this legislative session this year could impact the state for one hundred years. We cannot afford that. This is a dynamic, changing system and we have to change with it.

Geomorphology of N.C.'s Southern Inlets
Dr. William Cleary
University of North Carolina-Wilmington

Dr. Cleary stated this presentation will deal with an overview of North Carolina's southern inlets. The presentation focuses on the ebb tidal delta (outer bar) and the main channel and how these features are related to the erosion and accretion pattern that occur along the adjacent shorelines. A cartoon was shown which showed a very large pile of sand that can approach several scores of

millions of cubic yards which is the ebb tidal delta. This feature plays a significant role in the erosion and accretion pattern along the shoreline. As the waves approach (from the upper right) they are bent or refracted in such a way that they set up a current that runs opposite the literal current. You are actually moving sand into the estuary which causes shoaling and deterioration of the navigation channels. The deepest part of the channel is the main ebb channel. The main channel is connected to marginal flood channels that bring the flood waters in when the tide turns. More often than not in North Carolina, this main channel is seldom if ever midway between the two barriers and seldom if ever is the shore normal or perpendicular. Rather it tends to be offset to one side or another and aligned towards one of the barriers. The ebb channel typically bisects the large ebb tidal delta, which contains many millions of cubic yards, and when the sandbars form and move toward the land they will attach. More often than not in North Carolina, the channel is skewed to one side or the other and you develop an asymmetric ebb tidal delta. Up until 1959, Ocean Isle Beach was in fairly good shape. It had nothing to do with sea level rise, changes in sediment supply, or storms. It has to do with the realignment of the channel which can affect a mile on opposite sides of the shoulders. To exacerbate the situation, the throat section of the ebb channel can literally migrate several thousands of feet exacerbating the erosion or accretion on opposite sides of the inlet. A good example of this would be Rich Inlet, Shallotte Inlet and Lockwood Folly Inlet.

Bogue Inlet borders Bogue Banks and Bear Island. These are sand rich islands that contain upwards of twenty-five times more sand per kilometer of coast than the islands that occur south of New River Inlet. Bogue Inlet is an extremely large inlet. This inlet has gone through a very systematic change in the configuration of the ebb tidal delta, the flood delta, and the channels. Between 1938 and 2002, this ebb channel migrated toward Bogue Banks (Emerald Isle) a distance of approximately 9,650 feet. During that time it has wobbled back and forth within the throat. We study this inlet trying to get a handle on how it functions. Since 1981, the channel migrated toward Emerald Isle a distance of about 4,100 feet. As it migrated toward Emerald Isle it changed the configuration of the ebb tidal delta. That had a significant impact in that it provided accretion along the oceanfront while the inlet margin was eroding and all of the Bear Island (Hammocks Beach) side was eroding. Between 1973-2001 Bear Island eroded on average about 300 feet. By contrast, the Bogue Banks side accreted upwards of about 200 feet on average. In 2005, the channel was relocated. This changed around the erosion and accretion patterns in this area. It is taking some time for the huge pile of sand in the offshore area to remobilize and adjust to the position of the channel.

Farther to the south is New River Inlet and this inlet borders a relatively large tidal river. Onslow Beach has been eroding since the 1930's. The North Topsail Beach side had been accreting for about a mile downdrift of the inlet from 1960 until 1990. From 1990 until the present, it has undergone erosion. The culprit in this erosion scenario is the channel which used to be shore perpendicular and then skewed over. The simple solution would be to realign the channel, restore the ebb tidal delta apex to the left and the area would accrete once again. The significant amount of erosion is not due to change in sediment supply; it is due to the fact that the channel has shifted a little bit toward the Onslow Beach side. The Corps has typically dredged significant amounts of sand from New River Inlet channel and placed it along this section of the coastline. It is highly unlikely that this sand will stay.

If you go about twenty miles to the south, you run into New Topsail Inlet which is the longest lived migrating inlet in North Carolina. It opened prior to 1720 and has migrated in excess of

about ten or eleven kilometers. The channel has migrated a distance of about 5,700 feet at variable rates. There is a preferred orientation of the channel toward Topsail Beach and that has had a significant impact upon the shape of Topsail Beach since the 1930's. In 1954, the channel was skewed and the inlet was migrating at relatively slow rates from 1949-1962. A lot of the erosion on Topsail Island deals with the truncation over a period of time. In addition to the migration of the inlet, which averaged about 120 feet per year, there was a breach by a storm. The pile of sand was bypassed to the updrift barrier which is Topsail Island and the inlet migration picked up and had a significant impact on the erosion on the updrift barrier which is Topsail Beach. There have been two other episodes like this breaching between the 1950's and 1995. This becomes important when you begin to think about terminal groins. As the inlet migrated to the south, the shape of the ends of Topsail Island increased in width from 1938-2006.

A large amount of change can occur in a short period of time. You should be cautioned to look at long-term erosion rate data and really look at the details of short term erosion when you look at inlets. There is a lag effect in terms of the erosion or accretion along the shoreline when an inlet changes its orientation.

Mason Inlet borders Wrightsville Beach and Shell Island. This inlet opened in the 1850's and migrated toward the hotel. Then it was relocated in 2002. Between 1974 and 1997 the channel migrated at rates of about 165 feet per year. It probably would not have continued migrating to the south, but probably would have closed off. The reason this inlet migrated so rapidly (up to rates of about 297 feet per year) was because the access channel was completely filled in and the size of the inlet was reduced, the cross section area was reduced, the amount of water going in and out was reduced, and the size of the shoals in the offshore area was reduced. The inlet continues to migrate. The access channel to the intercoastal waterway filled in causing the inlet to migrate. They attempted to put in a terminal groin, but they were denied the permit. The inlet was relocated in 2002 and three months after this there was a significant amount of shoaling. By 2004, there had been significant shoaling within Banks Channel (the access channel) and Mason Creek. The same thing is happening on Figure Eight Island. Looking toward Figure Eight Island from Wrightsville Beach in 1975, you can see a wide beach section on Figure Eight Island. At this time, Mason's Inlet was a healthy inlet (large ebb tidal delta and the sound side channels were fairly clean and large). If you look at 1984 you begin to see that they have had some erosion problems. The reason this erosion was taking place was because the island had changed its plant form as Mason's inlet migrated towards the area. This hotspot still exists today.

I have been asked to comment on Masonboro Inlet because people have this idea that the proposed groins will create problems and will do the same thing to the downdrift islands that this inlet project did. I would differ with this greatly. The Masonboro Inlet north jetty was started in 1965 and in 1981 the south jetty was completed and this forms a complete literal barrier for sand transport from the north. The island south of the inlet, Masonboro Island, is a thirteen kilometer (eight mile long) barrier island that is the posterchild for what this inlet stabilization might do. At the south end of Masonboro Island is Carolina Beach Inlet which is a relatively small inlet which was opened in 1952. In my opinion, this inlet has just as much impact on this island as the jetties at the northern end of Masonboro Island. In 1964 the volume of the ebb tidal delta was about eight million cubic yards. By 1984, the volume of sand in the ebb tidal delta amounted to about twelve million cubic yards. If I were to go out and measure the amount of sand that is in Masonboro Island and compare it to the amount of sand that is in the two inlet systems, you will find that there is four times as much sand in the ebb and flood tidal deltas of Carolina Beach and

Masonboro Inlet than there is in the entire length of Masonboro Island. This is primarily due to jetties and stabilization of an inlet since 1950. The terminal groin will not do this as some people will lead you to believe. The geology and shoreline changes have been studied for Masonboro Island (images of the 1938 shoreline and the 2002 shoreline were shown). When you look at this, you would say that Carolina Beach Inlet has had a far greater impact on the island in terms of a negative impact than the jetties on the north end. There is some justification saying that Masonboro Inlet had an impact on the center section of the island. If you look at the southern portion of the island, you can see the island is changing dramatically (1972 and 2003 images were shown). The island has rolled back on itself at least 500 or 600 feet since 1972. The net average erosion rate for the center section of the island is 328 feet, 308 feet by the headland, and near Carolina Beach Inlet the rate is 538 feet. This is not due to the terminal groin scenario. It is due to a huge jetty that impounds sand in the ebb tidal delta.

The last two inlets will be Lockwoods Folly Inlet and Shallotte Inlet. These would also be good candidates for terminal groins. Since 1982, Lockwoods Folly Inlet channel had been aligned toward the Oak Island side. As a result of this, this island built out substantially. In 2002, the channel broke through and it is almost shore perpendicular. The area on Holden Beach, which had been an erosion zone, is not building out. By contrast, the Oak Island side is beginning to erode. Shallotte Inlet is a relatively unique inlet in the sense that there is no flood tidal delta, no corresponding lagoon, and no accommodation space. Any of the sand that moves in here is creating a navigation hazard that has to be dredged. This is a perfect site for a terminal groin. The channel favored accretion on Ocean Isle. In 1970, the channel swung over to the Holden Beach side and this area began to build up. In 2001, the Corps of Engineers relocated the channel in an attempt to restore the Ocean Isle side to what it looked like forty years earlier. Contrary to popular belief, the erosion is not due to the Corps project, it is a remnant of the configuration that existed when the channel was skewed toward Holden Beach. No amount of nourishment is going to protect this area unless you are able to put up a terminal groin to restore the beach.

If this issue comes before the Commission again, you need to look at each inlet in detail because each one is unique. I do not believe that placing a groin in the proper orientation in Rich Inlet, Shallotte Inlet, or possibly Lockwoods Folly Inlet would cause damage to the adjacent beaches.

Regulatory History of Hardened Structures Ban

Steve Benton

CRC Science Panel on Coastal Hazards

Steve Benton stated he was here to show how the Coastal Resources Commission got to where they are now with regards to the shoreline erosion control structure regulations. As most of you know, North Carolina's regulations dealing with oceanfront erosion control structures are pretty strict. In 1974, the CAMA was enacted and the CRC and CRAC were created and spent the first three to four years looking at various elements of the program that were required under CAMA (land-use planning, setting up partnerships with local governments) and did not get too involved in developing regulations right away. Part of the reason for this was the CRC inherited the regulations that dealt with estuarine systems from a program that already existed. They did begin discussing the concerns and roles that shoreline structures had on oceanfront systems that they were seeing in other parts of the country, particularly New Jersey that would build tremendous shoreline structures and wound up with no beach. The CAMA specifically said that

it wanted to protect this resource and make sure that we continue to have the beach. The Commission was not interested in things that would cause troubles to these resources, but they are also required to balance the development interests. The initial regulations that were going on with the oceanfront that they had inherited were sand dune rules that were being protected under another state law. In 1979, the Commission had been looking at the issue of coastal erosion and they came out with a set of erosion rates that were used to support an oceanfront setback program. At that point they decided they could tell everybody about the erosion hazard that they were facing on their part of the beach. The initial set of guidelines came out for a program which allowed anybody to do whatever they wanted for structures that existed before June 1, 1979 because people that had built before the erosion rate data and storm studies would not have known any better. Anything after this date had a prohibition of hard structures. This went along for about three or four years and it wasn't too long before there were problems with this. There were a number of areas that were experiencing higher erosion rates. One particular hotspot was in Dare County in Kill Devil Hills. This area had a long-term average erosion rate of four or five feet, but over the last couple of years had experienced between eight and twelve feet per year erosion. Half of the Sea Ranch Hotel had been built before June 1, 1979 but the other half after. This left a dilemma on how to deal with this. The Commission was receiving a lot of pressure to do something about these rules. In January 1984, the Secretary of the Department of Natural Resources came before the Commission and asked that they form a task force to look into the problem of dealing with erosion control structures on the oceanfront. A task force was developed with sixteen members representing the CRC, CRAC, local government officials, Corps of Engineers, and State officials. They also put together a group of fourteen advisors which included several engineers, a couple of geologists, planners, and several lawyers. They began meeting in February and broke up into two different committees. One committee looked at technical aspects of the issue and another committee looked at the planning elements (costs, legal challenges). As they were meeting, the Town of Kill Devil Hills came before the Commission with a permit request to sink a barge 350 feet offshore off of the end of Third Street. The Commission asked the task force to look at the proposal and to come up with some ideas on how to deal with the permit. Based on the task force's ideas, the Commission put together a permit which included a number of conditions and to allow the permit to be issued. Some property owners objected to the proposal. Eventually, the permit was issued and the objectors appealed it, but the Commission refused to hear it. The Town decided to not put the barge in place. In July the task force finished their work and prepared a report and sent it to the Commission at their July meeting. The report had two parts. The first was background information that the task force had considered during their discussions. The second part contained recommended policies, proposed guidelines and other actions that resulted from the findings in the first part. Many of these axioms and recommended studies have been continued in the efforts of the Coastal Resources Commission on their oceanfront development management program. The last thing in the task force report was a set of recommendations for regulations and guidelines for erosion control structures. The recommendations included the statement that to permanently stabilize the location of a shoreline by massive seawalls and similar protection devices that do not preserve the public trust rights should not be allowed. The standards recommended prohibiting sand trapping through the use of groins and breakwaters and prohibiting shoreline hardening by the construction of bulkheads and seawalls. The recommendations from the task force said that the project design must incorporate features adequate to protect public use of the beach and to prevent or mitigate the impacts of increased erosion on nearby properties. The main point is that the task force did not absolutely ban hard structures if a long line of conditions were met. When the CRC received the task force report,

they said that it was appropriate for dealing with oceanfront erosion control structures statewide. At their September meeting, a series of resolutions were adopted that were related to the recommendations that the task force had provided. At the November meeting, intense debate revolved around the ability of the CRC to actually incorporate all of the conditions outlined by the task force necessary to mitigate the impacts of allowing sandtrapping devices or hard structures on the oceanfront. A CRAC member expressed his concern that any active approval of permanent materials such as wood or concrete would lead to a hardening of the shoreline and because of the potential impact, the CRC should prohibit them as a matter of policy. This changed the nature of the debate. The CRC took out the language that was recommended by the task force and they were prohibited. On completion of a series of public hearings and a final review at the January 1985 CRC meeting, it was unanimously adopted by the Commission. The rules were in place and going along smoothly until 1989 when the Bonner Bridge over Oregon Inlet was threatened by a series of storms. There was a push to build the terminal groin there to protect the bridge. The CRC amended their rules to allow for an exception for structures necessary to protect a bridge providing the only access to a substantial population on a barrier island. This focused the exception on one place which was Oregon Inlet. There was also an extensive monitoring program set up and it is still going on. In 1992, Fort Fisher was being eroded away and it is a national historic structure. It could not be moved as it was an earthen fort. It was not the kind of thing that you could depend on a beach nourishment project to protect because a big storm could go over the top of the beach nourishment project and wipe out the fort. The only viable option for protecting the historic structure was to build a traditional rock riprap. Downstream from that it was public land and there was not much there and would not have an offsite impact. The CRC adopted another special exemption to add to the Bonner Bridge exception which would allow for a structure for protection of a historic site of national significance that is imminently threatened by shoreline erosion. They added another exception in there for political reasons that allowed structures necessary to maintain an existing commercial navigation channel. The Oregon Inlet jetties were a topic that was extremely sensitive to the Commission because it was an issue that was decided before the CAMA. It was something that is sacred to the folks in Dare County and it would be difficult to come out with guidelines that would cause that project any jeopardy. The general notion was that the jetties were not technically erosion control structures and would not be subject to the guidelines.

From then on until about 2003 there were efforts to hold on to the erosion control structures ban. There were a lot of variances and appeals. In 2003, in response to all of the variances and appeals, Senator Basnight provided force of law to the structure ban by passing House Bill 1028 which prohibited construction of permanent erosion control structures in an ocean hazard AEC. In 2007, another Senate Bill was enacted that was adopted to authorize the CRC to implement a pilot project to study the use of terminal groins for ocean inlet stabilization. This brings us back to where we were when we initiated the Outer Banks Erosion Task Force. We have learned a great deal about how to more effectively engineer structures on the oceanfront. We have learned a great deal more about the physical processes effecting North Carolina's beaches and islands. It appears the Legislature has directed that we reconstitute an Outer Banks Erosion Task Force type of initiative to update the original effort. We need to be careful of a couple of things. We don't need to be caught in a trap of making a finding that there is no data supporting some adverse impact when there have been no studies to generate data. If we are to effectively evaluate the use of terminal groins for inlet stabilization we need to look at what inlet stabilization might do to natural inlet processes and their role in ecosystems. We must look at inlet stabilization on barrier island health and the response to rising sea level. If we can characterize and quantify

these kinds of issues then we have a chance of realistically evaluating the use of terminal groins for ocean and inlet stabilization. This is an opportunity for coastal geologists and coastal engineers to work collaboratively rather than at odds with each other.

PUBLIC HEARINGS

15A NCAC 07H .0308(a)(2) Temporary Erosion Control Structures

Mack Paul of K&L Gates stated that he had presented a proposed rule to the CRC in July. He stated that there is a continuing concern about the overall approach and some of you are new to the Commission since that timeframe. We have a continuing concern about the timeframes. Back in the 1990's the CRC went to an approach that established a two year timeframe for sandbags and five years if it was a community actively seeking a nourish project. That was extended in 2000 to expire in 2008. It continues to be a problematic approach in that in the rule, the timeframes are not consistent with the time it takes to implement these projects. The science committee proposed an approach that we feel makes sense. This included limiting the size and with this they would have a limited time by their very nature and then you would not have to worry about enforcing the artificial timeframes that create a lot of drain on resources and friction when the timeframes hit. We continue to urge the Commission to consider an approach that would either handle sandbags by limiting their size or making them permissible to stay in place as long as they are in a community with a comprehensive strategy in place for pursuing beach nourishment or in inlet areas that have an inlet relocation project planned.

Comments on the draft as it is, we do appreciate Staff's cooperation as we worked on an approach as it related to inlet areas and this was an improvement to recognize that inlet areas are unique and do need to be considered separately and the rules extend the timeframe to eight years. One issue is that the rule says that structures that are imminently threatened can only be permitted once unless they are in an inlet area. Then it goes on to say that if you continue to be threatened after eight years you can get an additional eight years. I think there needs to be some clarification that if you have been permitted once you can be permitted again if you do a project and the erosion comes back later. This should be clarified. Back when the rule was changed in 2000 to extend it to May 2008, the clock was reset at that time for properties that were permitted. The rule is not clear how existing properties in inlet areas would be affected once these rules go into effect. We would urge that they could be beneficially affected by getting more time if they are in an inlet area. In summary we would urge you to consider the broader issue about these time limits and what impact that has in terms of enforcement.

15A NCAC 07H .1100

General Permit for Construction of Bulkheads and Placement of Riprap for Shoreline Protection in Estuarine and Public Trust Waters and Ocean Hazard Areas

No comments were received on this rule.

15A NCAC 07H .1200

General Permit for Construction of Piers, Docks, and Boathouses in Estuarine and Public Trust Waters and Ocean Hazard Areas

Jess Hawkins stated that he is a member of the N.C. Marine Fisheries Commission which is the body setup by the General Assembly to conserve the marine and estuarine resources for the state of North Carolina. Mr. Hawkins further stated that he is here to provide comments on the

proposed CRC dock and pier rules, but these comments do not reflect the comments of the entire body of the Commission and written comments will be provided by March 16, 2009. The comments do reflect the views of myself and Dr. BJ Copeland. The way our bureaucracy is set up is there are committees set up and Dr. Copeland and myself have the privilege of being the co-chairs of Habitat and Water Quality committee. We have talked about this issue for some time as has the CHPP Steering Committee. Both Dr. Copeland and myself truly appreciate the responsibility you folks have in trying to balance the use of our natural resources in North Carolina with the conservation of these resources. We are faced with similar challenges on our Commission, mainly with a more limited audience from the fishermen's standpoint. It is very intense sometimes and we try to maintain and enhance our fisheries stocks with the economic and social use of those resources. Dr. Copeland and myself want to thank you for proposing these measures. This is definitely a step forward and will better protect critical fish habitat such as SAV and primary nursery areas. This is a focus of the CHPP. I want to speak briefly about the habitat these rules are trying to better protect. Both SAV and primary nursery areas are critical fish habitat for numerous juvenile fish and shellfish in North Carolina. Out of our 2.3 million acres, the MFC has classified about eighty thousand plus acres as primary nursery areas. Yet this small amount of habitat contributes to the production of about ninety percent of our commercial fisheries production in our state and sixty percent of our recreational production. It is estimated that our fisheries resources in the state contribute about one billion dollars annually to our economy. Not only is it a social and conservation aspect, it is also an economic aspect. North Carolina has about 200,000 acres of SAV in the high salinity areas. We have vegetation in other areas but we do not know as much about those as we do in the high salinity areas. When I say high salinity I am talking about the eastern side of Pamlico Sound along the Outer Banks, Core Sound, and Bogue Sound. We are second only to Florida in the amount of critical fish habitat of SAV in the whole country. This habitat is the nursery area for little speckled trout, red drum, blue crabs, and bay scallops. We also want you to know that the MFC has recognized that these habitats are important and we have in turn placed restrictions on fishermen in utilizing those. Trawling and dredging are curtailed in primary nursery areas. The entire eastern side of the Outer Banks is closed to dredging and trawling. If you look at the western side of the Sound, there are primary nursery areas and these are closed to certain fishing practices as a way to try to protect the habitat for those juvenile fish. As you are probably aware, these dock and pier rules before you today are a result of over a year's worth of work by your staff and others which included Water Quality and Fisheries experts. As a result of those discussions, these experts had recommended a minimum of 2.5 feet as a minimum water depth in primary nursery areas, SAV areas, and shellfish areas where a general permit rule for docks and piers would apply. The fisheries experts informed us, as part of the CHPP Steering Committee as well as the Habitat and Water Quality Committee, that three feet would be preferred. As a result of looking at the balance of use of these areas with the use of boaters and the use of riparian land owners that wanted to have access, a better depth would be 2.5 feet. When you as a body took this out to public hearing, it was changed to two feet. Dr. Copeland and I would like to urge you to increase the minimum depth threshold back to 2.5 feet as proposed by the working group. Thank you for your efforts to strengthen these protections for fisheries habitats and the opportunity to speak.

MINUTES

Jerry Old made a motion to approve the minutes of the November 2008 CRC meeting. Veronica Carter seconded the motion.

David Webster offered an amendment to the motion to correct a typographical error on page six in the motion for the Town of Pine Knoll Shores land use “plane” which should read “plan”.

Jerry Old and Veronica Carter accepted this amendment and the motion passed unanimously (Weld, Leutze, Bissette, Elam, Elam, Webster, Old, Peele, Sermons, Shepard, Mitchell, Wilson, Wynns, Carter).

EXECUTIVE SECRETARY’S REPORT

Jim Gregson, DCM Director, gave the following report.

Sandbags Update

Last month, an Administrative Law Judge dismissed a motion to stay enforcement by 18 recipients of sandbag removal letters. The homeowners sought permission to repair their sandbag structures while they pursue variance relief, and also sought to keep DCM from going forward with enforcement. After the ruling from Judge Overby, the Division sent Notices of Violation to homeowners who received the first round of sandbag removal letters in September. So far, 16 have filed variance requests to further extend their sandbag time limits.

State Budget

Gov. Perdue directed State agencies to reduce their budgets by an additional 2%, for a total of a 7% reduction so far. DCM has been able to meet the budget cuts so far, partly by using lapsed salaries from a vacant field rep position in Morehead City.

The budget issues will definitely have an impact on CRC meetings this year. We have begun meeting for 1 ½ days only to reduce hotel expenditures, and I have restricted staff from attending CRC meetings unless absolutely necessary. We have also changed some meeting locations to take advantage of reduced staff travel and free meeting space. It may become necessary to reduce the total number of meetings as well.

Offshore Drilling Committee

Commissioners Leutze and Sermons, and DCM’s coastal hazards specialist Dr. Jeff Warren, have been named to a 24-member legislative task force that will examine the effects of offshore oil and natural gas exploration. Dr. Leutze is one of the co-chairs of the committee, along with Doug Rader of the Environmental Defense Fund. The committee will review research on offshore drilling, hold public hearings and examine the economic benefits and costs.

OPSC Public Meetings

DCM and the N.C. Coastal Resources Law, Planning and Policy Center will hold four public hearings in February and March to gain public input on the draft report from the organizations’ Ocean Policy Steering Committee.

Meetings will be held at the following locations and times:

- Feb. 25, 5:30-7:30 p.m. - Pine Knoll Shores Aquarium (Big Rock Theater), 1 Roosevelt Blvd., Pine Knoll Shores, N.C.
- Feb. 26, 5:30-7:30 p.m. - Northeast Branch, New Hanover County Library, 1241 Military Cutoff Rd., Wilmington, N.C.
- March 9, 5:00 – 7:00 p.m., Parker Lincoln Building, Conference Room 1H 120, 2728 Capital Blvd., Raleigh, N.C.
- March 10, 5:30-7:30 p.m. - Nags Head Beach Fire Station 16, South Wing, 5314 S. Croatan Hwy, Nags Head, N.C.

The draft report is available for download from our web site, under “What’s New” on the left side of the homepage.

Pivers Island Grant

The Clean Water Management Trust Fund Board has awarded DCM and its partners \$496,000 for implementation of the stormwater plan on Pivers Island. The Division has formed a partnership with the NOAA Center for Coastal Fisheries and Habitat Research and the Duke University Marine Laboratory to develop a plan to implement innovative and state-of-the-art technologies to reduce stormwater runoff and aquaculture effluent into estuarine waters and reduce adverse environmental impacts of marine laboratory operations on Pivers Island, in Beaufort NC. The grant, awarded through the Clean Water Management Trust Fund’s Innovative Stormwater Initiative, is a follow up to the successful completion of the stormwater master plan *to Minimize Impacts to Surrounding Critical Estuarine Habitats* – funded by the Trust fund in 2003. As with the stormwater plan, this implementation project will utilize the educational and research expertise of institutions located on the Island to provide a public education model to support efforts to reduce the environmental impact of coastal development, as well as for future projects funded by the Clean Water Management Trust Fund.

Reserve Summer Education Programs

This summer the Rachel Carson Coastal Reserve will again host educational programs for students of all ages. All classes will be hands-on, field-based estuarine studies. The programs are:

- **Junior Naturalist Program**
Beginning June 17, the Junior Naturalist program for students in grades 4-8 will run Wednesdays through Aug. 5, from 9 a.m.-12 p.m. Students will conduct field investigations of estuaries. Activities will include marsh seining, water quality sampling, animal population studies, beach and marsh profiles and phytoplankton identification.
- **Adventures in the Estuary**
Two sessions of Adventures in the Estuary will be held this summer for students in grades 1-3. The first session will be June 16, 18, 23 and 25, and the second session will be Aug. 4, 6, 11 and 13. Each session is \$40 for all four classes. Classes are 9 a.m.–12 p.m.
- **Preschool Storytime and Crafts**
For the youngest students, Preschool Storytime and Crafts will be held from 9-10 a.m. on June 15, July 13 and Aug. 10. These sessions will include a story, estuarine critter

observation and a related craft. All preschool sessions are free of charge, but registration is required. Topics will include hermit crabs, birds and snails.

NERRs 312 Review

The N.C. National Estuarine Research Reserve will be evaluated by NOAA April 20-24. The evaluation team will spend the week meeting with staff and partners, and visiting the sites to evaluate compliance with federal regulations, management plans, and grants. Public meetings will be held on April 21 in Wilmington and April 22 in Beaufort to provide the general public the opportunity to comment as required by the CZMA.

LAC Meeting

The local advisory committee for the Rachel Carson component of the Reserve will meet on March 19 at the Reserve office in Beaufort. The committee will discuss management and programs at the site.

Staff News

Alex Houston started with the Reserve on January 5 and will be working for two years on the research and education components of the recently awarded grant to the Reserve and NOAA to study estuarine shoreline stabilization. Alex has a master's degree in Wildlife Biology from Purdue University and has worked with N.C. Wildlife Resources Commission as an assistant waterbird biologist and for NOAA on sea turtles. She will work out of the Beaufort office.

Dr. Bo Dame is the Reserve's new Northern Sites Manager. Bo began work on February 9 and is managing the three northern sites of the Reserve, Currituck Banks, Kitty Hawk, and Buxton Woods, from the Reserve's office in Kitty Hawk. Bo has a B.S in Geological Sciences from Lehigh University, a M.A. in Marine Science from the VA Institute of Marine Science, and a Ph.D. from East Carolina University in Coastal Resources Management.

CHAIRMAN'S COMMENTS

Chairman Emory stated there were some excellent presentations on groins and an even wider discussion of beach processes. All of this information will be very helpful as we move on and I hope we get a chance to reflect on these things.

There is a lot going on in the newspapers about sandbags and groins. Not all of it is complimentary to the CRC, but it is helpful to remind ourselves of the progress we are making.

The Beach and Inlet Management Plan is still being developed and when it is complete we will have a tool to do a more comprehensive job of managing the beach and inlet. In some ways it is also a response to sea level rise. Our static line and setback rules are working their way through the process and we will be able to implement these. We will be receiving ocean policy recommendations soon and these will give an idea of the issues we need to be working on in the next few years. In concert with the other resource agencies, we will continue to grind away at the CHPP recommendations. Sometimes it seems that we are bogged down in details, but we should remind ourselves that we have gotten some things done and still have a lot to do.

Dr. Leutze stated that Governor Perdue has signed an agreement that would set up a South Atlantic Coastal Alliance between Florida, South Carolina, Georgia and North Carolina. The

intent is to help attract federal funds for addressing common problems and common issues. The CRC might consider coordination with other similar organizations in other states and see where best practices might be identified that would be helpful to all of us. He further stated that there was a color brochure at our seats which was intended to present facts on terminal groins. It was a well produced piece of material and was clearly intended to be in opposition to terminal groins, but there was no clear indication of where the materials came from. Dr. Leutze asked that on controversial issues and matters to be presented to the Commission, it should be identified as to where it came from.

Chairman Emory stated that any items that are put onto the table for the Commission should go through the DCM staff. Chairman Emory congratulated Commissioners Leutze and Sermons on their appointment to the oil panel.

CRAC REPORT

Dara Royal gave the CRAC report.

Dara Royal introduced the new members of the Advisory Council Tracy Skrabal appointed to the science and technology seat, Jerry Parks to the local health director seat, and Charles Jones as the Carteret County representative.

Dara stated the CRAC recommends approval of the Town of Emerald Isle land use plan amendment.

Boots Elam made a motion to approve the Emerald Isle land use plan amendment. Joan Weld seconded the motion. The motion passed unanimously (Elam, Old, Bissette, Wynns, Wilson, Sermons, Peele, Weld, Shepard, Webster, Carter, Leutze, Mitchell).

Dara stated the CRAC recommends approval of the Town of Manteo land use plan amendment.

Jim Leutze seconded the recommendation for approval of the Town of Manteo land use plan amendment. The motion passed unanimously (Elam, Old, Bissette, Wynns, Wilson, Sermons, Peele, Weld, Shepard, Webster, Carter, Leutze, Mitchell).

Dara stated that after discussions during the last two CRAC meetings about seeking a dedicated source of state funding for beach projects, the Council drafted a resolution for the General Assembly to request the creation of a beach inlet and waterway trust fund subject to annual appropriation. This is a timely request given the work being done on the BIMP. We will be asking our legislative representatives to establish the fund and asking our appointing bodies to make the same request. The Council also voted to invite the CRC to consider taking its own action either in support of the fund or in support of our action. Wayland Sermons stated that a specific request for the state to create a trust fund and utilize a portion of the sales tax puts a larger picture on this resolution. It is a huge step when a body such as the CRC requests from the State and specifies the funding source. He stated that he agrees that the State should use all efforts to generate beach nourishment and inlet management, but wonders if the CRC has had discussion when asking for a specific and dedicated revenue source. Jim Leutze asked to strike "an annual appropriation of a portion of the State sales tax revenue to be used with local matching funds". This would not specify the revenue source and may handle Commissioner Sermons objections. Commissioner Leutze recommended requesting an annual appropriation to be used with local matching funds. Dara Royal agreed. Wayland Sermons stated there wouldn't

be anything wrong in asking for the establishment of a trust fund that would have matching funds and an appropriate revenue source appropriation each year in the General Assembly. The State's sales tax is a greatly guarded source of revenue by the Legislature. Dara added that when looking at the accommodations taxes generated in the eight ocean counties and how much sales tax it sends to the State it would have more than paid for projects that have been done in the last decade. All of us in local government understand that sales tax is closely guarded and in these economic times considered critical. Melvin Shepard stated that this goes deeper than what we think it does. Going back more than twenty years, it has always been the responsibility of the Corps of Engineers to dredge the waterways and to keep the inlets open. When Governor Perdue was a senator, the Corps of Engineers' budget had been cut and they were threatening to dredge only about three inlets in the state, she commented that maybe we needed our own dredging. The money for this has always come from the federal budget and North Carolina has been reluctant to get into substituting state money for what is, or ought to be, federal funds. Chairman Emory stated that when the BIMP is completed, this will just be a plan unless there is some money. Whether we endorse this resolution today or something similar to it in a year or two when the BIMP is ready, we will need to ask for money whether it is spent on inlet and channel maintenance or not. There will need to be a source of funds or nothing will happen. Melvin Shepard stated that if we are going to ask for funds from a certain place, we might want to include something that says that the State would work closely with the Corps of Engineers to produce money for waterway management. The Corps thinks they have the right to be selective with inlet dredging. Federal money should be included in this resolution. Jim Leutze stated the amount of federal funds is problematic depending on economic conditions, the attitude of the President, the attitude of the Office of Management and Budget. In order to have some stability in our coastal areas, many people would like to have some sort of trust fund similar to the highway trust fund. The implication is that we consider these things as infrastructure and these are important. If you are going to maintain infrastructure, you are going to have to have an identified source of funds. Otherwise, you are dependent upon our representatives to get special funding for dredging. This is not a good way to do business and is not a good way to stabilize this very important resource. We know the Corps of Engineers are the people who call the shots and they have to have the money. I am not comfortable identifying the revenue sources, but some way or another, a principal should be established that there is a need for a trust fund. Dara Royal stated that maybe the focus is drilling down to the local level and getting their share, but there is importance in having a dedicated source of funding at the state level. In the twenty to thirty year history that Melvin spoke of, the Water Resources Development Plan has really not been a plan, but mainly project driven. The state has been committed to matching federal dollars when those were there. One of the things that has occurred in the last five years, in terms of the navigation dredging, the State has set aside some supplemental dredging funds that we have used along with local dollars (counties and municipalities) to leverage the limited amount of federal dollars that were there to keep the navigation channels and inlets open. We have already moved in this direction within the context of the BIMP to plan for that in a more cost effective manner and know the piece at the State level is there. Joan Weld stated that we need a more comprehensive plan. Just to have a resolution is shallow. Something of this magnitude and importance should have an ad hoc committee that would put a plan together rather than just a resolution. Jerry Old stated that the last time the CRC talked about this; there was a discussion about adding to the twenty coastal counties' sales tax to help fund this. Are we looking at an addition to the sales tax or an appropriation out of the statewide budget? Dara responded that it would be out of the State budget and not an addition. The CRAC purposefully tried to keep this resolution broad to allow the process to work as it needs to. Bob Wilson stated this is a major

issue. He said that he could support a resolution that asks the State to take this seriously and look at the alternatives and try to get some buy-in from the political establishment in Raleigh. There are a lot of models out there. Florida has a model. There is a sales tax, local sales taxes, and the income stream that is coming from the offshore fishing license. All of the money from the fishing license goes to Wildlife and we have major issues here that don't have anything to do with the Wildlife Resource Commission. I would like to see a resolution that asks the State to study this and come back with something. Maybe we could put some of our people with the State in helping to guide them with this. A resolution like this is nice, but it really doesn't have any sizzle to it. This is a major issue and I think there are great models, resources and funding that the Legislature could form a committee to study this. Melvin Shepard agreed with Bob Wilson. Chairman Emory asked that Melvin Shepard and Bob Wilson join in discussion with a few members of the CRAC to work on this and present it during the afternoon session.

Dara stated that there was discussion during the CRAC meeting to address the current CRC and CRAC meeting format. Some Council members have expressed dissatisfaction that the interaction between the Commission and the Advisory Council has decreased since the standing committee meetings were suspended. The Advisory Council is also finding it difficult to schedule sufficient meeting time with the 1 ½ day meeting format. The CRAC would like to revisit this issue with the CRC at a future meeting.

DENR UPDATE

Robin Smith, Asst. Secretary for the Environment, gave a DENR update. She stated that since the last meeting there has been a change in Administration. The Governor has already expressed a strong interest in renewable energy and building a green economy in North Carolina. The Legislature is in session. Bills are being introduced. The big issue this year will be the budget for both the Legislature and the Department. Jim Gregson mentioned the seven percent reversions from this year's budget. All State agencies were also asked to identify seven percent in permanent (continuing) cuts for next year's proposed budget. Permanent cuts are much more difficult than reversions because you cannot use things like lapsed salary money to meet those targets. It is much more likely with permanent cuts that we will see loss of positions. The Department's plan in terms of meeting the proposed seven percent cuts identified a number of reductions in positions, however these were all vacant positions. There were other positions that were moved from state appropriation to other funding sources such as federal funds or receipts. There were cuts in operating money proposed. After the initial set of seven percent reductions, the Departments were also requested to identify a number of program cuts. The Governor will put her budget together and at that time the Department's proposed cuts will be looked at to see if more cuts are needed. The Legislature will make the final decision on which cuts will move forward. Because of the budget situation, the State budget office has held back most of the conservation acquisition funds that had been authorized last year as certificates of participation. In the last session of the General Assembly about fifty million dollars had been authorized and the state budget office has indicated that only ten of the fifty will be released because of the budget situation. There is a lot of activity around the Economic Stimulus Plan. This has been taking up a lot of time as we try to get prepared for what has been a moving target. We are trying to get prepared to meet the very tight timelines for getting money out through the different funds once Congress authorizes the Bill and releases the money to the federal agencies. There will be drinking water money, there will be waste water money which will include stormwater and watershed restoration. These two areas will be funded through the normal EPA grant

process. Every year we get grant funds from EPA for drinking water projects and for waste water projects. This economic stimulus money is coming through those same two grant pipelines to the State. The expectation is we will have to apply for an EPA grant for the money that North Carolina can receive. They are asking us to submit preliminary project lists for that application and we have this done based on conversations with local governments. We are also doing a formal solicitation for projects by letter. We can supplement the list prior to the EPA approval. There will also be a public notice of the final list. The lists are longer than the money that we will receive and all projects will not be funded and there will be decisions to make about how the money is allocated. We expect to get between 150 and 200 million for these two areas. There will also be money coming through the Army Corps of Engineers for water resources development projects. Our understanding is that the Corps will use its existing process and I think the Corps has a list of projects authorized in North Carolina that they do not have complete funding for and they will likely go down that list and allocate whatever money they receive through the stimulus package to the projects that are already on the North Carolina authorized list. There will be a good chunk of money for transportation projects in North Carolina. What the Federal Highways Administration has told D.O.T. is that those projects have to be projects that are already through environmental review. We are not talking about brand new projects in this category, we are talking about things that are already on the list and have already progressed through the environmental review process and have a NEPA document completed. There will be a very short time to obligate this money and that is why everyone is scurrying around trying to get organized before Congress even enacts the Bill. The EPA will have thirty days to act on these State applications for funding and then states will have about 180 days for water and wastewater. The clear expectation is that if the funds aren't obligated, then Congress will sweep up the funds and redistribute them again. We are trying to make sure that we are prepared in terms of permitting and environmental documents and that we are not getting bogged down with projects that cannot move quickly. On the other hand, with water and wastewater, we have an opportunity to solicit some projects that may not be in the door yet (rehabilitation projects, maintenance and repair projects for water and sewer lines). These types of projects would be very easy to permit quickly and would meet a very clear state need. We are encouraging local governments to come to us with projects that meet this criteria.

VARIANCES

Young (CRC-VR-08-01), New Hanover County, Thirty Foot Buffer

Ward Zimmerman of the Attorney General's Office represented Staff. Mr. Zimmerman stated the Petitioner proposes to construct a driveway extension linking an existing dirt drive with an existing garage. The property is located at 6700 Alligator Road in Wilmington and the west side of the property is adjacent to the Cape Fear River. The proposed development is within the CRC's 30-foot buffer. Petitioner seeks relief from strict application of 15A NCAC 07H .0209(d)(10).

Mr. Zimmerman reviewed the stipulated facts of this variance request. Staff and Petitioners agree on all four of the statutory criteria which must be met in order to grant the variance. Mr. Zimmerman stated that Mr. John Young was not present.

Jerry Old made a motion to support Staff's position that strict application of the applicable development, rules, standards, or orders issued by the Commission cause the Petitioner

unnecessary hardships. Jim Leutze seconded the motion. The motion passed with ten votes (Elam, Old, Bissette, Wynns, Peele, Shepard, Wilson, Carter, Leutze, Mitchell) and three opposed (Wilson, Sermons, Weld).

Jim Leutze made a motion to support Staff's position that hardships result from conditions peculiar to the Petitioner's property. Chuck Bissette seconded the motion. The motion passed with eleven votes (Elam, Old, Bissette, Wynns, Wilson, Peele, Shepard, Webster, Carter, Leutze, Mitchell) and two opposed (Sermons, Weld).

Jim Leutze made a motion to support Staff's position that hardships do not result from actions taken by the Petitioner. David Webster seconded the motion. This motion passed with ten votes (Elam, Old, Bissette, Wynns, Peele, Shepard, Webster, Carter, Leutze, Mitchell) and three opposed (Wilson, Sermons, Weld).

Jim Leutze made a motion to support Staff's position that the 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. The Petitioner is required to include some method of conveyance in his project design as indicated in the Staff's position. Jerry Old seconded the motion. The motion passed unanimously (Elam, Old, Bissette, Wynns, Wilson, Sermons, Peele, Weld, Shepard, Webster, Carter, Leutze, Mitchell).

This variance was granted.

NCDOT ((CRC-VR-08-55) Dare County; Sand Compatibility

Ward Zimmerman of the Attorney General's Office represented Staff. Mr. Zimmerman stated the Petitioner has proposed a beach habitat restoration on NC 12 in Dare County. The proposed project would place approximately 200,000 cubic yards of sand on the beach face at the Rodanthe S-Curves. The application was denied based on the proposed development's inconsistency with the CRC's shore-perpendicular topographic and bathymetric surveying of the recipient beach and sediment sampling requirements. Petitioner seeks relief from 15A NCAC 07H .0312(1)(c) and 07& .0312(1)(d).

Mr. Zimmerman reviewed the stipulated facts of this variance request. Staff and Petitioners agree on all four criteria required to be met in order to grant this variance. Scott Slusser of the Attorney General's Office Transportation Section is present to speak on behalf of Petitioners.

Scott Slusser of the Attorney General's Office represented Petitioners. Mr. Slusser stated the D.O.T. placed sandbags on NC 12 and a condition of their special use permit issued by US Fish and Wildlife Service was to complete a beach habitat restoration. The recipient beach was transected six times, but based on the small size of the beach the minimum number of sediment samples was not met. Mr. Slusser reviewed the stipulated facts which he contends supports the granting of this variance. NCDOT will monitor the physical and biological elements of the beach four times per year under the supervision of the Fish and Wildlife Service and the Wildlife Resources Commission.

Charles Elam made a motion to support Staff's position that strict application of the applicable development rules, standards, or orders issued by the Commission cause the Petitioner unnecessary hardships. Chuck Bisette seconded the motion. The motion passed unanimously (Elam, Old, Bisette, Wynns, Wilson, Sermons, Peele, Weld, Shepard, Webster, Carter, Mitchell) (Leutze absent for vote).

Jerry Old made a motion to support Staff's position that hardships result from conditions peculiar to the petitioner's property. Chuck Bisette seconded the motion. The motion passed unanimously (Elam, Old, Bisette, Wynns, Wilson, Sermons, Peele, Weld, Shepard, Webster, Carter, Mitchell) (Leutze absent for vote).

Jerry Old made a motion to support Staff's position that the hardships do not result from actions taken by the Petitioner. Chuck Bisette seconded the motion. The motion passed unanimously (Elam, Old, Bisette, Wynns, Wilson, Sermons, Peele, Weld, Shepard, Webster, Carter, Mitchell) (Leutze absent for vote).

Jerry Old made a motion to support Staff's position that the variance request 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. Chuck Bisette seconded the motion. The motion passed unanimously (Elam, Old, Bisette, Wynns, Wilson, Sermons, Peele, Weld, Shepard, Webster, Carter, Mitchell) (Leutze absent for vote).

This variance was granted.

NC Seafood Industrial Park Authority (CRC-VR-08-56), Dare County; Pier ¼ Rule
Christine Goebel of the Attorney General's Office represented Staff. This variance request was filed on behalf of N.C. Seafood Industrial Park Authority. Clark Wright is present and will represent Petitioners. Petitioner's property is located on the northeastern half of Wanchese Harbor on Roanoke Island in Dare County. The proposed development is a reconfiguration that would eliminate nine existing slips and reconfigure them with a net gain of three slips. Petitioners seek relief from strict application of 15A NCAC 07H .0208(b)(6)(J)(iii). Ms. Goebel reviewed the stipulated facts of this variance request and stated that Petitioners and Staff agree on all four variance criteria.

Clark Wright of Davis Hartman Wright, PLLC represented Petitioners. Mr. Wright stated that Mr. Bob Peele the Director of the N.C. Seafood Industrial Commission was present if any answers of a technical nature are needed. Mr. Wright stated that the Petitioners agree with the Staff on each of the four variance criteria.

Wayland Sermons made a motion to support Staff's position that strict application of the rules, standards or orders issued by the Commission will cause the Petitioner unnecessary hardship. Jerry Old seconded the motion. The motion passed unanimously (Elam, Old, Bisette, Wynns, Wilson, Sermons, Peele, Weld, Shepard, Webster, Carter, Leutze, Mitchell).

Wayland Sermons made a motion to support Staff's position that hardships result from conditions peculiar to the petitioner's property. The motion was seconded by Jerry Old.

The motion passed unanimously (Elam, Old, Bissette, Wynns, Wilson, Sermons, Peele, Weld, Shepard, Webster, Carter, Leutze, Mitchell).

Wayland Sermons made a motion to support Staff's position that the hardships do not result from actions taken by the Petitioner. Jerry Old seconded the motion. The motion passed unanimously (Elam, Old, Bissette, Wynns, Wilson, Sermons, Peele, Weld, Shepard, Webster, Carter, Leutze, Mitchell).

Wayland Sermons made a motion to support Staff's position that the proposed development is 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. Jerry Old seconded the motion. The motion passed unanimously (Elam, Old, Bissette, Wynns, Wilson, Sermons, Peele, Weld, Shepard, Webster, Carter, Leutze, Mitchell).

This variance was granted.

Rouse (CRC-VR-08-57), Onslow County; Pier ¼ Rule

Ward Zimmerman of the Attorney General's Office represented Staff. Mr. Zimmerman stated Bill Raney will represent the Petitioners, John and Debra Rouse. Petitioners own a lot located at 116 Leslie Drive in Hubert, Onslow County. Petitioners applied for a CAMA major permit to build a docking facility consisting of a pier, platform and two boat lifts. Petitioners seek relief from strict application of 15A NCAC 07H .0208(b)(6)(J)(iii). Mr. Zimmerman reviewed the stipulated facts of this variance request and stated that Staff and Petitioners agree on all four variance criteria.

Attorney Bill Raney of Wessell and Raney represented Petitioners. Mr. Raney reviewed the four criteria and stated Petitioners agree with Staff on all four criteria.

Jim Leutze made a motion to support Staff's position that strict application of the CRC's rules, standards or orders cause the Petitioner unnecessary hardship. David Webster seconded the motion. The motion passed unanimously (Elam, Old, Bissette, Wynns, Wilson, Sermons, Peele, Weld, Shepard, Webster, Carter, Leutze, Mitchell).

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 unanimously (Elam, Old, Bissette, Wynns, Wilson, Sermons, Peele, Weld, Shepard, Webster, Carter, Leutze, Mitchell).

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

David Webster made a motion to support Staff's position that the proposed development is consistent with the spirit, purpose and intent of the rules, standards or orders issued by the Commission; secures public safety and welfare; and will preserve substantial justice. Jim

Leutze seconded the motion. The motion passed unanimously (Elam, Old, Bissette, Wynns, Wilson, Sermons, Peele, Weld, Shepard, Webster, Carter, Leutze, Mitchell).

This variance was granted.

Town of Oak Island- (CRC-VR-09-02), 30' Buffer and Oceanfront Setback

Christine Goebel of the Attorney General's Office represented Staff. Ms. Goebel stated Brian Edes, Town Attorney for Oak Island, is present and will represent Petitioners. Ms. Goebel stated the Petitioner owns an existing water treatment system in Oak Island. The Commission approved a variance of the large structure setback for Phase I of the wastewater collection and treatment project in November 2007. Petitioners seek a variance from the large structure setback and the applicable 30-foot estuarine shoreline buffer for Phase II.

Ms. Goebel reviewed the stipulated facts of this variance request and stated that Staff and Petitioners agree on all four variance criteria.

Brian Edes, Oak Island Town Attorney, stated Jerry Walters, Town Manager, Troy Davis, wastewater project director, and Council member Dara Royal are present to answer questions. Mr. Edes stated Petitioners are in agreement on the four criteria and reviewed the stipulated facts that he contends constitute granting of the variance request.

Charles Elam made a motion to support Staff's position that strict application of the applicable rules, standards, or orders issued by the Commission cause the Petitioner unnecessary hardships. Jerry Old seconded the motion. The motion passed unanimously (Elam, Old, Bissette, Wynns, Wilson, Sermons, Peele, Weld, Shepard, Webster, Carter, Mitchell) (Leutze absent for vote).

Charles Elam made a motion to support Staff's position that hardships result from conditions peculiar to the Petitioner's property. Jerry Old seconded the motion. The motion passed unanimously (Elam, Old, Bissette, Wynns, Wilson, Sermons, Peele, Weld, Shepard, Webster, Carter, Mitchell) (Leutze absent for vote).

Jerry Old made a motion to support Staff's position that hardships do not result from actions taken by the Petitioner. David Webster seconded the motion. The motion passed unanimously (Elam, Old, Bissette, Wynns, Wilson, Sermons, Peele, Weld, Shepard, Webster, Carter, Mitchell) (Leutze absent for vote).

Charles Elam made a motion to support Staff's position that the variance 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. The motion passed unanimously (Elam, Old, Bissette, Wynns, Wilson, Sermons, Peele, Weld, Shepard, Webster, Carter, Mitchell) (Leutze absent for vote).

This variance was granted.

PRESENTATIONS

Teleconferencing and Other Meeting Technologies (CRC 09-06)

Josh Shephard

Josh Shepherd, Management Information Systems Manager for the Division of Coastal Management, stated he will show some possible solutions for conducting CRC meetings remotely using technology rather than meeting as a group and incurring the expenses of travel. Mr. Shepherd provided the Commission a fact sheet that was prepared by North Carolina's Attorney General. This sheet summarizes the requirements that are set out in North Carolina General Statute 143-318. When the CRC conducts a meeting it is a public meeting and there are requirements that the public has to be able to view and participate. All of our public meetings have to be publically noticed. If we chose to look at an alternative method of meeting, the requirements will remain the same. The public does not have the right to speak during a public meeting except in the case of a public hearing. The public has the right to listen to electronic meetings. If we were to meet remotely, we would have to provide the public with a mechanism for listening in and potentially recording the meetings. It is a requirement that we take meeting minutes and these must be available by request from the public. Voting and variance presentations would have to be considered if a teleconferencing method were to be implemented.

Some general practices the CRC follows include the roll call which is done verbally at each meeting to ensure a quorum, the record of individual voting is taken, presentations, and variances and contested cases. Another issue that would have to be addressed if the Commission decides to meet remotely is the Chairman controlling the meeting. There would need to be a mechanism for that to still take place when we are not face to face.

The technologies that are available to the Commission are limited to technologies that are supported by the State. One option available is the conference call. This is an audio option only. The Commission has exercised this option in the past for emergency meetings. There are three variations for this option (meet-me number, attendant based meeting, 800-number service). Video conferencing would be a second alternative. The NC Aquariums take advantage of this alternative. It is a television with a camera on it. One of the limitations of this system is you would not want to have more than five or six participants on each end due to the screen resolution and the ability to interact. It is a full two-way system with both audio and video and requires an internet connection. The next option that is available to the State is webconferencing. Webconferencing is primarily a computer solution. There is software that you would run on your individual machine and typically requires a high speed internet connection. The last option is a hybrid option and this combines two or more of these technologies. You can utilize the computer to convey information such as a presentation while using the telephone to conduct the audio portion. The videoconferencing solution can tie into webinar technology. Another option would be mini-meetings where several gather at CAMA regional offices and use technology to link the locations together.

There are concerns about technical difficulties that could prevent a meeting location from being able to participate. This could affect the quorum or the public wanting to make a comment from a particular location. If we look at the potential of holding mini-meetings, we have to be able to accommodate the public. Also, the DCM offices continue to function as a place of business even when we are having and meeting and we would not want to overwhelm Staff that are still working. The face-to-face interaction would be limited if we were to meet remotely which would eliminate sidebar conversations between Commissioners and Staff. The media also wants to have access to Commissioners during meetings and this could be limited. Large documents (maps, architectural drawings) could be a problem as they are not easily viewed electronically.

Materials are often passed out at the meeting and we would have to figure out how to accommodate last minute documents and handouts.

PUBLIC COMMENT AND INPUT

Clark Wright stated he wrote legislation that assisted in the passing of the special license tag to support the Appalachian Trail. It has raised one third of a million dollars. I also live in New Bern and we were in the GTP area. There was a GTP tag and a special assessment for a period of years to raise money. I would encourage you to look at the possibility of a targeted license tag allotment over a period of years as a possible funding source. I think it merits this Commission saying they advocate that the Legislature find a permanent trust fund type source of funding. You may want to talk with the Administrative Office of the Court about technology. There are more and more portions of legal proceedings that are being done through various technology link ups including first appearances in criminal cases. The federal courts are doing it as well. OAH's new facilities, where the RRC meets, has an overflow room with a technological hookup. I was the Governor's lawyer on offshore drilling for four years. I think I know more about this than anyone in the State of North Carolina. I would love to offer input and expertise. There is still a green file cabinet within DOJ full of my materials. The key issue is secondary and cumulative impacts onshore. A critical issue is revenue sharing. This is one of the largest sources of revenue for the federal budget. Don't forget when you deal with wind that there may be view shed issues. I think the CRC will be on the hot seat more, and probably should be, about clean water management. DCM should be the lead agency on all stormwater issues in the twenty coastal counties. This would need to come with staffing and funding. I think I have a lot to offer with 24 years of struggling with these issues.

Jack Nichols stated he is a homeowner on Bald Head Island. We have owned two homes on Bald Head Island since May 1987. We first owned a villa on South Beach and then we moved to Cape Fear Trail in 1991 on West Beach. One reason for us moving away from the villa was the problems created by the high rate of erosion and frequent storm surges on the ocean. When we moved to our villa in 1987 there were numerous homes and a large inn and restaurant in front of our villas. In four years the inn and all the homes were gone. The villas had become front row property. The home on Cape Fear Trail which was built in 1989 was issued a permit using a sixty foot minimum setback from the first line of stabilization and our home was actually built over 140 feet back. Our lot is over 200 feet deep, 200 feet across, is on the waterfront side, and narrows at the entrance of 50 feet. The home is 2,000 square feet. In 2002, a second CAMA permit was issued confirming our sixty foot setback when we added a screened porch on the side. We sold our Cape Fear Trail home two years ago to a Bald Head Island neighbor, subject to the sale of his home. About six months ago this purchaser checked with CAMA officials locally and was told that our home was in the inlet hazard area and was in violation of the 240 feet setback restriction and was not rebuildable if it was destroyed. The prospective purchaser then put this transaction on hold until the issue was resolved. In October of last year we had a meeting with the local CAMA official and he told us that the minimum setback for our home, which was built in 1989, was sixty feet and should have been 180 feet based on a six foot annual erosion rate for the inlet hazard area. He said that the erosion rate for the entire inlet hazard area was based on a 1988 erosion rate from South Beach. He went on to say that an erosion rate for West Beach did not exist and added that the 1998 erosion rate was eight feet and our setback requirement was increased to 240 feet. Our lot is 200 feet deep which means our lot was not buildable under the 180 feet or 240 foot setback. In further conversation and e-mails, I was told that our property was in violation of the setback requirements of the inlet hazard area at the time

of construction. I asked when it was decided by CAMA to use erosion rates from South Beach to establish the setbacks for West Beach. I was told that the CAMA records which show the minimum setback for structures for West Beach were inconsistent from the late eighties through the nineties which may have been caused by the CAMA officers using a minimum two foot erosion rate factor because erosion rates had not been established on West Beach. The records show that at least six structures on West Beach were permitted for minimum setbacks of sixty feet between 1989 and 2003 and ours was one of them. I feel that it is improper to use ocean erosion rates to determine setbacks on West Beach property on Bald Head Island because the actual historical erosion rates have been much lower on the river. It is obvious that the flow of the river current has protected the property on the river from strong ocean currents and surges. In my eighteen years of living on Bald Head Island there has been minor erosion balanced by frequent accretion resulting in little or no change in the vegetation line. Until five or six years ago when major changes were made to the shipping channel in the river, we are now experiencing greater erosion rate and the Village government has taken the combined action of renourishment and vegetation planting to stabilize West Beach. In summary, I feel that on Bald Head Island it is unreasonable and arbitrary to use erosion rates for South Beach to establish setback requirements on West Beach. This issue should be resolved as soon as possible. The erosion rates and setbacks on the River West Beach properties should be set at two feet and 60 feet respectively until the erosion rates can be measured and the major issues are addressed.

Andy Sayre stated he has lived on Bald Head Island for fifteen years and represents himself and Bald Head Island. I appear before you today wearing four hats. First, I have been on the Bald Head Island Village Council for almost twelve years. I would like to think that I am well informed. However, over the past six months or so I have been surprised and increasingly alarmed by the potentially broad and uncertain implications of the present and proposed IHA rules. The well being of individual property owners and the Village's tax base depends on clear rules. It appears the regulations have not been logical, well communicated, nor uniformly administered. The Village of Bald Head Island is a relatively new entity and in a formative state. Please ensure that any IHA regulations do not threaten the desirability of Bald Head nor its financial stability. Secondly, I am the owner of a property within the IHA. It is a large lot of about one and a half acres with good elevation. We bought it as a retirement investment in 1996 and it has seemingly appreciated well over the years, at least the Brunswick County tax office thought so. As recently as June 2008, I had an appraisal done in order to refinance. This appraisal agreed with the Brunswick County evaluation. I recently requested from the local CAMA officer information on what building restrictions might apply. He informed me that the setback from the river is 240 feet which makes the lot unbuildable. Except for a couple of feet of erosion that occurred after the Corps of Engineers realigned and deepened the navigation channel, the lot looks exactly as it did when we bought it. I cannot afford to lose the value of this lot. I am appealing both the 2008 and 2009 property taxes and I am also concerned that I may be in default of my loan for breach of a technical loan covenant. I continue to pay the bank, but doubt the bank would be sympathetic if the lot were worthless. This is an unacceptable situation. Thirdly, I am in the building business and my wife owns a real estate company which concentrates solely on Bald Head property including several lots located in the IHA. In an already difficult market, otherwise viable transactions in the IHA have come to a complete halt. In our community, the health of the real estate market translates to the health of the community. Finally, I am a past board member of the BHI Club. I was involved in the recent multi-million dollar renovation of the clubhouse. Before committing these substantial dollars, we evaluated

alternate locations for a totally new building. We were unable to identify any viable alternate sites. When the time comes to replace this building it simply has to remain on its present site.

PRESENTATIONS

***At this time, Joan Weld took over as Chair for the meeting.*

Variance Rules Update (CRC 09-01)

Christine Goebel

Christy Goebel stated that at the November 2008 CRC meeting the Commission sent 15A NCAC 07J .0701 and 7J .0703 to the Rules Review Commission. Staff counsel for the RRC raised some objections to these rules after their review and requested technical changes. In 7J .0701, RRC counsel objected to some of the changes based on the lack of statutory authority of the CRC to the proposed requirement that a variance petitioner waive their right to pursue a contested case in order to seek a variance. In 7J .0703 the RRC counsel requested verification that OAH would only determine facts in a contested variance situation. Copies of the objections were provided to members of the CRC. DCM staff, legal counsel to staff and legal counsel for the CRC have all reviewed these rules and recommend that the CRC accept the changes as requested by the RRC counsel. RRC counsel has stated that these changes are not substantial changes and would not require renote and public comment again. These rules could be reviewed by the RRC at their next meeting. Even with the changes that have been taken out of the text, we would request that these rules continue to move forward. These rules propose a much less cumbersome timeline on DCM staff and counsel, cleans up the language, allows voting on variances without presentations, and makes it clear that variances can be heard at emergency meetings of the CRC.

Review and Progress on CRC Priorities (CRC 09-08)

Mike Lopazanski

Mike Lopazanski stated at the January 2008 CRC meeting, the Commission took quite a bit of time to discuss emerging issues as well as current workload on the part of the Commission and the Division in order to establish a schedule and prioritize how we bring these things before the Commission. Staff presented several issues that we thought would likely come before the Commission at some point in time and asked for guidance as to what would be the most important in terms of scheduling on the agenda. After a day long process, the Commission determined there were seven top priorities. These priorities were estuarine shoreline stabilization, public access, sea level rise, energy production, public education, review of the 7B planning guidelines, and general estuarine management.

The first priority was estuarine shoreline stabilization. As you will recall the big driving force behind the Commission's agendas has been the CHPP recommendations. The Commission has addressed the shoreline stabilization rules and looked for ways of promoting alternatives for vertical stabilization methods. A few actions that have been taken include the location of bulkheads. The rules have been changed and have gone to public hearing dealing with the location of bulkheads and the fee has been increased to \$400.00. We looked at riprap and changes have to been made to the maximum distance that riprap can be placed waterward of coastal marshes and increased the slope of riprap for ease of construction. We are trying to encourage alternatives and riprap is one of them. The CHPP Steering Committee is still looking at the shoreline stabilization rules. A subcommittee has been looking at further ways for the Commissions to be involved in encouraging alternatives to bulkheads. Updates will be provided to the CRC as the Steering Committee and subcommittee come up with recommendations. The

Division is moving forward with some property owner outreach activities. As a result of the shoreline stabilization subcommittee, there was an estuarine shoreline biological processes workgroup put together. This workgroup developed shoreline technique recommendations that would be tied with shoreline types. We have talked a lot about marsh sills, particularly the marsh sill GP which we continue to struggle with. The Commission directed Staff to look at ways to turn the GP into something usable by meeting with regulatory agencies involved and discussing their issues. A workshop has been proposed at the end of March in which the various regulatory agencies will be gathered together to talk about these issues.

There has been a major revision made to the shoreline access policies through the public beach and coastal waterfront grant to address public access. This will give DCM more flexibility in the types of projects that we fund as well as the ability to act on opportunities of acquisition. The Waterfront Access Study Committee recommendations looked at working waterfronts but also included access provisions in their recommendations. One of their focuses was ocean piers and methods that could be put into place to keep these opportunities for ocean pier fishing available to the citizens of the State. The Commission has put forward rule amendments to the pier house regulations in which we will allow pier houses to be rebuilt oceanward of the setback and we will allow two-story structures with limited commercial opportunities. We still need to work on including working waterfronts as a management topic in the 7B land use planning guidelines (this will come up in the review of the land use planning guidelines in early 2010). We have had a few presentations on incorporating public access into our permits, most notably trying to increase opportunities for access at marinas. The CRAC has been working on this and we anticipate bringing this back to them.

Sea level rise was identified as a priority for the Commission. Most of our discussions so far have centered on the roll the CRC will have in addressing sea level rise. Addressing the cause is out of the jurisdiction of the Commission, so we will look at response and adaptations. There have been several presentations dealing with the state of the science. You can look at some of the actions taken on oceanfront setbacks as being a measured response to sea level rise. The CRAC has been incorporating sea level rise as an agenda item while the Commission has been tied up with other issues.

We have been talking about two different things in regards to energy production. The Commission has devoted an entire meeting to presentations and discussions on wind energy. You have been kept up to date on the actions of the Environmental Management Commission and their legislative directive to look at the permitting structure currently in place for constructing a wind energy facility. DCM staff have continued to work with the DENR wind energy work group and continue to stay in touch with how this issue is going to develop. We recognize that the water dependency would be an issue for the siting of these facilities. This has been put on hold until the EMC report to the legislature is finalized. The Ocean Policy Study Committee recommendations will also be coming before the Commission in April. There will be more direction and possible action needed by the Commission. The Commission has been updated on changes to the moratorium for oil and gas exploration and development. You heard this morning that the legislative study committee has been appointed to look at this issue.

In May, the Division education plan was presented to the Commission. This highlighted some of the main focuses including the missions and goals of the Division. The implementation of the education plan hinged on a compliance education coordinator position which we had secured

funding for and then we lost the funding for it. The future implementation of this will be dependant on staff time. The Coastal Reserve program has continued with their series of workshops.

The 7B planning guidelines were listed as a priority because they are mandated by CAMA to be reviewed every five years. The Commission has certified 33 land use plans and 27 have completed the draft review process. The review of the guidelines is now due, but we want to have all of the local governments go through the process so we will have a clear picture of where changes need to be made in the guidelines.

Estuarine management includes a variety of issues. The in depth discussion of SAV and the dock and pier rules are evident of the desire to move forward with a comprehensive estuarine management plan. Estuarine shoreline mapping will provide the base information from which we can take a more comprehensive approach. A methodology has been completed for delineation of the estuarine shoreline and a pilot project is in place with ECU that will look at Hyde and Beaufort Counties. We expect to identify shoreline structures, shoreline types, and the workgroup report and have this completed by June 2011.

NC Coastal Reserve Research (CRC 09-04)

Dr. John Fear

Dr. Fear stated the Coastal Reserve Program is a joint federal/state partnership. The federal partner is NOAA and the state partner is the NCDCM. The Reserve has three main programs which are research, stewardship, and education. Today we will look at the research programs of which there are three main branches that we engage in. The first is a system-wide monitoring program, the second is the graduate research fellowship, and lastly is the directed site research. The goal of the research program is to provide new information on coastal ecosystems. We have very valuable coastal resources and we need to do all we can to manage them appropriately. We conduct and foster research projects to generate new data, enhance our implementation of the system wide monitoring program, and ensure the research results that we generate are disseminated to end users.

The system wide monitoring program is a nationwide monitoring program. This provides a very powerful data set for estuarine water quality. There are three phases. Phase one is monitoring water quality and weather conditions. Phase two looks at habitat change. Phase three looks at watersheds and classifies how the land is being used. This was initiated in 1994. This is a long-term data set and provides a great opportunity to see how our estuaries have changed through time. The Coastal Reserve will be working on a synthesis report this year to look back at the data since 1994 and see if we can pull out any changes. The changes will be examined relative to climate change or development. One of our goals will be to expand this program to other areas of the North Carolina coast.

The graduate research fellowship is for work that has to be done within the Reserve boundaries. This is a great way to have work that is important to North Carolina conducted and funded by someone else. It is a great way to maintain ties to the academic community because students always need money and this program allows us to interact with students, interact with researchers, and get work done on the Reserves. Some examples of topics that have been worked on include looking at mercury levels in sparrows at Masonboro Island, examining oyster

reef restoration methods, and tracking fecal coliform sources. All of these issues are important to management agencies.

The final aspect of the program is directed research. This represents classic research projects. These are hypothesis driven, conducted within the Reserves and Reserve's watersheds. The idea is to provide the baseline science needed to develop sound management decisions and quality educational materials.

***Bob Emory returned to Chair the meeting.*

CRC Science Panel Inlet Hazard Area Recommendations

Dr. Margery Overton, Chair CRC Science Panel

Dr. Overton stated the science panel meeting minutes have been distributed to the CRC members and these recommendations are as of the last science panel meeting. She stated she has been asked to talk to the Commission about the deliberations from the science panel and will try to represent the opinions of the panel as a whole. One of the things we are bonded on is the love of data and the comments are based on data driven analysis. She stated the science panel encourages the use of erosion rates in the inlet hazard area that are derived from shorelines in the inlet hazard area. The variability in shoreline position is much larger in the inlet areas than along the shorelines and we feel it is a key attribute of what is going on and it should be used in developing the setback within the inlet hazard area. Many times in our discussions we debate whether or not we can do this from shorelines, as DCM has historically done. We wonder if we should be using elevation or underlying geology. When it comes to the inlets, one size doesn't fit all. As we did with mapping the boundaries, an inlet by inlet approach is important. We use setbacks to reduce the risk of property loss, reduce the encroachment of properties onto the beach, and to reduce the amount of tax money spent to respond to problems. (Graphs were shown). The science panel has struggled with trying to formulate this in a way that is simple to implement and is consistent with practices along the non-inlet sections. We have looked at two formulations. We are attempting to put this into a formulation that is not too mathematical. There has been discussion that the vegetation line is telling us something different in the inlet areas than it does along the shoreline. The panel has spent some time looking at the vegetation line from the historical data. One concept was to use a vegetation line that is a hybrid. We believe an inlet by inlet approach is important. We understand it is more time consuming, but our recommendation would be that we take the time to look at this and bring it back at a later date.

Proposed Development Policies for Revised Inlet Hazard Areas (CRC 09-05)

Dr. Jeff Warren

Dr. Warren stated we are looking at the twelve developed inlets and have opted to not direct resources toward the non-developed inlets. There are two rules (7H .0304 and 7H .0310). 7H .0304 addresses the inlet hazard area boundaries. In September 2007, Dr. Overton presented the results of a multiple year study on defining the box boundaries. The boxes have remained the same with the exception of one. A lot of people are using the existing inlet policy development rules into the new boxes. In September 2007, Staff stated we should not move forward with the new boxes because we need to look at the policy of what you can do inside of the boxes in tandem. Draft policy recommendations were before the CRC in July. There were three major issues which have been worked on since. The first was an issue specific to Bald Head Island and

we feel we have achieved a resolution on this and the Commission approved a revised boundary at the November meeting. The other two issues were how the erosion rate were determined and Dr. Overton touched on this briefly today about variability and the data sets used and how the current rules extrapolate the erosion rate from outside of the inlet hazard area throughout the entire inlet. There were two people who spoke during public comment that talked about how badly it is affecting their lots on West Beach. What do you use to measure the setback from? This ties into variability as well because as you saw in the presentations yesterday, the shorelines behave quite differently inside the inlet zones. You can see rapid changes within weeks. Dealing with this variability is a challenge. This is one reason the proposed sandbag rules on the inlet hazard shorelines are addressed differently.

We have spent the past couple of months going through the tax records and coming up with the best estimates that we can come up with. The number of structures located inside both the existing and the proposed inlet hazard areas were shown via PowerPoint (available at www.nccoastalmanagemet.net).

There were some general concerns of the science panel. The erosion rates for the inlet hazard areas were recalculated as part of our study to define the new boundaries. We did this with multiple data sets. The 1998 erosion rate data was referenced. The science panel wanted to be able to use the new data we generated from the inlet hazard area project instead of the 1998 data, because they felt it more accurately represented the variability in the area. Staff agrees with this, but we may need to do this in a phased approach. The science panel wants to consider the variability of the vegetation and shorelines when siting development. The shorelines and vegetation line swing wildly. The vegetation line may not be the best reference point for measuring a setback landward from. The science panel suggests considering multiple setback criteria and use the most restrictive. They also suggest considering inlet-specific methods for siting development.

The major point of the science panel is the erosion rate. There are rules in place for inlet hazard area development. Currently, to determine the erosion rate in an inlet hazard area you take the adjacent ocean erodible area. The current rule will not work with the new boxes. DCM understands that there is a better way, but it is time to update the entire coast. We could phase into the approach. We could use the same rates we use today in most cases, with a few exceptions. As a part of the phased approach, we would look at the entire shoreline including the inlets and develop new sets of transects that wrap radially around the inlet and give a much better sense of what the shoreline is doing. This is something that will be a long and thorough process and could take a year or two. DCM would suggest continuing to use the existing erosion rate maps. We can move forward with draft policy and some rules. We can effectively use the rates that are on the maps now, but immediately start to redo the erosion rate for the entire coast and not just the inlets. In areas on the maps that do not have an erosion rate associated with them, you would be safe to default to the minimum erosion rate of two feet per year. DCM would also suggest a grandfather provision. The current regulations do not put a limit on single family home size in inlet hazard areas. The only restriction is 5,000 square feet for multi-family and commercial. To be consistent with the updated setback policies adopted, we would use a size and not use management technique. If you limit one structure to 5,000 square feet you need to limit all structures to 5,000 square feet. This will limit the density in the area as well as the size. There are currently structures that are greater than 5,000 square feet that are not currently in inlet hazard areas, but will be in the proposed areas. By putting in a grandfather clause, you could

allow these structures to rebuild to their pre-existing size as long as they meet the current setback regulations. Currently pools are allowed in the ocean erodible area. DCM recommends the CRC not allow pools in the setback in the inlet hazard area because of the wild variability of the vegetation and shoreline. Sandbags are addressed in a separate rule, but are related to the inlet hazard areas. In 7H .0308 there is a provision to manage the inlet hazard areas differently. In the proposed rule there is a provision to use sandbags as many times as necessary if you are in the inlet hazard area and on the oceanfront.

In the current inlet hazard area, there are no commercial or multifamily structures allowed that are greater than 5,000 square feet. There is a development density not to exceed one unit per 15,000 square feet. The oceanfront setbacks are based on the adjacent ocean erodible area erosion rate and extrapolated throughout the oceanfront shoreline. You cannot use the single family exception, which means if your lot was platted before 1979 and you cannot meet the setback you cannot put a smaller structure as far back on the lot as feasible.

DCM's policy approach is to keep it small and keep it back. We would propose no development should be allowed that is greater than 5,000 square feet. This would exclude public beach and water access, linear infrastructure, and the other exceptions currently listed in 7H .0309. The oceanfront setback should be based temporarily on the 1998 erosion rate and put a two foot per year minimum on map areas without printed rates. We would recommend continuing to use the vegetation line for setback measurement. This is something that has worked for the State very well. We agree with the science panel that the vegetation line should not be the only setback consideration. We would use the model that we used in the static line exception rule, that in addition to meeting a minimum setback based on erosion rate as measured from the vegetation line also go as far back as feasible and be no further oceanward than the landward most adjacent development. We also propose to allow the single-family exception. Pools should be disallowed oceanward of the inlet hazard area setback. A grandfather clause should also be added for the ninety-one existing structures greater than 5,000 feet to rebuild if the appropriate setback can be met.

Draft rule language has not been provided. DCM would recommend to the Commission that this be discussed today and if these concepts are agreeable to the CRC, take them out to the stakeholders. DCM Staff will come back before the CRC in April with draft rule language. The draft rule language could then be sent out for public hearing following the April meeting.

After discussion it was determined that DCM Staff would present their final report at the April meeting. The Science Panel will bring their methodology for the erosion rates back to the Commission for their review. The CRC will look at both proposals in a comparative way.

Summary of BIMP Public Meetings (CRC 09-07)

Steve Underwood

Mr. Underwood stated a summary of the public meetings was provided to each Commissioner. This document was also sent to each person that attended the meeting so they could see that everything they brought up was captured in the summary and could see what happened at the other regional meetings. The first public meeting was held between December 2 and December 11. There were a total of about 120 people that attended these meetings. A second round of meetings has been scheduled. The locations of the next meetings will be at the same locations as the first meetings with the exception of Regions 2c and 3a which will be held at the Pine Knoll

Shores Aquariums. At the first round of meetings we showed each of the regions, some of the data sets that were in these regions, and some of the strategies that had been employed in the past. Then we broke out into round table discussions and had some specific questions and topics that we wanted to address and wanted to document the comments, questions and concerns. There were five questions that we asked at the meetings during the roundtable discussions (1) Are there any other data sets that you are aware of that have been missed to date? (2) Do you have any other specific comments on proposed procedures within the study? The public seemed to be fine with the delineations of the various regions and liked the idea of the regional approach. (3) Do you have any other specific comments on proposed beach and inlet management strategies? One of the consistent responses we got was the beneficial use of dredged material. There should be diversity of options determined by regions. There should be more tools in the toolbox other than just beach nourishment for strategies for the coast. Other responses to this question included not ignoring inlets as sediment sources, retreat and removal of structures when appropriate, and the monitoring of beaches over time. (4) Do you have any other specific comments on how projects should be prioritized and funded? Responses included the amount of public access should be tied to the funding, permanent funding source appropriated annually by the General Assembly, and a variety of ways to raise money through occupancy and sales taxes. (5) What additional information on beaches and inlets would be helpful to you or your community? Responses included data for EA and EIS, offshore sand resources inventory work, and data should be readily available to the public. Since the public meetings, we have gotten letters from Bald Head Island and New Hanover County Commissioners with specific comments on what they think is important and should be included in the BIMP.

Update since the public meetings: A couple of weeks ago, we met with Moffatt and Nichol to preview some of the economic data that is generated from the coastal communities. We are seeing that the local economies are generating billions of dollars. We saw a nice overview of dredging practices that have been going on by the Army Corps of Engineers including the cost of the projects, where the sand has been placed over time, and sediment budgets around the inlets. We are allowing a lot of sand to be taken out of the system and it is being dumped offshore. We realize that what we are currently doing is not sustainable. We also looked at the coastal shorelines assessment (vulnerability) along the coast. This was a comprehensive overview of the coastal processes and past strategies for managing these regions. Peter Revella has been brought onto the team with Moffatt and Nichol to be creative about how to meet with local contacts in each region, state representatives of the General Assembly, and federal representatives. The BIMP is putting all this information together in a context that shows how these strategies and functions will provide the direction that we want to go with in North Carolina. We can absolutely show the citizens of North Carolina that they can see it as a logical investment. It is a way for North Carolinians to start to do something sustainable for these resources that everybody loves so much (oceanfront, sounds, and estuaries). We have another meeting set between DENR advisory group and BIMP Advisory Committee. Moffatt and Nichol will present the information to this group on February 23 in Raleigh.

OLD/NEW BUSINESS

Dara Royal reviewed the changes made to the joint resolution from the CRC and CRAC seeking establishment of a North Carolina beach, inlet and waterway trust fund study commission.

Bob Wilson made a motion that the CRC adopt the revised resolution. Melvin Shepard seconded the motion. The motion passed unanimously (Elam, Old, Wynns, Sermons, Peele, Weld, Shepard, Wilson, Carter, Mitchell) (Bissette, Leutze absent for vote).

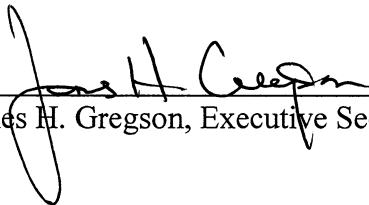
Chairman Emory requested that a letter be sent to the speakers from yesterday's presentations expressing the CRC's appreciation for their time. Chairman Emory advised the Commission that Dr. Joseph Gore, former CRC Commissioner, has died.

Melvin Shepard cautioned the Commission to be mindful of talking about matters of the Commission in social settings, especially when several members of the Commission are gathered together.

Chairman Emory stated that a good amount of time for discussion should be scheduled at the April meeting for the inlet hazard area methodology comparison. There is also interest in getting Dr. Overton to present monitoring data from Oregon Inlet. The meeting format will also be discussed at the April meeting as requested by the CRAC.

With no further business, the CRC adjourned.

Respectfully submitted,


James H. Gregson, Executive Secretary


Angela Willis, Recording Secretary