

NC COASTAL RESOURCES COMMISSION
May 19, 2010
NOAA/NCNERR Administration Building
Beaufort, NC

The State Government Ethics Act (Chapter 138A of the General Statutes) mandates that the Chair (1) remind members of their duty to avoid conflicts of interest or appearances of conflict, and (2) inquire as to whether any member knows of any known conflict of interest or appearance of conflict with respect to matters before the Commission. If any member knows of a conflict of interest or appearance of conflict, please so state when requested by the Chairman.

Wednesday, May 19th

- 9:00 EXECUTIVE COMMITTEE MEETING** Bob Emory, Chair
- 10:00 COMMISSION CALL TO ORDER (Auditorium)** Bob Emory, Chair
- Roll Call
 - Approval of March 24-26, 2010 Meeting Minutes
 - Executive Secretary's Report Jim Gregson
 - Chairman's Comments Bob Emory
- CONTESTED CASES**
- McDaniel and Kirchner v. DCM (09 EHR 4153) Morehead City, Water depth Ward Zimmerman
- VARIANCES**
- Bennett Brothers Yachts, Inc. - (CRC-VR-10-01) Wilmington, Dredging depth Christine Goebel
 - Lawing - (CRC-VR-10-02) Pasquotank County, Boathouse Ward Zimmerman
- ACTION ITEMS** Bob Emory, Chair
- Land Use Plan Certifications and Amendments** John Thayer
- Town of Caswell Beach LUP Certification (CRC-10-18)
 - Town of Oak Island LUP Certification (CRC-10-19)
 - Town of Navassa LUP Amendment (CRC-10-20)
- Rule Adoptions**
- 15A NCAC 7H .0104 Application of Erosion Setback Factors (CRC-10-21) Jeff Warren
- 12:00 PUBLIC INPUT AND COMMENT**
- 12:15 LUNCH**
- 1:00 PRESENTATIONS**
- ERC Response to CRC's Terminal Recommendations Presentation Jim Gregson
 - OCS Update (CRC-10-22) Mike Lopazanski
 - Legislative Advisory Subcommittee on Offshore Energy Doug Rader, Co-chair
Exploration – Recommendations Legislative Subcommittee
 - Permitting Agricultural Drainage David Moye
 - Inlet Hazard Area Update (CRC-10-26) Jeff Warren
Margery Overton, Chair
Science Panel
 - 2010 Draft CHPP Recommendations (CRC-10-27) Jimmy Johnson, DENR
- OLD/NEW BUSINESS** Bob Emory, Chair
- Future Meetings and Agenda Items
- 4:30 ADJOURN**



N.C. Division of Coastal Management
www.nccoastalmanagement.net

Next Meeting:
July 15, 2010
NOAA/NCNERR Administration Building
Beaufort, NC

NC COASTAL RESOURCES COMMISSION (CRC)

March 24 - 26, 2010

Sea Trail Golf Resort and Convention Center

Sunset Beach, NC

Present CRC Members

Bob Emory, Chairman

Joan Weld, Vice-Chair

Melvin Shepard

Bob Wilson

Charles Elam

Jamin Simmons

David Webster (present at 3:25 p.m. 3/24, present 3/25, absent 3/26)

Ed Mitchell (present at 3:45 p.m. 3/24, present 3/25, absent 3/26)

James Leutze (present 3/24, present at 10:00 a.m. 3/25, present 3/26)

Veronica Carter (absent 3/24, present at 10:30 a.m. 3/25, absent 3/26)

Renee Cahoon

Jerry Old

Lee Wynns

Bill Peele

Present CRAC Members

Dara Royal, Chair

Frank Rush, Vice-Chair

Bob Shupe

Dave Weaver

Bill Morrison

Wayne Howell

Webb Fuller

Harry Simmons

Bert Banks

Debbie Smith

Phil Harris

Judy Hills

Eddy Davis

Tracy Skrabal

Spencer Rogers

Joe Lassiter

Lee Padrick

Anne Deaton

Cyndi Karoly

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. Chuck Bissette was absent. There were no conflicts or appearance of conflicts stated by Commissioners. Based upon this roll call, Chairman Emory declared a quorum.

CONTESTED CASES

Lawing v. DCM (09 EHR 4793)

Ward Zimmerman

Ward Zimmerman of the Attorney General's office represented the Division of Coastal Management in this case. Mr. Zimmerman stated this contested case hearing never actually got to the factual stage. We believe that Mr. Lawing will be presenting some sort of variance on this same matter in one of the next few CRC meetings. This is a matter in which Mr. Lawing asked for a CAMA permit to build a boathouse on a boatlift that he had on his property. However, in applying for this contested case hearing he did not necessarily state that the rule was misapplied by DCM. He stated the rule itself was invalid. Based upon that simple fact, the ALJ determined that there was no factual matter before him and therefore entertained a motion for summary judgment based on the fact that under 150B-23A petitioner is required to state that DCM acted inappropriately. In this particular matter petitioner never did that in his prehearing statement. During the actual summary judgment hearing he reiterated that he didn't believe that DCM acted inappropriately in this matter but the underlying law was invalid. On February 23, Mr. Lawing sent an e-mail to Mr. Zimmerman stating that he does not intend to contest the existing ruling and does not wish to attend the CRC meeting. Mr. Zimmerman requested that the Commission accept the ALJ's decision in full as the final agency decision.

Bob Wilson made a motion to accept the ALJ's decision in full. Jerry Old seconded the motion. The motion passed unanimously (Old, Wilson, Elam, Cahoon, Wynns, Peele, Weld, Shepard, Simmons, Leutze).

STATIC VEGETATION EXCEPTION REQUESTS

Christine Goebel of the Attorney General's office stated she will be representing Staff in the static line exception requests before you today. Ms. Goebel stated she will give a summary of each request and let the representative from each Town add any comments on behalf of the Town. Jeff Warren, DCM Coastal Hazard Specialist, will give a general description of the static line exception request process.

Jeff Warren stated a static line is what occurs prior to a Town receiving a large-scale, long-term beach fill project. A town that meets the criteria for a large-scale project has DCM go out and stake the first line of stable, natural vegetation prior to the project. That line becomes static and becomes the setback measurement datum on record in perpetuity. No matter what the actual line of stable vegetation does, setbacks are measured from the static line. If the lot was not conforming at the time you got a static line it was nonconforming in perpetuity because the static line was there and continues to be there forever. In the CRC's rules a static line exception was created for limited development under limited conditions. We did some clarification in the rules that states if the vegetation line ever moves landward of the static line then it becomes the default measurement line. It is always the static line until such time the actual vegetation moves to a more landward position and becomes a little more restrictive than the static line. There are two ways to mitigate for coastal hazards on the oceanfront. One is to move structures further from the shoreline and you did that with graduated setback and increasing the setback for larger structures. The other way to mitigate the coastal hazard is to move the shoreline farther from the structures. Many towns have now embarked on long-term projects and not a one-time beachfill

project. Towns that come forward and show that they have a static line and have waited at least five years since the project occurred that created the static line can come to the CRC and request an exception. To grant an exception there must be a plan for 25 years from the date of the exception, they have to show that they have the appropriate volume of compatible sand to build the initial project and maintain the initial project, and they also have to identify the financial resources to do it.

Rudi Rudolph of the Carteret County Shore Protection Office stated that about ten years ago when Carteret County passed its occupancy tax law providing money for beach nourishment, the Legislature also created the Beach Commission. The Beach Commission is an 11 member group in Carteret County that has to exist at all times. The Beach Commission turned around and created the concept of the Shore Protection Office. We do a lot of things by consensus. The Towns, Beach Commission, and Shore Protection Office are almost one body. We have also developed a very robust monitoring program. We have over 160 beach profiles that we survey every year on Shackelford Banks, Bear Island, and Bogue Banks.

Town of Atlantic Beach (CRC 10-09)

Christine Goebel stated Atlantic Beach has had a static line since 1986 and 1994 for two different parts of the shoreline. Atlantic Beach is bordered by the Ocean, Intracoastal, Fort Macon and the Beaufort Inlet area and Pine Knoll Shores to the west. The shoreline and the static line in Atlantic Beach are 4.5 miles long. It was delineated by DCM from pre-project aerial photographs. The setback for Atlantic Beach is primarily two feet per year annual average erosion rate. There is one small area that is 2.5 feet per year. In Atlantic Beach there are approximately 350 lots. If the static line exception were granted approximately 50 developed lots and ten vacant lots could be affected. The Town of Atlantic Beach has an extraordinarily long history of nourishment starting as far back as 1911. It is primarily derived from the dredged spoils from the Morehead City Harbor project. It has primarily been conducted by the Army Corps. The Corps is doing a new spoil plan which is expected to be out in 2011. Atlantic Beach is expected to continue to get nourishment. Historically the outer harbor sediment has been used on the beach and has not been problematic. Based on the consistency requirement, Staff is comfortable with the sediment quality and quantity available from the Town of Atlantic Beach to keep using for its project life. The Morehead City project has been federally funded and that is expected to continue. There have been some areas in the Town's jurisdiction in the past that have not been covered. The County and the Town have covered the cost of the extra little area. This is expected to continue through the occupancy tax and Town taxes. The Staff recommends that the Town has met the four criteria for the static line exception request and would recommend the CRC grant the exception.

Melvin Shepard made a motion to approve the static line exception request for the Town of Atlantic Beach. Jerry Old seconded the motion. The motion passed unanimously (Old, Wilson, Elam, Cahoon, Wynns, Peele, Weld, Shepard, Simmons, Leutze) (Webster, Mitchell absent for vote).

Town of Emerald Isle (CRC 10-10)

Christine Goebel of the Attorney General's Office stated the request for Emerald Isle is for the eastern 5.9 of the 11 miles total within Emerald Isle. Their original projects were done in a

phased approach. Their project was first placed in 2003. Emerald Isle is bordered by the Atlantic Ocean, the Intracoastal, Bogue Inlet and Indian Beach. The static line was determined by DCM's Staff through staking the vegetation line and surveying that line in November 2002. The entire area covered under this request has a two foot per year erosion rate. There are approximately 160 developed lots and 10 vacant lots that could potentially benefit from a static line exception. This area first had nourishment in September 2003 after Hurricane Isabel and then again in September 2005 after Hurricane Ophelia. Both of these were FEMA projects that were federally funded. The plan developed for the eastern part of Emerald Isle is the part of the larger Bogue Banks project. The project is basically modeled after the Atlantic Beach portion of the Morehead City project. Emerald Isle has used sand in the last two projects from the ODMDS and this is the plan for the future. The Army Corps has also identified three other sites that are offshore as backup sites. Staff is comfortable that the ODMDS and/or the other Corps sites have sufficient quality and quantity for the 25 years of the project. Currently the County has a room occupancy tax which funds a beach nourishment fund. This is what has been used for a long time to pay for projects. The Town also has its own tax that was used to pay for the nourishment in 2005. Based on the projected costs for the 25 year plan, a similar city tax is all that would be needed to cover the project for the future assuming a 25% State, 25% Town, and 50% County split for the overall Bogue Banks project. Staff requests that the Commission grant the static line exception request.

Charles Elam made a motion to approve the static line exception request for the Town of Emerald Isle. Jim Leutze seconded the motion. The motion passed unanimously (Old, Wilson, Elam, Cahoon, Wynns, Peele, Weld, Shepard, Simmons, Leutze, Webster) (Mitchell absent for vote).

Town of Indian Beach & Salter Path (CRC 10-11)

Christine Goebel of the Attorney General's Office stated the next request is a joint request from the Town of Indian Beach and the unincorporated area known as Salter Path. This request is for a 2.4 mile area of shoreline. In 2001 they received a static line. It is based on a staked vegetation line which was then surveyed pre-project. All 2.4 miles of this area has a two foot erosion rate per year. Of these 2.4 miles, Indian Beach covers 65% of it and Salter Path is 13% of it and the Roosevelt State Park is 22% of it. This area is located between the Atlantic Ocean, the Intracoastal, Emerald Isle and the Town of Pine Knoll Shores. The first project was completed in the winter of 2001-2002. This first project was from local and state money. The second project was part of the Section 933 project in the spring of 2004. The third project was post-Ophelia in the winter of 2007 and was a FEMA project. The sediment criteria is focused on primarily using sand from the ODMDS and alternatively the other Corps sampled sites. The allocation of nourishment costs is based on 50% County funds, 25% State funds and 25% local funds. This is only 2.4 miles so the cost for this portion is relatively small. Financially the Town of Indian Beach in 2002 funded a local project. The voters supported the purchase of bonds to cover the project. This debt was paid off in 2008. Since 2008, they have had a one cent tax for future nourishment. This is a tax which does have to be reauthorized annually through the budget process. Salter Path is an incorporated part of the County. The County has committed to covering the cost for Salter Path. Staff feels comfortable that the Petitioners have satisfied the four criteria and recommends approval of the static line exception request for Indian Beach and Salter Path.

Melvin Shepard made a motion to approve the static line exception request for Indian Beach and Salter Path. Renee Cahoon seconded the motion. The motion passed unanimously (Old, Wilson, Elam, Cahoon, Wynns, Peele, Weld, Shepard, Simmons, Leutze, Webster) (Mitchell absent for vote).

Town of Pine Knoll Shores (CRC 10-16)

Christine Goebel of the Attorney General's Office stated the Town of Pine Knoll Shores has 4.5 miles shoreline. The Town has had their static line since 2001. The 2001 line was staked by DCM and surveyed pre-project. The Town of Pine Knoll Shores is bordered by the ocean, the Intracoastal, the Town of Indian Beach and the Town of Atlantic Beach. Pine Knoll Shores has a two foot per year erosion rate for the entire area. Town estimates are that 24 of 71 of the non-conforming structures could benefit, however none of the 22 multi-family larger structures could benefit from the rule. The initial project was in 2001-2002 using local money. In the spring of 2004, it was covered by the Section 933 project from the Morehead City Harbor Project. In the spring of 2007, there were two sources of funding for the project. Part of the area was covered by the 933 project and there was also a post-Ophelia FEMA project that was funded by the federal government. The project design is part of the larger Bogue Banks project. The sediment for this large project is primarily the ODMDS with the other sites identified by the Corps as possible alternatives. The costs are projected out for the 25-year life with a 25%, 25%, 50% split. The Town has committed to new taxes in 2011. Staff recommends approval of their static line exception request.

Jerry Old made a motion to approve the static line exception request for the Town of Pine Knoll Shores. Melvin Shepard seconded the motion. The motion passed unanimously (Old, Wilson, Elam, Cahoon, Wynns, Peele, Weld, Shepard, Simmons, Leutze, Webster) (Mitchell absent for vote).

PUBLIC HEARING

15A NCAC 07H .0104 Development Initiated Prior to Adoption By the CRC

Bill Ferriss stated I am here representing myself and the property owners on Oak Island and Ocean Isle and Holden Beach. The rule says development on lots created on or after June 1, 1979 and that is when these regulations were implemented but Oak Island was developed in the 1940's, so that means that it doesn't qualify? The other islands were also developed in the 1940's. Some of them were developed after that but the main island itself was. I was curious as to how that applied if in fact they still qualify, you can build no closer to the ocean than adjoining buildings do you still have to be within the sixty feet of the vegetation line? The other thing I would like to say concerning Oak Island is that I wrote you a letter and did quite a bit of study on the buildings on Oak Island and as you know the current economy is really not the best. These towns are going to suffer a lot after the revaluation of which I am in charge of for Brunswick County. The study indicated to me that we had six houses that still have survived Hazel in 1954 on Oak Island. Sixty percent of the 400 houses were built before 1990. Those houses still exist. They still use them. However, they are suffering from damage just due to age. The owners don't have the incentive to maintain them because the regulation here states that all of these buildings are on unbuildable lots of which we finally got a listing of those lots that they have gone out and measured that they are calling undevelopable. But, if you take the sales of

those lots that are not buildable we had three sales around \$75,000.00 the market value of those lots back in 2008 during the last revaluation were between six and seven hundred thousand. If you take the market now and apply that to those 500 lots it's going to cost the Town of Oak Island over a million dollars in taxes. I don't understand how you can apply this regulation to properties that have survived for 40 and 50 years with no erosion problems when I thought the purpose of this regulation was to protect the public from buying lots that have erosion problems, not run them off because they think they are going to erode. The two feet per year in your original study, which I told you years ago, said that beaches with a southern view eroded less than two feet per year. But for the purpose of your study you applied two feet. Well if you apply two feet then that is what your answer is going to be. Two feet. I have this lot, I purchased a lot on Oak Island in 1978 or 1979. There was a house on it. The slab is still there. It was destroyed in 1954 in Hazel. You ask me why? Well if you look at a picture, which I have, those houses were built on slab. They mowed the dune down so they could see the ocean. So when a hurricane comes, guess what? They aren't going to be there. There are still six or eight that survived it. But, those lots were platted in the 1940's. Right now I have over 200 feet from the road to the dune, but I can't build. Nor can my neighbor because you did a renourishment. What I call a replacement of sand. Because from 1989 to 1999 we had four hurricanes come through there and what happened? You got a bulldozer out there. They bulldozed up sand to create the southern half of that dune and it lowered the elevation which does what? The ocean comes in. Well right after they bulldozed they set the vegetation line in 1998. On bulldozed sand which had a lot of salt in it and didn't have time to grow back and we're using that as the vegetation line on Oak Island. Yet, none of these houses on the mainland, now the ends of the islands I agree with you one hundred percent they wag like a dog's tail. They are going to be six hundred feet from the ocean one year and its going to be lapping under your porch on the next. But what is ironic about that is there are three lots at the very end of Oak Island where you permitted them to build and yet ten or fifteen years ago it was under water. These things just don't make sense and I think you are trying to apply a regulation to fit everybody and I have been in the real estate business for fifty years and there isn't one. Real estate is not standard. It is just all over the place. You can't write one rule that fits everybody. I really think you need to look at this vegetation line on Oak Island. It is wrong. It has caused a lot of headaches. You have cost the county more money than any erosion problem that could happen on that island. Just this regulation itself. And what is going to happen, these people are not going to maintain these properties when you have a hurricane and they knock them down or they fall down from termites. Who is going to take over? The property owner isn't, he will say you can have it. Oak Island is faced again with what to do with these buildings. Fifty percent damage, well if you have a half a million dollar piece of property and four hundred thousand is in the land the building is not worth but one hundred. Fifty thousand dollars in damage and you can't build it back. Hello. You can't build anything back. So I am asking you again to look at this regulation and by the way these are southern facing beaches. We do not have a shadow that creates sand for the female turtle. That was the purpose of the 2,000 square foot limit to limit the height because it cooled the sand so female turtles wouldn't hatch. We don't have shadows on the beach because we are a southern faced beach. There is another problem you have with your regulations. Please look at this and give it another thought.

CRC Study of the Feasibility and Advisability of the Use of Terminal Groins

Bob Emory stated the Legislature directed the Coastal Resources Commission to do a study on the feasibility and advisability of the use of terminal groins in North Carolina. That study has been done. There has been a steering committee made up of members of the CRC and CRAC that has met with the contractor that did the study to more thoroughly understand the study and will make some recommendations to the Commission. Tomorrow the Commission will develop the recommendations on the advisability and feasibility of the use of terminal groins in North Carolina for the Legislature.

Anne Deaton stated I am on the CRAC and was involved with the terminal groin subcommittee, but I am here to present the letter from the Director of the Division of Marine Fisheries. The Division of Marine Fisheries has reviewed the final terminal groin study prepared by Moffatt and Nichol for the Coastal Resources Commission. After reviewing this information the DMF does not believe the scientific evidence and conclusions of this report support a change in North Carolina's policy on hardened structures on oceanfront shorelines. The General Assembly asked the CRC to assess the environmental effect of terminal groins. The effect of terminal groins on fish use was not assessed. The consultant found no fish or benthic invertebrate monitoring data associated with any of the five study groins. However, they draw the conclusion that the marine resources continued to use the sites. This statement is based on no data. The report does mention some of the potential impacts to fish and fish habitat reported in the literature. For example, they include information on potential impacts to fish larval transport. Research in North Carolina has found that jetties adjacent to inlets block the natural passage for larvae into inlets, reducing recruitment success. It was estimated that the proposed Oregon Inlet jetties would reduce larval entry by 60-100%. Although groins are shorter, there is no information currently available to know how those structures will affect currents and larval transport. Because the majority of the North Carolina's important fishery species spawn offshore and must pass through inlets to reach their nursery grounds, any impact on nursery recruitment could have serious effects on fish populations. The conclusions of the environmental section underplay the impact that anchoring a barrier island with a terminal groin will have on barrier island processes, which in turn will negatively affect fish, shorebirds, and the estuarine system overall. Barrier islands sustain themselves under rising sea level conditions through overwash processes and shifting inlets, which move sand to the back side of the island. Without the continuation of these processes, long term impacts will occur, including loss of sand flat habitat and back-barrier marsh. The former provides critical habitat for some bird species and the later provides critical nursery areas for estuarine dependent fish such as red drum, croaker and shrimp. By preventing barrier island migration, an island is more vulnerable to inundation by rising sea level, which would greatly affect the estuarine environment. Stabilizing the inlet will also result in a deterioration of ebb and flood tide deltas. However, the document fails to mention the effect that inlet stabilization will have on these shoals, and consequently, fish habitat. These shoals are important foraging areas for numerous fish, including summer and southern flounder, red drum, speckled trout, Spanish mackerel, and weakfish. The study states that use of terminal groins does not eliminate the need for beach nourishment and that once a terminal groin is constructed, regular beach nourishment is conducted on a regular basis. Because nourishment projects were not done adjacent to inlets prior to groin construction, the amount of beach nourishment will actually increase after a groin is installed. Beach nourishment results in a temporary reduction in

the abundance and diversity of the intertidal benthic community, which is the dominant food source for surf fish such as pompano, kingfish, spot and croaker. Recovery time of the beach community varies from a few months to over two years, depending on sediment compatibility, length of beach filled, frequency of nourishment, and other factors. If there is no net reduction in beach nourishment with use of terminal groins, this hardened structure would result in increased environmental impacts and increased economic costs, and therefore does not appear to be advisable. This study failed to demonstrate that the use of terminal groins alone would be an effective erosion control technique and therefore feasible. While beach width increased immediately next to the groin, erosion was observed on the updrift beach (on the opposite side of the terminal groin) for a limited distance, and also downdrift of the terminal groin after about the first mile, indicating use of terminal groins may cause impacts to adjacent beaches. In addition, all of the five terminal groins had additional hardened structures associated with them. For example, Oregon Inlet has a wrap around revetment, Amelia Island has a breakwater, and Captiva Island, following the terminal groin construction had a rock revetment, seawall and linear expansion of the original terminal groin added. If a terminal groin alone was effective, why were these additional structures needed? Is North Carolina prepared to allow these other hardened structures as well, after terminal groins are installed and found to be insufficient? The environmental impacts of seawalls, jetties, and breakwaters are well documented. Because this study failed to adequately assess the feasibility and advisability of terminal groins with any certainty, particularly the environmental effects on fish and their habitat, DMF respectfully requests that the CRC recommend to the General Assembly that they maintain the current ban on all hardened structures on ocean shorelines and rely on the existing exemptions authority to allow terminal groins where applicable. Providing an alternative option to allow terminal groins under certain conditions sends a confusing and misleading message that the scientific evidence supports the use of terminal groins, which it does not. The CHPP Steering Committee met last week and no one from the Steering Committee could be here today but they did write a resolution which was submitted to the CRC acknowledging that they are concerned about the use of terminal groins and asked the CRC to take into consideration the possible negative habitat effects on fish habitat. The US Fish and Wildlife service submitted some comments with concerns on the environment.

Marty Cooke stated I would like to thank you for coming to Brunswick County. You now see why we have such a concern for terminal groins. You have been to our beaches and I can say that you have brought beautiful weather with you. I want to say that I have learned a great deal from you. I have listened to all the studies on terminal groins, everything from what a terminal groin may be to what it isn't. We have looked at terminal groins in North Carolina as well as in Florida. We looked at adverse impacts. We looked at environmental impacts. We looked at cost benefit ratios. I am sure there are some things that may be adverse. I am sure there may be some aspects that may impair something. But I also think of things like this, out west when we have wildfires it may be beneficial to the nature to continue to allow wildfires. We put them out when people are habitating the same area. If you come and look at the beaches that we have here in Brunswick County we have sandbags. We have to continually renourish those area. It is tragic because these people did follow the rules. They followed the policies and they followed ordinances. These aren't just individuals who have wealthy, deep pockets. These are people who have had these properties in their families for years. The infrastructure is laid in there. They have utilities, a tax base, and tourism economy. Our families enjoy the beaches. That

being said, it is tragic to see the receding situation coming about by storms or by other natural form. When we look at 150 inlets and jetties that are taking place throughout this country from Maine to Texas that 72 of them actually have some kind of engineered remediation. North Carolina does not. We have seen that it did seem to save a bridge. We looked at miles down the road. Every two months they evaluated it and there was no adverse impact. We looked at a historic fort at Fort Macon. You yourselves had the opportunity because it was only 4.5 miles from where you were meeting. You saw how the stability was there. We also look at those three beaches down in Florida and how it is the same. I think that it is an effective tool and it brings long term stability. It brings a way that our towns and our cities can be able to hold what we have. We would hope that this committee would bring forth this to the Legislature and say it is a viable tool. We have researched it and we have looked at it from every single way we possibly can. We must have this type of stability.

Steve Candler stated I would like to thank you for coming to Brunswick County. I am the chief executive officer and governmental affairs director for the 900 member Brunswick County Association of Realtors. We would like to thank you for having multiple opportunities to speak about this issue across the state. I guess my approach is going to be that a technical report which is what the Legislature required is a very easy piece of paper to hide behind. We know that required science is something that the Legislature likes to have and can say here is the report. They do a lot of reports and study a lot of things in the Legislature. I would like to refer to Pete Peterson's comments that he wrote down as part of the comments on the website. The major finding of the study is that we do not have sufficient data with sufficiently reliable analysis to predict with confidence the consequences of building terminal groins. Back in 1984 the same expression was that the CRC adopted a ban on oceanfront hardened erosion control structures to reflect the conclusion. There was no way to fully anticipate the consequences of building such structures. Twenty-six years later here we are again saying that there is no data to support what it is that we think may or may not be a good idea. What I would like to propose is what I would call the Abilene paradox. A family goes on vacation to Abilene Texas. This family would go there for 20-25 years. Why do they continue to go? Because that is what they have always done. It is not a great place to go to. There aren't a lot of rides and there aren't a lot of beaches in Abilene Texas. The point is that we can continue to do the same thing over and over again because we are comfortable with doing it. Let's try something new. Let's just say we can solve this. We can get in a room and sit down and try something new. What I would like to propose is that if there are no structures out there that we are satisfied with and if there are no structures that give us the data we want then let's put one in ourselves. Determine the parameters, control the data, and measure the data. If we go before the Legislature we can ask them for money. We can get money from other sources. All the stakeholders together can come up with some funds so we can put in a project ourselves. We do it how we want to and that is the data that we can use to determine if something needs to be changed. Thank you for your time.

Charles Baldwin stated I am the Village attorney for Bald Head Island. I brought some photos I would like to pass around. The Bald Head Island Conservancy recently prepared and posted on its website a comment on the loss of dune habitat that had occurred between March and October of 2009. This document is available to the public. I have submitted a copy for the record along with a written submittal. They concluded that there was a substantial loss of back dune habitat that given the imperiled nature of this habitat that Bald Head Island still has some of the best

examples of an intact and functioning dune system on the east coast. Protection of these sensitive areas should receive a high priority, yet little to no action was taken by state and federal agencies to protect this area when the Bald Head Island Conservancy reported a loss of this habitat due to non-natural erosion at a rate measured at three to five feet per day. It is not any secret that at Bald Head Island we have had substantial loss of beaches and dunes as a result of the shipping channel maintenance dredging. The report goes on to state that loss of back dune habitat will enable future storms to begin to penetrate the maritime forest. We contend that back dunes are important for the integrity of the whole island. Without this important vegetated area with established dunes and a diversity of plants and animals, the island is more vulnerable to storm impacts and erosion, natural and non-natural. The report concludes we ask that environmental agencies examine their tool kit in order to best protect this habitat. That is but one example of the environmental cost of not having terminal groins. At Bald Head Island our experience is that non-natural erosion from the harbor channel is causing us substantial loss of beach and dune habitat. This affects rare and threatened species of plants and animals. A terminal groin in a particular location by its ability to mitigate erosion and stabilize an inlet may be necessary and appropriate in certain circumstances to address environmental harm from inlet dredging activities. One of the things that this debate has been replete with are statements of policy that are far beyond the express dictate that the General Assembly included in its instruction to the CRC. The General Assembly directed the CRC to study the feasibility and advisability of using a terminal groin to control erosion at the end of a littoral cell or side of an inlet. The instruction was not to study whether terminal groins should be allowed throughout North Carolina or whether they should be allowed at a particular location. I was excited at the get go that we might be able to look at Bald Head but that is not what this is about. The report definitely answers the question of feasibility. It describes examples in North Carolina and other states where these structures exist. They can be built. The report describes engineering concepts and principles that are used to build them and even analyzes the costs of using various materials to build them. So the feasibility question is answered. The remaining issue is advisability. Moffatt and Nichol's final report contains several substantial conclusions in that regard. Quoting from the report, the presence of a terminal groin in concert with a shoreline protection plan may provide long term infrastructure protection, shoreline benefits and beach access to public recreational facilities. One of the reasons CAMA was set up was to guard those assets. The report also concludes a consequence when the structure is built on the downdrift side of the inlet is the stabilization of the inlet by preventing migration of the inlet channel as an additional substantial benefit. The report says in all cases the shorelines on the structure side of the inlet were eroding prior to construction of the terminal groin. After construction the shoreline on the structure side of the inlet were generally accreting. The terminal groin flipped it from eroding to accreting in all cases. That is a big benefit. The report also states, as Bald Head has experienced that dredging can have significant impacts on the inlet morphology and sedimentation processes of the ebb tidal delta. It can change the natural processes and what is out there. While this may be obvious, it is worth stating that the more significant the dredging activities, the potentially greater the impacts on adjacent shorelines, the greater the potential need for more nourishment and/or more substantial stabilization structures. I understand from the steering committee meeting that this body is considering three proposals. The first proposal is no change and preserve the status quo and the absolute ban with the existing exceptions. Making this recommendation would require you to conclude that terminal groins are neither feasible nor advisable in all circumstances. That conclusion simply cannot be drawn from the report and the

substantial benefits that I just read. The second thing under consideration is to amend the law to restore the CRC's former authority only for terminal groins through an expanded variance procedure. A variance procedure may sound like a good idea but if you think down the process, it doesn't really make sense. First an applicant would have to do a lot of work with no instruction as to what they need to do. So they have engineers and consultants doing work. Then they apply to DCM. DCM has no choice but to deny the application. Therefore it goes up as a variance process. That is a quasi-judicial court type proceeding in which the rules of evidence and what can be done and heard and considered are very limited. The CRC may want to do some studies to go look at the site. These would be things that aren't contained in the small record that Staff has prepared. Those things cannot be considered. That would appear to be contrary to the intent to do a good study and a site specific, location specific, groin specific basis. These outside of the record things would be prohibited. Just as the existing ban does not facilitate site specific and well reasoned decisions about terminal groins, neither would the variance approach. The final thing under consideration is to restore the CRC's former authority only for terminal groins at inlets, to develop procedures for permitting terminal groins with a petition. A petition would make a lot more sense. The CRC could be actively involved. You could guide the type of studies and there would be a roadmap that people could follow. It would be on a site by site basis and would appear to be the best way of making an informed decision. Sometimes such as at Bald Head Island manmade effects require a manmade solution and we encourage the CRC to give full consideration of that.

Sam Pearsall stated I am the southeast regional manager for land, water and wildlife for Environmental Defense Fund. Many issues have been raised already. I presume that many more will be raised after I shut up and sit down. I want to raise a single issue. That is the fact that the sea is rising. The sea is presently rising at the rate of .2 inches per year. That is indisputable. It is a measured fact resulting from measurements taken at tide gauges and ocean buoys using satellite telemetry confirmed by air photos. It's predicted that the sea will be rising an inch per year by the year 2100. That is a less certain prediction as all predictions are. It is also conservative. There are a number of variables that could increase the rate at which the sea rises by 2100 that are not taken into account. We know conservatively that we can expect by 2100 roughly an inch per year. Every terminal groin that has ever been built and every terminal groin that has ever been studied has been studied in the context of the present rate of sea level rise or less. No terminal groin has been evaluated in the context of the predicted rate of sea level rise which we face over the coming decades. That makes any study of past behavior of terminal groins somewhat dicey in terms of its ability to tell us how they will behave in the future. Our only hope for our coastal systems to adapt to this expected unnaturally high rate of sea level rise is that our sands and marshes and shores and channels be allowed to move as they naturally and normally always have and always need to do. Building any groin is maladaptive. It is a strategy that will reduce the ability of islands, of people, houses and ecosystems and coastal landforms to adapt gradually to this accelerated rate of rising seas.

Len Pietrafesa stated I am the professor emeritus at North Carolina State University. I am here to talk about presenting an understanding of how barrier islands actually survive. They survive by moving. They must move during a period of falling sea level or rising sea level. This is a period of accelerated sea level rise on the order of two tenths of an inch per year. More importantly what has happened over the last 40 years is that sea level is now as high during the

winter months as it had been during the summer and the fall months 40 years ago. Which means that the impacts that we have seen on sediment resuspension and redistribution, which are known as erosion and deposition, but you can think of it as sediments being resuspended and then moved during the passages of storms. Those kinds of phenomenon will occur more frequently during the winter and they will be more hurricane-like. North Carolina experiences 15-45 winter storms per year, in fact we spawn 54% of all of the extra-tropical cyclones that are created in the North Atlantic. What we are going to see is more movement of sediment during the winter months that is actually going to be comparable to the summer months. Why is that important? During a period of sea level rise barrier islands must be allowed to move towards the mainland. The mechanisms that move sediments or the mechanisms that allow the barrier islands to move are transport of sediments across the island but also through the inlets. Any structures that are put in place that obstruct the natural flow of sediments through the inlets will not allow the island to move on the backside. That is where the sediments eventually are deposited. This will lead to a flattening of the islands and literally the death of the islands over some periods of decades rather than allowing the islands to maintain their integrity. The other thing is that the issue is if you harden a structure such as at the tips of an island what you do is trap sediments on the side of the structure. What you also do is you capture those sediments and the downdrift that would occur of those sediments to the other end of the island is obstructed. Sediments will not be available to maintain the beaches on the downdrift side. On the east coast of the United States, particularly the North Carolina coast, that downdrift direction is north to south and east to west. Anything in between denies sediments to the south end of an island if the island is aligned north to south. If it is aligned northeast to southwest it will deny it to the southwestern part of the island. If it is aligned east west then the west end of the island is denied sediments. When I say the west end of the island for example, the first half mile will accrete sediment but the rest of the island will be denied sediment because there is no natural source which is provided during the passages of storms principally. Finally the statement that the young lady who spoke first made about estuarine dependent finfish cannot be understated or estimated. Structures at the tips of islands in fact reduce the volumetric flux through the island. There are dynamical reasons for that and North Carolina's fisheries relies to the degree of about 80-90% of the annual yield comes from estuarine dependent finfish. That volumetric flux of those larvae and the juveniles will be obstructed if you put jetties also through the inlets. It will change the natural transport pathway and the processes that bring those estuarine dependent finfish into the primary nurseries which will in fact automatically deplete the number of adults that will be available to our commercial and recreational fisheries. Thank you.

Tracy Skrabal stated I am with the North Carolina Coastal Federation. I am also one of the subcommittee members charged with making recommendations to the CRC and a CRAC member, but I want to speak to you today as a coastal geologist and a former regulator. I have lived in other states Virginia, Maryland and Delaware and while I lived there working in coastal management and as a regulator, North Carolina was known up and down the coast for its strong and progressive regulations and statute. It is also known for the fact that it placed the benefit of all of its citizenry at the heart of these regulations and programs. I would have to say that every state that I have lived in had hard structures on their shorelines and it is in fact enviable to be able to live in a state where we have natural beaches. I want to say the other thing about the CAMA program is that it doesn't just do nothing. The CAMA program has outlined many options for dealing with coastal hazard mitigation and a progressive approaches. Currently your

staff is working on sea level rise recommendations and responses and adaptive management. All of these programs are going to provide some benefits and some approaches over the next couple of years to deal with the problems that not just those adjacent to inlets are facing, but those on all of our barrier islands. The gentleman spoke and mentioned that the report said that terminal groins might provide protection. It is true the report showed in the first mile there was accretion where there had formerly been erosion. But it also showed that in three of the five study sites you had increased erosion in mile two. No response or no change beyond mile two moving away from the groin. It also showed mixed responses on the other sides of the groins on the other sides of the inlets. In some cases you actually increased erosion on the other side of the inlet. What about those folks? I don't imagine that it would be very long before those folks are going to be demanding of the legislators and of you all. Is our erosion no less important than those that happen to live in the most hazardous place that we have which is our shifting inlets? As a coastal geologist I can think of absolutely no defensible scientific argument that you could present why they shouldn't be allowed to have the same types of structures if you are going to make the decision that those next to inlets should have hardened structures to protect that first mile. As a former regulator I will say that when you start getting into a situation where you go from an absolute ban that has in place numerous exceptions for things like bridges that are vital to public safety, federally registered historic sites, and exceptions for commercial navigational channels. You have exceptions to these. When you start talking about basically repealing this ban, you are opening a door that I don't envision can be closed. When you start talking about you can have a groin only if and list however many caveats you want to place on it. I think you are done. As a former regulator I have written statutes and regulations and attempted to defend them in court over issues like impracticable. The burden of proof in North Carolina is on you all. I would say that you are going to get some incredibly powerful and scientifically valid application in the door as soon as you open this up. It is going to be extremely difficult if not impossible for you all to counter why they shouldn't be allowed to put that groin in based on their arguments that it is impracticable to do anything else. I would caution you. You have an excellent statute in place right now. Once you open it up, not only would I envision that it's going to be virtually impossible for you to say no to the applicants coming in the door, but it is going to be virtually impossible to say no to the next series of structures that are going to be proposed up and down the coast. I have read the report and in all five cases where they evaluated terminal groins, there were other structures there associated with those study sites and adjacent to those structures. I would say that that should tell you something about whether terminal groins work by themselves. Thank you.

Harry Simmons stated I speak to you today as the mayor of the town of Caswell Beach and the chairman of the Brunswick Beaches Consortium, which is all six beach towns here in Brunswick County. The reason we are discussing terminal groins at all is because a majority of the oceanfront local governments have inlets. Both municipalities and counties have asked that this tool be considered for use in North Carolina, much as it is in almost every other coastal state. No one has said that terminal groins would preclude the need for continuing the proactive nourishment of our beaches. What has been said is that nourishment of beaches at inlets cannot be successful without a terminal groin. Beach nourishment must continue and must be a part of the beach management process easily fixing many hot spots that might be created. Has the terminal groin at Pea Island been a success? Those that I have heard from tell me that without it the Bonner Bridge as we know it would already have ceased to exist. Keep in mind that there are

some among the opposition to terminal groins who probably think that would be just fine. Has the terminal groin at Fort Macon been a success? The historical treasure that is Fort Macon is safe and sound primarily due to the relatively passive contribution of that terminal groin. Much noise has been made and will be made about the study that was mandated by the North Carolina General Assembly and what it does and does not tell us. While some will try to suggest that it is inconclusive, I suggest you look more closely. I suggest that in the absence of solid evidence of significant problems being caused by the many terminal groins now in place along America's coast you should recommend that we try a few more terminal groins in North Carolina in addition to the two that are functioning as designed at Pea Island and Fort Macon. I remind you there are exceptions already available in both statute and rule. Some structures already exist on our coast and others could be permitted right now if proper conditions existed and local sponsors applied for them. The existence of current structures has not driven us even close to the brink of armoring our coast which I believe all of us here continue to oppose. There is concern that a terminal groin will sprout up at every inlet destroying the pristine nature of much of our coast. That will not happen. There may be only a handful of logical sites for terminal groins on the North Carolina coast. One would never consider putting one at a pristine inlet, on an uninhabited island or at any location where man's hand had not already been felt by decades, even centuries, of manipulation mostly from constant inlet dredging. Of North Carolina's 320 miles of ocean coastline at least half of it is already perpetually ensconced in a national seashore, state park, wildlife refuge or coastal preserve. You may remember that much ado was made almost two years ago about a letter signed by 43 scientists, most from outside of our state, telling us that terminal groins are bad. About a half dozen of the signatories are or were members of your own coastal hazards science panel. Yet not one of those who signed that letter has offered any peer reviewed data to substantiate their claims of doom and gloom despite having many opportunities to do so. With regard to changing the law banning hardened structures, may I again respectfully remind you that the person most responsible for changing the rule to statute back in 2003 is the exact same state leader who supports the change that is being proposed now to allow terminal groins. Finally, the few locations in North Carolina that would be likely candidates for a terminal groin all have one major thing in common, sandbags. Massive piles of critically important, but unsightly fabric bags causing far more of a challenge to public access and coastal habitat than any terminal groin ever would. A terminal groin would result in more public recreational beach and would actually create additional public beach access. For those who wish to see it with your own eyes, a caravan of vehicles awaits us outside this building to take you on the 10 minute drive to the east end of Ocean Isle Beach immediately after this public hearing. Don't make a decision on this issue without at least seeing what the impacted local governments on our coast see every single day. I urge you to recommend to the General Assembly that they allow the permitting of terminal groins in North Carolina in conjunction with beach nourishment and that the DCM staff and CRC by a thorough, site-specific review of each petition be given the authority to grant such permits. Thank you for the opportunity to comment.

Todd Miller stated I would like to start out by saying that I appreciate the process this Commission has been through and I know it has been a long and difficult journey. I am the Executive Director of the North Carolina Coastal Federation. There is a story I frequently tell about a well know politician in Carteret County who I won't identify. At a very controversial public hearing he stood up, looked at the crowd of 400 people in the room and said I have friends that are for this proposal and I have friends that are against it and I stand with my friends.

Unfortunately you are not in a position to be able to do that. I think the Legislature has thrown the ball to your arena and I think in doing that they asked for your best professional and talented experience in dealing with these issues. I hope when you make your recommendation to the General Assembly that it is based on what you believe is really going to work for the future of our coast and not based on trying to make somebody happy. With that you have heard many of the arguments for and against and you are going to have to make a decision tomorrow. Thank you.

Tom Jarrett stated I am here representing myself although I sit on the science panel and I am one of the original members of the science panel established back in 1996. There are just a few points of clarification I want to make. Importantly with regard to the terminal groin up at Pea Island, there was an attempt made by the consultants to remove the effects of beachfill, but that process that they went through to do that is not proper. A lot of the fill that was credited to being placed on Pea Island was really material placed in the nearshore and not directly on the beach so taking that out of the shoreline change data tweaks it one way. The bottom line is if you look at the survey data of the shoreline behavior on Pea Island post-groin versus what was going on on Pea Island based on DCM's own data you will see that there is a vast improvement in our reduction of the amount of erosion on the northern four miles of Pea Island. There has been a tremendous amount of erosion down in Rodanthe, but that erosion was occurring well before the terminal groin went in. There is no physical way you can associate what is going on at Rodanthe with anything going on up at Oregon Inlet. I challenge anyone to provide me with scientific reasoning and scientific data that would show a link. Pea Island is much better off today than it was prior to the construction of the terminal groin and you can twist the beachfill anyway you want to, but the bottom line is the combination of the terminal groin and beach nourishment has worked up there. The study didn't touch on the dredging issue as was brought up earlier by Ms. Deaton. We have four or five examples in North Carolina where beachfill has been repeatedly tried next to inlets and each and every one of those attempts have been miserable failures. The report talks about the impacts of terminal groins on the formation of sand flats yet there is nothing in the document that supports that conclusion. My comments on the executive summary should be part of the record and I strongly suggested that the conclusions that are not supported by information in a report be removed from the executive summary. With regard to the size and location of the terminal groin, it is not related to whether an inlet is being dredged. It is related to whether or not there is development there; the dredging takes place because there is development. The terminal groins are put in to protect a certain shoreline reach that is being impacted by inlet processes. Some of those processes may be impacted by the dredging, but the terminal groin size is not based on how much dredging is taking place. It is based on the size of the inlet and the area of the shoreline that you need to protect. The association that is implied or given in the report that terminal groins are needed only at places where dredging takes place is not correct. All one has to do is take a look at Fort Fisher. The state rules did allow the construction of a revetment at Fort Fisher to protect that historic site. This was a very proper move. The impacts of that structure conducted by the Corps of Engineers for the state of North Carolina since 1996 show that there have not been the dire impacts of that revetment down the coast. If you get down and look at the details of what is going on at Fort Fisher you will see that the revetment hasn't caused the acceleration of erosion down coast. My comments are based on 44 years of experience in coastal engineering, 34 years of that was spent with the Corps. I have seen the application of terminal groins up and down the coast of the U.S. Like my colleague,

neither one of us has ever come across a terminal groin that has exhibited characteristics that would be classified as a catastrophic failure. If there are instances where there may be a hot spot transferred from the inlet to some other location the application of these structures are part of an overall shoreline management scheme that will include beach nourishment. If you transfer erosion to another site, my guess is that erosion that is created somewhere else is a lot less than what is taking place at the inlet and can easily be handled through the proper application of fill. I appreciate the opportunity to comment.

Molly Diggins stated I am the state director for the North Carolina chapter of Sierra Club. The Sierra Club has about 16,000 members here in North Carolina. I appreciate the opportunity to comment today. Sierra Club has supported the current ban on hardened structures since the beginning of this debate. I personally have been attending public hearings on this matter easily for two decades. What strikes me is how much the debate has changed and how much more urgency there is. Panels such as this are trying to grapple with the pressures on our coast both from population increase, but most notably from sea level rise. For people across North Carolina the current policy is perhaps the single most important assurance they have that the public's beaches will be there and will be natural for themselves, their families, their children and into the future. You are all aware that there are very important studies going on that affect North Carolina. Federal resource agencies have identified that we have one of the three most vulnerable coastlines in the nation to sea level rise. There are studies underway to help North Carolina figure out how to best adapt and what best land use policies to have with respect to sea level rise. The Division of Coastal Management is working with the Division of Emergency Management and experts on risk to try to help the state decide on the best management strategies. It makes little sense to us to consider the matter of terminal groins in isolation from those other policies. Lacking anything in the consultant's study that would make a definitive case as to why current policy is not serving the state well we would urge you to join federal resource agencies and state resource agencies in upholding the current policy which we also believe gives you the most flexibility as you consider the many tough decisions that are coming your way in the next few years. Relaxing or eroding the current ban would put intense pressure on development in the most vulnerable parts of our coast, the inlets. This simply takes us in the wrong direction at a time when these kinds of decisions should be made in coordination with what we know about what pressures are coming to the coast and what advice is going to be forthcoming from these expert bodies. I do want to point out that we have submitted a letter on behalf of the Sierra Club, North Carolina Conservation Network, Environmental Defense Fund, North Carolina Audubon Society, and the Conservation Council of North Carolina. Together these groups represent tens of thousands of North Carolinians who urge you to uphold the current policy. Thank you.

Jeff Achterberg stated I appreciate this opportunity to speak. I have no studies and I have no data. I happen to live on the east end of Ocean Isle Beach. We purchased a home there about five years ago and I am here to put a personal face on this whole debate. I have neighbors and friends that I talk to each and every day. Some of them have lived there for over 20 years. I have neighbors across the street who are battling with sandbags and the ocean hits their house to the point where they move to a hotel every time we have a bad storm. Their name is Tom and Mable Blevins. They are in their eighties and they bought this house over 30 years ago as a retirement home. They by no means are rich, wealthy beach house owners. This is all they have

left. This is their retirement. They bought this house as a fifth row house on the east end of Ocean Isle Beach. It is now not just oceanfront, it is part of the ocean. Chris McKenzie is a contractor who owned property next door. He in the downturn of this economy had battled and battled with the inlet erosion on the east end of Ocean Isle Beach. His kind heart helped those of his neighbors who could not afford the sandbags. He lost his battle. He no longer owns the home. He no longer has his construction business the way he had it running before the downturn in the economy. I hear arguments nature and wanting things to be natural. I would like them to remain the way that I have seen them. I have been coming here for over 12 years. I also know that what we have is not natural. We dredge inlets. We have an Intracoastal Waterway. We have a huge boating population. It is increasing every year. The inlet at Ocean Isle Beach, which is called Shallotte Point or the River Inlet, is dredged. When I first came here 12 years ago there had been a beach renourishment before I started coming to Ocean Isle Beach. At that time the beach had been stabilized and everyone was happy. I have heard stories about how things were saved and there was more beach for more people to come down to the beach and enjoy. Recently we had another beach renourishment. That beach renourishment I observed out my front porch. It only lasted three to four months when the last beach nourishment lasted years. We keep dredging the inlets. I keep hearing we want things to remain natural. We should stop dredging the inlets and let the island shift and close off the inlet to let the sand to where it may. I still understand that we want to keep the Intracoastal for national security and for tourism and for the fisheries. We either stop dredging inlets or we do something to mitigate the damage that we cause. If humans are causing damage then we have to do something to mitigate it.

Debbie Smith stated I am not a scientist and not an engineer. I can't talk technicalities with you. I have read these monitoring reports and I have an opinion of my own. I want to remind you that you know what a long last couple of years this has been. Even before it got to you, the towns and counties in North Carolina have been to the legislature trying to seek some relief to a problem we have adjacent to our inlets. I will back up what Tom Jarrett said. My town has spent money to renourish the beach adjacent to the inlet to no avail. It was a very expensive experiment. We have not lost adjacent to Shallotte Inlet just since the inlet has been dredged. That inlet was never dredged before 2001. We have lost row after row after row of homes and street after street for the 55 plus years I have lived there. The first house we lived in was about two and a half blocks from the ocean. It is now a second row house. One major storm will make it oceanfront. It is not isolated to the last few thousand feet of the island either. It is making a constant creep right up the island. It is a very serious issue to us and a very serious issue to many towns and counties in North Carolina. I would like to remind you that there are 14 towns and counties in the state of North Carolina that have banded together to attempt to have another tool to protect our shoreline. They have spent time, effort and money and they directly represent several hundreds of thousands of people that live in these towns and own property in these towns. They also represent many visitors that come to our beautiful beaches to enjoy it. I would like to reiterate what Harry said and I would like to invite you to the east end of Ocean Isle Beach and let you see firsthand what it looks like today. I think every one of you has enough vision that you can see what a terminal groin may protect there. It is not just homes; it is roads, sewer systems, cable wires, telephone wires and water lines. We have moved man holes off of the beach. I don't want to continue to do that every year or every other year. Those 14 towns and counties that represent those hundreds of thousands of people in North Carolina, Brunswick County and Dare County, Town of Nags Head, Town of Carolina Beach, Town of Caswell

Beach, Town of Holden Beach, Town of North Topsail Beach, Village of Bald Head Island, Town of Oak Island, Town of Ocean Isle Beach, Town of Topsail Beach, Figure 8 Island Home Owners Board of Directors, Emerald Isle, and New Hanover County. They are begging for another tool to protect their livelihoods and their towns and counties. I hope you will consider a favorable report to the Legislature to give us a tool to protect what we are charged with protecting. It is in your hands to give us those tools to protect our properties and our towns. Thank you.

Representative Frank Iler stated this is our fourth or fifth visit together. I welcome you to Brunswick County. We have mayors and representatives in the room today from several of our communities. Brunswick has 19 towns in the county limits, six of which are beach communities. At least three of those have inlets and beaches which are seriously threatened. You have heard from mayors and citizens and attorneys from those towns. I have lived in five counties in North Carolina. Four of those five counties basically felt left out when it came to their state government in Raleigh. When I came to Brunswick County eleven years ago I saw a profound distrust of our state. Whether it was tourism, fishing regulations, road funds, or other issues Raleigh in the people's opinion was not being helpful. I think this is something everyone in the room would like to change. I understand your recommendations will be done tomorrow. Since we don't really know the result of the terminal groins that we have been talking about, this will give you a chance to study a terminal groin or whatever number you approve to help you manage the coast. Some of the studies I have been hearing today seem to be very selective about what they choose to talk about. We have to admit that man has created a lot of the problem on the barrier islands and created the barrier islands themselves by dredging the Intracoastal Waterway. I was told that my town of Oak Island was not an island before we dredged the Waterway. Doing nothing is suddenly very progressive, but that was a new one for me. Instead of continuing to guess, why don't we all study a new site? Let the study of that be a real-time, current example. We haven't been able to study what hasn't happened yet with sea level rise and fall. I think it would be very hard to study what hasn't happened yet, but I don't have a PhD. Doing nothing should not be an option. I implore you to not do nothing. This week you have the opportunity to partner with some of these towns and communities on the coast to solve some serious problems. Correct the blanket regulation barring terminal groins, give the towns a chance to make their case and recommend the Legislature give the CRC the authority to permit terminal groins on a case by case basis. The Senate has already approved Senate Bill 832 that would give you the power to manage the coast and permit terminal groins on a case by case basis. Give us a chance to vote on it in the House by recommending that the Bill come out of the House Environmental Committee and give us a chance to vote on it. I have said this before, but I hope the next time I say it it will be on the floor of the House. If not this, then what? If not now, then when? Thank you very much.

Jean Hutchinson stated I am from Sunset Beach. I am not a scientist either. I am not an expert nor do I claim to be an expert on this particular issue. In my past life I was the environmental advocate for the Virginia Department of Environmental Quality. In the summers we head north and live on Lake Champlain in Vermont. Both of these areas do not deal with terminal groins at all. However, it does deal with the environment. One thing that I have learned is if man screws up the environment it is very difficult to put it back to rights. If you can do it, it costs the Earth. We only have one of those. I am puzzled why our Council would ever agree to go along with

terminal groins. In Sunset Beach we believe they are going to have a very negative impact on our pristine white beaches. That may sound terribly selfish and it is. Before you, and I don't envy your position, you have conflicting viewpoints from engineers and scientists that say on one hand terminal groins differ from traditional groins by allowing some sand to pass over it thereby negating erosion downward from the groin. However, there is a great majority of some of the top coastal scientists in North Carolina who believe any structure placed at the terminus of a barrier island will interrupt the natural sand movement and cause negative impacts on adjacent islands. North Carolina State University has a fantastic book out that shows how the barrier islands or inlets have moved over the last 40-50 years. It is an amazing that these islands move. Man has got to adapt to that and although I feel for Ocean Isle Beach and what they are going through I don't know that terminal groins are the answer. I would like a whole lot more information. A letter was recently written to the Brunswick Beacon, our local newspaper, that a groin on the east end of Ocean Isle Beach will deprive sand from half a mile west of Shallotte Inlet including central and the west end of Ocean Isle and all of Sunset Beach. While groins at Bogue and Oregon Inlet have pointed out as success, in fact massive erosion has occurred at the beaches downdrift and they have required massive amounts of renourishment to rebuild those damaged beaches. Our own island has probably benefited from the jetty at the end of Bird Island, but the area downdrift from that jetty has also required continuing beach renourishment to keep those beaches functioning. We don't want to be in the position where we suddenly require expensive beach renourishment to keep our own beach healthy. There can be no question that it is not in the best interest of Sunset Beach to support any change with the current policy banning terminal groins. Where you have such divergent positions amongst scientists about what the net results of the change might be. I really thank you for coming to this area and taking the time for this. I don't envy your position and the decisions you have to make. Thank you.

MINUTES

Lee Wynns made a motion to approved the minutes of the February 17, 2010 CRC meeting. David Webster seconded the motion. The motion passed unanimously (Weld, Cahoon, Elam, Webster, Mitchell, Wilson, Wynns, Simmons) (Peele, Shepard, Old abstained) (Leutze, Carter absent for vote).

EXECUTIVE SECRETARY'S REPORT

DCM Director Jim Gregson gave the following report.

Sea Level Rise Report

Dr. Overton will present some information on the Science Panel Sea Level Rise Report. The CRC's Science Panel on Coastal Hazards has released its "North Carolina Sea Level Rise Assessment Report." The full report is currently available on DCM's web site. This report is part of the CRC's initiative to examine relative sea level rise in North Carolina, in an effort to help the Commission prepare to address the potential effects of rising seas through policy development and adaptation planning. The Science Panel recommends the adoption of one meter (39 inches) of sea level rise as a rate for future policy and planning purposes. Tancred

Miller presented the report to the N.C. Legislative Commission on Global Climate Change last week.

Terminal Groin Study Public Comments

The CRC and the Division have received numerous comments on the terminal groin study over the past several months, both written and in person at public hearings. These comments are from environmental groups, county governments, local governments, state agencies, scientists, engineers, coastal property owners, and other NC citizens. In looking at these comments, we found about 53 specific comments in favor of terminal groins; 19 that had no specific opinion, but expressed the hope that the CRC would look carefully at the issue, or were simply commenting on scientific issues in the study reports; and 1,059 individual comments that were not in favor of using terminal groins for erosion control. Please note that of the comments not in favor, 1,034 are from members of the NC Sierra Club and NC Audubon Society. We are continuing to receive more of these comments from Sierra Club and Audubon members each day.

In addition, some others on both sides of the issue have commented multiple times. All comments received on this issue are available in a PDF file on the Terminal Groin Study web site. The file is updated as we receive new comments.

Clean Marina

The Southport Marina in Southport is the latest facility to be certified as a North Carolina Clean Marina. To earn the certification, the marina's owners have prepared spill prevention plans, safety and emergency planning and strongly limit boat maintenance activities.

Staff News

Pat Durrett has been hired part-time as the Clean Marina Coordinator. She'll also eventually be taking on the Pumpout Grant Program from Mike Lopazanski. Pat is a former employee of the Division of Water Quality and brings a good deal of experience in outreach activities which will be an asset in assisting DENR with establishing criteria for pumpout facilities and pumpout services as mandated by HB 1378 "Clean Coastal Water and Vessel Act". She'll be located in the Morehead office.

Our Minor Permits Coordinator, Ed Brooks, is recovering at Duke Hospital following a double lung transplant earlier this month and cardiac bypass surgery. Ed remains in intensive care in the isolation unit. Please keep Ed in your thoughts.

CHAIRMAN'S COMMENTS

Chairman Emory stated 2010 has been a blur. The sea level rise symposium on the heels of our January meeting and since then numerous terminal groin meetings. I would like to say a little bit about the terminal groin process. If nothing else, I think it has been an open process and that was our plan from the start. We have had steering committee meetings and several Science Panel meetings which have all been open to the public. All of the comments that we have received have gone on to the DCM website immediately. The legislation called for three public hearings and we have had five. Whatever we end up thinking at the end of the day we should remind

ourselves that this has been an open process and everyone with an opinion has had the chance to express it.

CRAC REPORT

Dara Royal, CRAC Chair, stated the CRAC had a full afternoon yesterday. We started with a presentation from staff of the Department of Transportation and Wildlife Resources Commission about their new memorandum of agreement for providing public access at D.O.T. bridge crossings. This is a common sense approach that allows D.O.T. and the WRC to coordinate prior to bridge projects so that public water access could be installed or preserved. Our local government members were very encouraged to see this MOA and to have the opportunity to work with agencies to preserve our historical accesses as well as to add potentially new facilities. Phil Prete, senior environmental planner with the City of Wilmington, gave a presentation of some work that the city is engaged in to prepare for sea level rise. The city did a benchmark study of 26 other cities around the country to evaluate policy measures that those cities had adopted. The study ranked the efficacy, impacts and political feasibility of the different policies. The City of Wilmington can use this analysis to consider policies of their own. According to Mr. Prete, local governments like the City of Wilmington need state technical assistance, data, and regulatory guidance in order to further prepare themselves to adapt to sea level rise. We had the opportunity to revisit the issue of local government takeover of federal nourishment projects. Doug Huggett reported the results of a meeting among representatives of the CRAC, Corps, and DCM Staff. The meeting was requested by the CRAC for the purpose of evaluating whether it is administratively feasible for local government to take over the responsibility for completing a beach nourishment project in situations that the Corps isn't able to do so. The CRAC wish to avoid having local governments undertake the time and expense of preparing environmental review documents since the Corps had already done so and wanted local governments to be able to use the Corps' environmental reviews in their permit applications. Doug said that DCM offered two options. Local governments could either apply for an express permit or for what Doug called a programmatic Major permit that would in essence be a duplicate authorization for the Corps project. Doug said that in either case the local government work proposed would have to be identical to the proposed Corps project and that local governments could probably rely in the Corps' environmental documentation. The details of the programmatic permit are yet to be worked out, but the CRAC feels that these options are a workable resolution to what has been a major administrative problem. Finally the CRAC had a discussion about DENR's draft boards and commissions report. Frank Rush and I, working with DCM Staff, proposed a reduction in the size of the CRAC and changes to the composition and appointment method. However, the Council feels very strongly that the current size and composition was established for good reasons which continue to be valid today. The Council decided unanimously that any changes should only happen over our protest and we will be submitting comments to DENR recommending that the existing structure would be retained.

ACTION ITEMS

Land Use Plan Certifications and Amendments

John Thayer stated both items before you are certification requests. The first is Tyrrell County/Town of Columbia joint land use plan. This is a request for certification of the plan per the new guidelines. The second is a land use plan amendment by the Town of Atlantic Beach.

They previously received certification on their updated land use plan in 2008. This amendment is to ensure that the land use plan and their local zoning code are complimentary. Their amendment involves map changes and text changes in the document to ensure compatibility. Staff's recommendation is that the plan has met the substantive requirements of the 7B guidelines and there are no conflicts. You will note in the recommendation that we also recommended determination regarding policy 97 that is not enforceable for state and federal consistency purposes. This policy statement is similar to policies in some of the other rural counties, especially in that area. It basically opposes the OLF. There was an opportunity for the public to submit written comments and none have been received. Staff recommends certification with the determination that policy 97 is not enforceable for state or federal consistency purposes.

Bill Peele made a motion to approve Staff's recommendation to certify the Tyrrell County/Town of Columbia land use plan. Charles Elam seconded the motion. The motion passed unanimously (Old, Wilson, Elam, Cahoon, Wynns, Peele, Weld, Shepard, Simmons, Webster, Mitchell) (Carter, Leutze absent for vote).

Charles Elam made a motion to certify the Town of Atlantic Beach land use plan amendment. Joan Weld seconded the motion. The motion passed unanimously (Old, Wilson, Elam, Cahoon, Wynns, Peele, Weld, Shepard, Simmons, Webster, Mitchell) (Carter, Leutze absent for vote).

PRESENTATIONS

Sea Level Rise Update

Dr. Marjorie Overton, Chair of the Science Panel, stated this effort by the Science Panel began in the fall when we heard that the Division of Coastal Management was considering sea level rise and the Panel asked to be a part of that process. The outcome worked pretty well. There was a question at the sea level rise forum where I was asked about our next plans and stated that my plan was to keep the Science Panel together. A lot of conversation about sea level rise first happens with trying to convince people that sea level rise actually exists. For some it is obvious in the record. In the Science Panel there are a number of geologists and you will see in the technical report there is evidence in the geologic record for sea level rise. One that speaks to other people is the evidence in the water gauges or tide level gauges that we have around the state. A rate was shown for how much vertical water rise was observed in the data plus or minus a standard error. The length of time of the record is also considered. In our discussions, because of some issues in the Wilmington gauge relative to navigation of the dredging of the channel and changes in the record, many of us felt like the Duck gauge gave a reliable, reasonable near-term reliable water level record of what sea level was doing. We adopted the thought that at a minimum or at least from our record that using 4.27 mm/year you could take that and extrapolate out to see where we would be in 2100 assuming that things stay the same. The conversation on climate change argues that things are not staying the same and that water level rise is evidenced by changes in temperature, expansion of water, melting of ice caps, etc. and there will be acceleration. Using the literature we went to two estimates in 2100. They are supported in a number of the papers as reasonable thought of what might occur. It is one meter. There are some in the literature that are arguing 1.4 meters and even two at this point as far as worst case scenarios. The group felt that 1.4 is a large enough value for you to think and plan. One meter is

a reasonable thing to begin discussions. I do not want you to think that we know precisely in 2065 exactly what the mean water level is going to be. This is a conceptual idea of how we are going to get from today to the future. The science and the data are changing rapidly and we will continue to look at what the specific information is in North Carolina through the gauges. We will revisit data and issues at a five year increment.

Terminal Groins Study Recommendations (CRC 10-13)

Bob Emory

Paul Tschirky of Moffatt & Nichol stated House Bill 709 was the overall study organization. The legislation directed the Coastal Resources Commission to conduct a study of the feasibility and advisability of the use of a terminal groin as an erosion control device. This part of the study was the fact gathering and analysis to support it along with the six parts of the legislation. The legislation said that this study should consider the scientific data regarding the effectiveness of a terminal groin constructed in North Carolina and other states in controlling erosion. We have called this the physical assessment in the study. The study should consider scientific data regarding the impact of terminal groins on the environment and wildlife habitat. This is the environmental assessment portion of the study. The study should consider information regarding engineering techniques used to construct terminal groins and any new technologies to limit impacts on adjacent shorelines. The fourth part of the legislation said the study should include information regarding current and projected economic impact to the state, local government and private sector from erosion caused by shifting inlets including the loss of property, public infrastructure and tax base. This is the economic portion of the study. The study should include information regarding public and private costs of construction and maintenance of terminal groins. The study should address whether the potential use of a terminal groin should be limited to only inlets that were navigable and dredged.

Five sites were selected for the study. One of the findings is that the terminal groins trap sand and they are dissimilar to a jetty. Terminal groins are commonly built on either or both sides of inlets. A consequence of when a structure is built on the downdrift side of an inlet is the stabilization of the inlet by preventing migration of the inlet channel. Dredging can have significant impacts on the inlet morphology and sediment processes of the ebb tidal delta. Shoreline change includes all of the impacts between the two times in which the shorelines were measured that includes beach nourishment and dredging that have occurred in each area. Looking at shoreline change alone does not solely represent the impact of a terminal groin. Quantitative analysis were performed for the shoreline change and converted to volumetric changes based on these shoreline changes. The volumetric changes are calculated after subtracting out all the beach nourishment and nearshore placement activity and adding back in effects due to dredging. In all cases, the shorelines on the structure side of the inlets were eroding prior to construction of the terminal groin. After the construction, the shorelines on the structure side of the inlet were generally accreting. The data on the opposite side of the inlet in these five case sites does not display a clear trend. A positive result indicates an improvement and does not always mean that we have gone to accretion. A negative change means the converse. On the terminal groin side of the inlet there was a significant positive net result on the first mile of shoreline, except at Amelia Island where the positive result only occurred on the first half mile. For Oregon Inlet, Fort Macon and Amelia Island there is a moderate negative

result over the second mile and much less of a change in the third mile. Oregon Inlet was the case where we had six miles of monitoring data and in each other case we looked at three miles on each side. For Oregon Inlet, further down the Pea Island shoreline there is a positive result present over the fourth mile and minimum changes when we get to the fifth and sixth miles. On a cumulative basis for Fort Macon and Oregon Inlet the positive result is significantly greater, approximately 150,000 cubic yards per year, than any of the negative results over the shoreline reaches analyzed. Amelia Island does not show a net positive result, but an adjustment in post construction shoreline that occurred during this short post-construction analysis interval. For Captiva Island and John's Pass the positive result is apparent basically over the entire three mile analysis length of the shoreline with cumulative positive results. Looking at the opposite side of the inlet the changes show there were typically a minor to moderate negative result over the first $\frac{1}{2}$ to $\frac{3}{4}$ mile. Whether this is an effect of the terminal groin or from other impacts is not possible to definitively conclude from the data available. For Captiva Island, John's Pass and Shackleford Banks the results turn positive after the initial distance with net cumulative positive results over the shoreline analyzed for Captiva Island and John's Pass and a negative result for Shackleford Banks. At Oregon Inlet the negative result continues for this second mile with minimal change over the third mile. How do we separate out dredging effects? Much like nourishment, the influence of dredging material from the inlet system must be accounted for when we attempt to assess the impact of the terminal groin. The results showed that one must assume about 25% of the material dredged from the inlet would have naturally reached Shackleford Banks for the negative effects from pre to post-construction change over the three mile section of shoreline to turn into a positive one.

Dawn York of Dial Cordy and Associates stated the legislative language did consider the impacts of terminal groins on the environment and natural wildlife habitats within these systems. The environmental effects of a terminal groin structure alone could not be assessed in the study for the sites without considering the associated beach nourishment activities. The potential effects of terminal groins in conjunction with shoreline management such as beach nourishment on natural resources does vary according to various factors of conditions including the type of construction equipment used, the nature and location of sediment discharged within the study area as well as the time period of construction and maintenance in relation to the various life cycles of resources or organisms that could potentially be effected within the study area. The construction of a terminal groin as well as beach nourishment and dune construction does prevent overwash and inlet migration thereby contributing to a loss of habitat for breeding and non-breeding shorebirds and water birds including the threatened and endangered piping plover. Terminal groins are typically used in combination with long-term shoreline protection program such as beachfill. In areas where pre-project shoreline conditions are generally degraded already with limited potential sea turtle nesting activity. According to the results that we collected in the study the historical nature of the terminal groins at Fort Macon, John's Pass on the northern end of the inlet, as well as Redfish Pass, the trends of the effects of these groins on the resources is somewhat limited. We were lacking pre-construction data for these sites therefore making empirical determination impossible. During the study we did use control sites and or regional sites which helped strengthen the ability of the study to infer an impact from a detectable change, however because we were unable to have pre and post-construction data we were unable to determine from statistical evidence a change. We also lacked complete data sets and high levels of confidence in the quality of the data, therefore statistical analysis was precluded. The

development that is located at most of these study sites and the use of some of these sites basically precluded unrestricted utilization by various natural resources. Sea turtles, avian species, and marine species do continue to make use of these managed sites although it is on a limited basis. The terminal groins at both Oregon Inlet and Amelia Island are more recent construction projects. Pre and post-construction natural resource data was readily available and was evaluated. The more recent data collected since construction does indicate an increase in public interest and participation as well as increased funding for various monitoring of these resources. Although shorebirds and sea turtles do utilize these locations, neither significant trends nor adverse effects were discernable from the available data. The resources present at both Amelia Island and Fort Macon locations were compared to undisturbed neighboring and barrier islands where the data does indicate that those resources at the control sites were more prevalent. Anchoring the end of a barrier island may curtail an inlet's natural migration pattern thereby minimizing the formation of various habitats such as sand flats. Resources do continue to use these terminal groin sites where these structures do exist, however if habitat succession does occur we do understand that species suitability may be effected.

Johnny Martin of Moffatt & Nichol stated one of the other portions of the study was to look at engineering techniques to limit impacts on adjacent shorelines. The summary findings of all five study sites consist of rubble mound rock groins. Terminal groin design is very site specific. The length, height and permeability of the groin will determine how effective it is at trapping sediment on the updrift side of the groin and on the overall impact of the groin on sediment transport. Long groins that are built above the seasonal high water level or are completely impermeable will most effectively block sediment, however short groins with high permeability may not block enough sediment to be effective. In reviewing the literature the recommendations are that terminal groins should be just long enough to retain the required beach width without causing an undue reduction in sediment transport downdrift. Ideally the groin height should be limited to just above the beach level. Rock is generally the most widely used material because it is readily available and highly durable. Concrete and steel are also suitable for building shorter mid to shallow water groins, however these materials do tend to be a little cost prohibitive. Timber and geotextile groins are less expensive alternatives and can be adapted to a variety of beach conditions, but they are limited to their applicability to shorter shallow water conditions. Concrete, steel and timber structures do have the advantage of being adjustable with the beach profile without having to rebuild or remodel the groin. Groin notching is an emerging technique that allows for adaptive management and allows sediment to bypass the groin where it would normally be trapped. This may prove to be a cost effective alternative to groin removal. It appears that for shorter groins the interruption of lateral transport is smaller compared to the overall magnitude of sediment transport and muted impacts seen updrift and downdrift of the inlet. There seems to be a threshold for both length and height where adjacent impacts become more pronounced. While it is possible that the dredging impacts may be responsible for this threshold crossing, it underlines the importance to consider the overall length of structure in relation to the other exterior manmade and natural processes that also drive sediment transport at the inlet. The permeability of the structure also has a significant impact on adjacent shorelines. Amelia Island has allowed material to bypass the structure and limit impacts downdrift; however the structure has also had a limited impact on the updrift shoreline mainly within the first half mile. Other structures that have an impermeable core appear to hold more sand for a greater distance updrift of the structure.

Paul Tschirky stated the economic portion of the study was a little bit different in the sense that it doesn't look at the five study sites that were selected, but attempts to look at economic evaluation both projected and current. The proposed 30-year risk areas that were developed by the Science Panel were looked at. Lines were drawn within the inlet hazard areas and Dr. Dumas looked at the economic value oceanward of those lines. The economic value risk within the 30-year risk areas for developed shorelines varies greatly from about 27 million at Ocean Isle to over 320 million at Bald Head Island. It must be noted that not all of these properties could be protected by a terminal groin. The second part of this was to try and look at current economic value and it looked at the sandbag database and looked at properties that were imminently in danger. The economic value at current or imminent risk for developed shorelines varies from just under 3 million at North Topsail Beach to about 26 million at the north end of Figure 8 Island. Dr. Dumas used county parcel data to come up with the valuations and also looked at the tax value and tax revenue and used the 2007-2008 reevaluation numbers for North Carolina. The barrier island and municipal tax bases ranged from 409 million for Caswell Beach to over 4.2 billion for Emerald Isle. The county wide tax bases range from 3.8 billion for Pender County to 29.1 billion for New Hanover County. The full value of residential property may not be lost in the event that properties themselves lost to shifting inlets as some of the property values associated with these oceanfront or soundfront locations may then transfer to oceanfront property. Additional factors that will affect the economic value in inlet areas were reviewed but not specifically quantified because of lack of data. Beach recreation value, shore surf, beach fishing, primitive hiking, camping values, wetland recreation values, the value of non-game wildlife in beach and coastal wetland areas, value of wetlands in supporting recreational fishing, values of wetlands in protecting property from hurricanes and wind damage and values of national seashores and refuges were looked at.

Johnny Martin stated construction costs of terminal groins can vary greatly depending upon construction materials, length and beach profile. Construction costs range from one million dollars from some of the shorter ones up to about 24 million for the structure at Oregon Inlet. In developing what potential cost might be in North Carolina, four cost scenarios were developed. What we found was the cost for rubble mound or rock terminal groins could range from about \$1,200.00 per linear foot up to \$5,200.00 per linear foot depending on the length and steepness of the beach. Steel or concrete sheet pile or timber terminal groins could range from \$4000.00 to \$5000.00 per linear foot. Initial project costs included constructing the terminal groin, initial beach nourishment, and permitting and design fees. This ranges from 3.5 million dollars to over 10 million dollars. Annual project costs for maintenance, repair, annual beach nourishment and monitoring could be in a range of \$700,000 per year to over two million dollars per year depending on the length of the structure. Terminal groins are constructed as a part of a broader beach management plan and may make nourishment adjacent to inlets feasible, but they do not eliminate the need for ongoing beach nourishment. These costs could vary substantially based on site conditions and design parameters. The legislation asked whether terminal groins should be limited to navigable, dredged inlet channels. The summary findings were that a vast majority of structures considered for this study were at inlets that were adjacent to navigable, dredged channels. No terminal groins were identified as being located at the end of a non-inlet littoral cell. The more substantial, longer, higher, or less permeable terminal groins were typically found where the greatest amount of dredging activity occurs. The more significant the dredging

activity, the potentially greater impacts on adjacent shorelines, the greater the potential need for more nourishment or more substantial stabilization structures. These dredging activities may greatly outweigh any potential long term shoreline changes resulting from the construction of a terminal groin. With respect to locating terminal groins on updrift and downdrift sides of an inlet, both sides were represented among the five study sites. While initial thought might be that terminal groins should be located on the updrift side of an inlet in order to capture sediment, it must be noted that typically sediment moves in both directions along the shoreline near an inlet dependant on the wave activity. Based on the existing sites and literature, the impacts of terminal groins on adjacent shorelines are difficult to identify if they exist at all if located adjacent to a highly managed navigation inlet. The relative impact of these structures on adjacent areas is likely increased when sited next to a natural or minimally managed inlet.

Marjery Overton stated this process has been quite fascinating and I think the Science Panel has been actively involved from the first meeting until the last meeting. The Science Panel is a very diverse group with a lot of specific technical background in the issues as well as opinions about the issues. We have met at least five times, maybe six. We started with very direct and concrete input in picking the five inlets. I think that went well. It was a good meeting and at the end of the day we were amazed that we found structures that would suit the needs of the study and potentially help answer questions for the CRC. We had input and wide ranging conversations. Moffatt and Nichol was patient with us and listened to us. We scrutinized proposed methods for analysis and input and focused them on acquiring the kinds of data they needed. They did not do everything we recommended, but it was not our expectation that they should. The economic section was difficult for us to wrestle with. There was a very interesting meeting as we started to turn the corner and the draft report came out. It was acknowledged at the end that what we were doing was not peer review. We were consulted, we were part of the process and we gave them feedback. This meeting had an important impact on the way the final copy came out with our comments about readability and consolidation of material. At the last meeting held, we had discussion about what the final report meant and in the end there are still people talking about whether it should have been designed differently or whether we should have done site specific studies in North Carolina. With respect to the quantitative analysis there wasn't a strong signal to say don't do this. These are very complex systems. The shorelines don't tell the whole story. Moffatt and Nichol wrestled with the nourishment that was going on and the impacts of the dredging. These systems are hugely fascinating and interesting because they don't stay the same in space or time. We have a very difficult time predicting what they are going to do in the absence of human intervention. The more we know the more we want to know. There was a strong discussion about the value of going back to 1993 at the time the CRC had the option to do the variance before there was a ban. No formal vote was taken. The Panel would not want me to go one way or the other on this issue. The Panel is neutral and you will hear from individuals.

Chairman Emory stated he made an attempt to set the background for why we are engaged in this. The particular thing I would like to call our attention to is what the Legislature asked us to do. The Legislature asked us to do a study to determine if it was feasible and advisable to basically amend the state ban on hardened structures to consider the installation of terminal groins. We were asked to do a study and make a recommendation. We need to remind ourselves that is what we are asked to do. You are familiar with the six questions that the study called for. Several alternatives for Commission recommendations have been provided to each Commission

member for discussion based upon the study. These recommendations were reviewed by the Steering Committee and alternatives for Commission recommendations are provided for discussion. We could recommend that the use of terminal groins in North Carolina is feasible but not advisable and recommend no change to the current policy. Another option would be that terminal groins could be considered but only if a list of factors can be effectively addressed with an attempt to steer clear of process.

Charles Elam made a motion that the CRC recommend option B on page 10A of draft document dated March 23, 2010. This would be a recommendation that the use of terminal groins in North Carolina is feasible but advisable only if the eight factors listed could be effectively addressed. Renee Cahoon seconded the motion.

Renee Cahoon made a substitute motion that the CRC adopt the recommendation below to be submitted to the General Assembly. Jim Leutze seconded the motion. The motion passed with eight votes in favor (Old, Wilson, Elam, Cahoon, Wynns, Simmons, Leutze, Mitchell) and five opposed (Peele, Weld, Carter, Shepard, Webster).

The General Assembly directed the CRC to conduct a study on the feasibility and advisability of the use of terminal groins as an erosion control device. The study determined that terminal groins, in combination with beach nourishment, can be effective at controlling erosion at the end of barrier islands. The individuality of inlets necessitates site-specific analysis. The study findings were mixed regarding the effects of terminal groins on wildlife habitat and marine resources. If it is the desire of the General Assembly to lift some of the limitations specific to terminal groins, due to the individual nature of inlets, the following factors must be effectively met:

1. In light of the current policy favoring a non-structural approach to erosion control, the use of a terminal groin, should be allowed only after all other non-structural erosion control responses, including relocation of threatened structures, are found to be impracticable.
2. The effects of a terminal groin on adjacent beaches are variable and a primary concern. Any use of such a structure should include siting and construction that avoid interruption of the natural sand movement to downdrift beaches.
3. The nature of terminal groins and the potential effects on coastal resources adjacent properties necessitate a full environmental review. Any proposal for the construction of a terminal groin should be accompanied by an environmental impact statement that meets the requirements of the NC Environmental Policy Act (NC G.S. 113-4).
4. To ensure the adequacy of compliance with SEPA and the protection of the public interest, third-party review of all environmental documents should be required. The cost of third-party review should be borne by those responsible for the project. This third-party review should include all design, construction, maintenance and removal criteria.

5. Since a terminal groin may impact properties well beyond those adjacent to the structure, notification of property owners in areas with the potential to be affected by the terminal groin should be required. This notification should include all aspects of the project likely to affect the adjacent shoreline, including construction, maintenance and mitigation activities as well as post-construction effects.

6. As the post-construction effects of a terminal groin on coastal resources and adjacent properties are difficult to predict, financial assurance in the form of a bond, insurance policy, escrow account or other financial instrument should be required to cover the cost of removing the terminal groin and any restoration of adjacent beaches. Financial assurance should also be required for the long-term maintenance of the structure including beach nourishment activities. (Legislative authorization for requiring financial assurance would be necessary).

7. The use of a terminal groin would need an adequate monitoring program to ensure that the effects on coastal resources and adjacent properties does not exceed what would be anticipated in the environmental documents. All monitoring of impacts of a terminal groin on coastal resources and adjoining properties should be accomplished by a third-party with all cost borne by those responsible for the project.

8. As terminal groins are typically used in combination with a long-term shoreline management program, any proposal for use of a terminal groin in NC should be part of a large-scale beach fill project, including subsequent maintenance necessary to achieve a design life of no less than 25 years.

PUBLIC COMMENT

Bill Cleary stated his comments relate to a question raised by Dr. Leutze and I think Mr. Wilson and then elaborated upon by Mr. Elam. What it deals with is the impact of the terminal groins and whether Moffatt and Nichols' study indicates that the terminal groins don't work or have some negative impact. I have looked at all of the inlets south of Cape Lookout, which number about 15. So I have spent a good bit of my time over the last 40 years looking at these inlets. There is really no data available in either Moffatt and Nichol's study or in anybody else's study that indicates that these terminal groins have a negative impact upon the adjacent shoreline. Yes there is erosion that takes place on the opposite shoulder like Shackleford Banks or on Bodie Island. This stems from the fact that you are dealing with the ebb tidal delta that has been extensively dredged and modified over a period of time. You augment those erosion related issues with storms. I think this wasn't really made clear in terms of the discussion section from the Moffatt and Nichol report as evidenced by these questions. The opposition to terminal groins have absolutely no data. Tracy had mentioned Stan Riggs' study of the Outer Banks which is a great study, but what Stan doesn't do is take a look at the ebb tidal delta which clearly influences

shorelines as much as three miles away from an individual inlet. I think this is what the CRC needs to bear in mind. Tracy mentioned that there was a disservice because Moffatt and Nichol did not look at some of the data. Clearly the disservice to the CRC as well as the public and the communities that are in favor of this terminal groin need to be aware at what they are looking at. I think there has been a lot of smoke screen that has been put forth by the oppositions to this. They have no data from the physical aspect of this. I got booted off of this panel as you know because I was biased. I have worked for some of these communities, but I don't right now. I recommended a friend of mine who is an individual at Boston University, Duncan Fitzgerald. He works with tidal inlets all over the world. He came basically to the same conclusions. I spend two weeks with Duncan and he asked me why this wasn't really made clear in his report. I recommended Duncan because I thought he was the most apt individual to look at this. He has absolutely no political agenda. He lives in Boston, Massachusetts and his information and my information basically indicate that these terminal groins don't impact sand circulation. They simply don't. When I read some of the comments that have been received via e-mail, there is clearly no evidence that they do. I think that is something that you guys need to bear in mind. I can't speak to the environmental end of it, but my last comment is that the opposition has absolutely zero data to substantiate their claim that these terminal groins have an impact. They don't function like short jetties. Jetties are placed at inlets and they have far more problems. I just retired from the University of North Carolina Wilmington after 38 years. I have studied tidal inlets among other things. I was a professor of geology at the University. I have done consulting for the state, I have worked at a number of different places and I am a professional geologist.

Tom Jarrett stated I came down here with the intention of keeping my mouth shut, but after 34 years with the Corps of Engineers and most of that time spent with the Oregon Inlet project and another 10 years in private practice, there were some things that were being said that I just couldn't keep my mouth shut about. The theory is if you put structures up it would block movement into the inlet. This is all theory and there is not real data that substantiates whether or not this is the case or not. The conclusion was that if you block the current then you will block the larvae. The Corps did some numerical model studies and physical model studies to look at transport, but those are inconclusive. Here we are talking about structures, for example Pea Island the beach is all the way out to the end of the structure. There is no stopping of the sand transport or the water transport into the inlet by this structure. The same holds true with the other four examples. The sand is pretty much all the way to the end. You have sand and water going through these structures so physically there is no way that you are stopping larvae from moving into the inlet. It is interesting that the National Marine Fisheries conducts a massive larval transport study at Beaufort Inlet. It has a groin. So if there is some concern over the impacts on larval transport over these structures why would they do the study at Beaufort Inlet? Fisherman seek rocks. The State builds artificial reefs. With regard to the design of the Oregon Inlet structure I am going to emphasize that it was built as one unit. It had two purposes. The first was to stop the inlet from migrating. The second was to rebuild the whole north end of Pea Island out to what it was in the mid 1980's. Why do that? Because the southern part of the Bonner Bridge was relatively low and there was concern that during hurricanes or nor'easters when you have super elevated water and waves on top that waves would come in and hit that bridge and pop the deck off. The part of the terminal groin structure was to begin back at the Coast Guard basin extend all the way around and rebuilt the north end of the island to the 1984 condition. The Fort Macon structures were actually put in there in 1830 when the Fort was built.

Robert E. Lee designed some of the first structures that were built there. A lot of what you see at Fort Macon pre-existed the current terminal groin. The state of North Carolina did put a terminal groin at the bathhouse subsequent to the groins, but the overall plan for Fort Macon included beachfill. The state opted not to put in beachfill and decided to go with a groin instead. The breakwater for Amelia Island was part of the overall design because of the way the structure was being designed at the inlet. The modeling showed that there would be an erosion upcoast so the designers put a structure up there to create a knee so the island will take a bend at that point. As Moffatt and Nichol pointed out, all of the structures that you see adjacent to John's Pass and Redfish Pass all pre-existed the groin. These were efforts being taken by the residents to control shoreline erosion. You don't see as much application of structures today simply because there has been a vast improvement in dredging technology. Back in the 1960's and 1970's the dredging industry couldn't go outside and dredge effectively. With the improvement of the modern day pipeline dredge and hopper dredge it is now economical. For the most part about every inlet in Florida has an inlet management plan that includes consideration of structures, consideration of dredging, and what to do with material. So if you want to really see what Florida is doing in terms of managing its inlets, all their inlet management plans are published on their website. Groins can be removed. I think the Corps created some gaps in some groins that are on one of the New Jersey projects. They left the main structure in to attract fish and actually enhance surfing, but they took the middle of them out to allow sand transport to continue.

PRESENTATIONS

Amendments to 15A NCAC 07H .0304 AEC's Within Ocean Hazard Areas (CRC 10-14)
Jeff Warren

Jeff Warren stated there are four areas of environmental concern (AECs) in the ocean hazard system. One is the ocean erodible area (OEA), one is the inlet hazard area (IHA), one is the high hazard flood zone which is the same as the V-Zones on the FEMA map, and the last is the unvegetated beach area. We are going to talk about the ocean erodible area and the unvegetated beach area briefly today. This rule 7H .0304 basically defines each of the AECs, what they are and what their boundaries are. The current calculation of the OEA is a formula that uses a storm recession rate and the maximum setback factor. It is basically storm recession rate plus 60 times whatever the applicable erosion rate is. When the CRC updated the setback rules you increased your maximum setback factor to 90. We have a situation now where the definition of the OEA is not consistent with your maximum setback factor in the OEA for the largest structures greater than 100,000 square feet. You actually have a situation where a structure might be required by your other rule 7H .0306 to be setback 180 feet but the OEA might only be 140 feet wide. At 140 feet from the vegetation line it would be out of the CRC's jurisdiction and not require a permit in some cases. To close this potential loophole and to be consistent with the new setback rules we recommend changing the formula for the OEA and just simply increasing 60 to 90.

The unvegetated beach area is an area where if there is significant overwash from a storm or in cases where there is not vegetation the Commission has the ability to go in and develop an unvegetated beach classification where Coastal Management can go and define a vegetation line. The last place that this was used was Hatteras Village after Isabel. There was severe overwash and severe vegetation loss. Coastal Management was able to go in and define a line based on

historical photographs and statistical analysis. That gave them a line from which to measure the setback as they waited for their dunes and their vegetation to recover. That has since recovered.

Jim Leutze made a motion to send 15A NCAC 07H .0304 to public hearing. Charles Elam seconded the motion. The motion passed unanimously (Old, Wilson, Elam, Cahoon, Wynn, Peele, Weld, Shepard, Simmons, Leutze).

Sea Level Rise Initiatives Update (CRC 10-15)
Tancred Miller

Tancred Miller stated this is an update since the January sea level rise forum. At the state level there have been several initiatives. You know about Coastal Management's. DENR also has a strategic plan for 2009-2013. Within the plan climate change is one of DENR's top goals for this period. Within climate change they have done a subset of goals within that area. DENR will partner with Emergency Management to make sure we are all coordinated as a state. Sea level rise adaptation is one of DENR's top goals. They have formed a work group on sea level rise at the DENR level. They are looking to DCM and the CRC to do most of the heavy lifting. DENR as well a number of other state and federal agencies just had a workshop of about 400 people trying to put together some ideas for adaptation. Their workshop was "Ask the Climate Question". The workshop focused on daily business and asking the climate question. All of the proceedings from this workshop are online. The EPA also hosted a climate change adaptation workshop in Atlanta. Their goal was to try to get their southeastern region to start working together to answer the climate change adaptation questions. One of the things recognized at the EPA workshop was that there was very little local government involvement. It may have been an oversight when they planned the event. They will do another similar event where it is primarily focused on getting the local governments involved in answering these questions. At the state level we are working very closely with Emergency Management. They are using the Science Panel to help inform some of their scenario planning. We have been involved in a number of their workgroups. We expect to see a close collaboration with them as they move forward. The Legislative Commission on global climate change has just released their draft report after four or five years of work. They are also very interested in what the CRC has been doing on sea level rise. I gave a presentation to them last week and received a lot of questions about the sea level rise survey and the sea level rise report. The CHPP update is underway. The CHPP is incorporating climate change and sea level rise impacts into their habitat discussions. All of the habitat chapters have some component of what sea level rise and climate change means for fisheries habitat. This will be a great tool for us as we look at adaptation strategies. There has been a lot of research put into it and it will be a very good update. There has been a lot of regional collaboration. The Governor's South Atlantic Alliance is up and running. We have four workgroups and we have team members from Coastal Management as well as other DENR agencies who have been working very hard on those teams trying to put together some action items at a regional scale for how we can work together. The plan for them is to have an action and implementation plan by September of this year. The South Carolina Ocean and Coastal Resource Management DEHEC agency received a grant to do some short term sea level rise adaptation planning. They have asked DCM to help them develop some of the strategies. The CSO is very interested in climate change. They have a working group that is preparing a

white paper on sea level rise adaptation. NOAA's sea level rise application and management program is looking at taking scientific modeling and ecological modeling and applying that into policy and resource management. They completed their white paper last year and they are trying to figure out how to use it. The next steps include outreach and education which has been ongoing since the sea level rise science forum in January. The next steps for the Commission would be converting some of the sea level rise science into policy.

OLD/NEW BUSINESS

Chairman Emory stated there are eight commissioners whose terms expire in June. Chairman Emory recommended that if your term expires in June and if you would like to be considered for reappointment then you should contact the Governor's office. Jim Gregson stated that he would provide the contact information.

Commissioner Shepard asked that the State Ethics Commission contact information and website be sent to each commissioner so refresher training can be scheduled.

Bill Peele stated that he has had several members of the farming community talk with him about maintaining natural drainage ways that have existed. The farmland in eastern North Carolina at a low elevation is becoming more and more impacted with not being able to keep the drainage ways clear. I think we need to look at a report from David Moye on how our rules effect these areas along the estuarine shoreline and areas of environmental concern. We are getting more salt water intrusion. We need to look at what we can do to try to establish some clear guidelines for these farmers.

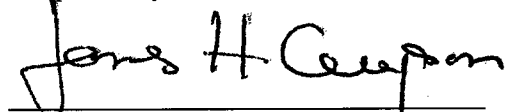
Jim Leutze stated the Legislative Commission on offshore energy exploration is going to make its report on the first of April. It is going to bring attention to the issues related to shore side environmental impact of offshore energy production. This is one of those areas that we have found to be one of the most complicated and difficult to get a feeling for precisely what kind of infrastructure has to be onshore. Oil drilling offshore could require acres of area for pipe and other construction materials. It isn't clear where that is going to happen or where the oil is going to come onshore. The only two possibilities are Morehead City and Wilmington. The Commission finds that Morehead City has all kinds of transportation and infrastructure problems. The City of Wilmington has indicated that it is not interested in an oil depot. Dr. Leutze also stated that he went back and looked at the CAMA to try to get a sense of what the balance in our judgment should be between environmental and economic factors. On the website it says that the CAMA balances environmental protection with economic development. I asked our legal counsel to think about balance. How does the balance work? Is it equal balance? Or is it balance that is tilted toward environmental issues? What should our basic consideration be? Jennie Hauser stated that CAMA does not really speak to how the balancing occurs. Ms. Hauser stated that she will attempt to find federal cases or other state cases that might address the balancing issue, but they will have limited applicability to the CRC's actions because they are no cases interpreting this portion of CAMA for North Carolina. The General Assembly did not find it advisable to give the CRC much guidance on the balancing. On the upside of that they have given the CRC a lot of discretion. Chairman Emory stated the structure of the Commission is one example of balance in that each Commissioner brings their own perspective on what balance

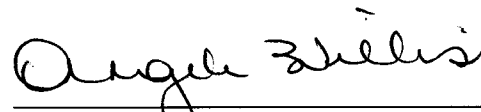
is. Joan Weld stated that this is just one part of CAMA and maybe the Staff should go through CAMA in its entirety in a presentation so we get to look at the whole thing.

Jim Gregson stated the next meeting is scheduled for May 19, 2010. This will be a one-day meeting at Piver's Island in Beaufort. Keep in mind that we were able to meet at Sea Trail because the funds were already obligated to Sea Trail based on the cancellation of the last contract. Several legal items are anticipated for May. We will hold off on scheduling future meetings for next fiscal year until we see how the budget looks.

With no further business, the CRC adjourned.

Respectfully submitted,


James H. Gregson, Executive Secretary


Angela Willis, Recording Secretary

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Jonathan McDaniel & Cheryl Kirchner v. DCM,
09 EHR 4153

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*State of North Carolina
Office of Administrative Hearings*

Certification

I hereby certify the attached (123 sheets) to be a true copy of

the Official Record as required by G.S. 150B-37 of the proceedings in the Office of Administrative Hearings, in case 09 EHR 4153, "Jonathan L McDaniel & Cheryl L Kirchner, Petitioner v. NCDENR Division of Coastal Management, Respondent."

The original of which is filed in this office in conformance with Chapter 150B of the General Statutes of the State of North Carolina.

*In witness whereof, I authorize this certification
and affix the official seal of the North Carolina
Office of Administrative Hearings at Raleigh,
This 24th day of March 2010.*

*Julian Mann, III
Chief Administrative Law Judge, Director*

By: 

DELIVERED BY: _____

RECEIVED BY: Amanda Foster

DATE: 3-25-10

STATE OF NORTH CAROLINA

IN THE OFFICE OF
ADMINISTRATIVE HEARINGS
09 EHR 4153

COUNTY OF CARTERET

Jonathan L McDaniel & Cheryl L Kirchner)
Petitioner,)
)
v.)
)
NCDENR)
Division of Coastal Management)
Respondent.)

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**RECOMMENDED DECISION
DOCUMENTS**

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STATE OF NORTH CAROLINA
COUNTY OF CARTERET

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IN THE OFFICE OF
ADMINISTRATIVE HEARINGS
09 EHR 4153

Office of
Administrative Hearings

JONATHAN MCDANIEL &
CHERYL KIRCHNER,
Petitioners,

v.

NORTH CAROLINA DEPARTMENT OF
ENVIRONMENT AND NATURAL
RESOURCES, DIVISION OF COASTAL
MANAGEMENT,
Respondent.

DECISION

The above captioned matter was heard on February 18, 2010, in the Craven County Courthouse, New Bern, North Carolina, before Beecher R. Gray, Administrative Law Judge, regarding the Division of Coastal Management's denial of a Coastal Area Management Act Major Development Permit for Petitioners Jonathan McDaniel and Cheryl Kirchner in Carteret County, North Carolina.

APPEARANCES

For Petitioners: Jonathan McDaniel & Cheryl Kirchner (appearing *pro se*)
1809 Calico Drive
Morehead City, North Carolina 28557

For Respondent: Ward Zimmerman
Assistant Attorney General
North Carolina Department of Justice
114 West Edenton Street
Raleigh, North Carolina 27602

ISSUE

Whether Respondent deprived Petitioners of property, acted erroneously, or acted arbitrarily or capriciously in denying Petitioners' CAMA Major Development Permit application.

TESTIFYING WITNESSES

Heather Styron, Field Representative, DCM, Morehead City, NC
Trish Murphey, Marine Biologist Supervisor, DMF, Morehead City, NC

Doug Huggett, Major Permits Coordinator, DCM, Morehead City, NC

PETITIONERS' EXHIBITS

1. Portion of Beaufort USGS Quad Sheet.
2. Calico Creek Existing Use, Picture A.
Calico Creek Existing Use, Picture B.
3. Calico Creek Site, Picture A.
Calico Creek Site, Picture B.
Calico Creek Site, Picture C.
4. 15A NCAC 07H Section .1200 – General Permit for Construction of Piers, Docks, and Boat Houses in Estuarine and Public Trust Waters and Ocean Hazard Areas (Amended Eff. April 1, 2003), 3 pages.
5. Letter of Transmittal – Original Project Submittal Date: 9/5/08.
6. Copies of Certified Return Receipts to Adjacent Property Owners, and a copy of check No. 348 for Applicant Fee.
7. Letter Acknowledging Complete Application: 2/5/09.
8. Agency Review Comments.
 - A. Division of Water Quality.
 - B. Division of Marine Fisheries, 2 pages.
 - C. Wildlife Resources Commission, 2 pages.
 - D. Division of Coastal Management, 2 pages.
9. Division of Marine Fisheries – Habitat Alteration Permit Review Guidelines, Specific Guidance Section, 4 pages.
10. Review Extension Response Letter, 5/4/09 and Certified Mail Receipt, 4 pages.
11. Project Denial Letter, 6/25/09, 3 pages.
12. 15A NCAC 07H .1205 – Specific Conditions (Amended Eff. July 1, 2009), 3 pages.
13. Whiskey Creek Overlook Major Permit MOD, Approved 10/18/07, 3 pages.
14. Portion of Wilmington USGS Quad Sheet.
15. Eric Goldfarb Major Permit, Approved 7/12/06, 3 pages.
16. Portion of Whiskey Creek Overlook Work Plat.
17. Whiskey Creek Overlook Site, Picture A.
Whiskey Creek Overlook Site, Picture B.
18. Whiskey Creek Overlook Timber Stops, Picture A.
Whiskey Creek Overlook Timber Stops, Picture B.
19. 15A NCAC 07H Section .0100 – Introduction and General Comments.
20. Morehead City CAMA Land Use Plan – Section 2.1 Key Planning Issues, 4 pages.
21. Calico Creek Parameter Violation Descriptions from 2007-2010 in the Integrated Report Category 5 – 303(d) List, 3 pages.
22. White Oak River Basinwide Water Quality Plan – Section B, Chapter 3 (pages 122-125), 4 pages.

RESPONDENT'S EXHIBITS

1. Map and Rule designating Calico Creek as a Primary Nursery Area.
2. CAMA General Permit No. 50776.

3. Petitioners' CAMA Major Development Permit Application.
4. DCM Field Investigation Report for Petitioners' Application.
5. DCM Comments and Recommendations for Petitioners' Application.
6. DMF Comments and Recommendations for Petitioners' Application.
7. NCWRC Comments and Recommendations for Petitioners' Application.
8. DWQ Comments and Recommendations for Petitioners' Application.
9. DCM Application Denial Letter.

Based upon careful consideration of the applicable law, testimony, and evidence received during the contested case hearing as well as the entire record of this proceeding, the undersigned makes the following:

FINDINGS OF FACT

1. The parties received notice of hearing by certified mail more than 15 days prior to the hearing and each stipulated on the record that notice was proper. The Division of Coastal Management (DCM) is charged with enforcement of the Coastal Area Management Act (CAMA), N.C. Gen. Stat. § 113A-100 *et seq.*, and the State Dredge and Fill Law, N.C. Gen. Stat. § 113-229, the controlling statutes and regulations include the Administrative Procedure Act (APA), N.C. Gen. Stat. § 150B-1 *et seq.*, and the rules promulgated thereunder, and the rules of the Coastal Resources Commission (CRC), primarily found in Title 15A, Subchapter 7H of the North Carolina Administrative Code (NCAC).
2. Petitioner Jonathan McDaniel owns property on Calico Creek at 1809 Calico Drive in Morehead City, Carteret County, North Carolina.
3. Petitioner Cheryl Kirchner owns property immediately adjacent to Petitioner McDaniel's property on Calico Creek at 1811 Calico Drive in Morehead City, Carteret County, North Carolina.
4. Petitioners' property on Calico Creek lies within the Estuarine System Area of Environmental Concern (AEC), specifically Coastal Wetlands, Estuarine Waters, and Public Trust Areas. As such, the Division of Coastal Management (DCM) has jurisdiction and any development requires a CAMA permit.
5. The waters of Calico Creek adjoining Petitioners' property are designated by the Marine Fisheries Commission (MFC) as a Primary Nursery Area (PNA). *See* Respondent's Exhibit 1.
6. 15A NCAC 03I.0101(4)(f) defines PNAs as "those areas in the estuarine system where initial post-larval development takes place. These are areas where populations are uniformly very early juveniles." PNA's are an invaluable natural resource to the State.
7. On May 14, 2008, Petitioner Jonathan McDaniel was issued CAMA General Permit No. 50776 to build a 6' X 210' pier with a 10' X 15' platform extending out into Calico

- Creek at 1809 Calico Drive in Morehead City, Carteret County, North Carolina. *See* Respondent's Exhibit 2.
8. On August 27, 2008, Petitioners applied for a CAMA Major Permit to build a 4' X 210' (later amended to 4' X 194') pier with a 10' X 40' platform with two 13' X 13' boatlifts extending out into Calico Creek between the two properties at 1809 and 1811 Calico Drive in Morehead City, Carteret County, North Carolina. *See* Respondent's Exhibit 3.
 9. On February 5, 2009, DCM Field Representative Heather Styron prepared a Field Investigation Report on the proposed development. This report noted the creek designation made by the MFC for the site development as PNA, and water quality classification by the EMC as HQW, and SC. The "water depths are at an average of 0 inches to -6 inches at [Normal Low Water] NLW in this area with an average daily tidal range of 2.5'." (page 2, Narrative Description). In addition, the "effects from the shallow water depths at NLW with egress and ingress have the potential to cause significant excavation through prop wash kicking. This would be considered new excavation which is not allowed within primary nursery areas per 15A NCAC 7H.0208(b)(6)." (page 3, Anticipated Impacts). *See* Respondent's Exhibit 4.
 10. As part of the CAMA Major Development permitting process, numerous state and federal agencies were contacted to determine compliance with these various agencies' subject matter specialties. A total of four agencies expressed concern with this project, including DCM, the Division of Marine Fisheries (DMF), the North Carolina Wildlife Resources Commission (NCWRC), and the Division of Water Quality (DWQ).
 11. On February 5, 2009, DCM's Heather Styron sent DCM Major Permits Processing Coordinator Doug Huggett a Morehead City District project recommendation stating that:

[T]his proposal is inconsistent with the general and specific use standards found in 15A NCAC 7H.0208(a)(2)(B) and 15A NCAC 7H.0208(b)(6). Due to the lack of water at NLW in this area any boating had the potential to cause significant excavation through prop wash kicking. This would be considered new excavation which is not allowed within primary nursery areas per 15A NCAC 7H.0208(b)(6). Therefore I recommend the project be denied as proposed. *See* Respondent's Exhibit 5.
 12. On February 19, 2009, DMF Marine Biologist Supervisor Patricia (Trish) L. Murphey sent DCM's Doug Huggett a letter stating that, "The DMF recommends denial of the project as proposed due to significant adverse impacts to shallow bottom habitat and shell habitat by prop dredging within a PNA." *See* Respondent's Exhibit 6.
 13. On February 24, 2009, NCWRC Northeast Coastal Region Coordinator Maria T. Dunn sent DCM's Doug Huggett a letter supporting the "comments and concerns regarding this project" made by DMF. *See* Respondent's Exhibit 7.

14. On March 13, 2009, DWQ Senior Environmental Specialist Joanne Steenhuis sent Petitioners a letter indicating that they were heading towards denial of the Water Quality Certification because of significant adverse impacts to the PNA. *See* Respondent's Exhibit 8.
15. On June 25, 2009, DCM denied Petitioners' application based upon the inconsistency between the proposed project and the CRC requirements set forth in 15A NCAC 7H.0206(c) (conserving and managing the important features of estuarine waters) and 15A NCAC 7H.0208(a)(2)(B) (selecting a site and design that will have a minimum adverse impact upon the productivity and biologic integrity of the area). This denial noted the findings by DCM, DMF, NCWRC, and DWQ. *See* Respondent's Exhibit 9.

CONCLUSIONS OF LAW

1. The parties properly are before the Office of Administrative Hearings. Petitioners bear the burden of proof on the issues. Peace v. Employment Sec. Comm'n, 349 N.C. 315, 328, 507 S.E. 2d 272, 281 (1998).
2. Under N.C. Gen. Stat. § 150B-23(a), the administrative law judge in a contested case hearing is to determine whether Petitioners have met their burden in showing that the agency substantially prejudiced Petitioners' rights, and that the Agency also acted outside its authority, acted erroneously, acted arbitrarily and capriciously, used improper procedure, or failed to act as required by law or rule. Britthaven, Inc. v. Dep't of Human Resources, 118 N.C. App. 379, 382, 455 S.E.2d 455, 459, rev. denied, 341 N.C. 418, 461 S.E.2d 745 (1995).
3. Respondent DCM regulates the coastal areas of the State under authority conferred upon it by the CAMA, N.C. Gen. Stat. § 113A-100 *et seq.*, and the State Dredge and Fill Law, N.C. Gen. Stat. § 113-229, and various regulations promulgated thereunder. Under these laws and rules, all development in an AEC must be permitted.
4. Petitioners' shoreline property on Calico Creek is within the Estuarine System AEC; and, as such, DCM has administrative permitting authority over any development extending from Petitioners' property into Calico Creek.
5. Petitioners' proposed project to build a pier, platform, and two boatlifts requires the application for a CAMA Major Development Permit.
6. Petitioners' proposed project would have caused "significant adverse impacts" to the project site's shallow bottom habitat and shell habitat due to prop dredging within the PNA. This would be considered new excavation which is not allowed within a PNA per 15A NCAC 7H.0208(a)(2)(B) and (b)(6).
7. Respondent did not deprive Petitioners of property, act erroneously, and act arbitrarily or capriciously in denying Petitioners' CAMA Major Development Permit application based upon the inconsistency between the proposed project and the CRC requirements set forth

in 15A NCAC 7H.0206(c) (conserving and managing the important features of estuarine waters) and 15A NCAC 7H.0208(a)(2)(B) (selecting a site and design that will have a minimum adverse impact upon the productivity and biologic integrity of the area).

DECISION

Based on the foregoing findings of fact and conclusions of law, Respondent's decision to deny Petitioners' application for a CAMA Major Development Permit is supported by the evidence and is AFFIRMED. Petitioners have not met their burden of proof in showing that Respondent deprived Petitioners of property, acted erroneously, and acted arbitrarily or capriciously in denying Petitioners' CAMA Major Development Permit application, as contended in Petitioners' petition for a contested case hearing under N.C. Gen. Stat. § 150B-23(a).

ORDER


It hereby is ordered that the agency serve a copy of its final agency decision on the Office of Administrative Hearings, 6714 Mail Service Center, Raleigh, NC 27699-6714, in accordance with N.C. Gen. Stat. § 150B-36(b)(3).

NOTICE

The agency making the final decision in this contested case is the North Carolina Coastal Resources Commission. That Commission is required to give each party an opportunity to file exceptions to this recommended decision and to present written arguments to those in the agency who will make the final decision. N.C. Gen. Stat. § 150B-36(a).

The agency is required by N.C. Gen. Stat. § 150B-36(b) to serve a copy of the final decision on all parties and to the Office of Administrative Hearings.

This the 15 day of March, 2010.


Beecher R. Gray
Administrative Law Judge

A copy of the foregoing was mailed to:

Jonathan McDaniel & Cheryl Kirchner
1809 Calico Drive
Morehead City, NC 28557

Ward Zimmerman
Assistant Attorney General
NC Department of Justice
9001 Mail Service Center
Raleigh, NC 27699-9001

This the 15th day of March, 2010.



Office of Administrative Hearings
6714 Mail Service Center
Raleigh NC 27699-6714
Phone: 919/431-3000
Fax: 919/431-3100

SECTION I

STATE OF NORTH CAROLINA

COUNTY OF (1) CARTERET

FILED

IN THE OFFICE OF ADMINISTRATIVE HEARINGS
FILE COPY 09 EHR 4153

(2) JONATHAN L. MCDANIEL & CHERYL KIRCHNER) 3:10

PETITIONER,

v.

NCDENR

ADMIN HEARINGS

PETITION FOR A CONTESTED CASE HEARING

(3) DIVISION OF COASTAL MANAGEMENT

RESPONDENT

I hereby ask for a contested case hearing as provided for by North Carolina General Statute § 150B-23 because the Respondent has:

Denied approval for development of a residential pier with 2 boat slips / lifts located along Calico Creek in Carteret County. The waterbody was designated as a "Primary Nursery Area" by the Marine Fisheries Commission in 2007. Denial of the project is based upon review comments by NC Division of Marine Fisheries stating that prop kicking from vessels using the docking facility would result in "significant adverse impacts to shallow bottom habitat and shell habitat", and by NC Wildlife Resources Commission stating "vessel ingress and egress may adversely impact oyster beds". Vessel ingress and egress is a long term existing use on Calico Creek, in fact there are numerous piers and boat lifts located upstream and downstream from the project site. SEE ATTACHED PAGE

(4) Because of these facts, the State agency or board has: (check at least one from each column)

deprived me of property;

ordered me to pay a fine or civil penalty; or

otherwise substantially prejudiced my rights;

AND

exceeded its authority or jurisdiction;

acted erroneously;

failed to use proper procedure;

acted arbitrarily or capriciously; or

failed to act as required by law or rule.

(5) Date: July 9, 2009

(6) Your phone number: (252) 725-3723

(7) Print your full address: 1809 / 1811 CALICO DRIVE MOREHEAD CITY, NC 28557

(8) Print your name: JONATHAN L. MCDANIEL CHERYL KIRCHNER

(9) Your signature: *Jonathan L. McDaniel* *Cheryl Kirchner*

You must mail or deliver a COPY of this Petition to the State agency or board named on line (3) of this form. You should contact the agency or board to determine the name of the person to be served.

CERTIFICATE OF SERVICE

I certify that this Petition has been served on the State agency or board named below by depositing a copy of it with the United States Postal Service with sufficient postage affixed OR by delivering it to the named agency or board:

(10) JAMES H. GREGSON
(name of person served)

(11) NC DIVISION OF COASTAL MANAGEMENT
(State agency or board listed on line 3)

(12) 400 COMMERCE AVENUE
(street address/p.o. box)

MOREHEAD CITY NC 28557
(city) (state) (zip code)

(13) This the 9TH day of JULY, 2009.

(14) *Jonathan L. McDaniel* *Cheryl Kirchner*
(your signature)

When you have completed this form, you MUST mail or deliver the ORIGINAL AND ONE COPY to the Office of Administrative Hearings, 6714 Mail Service Center, Raleigh, NC 27699-6714.

July 9, 2009

The project site is also located $\frac{3}{4}$ mile downstream from the Town of Morehead City's 2.5 million gallon per day Wastewater Treatment Plant. Because of the wastewater treatment plant's discharge, the oyster beds within Calico Creek are closed for harvesting. Calico Creek is also on the list of 303(d) impaired waters due to closure of shellfish harvesting for fecal coliform.


Aside from the existing uses and water quality issues with Calico Creek, the Petitioners cooperatively proceeded with the "major" permitting process. The project, which is usually a general permit, was kicked into major permit status because the pier would have boat lifts (2) in a PNA (designated by NC Wildlife Resource Commission). Wanting to preserve the integrity of the PNA, the petitioners have gone through a selection of every possible combination of sites and design that will result in the least amount of adverse impacts. The proposed pier is to be located on the property line between the two residencies for shared use and to minimize impacts from multiple piers. The pier is to extend as close to the channel as allowed by division of coastal management, with the two boat lifts located at the ends (one lift for each residence). Any boat activity will take place approximately 30' from the channel, thus avoiding any impacts to oyster beds. The pier itself is proposed to be 5' above marsh substrate (3' min.) and to be 4' wide (6' max.) to limit impacts to marsh grass. Even with the measures taken by the applicants, the review process resulted in a "heading towards denial" because of Marine Fisheries comments of severe adverse impacts to the PNA from boat use. It was at this time that the petitioners requested a meeting to discuss further measures that could be taken. During the meeting the petitioners (not the agency/steward) suggested the use of mechanical stops on the boat lifts (acceptable measure for use in PNA by NC Marine Fisheries) to regulate boat use at a specific water depth. The suggestion was negated by division of coastal management (DCM), even with use of welded stops to account for ease of regulation. Resultantly, the project received an official denial letter dated June 25, 2009.

Because of these actions, the petitioners are appealing the Division of Coastal Management's decision for denial of the project. The petitioners feel that DCM has failed to act as the lead agent for the review, and has based their denial solely on another agency's comments rather than performing a full analysis and evaluation of the site and its conditions. The petitioners also disagree with the statement in the June 25, 2009 denial letter stating that the project is inconsistent with rule 15A NCAC 07H.0208(a)(2)(B), because the petitioners indeed have "selected a combination of sites and design that will have a minimum adverse impact upon the productivity and biologic integrity of coastal marshland, shellfish beds, beds of submerged aquatic vegetation, spawning and nursery areas, important nesting and wintering sites for waterfowl and wildlife, and important natural erosion barriers."

Jonathan L. McDaniel



Cheryl Kirchner



Jul 13 11 07 AM 2009

STATE OF NORTH CAROLINA
COUNTY OF CARTERET

IN THE OFFICE OF
ADMINISTRATIVE HEARINGS
09 EHR 4153

Jonathan L McDaniel & Cheryl L Kirchner)
Petitioner,)

v.)

NCDENR)
Division of Coastal Management)
Respondent.)

**NOTICE OF CONTESTED CASE
AND ASSIGNMENT
G.S. 150B-23, 33(b)(4)**

NOTICE IS HEREBY GIVEN that a petition for a contested case hearing pursuant to G.S. 150B-23(a) was filed in and accepted by the Office of Administrative Hearings on July 10, 2009. In accordance with G.S. 150B-23(a) and 26 NCAC 3 .0103, Donald W. Overby, Administrative Law Judge, has been assigned to preside in this case. The administrative law judge may be contacted by mail at 6714 Mail Service Center, Raleigh, N.C. 27699-6714, or by telephone at (919) 431-3000.

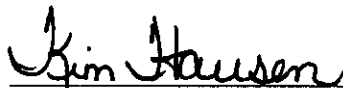
The Respondent shall submit, within 30 days , a copy of the document constituting agency action, which caused the filing of the Petition.

A copy of any document or other pleading filed with the Office of Administrative Hearings must also be sent to the other party at the time of filing. If a party changes his or her mailing address, or if the address is incorrect, the Office of Administrative Hearings must be notified of the new or corrected address.

NOTE: You may receive an Order for Prehearing Statements to which you must respond within 30 days.

This the 13th day of July, 2009.

Julian Mann, III
Chief Administrative Law Judge



Kim Hausen
Chief Hearings Clerk
Office of Administrative Hearings
6714 Mail Service Center
Raleigh NC 27699-6714
919/431-3000

On this date mailed to:

Jonathan L McDaniel & Cheryl L Kirchner
1809 Calico Drive
Morehead City, NC 28557
PETITIONER

Amanda Foster
Department of Justice
Attorney General's Office
Environmental Division
9001 Mail Service Center
Raleigh, NC 27699-9001
RESPONDENT

Filed


STATE OF NORTH CAROLINA ^{2009 OCT 12 PM 3:15} IN THE OFFICE OF
 COUNTY OF CARTERET Office of ADMINISTRATIVE HEARINGS
 Administrative Hearings 09 EHR 4153

Jonathan L McDaniel & Cheryl L Kirchner)
 Petitioner)
 vs.)
 NCDENR)
 Division of Coastal Management)
 Respondent)

**ORDER OF
 REASSIGNMENT**

For good cause shown, it is hereby ordered that Augustus B. Elkins II, Administrative Law Judge, is assigned to preside in any further proceedings in this case.

This the 13th day of October, 2009.



 Julian Mann III
 Chief Administrative Law Judge

A copy of the foregoing was mailed to:

Jonathan L McDaniel & Cheryl L Kirchner
1809 Calico Drive
Morehead City, NC 28557
PETITIONER

Ward A. Zimmerman
Assistant Attorney General
NC Department of Justice
9001 Mail Service Center
Raleigh, NC 27699-9001
ATTORNEY FOR RESPONDENT

This the 13th day of October, _____.



Office of Administrative Hearings
6714 Mail Service Center
Raleigh, NC 27699-6714
(919) 431 3000
Fax: (919) 431-3100

COPY

Filed

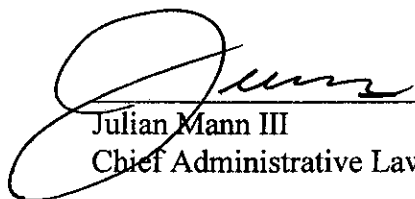
STATE OF NORTH CAROLINA 2009 NOV -9 AM 11: 18 IN THE OFFICE OF
 COUNTY OF CARTERET Office of ADMINISTRATIVE HEARINGS
 Administrative Hearings 09 EHR 4153

Jonathan L McDaniel & Cheryl L Kirchner)
 Petitioner)
 vs.)
 NCDENR)
 Division of Coastal Management)
 Respondent)

ORDER OF REASSIGNMENT

For good cause shown, it is hereby ordered that Joe L. Webster, Administrative Law Judge, is assigned to preside in any further proceedings in this case.

This the 9th day of November, 2009.


 Julian Mann III
 Chief Administrative Law Judge

A copy of the foregoing was mailed to:

Jonathan L McDaniel & Cheryl L Kirchner
1809 Calico Drive
Morehead City, NC 28557
PETITIONER

Ward A. Zimmerman
Assistant Attorney General
NC Department of Justice
9001 Mail Service Center
Raleigh, NC 27699-9001
ATTORNEY FOR RESPONDENT

This the 9th day of November, 2009.



Office of Administrative Hearings
6714 Mail Service Center
Raleigh, NC 27699-6714
(919) 431 3000
Fax: (919) 431-3100

Filed

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IN THE OFFICE OF ADMINISTRATIVE HEARINGS

COUNTY OF CARTERET Office of Administrative Hearings

09 EHR 4153

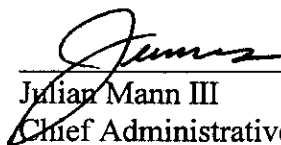
Jonathan L McDaniel & Cheryl L Kirchner)
 Petitioner)
)
 vs.)
)
 NCDENR)
 Division of Coastal Management)
 Respondent)

ORDER OF REASSIGNMENT

COPY

For good cause shown, it is hereby ordered that Beecher R. Gray, Administrative Law Judge, is assigned to preside in any further proceedings in this case.

This the 7th day of January, 200


 Julian Mann III
 Chief Administrative Law Judge

A copy of the foregoing was mailed to:

Jonathan L McDaniel & Cheryl L Kirchner
1809 Calico Drive
Morehead City, NC 28557
PETITIONER

Ward A. Zimmerman
Assistant Attorney General
NC Department of Justice
9001 Mail Service Center
Raleigh, NC 27699-9001
ATTORNEY FOR RESPONDENT

This the 12 day of January, 2009.



Office of Administrative Hearings
6714 Mail Service Center
Raleigh, NC 27699-6714
(919) 431 3000
Fax: (919) 431-3100

Jul 13 11 07 AM 2009

STATE OF NORTH CAROLINA

IN THE OFFICE OF
ADMINISTRATIVE HEARINGS

COUNTY OF CARTERET

09 EHR 4153

Jonathan L McDaniel & Cheryl L Kirchner)
 Petitioner,)
 v.)
 NCDENR)
 Division of Coastal Management)
 Respondent.)

**ORDER FOR PREHEARING
STATEMENTS**

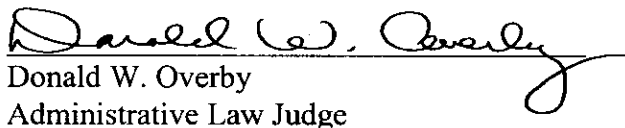
In order to permit the prompt preparation of this case for hearing,

IT IS HEREBY ORDERED, pursuant to 26 NCAC 03 .0104, that each party file with the Office of Administrative Hearings and serve upon the other parties a Prehearing Statement containing your present position with regard to the following:

1. The issues to be resolved, and the statutes, rules, and legal precedent involved;
2. A brief statement of the facts and reasons supporting the party's position on each issue in dispute;
3. A list of proposed witnesses;
4. Whether you wish to pursue discovery. If so, the length of time required if different from the time set in the Scheduling Order;
5. Requested location of hearing; if different from the location set in the Scheduling Order;
6. Estimated length of hearing;
7. If you do not have an attorney, your home and business addresses and telephone numbers;
8. The date by which you will be ready to have a hearing in this case if different from the date set in the Scheduling Order;
9. Other special considerations.

This Prehearing Statement must be filed and served within 30 days of the date of this ORDER.

This the 13th day of July, 2009.


 Donald W. Overby
 Administrative Law Judge

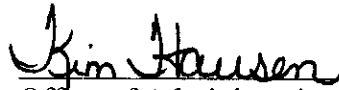
On this date mailed to:

Jonathan L McDaniel & Cheryl L Kirchner
1809 Calico Drive
Morehead City, NC 28557
PETITIONER

Amanda Foster
Department of Justice
Attorney General's Office
Environmental Division
9001 Mail Service Center
Raleigh, NC 27699-9001
RESPONDENT

This the 13th day of July, 2009.

Kim Hausen
Chief Hearings Clerk



Office of Administrative Hearings
6714 Mail Service Center
Raleigh NC 27699-6714
919/431-3000

FILED
OFFICE OF
ADMINISTRATIVE HEARINGS

Jul 13 11 07 AM 2009

STATE OF NORTH CAROLINA

IN THE OFFICE OF
ADMINISTRATIVE HEARINGS

COUNTY OF CARTERET

09 EHR 4153

Jonathan L McDaniel & Cheryl L Kirchner)
Petitioner,)

v.)

SCHEDULING ORDER

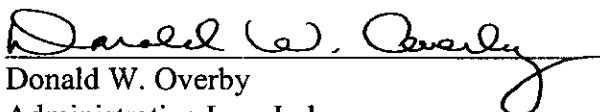
NCDENR)
Division of Coastal Management)
Respondent.)

The undersigned has established the following Scheduling Order. This Scheduling Order may be later amended in the discretion of the Administrative Law Judge, based upon information provided in the parties' Prehearing Statements. The parties will be notified of any changes by way of an Amended Scheduling Order.

1. The hearing for this contested case will be in New Bern, North Carolina, for the week beginning November 16, 2009. At least 15 days prior to the hearing the Administrative Law Judge will mail to the parties a more specific notice of the date, time and location of the hearing.
2. Discovery shall be completed on or before November 02, 2009.

IT IS SO ORDERED.

This the 13th day of July, 2009.


Donald W. Overby
Administrative Law Judge

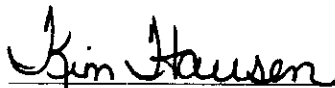
On this date mailed to:

Jonathan L McDaniel & Cheryl L Kirchner
1809 Calico Drive
Morehead City, NC 28557
PETITIONER

Amanda Foster
Department of Justice
Attorney General's Office
Environmental Division
9001 Mail Service Center
Raleigh, NC 27699-9001
RESPONDENT

This the 13th day of July, 2009.

Kim Hausen
Chief Hearings Clerk



Office of Administrative Hearings
6714 Mail Service Center
Raleigh NC 27699-6714
919/431-3000

SECTION II

DWU

STATE OF NORTH CAROLINA
COUNTY OF CARTERET

FILED
IN THE OFFICE OF
ADMINISTRATIVE HEARINGS
2009 AUG -5 PM 12:28
09-EHR 4153

JONATHAN MCDANIEL &
CHERYL KIRCHNER,
Petitioner,

v.

NORTH CAROLINA DEPARTMENT OF
ENVIRONMENT AND NATURAL
RESOURCES, DIVISION OF COASTAL
MANAGEMENT,
Respondent.

ADMIN HEARINGS

**RESPONDENT'S PREHEARING
STATEMENT**

NOW COMES the Respondent, N.C. Department of Environment and Natural Resources (DENR), Division of Coastal Management (DCM), by and through its undersigned counsel, Ward Zimmerman, and files this Prehearing Statement in the above-captioned matter pursuant to 26 NCAC 3 .0104 and an Order signed by the Honorable Donald W. Overby, Administrative Law Judge, dated July 13, 2009.

1. Issues to be Resolved.

This matter involves the denial of a development permit to Petitioners Jonathan McDaniel and Cheryl Kirchner ("Petitioners") on June 25, 2009, pursuant to the Coastal Area Management Act (CAMA), N.C.G.S. § 113A-100 *et seq.* The CAMA permit application proposed the development of a residential pier and platform with two boatlifts in Morehead City, along the Calico Creek in Carteret County, North Carolina. A copy of the permit denial letter is attached hereto as the **Document Constituting Agency Action.**

In addition to CAMA (N.C.G.S. § 113A-100 *et seq.*), the controlling statutes and regulations include the Administrative Procedure Act (APA), N.C.G.S. § 150B-1 *et seq.*, and the

rules promulgated thereunder, and the rules of the Coastal Resources Commission (CRC) implementing CAMA, primarily found in Title 15A, Subchapter 7H of the North Carolina Administrative Code.

2. Statement of Facts and Reasons.

At issue is whether DCM properly denied Petitioners' CAMA permit application under CAMA and the rules promulgated thereunder. Specifically at issue are those reasons for denial outlined in the June 25, 2009 permit denial letter, including the proposed pier's consistency with 15A NCAC 7H.0206(c)-(conserving and managing the important features of estuarine waters) and 15A NCAC 7H.0208(a)(2)(B)-(selecting a combination of sites and design that will have a minimum adverse impact with no suitable alternative site).

3. Proposed Witnesses.

Witnesses for the Respondent include, but are not limited to the following:

Jim Gregson, Director, DCM, Morehead City, NC
 Ted Tyndall, Asst. Director, DCM, Morehead City, NC
 Doug Huggett, Major Permits Coordinator, DCM, Morehead City, NC
 Tere Barrett, District Manager, DCM, Morehead City, NC
 Heather Styron, Field Rep., DCM, Morehead City, NC
 NC Wildlife Resources staff, TBD
 NC Division of Marine Fisheries staff, TBD
 NC Division of Water Quality staff, TBD
 Petitioners Jonathan McDaniel and Cheryl Kirchner

Additionally, Respondent may call as a witness any person named as a witness by Petitioners or any other party. Respondent reserves the right to supplement this list as it prepares for hearing.

4. Discovery.

The length of time set forth in the Scheduling Order is acceptable.

5. Location of Hearing.

The location of the hearing specified in the Scheduling Order, New Bern, NC, is acceptable to Respondent.

6. Estimated Length of Hearing.

Respondent estimates the hearing will take two days.

7. Notice of Appearance.

PLEASE TAKE NOTICE that the undersigned attorney for the State of North Carolina will appear on behalf of Respondent-DCM. All pleadings, notices, calendars, or other documents should be directed to the attention of the undersigned.

8. Date for Hearing.

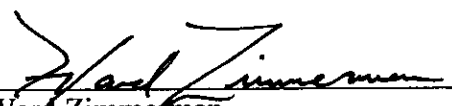
The date of the hearing, being the week of November 16, 2009, is acceptable to Respondent.

9. Special Matters.

Respondent requests that the Administrative Law Judge who hears this case make a visit to the site. The issues in the contested case are site specific, and Respondent contends that such a visit will be very helpful to the parties and the Judge hearing this case, especially if done just before the hearing begins. If the hearing is held in New Bern, the site will be approximately one hour away. Also, Respondent reserves the right to amend this Prehearing Statement.

Respectfully submitted, this the 4th day of August, 2009.

FOR THE DIVISION OF
COASTAL MANAGEMENT


Ward Zimmerman
Assistant Attorney General
N.C. Department of Justice


9001 Mail Service Center
Raleigh, NC 27699-9001
(919) 716-6600
(919) 716-6767 fax
wzimmerman@ncdoj.gov

CERTIFICATE OF SERVICE

This is to certify that I have served the foregoing Respondent's Prehearing Statement upon the Petitioners, by causing a copy thereof to be placed in the U.S. Postal Service with sufficient postage for delivery by first class mail and addressed as follows:

Jonathan McDaniel & Cheryl Kirchner
1809 Calico Drive
Morehead City, NC 28557

This the 4th day of August, 2009.



Ward Zimmerman
Assistant Attorney General



North Carolina Department of Environment and Natural Resources
Division of Coastal Management

Beverly Eaves Perdue, Governor

James H. Gregson, Director

Dee Freeman, Secretary

June 25, 2009

**CERTIFIED MAIL
RETURN RECEIPT REQUESTED**

Mr. Jonathan McDaniel
1809 Calico Drive
Morehead City, NC 28557

Ms. Cheryl Kirchner
1811 Calico Drive
Morehead City, NC 28557

Dear Mr. McDaniel and Ms. Kirchner:

This letter is in response to your application for a Major Permit under the Coastal Area Management Act (CAMA), in which authorization was requested to install a dock with two boatslips adjacent to Calico Creek, in Carteret County. Processing of the application, which was received as complete by the Division of Coastal Management's Morehead City Office on February 2, 2009, is now complete. Based on the state's review, the Division of Coastal Management has made the following findings:

- 1) The proposed project is located within a Primary Nursery Area (PNA), as designated by the North Carolina Marine Fisheries Commission. Primary Nursery Areas are those areas in the estuarine and ocean system where initial post larval development of finfish and crustaceans takes place.
- 2) The proposed docking facility would extend approximately 110 feet into the waters of Calico Creek. The waterbody is approximately 440 feet wide at this location. Water depths within the area of the proposed slips range from -0" to -6" Normal Low Water Level.
- 3) During the course of the joint State and federal permit application review process, NC Division of Marine Fisheries stated that prop kicking from vessels using the docking facility would result in significant adverse impact on the Calico Creek PNA system. The Division of Coastal Management staff made a similar finding. The NC Wildlife Resources Commission also echoed these concerns. Additionally, the Division of Water Quality indicated that they were heading towards denial of the Water Quality Certification due to significant adverse impacts to the Primary Nursery Area.

- 4) Based upon the above referenced findings, the Division has determined that the proposed project is inconsistent with the following rules of the Coastal Resources Commission:
 - a) 15A NCAC 07H.0206(c), which states "Management Objective. To conserve and manage the important features of estuarine waters so as to safeguard and perpetuate their biological, social, aesthetic, and economic values; to coordinate and establish a management system capable of conserving and utilizing estuarine waters so as to maximize their benefits to man and the estuarine and ocean system."
 - b) 15A NCAC 07H.0208(a)(2)(B), which states that "Before receiving approval for location of a use or development within these AECs, the permit-letting authority shall find that no suitable alternative site or location outside of the AEC exists for the use or development and, further, that the applicant has selected a combination of sites and design that will have a minimum adverse impact upon the productivity and biologic integrity of coastal marshland, shellfish beds, beds of submerged aquatic vegetation, spawning and nursery areas, important nesting and wintering sites for waterfowl and wildlife, and important natural erosion barriers (cypress fringes, marshes, clay soils)."

Given the preceding findings, it is necessary that your request for issuance of a CAMA Major Permit under the Coastal Area Management Act be denied. This denial is made pursuant to N.C.G.S. 113A-120(a)(8) which requires denial for projects inconsistent with the state guidelines for Areas of Environmental Concern or local land use plans.

If you wish to appeal this denial, you are entitled to a hearing. The hearing will involve appearing before an Administrative Law Judge who listens to evidence and arguments of both parties and then makes a recommendation to the Coastal Resources Commission. Your request for a hearing must be in the form of a written petition, complying with the requirements of §150B of the General Statutes of North Carolina, and must be filed with the Office of Administrative Hearings, 6714 Mail Service Center, Raleigh, NC 27699-6714, within twenty (20) days from the date of this letter. A copy of this petition should be filed with this office.

Also, you are advised that as long as this state permit denial stands, your project must be deemed inconsistent with the N.C. Coastal Management Program, thereby precluding the issuance of federal permits for this project. The Federal Coastal Zone Management Act (CZMA) gives you the right to appeal this finding to the U.S. Secretary of Commerce within thirty days of receipt of this letter. Your appeal must be on the grounds that the proposed activity is (1) consistent with the objectives or purposes of the CZMA, or (2) is necessary in the interest of national security, and thus, may be federally approved.

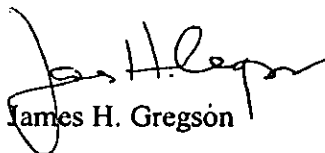
Mr. Daniel/Ms. Kirchner

June 25, 2009

Page 3

Members of my staff are available to assist you should you desire to modify your proposal in the future. If you have any questions concerning this matter, please contact Mr. Jonathan Howell at (252) 808-2808, extension 211.

Sincerely,



James H. Gregson

cc: Colonel Jefferson M. Ryscavage – U.S. Army Corps of Engineers, Wilmington, NC
David Kennedy, Director – OCRM/NOAA, Silver Spring, MD
David Timpy, ACOE
DCM - Morehead City

ABE 34

STATE OF NORTH CAROLINA
COUNTY OF CARTERET

FILED
2009 OCT 13 AM 10:22

IN THE OFFICE OF
ADMINISTRATIVE HEARINGS
09 EHR 4153

JONATHAN MCDANIEL &
CHERYL KIRCHNER,
Petitioner,

v.

NORTH CAROLINA DEPARTMENT OF
ENVIRONMENT AND NATURAL
RESOURCES, DIVISION OF COASTAL
MANAGEMENT,
Respondent.

**MOTION TO AMEND
PREHEARING STATEMENT**

or in the alternative

MOTION TO CONTINUE

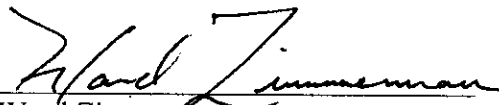
NOW COMES the Respondent, North Carolina Department of Environment and Natural Resources (DENR), Division of Coastal Management (DCM), by and through its undersigned counsel, and files this Motion to Amend Prehearing Statement, or in the alternative, Motion to Continue in the above referenced matter currently scheduled for November 16, 2009, before the Honorable Donald W. Overby, Administrative Law Judge. Respondent now proposes to amend the hearing date set forth in the Prehearing Statement to a new date of **December 7, 2009**. In support of this Motion, Respondent shows the following:

1. Multiple DCM individuals previously listed as Proposed Witnesses for Respondent have conflicts with the currently-scheduled hearing date of November 16, 2009, in that there is another hearing, requiring their attendance, calendared for that same date.
2. Respondent's Counsel has contacted both Petitioner Jonathan McDaniel and Petitioner Cheryl Kirchner about this conflict. Both Petitioners have consented to this rescheduling proposal to the new date of **December 7, 2009**.

In the alternative, incorporating the information set forth herein, Respondent moves for a continuance of the hearing date in the above referenced matter to a time suitable to the parties, and suitable to the Honorable Judge Overby.

Respectfully submitted, this the 12th day of October, 2009.

FOR THE DIVISION OF
COASTAL MANAGEMENT




Ward Zimmerman
Assistant Attorney General
N.C. Department of Justice
9001 Mail Service Center
Raleigh, NC 27699-9001
(919) 716-6600
(919) 716-6767 fax
wzimmerman@ncdoj.gov

CERTIFICATE OF SERVICE

This is to certify that I have served the foregoing Respondent's Motion to Amend Prehearing Statement, or in the alternative, Motion to Continue upon the Petitioners, by causing a copy thereof to be placed in the U.S. Postal Service with sufficient postage for delivery by first class mail and addressed as follows:

Jonathan McDaniel & Cheryl Kirchner
1809 Calico Drive
Morehead City, NC 28557

This the 12th day of October, 2009.


Ward Zimmerman
Assistant Attorney General

STATE OF NORTH CAROLINA

FILED

DO

CARTERET COUNTY

2009 AUG 10 PM 1:36

IN THE OFFICE OF ADMINISTRATIVE HEARINGS 09 EHR 4153

Jonathan L. McDaniel & Cheryl L. Kirchner
Petitioner,

OFFICE OF
ADMINISTRATIVE HEARINGS

PETITIONER'S
PREHEARING STATEMENTS

v.

NCDENR
Division of Coastal Management
Respondent.

AS ORDERED ON THE 13TH DAY OF JULY, 2009, and pursuant to 26 NCAC 03 .0104, the following are Prehearing Statements in regard to the above mentioned case for hearing.

1. Issue:

The Petitioners are appealing the denial of a CAMA Major Permit under the Coastal Area Management Act. The denial is dated June 25, 2009, and was made pursuant to N.C.G.S. 113A-120(a)(8) which requires denial for projects inconsistent with the state guidelines for Areas of Environmental Concern or local land use plans. The Respondent issued the denial stating the project was inconsistent with rules 15A NCAC 07H.0206(c) and 15A NCAC 07H.0208(a)(2)(B) of the Coastal Resources Commission. Project inconsistency is based upon the Respondent's findings during the review process by methods described in 15A NCAC 07J.0207. The Respondent has acted erroneously in claiming the project is inconsistent with the afore mentioned rules, and has acted arbitrarily during the review process. The Petitioners are seeking permit approval because the project as amended during the review process complies with rules 15A NCAC 07H.1200 and satisfies concerns of the agencies in conflict.

2. Support for the Issue in Dispute:

The denial in question is for a permit for a shared residential pier with two boat lifts at the residencies of the Petitioners, located on Calico Creek in Carteret County. The project is in the "major permit" category because of the proposed boat lifts. Their use requires review by Division of Marine Fisheries because Calico Creek was designated a Primary Nursery Area in 2007. The application was accepted as complete by DCM and was forwarded to multiple agencies for review. Objections were received in regards to impacts to shell bottom habitat from boat use in shallow water depths.

The Respondent acted arbitrarily in the decision for denial. Impacts to shell bottom habitat are minimal in comparison to the many existing uses of the creek, including boat use, and the fact that the shell habitat (oyster beds) are closed for harvesting because of water quality issues resulting from discharge from the Town of Morehead City's Wastewater treatment plant (fecal coliform, Dissolved Oxygen, etc.) not turbidity caused from boat traffic. The Respondent acted erroneously in stating the project is inconsistent with rule 15A NCAC 07H.0208(a)(2)(B). The Petitioner has selected a combination of sites and design that will have a minimum adverse impact upon the productivity and biological integrity of coastal marshland, shellfish beds, beds of submerged aquatic vegetation, and spawning and nursery areas. Many considerations were taken by the Petitioner to ensure protection of the PNA. Measures include: shared use (one pier for two residencies), dock and boat lift areas built out away from marsh grass and oyster beds to maintain boat use specifically to channel, dock built with high elevation to limit impacts to SAV from shading, construction of project proposed in winter, and boat lifts to be incorporated with welded stops to regulate boat use only to acceptable water depths.

3. Jonathan L. McDaniel, Petitioner, project applicant and owner of 1809 Calico Drive residence.
 Cheryl L. Kirchner, Petitioner, project applicant and co-owner of 1811 Calico Drive residence.
 John Kirchner, co-owner of 1811 Calico Drive residence
 Jonathan Howell, DCM Asst. Major Permits Coordinator
 Patricia L. Murphey, DMF Marine Biologist Supervisor
 Doug Huggett, DCM Major Permits and Consistency Coordinator
 Tere Barrett, DCM District Manager
4. The Petitioner does not wish to pursue discovery other than that allowed by the Scheduling Order.
5. The Petitioner does not request a different location than that described in the Scheduling Order.
6. The length of the hearing is estimated to be 4 hours.
7. Petitioner Addresses:


Jonathan L. McDaniel
 1809 Calico Drive
 Morehead City, NC 28557
 (252) 725-3723

Employer:
 Parker & Associates, Inc.
 306 New Bridge Street
 Jacksonville, NC 28540-4756
 (910) 455-2414

Cheryl L. Kirchner (Self Employed)
 1811 Calico Drive
 Morehead City, NC 28557
 (252) 726-3655

8. The Petitioner does not propose a hearing date in this case different than the date set in the Scheduling Order.
9. No other special considerations a proposed.

This Prehearing Statement is to be filed and served, this the 5th day of August, 2009



Jonathan L. McDaniel
 Petitioner



Cheryl L. Kirchner
 Petitioner

HEARING ASSISTANT/COURT REPORTER
REQUEST FORM

TO: Calendaring Clerk
Office of Administrative Hearings
6714 Mail Service Center
Raleigh NC 27699-6714
919-431-3000

CASE NUMBER: 09 EHR 4153

CASE NAME: Jonathan L McDaniel & Cheryl L Kirchner
v.
NCDENR
Division of Coastal Management

ADMINISTRATIVE LAW JUDGE: Donald W. Overby

- | | |
|---------------------------------------------------|--------------------------------------------------|
| <input checked="" type="checkbox"/> Petitioner or | <input type="checkbox"/> Respondent or |
| <input type="checkbox"/> Attorney for Petitioner | <input type="checkbox"/> Attorney for Respondent |

I request that the above-styled hearing be recorded using the following method (check one):

- Hearing Assistant (Provided by the Office of Administrative Hearings)
- Court Reporter (Party requesting Court Reporter is responsible for the Court Reporter's fees)

This the 4th day of August, 2009.

Jonathan L. McDaniel & Cheryl Kirchner
Signature
Jonathan L. McDaniel & Cheryl Kirchner
Please print or type name
1809 & 1811 Calico Drive
Street or Post Office Box
Morehead City, NC 28557
City, State and Zip Code
(252) 725-3723
Area Code and Telephone Number

SECTION III

FILED
OFFICE OF
ADMINISTRATIVE HEARINGS

Jan 22 10 11 AM 2010

STATE OF NORTH CAROLINA

IN THE OFFICE OF
ADMINISTRATIVE HEARINGS

COUNTY OF CARTERET

09 EHR 4153

Jonathan L McDaniel & Cheryl L Kirchner)
 Petitioner)
)
 vs.)
)
 NCDENR)
 Division of Coastal Management)
 Respondent)

NOTICE OF HEARING

NOTICE IS HEREBY GIVEN that the above-captioned case will be brought on for hearing before the undersigned administrative law judge as follows:

DATE: Monday, February 15, 2010

TIME: 9:00 AM

PLACE: Craven County Courthouse
Courtroom 3
302 Broad Street
New Bern, North Carolina

1. This hearing will be conducted in accordance with G.S. Chapter 150B and the Rules of Contested Case Hearings in the Office of Administrative Hearings, copies of which may be obtained at cost from Molly Masich, Director of APA Services or by accessing the OAH Web page at <http://www.oah.state.nc.us/hearings/#Chapter3>.
2. Unless otherwise determined by the administrative law judge, the hearing will proceed in the following sequence:
 - a. Call of the case
 - b. Motions and other preliminary matters
 - c. Stipulations, agreements, or consent orders entered into the record
 - d. Opening statements
 - e. Presentation of evidence; cross-examination
 - f. Final arguments
3. All parties are hereby notified to bring to the hearing all documents, records, and witnesses needed to present the party's case.

NOTE: IF SPECIAL EQUIPMENT IS REQUIRED FOR THE PRESENTATION

OF EVIDENCE, THE PARTIES ARE RESPONSIBLE FOR MAKING
ARRANGEMENTS FOR THE EQUIPMENT.

4. Subpoenas may be available to the parties pursuant to 26 NCAC 3 .0114 to compel the attendance of witnesses or for the production of documents.
5. A party may represent himself or be represented by an attorney. A party who is represented by an attorney must file a Notice of Representation within 10 days of service of this Notice containing the name, address, and telephone number of the attorney, unless the attorney has already corresponded with this Office concerning this case.

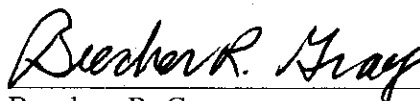
TAKE NOTICE THAT A FAILURE TO APPEAR AT THE HEARING MAY RESULT IN:

1. A finding that the allegations of or the issues set out in this Notice may be taken as true or deemed proved without further evidence;
2. Dismissal of the case or allowance of the motion or petition;
3. Suppression of a claim or defense; or
4. Exclusion of evidence.

NOTICE OF CANCELLATION OF HEARING

THE PARTIES MUST NOTIFY THE OFFICE OF ADMINISTRATIVE HEARINGS AT LEAST 24 HOURS PRIOR TO THE CANCELLATION OF THE CONTESTED CASE HEARING. FAILURE TO GIVE TIMELY NOTICE OF CANCELLATION MAY RESULT IN A CHARGE TO THE PARTIES FOR THE COST OF THE COURT REPORTER OR HEARING ASSISTANT. SEE 26 NCAC 3 .0124(f).

This the 22nd day of January, 2010.



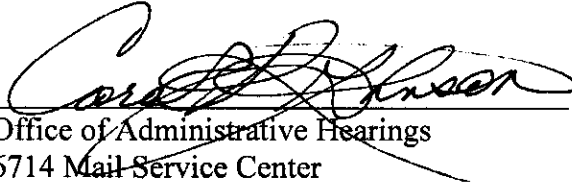
Beecher R. Gray
Administrative Law Judge

A copy of the foregoing was mailed to:

Jonathan L. McDaniel & Cheryl L. Kirchner
1809 Calico Drive
Morehead City, NC 28557
PETITIONER

Ward A. Zimmerman
Assistant Attorney General
NC Department of Justice
9001 Mail Service Center
Raleigh, NC 27699-9001
ATTORNEY FOR RESPONDENT

This the 22nd day of January, 2010.



Office of Administrative Hearings
6714 Mail Service Center
Raleigh, NC 27699-6714
(919) 431 3000
Fax: (919) 431-3100

FILED
OFFICE OF
ADMINISTRATIVE HEARINGS

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STATE OF NORTH CAROLINA

IN THE OFFICE OF
ADMINISTRATIVE HEARINGS

COUNTY OF CARTERET

09 EHR 4153

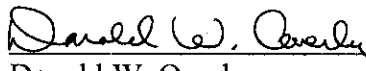
Jonathan L McDaniel & Cheryl L Kirchner)
 Petitioner)
)
 vs.)
)
 NCDENR)
 Division of Coastal Management)
 Respondent)

**ORDER CONTINUING
HEARING**

Upon consideration of Respondent's Motion to Continue, with agreement of Petitioner and for good cause shown, the hearing in this contested case is hereby CONTINUED to the week beginning December 14, 2009.

IT IS SO ORDERED.

This the 13th day of October, 2009.




 Donald W. Overby
 Administrative Law Judge

A copy of the foregoing was mailed to:

Jonathan L McDaniel & Cheryl L Kirchner
1809 Calico Drive
Morehead City, NC 28557
PETITIONER

Ward A. Zimmerman
Assistant Attorney General
NC Department of Justice
9001 Mail Service Center
Raleigh, NC 27699-9001
ATTORNEY FOR RESPONDENT

This the 13th day of October, 2009.



Office of Administrative Hearings
6714 Mail Service Center
Raleigh, NC 27699-6714
(919) 431 3000
Fax: (919) 431-3100

ABer

STATE OF NORTH CAROLINA
COUNTY OF CARTERET

IN THE OFFICE OF
ADMINISTRATIVE HEARINGS
09 EHR 4153

JONATHAN MCDANIEL &
CHERYL KIRCHNER,
Petitioner,

v.

NORTH CAROLINA DEPARTMENT OF
ENVIRONMENT AND NATURAL
RESOURCES, DIVISION OF COASTAL
MANAGEMENT,
Respondent.

MOTION TO CONTINUE

2009 OCT 27 11:15 AM

NOW COMES the Respondent, North Carolina Department of Environment and Natural Resources (DENR), Division of Coastal Management (DCM), by and through its undersigned counsel, and files this Motion to Continue in the above referenced matter currently scheduled for December 14, 2009, before the Honorable Augustus B. Elkins II, Administrative Law Judge. Respondent now moves for a continuance of the hearing date in the above referenced matter to the week of January 25, 2009. As stated in Respondent's Prehearing Statement, this matter should take no more than two days to hear. In support of this Motion, Respondent shows the following:

1. This matter was originally assigned to the Honorable Donald W. Overby and was reassigned to the Honorable Augustus B. Elkins II by Order on October 12, 2009.
2. This matter was originally scheduled for hearing on November 16, 2009.
3. Due to multiple witness scheduling conflicts with another hearing on November 16, 2009, Respondent filed a Motion to Amend Prehearing Statement, or in the alternative, Motion to Continue on October 12, 2009. In that Motion, Respondent proposed the new hearing

date of the week of December 7, 2009. Respondent had cleared that date with all of its witnesses and with both Petitioners Jonathan McDaniel and Cheryl Kirchner.

4. This matter was continued to the week of December 14, 2009.

5. Respondent's counsel has a conflict with the week of December 14, 2009, in that he is scheduled to appear before the Honorable Joe L. Webster in another contested case in OAH.

6. Respondent's Counsel has contacted both Petitioner Jonathan McDaniel and Petitioner Cheryl Kirchner about this conflict, and both Petitioners have consented to this rescheduling proposal to the new date of the week of January 25, 2009.

Respectfully submitted, this the 26th day of October, 2009.

FOR THE DIVISION OF
COASTAL MANAGEMENT


Ward Zimmerman


Assistant Attorney General
N.C. Department of Justice
9001 Mail Service Center
Raleigh, NC 27699-9001
(919) 716-6600
(919) 716-6767 fax
wzimmerman@ncdoj.gov

CERTIFICATE OF SERVICE

This is to certify that I have served the foregoing Respondent's Motion to Continue upon the Petitioners, by causing a copy thereof to be placed in the U.S. Postal Service with sufficient postage for delivery by first class mail and addressed as follows:

Jonathan McDaniel & Cheryl Kirchner
1809 Calico Drive
Morehead City, NC 28557

This the 26th day of October, 2009.


Ward Zimmerman
Assistant Attorney General

FILED
OFFICE OF
ADMINISTRATIVE HEARINGS

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STATE OF NORTH CAROLINA

IN THE OFFICE OF
ADMINISTRATIVE HEARINGS

COUNTY OF CARTERET

09 EHR 4153

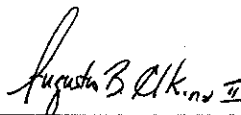
Jonathan L McDaniel & Cheryl L Kirchner)
 Petitioner)
)
 vs.)
)
 NCDENR)
 Division of Coastal Management)
 Respondent)

**ORDER CONTINUING
HEARING**

Upon consideration of Respondent Motion to Continue this contested case, with good cause shown, the hearing in this contested case is hereby CONTINUED until the week beginning January 18, 2009. The presiding Judge will file a more definite notice of hearing.

IT IS SO ORDERED.

This the 5th day of November, 2009.



Augustus B. Elkins II
Administrative Law Judge

A copy of the foregoing was mailed to:

Jonathan L McDaniel & Cheryl L Kirchner
1809 Calico Drive
Morehead City, NC 28557
PETITIONER

Ward A. Zimmerman
Assistant Attorney General
NC Department of Justice
9001 Mail Service Center
Raleigh, NC 27699-9001
ATTORNEY FOR RESPONDENT

This the 5th day of November, 2009.



Office of Administrative Hearings
6714 Mail Service Center
Raleigh, NC 27699-6714
(919) 431 3000
Fax: (919) 431-3100

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ADMINISTRATIVE HEARINGS

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STATE OF NORTH CAROLINA

IN THE OFFICE OF
ADMINISTRATIVE HEARINGS

COUNTY OF CARTERET

09 EHR 4153

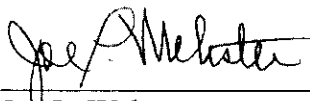
Jonathan L McDaniel & Cheryl L Kirchner)
 Petitioner)
)
 vs.)
)
 NCDENR)
 Division of Coastal Management)
 Respondent)

**ORDER CONTINUING
HEARING**

Petitioner is not available to hear this case until mid February, as she will be out of the country. For good cause shown, the hearing in this contested case is hereby CONTINUED until the week beginning February 15, 2010. The presiding Judge will file a more definite notice of hearing.

IT IS SO ORDERED.

This the 5th day of January, 2010.



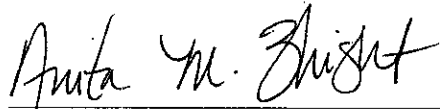
Joe L. Webster
Administrative Law Judge

A copy of the foregoing was mailed to:

Jonathan L McDaniel & Cheryl L Kirchner
1809 Calico Drive
Morehead City, NC 28557
PETITIONER

Ward A. Zimmerman
Assistant Attorney General
NC Department of Justice
9001 Mail Service Center
Raleigh, NC 27699-9001
ATTORNEY FOR RESPONDENT

This the 5th day of January, 2010.



Office of Administrative Hearings
6714 Mail Service Center
Raleigh, NC 27699-6714
(919) 431 3000
Fax: (919) 431-3100

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OFFICE OF
ADMINISTRATIVE HEARINGS

Feb 12 1 58 PM 2010

STATE OF NORTH CAROLINA

IN THE OFFICE OF
ADMINISTRATIVE HEARINGS

COUNTY OF CARTERET

09 EHR 4153

Jonathan L McDaniel & Cheryl L Kirchner)
 Petitioner)
)
 vs.)
)
 NCDENR)
 Division of Coastal Management)
 Respondent)

**NOTICE OF RESCHEDULED
HEARING**


NOTICE IS HEREBY GIVEN that the hearing in this contested case, previously scheduled for February 15, 2010, is rescheduled as follows:

DATE: February 18, 2010

TIME: 9:00 a.m.

PLACE: Craven County Courthouse
 Courtroom 5
 302 Broad Street
 New Bern, NC

This the 12th day of February, 2010.




 Beecher R. Gray
 Administrative Law Judge

A copy of the foregoing was mailed to:

Jonathan L McDaniel & Cheryl L Kirchner
1809 Calico Drive
Morehead City, NC 28557
PETITIONER

Ward A. Zimmerman
Assistant Attorney General
NC Department of Justice
9001 Mail Service Center
Raleigh, NC 27699-9001
ATTORNEY FOR RESPONDENT

This the 12th day of February, 2010.


Office of Administrative Hearings
6714 Mail Service Center
Raleigh, NC 27699-6714
(919) 431 3000
Fax: (919) 431-3100

SECTION IV

SECTION V

STATE OF NORTH CAROLINA
 COUNTY OF CARTERET

IN THE OFFICE OF
 ADMINISTRATIVE HEARINGS
 09 EHR 4153

Jonathan L. McDaniel and
 Cheryl L. Kirchner,
 Petitioners,

vs.

North Carolina Department of Environment
 and Natural Resources, Division of Coastal
 Management,
 Respondent,

PETITIONER'S
 EXHIBIT NOTEBOOK

LIST OF EXHIBITS:

1. Portion of Beaufort USGS Quad Sheet.
2. Calico Creek Existing Use, Picture A.
 Calico Creek Existing Use, Picture B.
3. Calico Creek Site, Picture A.
 Calico Creek Site, Picture B.
 Calico Creek Site, Picture C.
4. 15A NCAC 07H Section .1200 - General Permit for Construction of Piers: Docks:
 and Boat Houses in Estuarine and Public Trust Waters and Ocean Hazard Areas
 (Amended Eff. April 1, 2003), 3 pages.
5. Letter of Transmittal - Original Project Submittal Date: 9/5/08.
6. Copies of Certified Return Receipts to Adjacent Property Owners, and copy of check
 No.348 for Application Fee.
7. Letter Acknowledging Complete Application 2/5/09.
8. Agency Review Comments.
 - A. Division of Water Quality.
 - B. Division of Marine Fisheries, 2 pages.
 - C. Wildlife Resource Commission, 2 pages.
 - D. Division of Coastal Management, 2 pages.

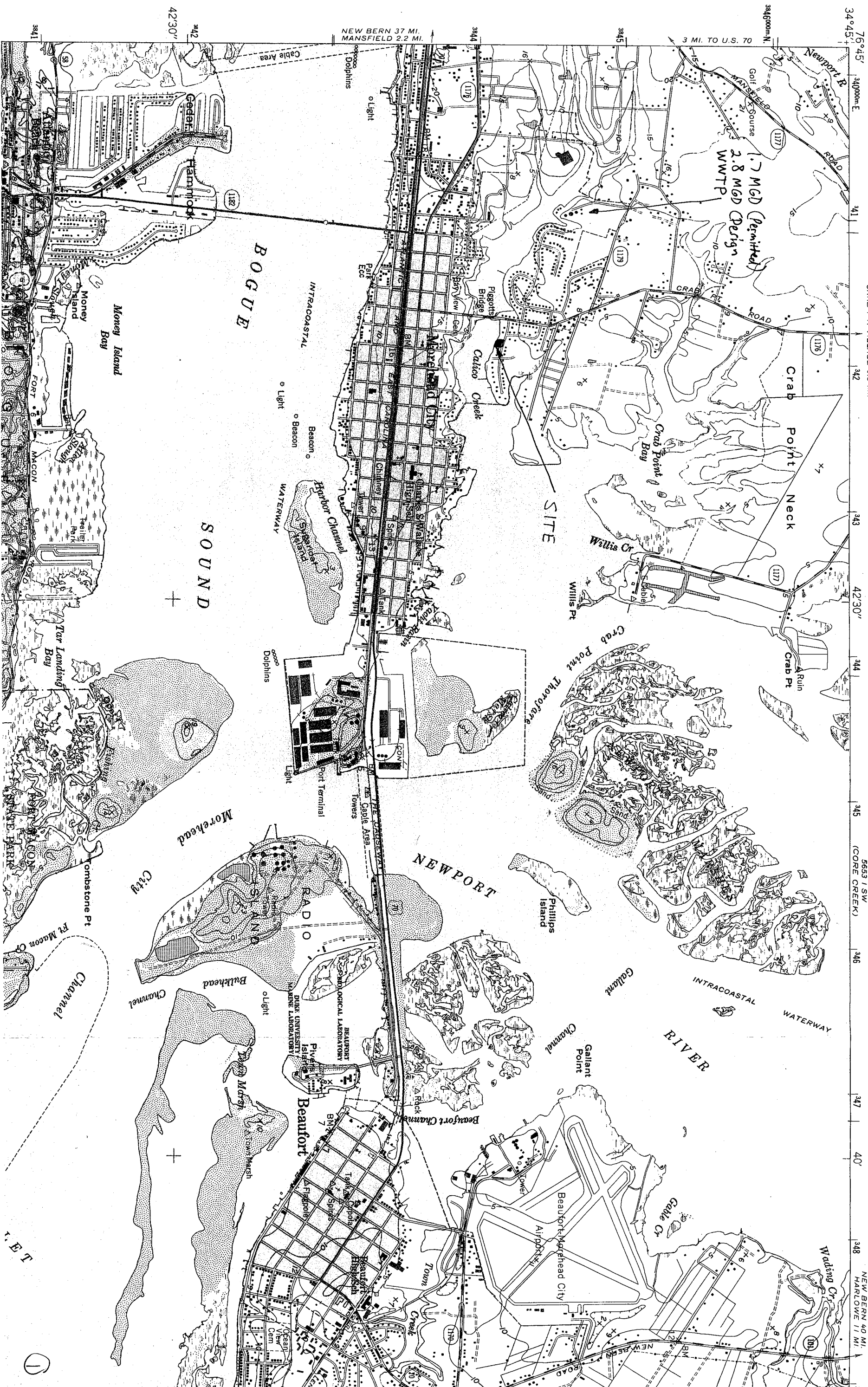
9. Division of Marine Fisheries - Habitat Alteration Permit Review Guidelines, Specific Guidance Section, 4 pages.
10. Review Extension Response Letter, 5/4/09 and Certified Mail Receipt, 4 pages
11. Project Denial Letter, 6/25/09, 3 pages.
12. 15A NCAC 07H .1205 - Specific Conditions (Amended Eff. July 1, 2009), 3 pages.
13. Whiskey Creek Overlook Major Permit MOD, Approved 10/18/07, 3 Pages.
14. Portion of Wilmington USGS Quad Sheet.
15. Eric Goldfarb Major Permit, Approved 7/12/06, 3 pages.
16. Portion of Whiskey Creek Overlook Work Plat.
17. Whiskey Creek Overlook Site, Picture A.
Whiskey Creek Overlook Site, Picture B.
18. Whiskey Creek Overlook Timber Stops, Picture A.
Whiskey Creek Overlook Timber Stops, Picture B.
19. 15A NCAC 07H Section .0100 - Introduction and General Comments
20. Morehead City CAMA Land Use Plan - Section 2.1 Key Planning Issues, 4 pages.
21. Calico Creek Parameter Violation Descriptions from 2007-2010 in the Integrated Report Category 5 - 303(d) List, 3 pages.
22. White Oak River Basinwide Water Quality Plan - Section B, Chapter 3 (pages 122-125), 4 pages.

5653 IV SE
(NEWPORT)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

UNITED STATES
DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY

5653 I SW
(CORE CREEK)



T. E. T

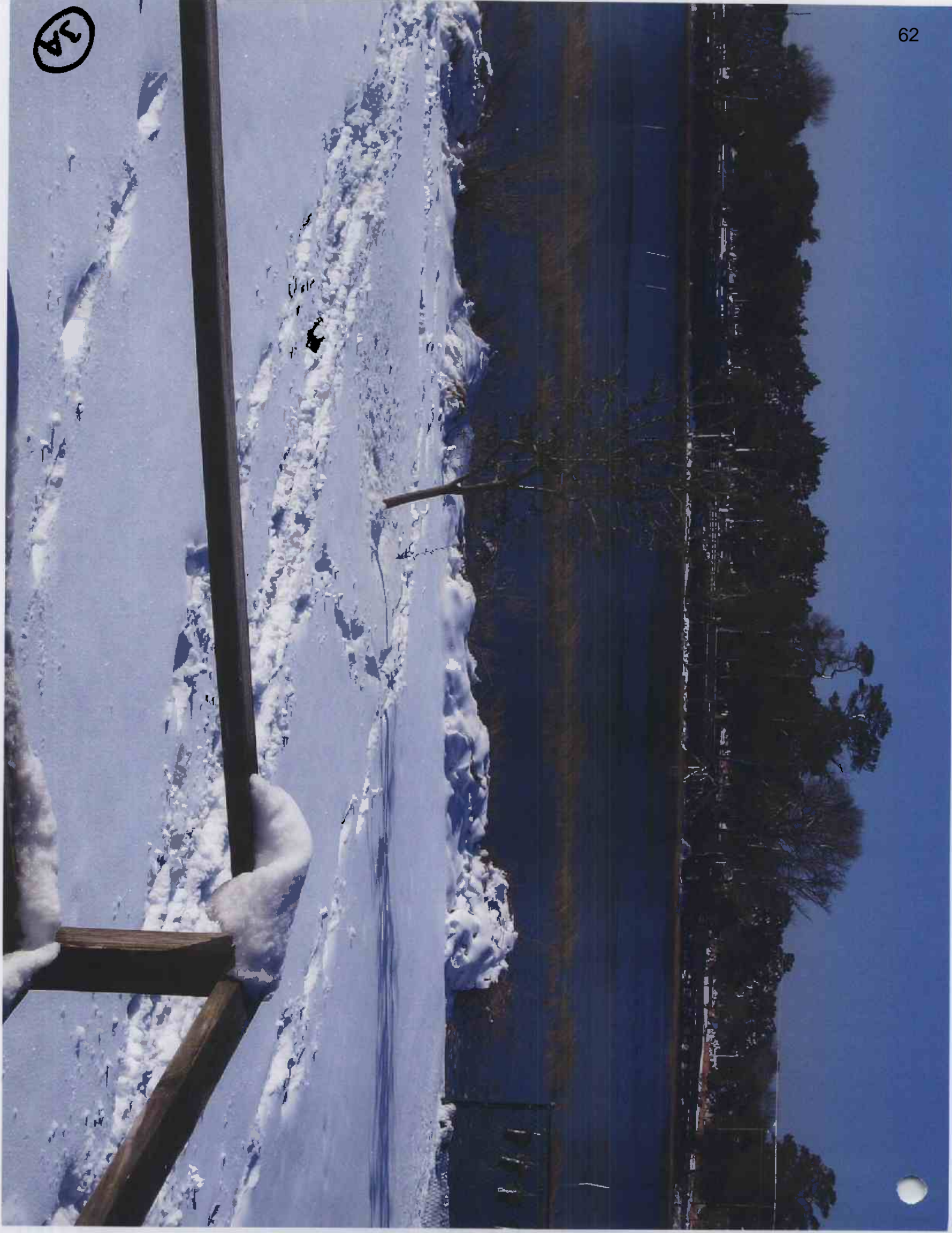
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SECTION .1200 - GENERAL PERMIT FOR CONSTRUCTION OF PIERS, DOCKS, AND BOAT HOUSES IN ESTUARINE AND PUBLIC TRUST WATERS AND OCEAN HAZARD AREAS

15A NCAC 07H .1201 PURPOSE

A permit under this Section shall allow the construction of new piers, docks, and boat houses in the estuarine and public trust waters AECs and construction of new piers and docks within coastal wetlands AECs according to the authority provided in Subchapter 07J .1100 and according to the Rules in this Section. This permit shall not apply to oceanfront shorelines or to waters and shorelines adjacent to the Ocean Hazard AEC with the exception of those shorelines that feature characteristics of the Estuarine Shoreline AEC. Such features include the presence of wetland vegetation, lower wave energy, and lower erosion rates than the adjacent Ocean Erodible Area.

History Note: Authority G.S. 113A-107(a); 113A-107(b); 113A-113(b); 113A-118.1; 113A-124; Eff. March 1, 1984; Amended Eff. April 1, 2003.

15A NCAC 07H .1202 APPROVAL PROCEDURES

(a) An applicant for a General Permit under this Subchapter shall contact the Division of Coastal Management and request approval for development. The applicant shall provide information on site location, dimensions of the project area, and his name and address.

(b) The applicant shall provide:

- (1) confirmation that a written statement has been obtained signed by the adjacent riparian property owners indicating that they have no objections to the proposed work; or
- (2) confirmation that the adjacent riparian property owners have been notified by certified mail of the proposed work. The notice shall instruct adjacent property owners to provide any comments on the proposed development in writing for consideration by permitting officials to the Division of Coastal Management within 10 days of receipt of the notice, and, indicate that no response will be interpreted as no objection. DCM staff shall review all comments and determine, based on their relevance to the potential impacts of the proposed project, if the proposed project can be approved by a General Permit. If DCM staff finds that the comments are worthy of more in-depth review, DCM shall notify the applicant that he must submit an application for a major development permit.

(c) No work shall begin until an on-site meeting is held with the applicant and a Division of Coastal Management representative to review the proposed development. Written authorization to proceed with the proposed development shall be issued if the Division representative finds that the application meets all the requirements of this Subchapter. Construction shall be completed within 120 days of the issuance of the general authorization or the authorization shall expire and it shall be necessary to re-examine the proposed development to determine if the general authorization may be reissued.

(d) Any modification or addition to the authorized project shall require prior approval from the Division of Coastal Management.

History Note: Authority G.S. 113A-107(a); 113A-107(b); 113A-113(b); 113A-118.1; 113A-124; Eff. March 1, 1984; Amended Eff. October 1, 2007; August 1, 1998; January 1, 1990.

15A NCAC 07H .1203 PERMIT FEE

The applicant shall pay a permit fee of two hundred dollars (\$200.00) by check or money order payable to the Department.

History Note: Authority G.S. 113A-107; 113A-113(b); 113A-118.1; 113A-119; 113-119.1; 113A-124; Eff. March 1, 1984; Amended Eff. September 1, 2006; August 1, 2000; March 1, 1991..

15A NCAC 07H .1204 GENERAL CONDITIONS

(a) Piers authorized by this general permit shall be for the exclusive use of the land owner, or occupant and shall not provide either leased or rented docking space or any other commercial services. Piers designed to provide docking space for more than two boats shall, because of their greater potential for adverse impacts, be reviewed through the major permitting process and, therefore, are not authorized by this general permit.

(b) Individuals shall allow authorized representatives of the Department of Environment and Natural Resources to make periodic inspections at any time deemed necessary in order to be sure that the activity being performed under the authority of this general permit is in accordance with the terms and conditions prescribed herein.

(c) There shall be no unreasonable interference with navigation or use of the waters by the public by the existence of piers, docks and boat houses.

- (d) This permit will not be applicable to proposed construction where the Department believes that the proposed activity might unnecessarily endanger adjoining properties; significantly affect historic, cultural, scenic, conservation or recreation values, identified in G.S. 113A-102 and G.S. 113A-113(b)(4), nor that might significantly affect the quality of the human environment.
- (e) This permit does not eliminate the need to obtain any other required state, local, or federal authorization.
- (f) Development carried out under this permit must be consistent with all local requirements, AEC Guidelines, and local land use plans current at the time of authorization.

*History Note: Authority G.S. 113A-107(a); 113A-107(b); 113A-113(b); 113A-118.1; 113A-124;
Eff. March 1, 1984;
Amended Eff. May 1, 1990;
RRC Objection due to ambiguity Eff. May 19, 1994;
Amended Eff. August 1, 1998; July 1, 1994.*

15A NCAC 07H .1205 SPECIFIC CONDITIONS

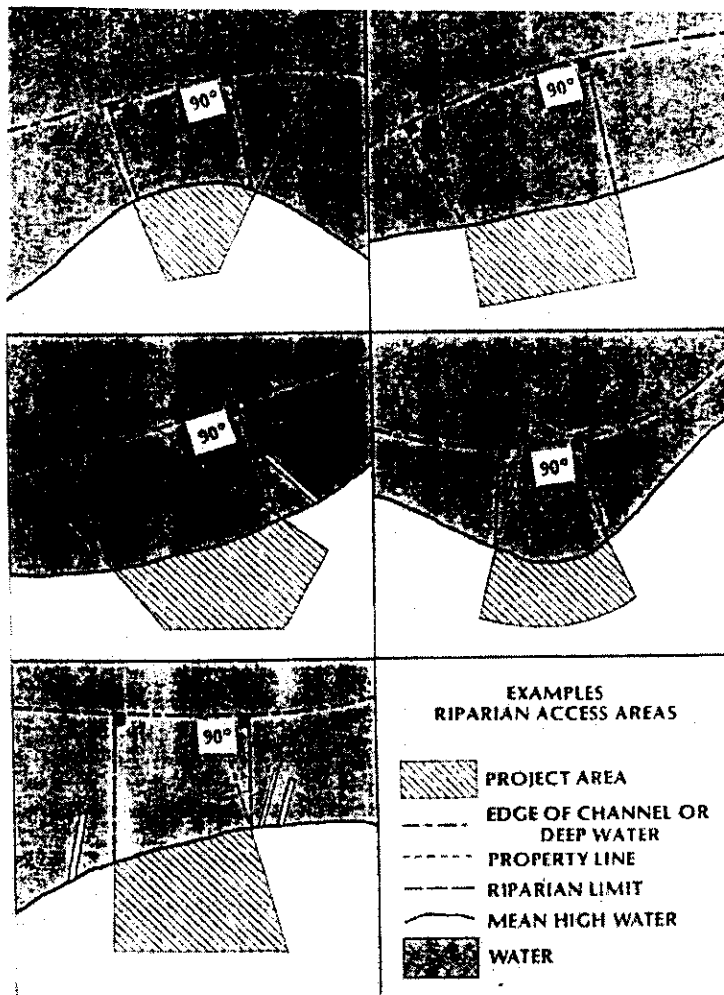
- (a) Piers, docks, and boat houses may extend or be located up to a maximum of 400 feet waterward from the normal high water line or the normal water level, whichever is applicable.
- (b) Piers, docks, and boat houses shall not extend beyond the established pier length along the same shoreline for similar use. This restriction shall not apply to piers 100 feet or less in length unless necessary to avoid unreasonable interference with navigation or other uses of the waters by the public such as blocking established navigation routes or interfering with access to adjoining properties. The length of piers shall be measured from the waterward edge of any wetlands that border the water body.
- (c) Piers longer than 200 feet shall be permitted only if the proposed length gives access to deeper water at a rate of at least one foot at each 100 foot increment of pier length longer than 200 feet, or if the additional length is necessary to span some obstruction to navigation. Measurements to determine pier lengths shall be made from the waterward edge of any coastal wetland vegetation, which borders the water body.
- (d) Piers and docks shall be no wider than six feet and shall be elevated at least three feet above any coastal wetland substrate as measured from the bottom of the decking.
- (e) Any portion of a pier (either fixed or floating) extending from the main structure and six feet or less in width shall be considered either a "T" or a finger pier.
- (f) Except in the case of boat houses, any portion of a structure (either fixed or floating) greater than six feet wide shall be considered a platform or deck.
- (g) "T"s, finger piers, platforms, and decks of piers on lots with shorelines 100 feet or greater in length shall not exceed a combined total area of 400 square feet. The combined total area for lots less than 100 feet shall not exceed four square feet per linear foot of shoreline.
- (h) Platforms and decks shall have no more than six feet of any dimension extending over coastal wetlands.
- (i) The width requirements established in Paragraphs (d), (e), (f), (g) and (h) of this Rule shall not apply to pier structures in existence on or before July 1, 2001 when structural modifications are needed to prevent or minimize storm damage. In these cases, pilings and cross bracing may be used to provide structural support as long as they do not extend more than of two feet on either side of the principal structure. These modifications may not be used to expand the floor decking of platforms and piers.
- (j) Boathouses shall not exceed 400 square feet and shall have sides extending no further than one-half the height of the walls as measured in a downward direction from the top wall plate or header and only covering the top half of the walls. Measurements of square footage shall be taken of the greatest exterior dimensions. Boathouses shall not be allowed on lots with less than 75 linear feet of shoreline.
- (k) The area enclosed by a boat lift shall not exceed 400 square feet.
- (l) Piers, docks, decks, platforms and boat houses shall be single story. They may be roofed but shall not be designed to allow second story use.
- (m) Pier alignments along federally maintained channels must also meet Corps of Engineers regulations for pier construction pursuant to Section 10 of the Rivers and Harbors Act.
- (n) Piers, docks, and boat houses shall in no case extend more than 1/4 the width of a natural water body, human-made canal or basin. Measurements to determine widths of the water body, human-made canals or basins shall be made from the waterward edge of any coastal wetland vegetation which borders the water body. The 1/4 length limitation shall not apply when the proposed pier is located between longer piers within 200 feet of the applicant's property. However, the proposed pier shall not be longer than the pier head line established by the adjacent piers, nor, longer than 1/3 the width of the water body.
- (o) Piers, docks and boat houses shall not interfere with the access to any riparian property, and shall have a minimum setback of 15 feet between any part of the pier and the adjacent property lines extended into the water at the points that they intersect the shoreline. The minimum setbacks provided in the rule may be waived by the written agreement of the adjacent

riparian owner(s), or when two adjoining riparian owners are co-applicants. Should the adjacent property be sold before construction of the pier commences, the applicant shall obtain a written agreement with the new owner waiving the minimum setback and submit it to the Division of Coastal Management prior to initiating any development of the pier, dock, or boat house. The line of division of areas of riparian access shall be established by drawing a line along the channel or deep water in front of the property, then drawing a line perpendicular to the line of the channel so that it intersects with the shore at the point the upland property line meets the water's edge. Application of this Rule may be aided by reference to the approved diagram in Paragraph (r) of this Rule illustrating the rule as applied to various shoreline configurations. Copies of the diagram may be obtained from the Division of Coastal Management. When shoreline configuration is such that a perpendicular alignment cannot be achieved, the pier shall be aligned to meet the intent of this Rule to the maximum extent practicable.

(p) Piers, and mooring facilities shall be designed to provide docking space for no more than two boats.

(q) Applicants for authorization to construct a dock or pier shall provide notice of the permit application to the owner of any part of a shellfish franchise or lease over which the proposed dock or pier would extend. The applicant shall allow the lease holder the opportunity to mark a navigation route from the pier to the edge of the lease.

(r) The diagram shown below illustrates the various shoreline configurations:



History Note: Authority G.S. 113A-107(a); 113A-107(b); 113A-113(b); 113A-118.1; 113A-124;
 Eff. March 1, 1984;
 Amended Eff. December 1, 1991; May 1, 1990; March 1, 1990;
 RRC Objection due to ambiguity Eff. March 18, 1993;
 Amended Eff. August 1, 1998; April 23, 1993;
 Temporary Amendment Eff. December 20, 2001;
 Amended Eff. April 1, 2003.

LETTER OF TRANSMITTAL 68

TO NCDENR – Division of Coastal Management
 400 Commerce Avenue
 Morehead City, NC 28557

DATE 9/5/2008	PROJECT NO.
ATTENTION Heather Styron, Field Representative	
RE Shared Residential Dock w/ 2 boat lifts 1809 & 1811 Calico Drive	

WE ARE SENDING YOU Attached Under separate cover via _____ the following items:

Shop Drawings Prints Plans Samples Specifications

Copy of letter Change Order Other: _____

COPIES	DATE	DESCRIPTION
1	9/5/08	Application fee of \$250.00 made payable to NCDENR (Check #348)
1	8/27/08	Original signed CAMA major permit application (4 pages)
1	8/27/08	Original signed CAMA major permit Structures form DCM MP-4 (4 pages)
1	9/5/08	Property deeds and boundary reference (6 pages and 1 map)
1	9/5/08	Project narrative (2 pages)
1	9/5/08	Workplan Drawings (2 sheets)
1	8/28/08	Signed certified return receipts to adjacent property owners (2 receipts total)
1	9/5/08	Copies of previous cama general permits (2 pages)

THESE ARE TRANSMITTED as checked below:

- | | | |
|--------------------------------------------------|---------------------------------------------------|---------------------------------------------------------|
| <input checked="" type="checkbox"/> For approval | <input type="checkbox"/> Approved as submitted | <input type="checkbox"/> Resubmit copies for approval |
| <input type="checkbox"/> For your use | <input type="checkbox"/> Approved as noted | <input type="checkbox"/> Submit copies for distribution |
| <input type="checkbox"/> As requested | <input type="checkbox"/> Returned for corrections | <input type="checkbox"/> Return corrected prints |
| <input type="checkbox"/> For review and comment | <input type="checkbox"/> Other: _____ | |

REMARKS

Please feel free to call Jonathan McDaniel (252) 725-3723 if you have any questions or concerns. Thanks

COPY(S) TO: File

SIGNED: Jonathan L. McDaniel

SENDER: COMPLETE THIS SECTION		COMPLETE THIS SECTION ON DELIVERY	
<ul style="list-style-type: none"> Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired. Print your name and address on the reverse so that we can return the card to you. Attach this card to the back of the mailpiece, or on the front if space permits. 		A. Signature <i>X Henry Pennick</i> <input type="checkbox"/> Agent <input checked="" type="checkbox"/> Addressee	
1. Article Addressed to:		B. Received by (Printed Name)	C. Date of Delivery
Carol Mann 1807 Calico Drive Morehead City, NC 28557		K. Parrish	8/28/08
2. Article Number (Transfer from service label)		D. Is delivery address different from item 1? <input type="checkbox"/> Yes If YES, enter delivery address below: <input type="checkbox"/> No	
7007 3020 0001 9681 1234			
3. Service Type		4. Restricted Delivery? (Extra Fee) <input type="checkbox"/> Yes	
<input type="checkbox"/> Certified Mail <input type="checkbox"/> Express Mail <input type="checkbox"/> Registered <input type="checkbox"/> Return Receipt for Merchandise <input type="checkbox"/> Insured Mail <input type="checkbox"/> C.O.D.			
PS Form 3811, February 2004		Domestic Return Receipt 102595-02-M-1540	

SENDER: COMPLETE THIS SECTION		COMPLETE THIS SECTION ON DELIVERY	
<ul style="list-style-type: none"> Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired. Print your name and address on the reverse so that we can return the card to you. Attach this card to the back of the mailpiece, or on the front if space permits. 		A. Signature <i>X J. Bengala</i> <input type="checkbox"/> Agent <input checked="" type="checkbox"/> Addressee	
1. Article Addressed to:		B. Received by (Printed Name)	C. Date of Delivery
Jim Bengala 1901 Calico Drive Morehead City, NC 28557		J. Bengala	8/28/08
2. Article Number (Transfer from service label)		D. Is delivery address different from item 1? <input type="checkbox"/> Yes If YES, enter delivery address below: <input type="checkbox"/> No	
7007 3020 0001 9681 1241			
3. Service Type		4. Restricted Delivery? (Extra Fee) <input type="checkbox"/> Yes	
<input type="checkbox"/> Certified Mail <input type="checkbox"/> Express Mail <input type="checkbox"/> Registered <input type="checkbox"/> Return Receipt for Merchandise <input type="checkbox"/> Insured Mail <input type="checkbox"/> C.O.D.			
PS Form 3811, February 2004		Domestic Return Receipt 102595-02-M-1540	

JONATHAN LAWRENCE McDANIEL
PH. 252-725-3723
1809 CALICO DR
MOREHEAD CITY, NC 28557-4426

348
66-112/531

9-5-08

PAY to the order of NCDENR \$ 250.00

two hundred fifty and 00/100 Dollars



For CAMA MAJOR PERMIT Signature Jonathan L. McDaniel

⑆053101121⑆0005293926591⑆00348

16



North Carolina Department of Environment and Natural Resources
Division of Coastal Management

Beverly Eaves Perdue, Governor

James H. Gregson, Director

Dee Freeman, Secretary

Jonathan McDaniel and Cheryl Kirchner
 1809 and 1811 Calico Drive
 Morehead City, NC 28557

2/5/09

Dear Sir and Madam:

The NC Division of Coastal Management hereby acknowledges receipt of your application for State approval for development at the property at 1809/1811 Calico Drive in Morehead City. The complete package was received on 2/2/08. The projected deadline for making a decision is 3/17/09. An additional 75-day review period is provided by law when such time is necessary to complete the review. If you have not been notified of a final action by the initial deadline stated above, you should consider the review period extended. Under those circumstances, this letter will serve as your notice of an extended review. However, an additional letter will be provided on or about the 75th day.

If this agency does not render a permit decision within 70 days from 12/3/08, you may request a meeting with the Director of the Division of Coastal Management and permit staff to discuss the status of your project. Such a meeting will be held within five working days from the receipt of your written request and shall include the property owner, developer, and project designer/consultant.

NCGS 113A-119(b) requires that Notice of an application be posted at the location of the proposed development. Enclosed you will find a "Notice of Permit Filing" postcard which must be posted at the property of your proposed development. You should post this notice at a conspicuous point along your property where it can be observed from a public road. Some examples would be: Nailing the notice card to a telephone pole or tree along the road right-of-way fronting your property, or at a point along the road right-of-way where a private road would lead one into your property. Failure to post this notice could result in an incomplete application.

An onsite inspection will be made, and if additional information is required, you will be contacted by the appropriate State or Federal agency. Please contact me if you have any questions and notify me in writing if you wish to receive a copy of my field report and/or comments from reviewing agencies.

Sincerely,

Heather M. Styron

Coastal Management Representative

HMS

Enclosure

cc: Doug Huggett, Major Permits Coordinator
 Tere Barrett, District Manager

400 Commerce Avenue, Morehead City, North Carolina 28557
 Phone: 252-808-2808 \ FAX: 252-247-3330 \ Internet: www.nccoastalmanagement.net



North Carolina Department of Environment and Natural Resources
Division of Water Quality

Beverly Eaves Perdue
Governor

Coleen H. Sullins
Director

Dee Freeman
Secretary

March 13, 2009

DWQ Project # 09 0169
Carteret County

CERTIFIED MAIL: 7007 0220 0000 8222 7719
RETURN RECEIPT REQUESTED

Jonathan McDaniel and Cheryl Kirchner
1809 Calico Drive
Morehead City, NC 28557

Morehead City, NC 28557

Subject Property: **1809 and 1811 Calico Drive**
REQUEST FOR MORE INFORMATION/HEADING TOWARDS DENIAL

Dear Mr. McDaniel and Ms. Kirchner:

On February 16, 2009, the Division of Water Quality (DWQ) Wilmington Regional Office (WiRO) received your CAMA application dated February 12, 2009 for a joint pier, platform and boatlifts to be shared by the above-mentioned properties. The DWQ has determined that your application was incomplete and/or provided inaccurate information as discussed below. The DWQ will require additional information in order to process your application to impact protected wetlands and/or streams on the subject property. Therefore, unless we receive the additional information requested below, we will have to move toward denial of your application as required by 15A NCAC 2H .0506 and will place this project on hold as incomplete until we receive this additional information. Please provide all of the following information so that we may continue to review your project.

Additional Information Requested:

1. The North Carolina Division of Marine Fisheries (DMF) is recommending denial of the proposed project due to the primary nursery area (PNA) designation by DMF. DMF is concerned that your proposed project would cause significant adverse impacts to the PNA, which would be considered a degradation of waters, which would result in violations of the following Water Quality Standard

15A NCAC 02B .0201 ANTIDEGRADATION POLICY

(f) Activities regulated under Section 404 of the Clean Water Act (33 U.S.C. 1344) which require a water quality certification as described in Section 401 of the Clean Water Act (33 U.S.C. 1341) shall be evaluated according to the procedures outlined in 15A NCAC 2H .0500. Activities which receive a water quality certification pursuant to these procedures shall not be considered to remove existing uses. The evaluation of permits issued pursuant to G.S. 143-215.1 that involve the assimilation of wastewater or stormwater by wetlands shall incorporate the criteria found in 15A NCAC 2H .0506©(1)-(5) in determining the potential impact of the proposed activity on the existing uses of the wetland per 15A NCAC 2H .0231.

Wilmington Regional Office
127 Cardinal Drive Extension Wilmington, NC 28405
Phone: 910-796-7215 / FAX: 910-350-2004
Internet: www.ncwaterquality.org

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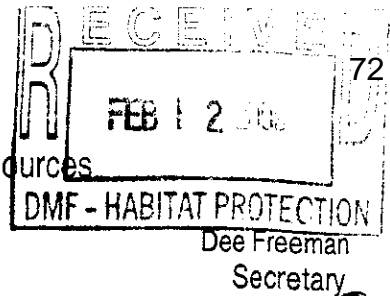
Customer Service 1-877-623-6748

8A



North Carolina Department of Environment and Natural Resources
 Division of Coastal Management
 James H. Gregson
 Director

Beverly Eaves Perdue
 Governor



5

February 12, 2009

MEMORANDUM:

TO: Anne Deaton
 Division of Marine Fisheries

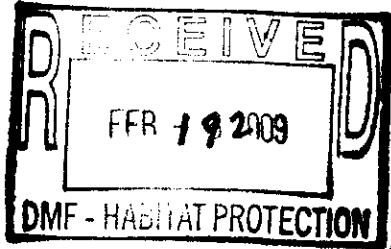
FROM: Doug Huggett
 Major Permits Processing Coordinator

SUBJECT: CAMA/DREDGE & FILL Permit Application Review

Applicant: Jonathan McDaniel and Cheryl Kirchner

Project Location: The project site is located at 1809/1811 Calico Drive, Morehead City, Carteret County

Proposed Project: The applicant is proposing a pier, platform and boatlifts that would provide shared use for two residences.



Please indicate below your agency's position or viewpoint on the proposed project and return this form by 03/05/2009. If you have any questions regarding the proposed project, please contact Heather Styron at (252) 808-2808. When appropriate, in-depth comments with supporting data are requested.

- REPLY:** _____ This agency has no objection to the project as proposed.
- _____ This agency has no comment on the proposed project.
- _____ This agency approves of the project only if the recommended changes are incorporated. See attached.
- _____ This agency objects to the project for reasons described in the attached comments.

SIGNED *Pete d. Myer* **DATE** 2/19/09
 400 Commerce Ave., Morehead City, NC 28557-3421
 Phone: 252-808-2808 \ FAX: 252-247-3330 Internet: www.nccoastalmanagement.net

One
 North Carolina
 Naturally

Anne Deaton

2/20/09

8B



North Carolina Department of Environment and Natural Resources
Division of Marine Fisheries

Beverly Eaves Perdue
Governor

Dr. Louis B. Daniel III
Director

Dee Freeman
Secretary

MEMORANDUM

TO: Doug Huggett
Major Permits Processing Coordinator

FROM: Patricia L. Murphey *PLM*
Marine Biologist Supervisor

DATE: February 19, 2009

RE: 1809/1811 Calico Drive, Morehead City, Carteret County

The North Carolina Division of Marine Fisheries (NCDMF) has reviewed the permit application and conducted a site visit on February 17th 2009. The applicant proposes to develop a pier, platform and boatlifts that would provide shared use for two residences. The DMF commends the applicants for the development of one dock instead of two. This minimizes the cumulative impacts of multiple docks within an area. This pier is located in Calico Creek, a Primary Nursery Area (PNA). The pier crosses approximately 88 square ft of oyster rock, terminating in 0" to 6" NLW water depth. The DMF recommends denial of the project as proposed due to significant adverse impacts to shallow bottom habitat and shell habitat by prop dredging within a PNA. The DMF will remove its recommendation if the following modifications are made: (1) removal of the both proposed boatlifts, (2) the addition of handrails to the pier and; (3) the small sections of oyster rock to be impacted by pilings are hand dug before the placement of the pilings.



☒ North Carolina Wildlife Resources Commission ☒

Gordon Myers, Executive Director

MEMORANDUM

TO: Doug Huggett, Major Permits Processing Coordinator
Division of Coastal Management
North Carolina Department of Environment and Natural Resources

FROM: Maria T. Dunn, Northeast Coastal Region Coordinator *Maria T. Dunn*
Habitat Conservation Program

DATE: February 24, 2009

SUBJECT: CAMA Dredge/Fill Permit Application for Jonathan McDaniel and Cheryl
Kirchner, Carteret County, North Carolina.

Biologists with the North Carolina Wildlife Resources Commission (NCWRC) reviewed the permit application with regard to impacts on fish and wildlife resources. The project site is located at 1809 / 1811 Calico Drive adjacent Calico Creek in Morehead City, NC. Our comments are provided in accordance with provisions of the Coastal Area Management Act (G.S. 113A-100 through 113A-128), as amended, and the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.).

The applicant proposes to construct a pier, platform, and two boat lifts that would serve two residents. The proposed structures will extend 110' into the 440' water body. Water depths at the proposed slip location range from 0" to 6" NLW. Significant oyster beds are in the vicinity. Calico Creek is classified SC HQW by the Environmental Management Commission and is designated a primary nursery area (PNA) by the NC Division of Marine Fisheries (NCDMF).

The NCWRC has reviewed the permit application and is very concerned with the proposed project. We do not generally support boat slips in water depths less than 2.5' NLW. In addition to our concerns with shallow depths, this area of Calico Creek has significant oyster beds. Vessel ingress and egress may adversely impact oyster beds by prop dredging channels to the boatlifts, and could be a source of chronic turbidity. Therefore to protect marine resources, we support the NCDMF and Shellfish Sanitation in their comments and concerns regarding this project.

We appreciate the opportunity to review and comment on this permit application. If you need further assistance or additional information, please contact me at (252) 948-3916.

Mailing Address: Division of Inland Fisheries • 1721 Mail Service Center • Raleigh, NC 27699-1721
Telephone: (919) 707-0220 • **Fax:** (919) 707-0028



North Carolina Department of Environment and Natural Resources
Division of Coastal Management
James H. Gregson
Director

Beverly Eaves Perdue
Governor

Dee Freeman
Secretary

February 12, 2009

MEMORANDUM:

TO: Maureen Meehan-Will
Division of Coastal Management

FROM: Doug Huggett
Major Permits Processing Coordinator

SUBJECT: CAMA/DREDGE & FILL Permit Application Review

Applicant: Jonathan McDaniel and Cheryl Kirchner

Project Location: The project site is located at 1809/1811 Calico Drive, Morehead City, Carteret County

Proposed Project: The applicant is proposing a pier, platform and boatlifts that would provide shared use for two residences.

Please indicate below your agency's position or viewpoint on the proposed project and return this form by 03/05/2009. If you have any questions regarding the proposed project, please contact Heather Styrón at (252) 808-2808. When appropriate, in-depth comments with supporting data are requested.

REPLY: This office has no objection to the project as proposed. *see attached*

This office has no comment on the proposed project.

This office approves of the project only if the recommended changes are incorporated. See attached.

This office objects to the project for reasons described in the attached comments.

400 S. ... Morehead City, NC 28557-8421
Phone: 252-808-2808 FAX: 252-247-3330 Internet: www.nccoastalmanagement.net

DATE 3/13/09

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North Carolina Department of Environment and Natural Resources
Division of Coastal Management

Beverly Eaves Perdue
Governor

James H. Gregson
Director

Dee Freeman
Secretary

MEMORANDUM

To: Doug Huggett, Major Permits Processing Coordinator
From: Maureen Meehan Will, DCM Morehead City District Planner
Date: March 13, 2009
Subject: Major Permit Requested by Jonathan McDaniel and Cheryl Kirchner, to construct a shared pier and platform with 2 boatlifts, on properties located at 1809/1811 Calico Drive, adjacent to Calico Creek, in Morehead City, Carteret County, North Carolina

LUP Consistency Determination: The proposal is Consistent with and Not in Conflict with the 2007 Town of Morehead City Land Use Plan certified by the CRC on September 28, 2007, provided that all applicable local, state, and federal development guidelines are met.

Overview:

The Areas of Environmental Concern (AECs) impacted by the proposal include Estuarine Shoreline, Coastal Wetlands, Estuarine Water, and Public Trust Area. The Waters at the project site are classified as SC, HQW and are closed to the harvesting of shellfish. The area is a Primary Nursery Area.

The Morehead City Future Land Use Map designates the subject property as Low Density Residential and subject AECs as "*Conservation*". Development within the designated AECs is limited by CAMA regulations and development guidelines. Applicable or related policy includes the following:

Applicable Policy Statements:

"Morehead City considers coastal wetland areas to be valuable passive recreation areas. These areas should be protected in their natural state. Only uses which are permitted by 15A NCAC 7H will be permitted." (Section 4.2.5 Areas of Environmental Concern, Policy 2, pg. 94)

"Morehead city supports the use standards for estuarine and public trust areas as specified in 15A NCAC 7h .0207." (Section 4.2.5 Areas of Environmental Concern, Policy 5, pg. 94)

Cc: Tere Barrett, Morehead City District Manager

North Carolina Division of Marine Fisheries Habitat Alteration Permit Review Guidelines

North Carolina Division of Marine Fisheries
Department of Environment and Natural Resources
Morehead City, North Carolina 28557

Approved, Louis B. Daniel III, PhD, Director

Date



November 2007
Modified text October 28, 2008, A. Deaton

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Docks and piers: In reviewing applications for docking facilities or piers, benthic habitat and water depth at the proposed dock should be considered, as well as determining if there is adequate deep water access. The minimum amount of water depth needed at mean low or normal water varies regionally due to tidal conditions. Table 1 below, compiled by DMF reviewers, provides a general guideline of when concerns may arise due to inadequate water depth. Docking facilities in waters less than recommended should be carefully reviewed. In 2007, DCM directed field reps to use two feet at NWL/NLW as a guideline to determine if a project requires further consultation with DMF or elevation to a major permit.

Table 1. Division of Marine Fisheries' recommended minimum water depths at mean low (MLW - tidal) or normal water (NWL - non-tidal) level for docking facility over various bottom types. If minimum depth not met, biologists should carefully review and consider elevation of CAMA GPs or denial or modification of CAMA major permit applications*

BOTTOM TYPES	Wilmington District ¹	Morehead District ²	Washington District ³	Elizabeth City District (NW) ⁴	Roanoke Island area (NE) ⁵
PNA & Inland PNA (all bottom types)	3 ft MLW	3 ft NWL	3 ft NWL	3 ft NWL	3 ft MLW
SAV habitat	3 ft MLW	4 ft NWL	4 ft NWL	4 ft NWL	4 ft MLW
Oyster habitat	3 ft MLW	4 ft NWL	4 ft NWL	N/A	4 ft MLW
Mud bottom	3 ft MLW	3 ft NWL	3 ft NWL	3 ft NWL	3 ft MLW
Sandy bottom	3 ft MLW	3 ft NWL	2 - 3 ft NWL	2-3 ft NWL	3 ft MLW

* These depths are based on best professional judgment and experience of permit reviewers. Numbers represent minimum depth threshold, below which boating related activities may cause habitat impacts in some situations.

¹ Brunswick Co. - Ocracoke (lunar tidal areas)

² Carteret Co. (Cedar Island) - Craven Co. (Neuse River) Non-tidal

³ Pamlico Co. (Neuse River) - Hyde Co. (except Ocracoke) Non-tidal

⁴ Dare Co. (mainland) - all of Currituck Co. and all areas to west - non-tidal

⁵ Dare Co. (Outer Banks) - lunar tidal areas

In SAV habitat, shell bottom habitat (especially areas with concentrations of oysters), and areas of PNAs less than 2 ft deep (MLW or NWL, whichever applies), there should be no floating docks. Some areas are simply too sensitive for use of motorized vessels, so navigation in such areas should be limited to non-motorized boats. All docks and piers should be located so as to avoid and minimize short-term construction effects, long-term shading effects, and long-term effects of uses of the facilities, especially boating. Where docks already exist in sensitive areas, replacement should eliminate floating docks where feasible or use stops to prevent floating structures from contacting the bottom. Replacement or addition of boatlifts in existing slips in such areas should also include stops to keep these structures from contacting the bottom. The depth and surrounding habitat (SAV, shell bottom, PNA) and the impacts from the use of motorized vessels should be considered when adding boat slips or lifts to an existing pier. In areas with large tidal fluctuations (southern area) boat lifts with stops at 18" or more above the substrate may be considered on a case-by-case basis. Impacts from boatlifts can also be reduced through use of simple slings or lifting davits in place of large heavy cradles. Channels leading to and from docks, especially those in shallow waters should be marked per permit conditions to guide boaters away from the shallowest waters, especially in SAV and shellfish habitats. Where feasible, DMF should encourage

"community" docks (up to 10 wet slips) accompanied by deed restrictions to prohibit individual docks on all other waterfront lots in the subdivision.

Multi-slip docking facilities (3-10 slips): The same criteria reviewed for individual docks should be considered for multi-slip docking facilities. These applications should be reviewed carefully for site suitability since they will be serving more concentrated use, and thus potentially more impacts. Reviewers should consider adjacent docking facilities and whether a shellfish closure would be required due to cumulative number of slips within a certain area. Requiring a water depth or benthic habitat survey is often needed to adequately assess direct and indirect impacts.

Log Salvage: Log salvage is the recovery of sunken logs from public waters. Historically, the logging industry would transport cut timber to coastal ports as part of log rafts and on board barges. Many logs broke free of the rafts and fell overboard into the rivers, where they remain, often in excellent condition, with large sizes only rarely available today. The most abundant and valuable submerged logs in North Carolina are cypress and long leaf pine. The logs are considered as historic properties, and they are available for businesses to recover under permits issued by the DCM and the Department of Cultural Resources under guidelines established by a multi-agency work group (DCM 2000). The guidelines include recommended BMPs and permit conditions for CAMA major permits. The report recommended that DENR prepare a programmatic EIS to serve as a basis for permitting, but that recommendation has not been implemented.

Marinas (docking facilities with more than 10 wet slips): The DEH automatically closes waters within a marina, as well as a buffer area around the facility, to harvest of shellfish for human consumption as a raw product because of the likelihood of discharge of pollutants that could negatively impact human health. These closures are based on the number of slips and type of marina (open or closed). Loss of harvest is loss of an existing use, constituting a violation of the CWA and state anti-degradation rules. This issue results in different approaches to marina permitting between EMC/DWQ and CRC/DCM. The EMC classifies waters for shellfish harvest as SA. Therefore, in managing such waters, DWQ supports placing marinas in open waters to promote good circulation and reduce the likelihood of water quality violations (especially low dissolved oxygen) due to reduced water circulation. Rules of the CRC focus on maintaining public trust areas and management of the physical habitat, and seek to minimize effects on coastal wetlands and bottom disturbance. Thus, CRC rules favor construction of marina basins in high ground and connecting them to coastal waters by an access canal long enough to avoid shellfish harvest closures and minimize boating activity effects on existing coastal fish habitats. But closed marina basins often result in poor water circulation and violations of water quality standards, especially depressed dissolved oxygen. The depth in the marina basin and any connecting channels must not exceed the depth of the receiving waters to minimize the likelihood of water quality impacts. The DMF does not favor one approach over the other. Instead, DMF consideration is based on review of site-specific conditions and minimization of impacts at that site. Installation of dry stack facilities as part of a marina development are also considered on a site-specific basis, with impervious surface and stormwater management as the primary issues of concern. Reviewers should also consider control of runoff at marinas, especially those that provide boat repair and servicing since DWQ has found wash down water to be highly contaminated with toxins.

Moratoria on in-water work: The DMF permit reviewers have developed moratorium periods for in-water work in all areas to reduce negative effects on critical fish life history activities, including anadromous fish spawning migrations and nursery functions, and primary nursery area functions. The moratorium periods vary somewhat geographically (Table 2).

May 4, 2009

Doug Huggett
Major Permits and Consistency Coordinator
NCDENR – Division of Coastal Management
400 Commerce Avenue
Morehead City, NC 28557-3421

RE: *Review Extension*
1809/1811 Calico Drive Major Permit

Dear Mr. Huggett:

I am writing in response to your letter dated April 21, 2009 regarding the 75 day review time extension for the above mentioned project. I am concerned as to why an extension is needed for review of this particular project. I am also concerned with the lack of focus on mitigation for this project, and as a result, I would like to address further measures I plan to take.

I know that most permitting processes do to take considerable time to review in order to protect public health and welfare and to preserve North Carolina's natural resources. Had the conditions of Calico Creek been any different, I might have understood why more time would be needed to review a project at this location. Calico Creek has been and always will be used for motorized boat traffic. In fact, many neighboring residences have and use their boats and lifts quite frequently (one within 200' of project site). Another use even older than the subdivision itself, is the use of Calico Creek as the discharge point for the Town of Morehead City's Wastewater Treatment Plant. Current discharge of 2.5 million gallons per day of treated sewage is located approximately 3/4 of a mile upstream from the project site. This wastewater effluent, in addition to municipal stormwater runoff, has caused serious water quality problems for Calico Creek. Due to exceeded and/or minimal standards on dissolved oxygen, chlorophyll-a, turbidity, and fecal coliform, Calico Creek has been and is currently on North Carolina's list of 303(d) Impaired Waters as classified by the state's Division of Water Quality (DWQ) with further approval by the Environmental Protection Agency (EPA). This is the worst rating a stream can receive in North Carolina. What is remarkable among all these water quality issues is that Calico Creek is still able to house marine life. Because the waterbody presents evidence of initial post-larval development and populations of very early juveniles, an additional designation of Primary Nursery Area (PNA) has been given to Calico Creek by the Marine Fisheries Commission. On the other hand, being labeled a PNA is not Calico Creek's main stream classification. The primary classification by DWQ is "SC" which means that it is used for aquatic life propagation and maintenance of biological integrity (it supports marine life, in this

case juvenile life, hence the PNA label), wildlife, and for secondary recreation, (which includes boating, primary recreation being activities with immediate skin contact). The best usage of SC waters is any usage except primary recreation or shellfishing for market purposes (15A NCAC 02B .0220). In a nutshell, the DWQ does not recommend I swim in the creek, and the numerous oyster beds can not be harvested due to the high levels of fecal coliform and other water quality problems as a result of the wastewater plant. If the wastewater plant did not discharge to Calico Creek, the water quality would be at a higher level to classify the stream as "SA" (primary recreation rather than secondary). Based on these existing uses and the current water quality, addition of a residential pier with boat lifts on Calico Creek does not seem like the type of project to hold up the review process.

I am also concerned as to why mitigation is not being addressed. When I began working on this application almost a year ago with Division of Coastal Management (DCM) I was repeatedly informed that the application would probably be denied because Division of Marine Fisheries (DMF) does not like boat lifts in any PNA. Because of my brief introduction into the civil engineering profession, I knew that there can be plans for mitigation when a project could cause impacts to wetlands or waters. The plans I came up with were at my own expense through extensive reading and research. I planned to mitigate my impacts to this recently designated PNA by using the SMART mitigation goals as described by the US Army Corps of Engineers. To the best of my own ability, the project met the SMART target functions as follows:

- *Specific*
The proposed dock and boat lifts were designed specifically for the conditions of Calico Creek and to mitigate impacts.
- *Measurable*
Mitigative measures include:
 - Dock shared by two residencies – half impacts from multiple docks
 - Maximum dock length – End of dock past elements at risk, mitigate impacts to wetlands and oyster beds (even though closed for harvesting)
 - Boat lifts proposed at end of pier –boat traffic closest to channel
 - High Elevation & narrow width – minimize shading impacts on submerged aquatic vegetation (SAV)
 - Construction in winter – mitigate impacts to aquatic marine life activity in summer months
- *Attainable*
All mitigative measures are acceptable and legal methods
- *Reasonable (practicable)*
The project is acceptable to the applicant while conforming to regulators goals to reduce impacts to the PNA. Though the costs of mitigation for such a long dock are quite expensive compared to current docking practices on Calico Creek, construction costs will be reasonable when figuring in the shared cost by property owners.
- *Trackable*
All measures could be tracked by local DCM officer or any regulator, for example, measure dock length, width, height, assign permit for winter construction window, etc.

As described, the measures taken were from my own research and creativity without any further suggestions to mitigate impacts as seen from DMF, since they are the only agency (state) with issues heading the project towards denial. Upon receiving a letter from DWQ stating the application was "heading towards denial", I setup a meeting with DMF and DCM to discuss the application status and suggest further mitigative measures. During the meeting on April 7th, I asked about the use of boat slings and boat stops as additional mitigative measures for use of boat lifts in the PNA. I was given the response that though the uses of stops are acceptable, their use can not be regulated because of problems in the past with people adjusting the lifts. This is not a professional response from an agency formulated to be a Steward of the citizen's resources in North Carolina. Even saying I am guilty until proved innocent is the exact opposite of our American democracy. From my research and experience, it seems that all the proposed and recently suggested mitigation meets the goals of the SMART program by US Army Corps of Engineers to limit degradation to the PNA designation of Calico Creek; therefore I am concerned as to where the difficulty lies in making a decision on the application review.

As an engineer in training, I know how important it is to look at the big picture when doing any design. I completed the CAMA major permit application myself because I felt I could design a mitigation plan by SMART methodologies to address the PNA designation (even though Calico Creek has severe water quality problems and that secondary recreation has been a long time existing use). The PNA designation is something I have recently become familiar with in the past two years, and as apparent with the parameters I have taken, it is something I want to reduce impacts to. As further mitigation to what has already proposed, I am proposing welded stops to be installed on the two (2) boatlifts at an elevation of 18" above the substrate. The stop at 18" rather than 2' is in conjunction with the large tidal fluctuation that Calico Creek experiences and the welded stops are to prevent boat use when there is minimal water depth at low tide to protect the water column from chronic turbidity. The use of stops to protect water column habitat is an acceptable mitigative procedure as described in the Docks and Piers Section, Specific Guidance Chapter of the Habitat Alteration Permit Review Guidelines by NCDENR – Division of Marine Fisheries. I would also like to propose the dock to have handrails and that pilings through sections of oyster rock be hand dug before placement, as these were DMF comments I received when the project status was "heading towards denial". So I would please like someone to address my proposed measures for mitigation. Please call me (252) 725-3723 with questions or concerns.

Sincerely,



Jonathan L. McDaniel, EI

cc: Cheryl Kirchner – Co Applicant
Joanne Steenhuis – DWQ Senior Environmental specialist

SENDER: COMPLETE THIS SECTION	COMPLETE THIS SECTION ON DELIVERY
<ul style="list-style-type: none"> Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired. Print your name and address on the reverse so that we can return the card to you. Attach this card to the back of the mailpiece, or on the front if space permits. 	<p>A. Signature <input checked="" type="checkbox"/> Agent <input type="checkbox"/> Addressee</p> <p>X <i>[Signature]</i></p>
<p>1. Article Addressed to:</p> <p><i>NC Division of Coastal Management Attn: Mr. Doug Huggett Major Permits and Consistency Coordinator 400 Commerce Ave. Morehead City, NC 28557</i></p>	<p>B. Received by (Printed Name) <i>CS BARRETT</i> Date of Delivery <i>5/5/09</i></p> <p>D. Is delivery address different from item 1? <input type="checkbox"/> Yes <input type="checkbox"/> No If YES, enter delivery address below:</p> <p>3. Service Type <input type="checkbox"/> Certified Mail <input type="checkbox"/> Express Mail <input type="checkbox"/> Registered <input checked="" type="checkbox"/> Return Receipt for Merchandise <input type="checkbox"/> Insured Mail <input type="checkbox"/> C.O.D.</p> <p>4. Restricted Delivery? (Extra Fee) <input type="checkbox"/> Yes</p>
<p>2. Article Number (Transfer from service label)</p>	<p><i>7008 3230 0002 9026 2141</i></p>

PS Form 3811, February 2004

Domestic Return Receipt

102585-02-M-1540

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U.S. Postal Service
CERTIFIED MAIL RECEIPT
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For delivery information visit our website at www.usps.com

Postage	\$	
Certified Fee	\$2.70	09
Return Receipt Fee (Endorsement Required)	\$2.32	
Restricted Delivery Fee (Endorsement Required)	\$0.00	
Total Postage & Fees	\$5.32	05/04/2009

OFFICIAL RECEIPT
 MAY 04 2009
 Here
 NC 28557

Sent To *Division of Coastal Management, Attn: Huggett*
 Street, Apt. No., or PO Box No. *400 Commerce Ave.*
 City, State, ZIP+4 *Morehead City, NC 28557*

PS Form 3800, August 2006 See Reverse for Instructions



North Carolina Department of Environment and Natural Resources
Division of Coastal Management

Beverly Eaves Perdue, Governor

James H. Gregson, Director

Dee Freeman, Secretary

June 25, 2009

**CERTIFIED MAIL
 RETURN RECEIPT REQUESTED**

Mr. Jonathan McDaniel
 1809 Calico Drive
 Morehead City, NC 28557

Ms. Cheryl Kirchner
 1811 Calico Drive
 Morehead City, NC 28557

Dear Mr. McDaniel and Ms. Kirchner:

This letter is in response to your application for a Major Permit under the Coastal Area Management Act (CAMA), in which authorization was requested to install a dock with two boatslips adjacent to Calico Creek, in Carteret County. Processing of the application, which was received as complete by the Division of Coastal Management's Morehead City Office on February 2, 2009, is now complete. Based on the state's review, the Division of Coastal Management has made the following findings:

- 1) The proposed project is located within a Primary Nursery Area (PNA), as designated by the North Carolina Marine Fisheries Commission. Primary Nursery Areas are those areas in the estuarine and ocean system where initial post larval development of finfish and crustaceans takes place.
- 2) The proposed docking facility would extend approximately 110 feet into the waters of Calico Creek. The waterbody is approximately 440 feet wide at this location. Water depths within the area of the proposed slips range from -0" to -6" Normal Low Water Level.
- 3) During the course of the joint State and federal permit application review process, NC Division of Marine Fisheries stated that prop kicking from vessels using the docking facility would result in significant adverse impact on the Calico Creek PNA system. The Division of Coastal Management staff made a similar finding. The NC Wildlife Resources Commission also echoed these concerns. Additionally, the Division of Water Quality indicated that they were heading towards denial of the Water Quality Certification due to significant adverse impacts to the Primary Nursery Area.

400 Commerce Avenue, Morehead City, North Carolina 28557
 Phone: 252-808-2808 \ FAX: 252-247-3330 \ Internet: www.nccoastalmanagement.net

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(11)

- 4) Based upon the above referenced findings, the Division has determined that the proposed project is inconsistent with the following rules of the Coastal Resources Commission:
 - a) 15A NCAC 07H.0206(c), which states "Management Objective. To conserve and manage the important features of estuarine waters so as to safeguard and perpetuate their biological, social, aesthetic, and economic values; to coordinate and establish a management system capable of conserving and utilizing estuarine waters so as to maximize their benefits to man and the estuarine and ocean system."
 - b) 15A NCAC 07H.0208(a)(2)(B), which states that "Before receiving approval for location of a use or development within these AECs, the permit-letting authority shall find that no suitable alternative site or location outside of the AEC exists for the use or development and, further, that the applicant has selected a combination of sites and design that will have a minimum adverse impact upon the productivity and biologic integrity of coastal marshland, shellfish beds, beds of submerged aquatic vegetation, spawning and nursery areas, important nesting and wintering sites for waterfowl and wildlife, and important natural erosion barriers (cypress fringes, marshes, clay soils)."

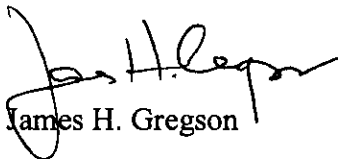
Given the preceding findings, it is necessary that your request for issuance of a CAMA Major Permit under the Coastal Area Management Act be denied. This denial is made pursuant to N.C.G.S. 113A-120(a)(8) which requires denial for projects inconsistent with the state guidelines for Areas of Environmental Concern or local land use plans.

If you wish to appeal this denial, you are entitled to a hearing. The hearing will involve appearing before an Administrative Law Judge who listens to evidence and arguments of both parties and then makes a recommendation to the Coastal Resources Commission. Your request for a hearing must be in the form of a written petition, complying with the requirements of §150B of the General Statutes of North Carolina, and must be filed with the Office of Administrative Hearings, 6714 Mail Service Center, Raleigh, NC 27699-6714, within twenty (20) days from the date of this letter. A copy of this petition should be filed with this office.

Also, you are advised that as long as this state permit denial stands, your project must be deemed inconsistent with the N.C. Coastal Management Program, thereby precluding the issuance of federal permits for this project. The Federal Coastal Zone Management Act (CZMA) gives you the right to appeal this finding to the U.S. Secretary of Commerce within thirty days of receipt of this letter. Your appeal must be on the grounds that the proposed activity is (1) consistent with the objectives or purposes of the CZMA, or (2) is necessary in the interest of national security, and thus, may be federally approved.

Members of my staff are available to assist you should you desire to modify your proposal in the future. If you have any questions concerning this matter, please contact Mr. Jonathan Howell at (252) 808-2808, extension 211.

Sincerely,



James H. Gregson

cc: Colonel Jefferson M. Ryscavage – U.S. Army Corps of Engineers, Wilmington, NC
David Kennedy, Director – OCRM/NOAA, Silver Spring, MD
David Timpy, ACOE
DCM - Morehead City

15A NCAC 07H .1205 SPECIFIC CONDITIONS

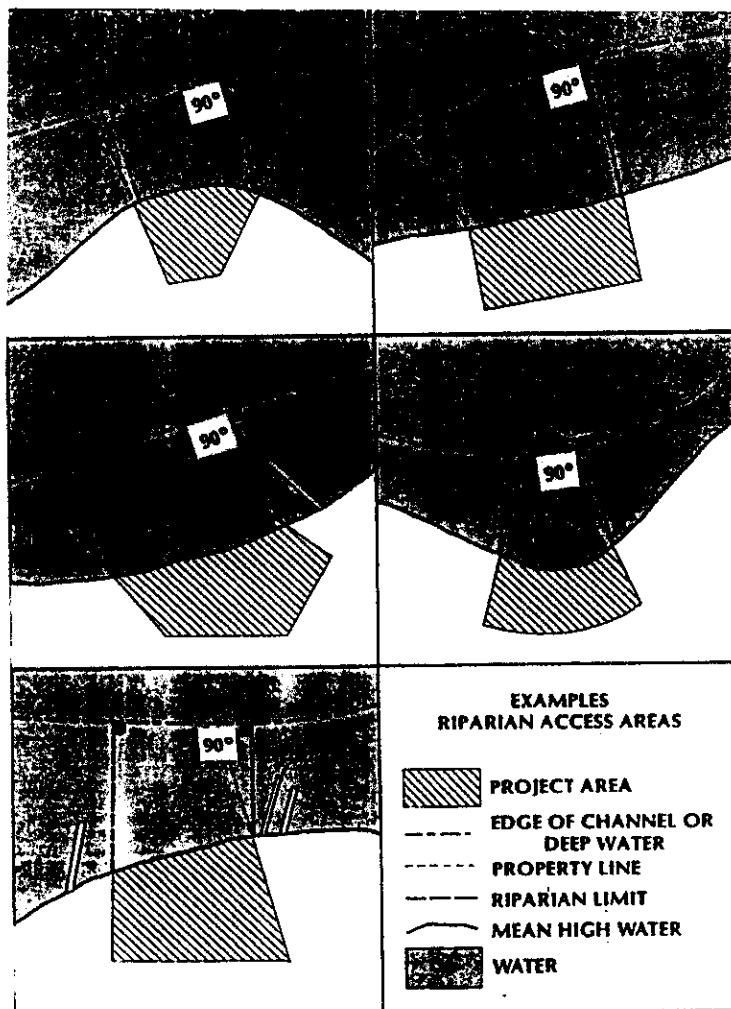
- (a) Piers and docking facilities may extend or be located up to a maximum of 400 feet waterward from the normal high water line or the normal water level, whichever is applicable.
- (b) Piers and docking facilities shall not extend beyond the established pier length along the same shoreline for similar use. This restriction shall not apply to piers and docking facilities 100 feet or less in length unless necessary to avoid interference with navigation or other uses of the waters by the public such as blocking established navigation routes or interfering with access to adjoining properties. The length of piers and docking facilities shall be measured from the waterward edge of any wetlands that border the water body.
- (c) Piers and docking facilities longer than 200 feet shall be permitted only if the proposed length gives access to deeper water at a rate of at least one foot at each 100 foot increment of pier length longer than 200 feet, or if the additional length is necessary to span some obstruction to navigation. Measurements to determine pier and docking facility lengths shall be made from the waterward edge of any coastal wetland vegetation, which borders the water body.
- (d) Piers shall be no wider than six feet and shall be elevated at least three feet above any coastal wetland substrate as measured from the bottom of the decking.
- (e) The total square footage of shaded impact for docks and mooring facilities (excluding the pier) allowed shall be 8 square feet per linear foot of shoreline with a maximum of 800 square feet. In calculating the shaded impact, uncovered open water slips shall not be counted in the total.
- (f) The maximum size of any individual component of the docking facility authorized by this General Permit shall not exceed 400 square feet.
- (g) Docking facilities shall not be constructed in a designated Primary Nursery Area with less than two feet of water at normal low water level or normal water level (whichever is applicable) under this permit without prior approval from the Division of Marine Fisheries or the Wildlife Resources Commission (whichever is applicable).
- (h) Piers and docking facilities located over shellfish beds or submerged aquatic vegetation (as defined by the Marine Fisheries Commission) may be constructed without prior consultation from the Division of Marine Fisheries or the Wildlife Resources Commission (whichever is applicable) if the following two conditions are met:
- (1) Water depth at the docking facility location is equal to or greater than two feet of water at normal low water level or normal water level (whichever is applicable).
 - (2) The pier and docking facility is located to minimize the area of submerged aquatic vegetation or shellfish beds under the structure.
- (i) Floating piers and floating docking facilities located in PNAs, over shellfish beds, or over submerged aquatic vegetation shall be allowed if the water depth between the bottom of the proposed structure and the substrate is at least 18 inches at normal low water level or normal water level, whichever is applicable.
- (j) Docking facilities shall have no more than six feet of any dimension extending over coastal wetlands and shall be elevated at least three feet above any coastal wetland substrate as measured from the bottom of the decking.
- (k) The width requirements established in Paragraphs (d), (e), (f), (g), (h), (i), and (j), of this Rule shall not apply to pier structures in existence on or before July 1, 2001 when structural modifications are needed to prevent or minimize storm damage. In these cases, pilings and cross bracing may be used to provide structural support as long as they do not extend more than of two feet on either side of the principal structure. These modifications shall not be used to expand the floor decking of platforms and piers.
- (l) Boathouses shall not exceed a combined total of 400 square feet and shall have sides extending no further than one-half the height of the walls as measured in a downward direction from the top wall plate or header and only covering the top half of the walls. Measurements of square footage shall be taken of the greatest exterior dimensions. Boathouses shall not be allowed on lots with less than 75 linear feet of shoreline.
- (m) The area enclosed by a boat lift shall not exceed 400 square feet.
- (n) Piers and docking facilities shall be single story. They may be roofed but shall not allow second story use.
- (o) Pier and docking facility alignments along federally maintained channels shall also meet Corps of Engineers regulations for construction pursuant to Section 10 of the Rivers and Harbors Act.
- (p) Piers and docking facilities shall in no case extend more than 1/4 the width of a natural water body, human-made canal or basin. Measurements to determine widths of the water body, human-made canals or basins shall be made from the waterward edge of any coastal wetland vegetation which borders the water body. The 1/4 length limitation shall not apply when the proposed pier and docking facility is located between longer structures within 200 feet of the applicant's property. However, the proposed pier and docking facility shall not be longer than the pier head line established by the adjacent piers and docking facilities nor longer than 1/3 the width of the water body.

(q) Piers and docking facilities shall not interfere with the access to any riparian property, and shall have a minimum setback of 15 feet between any part of the pier and docking facility and the adjacent property lines extended into the water at the points that they intersect the shoreline. The minimum setbacks provided in the rule may be waived by the written agreement of the adjacent riparian owner(s), or when two adjoining riparian owners are co-applicants. Should the adjacent property be sold before construction of the pier commences, the applicant shall obtain a written agreement with the new owner waiving the minimum setback and submit it to the Division of Coastal Management prior to initiating any development of the pier or docking facility. The line of division of areas of riparian access shall be established by drawing a line along the channel or deep water in front of the property, then drawing a line perpendicular to the line of the channel so that it intersects with the shore at the point the upland property line meets the water's edge. Application of this Rule may be aided by reference to the approved diagram in Paragraph (t) of this Rule illustrating the rule as applied to various shoreline configurations. Copies of the diagram may be obtained from the Division of Coastal Management. When shoreline configuration is such that a perpendicular alignment cannot be achieved, the pier or docking facility shall be aligned to meet the intent of this Rule to the maximum extent practicable.

(r) Piers and docking facilities shall be designed to provide docking space for no more than two boats.

(s) Applicants for authorization to construct a pier or docking facility shall provide notice of the permit application to the owner of any part of a shellfish franchise or lease over which the proposed pier or docking facility would extend. The applicant shall allow the lease holder the opportunity to mark a navigation route from the pier to the edge of the lease.

(t) The diagram shown below illustrates various shoreline configurations:



(u) Shared piers or docking facilities shall be allowed and encouraged provided that in addition to complying with (a) through (t) of this rule the following shall also apply:

- (1) The shared pier or docking facility shall be confined to two adjacent riparian property owners and the landward point of origination of the structure shall overlap the shared property line.
- (2) Shared piers and docking facilities shall be designed to provide docking space for no more than four boats.
- (3) The total square footage of shaded impact for docks and mooring facilities shall be calculated using (e) of this rule and in addition shall allow for combined shoreline of both properties.
- (4) The property owners of the shared pier shall not be required to obtain a 15-foot waiver from each other as described in subparagraph (q) of this rule as it applies to the shared riparian line for any work associated with the shared pier, provided that the title owners of both properties have executed a shared pier agreement that has become a part of the permit file.
- (5) The construction of a second access pier or docking facility not associated with the shared pier shall require authorization through the CAMA Major full review permit process.

*History Note: Authority G.S. 113A-107(a); 113A-107(b); 113A-113(b); 113A-118.1; 113A-124;
Eff. March 1, 1984;
Amended Eff. December 1, 1991; May 1, 1990; March 1, 1990;
RRC Objection due to ambiguity Eff. March 18, 1993;
Amended Eff. August 1, 1998; April 23, 1993;
Temporary Amendment Eff. December 20, 2001;
Amended Eff. July 1, 2009; April 1, 2003.*

Permit Class
MODIFICATION/MAJOR

DCM - WTRB

Permit Number
199-06

STATE OF NORTH CAROLINA
Department of Environment and Natural Resources
and
Coastal Resources Commission

Permit

for
 Major Development in an Area of Environmental Concern
pursuant to NCGS 113A-118

Excavation and/or filling pursuant to NCGS 113-229

Issued to Whiskey Creek Overlook, c/o Charles Taylor, 619 Caicos Court, Wilmington, NC 28405

Authorizing development in New Hanover County at adjacent to Whiskey Creek, 231 Trails End Road, Wilmington, as requested in the permittee's application dated 4/19/07 (MP-1) and 10/14/07 (MP-4), including the attached workplan drawing (1), dated "revised 10/6/07."

This permit, issued on October 18, 2007, is subject to compliance with the application (where consistent with the permit), all applicable regulations, special conditions and notes set forth below. Any violation of these terms may be subject to fines, imprisonment or civil action; or may cause the permit to be null and void.

Docking Facility Expansion

- 1) Unless specifically altered herein, this modification authorizes only the docks, piers, and other structures and uses located in or over the water that are expressly and specifically set forth in the attached permit application and workplan drawings. No other structure, whether floating or stationary, shall become a permanent part of this docking facility expansion without permit modification. No non-water dependent uses of structures shall be conducted on, in or over public trust waters without permit modification.

(See attached sheets for Additional Conditions)

RECEIVED
DCM WILMINGTON, NC

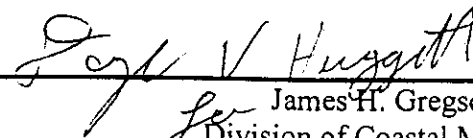
OCT 23 2007

This permit action may be appealed by the permittee or other qualified persons within twenty (20) days of the issuing date. An appeal requires resolution prior to work initiation or continuance as the case may be.

Signed by the authority of the Secretary of DENR and the Chairman of the Coastal Resources Commission.

This permit shall be accessible on-site to Department personnel when the project is inspected for compliance.

Any maintenance work or project modification not covered hereunder requires further Division approval.


James H. Gregson, Director
Division of Coastal Management

All work shall cease when the permit expires on

This permit and its conditions are hereby accepted.

December 31, 2010

In issuing this permit, the State of North Carolina agrees that your project is consistent with the North Carolina Coastal Management Program.

(13)

Signature of Permittee

ADDITIONAL CONDITIONS

- 2) In accordance with commitments made by the permittee, and to ensure that no vessel utilizing the docking facility rests on the bottom substrate, "timber stops" shall be installed on all boatlifts 1 foot above the bottom substrate. The "timber stops" shall remain in place for the life of the docking facility.
- 3) The authorized three additional boat slips shall not extend more than $\frac{1}{4}$ of the width of the waterbody, as measured from the waterward edge of the Coastal Wetlands on both sides of Whiskey Creek immediately in front of the project site.
- 4) In order to ensure compliance with Condition No. 3 of this permit, an as-built survey showing the location and dimensions of the constructed structure, and the distance across the water body as measured from the waterward edge of the Coastal Wetlands on both side Whiskey Creek, shall be performed on the 3 additional slips, and copies of the survey shall be provided to the Division of Coastal Management, within 60 days of completion of construction.
- 5) No sewage, whether treated or untreated, shall be discharged at any time from any boats using the docking facility expansion. Any sewage discharge at the marina shall be considered a violation of this permit for which the permittee is responsible. This prohibition shall be applied and enforced throughout the entire existence of the permitted structure.
- 6) No attempt shall be made by the permittee to prevent the full and free use by the public of all navigable waters at or adjacent to the authorized work.
- 7) The permittee shall maintain the authorized work in good condition and in conformance with the terms and conditions of this permit. The permittee is not relieved of this requirement if he abandons the permitted activity without having it transferred to a third party.
- 8) This permit does not authorize the interference with any existing or proposed Federal project, and the permittee shall not be entitled to compensation for damage to the authorized structure or work, or injury that may be caused from existing or future operations undertaken by the United States in the public interest.
- 9) The permittee shall install and maintain at his expense any signal lights or signals prescribed by the U.S. Coast Guard, through regulation or otherwise, on the authorized docking facility expansion. At a minimum, permanent reflectors shall be attached to the structure in order to make it more visible during hours of darkness or inclement weather.
- 10) This permit authorizes the addition of 3 boat slips for a total of 7-slips.

RECEIVED
DCM WILMINGTON, NC
OCT 23 2007

Whiskey Creek Overlook, c/o Charles Taylor

Permit # 199-06

Page 3 of 3

ADDITIONAL CONDITIONS

General

- 11) The permittee understands and agrees that, if future operations by the United States requires the removal, relocation, or other alteration of the structure or work authorized by this permit, or if in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to free navigation of the navigable waters, the permittee shall be required, upon due notice from the Corps of Engineers, to remove, relocate or alter the structural work or obstructions caused thereby, without expense to the United States or the state of North Carolina. No claim shall be made against the United States or the state of North Carolina on account of any such removal or alteration.
- 12) No open water areas or vegetated wetlands shall be excavated or filled, even temporarily.
- 13) This major modification shall be attached to the original of Permit No. 199-06, which was issued on 12/7/06, and copies of all documents shall be readily available on site when Division personnel inspect the project for compliance.
- 14) All conditions and stipulations of the active permit remain in force under this modification unless specifically altered herein.

NOTE: This modification was issued based in part on an agreement with the neighboring riparian landowner as indicated on the workplan drawing signed on 10/10/07.

NOTE: This major modification does not eliminate the need to obtain any additional state, federal or local permits, approvals or authorizations that may be required.

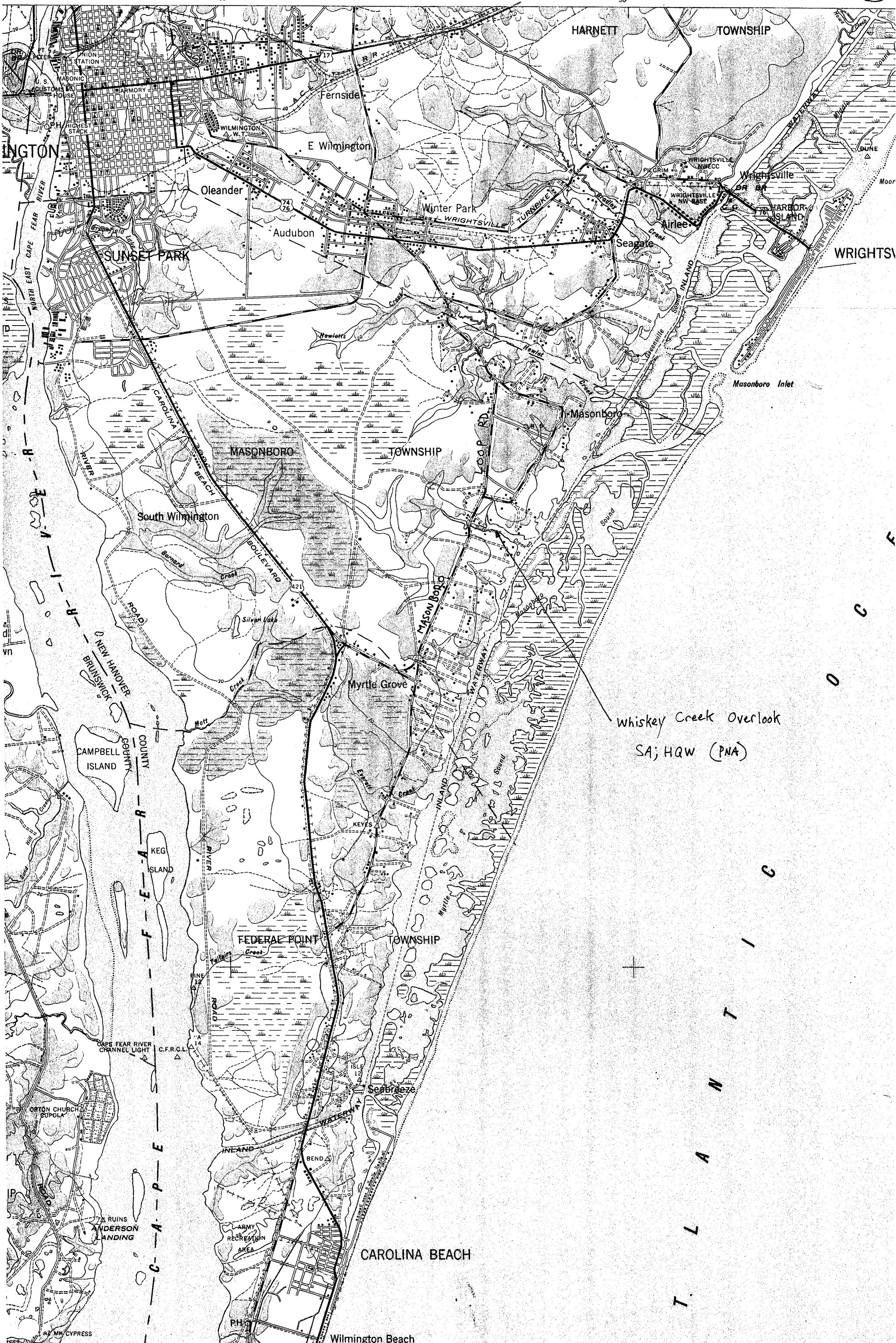
NOTE: Future development of the permittee's property may require a modification of this permit. Contact a representative of the Division at (910) 796-7215 prior to the commencement of any such activity for this determination. The permittee is further advised that many non-water dependent activities are not authorized within 30 feet of the normal high water level.

NOTE: The N.C. Division of Water Quality has authorized the proposed project under General Water Quality Certification No. 3494 (DWQ Project No. 070951), which was issued on 7/20/07.

NOTE: The U.S. Army Corps of Engineers authorized the proposed project under General Permit No. 197800056 (COE Action Id. No. SAW-2006-32626-065) which was issued on 6/15/07.

RECEIVED
DCM WILMINGTON, NC

OCT 23 2007



Whiskey Creek Overlook
SA; HQW (PNA)

T. L. A. N. T. I. C.

WIKI

Permit Class
NEW

Permit Number ⁹⁶
107-06

STATE OF NORTH CAROLINA
Department of Environment and Natural Resources
and
Coastal Resources Commission

RECEIVED
DCM WILMINGTON, NC
JUL 17 2006

Permit

for

- Major Development in an Area of Environmental Concern pursuant to NCGS 113A-118
- Excavation and/or filling pursuant to NCGS 113-229

Issued to Eric Goldfarb, 334 Cabbage Inlet Lane, Wilmington, NC 28409

Authorizing development in New Hanover County at adj. Wiskey Creek/AIWW, 334 Cabbage Inlet Lane, Wilmington, as requested in the permittee's application dated 1/12/06, including the attached workplan drawings (3), 1 of 3 dated 12/7/05, 2 of 3 dated 1/31/06, and 3 of 3 dated 2/24/06

This permit, issued on July 12, 2006, is subject to compliance with the application (where consistent with the permit), all applicable regulations, special conditions and notes set forth below. Any violation of these terms may be subject to fines, imprisonment or civil action; or may cause the permit to be null and void.

Docking Facility

- 1) To ensure compliance with 15A NCAC 07H.0208(b)(6)(J)(iii), which prohibits docking facilities from extending more than one quarter of the width of a waterbody as measured from edge of marsh to edge of marsh, and to ensure compliance with the Army Corps of Engineers 80' minimum setback for a federally maintained channel, an as-built survey shall be performed on the docking facility, and copies of the survey shall be provided to the U.S. Army Corp. of Engineers and the Division of Coastal Management, within 60 days of completion of construction.

NOTE: Failure to provide the survey referenced in Condition No. 1 may result in a violation of this permit.

(See attached sheets for Additional Conditions)

This permit action may be appealed by the permittee or other qualified persons within twenty (20) days of the issuing date. An appeal requires resolution prior to work initiation or continuance as the case may be.

This permit must be accessible on-site to Department personnel when the project is inspected for compliance.

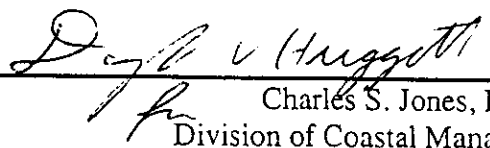
Any maintenance work or project modification not covered hereunder requires further Division approval.

All work must cease when the permit expires on

December 31, 2009

In issuing this permit, the State of North Carolina agrees that your project is consistent with the North Carolina Coastal Management Program.

Signed by the authority of the Secretary of DENR and the Chairman of the Coastal Resources Commission.


Charles S. Jones, Director
Division of Coastal Management

This permit and its conditions are hereby accepted.


Signature of Permittee

15

ADDITIONAL CONDITIONS

- 2) The authorized project is located within a primary nursery area (PNA). Therefore, in accordance with T15A:07H.0208 of the Rules of the Coastal Resources Commission, no new dredging or excavation within the PNA shall be permitted. Dredging in any manner, including "kicking" with boat propellers, is not authorized. This prohibition shall be applied and enforced throughout the entire existence of the permitted structure.
- 3) No sewage, whether treated or untreated, shall be discharged at any time from any boats using the docking facility. Any sewage discharge at the docking facility shall be considered a violation of this permit for which the permittee is responsible. This prohibition shall be applied and enforced throughout the entire existence of the permitted structure.
- 4) This permit authorizes only the docks, piers, and other structures and uses located in or over the water that are expressly and specifically set forth in the permit application. No other structure, whether floating or stationary, shall become a permanent part of this docking facility without permit modification. No non-water dependent uses of structures shall be conducted on, in or over public trust waters without permit modification.
- 5) No attempt shall be made by the permittee to prevent the full and free use by the public of all navigable waters at or adjacent to the authorized work.
- 6) The permittee shall maintain the authorized work in good condition and in conformance with the terms and conditions of this permit. The permittee is not relieved of this requirement if he abandons the permitted activity without having it transferred to a third party.
- 7) This permit does not authorize the interference with any existing or proposed Federal project, and the permittee shall not be entitled to compensation for damage to the authorized structure or work, or injury which may be caused from existing or future operations undertaken by the United States in the public interest.
- 8) The permittee shall install and maintain at his expense any signal lights or signals prescribed by the U.S. Coast Guard, through regulation or otherwise, on the authorized facilities. At a minimum, permanent reflectors shall be attached to the structure in order to make it more visible during hours of darkness or inclement weather.
- 9) This permit authorizes a maximum of two (2) new boat slips resulting in a total of four (4) slips on-site, all as referenced in the attached workplan drawing labeled 1 of 3 dated 12/7/05.

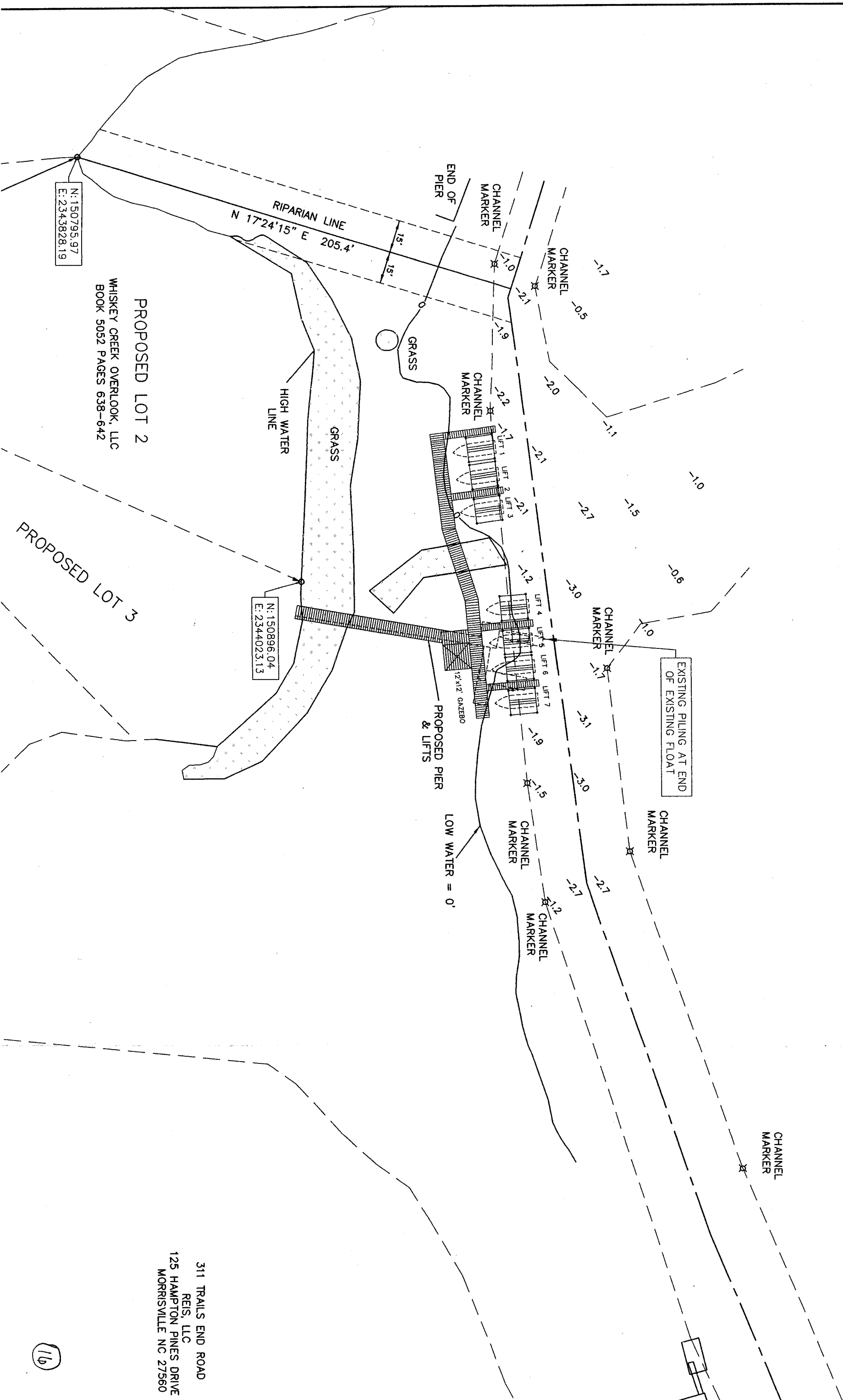
General

- 10) The permittee understands and agrees that, if future operations by the United States requires the removal, relocation, or other alteration of the structure or work authorized by this permit, or if in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to free navigation of the navigable waters, the permittee shall be required, upon due notice from the Corps of Engineers, to remove, relocate or alter the structural work or obstructions caused thereby, without expense to the United States or the state of North Carolina. No claim shall be made against the United States or the state of North Carolina on account of any such removal or alteration.

ADDITIONAL CONDITIONS

- NOTE:** This permit does not eliminate the need to obtain any additional state, federal or local permits, approvals or authorizations that may be required.
- NOTE:** The permittee is cautioned that this permit does not authorize the placement of tie piles in association with the docking facility. Furthermore, due to the proximity of the AIWW, boats utilizing the docking facility will be subject to frequent wavewash from passing vessels. The issuance of this permit does not relieve the permittee from taking all proper steps to ensure the integrity of the structure and the safety of moored boats. The permittee shall not hold the State of North Carolina or the United States liable for any damage to the structure or moored boats.
- NOTE:** Future development of the permittee's property may require a modification of this permit. Contact a representative of the Division at (910) 796-7215 prior to the commencement of any such activity for this determination. The permittee is further advised that many non-water dependent activities are not authorized within 30 feet of the normal high water level.
- NOTE:** The N.C. Division of Water Quality has assigned the proposed project DWQ Project No. 060726.
- NOTE:** The U.S. Army Corps of Engineers authorized the proposed project under General Permit No. 197800056 (COE Action Id. No. 200632071), which was issued on 5/22/06.

WHISKEY CREEK



PROPOSED LOT 2
 WHISKEY CREEK OVERLOOK, LLC
 BOOK 5052 PAGES 638-642

PROPOSED LOT 3

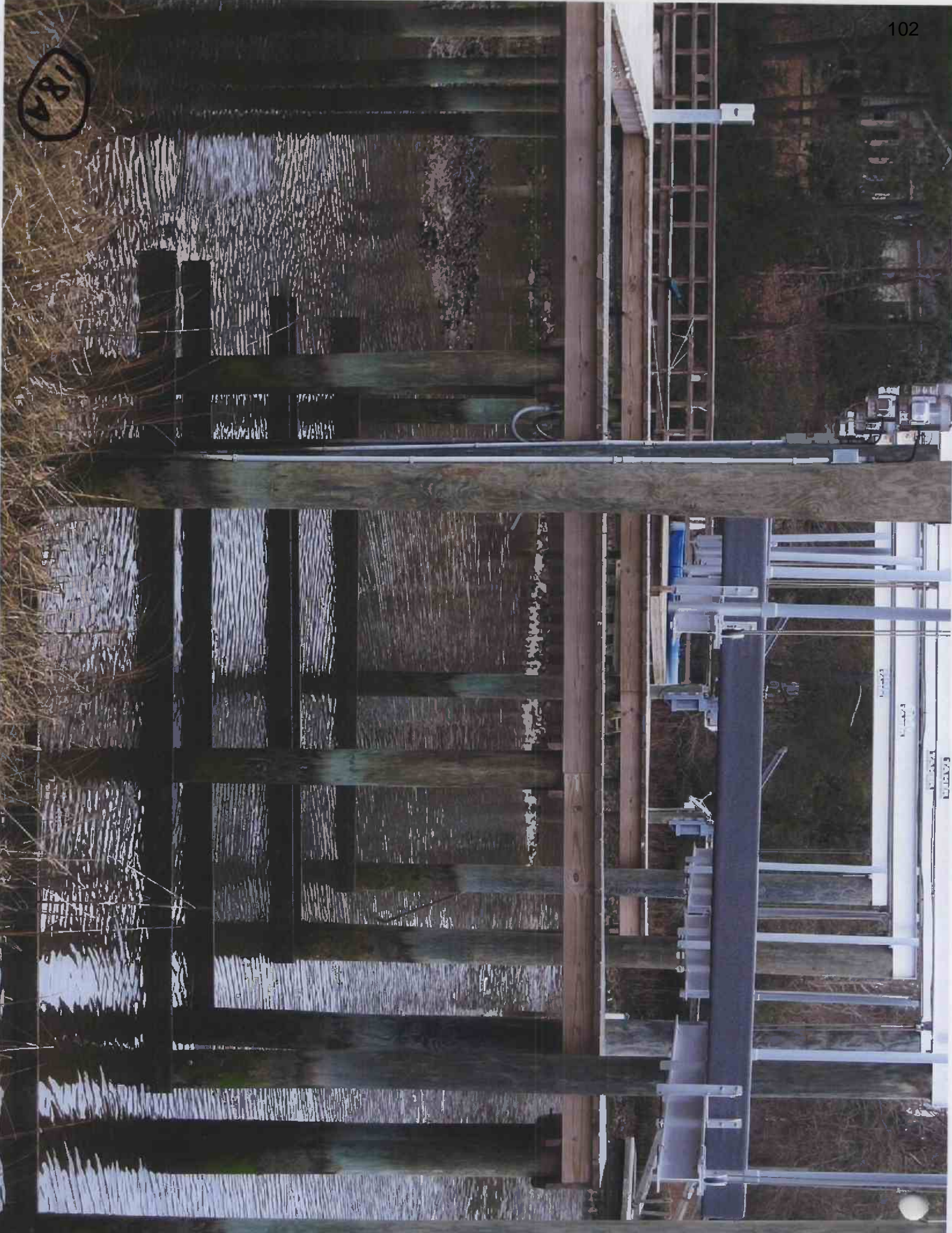
311 TRAILS END ROAD
 REIS, LLC
 125 HAMPTON PINES DRIVE
 MORRISVILLE NC 27560

116

100
17A









SUBCHAPTER 7H – STATE GUIDELINES FOR AREAS OF ENVIRONMENTAL CONCERN**SECTION .0100 – INTRODUCTION AND GENERAL COMMENTS****15A NCAC 07H .0101 INTRODUCTION**

(a) One of the basic purposes of North Carolina's Coastal Area Management Act (CAMA or the act) is to establish a state management plan that is capable of rational and coordinated management of coastal resources. The act recognizes that the key to more effective protection and use of the land and water resources of the coast is the development of a coordinated approach to resource management. The Coastal Area Management Act provides two principal mechanisms to accomplish this purpose. First, the formulation of local land use plans articulating the objectives of local citizens and translating these objectives into future desired land use patterns; and second, the designation of areas of environmental concern for the protection of areas of statewide concern within the coastal area.

(b) Both the development of local land use plans and the designation and regulation of critical resource areas contribute to rational management by encouraging local and state governments to exercise their full authorities over coastal resources and to express their management goals in a comprehensible and uniform manner. Local objectives benefit through their incorporation into a state management scheme, and the statewide objectives of resource protection and development benefit through an integrated and comprehensive management approach. It is the purpose of the state guidelines to ensure this uniformity and consistency in the local land use plans and the regulation of critical resource areas, or areas of environmental concern (AECs), through the establishment of unified policies, criteria, standards, methods, and processes.

(c) These state guidelines are designed to provide individuals and governmental agencies with a complete statement of the uniform policies and standards adopted by the Coastal Resources Commission (CRC or the Commission) for areas of environmental concern, as mandated by the act.

*History Note: Authority G.S. 113A-101; 113A-102; 113A-124(c)(5);
Eff. September 9, 1977.*

15A NCAC 07H .0102 CAMA PROVISIONS FOR AECs

(a) The Coastal Area Management Act requires that these state guidelines "shall give particular attention to the nature of development which shall be appropriate within the various types of areas of environmental concern that may be designated by the Commission."

(b) The act further provides that local land use plans "shall give special attention to the protection and appropriate development of areas of environmental concern."

(c) The 1974 Legislature found that "the coastal area, and in particular the estuaries, are among the most biologically productive regions of this state and of the nation," but in recent years the area "has been subjected to increasing pressures which are the result of the often conflicting needs of society expanding in industrial development, in population, and in the recreational aspirations of its citizens."

(d) "Unless these pressures are controlled by coordinated management," the act states, "the very features of the coast which make it economically, aesthetically, and ecologically rich will be destroyed."

(e) To prevent this destruction, the act charges the Coastal Resources Commission with the responsibility for identifying types of areas -- water as well as land -- in which uncontrolled or incompatible development might result in irreversible damage.

It further instructs the Commission to determine what types of development activities are appropriate within such areas, and it calls on local government to give special attention to these environmentally fragile and important areas in developing their land use plans. Also, the act provides that upon establishing the types of development activities appropriate within areas of environmental concern, the CRC should implement a permit program capable of controlling any inappropriate or damaging development activities within the AECs. The intent of this authority is not to stop development, but rather to ensure the compatibility of development with the continued productivity and value of certain critical land and water areas.

(f) The act divides the implementation responsibilities of the permit program between local governments and the CRC. Individuals proposing "minor development" activities [defined in G.S. 113A-118(d)(2)] within an AEC will be required to receive permits from a local permit officer, while individuals undertaking "major development" activities [defined in G.S. 113A-118(d)(1)] will seek permits directly from the CRC. In either case, the criteria and standards determining permit approval as described in this Subchapter of the guidelines will be identical.

*History Note: Authority G.S. 113A-102(a); 113A-106; 113A-107; 113A-113(a); 113A-118; 113A-124;
Eff. September 9, 1977;
Amended Eff. December 1, 1985.*

(19)

SECTION 2 COMMUNITY CONCERNS AND ASPIRATIONS

This section of the Plan is organized in accordance with the requirements of Subchapter 7B .0702(b). The purpose of the *Community Concerns and Aspirations* section of the Morehead City Land Use Plan is to provide overall guidance and direction for the development of the plan. The Land Use Plan Advisory Committee used the following three-part process to describe dominant growth-related conditions that influence land use and development patterns in Morehead City, describe key planning issues and develop a community vision:

1. Review of technical information related to existing and emerging conditions;
2. Identification of major community assets and problems related to land use and development;
3. Development of the Community Vision statement to serve as the foundation for more specific objectives and policies stated elsewhere in the Land Use Plan.

2.1 Key Planning Issues

On January 6, 2004 the Land Use Plan Advisory Committee held a Neighborhood Forum to identify and summarize the planning conditions and concerns that are important to the future of Morehead City. Committee members and citizens who participated in the Forum were asked to identify issues and concerns that are related to the CAMA Land Use Plan management topics. The management topics include land use compatibility, water quality, public water access, infrastructure carrying capacity, natural hazards, and any other local areas of concern. The Neighborhood Forum participants were asked to vote on the most important issues. The following is a prioritized listing of the issues identified and the number of votes each issue received:

2.1.1 Land Use Compatibility

- 4 - Municipal tax district
- 3 - Review zoning ordinance to control development
- 3 - Limit building in wetlands
- 2 - More support of downtown revitalization
- 2 - Study high-rise residential buildings to see what future impact will be
- 1 - Need for more residential building lots
- 1 - Commercial development along Hwy 70 should be done properly (i.e. connecting parking lots, traffic patterns)
- 1 - Balancing property owner rights with the good of the city
- 1 - People who don't want development in community should buy undeveloped lands
- 1 - Revise Morehead City's Land Use Plan to reflect the county's prohibition of hazardous industry

Additional Comments:

- To what extent do we allow in-fill development
- Like small town feel of downtown commercial area and neighboring residential areas

- Enough high ground to build, look at limiting building footprint (impervious coverage)
- Need for more affordable lots
- Mixed-Use development
- Study of traffic patterns
- Would like to see high density zoning around community college
- Consider impact of huge shopping centers
- More commercial/industrial areas as relates to scarcity of jobs

2.1.2 Water Quality

- 8 - Study and improve stormwater runoff (city wide)
- 8 - Sewer plant run-over, improve and clean Calico Creek
- 2 - Possibility of more retention ponds
- 2 - Silting of Calico Creek and Newport River
- 1 - Better maintenance of present retention ponds
- 1 - Stress vegetated as opposed to hard bulkheads

Additional Comments:

- Town should not be more restrictive than the State
- Run-off on Bridges Street
- Drinking water, Castle Hayne aquifer is being depleted, study alternative sources
- Improved sewer plant, understanding its correlation with water quality
- City built new well to serve citizens
- Reducing treatment plant effluent by 300,000 gpd because of slip-lining project
- Regulate and monitor landscapers and others to eliminate debris from entering storm drain system

2.1.3 Public Water Access

- 2 - Need more parking at boat ramps
- 2 - Make all street ends cleared and designated like South 16th Street
- 1 - Better access to Calico Creek for boaters and pedestrians
- 1 - More parking at water accesses
- 1 - Remove beachfront debris at South 10th Street and other areas

Additional Comments:

- Like 10th Street Access, good for canoes
- Need to acquire property for accesses
- Tax payers should raise money for access vs. developers having to provide
- Concerned that accesses can hurt character of neighborhoods, be sensitive to residential areas
- Like new walkways at Calico Creek
- Like that there are more accesses available in recent years
- Remove rocks, etc. immediately east of the State's launching ramp for safe beaching of boats,
- kayaks and canoes.

2.1.4 Infrastructure Carrying Capacity

- 6 - Too many traffic lights on Arendell Street
- 4 - Further extension of Bridges Street
- 3 - Lack of potential sewer capacity
- 2 - Extend sewer on Highway 24 and Business Drive
- 2 - Natural gas service extension
- 1 - Maintenance of streets and sidewalks
- 1 - Improve infrastructure to entice clean industries
- 1 - Trash collection is good
- 1 - Relocate main post office
- 1 - Control sprawl; establish firm geographical boundaries of the city's growth

Additional Comments:

- Water lines moved out of streets
- Nature walks
- Development of parks
- Upgrade streets, sewer
- Lack of Aesthetics Ordinance
- Make sure development occurs where infrastructure is adequate
- Continue to provide sewer service to outlying areas
- Waste pickup excellent
- Severe drainage problems
- Pleased with services
- Better wastewater treatment
- Eliminate Calico Creek discharge or treat prior to discharge
- Consider pervious paving materials
- Look at vehicle access to State Port

2.1.5 Natural Hazards

- 10 - Stormwater runoff problems
- 5 - Bridges Street extended / Havelock Bypass

Additional Comments:

- More underground utilities
- Waste disposal during/after hurricanes
- Limit tidal flooding into storm drains
- Continue to address terrorist activities
- Improved evacuation routes
- Pleased with new pump truck and fire boat
- City addressing fire hazards throughout the town

2.1.6 Other Local Issues

- 8 - Road System in to and out of Morehead City
- 3 - Creation of municipal docks downtown
- 2 - Downtown parking needs to be increased
- 1 - Promote development of theme park
- 1 - Aggressive enforcement of building codes and formal monitoring of permit compliance

Additional Comments:

- Consider use of one-way streets
- Consider other uses of Radio Island property
- Review and study location of dumpsters in downtown area
- Mandate improvement of recycling in business community
- Continue upgrading Arendell Street (sidewalks, street lights, etc.)
- Overdevelopment
- More development to share tax rate so improvements to streets, parks and water access can continue
- Concerned about the demolition of smaller houses
- Would like to see South Calico Creek developed
- Overpass at intersection of Highways 24 and 70
- Improve downtown area north of Bridges Street. Buildings and grounds upgrades through grants, loans and volunteer aid. Possibly through affiliations of community, government, business, bank, church and other non-profit agencies

2.2 Additional Planning Issues

Additional planning issues identified by Morehead City planning staff, in conjunction with the Land Use Plan Advisory Committee include the following:

Radio Island Development

- Character of future development: industrial vs. residential vs. recreational
- Town now manages the Newport River Beach Access and plans to make improvements
- County leases a portion of Port property for recreation area on east side of island

Water/Sewer Service

- Waste treatment plant improvements
- Sewer line moratorium - Town is working towards getting it lifted by developing design plans and specifications to upgrade sewer plant.

Transportation

- Connection between 24 and 70 in vicinity of Little Nine Drive, would provide a direct link between the Crystal Coast Business Park and Highway 24.
- Proliferation of traffic lights on Highway 70
- Preserving the functionality of Highway 70 while balancing the right of property owners to develop and redevelop property.
- Alternative Transportation Modes (MATS) (New sidewalk along Bridges Street Extension)
- Sidewalks

Land Use Issues

- Impervious cover limits
- Building heights

AU_Number	AU_Name	AU_Description	LengthArea	AU_Units	Classification
Parameter		Reason for Rating	Use Category	Collection Year	303(d)year
⊙ 20-36-6-1-1	Sikes Branch	From source to East Prong Sanders Creek	1.2	S Acres	SA;HQW
	Shellfish Growing Area-Prohibited	Loss of Use	Shellfish Harvesting	2006	2002
⊙ 20-36-3	Taylor Bay	Entire Bay	81.9	S Acres	SA;ORW
	Shellfish Growing Area-Conditionally Appr	Loss of Use	Shellfish Harvesting	2008	2008
⊙ 20-(18)e3	WHITE OAK RIVER	From the DEH Conditionally Approved Open line to the Atlantic Ocean excluding the ICWW. Dudley's Marina and Boataminiums	5.5	S Acres	SA;HQW
	Shellfish Growing Area-Prohibited	Loss of Use	Shellfish Harvesting	2006	2008
White Oak River Basin					
⊙ 21-22-2	Alligator Creek	From source to Harlowe Creek	2.1	S Acres	SA;HQW
	Shellfish Growing Area-Prohibited	Loss of Use	Shellfish Harvesting	2006	2002
⊙ 21-24-2a	Bell Creek	From source to DEH closed line	19.6	S Acres	SA;HQW
	Shellfish Growing Area-Prohibited	Loss of Use	Shellfish Harvesting	2006	2002
⊙ 21-24-2b	Bell Creek	From DEH closed line to Core Creek	46.2	S Acres	SA;HQW
	Shellfish Growing Area-Prohibited	Loss of Use	Shellfish Harvesting	2006	2002
⊙ 21-20	Big Creek	From source to Newport River	0.3	S Acres	SA;HQW
	Shellfish Growing Area-Conditionally Appr	Loss of Use	Shellfish Harvesting	2008	2002
⊙ 21-32	Calico Creek	From source to Newport River (The mouth of Calico Creek is defined as beginning at a point of land on the north shore at Lat. 34 43' 46" Long. 76 43' 07" thence across the creek	140.2	S Acres	SC;HQW
	Chlorophyll a	Standard Violation	Aquatic Life	2008	2008
	Copper	Standard Violation	Aquatic Life	2008	2008
	Fecal Coliform (recreation)	Standard Violation	Recreation	2008	2008
	High Water Temperature	Standard Violation	Aquatic Life	2008	2010
	Low Dissolved Oxygen	Standard Violation	Aquatic Life	2008	2008
	Turbidity	Standard Violation	Aquatic Life	2008	2008
⊙ 21-24b1	Core Creek (Intracoastal Waterway - Adams Creek Canal)	From DEH closed line to DEH Conditionally Approved Closed line	212.0	S Acres	SA;HQW
	Shellfish Growing Area-Conditionally Appr	Loss of Use	Shellfish Harvesting	2008	2002

White Oak River Basin White Oak River 8-Digit Subbasin 03020301

Assessment Unit Number	Name	Miles/Acres	Watershed (s)	Use Support Category	Use Support Rating	Reason for Rating	Parameter of Interest	Collection Year	Listing Year	IR Category
21-32	Calico Creek		030203010407	Aquatic Life	Impaired	Standard Violation	Turbidity	2006	2008	5
	From source to Newport River (The mouth of Calico Creek is defined as beginning at a point of land on the north shore at Lat. 34 43' 46" Long. 76 43' 07" thence across the creek									
	SC;HQW	03-05-03		Recreation	Impaired	Standard Violation	Fecal Coliform (recreation)			
21-35-1-12-1a	Sleepy Creek		030203010504	Shellfish Harvesting	Impaired	Standard Violation	Fecal Coliform (shellfish)	2006	2002	5
	From source to The Straits									
	SA;HQW	03-05-04		Shellfish Harvesting	Impaired	Standard Violation	Fecal Coliform (shellfish)			
21-35-1-2	Deep Creek		030203010501	Shellfish Harvesting	Impaired	Standard Violation	Fecal Coliform (shellfish)	2006	2002	5
	From source to North River									
	SA;HQW	03-05-04		Shellfish Harvesting	Impaired	Standard Violation	Fecal Coliform (shellfish)			
21-35-1-7-2a	North Leopard Creek		030203010502	Shellfish Harvesting	Impaired	Standard Violation	Fecal Coliform (shellfish)	2006	2002	5
	From source to Ward Creek									
	SA;HQW	03-05-04		Shellfish Harvesting	Impaired	Standard Violation	Fecal Coliform (shellfish)			
21-35-1-7a	Ward Creek		030203010502	Aquatic Life	Impaired	Standard Violation	Turbidity	2006	2008	5
	From source to North River									
	SA;HQW	03-05-04		Shellfish Harvesting	Impaired	Standard Violation	Fecal Coliform (shellfish)	2006	2002	5
21-35-1-7b	Ward Creek		030203010502	Shellfish Harvesting	Impaired	Standard Violation	Fecal Coliform (shellfish)	2006	2002	5
	From source to North River									
	SA;HQW	03-05-04		Shellfish Harvesting	Impaired	Standard Violation	Fecal Coliform (shellfish)			
21-35-1-8a	Newby Creek		030203010595	Shellfish Harvesting	Impaired	Standard Violation	Fecal Coliform (shellfish)	2006	2002	5
	From source to DEH closure line									
	SA;HQW	03-05-04		Shellfish Harvesting	Impaired	Standard Violation	Fecal Coliform (shellfish)			
21-35-1a1	North River		030203010501	Shellfish Harvesting	Impaired	Standard Violation	Fecal Coliform (shellfish)	2006	2002	5
	From source to DEH closure line south of Crabbing Creek									
	SA;HQW	03-05-04		Shellfish Harvesting	Impaired	Standard Violation	Fecal Coliform (shellfish)			

Table 17

WHITE OAK Subbasin 03-05-03

Shellfish

Recreation Assessment Harvesting

Aquatic Life Assessment Year/

AU Number Classification Length/Area

Description	AL Rating	Station	Result	Parameter	% Exc	REC Rating	Station	Result	SH Rating	GA	Stressors	Sources
Calico Creek												
21-32	SC HQW	140.2	S Acres	I			PA24	CE	I	PA24	CE	Low Dissolved Oxygen
							PA24	ID		PA25	CE	Fecal Coliform Bacteria
							PA25	CE				Stormwater Runoff
							PA25	ID				Chlorophyll a
							PA25	CE				Turbidity
												WWTP NPDES
From source to Newport River (The mouth of Calico Creek is defined as beginning at a point of land on the north shore at Lat. 34 43' 46" Long. 76 43' 07" thence across the creek												
Cedar Swamp Creek												
21-7	C		2.8	FW Miles								
From source to Newport River												
Core Creek (Intra-coastal Waterway - Adams Creek Canal)												
21-24a	SA HQW	29.3	S Acres						I	CAC		Fecal Coliform Bacteria
From Neuse River Basin boundary to DEH closed line												
21-24b1	SA HQW	212.0	S Acres						I	CAC	E-4	Fecal Coliform Bacteria
From DEH closed line to DEH Conditionally Approved Closed line												
21-24b2	SA HQW	14.9	S Acres						I	CAO	E-4	Fecal Coliform Bacteria
From DEH closed line to DEH Conditionally Approved Closed line												
21-24c	SA HQW	196.4	S Acres						I	CAO	E-4	Fecal Coliform Bacteria
From DEH Conditionally Approved Closed line to Newport River												
Crab Point Bay												
21-30	SA HQW	157.3	S Acres						I	PRO	E-4	Fecal Coliform Bacteria
Entire Bay												
Cypress Drain												
21-2-2	C		1.3	FW Miles								
From source to Northwest Prong Newport River												
Deep Creek												
21-11	C		4.6	FW Miles								
From source to Newport River												

Back Sound [AU# 21-35-(0.5)d]

Back Sound from DEH closed area at mouth of Taylor Creek around Pivers Island (50.9 acres), is Impaired for shellfish harvesting. This portion of Back Sound is classified by DEH SS as prohibited in growing area E-5 due to potential fecal coliform bacteria levels. An additional 303.6 acres (AU# 21-35-(0.5)a) is classified as approved and considered Supporting shellfish harvesting. This same AU is also Supporting in the aquatic life category due to no criteria exceeded at site PA35. Additional areas of Back Sound are within subbasin 03-05-04 and are discussed in Chapter 4. Back Sound, AU# 21-35-(0.5)d, will remain on the state's 303(d) list of Impaired waters.

3.3.7 Impaired Freshwater and Non-Shellfish Harvesting Waters

The following waters were either identified as Impaired in the previous basin plan (2001) or are newly Impaired based on recent data (Table 25). If previously identified as Impaired, the water will either remain on the state's 303(d) list or will be delisted based on recent data showing water quality improvements. If the water is newly Impaired, it will likely be placed on the 2008 303(d) list. The current status and recommendations for addressing these waters are presented below, and each is identified by an assessment unit number (AU#).

Table 25 Summary of Currently Impaired Freshwater and Non-Shellfish Harvesting Waters in Subbasin 03-05-03

Class SB/SC Water	Assessment Unit #	Aquatic Life	Recreation	Fish Consumption
Calico Creek	21-32	I	I	I

I= Impaired

Calico Creek [AU# 21-32]

2001 Status

Calico Creek was not rated during the previous basin cycle, although studies in 1999 indicated water quality impacts from urban nonpoint sources as well as the Morehead City WWTP. The creek has experienced water quality problems over the years, including elevated fecal coliform bacteria and nutrient levels, algae blooms and resulting dissolved oxygen level fluctuations (DEM 1977, 1981, 1988, and DWQ 2001). Dye studies have indicated that retention time in the creek is several tidal cycles and that effluent from the WWTP is continuously distributed throughout the majority of the reach of the creek (DEM 1977, 1981).

Current Status

Calico Creek, from source to Newport River (the mouth of Calico Creek is defined as beginning at a point of land on the north shore at latitude 34 43' 46" and longitude 76 43' 07" thence across the creek) (140.2 acres), is Impaired in the aquatic life category due to exceeding turbidity standards in 39 percent of samples and low DO in 17 percent of samples at site PA24, and turbidity exceedances in 35 percent of samples at site PA25. Both sites PA24 and PA25 also had high chlorophyll *a* levels (75 and 57 percent respectively), but samples did not meet the minimum criteria of 10 samples for use support assessment for this parameter. Calico Creek is also Impaired in the recreation category because fecal coliform bacteria standards were exceeded in 5 samples of 200 colonies/100 ml in a 30 day time period. Calico Creek will be added to the state's 2008 303(d) list of Impaired waters. Calico Creek is poorly flushed due to tidal

influences and any additional inputs of nutrients or BOD may increase the potential for adverse water quality impacts.

Calico Creek is the receiving water for the Morehead City WWTP discharge, which is currently permitted at 1.7 MGD. Historically the WWTP has operated very close to their permitted capacity and for nearly a decade DWQ has strongly encouraged the town to examine non-discharge alternatives for treated wastewater disposal. A DWQ modeling evaluation determined that the main impacts from the WWTP on dissolved oxygen levels in Calico Creek are from oxygen-consuming waste (CBOD, NH₃ and SOD) and point source nutrient loading (DWQ 1990).

The Town was placed under statutory moratorium in April 1999, after analysis showed the plant to be operating at 93 percent of its design capacity. DWQ staff worked with the Town allowing it to extend its collection system with construction of new sewer lines while under the moratorium. However, the moratorium was reinstated in September 2002 because the Town was making little progress toward satisfying the moratorium requirements. The Town was awarded a \$2,000,000 Clean Water Grant, as well as \$1,000,000 loan in 2000, to rehabilitate outdated sewer lines. This rehabilitation project was recently completed and is expected to reduce extraneous flow to the collection system by 200,000 GPD. In 2003, the WWTP flow exceeded the monthly average limit nine out of twelve months despite these improvements to the collection system.

DWQ inspections of the WWTP have detected solids in the effluent and noted on-going problems with poor settling characteristics in the clarifiers. Inspection of the plant in early February 2005 indicated that corrective action by the WWTP has improved solids accumulation in the clarifiers.

DWQ conducted "*An Examination of Fecal Coliform, Nutrients and Their Response Variables in Calico Creek, Carteret County, North Carolina*" (March 2005) that documents impacts to Calico Creek. Retention time within the creek is several tidal cycles as evidenced by previous DWQ dye studies that detected dye in the upper reaches of the creek for over 36 hours. While WWTP data is referred to as 'upstream' and 'downstream' this tidal mixing results in continual distribution of flow and pollutants. Although the creek is not DWQ classified as Class SA water, the creek is classified as "Prohibited/Restricted" for shellfish harvesting by DEH and is considered permanently closed to shellfish harvesting (DEH 2000). Until recently, use support had not been assessed because Calico Creek did not meet sampling criteria to assess the State standard for fecal coliform (five samples over a 30-day period). However, instream fecal coliform monitoring required by the Morehead City NPDES permit and further sampling by DWQ has provided sufficient data with adequate monitoring frequency to list Calico Creek as Impaired due to exceeding fecal coliform bacteria standards.

Elevated fecal coliform levels are widespread throughout the Calico Creek watershed and are from a variety of sources including Morehead City WWTP effluent, wildlife, pets and failing septic tanks. The water quality standard for fecal coliform is 200 colonies/100 ml. Instream sampling conducted by the WWTP has revealed extremely high levels of fecal coliform bacteria, ranging from estimates of greater than 70,000 colonies/100 ml at the upstream site to greater than 47,000 colonies /100 ml at the downstream site. The WWTP laboratory reported values were estimated as "greater than" when sample dilutions were not sufficient to accurately count the bacterial colonies. This also results in possible underreporting of bacterial concentrations in that a value reported as "greater than 600" could actually have represented a count of substantially

higher concentrations. The DWQ laboratory section, as well as regional staff, have made recommendations for the WWTP to use more appropriate dilutions. This would provide greater accuracy in calculating the geometric mean as well as a more precise evaluation of whether or not the plant is meeting its permit requirements.

Chemical data indicate that the WWTP contributes to nutrient loading, particularly at low tide when instream waste concentration is highest (DWQ 2001). Average nutrient levels in the WWTP effluent between 2002 and 2005 were 2.1 mg/l for NH₃, 12.2 mg/l for Total N, and 2.3 mg/l for Total P. Two ambient stations were established at the narrows (station P8750000) and near the mouth (station P8800000) by DWQ on Calico Creek in 2002. Chlorophyll *a* data, a measurement of nutrient loading, were not collected monthly at these stations until 2004. In addition, phytoplankton were collected and seven algal blooms were documented near the mouth and two near the narrows between February 2003 and September 2004 (DWQ 2004). Algal blooms may have been documented more frequently had chlorophyll *a* and phytoplankton been sampled monthly and not only in response to elevated DO.

2007 Recommendations

DWQ and the Town have been discussing expansion of the WWTP from 1.7 MGD to 2.5 MGD, with the construction of a new 2.5 MGD treatment facility at the existing WWTP site. The upgrade will include an oxidation ditch design, which incorporates a combination of anaerobic and aerobic zones within the treatment plant to accomplish total nitrogen removal. The plant will also have the capability to remove phosphorus. Fecal coliform and nutrient loadings are the primary threats to water quality in Calico Creek. The following recommendations are offered to ensure that the existing and designated uses of the water body are protected and restored:

- More frequent monitoring will be required and stricter effluent limits will be effective; old and new criteria are listed in Table 26. Construction should be completed in two years; while the plants permit renewal date is July 2007.

Table 26 Old and New Effluent Limits

Parameter	Effluent Limits			
	Monthly Average		Weekly Average	
	Old	New	Old	New
BOD (summer)	20 mg/l	5 mg/l	30 mg/l	7.5 mg/l
BOD (winter)	30 mg/l	10 mg/l	45 mg/l	15 mg/l
Total Suspended Solids	30 mg/l	10 mg/l	45 mg/l	15 mg/l
NH ₃ as N (summer)	none	1 mg/l	none	3 mg/l
NH ₃ as N (winter)	none	2 mg/l	none	6 mg/l
Dissolved Oxygen	Daily average not less than 5.0 mg/l (old)			
	Daily average not less than 6.0 mg/l (new)			
Fecal Coliform	86/100 ml	14/100 ml	172/100 ml	28/100 ml

- Any existing and future discharge permits should be modified to require limits that include a stringent daily maximum for fecal coliform. Proposed speculative limits for Morehead City WWTP for fecal coliform include a weekly geometric mean of 28/100ml that would still allow for potential discharge of excessive levels of fecal coliform bacteria. Without a daily maximum limit, the monitoring requirement frequency of three

times per week would allow the discharge of 20,000 colonies/100ml on one day, if the other two observations within that same week were 1 colony/100ml each.

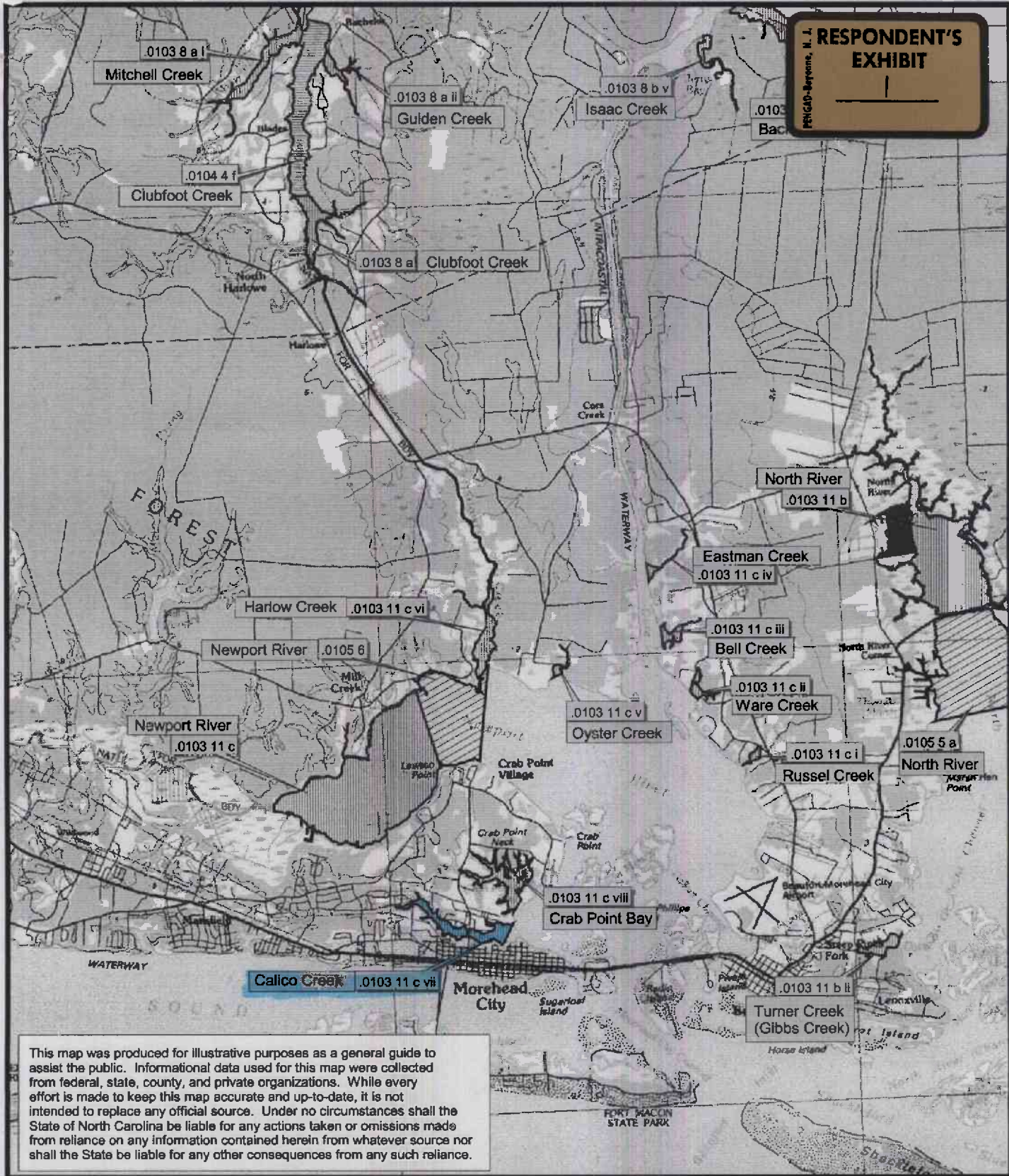
- The proposed WWTP is capable of total nitrogen removal, as well as removal of phosphorus. The data strongly indicate that nutrient over-enrichment is a problem in the creek and appropriate limits should be set for both total nitrogen and total phosphorus, per 15A NCAC 02B.0224(1)(b) which states that “where nutrient over enrichment is projected to be a concern, appropriate effluent limitations shall be set for phosphorous or nitrogen, or both.”
- Eventual removal of the Morehead City discharge in favor of a non-discharge system is strongly recommended. Operating under stricter discharge limits will facilitate future transition to non-discharge alternatives.
- The local government is encouraged to adopt and apply stringent policies to prevent and/or control nonpoint source pollution (i.e., stricter sedimentation and erosion control, create or enhance vegetated and forested buffers, site development that maximizes green spaces and conservation of natural areas, etc.).
- Local public education and participation initiatives on stormwater best management practices, proper application of fertilizers and pesticides, and management of pet waste are strongly encouraged.
- Morehead City should consider stronger ordinances to control stormwater runoff to Calico Creek, including the development of a Phase II stormwater program.

Morehead City recently received DWQ authorization and was awarded contracts to construct a \$15M state of the art tertiary replacement WWTP that will have the capability of removing nitrogen and phosphorus using ultraviolet technology for bacteria removal. The plant will be capable of producing a Class A sludge product and reuse quality effluent, which is proposed to be used for irrigation purposes at two City parks (combined acreage of close to 25 acres) in close proximity to the WWTP. The City recently applied for a CWMTF to construct Phase 1 of its proposed reuse distribution system (i.e. elevated tank and lines), which will distribute the reuse effluent for irrigation use to private properties and public facilities, including a golf course and multiple school sites and parks, located along an approximately five mile area from the WWTP. The City has also had discussions with NCCF regarding extending this distribution system on a regional basis to a large tract of land that NCCF is attempting to acquire well outside the City’s jurisdiction. This tract could handle much larger quantities of reuse quality effluent for irrigation, thus moving the City towards its goal of eventually eliminating the discharge of the WWTP effluent into Calico Creek.

3.4 Status and Recommendations for Waters with Noted Impacts

Based on DWQ’s most recent use support methodologies, the surface waters discussed in this section are not Impaired, except for fish consumption. However, notable water quality problems and concerns were documented for these waters during this assessment. Attention and resources should be focused on these waters to prevent additional degradation and facilitate water quality improvements. DWQ will notify local agencies of these water quality concerns and work with them to conduct further assessments and to locate sources of water quality protection funding. Additionally, education on local water quality issues and voluntary actions are useful tools to prevent water quality problems and to promote restoration efforts. The current status and

RESPONDENT'S EXHIBIT
 1
 FIC/GAD-Response, N. 4



Background imagery are U.S. Geological Survey 1:100,000-scale planimetric maps.

- Fishery Nursery Areas**
 - Primary
 - Permanent Secondary
 - Special Secondary
- Military Danger Zones and Restricted Areas
- Inland waters (WRC jurisdiction)

Fishery Nursery Areas



Map 17

Map Datum: NAD83
 Map Projection: NC State Plane
 Map Date: July 2006

1000 0 1000 2000 Yards

0.7 0 0.7 1.4 Miles



15A NCAC 03R .0103 PRIMARY NURSERY AREAS

The primary nursery areas referenced in 15A NCAC 03N .0104 are delineated in the following coastal water areas:

- (1) In the Roanoke Sound Area:
 - (a) Shallowbag Bay:
 - (i) Dough Creek - northeast of a line beginning on the west shore at a point 35° 54.5396' N - 75° 39.9681' W; running northeasterly to the east shore to a point 35° 54.4615' N - 75° 40.1598' W; and west of a line that crosses a canal on the east side of Dough Creek beginning on the north shore at a point 35° 54.7103' N - 75° 40.0951' W; running southerly to the south shore to a point 35° 54.6847' N - 75° 40.0882' W;
 - (ii) Scarborough Creek - south of a line beginning on the west shore at a point 35° 53.9801' N - 75° 39.5985' W; running northeasterly to the east shore to a point 35° 54.0372' N - 75° 39.5558' W.
 - (b) Broad Creek - all waters north of a line beginning on the west shore at a point 35° 51.9287' N - 75° 38.3377' W; running northeasterly to the east shore to a point 35° 52.0115' N - 75° 38.1792' W; and west and south of a line beginning on the north shore at a point 35° 53.3655' N - 75° 38.0254' W; running southeasterly to the south shore to a point 35° 53.3474' N - 75° 37.9430' W.
- (2) In the Northern Pamlico Sound Area:
 - (a) Long Shoal River:
 - (i) Long Shoal River - northwest of a line beginning on the north shore at a point 35° 38.0175' N - 75° 52.9270' W; running southwesterly to the south shore to a point 35° 37.8369' N - 75° 53.1060' W;
 - (ii) Deep Creek - southeast of a line beginning on the north shore at a point 35° 37.7346' N - 75° 52.1383' W; running southwesterly to the south shore to a point 35° 37.6673' N - 75° 52.2997' W;
 - (iii) Broad Creek - west of a line beginning on the north shore at a point 35° 35.9820' N - 75° 53.6789' W; running southerly to the south shore to a point 35° 35.7093' N - 75° 53.7335' W;
 - (iv) Muddy Creek - east of a line beginning on the north shore at a point 35° 36.4566' N - 75° 52.1460' W; running southerly to the south shore to a point 35° 36.2828' N - 75° 52.1640' W;
 - (v) Pains Bay - north of a line beginning on the west shore at a point 35° 35.4517' N - 75° 49.1414' W; running easterly to the east shore to a point 35° 35.4261' N - 75° 48.8029' W;
 - (vi) Otter Creek - southwest of a line beginning on the west shore at a point 35° 33.2597' N - 75° 55.2129' W; running easterly to the east shore to a point 35° 33.1995' N - 75° 54.8949' W;
 - (vii) Clark Creek - northeast of a line beginning on the north shore at a point 35° 35.7776' N - 75° 51.4652' W; running southeasterly to the south shore to a point 35° 35.7128' N - 75° 51.4188' W;
 - (b) Far Creek - west of a line beginning on the north shore at a point 35° 30.9782' N - 75° 57.7611' W; running southerly to Gibbs Point to a point 35° 30.1375' N - 75° 57.8108' W;
 - (c) Middletown Creek - west of a line beginning on the north shore at a point 35° 28.4868' N - 75° 59.8186' W; running southwesterly to the south shore to a point 35° 28.1919' N - 76° 00.0216' W;
 - (d) Wysocking Bay:
 - (i) Lone Tree Creek - east of a line beginning on the north shore at a point 35° 25.6048' N - 76° 02.3577' W; running southeasterly to the south shore to a point 35° 25.1189' N - 76° 02.0499' W;
 - (ii) Wysocking Bay - north of a line beginning on the west shore at a point 35° 25.7793' N - 76° 03.5773' W; running northeasterly to the east shore to a point 35° 25.9585' N - 76° 02.9055' W;

- (iv) Howland Creek - northwest of a line beginning on the northeast shore at a point 34° 47.5129' N - 76° 29.6217' W; running southwesterly to the southwest shore to a point 34° 47.3372' N - 76° 29.8607' W;
 - (v) Great Creek - southeast of a line beginning on the northeast shore at a point 34° 47.4279' N - 76° 28.9565' W; running southwesterly to the southwest shore to a point 34° 47.1515' N - 76° 29.2077' W;
 - (vi) Williston Creek - northwest of the Highway 70 bridge;
 - (vii) Wade Creek - west of a line beginning on the north shore at a point 34° 46.3022' N - 76° 30.5443' W; running southerly to the south shore to a point 34° 46.2250' N - 76° 30.3864' W;
 - (viii) Jump Run - north of a line beginning on the west shore at a point 34° 45.5385' N - 76° 30.3974' W; running easterly to the east shore to a point 34° 45.5468' N - 76° 30.3485' W;
 - (ix) Middens Creek - west of a line beginning on the north shore at a point 34° 45.5046' N - 76° 30.9710' W; running southerly to the south shore to a point 34° 45.4093' N - 76° 30.9584' W;
 - (x) Tusk Creek - northwest of a line beginning on the northwest shore at a point 34° 44.8049' N - 76° 30.6248' W; running southerly to the south shore to a point 34° 44.6074' N - 76° 30.7553' W;
 - (xi) Creek west of Bells Island - west of a line beginning on the north shore at a point 34° 43.9531' N - 76° 30.4144' W; running southerly to the south shore to a point 34° 43.7825' N - 76° 30.3543' W.
- (11) Straits, North River, Newport River Area:
- (a) Straits:
 - (i) Sleepy Creek - north of a line beginning on the west shore at a point 34° 43.3925' N - 76° 31.4912' W; running easterly to the east shore to a point 34° 43.3651' N - 76° 31.3250' W;
 - (ii) Dicks Creek - north of a line beginning on the west shore at a point 34° 43.3858' N - 76° 32.9125' W; running southeasterly to the east shore to a point 34° 43.3912' N - 76° 32.8605' W;
 - (iii) Whitehurst Creek - north of a line beginning on the west shore at a point 34° 43.5118' N - 76° 33.3392' W; running northeasterly to the east shore to a point 34° 43.5561' N - 76° 33.1869' W;
 - (b) North River, north of Highway 70 bridge:
 - (i) Ward Creek - north of Highway 70 bridge:
 - (A) North Leopard Creek - southeast of a line beginning on the southwest shore at a point 34° 45.9573' N - 76° 34.4208' W; running northeasterly to the northeast shore to a point 34° 46.0511' N - 76° 34.3170' W;
 - (B) South Leopard Creek - southeast of a line beginning on the southwest shore at a point 34° 45.4930' N - 76° 34.7622' W; running northeasterly to the northeast shore to a point 34° 45.5720' N - 76° 34.6236' W;
 - (ii) Turner Creek (Gibbs Creek) - west of a line beginning on the north shore at a point 34° 43.4693' N - 76° 37.6372' W; running southerly to the south shore to a point 34° 43.4054' N - 76° 37.6585' W;
 - (c) Newport River - west of a line beginning on the north shore at a point 34° 46.5635' N - 76° 44.3998' W; running southerly to Lawton Point to a point 34° 45.6840' N - 76° 44.0895' W;
 - (i) Russel Creek - northeast of a line beginning on the north shore at a point 34° 45.5840' N - 76° 39.8020' W; running southeasterly to the south shore to a point 34° 45.5819' N - 76° 39.7895' W;
 - (ii) Ware Creek - northeast of a line beginning on the north shore at a point 34° 46.4576' N - 76° 40.5020' W; running southeasterly to the south shore to a point 34° 46.4125' N - 76° 40.4460' W;
 - (iii) Bell Creek - east of a line beginning on the north shore at a point 34° 47.2805' N - 76° 40.9082' W; running southerly to the south shore to a point 34° 47.0581' N - 76° 40.8854' W;

- (iv) Eastman Creek - east of a line beginning on the north shore at a point 34° 47.8640' N - 76° 41.0671' W; running southerly to the south shore to a point 34° 47.8027' N - 76° 41.0605' W;
 - (v) Oyster Creek - north of a line beginning on the west shore at a point 34° 46.6610' N - 76° 42.5011' W; running easterly to the east shore to a point 34° 46.7161' N - 76° 42.3481' W;
 - (vi) Harlow Creek - north of a line beginning on the west shore at a point 34° 46.7138' N - 76° 43.4838' W; running northeasterly to the east shore to a point 34° 46.8490' N - 76° 43.3296' W;
 - (vii) Calico Creek - west of a line beginning on the north shore at a point 34° 43.7318' N - 76° 43.1268' W; running southerly to the south shore to a point 34° 43.6066' N - 76° 43.2040' W;
 - (viii) Crab Point Bay - northwest of a line beginning on the northeast shore at a point 34° 44.0615' N - 76° 42.9393' W; running southwesterly to the southwest shore to a point 34° 43.9328' N -- 76° 43.0721' W.
- (12) Bogue Sound; Bogue Inlet Area:
- (a) Gales Creek - north of the Highway 24 bridge;
 - (b) Broad Creek - north of the Highway 24 bridge;
 - (c) Sanders Creek - north of a line beginning at a point 34° 42.4694' N - 76° 58.3754' W on the west shore; running easterly to a point 34° 42.4903' N - 76° 58.143' W on the east shore;
 - (d) Goose Creek - north of a line beginning on the west shore at a point 34° 41.8183' N - 77° 00.7208' W; running easterly to the east shore to a point 34° 41.8600' N - 77° 00.5108' W;
 - (e) Archer Creek - west of a line beginning on the north shore at a point 34° 40.4721' N - 77° 00.7577' W; running southerly to the south shore to a point 34° 40.3521' N - 77° 00.8008' W;
 - (f) White Oak River - northwest of a line beginning on the northeast shore at a point 34° 45.6730' N - 77° 07.5960' W; running southwesterly to the southwest shore to a point 34° 45.2890' N - 77° 07.7500' W;
 - (i) Pettiford Creek - east of a line beginning on the north shore at a point 34° 42.8670' N - 77° 05.3990' W; running southerly to the south shore to a point 34° 42.6310' N - 77° 05.3180' W;
 - (ii) Holland Mill Creek - west of a line beginning on the north shore at a point 34° 43.8390' N - 77° 08.0090' W; running southeasterly to the south shore to a point 34° 43.4800' N - 77° 07.7650' W;
 - (g) Hawkins Creek - west of a line beginning on the north shore at a point 34° 41.1210' N - 77° 07.5720' W; running southerly to the south shore to a point 34° 41.0460' N - 77° 07.5930' W;
 - (h) Queen's Creek - north of state road number 1509 bridge:
 - (i) Dick's Creek - west of a line beginning on the north shore at a point 34° 39.9790' N - 77° 09.3470' W; running southeasterly to the south shore to a point 34° 39.9350' N - 77° 09.3280' W;
 - (ii) Parrot Swamp - west of a line beginning on the north shore at a point 34° 40.6170' N - 77° 09.7820' W; running southeasterly to the south shore to a point 34° 40.3660' N - 77° 09.5980' W;
 - (iii) Hall's Creek - east of a line beginning on the north shore at a point 34° 41.0740' N - 77° 09.8640' W; running easterly to the south shore to a point 34° 41.0300' N - 77° 09.6740' W;
 - (i) Bear Creek - west of a line beginning at Willis Landing at a point 34° 38.7090' N - 77° 12.6860' W; running southeasterly to the south shore to a point 34° 38.4740' N - 77° 12.3810' W.
- (13) New River Area:
- (a) Salliers Bay area - all waters north and northwest of the IWW beginning at a point on the shoreline 34° 37.0788' N - 77° 12.5350' W; running easterly to a point near Beacon "58" at a point 34° 37.9670' N - 77° 12.3060' W; running along the IWW near Cedar Point to a point 34° 33.1860' N - 77° 20.4370' W; running northerly to a point on the shoreline 34° 33.1063' N - 77° 20.4679' W; following the shoreline to the point of origin; including Howard Bay, Mile Hammock Bay, Salliers Bay, and Freeman Creek;

CAMA / DREDGE & FILL
GENERAL PERMIT

Nº 50776
120

New Modification Complete Reissue Partial Reissue

Previous permit # _____
 Date previous permit issued _____

As authorized by the State of North Carolina, Department of Environment and Natural Resources and the Coastal Resources Commission in an area of environmental concern pursuant to 15A NCAC _____

Applicant Name Jonathan L. McDaniel
 Address 1809 Calico Drive
 City MHC State NC ZIP 28557
 Phone # (252) 725-3033 fax # _____
 Authorized Agent _____

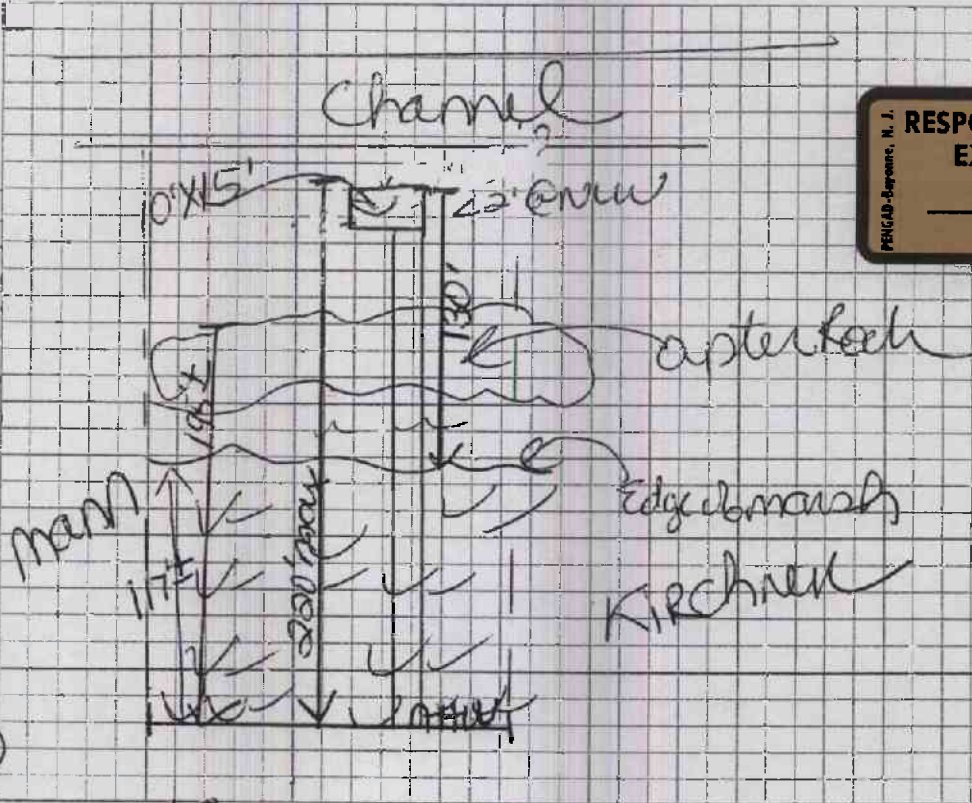
Project Location: County Carteret
 Street Address/ State Road/ Lot #(s) 1809 Calico Drive
 Subdivision _____
 City MHC ZIP 28557
 Phone # _____ River Basin White Oak
 Adj. Wtr. Body Calico Creek (nat / man / unkn)
 Closest Maj. Wtr. Body Newport River

Affected CW FW PTA ES PTS
 AEC(s): OEA HHF IH UBA N/A
 PWS: _____ FC: _____

ORW: yes / no PNA yes no Crit.Hab. yes / no

Type of Project/ Activity pier w/ platform

Pier (dock) length 6' x 210'
 Platform(s) 10' x 15'
 Finger pier(s) _____
 Groin length number _____
 Bulkhead/ Riprap length avg distance offshore _____ max distance offshore _____
 Basin, channel _____ cubic yards _____
 Boat ramp _____
 Boathouse/ Boatlift _____
 Beach Bulldozing _____
 Other _____
 Shoreline Length 75'
 SAV: not sure yes no
 Sandbags: not sure yes no
 Moratorium: n/a yes no
 Photos: yes no
 Waiver Attached: yes no



RESPONDENT'S EXHIBIT
2

This facility is located within a Primary Nursery Area, and is not for boating use. No slips are permitted for vessels motorized, sail, or other. Any dredging or prop wash will be considered a violation of this permit, and of the CAMA and D&F Act.

A building permit may be required by: MHC See note on back regarding River Basin rules.

Notes/ Special Conditions Pier must be a min of 3' above marsh substrate. Must hand dig in oyster to minimize disturbance.

Jonathan L. McDaniel
 Agent or Applicant Printed Name
Jonathan L. McDaniel
 Signature **** Please read compliance statement on back of permit ****
2000
 Application Fee(s) _____ Check # _____

Heather M. [Signature]
 Permit Officer's Signature
5/14/08
 Issuing Date
MHC
 Local Planning Jurisdiction
9/14/08
 Expiration Date
305011A
 Cover File Name

DCM MP-1

APPLICATION for Major Development Permit

(last revised 12/27/06)



North Carolina DIVISION OF COASTAL MANAGEMENT

1. Primary Applicant/ Landowner Information

Business Name N/A		Project Name (if applicable) N/A	
Applicant 1: First Name Jonathan	MI L	Last Name McDaniel	
Applicant 2: First Name Cheryl	MI	Last Name Kirchner	
<i>If additional applicants, please attach an additional page(s) with names listed.</i>			
Mailing Address 1809 & 1811 Calico Drive		PO Box N/A	City Morehead City
State NC	ZIP 28557	Country Carteret	Phone No. 252 - 725 - 3723 ext.
FAX No.			
Street Address (if different from above)		City	State
ZIP			
Email jmcdaniel@mesco.com			

2. Agent/Contractor Information

Business Name			
Agent/ Contractor 1: First Name	MI	Last Name	
Agent/ Contractor 2: First Name	MI	Last Name	
Mailing Address		PO Box	City
State	ZIP	Phone No. 1 - - ext.	Phone No. 2 - - ext.
FAX No.		Contractor #	
Street Address (if different from above)		City	State
ZIP			
Email			

<Form continues on back>

3. Project Location			
County (can be multiple) Carteret		Street Address 1809/1811 Calico Drive	
Subdivision Name Section 2 North Morehead Subdivision		City Morehead City	State NC
Phone No. - - ext.		Lot No.(s) (if many, attach additional page with list) 5 and 6, Block E, N. Morehead Subdivision,	
a. In which NC river basin is the project located? White Oak		b. Name of body of water nearest to proposed project Calico Creek	
c. Is the water body identified in (b) above, natural or manmade? <input checked="" type="checkbox"/> Natural <input type="checkbox"/> Manmade <input type="checkbox"/> Unknown		d. Name the closest major water body to the proposed project site. Newport River	
e. Is proposed work within city limits or planning jurisdiction? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		f. If applicable, list the planning jurisdiction or city limit the proposed work falls within. Morehead City limits	

4. Site Description	
a. Total length of shoreline on the tract (ft.) 150 (Total - Both Lots)	b. Size of entire tract (sq.ft.) 19,074 SQ.FT.
c. Size of individual lot(s) 75'X122', 75'X127', (if many lot sizes, please attach additional page with a list)	d. Approximate elevation of tract above NHW (normal high water) or NWL (normal water level) 5.5' +/- <input checked="" type="checkbox"/> NHW or <input type="checkbox"/> NWL
e. Vegetation on tract Coastal marsh grass extends approximately 90' towards Calico Creek from the edge of the property line between project site (1809 and 1811 Calico Drive)	
f. Man-made features and uses now on tract single family residencies	
g. Identify and describe the existing land uses adjacent to the proposed project site. Adjacent to both co-applicants are a single family residencies. Both adjacent residencies have previously dredged channels and docks, one residence has a boat lift.	
h. How does local government zone the tract? R-10 Single Family Residential District	i. Is the proposed project consistent with the applicable zoning? (Attach zoning compliance certificate, if applicable) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
j. Is the proposed activity part of an urban waterfront redevelopment proposal? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
k. Has a professional archaeological assessment been done for the tract? If yes, attach a copy. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> NA If yes, by whom?	
l. Is the proposed project located in a National Registered Historic District or does it involve a National Register listed or eligible property? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> NA	

<Form continues on next page>

m. (i) Are there wetlands on the site?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
(ii) Are there coastal wetlands on the site?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
(iii) If yes to either (i) or (ii) above, has a delineation been conducted? <i>(Attach documentation, if available)</i>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
n. Describe existing wastewater treatment facilities. Public Sewer	
o. Describe existing drinking water supply source. Public Water	
p. Describe existing storm water management or treatment systems. N/A	

5. Activities and Impacts	
a. Will the project be for commercial, public, or private use?	<input type="checkbox"/> Commercial <input type="checkbox"/> Public/Government <input checked="" type="checkbox"/> Private/Community
b. Give a brief description of purpose, use, and daily operations of the project when complete. The proposed shared dock and 2-boat lifts will be used for private recreational use only by the co-applicants.	
c. Describe the proposed construction methodology, types of construction equipment to be used during construction, the number of each type of equipment and where it is to be stored. Dock construction to take place in the winter months to prevent impacts to marine life. 6" round pilings of lengths from 15'-25' to be used. Pile installation outside of marsh grass area to be machine driven from small barge. Barge only operates around high tide and will be anchored closer to channel at low tides. Piles in marsh grass area to be washed in. Materials stored on barge.	
d. List all development activities you propose. A 4' wide pier, 240' in length is proposed on the property line between 1809 and 1811 Calico Creek. There is to be two 13'x13' boat lift areas and one 10'x40' platform area to serve recreational use by two properties.	
e. Are the proposed activities maintenance of an existing project, new work, or both?	New Work
f. What is the approximate total disturbed land area resulting from the proposed project?	0 <input checked="" type="checkbox"/> Sq.Ft or <input type="checkbox"/> Acres
g. Will the proposed project encroach on any public easement, public accessway or other area that the public has established use of?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> NA
h. Describe location and type of existing and proposed discharges to waters of the state. Existing - The Town of Morehead City's 1.7 MGD Wastewater Treatment Plant discharges 3/4 mile upstream from site. Morehead City also discharges a majority of it's stormwater into Calico Creek from all directions around the site. Proposed - NONE	
i. Will wastewater or stormwater be discharged into a wetland?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> NA
If yes, will this discharged water be of the same salinity as the receiving water?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
j. Is there any mitigation proposed?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> NA
If yes, attach a mitigation proposal.	

<Form continues on back>

6. Additional Information

In addition to this completed application form, (MP-1) the following items below, if applicable, must be submitted in order for the application package to be complete. Items (a) - (f) are always applicable to any major development application. Please consult the application instruction booklet on how to properly prepare the required items below.

a. A project narrative.

b. An accurate, dated work plat (including plan view and cross-sectional drawings) drawn to scale. Please give the present status of the proposed project. Is any portion already complete? If previously authorized work, clearly indicate on maps, plats, drawings to distinguish between work completed and proposed.

c. A site or location map that is sufficiently detailed to guide agency personnel unfamiliar with the area to the site.

d. A copy of the deed (with state application only) or other instrument under which the applicant claims title to the affected properties.

e. The appropriate application fee. Check or money order made payable to DENR.

f. A list of the names and complete addresses of the adjacent waterfront (riparian) landowners and signed return receipts as proof that such owners have received a copy of the application and plats by certified mail. Such landowners must be advised that they have 30 days in which to submit comments on the proposed project to the Division of Coastal Management.

Name	Jim Bengala	Phone No.	
Address	1901 Calico Drive, Morehead City, NC 28557 247-6982		
Name	Carol Mann	Phone No.	
Address	1807 Calico Drive, Morehead City, NC 28557 247-9000		
Name		Phone No.	
Address			

g. A list of previous state or federal permits issued for work on the project tract. Include permit numbers, permittee, and issuing dates.

CAMA General Permit for new pier construction - No. 50776	Issued 5/14/08
CAMA General Permit for new pier construction - No. 42704	Issued 8/30/05

h. Signed consultant or agent authorization form, if applicable.

i. Wetland delineation, if necessary.

j. A signed AEC hazard notice for projects in oceanfront and inlet areas. (Must be signed by property owner)

k. A statement of compliance with the N.C. Environmental Policy Act (N.C.G.S. 113A 1-10), if necessary. If the project involves expenditure of public funds or use of public lands, attach a statement documenting compliance with the North Carolina Environmental Policy Act.


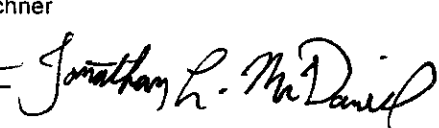
7. Certification and Permission to Enter on Land

I understand that any permit issued in response to this application will allow only the development described in the application. The project will be subject to the conditions and restrictions contained in the permit.

I certify that I am authorized to grant, and do in fact grant permission to representatives of state and federal review agencies to enter on the aforementioned lands in connection with evaluating information related to this permit application and follow-up monitoring of the project.

I further certify that the information provided in this application is truthful to the best of my knowledge.

Date 8/27/08 Print Name Jonathan McDaniel Cheryl Kirchner

Signature  

- Please indicate application attachments pertaining to your proposed project.
- DCM MP-2 Excavation and Fill Information
 - DCM MP-3 Upland Development
 - DCM MP-4 Structures Information
 - DCM MP-5 Bridges and Culverts

Form DCM MP-4

STRUCTURES

(Construction within Public Trust Areas)

North Carolina Coastal Community

Attach this form to Joint Application for CAMA Major Permit, Form DCM MP-1. Be sure to complete all other sections of the Joint Application that relate to this proposed project. Please include all supplemental information.

1. DOCKING FACILITY/MARINA CHARACTERISTICS

This section not applicable

a. (i) Is the docking facility/marina:
 Commercial Public/Government Private/Community

b. (i) Will the facility be open to the general public?
 Yes No

c. (i) Dock(s) and/or pier(s)
(ii) Number 1
(iii) Length 210' 194'
(iv) Width 4'
(v) Floating Yes No

d. (i) Are Finger Piers included? Yes No
If yes:
(ii) Number _____
(iii) Length _____
(iv) Width _____
(v) Floating Yes No

e. (i) Are Platforms included? Yes No
If yes:
(ii) Number 1
(iii) Length 40' 24'
(iv) Width 10' 16'
(v) Floating Yes No

f. (i) Are Boatlifts included? Yes No
If yes:
(ii) Number 2
(iii) Length 13'
(iv) Width 13'

Note: Roofed areas are calculated from dripline dimensions.

g. (i) Number of slips proposed
2
(ii) Number of slips existing
0

h. Check all the types of services to be provided.
 Full service, including travel lift and/or rail, repair or maintenance service
 Dockage, fuel, and marine supplies
 Dockage ("wet slips") only, number of slips: 2
 Dry storage; number of boats: _____
 Boat ramp(s); number of boat ramps: _____
 Other, please describe:

i. Check the proposed type of siting:
 Land cut and access channel
 Open water; dredging for basin and/or channel
 Open water; no dredging required
 Other; please describe:

j. Describe the typical boats to be served (e.g., open runabout, charter boats, sail boats, mixed types).
open runabout

k. Typical boat length: 18'-22'

l. (i) Will the facility be open to the general public?
 Yes No

m. (i) Will the facility have tie pilings?
 Yes No
(ii) If yes number of tie pilings?

2. DOCKING FACILITY/MARINA OPERATIONS This section not applicable

- a. Check each of the following sanitary facilities that will be included in the proposed project.
- Office Toilets
- Toilets for patrons; Number: _____; Location: NONE _____
- Showers
- Boatholding tank pumpout; Give type and location: NONE _____
- b. Describe treatment type and disposal location for all sanitary wastewater.
NONE _____
- c. Describe the disposal of solid waste, fish offal and trash.
NONE _____
- d. How will overboard discharge of sewage from boats be controlled?
NONE _____
- e. (i) Give the location and number of "No Sewage Discharge" signs proposed.
NONE _____
- (ii) Give the location and number of "Pumpout Available" signs proposed.
NONE _____
- f. Describe the special design, if applicable, for containing industrial type pollutants, such as paint, sandblasting waste and petroleum products.
NONE _____
- g. Where will residue from vessel maintenance be disposed of?
NONE _____
- h. Give the number of channel markers and "No Wake" signs proposed. NONE
- i. Give the location of fuel-handling facilities, and describe the safety measures planned to protect area water quality.
NONE _____
- j. What will be the marina policy on overnight and live-aboard dockage?
NO MARINA _____
- k. Describe design measures that promote boat basin flushing?
NONE _____
- l. If this project is an expansion of an existing marina, what types of services are currently provided?
NONE _____
- m. Is the marina/docking facility proposed within a primary or secondary nursery area?
 Yes No

- n. Is the marina/docking facility proposed within or adjacent to any shellfish harvesting area?
 Yes No
-
- o. Is the marina/docking facility proposed within or adjacent to coastal wetlands/marsh (CW), submerged aquatic vegetation (SAV), shell bottom (SB), or other wetlands (WL)? If any boxes are checked, provide the number of square feet affected.
 CW 360 SQ.FT. +/- SAV _____ SB 100 SQ.FT. +/-
 WL _____ None
- p. Is the proposed marina/docking facility located within or within close proximity to any shellfish leases? Yes No
 If yes, give the name and address of the leaseholder(s), and give the proximity to the lease.
- _____
- _____

3. BOATHOUSE (including covered lifts) This section not applicable

- a. (i) Is the boathouse structure(s):
 Commercial Public/Government Private/Community
- (ii) Number _____
- (iii) Length _____
- (iv) Width _____
- Note: Roofed areas are calculated from dripline dimensions.*

4. GROIN (e.g., wood, sheetpile, etc. If a rock groin, use MP-2, Excavation and Fill.) This section not applicable

- a. (i) Number _____
- (ii) Length _____
- (iii) Width _____

5. BREAKWATER (e.g., wood, sheetpile, etc.) This section not applicable

- a. Length _____
- b. Average distance from NHW, NWL, or wetlands _____
- c. Maximum distance beyond NHW, NWL or wetlands _____

6. MOORING PILINGS and BUOYS This section not applicable

- a. Is the structure(s):
 Commercial Public/Government Private/Community
- b. Number _____
- c. Distance to be placed beyond shoreline _____
Note: This should be measured from marsh edge, if present.
- d. Description of buoy (color, inscription, size, anchor, etc.)

- e. Arc of the swing _____

7. GENERAL

a. Proximity of structure(s) to adjacent riparian property lines

17' East, 65' West

b. Proximity of structure(s) to adjacent docking facilities.

100' East, 150' West

Note: For buoy or mooring piling, use arc of swing including length of vessel.

c. Width of water body

440'

d. Water depth at waterward end of structure at NLW or NWL

0" @ NLW

e. (i) Will navigational aids be required as a result of the project?

Yes No NA

(ii) If yes, explain what type and how they will be implemented.

Monticello City DUNE

8. OTHER

This section not applicable

a. Give complete description:

Proposed dock and 2 boat lifts to be placed on property line between residencies of co-applicants for shared private use only. Proposed dock to be 210' long and 4' wide with an average height of 6' above marsh substrate. 2 boat lift areas of 13' x 13' proposed at end of 10'x 40' platform area adjacent to dock. Materials to be of salt treated timber consisting of 6" round pillings spaced 10' on center, 2"x6" stringer boards, and 4" decking. Installation of piles to be machine driven from small barge outside of marsh grass, and piles to be washed in inside marsh grass area.

8/27/08

Date

Residential Dock W/ 2 Boat Lifts

Project Name

Jonathan McDaniel / Cheryl Kirchner

Applicant Name

Applicant Signature

Residential Dock with 2-Boat Lifts
Calico Creek – White Oak River Basin
1809/1811 Calico Drive
Morehead City, NC 28557

Project Narrative

Summary:

The Proposed Project is to consist of one residential dock with 2 boat lifts that will provide shared recreational use for two current residences on Calico Creek in Morehead City, Carteret County. To ensure the compatibility of the project with the continued productivity and value of Calico Creek, design guidelines have been taken into consideration to make the project as least impacting to the natural area as possible.

Site Background Information:

The two residences to share use of the proposed dock are located at 1809 and 1811 Calico Drive in the town of Morehead City. The water body to house the project is Calico Creek located in the White Oak River Basin. Calico Creek is approximately 1.5 miles in length before opening up to Calico Bay and essentially the Newport River at the North Carolina State Port at Morehead City. Calico Creek is approximately 440' wide at the project site as measured from the waterward edge of the marsh grass. In addition to marsh grass, the creek is home to several bird species and a numerous array of oyster beds and other marine aquatic life. Calico Creek is designated as a "Primary Nursery Area" as of January 2007 by the NCDENR Division of Marine Fisheries and is classified as SC; HQW by the same department's Division of Water Quality. Calico Creek is closed for shellfish harvesting, and also experiences extreme tidal conditions (< 2' of water at NLW, 5' at NHW) just to the outside of the channel. Being at such close proximity to a state port and Carteret County's largest municipality has severely impacted Calico Creek. Aside from direct point loading of a majority of Morehead City's stormwater runoff, the town of Morehead City's 1.7 Million Gallon per Day Wastewater Treatment Plant discharges the plant's effluent into Calico Creek approximately 3/4 mile upstream from the project site. The area around the project location on Calico Creek has been developed for residential use for over 50 years. Several piers, docking facilities, boat lifts, etc. at other residences are currently being used for boating and other recreational use. In fact, the neighbors adjacent to both project applicants have channels cut through the marsh grass towards docks that facilitate boat docking and one boat lift. The proposed project has a design focused on minimizing impacts because the applicants believe that Calico Creek is a very unique water body that can continue to be enjoyed by man if nature's concerns are placed first.

Project Character and Construction Methodologies:

Though the concept of a pier with docking facilities seems elementary, certain design considerations of the project have been taken into account to minimize impacts to the environment within Calico Creek. The proposed project will consist of a 4' wide, 220' long pier with two 10' x 20' platforms on each side at the end of the pier to allow for access to 2 boat lift

areas that are 13'x 13'. The choice of the applicants to propose one shared dock on their property line serves several functions. Having one dock for two properties has half the impacts caused from construction and installation, long term exposure of treated lumber and metals to the environment, and shade effects on marsh grass growth. Having one shared dock also preserves the aesthetic value of the project area by reducing the amount of actual materials that would otherwise occupy and hinder visual aspects and views. The proposed length of 220' of the shared pier and 1 boat lift for each property will facilitate recreational boat use during most tidal conditions without impacting marsh grass, oysters, etc. compared to marine dredging that was previously conducted for boat use in Calico Creek. To reduce negative affects on marsh grass growth from excessive shade, the dock is to be at an average elevation of 6' above the marsh substrate rather than the required 3' minimum, and spacing between decking will be maximized to the allowable width under the town of Morehead City's building code. The spacing between marine piles will be pushed to 10' rather typical lengths of 6' or 8', in order to reduce the area impacted from installation of pilings. In addition, submitting this application in early September was for the specific reason to allow for sufficient review time in order to coordinate construction of the project during late fall and winter months. Dock construction during this time period is the least impacting to the area because oysters are not in their reproductive stage, birds have flown south, and marine aquatic life (fish, juvenile fish, shrimp, crabs, etc.) is essentially inactive compared to the summer months.



DIVISION OF COASTAL MANAGEMENT
FIELD INVESTIGATION REPORT

- 1. **APPLICANT'S NAME:** Jonathan McDaniel and Cheryl Kirchner
- 2. **LOCATION OF PROJECT SITE:** 1809/1811 Calico Drive adjacent to Calico Creek in Morehead City, Carteret County
Photo Index - 2000: 41-525 grid J (10&11)
2006: 41-8037 grid O (10&11), P (10)

State Plane Coordinates - X: 2682770.247 **Y:** 363898.870 **Rover # J100911A**
LAT 34°43'42.21417 **LON** 76°43'38.6972700

- 3. **INVESTIGATION TYPE:** CAMA
- 4. **INVESTIGATIVE PROCEDURE:** Dates of Site Visit – 10/9/08, 12/14/08, 1/29/09
Was Applicant Present –no, no, yes
- 5. **PROCESSING PROCEDURE:** Application Received –2/2/09
Office – Morehead City

- 6. **SITE DESCRIPTION:**
 - (A) Local Land Use Plan – Morehead City
Land Classification From LUP – Low Density/Conservation
 - (B) AEC(s) Involved: PTA, EW, CW, ES
 - (C) Water Dependent: Yes
 - (D) Intended Use: Private
 - (E) Wastewater Treatment: Existing – Municipal Sewer
Planned - None
 - (F) Type of Structures: Existing – Two single-family residences
Planned - Shared pier, platform, two boatlifts
 - (G) Estimated Annual Rate of Erosion: N/A
Source – N/A

7. **HABITAT DESCRIPTION:**

	<u>DREDGED</u>	<u>FILLED</u>	<u>OTHER</u>
(A) Open Water	N/A	N/A	1,196 ft ² incorp. 780 ft ² shaded
(B) Coastal Wetlands	N/A	N/A	380ft ² incorp. 380ft ² shaded

- (D) Total Area Disturbed: 1576 ft²
- (E) Primary Nursery Area: Yes
- (F) Water Classification: SC, HQW Open: NO

8. **PROJECT SUMMARY:** The applicants are proposing a pier, platform and boatlifts that would provide shared use for two residences.

McDaniel/Kirchner
1809/1811 Calico Drive
Page 02

9. Narrative Description:

The McDaniel/Kirchner project is located at 1809 and 1811 Calico Drive in Morehead City, Carteret County. The site is found by turning north off of Hwy. 70 East onto N. 20th Street. Once the existing bridge is crossed Calico Drive will be directly on the right. The site lies on the northern side of Calico Creek in this area.

The subject properties are 19,074 square feet in their entirety and average 5.5' in elevation above NHW. Currently on the high ground portion of the sites are single-family residences, and storage buildings. The high ground portions of the tracts are mostly void of vegetation with the exception of the existing lawns, a few iva bushes and honeysuckle. Along the shoreline of Calico Creek is a 95' fringe of Coastal Marsh that contains Salt Meadow Grass (*Spartina patens*) and Smooth Cordgrass (*Spartina alterniflora*).

There are significant oyster beds throughout this area of Calico Creek. The proposed shared pier would be located outside of the existing oyster beds. The water depths are at an average of 0 inches to -6 inches at NLW in this area with an average daily tidal range of 2.5'. The shoreline has a total length along the NHW contour of 150ft. There are single-family homes to the east and west with private docks.

The Division of Water Quality classifies this area as SC and HQW waters. This area is a Primary Nursery Area and is not open to the taking of shellfish. Calico Creek is approximately 440' wide at the project site. Morehead City's Land Use Plan dated 2007 classifies this area as Low Density/Conservation within the AEC's. Substrate composition is mostly silt.

10. Project Description:

The applicants propose to construct a shared pier and platform with two boatlifts. The new slip/lift areas would be located east and west of the proposed platform. The proposed lifts would measure 13' x 13'. Water depths around the new slip/lift areas range from - 0'' to -6'' NLW. Calico Creek is approximately 440' wide in this area with the proposed pier, boatlifts and platform extending a length of 110' from the edge of the marsh and a total length of 210' from NHW. Riparian lines are drawn 90° from the channel and appear to coincide with aerial photography and the plat dated received 1/08/09 showing the channel configuration. The proposed dock would terminate twenty-five feet landward from the edge of calico creek channel. All of the proposed work would meet the 15' minimum setback from the riparian corridors.

McDaniel/Kirchner
1809/1811 Calico Drive
Page 03

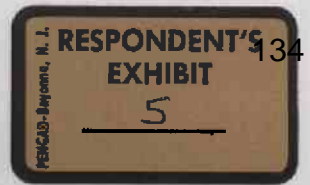
11. Anticipated Impacts:

The proposed installation of the new pier, boatlifts and platform would result in temporary turbidity. The effects from the shallow water depths at NLW with egress and ingress have the potential to cause significant excavation through prop wash kicking. This would be considered new excavation which is not allowed within primary nursery areas per 15ANCAC 7H.0208 (b) (6). The project would incorporate 1,196ft² of open water whiling shading 780ft² of open water. The project would also shade and incorporate 380ft² of coastal wetlands. The pier portion would cross 88ft² of oyster rock. The impacts should be minimized if the small sections of oyster rock are hand dug. The total shoreline for this project is 150', which would allow for a total of 600 square feet of platform. The proposed platform square footage for this would be 384 square feet. There should be no hazard to navigation resulting from this project, as the proposed work is located twenty-five feet landward of the existing channel edge. No coastal marsh would be filled or excavated during this project.

Heather Styron

Morehead City

February 5, 2009



North Carolina Department of Environment and Natural Resources
Division of Coastal Management

Beverly Eaves Perdue, Governor

James H. Gregson, Director

Dee Freeman, Secretary

MEMORANDUM:

TO: DOUG HUGGETT

FROM: HEATHER STYRON *HNS*

THROUGH: TERE BARRETT *MB*

SUBJECT: COMMENTS & RECOMMENDATIONS - CAMA MAJOR PERMIT-
McDANIEL/KIRCHNER, 1809/1811 CALICO DRIVE, MOREHEAD
CITY

DATE: 2/5/09

The following are my comments and recommendations regarding the aforementioned proposal. The proposal is for the development of a shared pier, platform and two slips with boatlifts located within a primary nursery area. The development proposed within the AEC, meets the requirements of 7H.0208 specific use standards for piers, platforms, boatlift design and location. However this proposal is inconsistent with the general and specific use standards found in 15A NCAC 7H.0208 (a)(2) (B) and 15A NCAC 7H.0208 (b) (6). Due to the lack of water at NLW in this area any boating has the potential to cause significant excavation through prop wash kicking. This would be considered new excavation which is not allowed within primary nursery areas per 15A NCAC 7H.0208 (b) (6). Therefore I recommend the project be denied as proposed.

Cc: Tere Barrett, DCM
Ted Tyndall, DCM
Dave Timpy, COE



RESPONDENT'S 35
EXHIBIT
6

North Carolina Department of Environment and Natural Resources

Division of Marine Fisheries

Beverly Eaves Perdue
Governor

Dr. Louis B. Daniel III
Director

Dee Freeman
Secretary

MEMORANDUM

RECEIVED
FEB 24 2009

TO: Doug Huggett
Major Permits Processing Coordinator

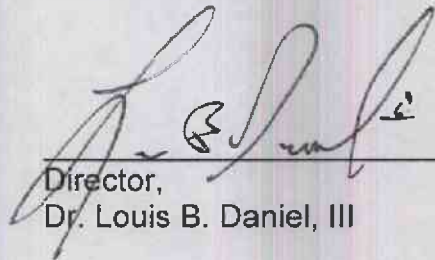
FROM: Dr. Louis B. Daniel, III, Director
Division of Marine Fisheries

Morehead City DCM

DATE: February 20, 2008


SUBJECT: CAMA / DREDGE AND FILL PERMIT
Jonathan McDaniel and Cheryl Kirchner
1809/1811 Calico Drive, Morehead City
Carteret County

I have reviewed the comments provided by the District Manager and/or Bio-Supervisor and concur with their recommendation(s).



Director, Date
Dr. Louis B. Daniel, III 2/19/09

Deputy Director, Date
Barbara Y. Lupton



Habitat Protection Section Chief, Date
Anne Deaton 2/20/09



North Carolina Department of Environment and Natural Resources
 Division of Coastal Management
 James H. Gregson
 Director

Beverly Eaves Perdue
 Governor

136
 FEB 12 2009
 DMF - HABITAT PROTECTION
 Dee Freeman
 Secretary

5

February 12, 2009

MEMORANDUM:

TO: Anne Deaton
 Division of Marine Fisheries

FROM: Doug Huggett
 Major Permits Processing Coordinator

SUBJECT: CAMA/DREDGE & FILL Permit Application Review

Applicant: Jonathan McDaniel and Cheryl Kirchner

Project Location: The project site is located at 1809/1811 Calico Drive, Morehead City, Carteret County

Proposed Project: The applicant is proposing a pier, platform and boatlifts that would provide shared use for two residences.

RECEIVED
 FEB 12 2009
 DMF - HABITAT PROTECTION

Please indicate below your agency's position or viewpoint on the proposed project and return this form by **03/05/2009**. If you have any questions regarding the proposed project, please contact **Heather Styron** at (252) 808-2808. When appropriate, in-depth comments with supporting data are requested.

- REPLY:** This agency has no objection to the project as proposed.
- This agency has no comment on the proposed project.
- This agency approves of the project only if the recommended changes are incorporated. See attached.
- This agency objects to the project for reasons described in the attached comments.

SIGNED *Patricia M. Ph...* **DATE** 2/19/09
 400 Commerce Ave., Morehead City, NC 28557-3421
 Phone: 252-808-2808 \ FAX: 252-247-3330 Internet: www.nccoastalmanagement.net

An Equal Opportunity \ Affirmative Action Employer

Anne Deaton

2/20/09

One
 North Carolina
 Naturally



North Carolina Department of Environment and Natural Resources

Division of Marine Fisheries

Dr. Louis B. Daniel III

Director

Beverly Eaves Perdue
GovernorDee Freeman
Secretary**MEMORANDUM**

TO: Doug Huggett
Major Permits Processing Coordinator

FROM: Patricia L. Murphey *plm* *td*
Marine Biologist Supervisor

DATE: February 19, 2009

RE: 1809/1811 Calico Drive, Morehead City, Carteret County

The North Carolina Division of Marine Fisheries (NCDMF) has reviewed the permit application and conducted a site visit on February 17th 2009. The applicant proposes to develop a pier, platform and boatlifts that would provide shared use for two residences. The DMF commends the applicants for the development of one dock instead of two. This minimizes the cumulative impacts of multiple docks within an area. This pier is located in Calico Creek, a Primary Nursery Area (PNA). The pier crosses approximately 88 square ft of oyster rock, terminating in 0" to 6" NLW water depth. **The DMF recommends denial of the project as proposed due to significant adverse impacts to shallow bottom habitat and shell habitat by prop dredging within a PNA.** The DMF will remove its recommendation if the following modifications are made: (1) removal of the both proposed boatlifts, (2) the addition of handrails to the pier and; (3) the small sections of oyster rock to be impacted by pilings are hand dug before the placement of the pilings.



North Carolina Department of Environment and Natural Resources
Division of Coastal Management

James H. Gregson
Director

RESPONDENT'S
EXHIBIT 38
7

Beverly Eaves Perdue
Governor

Dee Freeman
Secretary

FEB 26 2009

February 12, 2009

Morehead City DCM



MEMORANDUM:

TO: Maria Dunn
NC Wildlife Resources Commission

FROM: Doug Huggett
Major Permits Processing Coordinator

SUBJECT: CAMA/DREDGE & FILL Permit Application Review

Applicant: Jonathan McDaniel and Cheryl Kirchner

Project Location: The project site is located at 1809/1811 Calico Drive, Morehead City, Carteret County

Proposed Project: The applicant is proposing a pier, platform and boatlifts that would provide shared use for two residences.

Please indicate below your agency's position or viewpoint on the proposed project and return this form by 03/05/2009. If you have any questions regarding the proposed project, please contact Heather Styron at (252) 808-2808. When appropriate, in-depth comments with supporting data are requested.

- REPLY:** _____ This office has no objection to the project as proposed.
- _____ This office has no comment on the proposed project.
- This office approves of the project only if the recommended changes are incorporated. See attached.
- _____ This office objects to the project for reasons described in the attached comments.

SIGNED Maria Dunn **DATE** 2-24-2009





☒ North Carolina Wildlife Resources Commission ☒

Gordon Myers, Executive Director

MEMORANDUM

TO: Doug Huggett, Major Permits Processing Coordinator
Division of Coastal Management
North Carolina Department of Environment and Natural Resources

FROM: Maria T. Dunn, Northeast Coastal Region Coordinator *Maria T. Dunn*
Habitat Conservation Program

DATE: February 24, 2009

SUBJECT: CAMA Dredge/Fill Permit Application for Jonathan McDaniel and Cheryl Kirchner, Carteret County, North Carolina.

Biologists with the North Carolina Wildlife Resources Commission (NCWRC) reviewed the permit application with regard to impacts on fish and wildlife resources. The project site is located at 1809 / 1811 Calico Drive adjacent Calico Creek in Morehead City, NC. Our comments are provided in accordance with provisions of the Coastal Area Management Act (G.S. 113A-100 through 113A-128), as amended, and the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.).

The applicant proposes to construct a pier, platform, and two boat lifts that would serve two residents. The proposed structures will extend 110' into the 440' water body. Water depths at the proposed slip location range from 0" to 6" NLW. Significant oyster beds are in the vicinity. Calico Creek is classified SC HQW by the Environmental Management Commission and is designated a primary nursery area (PNA) by the NC Division of Marine Fisheries (NCDMF).

The NCWRC has reviewed the permit application and is very concerned with the proposed project. We do not generally support boat slips in water depths less than 2.5' NLW. In addition to our concerns with shallow depths, this area of Calico Creek has significant oyster beds. Vessel ingress and egress may adversely impact oyster beds by prop dredging channels to the boatlifts, and could be a source of chronic turbidity. Therefore to protect marine resources, we support the NCDMF and Shellfish Sanitation in their comments and concerns regarding this project.

We appreciate the opportunity to review and comment on this permit application. If you need further assistance or additional information, please contact me at (252) 948-3916.

Mailing Address: Division of Inland Fisheries • 1721 Mail Service Center • Raleigh, NC 27699-1721
Telephone: (919) 707-0220 • **Fax:** (919) 707-0028



North Carolina Department of Environment and Natural Resources
Division of Water Quality



Beverly Eaves Perdue
Governor

Coleen H. Sullins
Director

Dee Freeman
Secretary

March 13, 2009

DWQ Project # 09 0169
Carteret County

RECEIVED
MAR 17 2009

Morehead City DCM

**CERTIFIED MAIL: 7007 0220 0000 8222 7719
RETURN RECEIPT REQUESTED**

Jonathan McDaniel and Cheryl Kirchner
1809 Calico Drive
Morehead City, NC 28557

Subject Property: **1809 and 1811 Calico Drive
REQUEST FOR MORE INFORMATION/HEADING TOWARDS DENIAL**

Dear Mr. McDaniel and Ms. Kirchner:

On February 16, 2009, the Division of Water Quality (DWQ) Wilmington Regional Office (WiRO) received your CAMA application dated February 12, 2009 for a joint pier, platform and boatlifts to be shared by the above-mentioned properties. The DWQ has determined that your application was incomplete and/or provided inaccurate information as discussed below. The DWQ will require additional information in order to process your application to impact protected wetlands and/or streams on the subject property. Therefore, unless we receive the additional information requested below, we will have to move toward denial of your application as required by 15A NCAC 2H .0506 and will place this project on hold as incomplete until we receive this additional information. Please provide all of the following information so that we may continue to review your project.

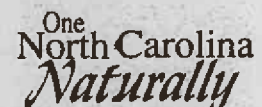
Additional Information Requested:

1. The North Carolina Division of Marine Fisheries (DMF) is recommending denial of the proposed project due to the primary nursery area (PNA) designation by DMF. DMF is concerned that your proposed project would cause significant adverse impacts to the PNA, which would be considered a degradation of waters, which would result in violations of the following Water Quality Standard

15A NCAC 02B .0201 ANTIDegradation POLICY

(f) Activities regulated under Section 404 of the Clean Water Act (33 U.S.C. 1344) which require a water quality certification as described in Section 401 of the Clean Water Act (33 U.S.C. 1341) shall be evaluated according to the procedures outlined in 15A NCAC 2H .0500. Activities which receive a water quality certification pursuant to these procedures shall not be considered to remove existing uses. The evaluation of permits issued pursuant to G.S. 143-215.1 that involve the assimilation of wastewater or stormwater by wetlands shall incorporate the criteria found in 15A NCAC 2H .0506(1)-(5) in determining the potential impact of the proposed activity on the existing uses of the wetland per 15A NCAC 2H .0231.

Wilmington Regional Office
127 Cardinal Drive Extension Wilmington, NC 28405
Phone: 910-796-7215 / FAX: 910-350-2004
Internet: www.ncwaterquality.org



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Jonathan McDaniel and Cheryl Kirchner

DWQ # 09 0169

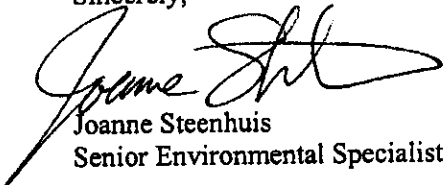
March 13, 2009

DMF recommends that 1) removal of both proposed boatlifts; 2) the addition of handrails to the pier and; 3) the small sections of oyster rock to be impacted by pilings are hand dug for the placement of the pilings. If the recommendations of DMF are followed, the DWQ will have no objection.

Please respond within three weeks of the date of this letter by sending this information to me in writing and two copies to Ian McMillan c/o 401 Wetlands Unit, 2321 Crabtree Blvd, Raleigh, NC 27604-2260. Please reference the DWQ Project # of 2009 0169 in all future correspondence. If we do not hear from you within three weeks, we will assume that you no longer want to pursue this project and we will consider the project as withdrawn.

This letter only addresses the application review and does not authorize any impacts to wetlands, waters or protected buffers. **Please be aware that any impacts requested within your application are not authorized (at this time) by the DWQ.** Please call me at 910.796.7215 or Ian McMillan at 919.715.4631 if you have any questions regarding or would like to set up a meeting to discuss this matter.

Sincerely,



Joanne Steenhuis
Senior Environmental Specialist

cc: Ian McMillan - DWQ 401 Oversight and Express Unit, Raleigh
Dave Timpy - USACE Wilmington Regulatory Field Office
Doug Huggett - DCM Morehead Office
Heather Styron - DCM Morehead Office
Trish Murphey - Division of Marine Fisheries - Morehead
WiRO



North Carolina Department of Environment and Natural Resources
Division of Coastal Management

Beverly Eaves Perdue, Governor

James H. Gregson, Director

Dee Freeman, Secretary

June 25, 2009

**CERTIFIED MAIL
RETURN RECEIPT REQUESTED**

Mr. Jonathan McDaniel
1809 Calico Drive
Morehead City, NC 28557

Ms. Cheryl Kirchner
1811 Calico Drive
Morehead City, NC 28557

Dear Mr. McDaniel and Ms. Kirchner:

This letter is in response to your application for a Major Permit under the Coastal Area Management Act (CAMA), in which authorization was requested to install a dock with two boatslips adjacent to Calico Creek, in Carteret County. Processing of the application, which was received as complete by the Division of Coastal Management's Morehead City Office on February 2, 2009, is now complete. Based on the state's review, the Division of Coastal Management has made the following findings:

- 1) The proposed project is located within a Primary Nursery Area (PNA), as designated by the North Carolina Marine Fisheries Commission. Primary Nursery Areas are those areas in the estuarine and ocean system where initial post larval development of finfish and crustaceans takes place.
- 2) The proposed docking facility would extend approximately 110 feet into the waters of Calico Creek. The waterbody is approximately 440 feet wide at this location. Water depths within the area of the proposed slips range from -0" to -6" Normal Low Water Level.
- 3) During the course of the joint State and federal permit application review process, NC Division of Marine Fisheries stated that prop kicking from vessels using the docking facility would result in significant adverse impact on the Calico Creek PNA system. The Division of Coastal Management staff made a similar finding. The NC Wildlife Resources Commission also echoed these concerns. Additionally, the Division of Water Quality indicated that they were heading towards denial of the Water Quality Certification due to significant adverse impacts to the Primary Nursery Area.

- 4) Based upon the above referenced findings, the Division has determined that the proposed project is inconsistent with the following rules of the Coastal Resources Commission:
- a) 15A NCAC 07H.0206(c), which states "Management Objective. To conserve and manage the important features of estuarine waters so as to safeguard and perpetuate their biological, social, aesthetic, and economic values; to coordinate and establish a management system capable of conserving and utilizing estuarine waters so as to maximize their benefits to man and the estuarine and ocean system."
 - b) 15A NCAC 07H.0208(a)(2)(B), which states that "Before receiving approval for location of a use or development within these AECs, the permit-letting authority shall find that no suitable alternative site or location outside of the AEC exists for the use or development and, further, that the applicant has selected a combination of sites and design that will have a minimum adverse impact upon the productivity and biologic integrity of coastal marshland, shellfish beds, beds of submerged aquatic vegetation, spawning and nursery areas, important nesting and wintering sites for waterfowl and wildlife, and important natural erosion barriers (cypress fringes, marshes, clay soils)."

Given the preceding findings, it is necessary that your request for issuance of a CAMA Major Permit under the Coastal Area Management Act be denied. This denial is made pursuant to N.C.G.S. 113A-120(a)(8) which requires denial for projects inconsistent with the state guidelines for Areas of Environmental Concern or local land use plans.

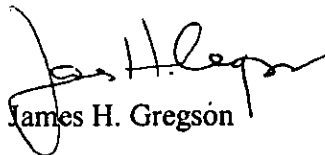
If you wish to appeal this denial, you are entitled to a hearing. The hearing will involve appearing before an Administrative Law Judge who listens to evidence and arguments of both parties and then makes a recommendation to the Coastal Resources Commission. Your request for a hearing must be in the form of a written petition, complying with the requirements of §150B of the General Statutes of North Carolina, and must be filed with the Office of Administrative Hearings, 6714 Mail Service Center, Raleigh, NC 27699-6714, within twenty (20) days from the date of this letter. A copy of this petition should be filed with this office.

Also, you are advised that as long as this state permit denial stands, your project must be deemed inconsistent with the N.C. Coastal Management Program, thereby precluding the issuance of federal permits for this project. The Federal Coastal Zone Management Act (CZMA) gives you the right to appeal this finding to the U.S. Secretary of Commerce within thirty days of receipt of this letter. Your appeal must be on the grounds that the proposed activity is (1) consistent with the objectives or purposes of the CZMA, or (2) is necessary in the interest of national security, and thus, may be federally approved.

Mr. Daniel/Ms. Kirchner
June 25, 2009
Page 3

Members of my staff are available to assist you should you desire to modify your proposal in the future. If you have any questions concerning this matter, please contact Mr. Jonathan Howell at (252) 808-2808, extension 211.

Sincerely,



James H. Gregson

cc: Colonel Jefferson M. Ryscavage – U.S. Army Corps of Engineers, Wilmington, NC
David Kennedy, Director – OCRM/NOAA, Silver Spring, MD
David Timpy, ACOE
DCM - Morehead City

SECTION VI



STATE OF NORTH CAROLINA
DEPARTMENT OF JUSTICE

ROY COOPER
ATTORNEY GENERAL

P.O. BOX 629
RALEIGH, NC 27602

REPLY TO: CHRISTINE A. GOEBEL
ENVIRONMENTAL DIVISION
TEL: (919) 716-6600
FAX: (919) 716-6767
cgoebel@ncdoj.gov

TO: Coastal Resources Commission

FROM: Christine A. Goebel
Assistant Attorney General

Handwritten signature of Christine A. Goebel in black ink.

DATE: May 7, 2010 (for the May 19, 2010 CRC Meeting)

RE: **Variance Request by Bennett Brothers Yachts, Inc. (10-01)**

Petitioner owns an existing marina in Wilmington, North Carolina, just north of the Isabelle Holmes Bridge crossing the Northeast Cape Fear River. In June 2009, Petitioner sought a CAMA major permit to perform new dredging in part of its marina area. This area is designated as a Primary Nursery Area (PNA) by the Marine Fisheries Commission (MFC), and per CRC rule 15A NCAC 7H.0208(b)(5)(B), new dredging in a PNA is prohibited. Based on this rule and other rules of the CRC cited in the denial letter, DCM denied Petitioner's permit application on December 23, 2009. Petitioner now seeks a variance to allow the proposed new dredging and proposed mitigation measures.

The following additional information is attached to this memorandum:

Attachment A: Relevant Rules
Attachment B: Stipulated Facts
Attachment C: Petitioner's Position and Staff's Responses to Criteria
Attachment D: Petitioner's Variance Request Materials
Attachment E: Stipulated Exhibits

cc: William A. Raney, Jr., Counsel for Petitioner, U.S. Mail and electronically
Chris O'Keefe, CAMA LPO, New Hanover County, U.S. Mail and electronically
DCM Staff, electronically
Jennie W. Hauser, CRC Counsel, electronically

RELEVANT STATUTES OR RULES

15A NCAC 7H.0203 Management Objective of the Estuarine and Ocean System

It is the objective of the Coastal Resources Commission to conserve and manage estuarine waters, coastal wetlands, public trust areas, and estuarine and public trust shorelines, as an interrelated group of AECs, so as to safeguard and perpetuate their biological, social, economic, and aesthetic values and to ensure that development occurring within these AECs is compatible with natural characteristics so as to minimize the likelihood of significant loss of private property and public resources. Furthermore, it is the objective of the Coastal Resources Commission to protect present common-law and statutory public rights of access to the lands and waters of the coastal area.

15A NCAC 7H.0206 Estuarine Waters

(c) Management Objective. To conserve and manage the important features of estuarine waters so as to safeguard and perpetuate their biological, social, aesthetic, and economic values; to coordinate and establish a management system capable of conserving and utilizing estuarine waters so as to maximize their benefits to man and the estuarine and ocean system.

15A NCAC 7H .0208 Coastal Shorelines

(a) General Use Standards

(2) Before being granted a permit by the CRC or local permitting authority, there shall be a finding that the applicant has complied with the following standards:

(B) Before receiving approval for location of a use or development within these AECs, the permit-letting authority shall find that no suitable alternative site or location outside of the AEC exists for the use or development and, further, that the applicant has selected a combination of sites and design that will have a minimum adverse impact upon the productivity and biologic integrity of coastal marshland, shellfish beds, beds of submerged aquatic vegetation, spawning and nursery areas, important nesting and wintering sites for waterfowl and wildlife, and important natural erosion barriers (cypress fringes, marshes, clay soils).

(C) Development shall not violate water and air quality standards.

(b) Specific Use Standards

- (1)** Navigation channels, canals, and boat basins shall be aligned or located so as to avoid primary nursery areas highly productive shellfish beds, beds of submerged aquatic vegetation, or significant areas of regularly or irregularly flooded coastal wetlands.

- (5)** Marinas. Marinas are defined as any publicly or privately owned dock, basin or wet boat storage facility constructed to accommodate more than 10 boats and providing any of the following services: permanent or transient docking spaces, dry storage, fueling facilities, haul-out facilities and repair service. Excluded from this definition are boat ramp facilities allowing access only, temporary docking and none of the preceding services. Expansion of existing facilities shall also comply with these standards for all development other than maintenance and repair necessary to maintain previous service levels.

- (B)** Marinas which require dredging shall not be located in primary nursery areas nor in areas which require dredging through primary nursery areas for access. Maintenance dredging in primary nursery areas for existing marinas shall be considered on a case-by-case basis under the standards set out in Part (b)(1)(J) of this Rule.

STIPULATED FACTS

1. Bennett Brothers Yachts, Inc. has been in business in New Hanover County since 1989, after relocating from Connecticut. The company was owned by Paul and Patricia Bennett until Paul Bennett's death in 2007. Patricia Bennett is now the sole owner.
2. Bennett Brothers Yachts, Inc. was issued CAMA Permit #90-97 on July 2, 1997 for the construction of a marina and upland boat repair facility along the Northeast Cape Fear River at 1701 J.E.L. Wade Drive, Wilmington. The marina site, approximately 1800 feet in length, is immediately north of the Isabelle Holmes Bridge, along the east side of the river. Site photographs will be presented to the Commission as part of a power-point slide show.
3. On June 10, 2009, DCM staff accepted as complete, Petitioner's application for a Major Modification of CAMA Permit #90-97 (and associated variance, modifications and renewals). Petitioner proposed to dredge an area of about 87,000 square feet within the footprint of the existing docks to remove sediment that had accumulated since the Marina was constructed without dredging in 1997.
4. On December 23, 2009, DCM denied Petitioner's application for a Major Modification of CAMA Permit #90-97 (and associated variance, modifications and renewals). A copy of the denial letter is attached.
5. Petitioner is seeking a variance from the CRC's rules which are noted in DCM's permit denial letter (attached).
6. The 72-slip open water marina was originally designed to be further into the river. A ruling by the Corps of Engineers imposed a 112-foot offset from the 32-foot depth federally maintained navigation channel, rather than the 80-foot setback Petitioner originally thought applicable. This is noted in the December 3, 1997 Final Order of the CRC regarding the variance allowing dredging of the Travel Lift Pit area, a copy of which is attached. As a result of the Corps decision, the originally designed marina footprint was shifted landward 32-feet to comply.
7. All of the area of the proposed dredging is within a Primary Nursery Area (PNA), as designated by the Division of Marine Fisheries (DMF). The PNA in this area covers the entire width of the river, excluding the maintained channel. "Primary Nursery Areas are those areas in the estuarine and ocean system where initial post larval development of finfish and crustaceans takes place. They are usually located in the uppermost sections of a system where populations are uniformly early juvenile stages." 15A NCAC 7H.0208(a)(4)

8. The waters occupied by the marina are classified as SC by the Environmental Management Commission and are closed to shellfishing.
9. No dredging was proposed or authorized in the 1997 permit review and issuance, and like now, most new dredging in PNAs was not allowed under the CRC's rules. A CAMA permit could not have been issued at the 1997 time of permitting had it been proposed, unless a variance had been granted. See attached copy of Rhode/DMF 11/21/96 and 10/27/97 memos.
10. During Major permit review, DMF stated that "the new dredging will have a significant adverse impact on the estuarine resources in the project area and objects to the project." A copy of DMF's comments is attached.
11. During Major permit review, the Wildlife Resources Commission (WRC) supported DMF's comments and conclusions, and also objected to the project. A copy of WRC's comments is attached.
12. The Division of Water Quality (DWQ) indicated that they were heading towards denial of the required 401 Water Quality Certification for this project due to a finding that the adverse impacts to the PNA could result in a removal or degradation of significant existing water quality uses. See DCM denial letter and DWQ 8-13-09 comments, attached. DWQ's 401 Water Quality Certification application for this project is still pending and is on hold at this time.
13. The site is subject to lunar tides with currents running upstream and downstream depending on the tidal cycle. Typical tidal currents in the dock location are 1 to 1.5 knots.
14. At the time the docks were constructed in 1997, all of the boat slips had at least -4.0-feet at mean low water.
15. At the time the docks were constructed, all of the docks floated freely at all times, even during unusually low tides.
16. Sections of the main docks, running approximately parallel to the shoreline, are now experiencing being aground at low water. Photographs submitted by Petitioner show the slope of the shoreline in the area of the marina. This is not good for the safety of people using the docks. The flotation for the docks consists of PVC tubs and if they are resting on the bottom, there is the potential risk of tub puncture if they rest on a hard or sharp object on the bottom.
17. According to the Coastal Habitat Protection Plan's (CHPP) section on soft bottom habitat, "...when docks are permitted in very shallow areas, moored boats or floating docks may actually sit on the bottom for a large portion of a tidal cycle (up to 12 hr) or cause considerable turbidity or prop

CRC-VR-10-01

dredging when attempting to motor to deeper navigable waters (SAMFC 2009). Either situation can significantly reduce primary or secondary productivity. (F. Rhode, DMF, 2009).”

18. The 50-foot slips in the south section which run parallel to the main dock, have insufficient water depth for vessels typical of such slips, causing vessels to be potentially aground twice a day at low tide. The American Society of Civil Engineers recommends a depth of 8-feet for a 40-foot slip and a depth of 12-feet for a 50-foot slip. Vessels with a six foot draft are common for this size slip and vessels of six foot draft occupied these slips in the early years of the marina, based on the affidavit submitted by Mrs. Bennett.
19. The tidal range at the marina is about 4.7-feet.
20. The mean lower-low water is -0.6-feet mean low water.
21. The outer docks still have a water depth at mean low water of 20-feet to 24-feet.
22. On December 3, 1997, the CRC granted a variance to Petitioner to allow the dredging of .02 acres of PNA to deepen the area designated as the Travel Lift Pit. A copy of the CRC’s variance Order is attached.
23. The Travel Lift Pit variance Final Order, dated 1997, Conclusion of Law item #5 states that, “this hardship results from conditions peculiar to the subject property in that Petitioner planned the project to avoid any primary nursery area, but was forced to pull the proposed project closer to shore and into shallower water to comply with the Corps of Engineers’ channel line, causing part of the project to be relocated into an area that is designated as a PNA, but does not have high functional value.” Conclusion of Law #6 characterized the PNA in the Travel Lift Area as a “PNA that does not have a high resource value.”
24. The applicant agrees that any permit resulting from a variance from the CRC can be conditioned upon reducing the depth at the landward edge of the main docks from -6-feet MLW to -4.5-feet MLW. This is a 30% reduction in requested dredge volume to 4400 cubic yards. (See calculation sheet by Bruce Marek, P.E. January 4, 2010, attached). DCM staff note that this proposed condition was not reviewed as part of the CAMA Major Permit process.
25. The marina footprint bounded by the docks is 135,000 square feet. The proposed dredge area from the landward side of the main docks to the -12-foot MLW contour is 87,000 square feet. The proposed dredging in areas less than -4-feet is 27,000 square feet.
26. The City of Wilmington has an old storm drain approximately 200-feet north of the north dock access ramp. According to the attached affidavit by Mrs. Bennett, this storm drain collapsed in 2000

CRC-VR-10-01

and photographs provided by Petitioner purport to show the collapse resulting in sediment being transported into the river at this location.

27. The “Cape Fear Marina” (the name for the marina portion of the site) used to be a commercial wharf for past usage of the site as a lumber mill. As such, logs and timber were lost off barges and schooners. Old sunken logs were removed from the site just prior and during the 1997 marina construction, in accordance with regulatory standards, in order to drive piles for the marina.
28. In 1998, Yerkes Construction removed an old dilapidated barge from the northern dock area, under approvals from the Underwater Archaeology Unit of the State.
29. Historical use of the marina site as wharf/docking areas for commercial vessels dates back to the 1860’s.
30. Petitioner earned the NC “Clean Marina Designation” in 2009.
31. Petitioner has in-slip holding tank pump-out facilities.
32. Petitioner has the prototype Clean Marine Solutions Marina Wastewater Compliance Systems, a system that uses advanced polymer chemistry and evaporative technology to treat power wash water and turn it into powder. Bottom paint residue is then removed by the company’s solid waste disposal contractor.
33. Petitioner, in addition to offering to minimize dredging depths/volumes (See Fact #24), will agree to add 24 tons of rip-rap as habitat for juvenile fish, landward of U-dock, south of the Water Treatment Plant discharge pipe as a condition for any permit granted resulting from this variance request. DCM staff note that this proposed condition was not reviewed as part of the CAMA Major permit process.
34. DCM determined that the proposed modification was consistent with the applicable CAMA local land use plan. A copy of DCM’s comments is attached.

ATTACHMENT C

Petitioner and Staff Positions

I. Will strict application of the applicable development rules, standards, or orders issued by the Commission cause the petitioner unnecessary hardships? If so, the petitioner must identify the hardships.

Petitioner's Position: Yes.

At this time, sections of the main (8' wide) docks are aground twice a day at low tide. These sections run parallel to the shoreline. Also, certain slips or slip ends closest to the main docks have insufficient water depth for dockage of vessels. Since tide peaks shift approximately an hour each day, it is not a simple issue to "work around" the period of low tide. Boaters want to be able to move in and out of their slips without being held hostage by a tide which literally has them sitting on the mud. Boaters will want to use their boats when they have time or need to use them. Transient vessels will want holding tanks pumped out. The main docks sit in the mud on one edge and are barely floating on the other, causing them to be at an angle. Docks sitting askew are not good for the docks and piping systems.

Because of the nearby shipping channel, the docks cannot be shifted into deeper water to avoid the need for dredging. The Isabelle Holmes Bridge is immediately downstream of the property.

Maintenance dredging in itself is a hardship, as the cost of mobilization, disposal of spoil, loss of land use for the spoil basin, and disruption of marina operations during dredge cycles is not one that was planned on nor that is conducive to running a business. Dredge fees, engineering fees and contingency funds for future dredging are expenses that any business would be very hesitant to take on, especially in this economy. But with the alternative being a business that is severely impacted, there is no other choice.

If slips can't be rented because there isn't enough water in the slips to float the boat, that also would be a financial hardship. Dredging versus not dredging are equal evils.

However, if shoaling continues and the docks are damaged, or if someone is hurt because of the docks being askew, or if a vessel is damaged and people get hurt because it's prop got damaged and the shaft pulled loose, or its rudder is bent, then that takes it to another level. Running a marina has its risks. Safety of the marina and the people using the marina are of higher importance than just financial impact.

The marina is protected by a fire standpipe system located in the main docks. Damage to the standpipes could leave all vessels unprotected in case of fire. Plumbing lines for holding tank

pumpout are also located in the dock system. Keeping the docks floating reduces unnecessary stresses on pipe fittings. Bennett Brothers Yachts has worked hard to achieve the Clean Marina designation and has worked hard to make the marina a desirable destination for boaters. A not quite so functioning marina will be a hardship in that all aspects of the business and its 13 year reputation could be hurt.

Staff's Position: Yes.

Petitioner's inability to dredge in the area of its existing boat slips within the Cape Fear River will not cause a Petitioner an unnecessary hardship. In fact, staff believes the rules cause hardships which are necessary for new dredging because this area is classified as a Primary Nursery Area (PNA). This site was classified as a PNA by the Marine Fisheries Commission (MFC) at the time Petitioner purchased the site, at the time Petitioner designed and had permitted the existing marina development, and continues under this designation today. Comments received by DCM from the Division of Marine Fisheries (DMF) indicate their objection to the proposed project, specifically because "the Division feels that the new dredging will have a significant adverse impact on the estuarine resources in the project area and objects to the project." (see DMF comments to DCM, dated July 1, 2009) Additionally, Petitioner became aware of the location of the Army Corps' offset line from the navigation channel during the design and permitting process when the facility was originally permitted. Finally, DCM staff believes that siltation in marinas is a common and predictable occurrence.

Based on these original site conditions, Petitioner could have chosen to design the site around possible siltation in 1997 when the marina was first permitted, knowing that siltation may become an issue in the future. Petitioner should have anticipated the limitations to dredging because of the PNA designation, and the problems this might cause. Additionally, Petitioner can now also choose to redesign the slips and the sizes of boats they can accommodate if a variance is not granted by the Commission. Therefore, Staff concludes that strict application of the applicable development rules do not cause the petitioner unnecessary hardships.

II. Do such hardships result from conditions peculiar to the petitioner's property, such as location, size, or topography of the property? Explain.

Petitioner's Position: Yes.

The Bennett Brothers Yachts marina location has approximately 1700 ft of river frontage along the east bank of the Northeast Cape Fear River. The west edge of the marina is restricted by the existence of the Army Corps of Engineer's shipping channel. By agreements with the COE during the 1997 permit process, much of western most slips/tee heads are constrained such that they are less than 20% of the local river width. As noted previously and as indicated in the CAMA 12-23-

2009 denial, the as-permitted marina was designed as an open-water marina, with slips located in sufficiently deep water that no dredging was required.

Immediately south/down river of the site is the Isabelle Holmes Bridge, US74/NC133. The Isabelle Holmes Bridge is a hardened structure. It was first constructed in the 1920's, and then replaced/rebuilt at its present location in 1980. The state has long standing regulations against hardened structures on oceanfront beaches. At time of property purchase, the bridge was not viewed as a detriment in the marina design.

Immediately north of the site is the City of Wilmington Sweeney Water Treatment Plant. There is an outfall pipe from the plant immediately north of "U" dock. From pictures, it can be seen that there has been erosion at the base of the pipe. The pipe appears to constantly discharge water. This erosion is a potential source of siltation found at the marina.

For Reference, the Hilton Railroad Bridge is 700 ft north of the north end of the site.

Paul Bennett died of cancer in 2007. Thus much of the early permitting process, and discussions with CAMA and other agencies regarding the property, marina and layout are no longer available. This request for major modification to the permit is without the benefit of his insight and recollections of the original permit.

Staff's Position: No.

Staff concludes that there are no conditions peculiar to Petitioner's property which causes Petitioner any unnecessary hardships, such as size, location, or topography. This site has long been designated as a PNA, and based on DMF's objections during permit review, this area has the characteristics of a PNA and so DMF objected to the permit issuance because of anticipated impacts to the resource. Based on MFC's definition of a PNA found at 15A NCAC 3I.0101(4)(f), "Nursery areas are those areas in which for reasons such as food, cover, bottom type, salinity, temperature and other factors, young finfish and crustaceans spend the major portion of their initial growing season. Primary nursery areas are those areas in the estuarine system where initial post-larval development takes place. These are areas where populations are uniformly early juveniles." Locating marinas within a PNA is not an unusual occurrence, and shoaling in a marina is also not an unusual occurrence. Staff believes these things are actually quite typical in a PNA.

While Petitioner notes that the marina is located near the Isabelle Holmes Bridge, and cites this as a peculiarity of the property, this structure was present before Petitioner's purchase, design and permitting of the marina in 1997. Petitioner also notes the presence of the offset line imposed by the Corps due to the presence of the navigation channel. Again, this was something in place before Petitioner's marina was finally designed and permitted. Both are not peculiar of marinas in North Carolina waterways. Finally, while Petitioner speculates that the outfall pipe may contribute to

siltation at the marina, DCM finds no conclusive proof of this. Therefore, Staff finds no conditions peculiar to the Petitioner's property which causes Petitioner unnecessary hardships.

III. Do the hardships result from the actions taken by the Petitioner? Explain.

Petitioner's Position: No.

The marina was designed as an open water marina without intent of need for dredging or for a dredged channel to create a marina. The docks were located in water of sufficient depth at time of installation, in an area where typical tidal currents are in the 1 to 1 1/2 knot range and wind driven tidal currents can easily reach 3.5 knots. Rich Carpenter, of NC Marine Fisheries, stated in October 2009 that when the marina was permitted in 1997, he did not think that shoaling would be an issue.

To keep things in perspective, the maintenance dredging that is being asked for is not over the entire marina footprint. The tee-heads and river end of the slips are typically in 20' to 24' of depth of water at Mean Low Water. It is the near shore main docks and slips that have experienced shoaling to the point that at low tide, the main floating docks are aground to the landward side.

Over the past 11 years that the marina has been operational, a couple of non-recurring events happened that may have contributed to the shoaling. First, a city of Wilmington storm drain collapsed, adding silt and debris to the river. Secondly, in conjunction with the Smith Creek Parkway construction, pipeline and/or other utility crossings were added waterward of the north side of the Isabelle Holmes Bridge. Their significance may have been minor or of no noticeable consequence to the shoaling, but they did occur.

While it sometimes is considered that docked vessels can be the cause of silting, the major affects of the shoaling that has occurred is on the side of the main dock where typically no vessels are docked. Permitting of any marina is an acknowledgement that vessels will be berthed in the marina. The permitted activity should not then become a permit denying action.

Staff's Position: No.

The Northeast Cape Fear River was designated as a PNA by the MFC, from a time before the property was purchased. It continues to have this designation today. Additionally, DMF staff concluded that this area continues to have value as a functioning PNA habitat, based on its comments and objections during permit review. DCM staff agrees with these conclusions. DCM staff also believe that siltation at a marina is a typical occurrence which could have been anticipated and designed around in 1997, and could be redesigned around today. Petitioner offers no other proof of the cause of shoaling that is persuasive to DCM staff.

Petitioner knew or should have known about the possibility of siltation at this site, and knew the limits of no new dredging at the site due to the PNA designation. Petitioner also knew about the location of the Corps' offset line from the navigation channel. The same conditions which were present in 1997 are present today. As such, Staff believes that it is Petitioner's initial permit design, combined with a choice to pursue dredging instead of redesigning the existing marina configuration today to mitigate for the siltation which has taken place since 1997.

IV. Will the variance requested by the petitioner

(1) be consistent with the spirit, purpose, and intent of the rules, standards or orders issued by the Commission; (2) secure the public safety and welfare; and (3) preserve substantial justice? Explain.

Petitioners's Position: Yes.

The Bennett Brothers Yachts marina and facility are a designated North Carolina "Clean Marina". The site includes a DWQ approved stormwater pond, an NFPA compliant 45' x 110' Spray Paint Building, an Marine (Bottom) Washwater Compliance System, and in slip holding tank pumpout facilities. In essence, we are doing everything that a marina should strive to do.

Item a. 15A NCAC 07H.0203 states that "it is the objective of the Coastal Resources Commission to protect present common-law and statutory public rights of access to the lands and waters of the coastal area." Bennett Brothers Yachts is a full service boatyard/ marina. The travel lift pit was constructed for a 120 ton capacity lift, and we presently have a 70 ton lift. We have hauled vessels as long as 93' in length, and 9.5' in draft. Part of access to the waters of the state implies use of boats. While there are many trailerable boats in the state that are ramp launched, larger vessels do need dockage and repair facilities. Because of the 30' high elevation along the northeast side of the site, the marina is probably New Hanover Counties safest Hurricane Hole for large vessels.

Item b. 15A NCAC 07H.0206(c), which states “Management Objective. To conserve and manage important features of estuarine waters so as to safeguard and perpetuate their biological, social, aesthetic, and economic values; to coordinate and establish a management system capable of conserving and utilizing estuarine waters so as to maximize their benefits to man and the estuarine and ocean system.” Again it is the CRC stated Objective of utilizing estuarine waters for the benefits to man and ocean. Boating starts here. Boating benefits man and the ocean is enjoyed by all.

Item c. 12A NCAC 07H.0208(a)(2)(B), which states “Before receiving approval for location of a use or development within these AECs, the permit-letting authority shall find that no suitable site or location outside of the AEC exists for the use or development and, further, that the applicant has selected a combination of sites and design that will have a minimum adverse impact upon the productivity and biologic integrity of coastal marshland, shellfish beds, beds of submerged aquatic vegetation, spawning and nursery areas, ...” The permitting of the marina in 1997 is an indication that the design was considered adequate in having minimum adverse impact

Item d. 15A NCAC 07H.0208(a)(2)(C), which states “Before being granted a permit by the CRC or local permitting authority, there shall be a finding that the applicant has complied with the following standards: Development shall not violate water and air quality standards.” Bennett Brothers Yachts has followed best management practices in regards to water quality standards by installation and maintenance of its stormwater pond and no discharge, bottom wash down compliance system, and air quality by its NFPA compliant Paint Spray building.

Item e. 15A NCAC 07H.0208(b)(1), which states that “Navigation channels, canals, and boat basins shall be aligned or located so as to avoid primary nursery areas, highly productive shellfish beds, beds of submerged aquatic vegetation, or significant areas of regularly or irregularly flooded coastal wetlands.” The 1701 J.E.L. Wade site was chosen for its past history as a commercial wharf and for the ability to seemingly site the marina to minimize impacts to primary nursery.

Item f. 15A NCAC 07H.0208(l)(B), which states “Marinas requiring dredging shall not be located in primary nursery areas nor in areas which require dredging through primary nursery areas for access.” The 1701 J.E.L. Wade site was chosen for its past history as a commercial wharf and for the ability to locate the docks in water deep enough to not require dredging. Many agencies reviewed the marina design plans and allowed approval as being consistent with this rule.

It is interesting to note that the local Wilmington-New Hanover County 2006CAMA Land Use Plan Strategy 3.20.4 recognizes the need and allows for an exception for maintenance dredging in the Wilmington Urban Waterfront and Wilmington Industrial Waterfront. The J.E.L. Wade sight has long been a wharf area dating back to the Civil War. Large schooners and timber barges regularly docked at the site. The Point Peter Ferry was located at the north end at Hilton Street. By the 1920’s when the first Isabelle Holmes Bridge, schooners had already transitioned to power

driven vessels. The Corbett (Timber) Company owned the site prior to Bennett Brothers purchase in 1996. In 1998, Yerkes Construction, with archeological division approval removed the last remaining barge from the site. In placing of the docks and piles, several hundreds of pieces of river wood were harvested from the marina bottom, all with Corps and CAMA approval.

A main reason for our denial pursuant to N.C.G.S. 113A-120(a)(8) and N.C.G.S. 113-229(c)(5) stems from several agencies having no leeway in their rules to allow use of the dredging exception. It is at this point that we come to the CRC for variance approval.

During the permit submission process, and at a very helpful multi-agency meeting headed by CAMA Director Jim Gregson on October 7, 2009, we noticed that there was no consensus opinion on whether dredging to a shallower depth at the landward side of the main docks more often was better than asking for dredging to a deeper depth and dredging less frequent or perhaps even never again. There did appear to be leanings towards the dredging at a shallower depth.

With that in mind, my engineer/agent Bruce Marek, P.E. showed additional calculations based on various dredge depths at the landward side of the main docks. Discussions turned towards minimization of dredge impacts and of mitigation. We also discovered that submittal drawing C1, dated 6/10/09 was not being interpreted correctly with the submitted dredge volume calculations. The red hatched area of 87,000 sf was intended to be taken as the area between the landward side of the main docks riverward to the line of -12' MLW. If you divide 175,000 cu ft (6500 cu yds) of dredge material by 87,000 sf, you get an average dredge amount of 2.01 ft. The calculation sheet indicated that along the landward side of the main dock, the requested dredge depth was -6' MLW. "U Dock" at the north end of the site was already at -10' MLW and didn't require any dredging, and at the very south end of the marina the landward side of the main dock was approximately 8' MLW, thus also not needing any dredging. There was never an intent to do a square cut at the landward edge of the main docks down to -12' MLW. It was calculated for a -6' MLW depth at the landward side (unless already deeper) and then a straight taper down to the location of -12' MLW.

While several agencies don't have any policy in place with regards to mitigation, we are willing to offer the following as a good stewardship offer of project minimization and mitigation. Based on the 6/10/09 Drawing C1 and the following scenario, we believe we can minimize the dredging needed for safety of the docks and the vessels to -4.5' MLW along the typical landward edge of the main docks.

According to Mr. Marek, dead load flotation of our docks is typically about 6" without plumbing, standpipes, water and sewage lines, electrical cables, pedestals and dock boxes, and 8" with those items. Immersion due to State Building Code required 20 psf for floating docks is an additional 10"-12", for a total of approximately 20". With the correction for MLLW, that leaves a clearance of 28" under the landward edge of the main docks, which most likely is a reasonable assumption of the original design placement of the docks. Dredging would proceed waterward at approximately

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1' vertical to 4' horizontal slope (IV:4H). The waterside of the main floating dock would be at -6' MLW, with centerline of a parallel moored vessel (approx 8' off the dock) at 8' MLW. A typical Stevens 47 sailing yacht with 7.25' draft would be free floating at extreme low tide with 3" under her keel. Volume of dredge material using 4.5' MLW would be 4400 cu yds, for a reduction of 30% of dredge volume.

The submittal was based on using the existing footprint of the docks as the landward extent of dredging. The 4.5' requested minimal depth will have some slough off of landward material. Where appropriate, we would like to propose being allowed to dredge landward an additional amount at a stable slope to minimize sloughing of material. If we assume an additional 6' of dredge width along 1000 of dock length, that would add an additional 6000 sf to the proposed dredge area, but it would be a more stable transition. This additional volume would only be approximately 167 cu yds of spoil. Where this is not possible because of vegetation, we also propose that we be allowed as a condition of the variance to request a rip-rap general permit to allow placement of Class B stone to help maintain a stable transition.

In addition to minimizing the project volume as indicated above, we would like to offer the placement of 25 tons of class B riprap at the northern end of the site along the bank at U-Dock. This is near to the erosion area at the Water Treatment Plant Discharge. This was discussed as an "engineered rock ledge" but is now offered as riprap placement of 10' maximum width, so as to fit inside of ARMY COE guidelines. This riprap would hopefully prevent additional erosion from sending silt into the slip areas, and also as a home for juvenile fish. We understand that the riprap provides hiding places for the juvenile fish from larger predators.

In closing, I am trying to best keep the marina and boat repair facility as a viable business in a very down economy. For twenty four years we have been a tax paying employer of approximately 25 employees, plus providing jobs for outside subcontractors such as prop repairers, marine surveyors, yacht designers and cushion makers. We are not looking for public funds to do the maintenance dredging. I am amenable to CAMA and the CRC's guidance on the amount of dredge depth at any one time. Please consider our Major Modification request for periodic maintenance dredging favorably.

Staff's Position: No.

Petitioner's dredging proposal and new mitigation proposals will not be consistent with the spirit, purpose and intent of the rules, standards and orders issued by the Commission.

First, staff acknowledges that Petitioner has qualified for the NC Clean Marina designation. However, the rules which Petitioner seeks a variance from are the rules which prohibit new dredging in a PNA. That is the spirit of the rules staff evaluates these criteria on.

Petitioner is correct that 15A NCAC 7H.0208(a)(2)(B) requires an applicant to minimize impacts to PNAs (among other important habitats). To now allow a variance to allow new dredging at this location which was, and continues to be a functioning PNA, especially when Petitioner was aware of this rule and designation when designing the project in 1997, would not meet the spirit of this rule.

Finally, the mitigation measures now proposed by Petitioner have not been evaluated by DCM or its sister resource agencies, and so Staff are not comfortable making any conclusions about them or their possible impacts on resources during this variance process.

Staff further contend that allowing new dredging in a functioning, designated PNA, over the specific objections of DMF staff would not help to secure the public safety and welfare, as harm to the nursery area resources at this location would likely result.

Staff further contends that the granting of this variance by the Commission would not preserve substantial justice. Petitioner knew the limitations on its property in 1997 at the time the marina was originally designed and permitted. A variance was granted in the fall of 1997, shortly after permitting, to allow new dredging in the limited area at the travel lift pit. This past action of the Commission, due primarily to the limited function of that small area as a PNA, allowed Petitioner to launch larger boats at this site. This action has promoted the public trust uses cited by Petitioner. However, while Petitioner claims to have chosen this site's past use as a warf, it was and continues to be a functioning PNA in the area now proposed for new dredging. To allow Petitioner to do this new dredging now, where it was never allowed in the past, would not preserve substantial justice, as there is no fairness in changing the rules later in the game for one marina but not all marinas located in PNAs along the coast.

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N.C. ATTORNEY GENERAL
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February 25, 2010

Mr. Jim Gregson, Director
Division of Coastal Management
400 Commerce Avenue
Morehead City, NC 28557

Re: **Variance Request**
Bennett Brothers Yachts, Inc.

Dear Mr. Gregson:

I represent Bennett Brothers Yachts, Inc. in connection with a Variance Request dated January 4, 2010 and signed by Patricia D. Bennett who is the President and sole shareholder of Bennett Brothers Yachts, Inc.

I understand that it is the position of the North Carolina Department of Justice and the CRC that a corporation which is a party to a variance proceeding must be represented by a licensed attorney. I am now representing Bennett Brothers Yachts, Inc. in the above-referenced CAMA Variance Request. I ask that the materials previously submitted by Patricia D. Bennett be considered submitted by me on behalf of Bennett Brothers Yachts, Inc.

I have already been in communication with Christine Goebel who I understand is representing the Division of Coastal Management in connection with this matter. I will continue to work with her as appropriate.

Sincerely,

WESSELL & RANEY, L.L.P.


W. A. Raney, Jr.

WAR:jn

WAR\Environ\R10-013-C01

cc: Christine Goebel
Jennie Hauser
Ms. Patricia Bennett

Petitioner supplies the following information:

Your Name: Mrs. Patricia D. Bennett
Address: 1701 J.E.L. Wade Dr. Wilmington, NC 28401
Telephone: 910-772-9277
Fax and/or Email: 910-772-1642 tricia@bbyachts.com

Name of Your Attorney (if applicable)
Address
Telephone
Fax and/or Email

Have you received a decision from the Division of Coastal Management (DCM) or a Local Permit Officer denying your application for a CAMA permit?

no (You are not entitled to request a variance until your permit application has been denied.)

yes (You may proceed with a request for a variance.)

What did you seek a permit to do? I am seeking a Major Modification to existing CAMA Permit #90-97 issued to Bennett Brothers Yachts, Inc. on July 2, 1997 for periodic maintenance dredging within footprint of existing 78 slip open water "Cape Fear Marina" marina along the Northeast Cape Fear Marina to keep main docks floating at low tide and slips useable for the vessel size intended. Note that a majority of the slips are sized for vessels 45' and longer, which can have drafts of 7.5' and deeper. Particularly affected are the slips in the southern section of the marina which are aligned parallel to the main dock.

Dredging is not requested for the full marina; the proposed dredging is for a tapered amount from underneath the landward side of the main docks riverward until the existing -12' MLW (Mean Low Water) contour is encountered. See drawing C-1 rev 1, dated 6-10-09. Lunar Mean Lower Low Water (MLLW) is -0.6', thus available depths in the marina are about a half a foot less than the MLW figures shown on the drawing.

For clarity, the property is owned by Bennett Ventures, LLC, of which I am managing partner and sole owner.

CAMA 90-97 Bennett Brothers Yachts Variance Request 1-4-2010

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N.C. ATTORNEY GENERAL
Environmental Division

What Coastal Resources Commission rule(s) prohibit this type of development?

a. 15A NCAC 07H.0203 which state “It is the objective of the Coastal Resources Commission to conserve and manage estuarine waters, coastal wetlands, public trust areas, and estuarine and public trust shorelines, as an interrelated group of AEC’s so as to safeguard and perpetuate their biological, social, economic, and aesthetic values and to ensure that development occurring within these AECs is compatible with natural characteristics so as to minimize the likelihood of significant loss of private property and public resources. Furthermore, it is the objective of the Coastal Resources Commission to protect present common-law and statutory public rights of access to the lands and waters of the coastal area.”

b. 15A NCAC 07H.0206(c), which states “Management Objective. To conserve and manage important features of estuarine waters so as to safeguard and perpetuate their biological, social, aesthetic, and economic values; to coordinate and establish a management system capable of conserving and utilizing estuarine waters so as to maximize their benefits to man and the estuarine and ocean system.”

c. 12A NCAC 07H.0208(a)(2)(B), which states “Before receiving approval for location of a use or development within these AECs, the permit-letting authority shall find that no suitable site or location outside of the AEC exists for the use or development and, further, that the applicant has selected a combination of sites and design that will have a minimum adverse impact upon the productivity and biologic integrity of coastal marshland, shellfish beds, beds of submerged aquatic vegetation, spawning and nursery areas, important nesting and wintering sites for waterfowl and wildlife, and important natural erosion barriers (cypress fringes, marshes, clay soils)”

d. 15A NCAC 07H.0208(a)(2)(C), which states “Before being granted a permit by the CRC or local permitting authority, there shall be a finding that the applicant has complied with the following standards: Development shall not violate water and air quality standards.”

e. 15A NCAC 07H.0208(b)(1), which states that “Navigation channels, canals, and boat basins shall be aligned or located so as to avoid primary nursery areas, highly productive shellfish beds, beds of submerged aquatic vegetation, or significant areas of regularly or irregularly flooded coastal wetlands.”

f. 15A NCAC 07H.0208(1)(B), which states “Marinas requiring dredging shall not be located in primary nursery areas nor in areas which require dredging through primary nursery areas for access.”

The denial was made pursuant to N.C.G.S. 113A-120(a)(8) which required denial for projects inconsistent with the state guidelines for Areas of Environmental Concern or local land use plans, and N.C.G.S.113-229(c)(5) which cause a significant adverse affect on wildlife or freshwater, estuarine or marine fisheries.

Can you redesign your proposed development to comply with this rule? no If your answer is no, explain why you cannot redesign to comply with the rule.

CAMA Major Permit #90-97 authorized construction of the 78 slip marina along the Northeast Cape Fear River on July 2, 1997. The site is immediately north of the Isabelle Holmes Bridge, downtown Wilmington, NC. The Bennett Brothers Yachts marina design did meet the above 6 conditions in 1997, by limiting the size of the marina and the marina slip layout to open water not requiring dredging. The location was selected after researching several sites in the downtown Wilmington area. This was prior to the sale/removal of Altmont Shipping and Dean Hardwood from the downtown area. The 1701 J.E.L. Wade Drive property was deemed the most suitable, as the site was historically a commercial wharf associated with sawmills owned at various times by well known Wilmington businessmen Price, Parsley, Hilton and Corbett. As a commercial wharf, the site did not have contaminants likely to be found at other prior shipyard sites. The upland acreage was of suitable size to relocate/expand the Bennett Brothers Yachts, Inc. boat repair/boat building operations, started in 1989 on Market Street near Porters Neck..

Mike Bradley, Director of Boating Industry Services assisted my late husband, Paul Bennett, in researching and bringing this much needed marina/boat repair facility to downtown Wilmington. At the time of purchase, there was no better alternative. At this point, with slips in place, and nearly 13 years of establishing the reputation as an outstanding marina in one of the historic south's most vibrant cities, redesign is not an available option.

Can you obtain a permit for a portion of what you wish to do? no If so, please state what the permit would allow.

The Major Modification request to CAMA Permit #90-97 is specifically for maintenance dredging of the marina.

State with specificity what you are NOT allowed to do as a result of the denial of your permit application. It will be assumed that you can make full use of your property, except for the uses that are prohibited as a result of the denial of your permit application.

We will not be allowed to perform maintenance dredging at the marina to keep the main docks floating at low tide, and to maintain sufficient depth in certain slips so that the vessels or props are not aground twice a day.

The 1701 J.E.L. Wade Drive property consists of the marina, a boat repair facility including an NFPA compliant boat spray painting building, new boat construction capabilities and a yacht brokerage. Bennett Brothers Yachts employs approximately 25 to 30 workers depending on the season and economy. The marina is a very important component of the property's use and value. The slips allow for vessel dockage on a year round, seasonal or transient basis. The marina provides holding tank pump out facilities at each slip. Vessels come from all over the world for

repair work by the skilled tradesmen. The 70 ton travel lift can haul vessels over 90 ft in length. The marina helps display brokerage and new boat for sale. Slip renters/owners have repair work done at the boatyard. Yachtsmen come to the marina to look for new or used boats. New and used boats need commissioning, rigging, paint jobs and bottom cleaning. Without maintenance dredging to maintain full access to the slips and full use of the slips, then the site is not making full use of the property and the value of the existing slips would be greatly diminished. Boaters, their captains and crews, utilizing the yard spend money in the Wilmington Area at restaurants, accommodations, and some have even purchased a home.

There are many lower cost facilities away from the water in which to do boat repair, which would not have such CAMA oversight. However, non-waterfront facilities are completely different than what has been established at this riverfront facility in terms of market segment and yachts serviced. A non-waterfront boat repair facility is not a good business model for yachts 40' and over, especially in a down economy. The marina based facility provides synergy to sustain the business while allowing safe public access for more water enjoyment.

RESPOND TO THE FOUR STATUTORY VARIANCE CRITERIA:

- I. Identify the hardship(s) you will experience if you are not granted a variance and explain why you contend that the application of this rule to your property constitutes an unnecessary hardship. [The North Carolina Court of Appeals has ruled that this factor depends upon the unique nature of the property rather than the personal situation of the landowner. It has also ruled that financial impact alone is not sufficient to establish unnecessary hardship, although it is a factor to be considered. The most important consideration is whether you can make reasonable use of your property if the variance is not granted. [Williams v. NCDENR, DCM, and CRC, 144 N.C. App. 479, 548 S.E.2d 793 (2001).]**

At this time, sections of the main (8'wide) docks are aground twice a day at low tide. These sections run parallel to the shoreline. Also, certain slips or slip ends closest to the main docks have insufficient water depth for dockage of vessels. Since tide peaks shift approximately an hour each day, it is not a simple issue to "work around" the period of low tide. Boaters want to be able to move in and out of their slips without being held hostage by a tide which literally has them sitting on the mud. Boaters will want to use their boats when they have time or need to use them. Transient vessels will want holding tanks pumped out. The main docks sit in the mud on one edge and are barely floating on the other, causing them to be at an angle. Docks sitting askew are not good for the docks and piping systems.

Because of the nearby shipping channel, the docks cannot be shifted into deeper water to avoid the need for dredging. The Isabelle Holmes Bridge is immediately downstream of the property.

Maintenance dredging in itself is a hardship, as the cost of mobilization, disposal of spoil,

loss of land use for the spoil basin, and disruption of marina operations during dredge cycles is not one that was planned on nor that is conducive to running a business. Dredge fees, engineering fees and contingency funds for future dredging are expenses that any business would be very hesitant to take on, especially in this economy. But with the alternative being a business that is severely impacted, there is no other choice.

If slips can't be rented because there isn't enough water in the slips to float the boat, that also would be a financial hardship. Dredging versus not dredging are equal evils.

However, if shoaling continues and the docks are damaged, or if someone is hurt because of the docks being askew, or if a vessel is damaged and people get hurt because it's prop got damaged and the shaft pulled loose, or its rudder is bent, then that takes it to another level. Running a marina has its risks. Safety of the marina and the people using the marina are of higher importance than just financial impact.

The marina is protected by a fire standpipe system located in the main docks. Damage to the standpipes could leave all vessels unprotected in case of fire. Plumbing lines for holding tank pumpout are also located in the dock system. Keeping the docks floating reduces unnecessary stresses on pipe fittings. Bennett Brothers Yachts has worked hard to achieve the Clean Marina designation and has worked hard to make the marina a desirable destination for boaters. A not quite so functioning marina will be a hardship in that all aspects of the business and its 13 year reputation could be hurt.

II. Describe the conditions that are peculiar to your property (such as location, size, and topography), and cause your hardship.

The Bennett Brothers Yachts marina location has approximately 1700 ft of river frontage along the east bank of the Northeast Cape Fear River. The west edge of the marina is restricted by the existence of the Army Corps of Engineer's shipping channel. By agreements with the COE during the 1997 permit process, much of western most slips/tee heads are constrained such that they are less than 20% of the local river width. As noted previously and as indicated in the CAMA 12-23-2009 denial, the as-permitted marina was designed as an open-water marina, with slips located in sufficiently deep water that no dredging was required.

Immediately south/down river of the site is the Isabelle Holmes Bridge, US74/NC133. The Isabelle Holmes Bridge is a hardened structure. It was first constructed in the 1920's, and then replaced/rebuilt at its present location in 1980. The state has long standing regulations against hardened structures on oceanfront beaches. At time of property purchase, the bridge was not viewed as a detriment in the marina design

Immediately north of the site is the City of Wilmington Sweeney Water Treatment Plant. There is an outfall pipe from the plant immediately north of "U" dock. From pictures, it can be seen that there has been erosion at the base of the pipe. The pipe appears to

constantly discharge water. This erosion is a potential source of siltation found at the marina.

For Reference, the Hilton Railroad Bridge is 700 ft north of the north end of the site.

Paul Bennett died of cancer in 2007. Thus much of the early permitting process, and discussions with CAMA and other agencies regarding the property, marina and layout are no longer available. This request for major modification to the permit is without the benefit of his insight and recollections of the original permit.

III. Explain why your hardship does not result from actions that you have taken.

The marina was designed as an open water marina without intent of need for dredging or for a dredged channel to create a marina. The docks were located in water of sufficient depth at time of installation, in an area where typical tidal currents are in the 1 to 1 ½ knot range and wind driven tidal currents can easily reach 3.5 knots. Rich Carpenter, of NC Marine Fisheries, stated in October 2009 that when the marina was permitted in 1997, he did not think that shoaling would be an issue.

To keep things in perspective, the maintenance dredging that is being asked for is not over the entire marina footprint. The tee-heads and river end of the slips are typically in 20' to 24' of depth of water at Mean Low Water. It is the near shore main docks and slips that have experienced shoaling to the point that at low tide, the main floating docks are aground to the landward side.

Over the past 11 years that the marina has been operational, a couple of non-recurring events happened that may have contributed to the shoaling. First, a city of Wilmington storm drain collapsed, adding silt and debris to the river. Secondly, in conjunction with the Smith Creek Parkway construction, pipeline and/or other utility crossings were added waterward of the north side of the Isabelle Holmes Bridge. Their significance may have been minor or of no noticeable consequence to the shoaling, but they did occur.

While it sometimes is considered that docked vessels can be the cause of silting, the major affects of the shoaling that has occurred is on the side of the main dock where typically no vessels are docked. Permitting of any marina is an acknowledgement that vessels will be berthed in the marina. The permitted activity should not then become a permit denying action.

IV. Explain why the granting of the variance you seek will be consistent with the spirit, purpose, and intent of the CRC's rules, standards, or orders; preserve substantial justice; and secure public safety.

The Bennett Brothers Yachts marina and facility are a designated North Carolina "Clean Marina". The site includes a DWQ approved stormwater pond, an NFPA compliant 45'x110' Spray Paint Building, an Marine (Bottom) Washwater Compliance System, and in slip holding tank pumpout facilities. In essence, we are doing everything that a marina should strive to do.

Item a. 15A NCAC 07H.0203 states that "it is the objective of the Coastal Resources Commission to protect present common-law and statutory public rights of access to the lands and waters of the coastal area." Bennett Brothers Yachts is a full service boatyard/ marina. The travel lift pit was constructed for a 120 ton capacity lift, and we presently have a 70 ton lift. We have hauled vessels as long as 93' in length, and 9.5' in draft. Part of access to the waters of the state implies use of boats. While there are many trailerable boats in the state that are ramp launched, larger vessels do need dockage and repair facilities. Because of the 30' high elevation along the northeast side of the site, the marina is probably New Hanover Counties safest Hurricane Hole for large vessels.

Item b. 15A NCAC 07H.0206(c), which states "Management Objective. To conserve and manage important features of estuarine waters so as to safeguard and perpetuate their biological, social, aesthetic, and economic values; to coordinate and establish a management system capable of conserving and utilizing estuarine waters so as to maximize their benefits to man and the estuarine and ocean system." Again it is the CRC stated Objective of utilizing estuarine waters for the benefits to man and ocean. Boating starts here. Boating benefits man and the ocean is enjoyed by all.

Item c. 12A NCAC 07H.0208(a)(2)(B), which states "Before receiving approval for location of a use or development within these AECs, the permit-letting authority shall find that no suitable site or location outside of the AEC exists for the use or development and, further, that the applicant has selected a combination of sites and design that will have a minimum adverse impact upon the productivity and biologic integrity of coastal marshland, shellfish beds, beds of submerged aquatic vegetation, spawning and nursery areas, ...". The permitting of the marina in 1997 is an indication that the design was considered adequate in having minimum adverse impact.

Item d. 15A NCAC 07H.0208(a)(2)(C), which states "Before being granted a permit by the CRC or local permitting authority, there shall be a finding that the applicant has complied with the following standards: Development shall not violate water and air quality standards." Bennett Brothers Yachts has followed best management practices in regards to water quality standards by installation and maintenance of its stormwater pond and no discharge, bottom washdown compliance system, and air quality by its NFPA compliant Paint Spray building.

Item e. 15A NCAC 07H.0208(b)(1), which states that "Navigation channels, canals, and boat

basins shall be aligned or located so as to avoid primary nursery areas, highly productive shellfish beds, beds of submerged aquatic vegetation, or significant areas of regularly or irregularly flooded coastal wetlands.” The 1701 J.E.L. Wade site was chosen for its past history as a commercial wharf and for the ability to seemingly site the marina to minimize impacts to primary nursery.

Item f. 15A NCAC 07H.0208(1)(B), which states “Marinas requiring dredging shall not be located in primary nursery areas nor in areas which require dredging through primary nursery areas for access.” The 1701 J.E.L. Wade site was chosen for its past history as a commercial wharf and for the ability to locate the docks in water deep enough to not require dredging. Many agencies reviewed the marina design plans and allowed approval as being consistent with this rule.

It is interesting to note that the local Wilmington-New Hanover County 2006CAMA Land Use Plan Strategy 3.20.4 recognizes the need and allows for an exception for maintenance dredging in the Wilmington Urban Waterfront and Wilmington Industrial Waterfront. The J.E.L. Wade site has long been a wharf area dating back to the Civil War. Large schooners and timber barges regularly docked at the site. The Point Peter Ferry was located at the north end at Hilton Street. By the 1920’s when the first Isabelle Holmes Bridge, schooners had already transitioned to power driven vessels. The Corbett (Timber) Company owned the site prior to Bennett Brothers purchase in 1996. In 1998, Yerkes Construction, with archeological division approval removed the last remaining barge from the site. In placing of the docks and piles, several hundreds of pieces of riverwood were harvested from the marina bottom, all with Corps and CAMA approval.

A main reason for our denial pursuant to N.C.G.S. 113A-120(a)(8) and N.C.G.S.113-229(c)(5) stems from several agencies having no leeway in their rules to allow use of the dredging exception. It is at this point that we come to the CRC for variance approval.

During the permit submission process, and at a very helpful multi-agency meeting headed by CAMA Director Jim Gregson on October 7, 2009, we noticed that there was no consensus opinion on whether dredging to a shallower depth at the landward side of the main docks more often was better than asking for dredging to a deeper depth and dredging less frequent or perhaps even never again. There did appear to be leanings towards the dredging at a shallower depth.

With that in mind, my engineer/agent Bruce Marek, P.E. showed additional calculations based on various dredge depths at the landward side of the main docks. Discussions turned towards minimization of dredge impacts and of mitigation. We also discovered that submittal drawing C1, dated 6/10/09 was not being interpreted correctly with the submitted dredge volume calculations. The red hatched area of 87,000 sf was intended to be taken as the area between the landward side of the main docks riverward to the line of -12’ MLW. If you divide 175,000 cu ft (6500 cu yds) of dredge material by 87,000 sf, you get an average dredge amount of 2.01 ft. The calculation sheet indicated that along the landward side of the main dock, the requested dredge depth was -6’ MLW. “U Dock” at the north end of the site was already at -10’ MLW and didn’t

require any dredging, and at the very south end of the marina the landward side of the main dock was approximately 8' MLW, thus also not needing any dredging. There was never an intent to do a square cut at the landward edge of the main docks down to -12' MLW. It was calculated for a -6' MLW depth at the landward side (unless already deeper) and then a straight taper down to the location of -12' MLW.

While several agencies don't have any policy in place with regards to mitigation, we are willing to offer the following as a good stewardship offer of project minimization and mitigation. Based on the 6/10/09 Drawing C1 and the following scenario, we believe we can minimize the dredging needed for safety of the docks and the vessels to -4.5' MLW along the typical landward edge of the main docks.

According to Mr. Marek, dead load flotation of our docks is typically about 6" without plumbing, standpipes, water and sewage lines, electrical cables, pedestals and dock boxes, and 8" with those items. Immersion due to State Building Code required 20 psf for floating docks is an additional 10"-12", for a total of approximately 20". With the correction for MLLW, that leaves a clearance of 28" under the landward edge of the main docks, which most likely is a reasonable assumption of the original design placement of the docks. Dredging would proceed waterward at approximately 1' vertical to 4' horizontal slope (1V:4H). The waterside of the main floating dock would be at -6' MLW, with centerline of a parallel moored vessel (approx 8' off the dock) at 8' MLW. A typical Stevens 47 sailing yacht with 7.25' draft would be free floating at extreme low tide with 3" under her keel. Volume of dredge material using 4.5' MLW would be 4400 cu yds, for a reduction of 30% of dredge volume.

The submittal was based on using the existing footprint of the docks as the landward extent of dredging. The 4.5' requested minimal depth will have some slough off of landward material. Where appropriate, we would like to propose being allowed to dredge landward an additional amount at a stable slope to minimize sloughing of material. If we assume an additional 6' of dredge width along 1000 of dock length, that would add an additional 6000 sf to the proposed dredge area, but it would be a more stable transition. This additional volume would only be approximately 167 cu yds of spoil. Where this is not possible because of vegetation, we also propose that we be allowed as a condition of the variance to request a rip-rap general permit to allow placement of Class B stone to help maintain a stable transition.

In addition to minimizing the project volume as indicated above, we would like to offer the placement of 25 tons of class B riprap at the northern end of the site along the bank at U-Dock. This is near to the erosion area at the Water Treatment Plant Discharge. This was discussed as an "engineered rock ledge" but is now offered as riprap placement of 10' maximum width, so as to fit inside of ARMY COE guidelines. This riprap would hopefully prevent additional erosion from sending silt into the slip areas, and also as a home for juvenile fish. We understand that the riprap provides hiding places for the juvenile fish from larger predators.

In closing, I am trying to best keep the marina and boat repair facility as a viable business in a very down economy. For twenty four years we have been a tax paying employer of approximately 25 employees, plus providing jobs for outside subcontractors such as prop repairers, marine surveyors, yacht designers and cushion makers. We are not looking for public funds to do the maintenance dredging. I am amenable to CAMA and the CRC's guidance on the amount of dredge depth at any one time. Please consider our Major Modification request for periodic maintenance dredging favorably.

Please attach copies of the following:

Permit Application and Denial documents
Site Drawing with Survey and Topographical Information

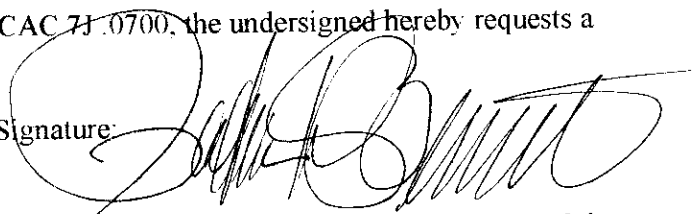
Any letters filed with DCM or the LPO commenting on or objecting to your project
Provide a numbered list of all true facts that you are relying upon in your explanation as to why you meet the four criteria for a variance. Please list the variance criterion, ex. unnecessary hardship, and then list the relevant facts under each criterion. [The DCM attorney will also propose facts and will attempt to verify your proposed facts. Together you will arrive at a set of facts that both parties agree upon. Those facts will be the only facts that the Commission will consider in determining whether to grant your variance request.]

Attach all documents you wish the Commission to consider in ruling upon your variance request. [The DCM attorney will also propose documents and discuss with you whether he or she agrees with the documents you propose. Together you will arrive at a set of documents that both parties agree upon. Those documents will be the only documents that the Commission will consider in determining whether to grant your variance request.]

Pursuant to N.C.G.S. 113A-120.1 and 15A NCAC 7J .0700, the undersigned hereby requests a variance.

Date: 1/4/2010

Signature:



This variance request must be filed with the Director, Division of Coastal Management, and the Attorney General's Office, Environmental Division, at the addresses shown on the attached Certificate of Service form.

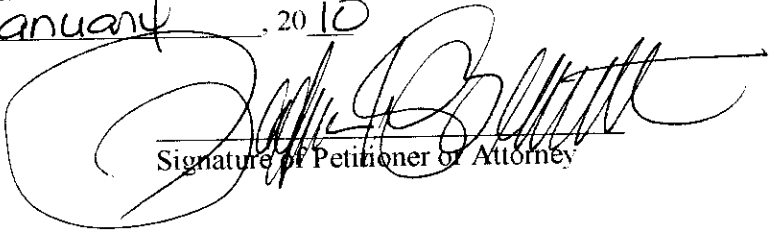
CERTIFICATE OF SERVICE

I hereby certify that this Variance Request has been served on the State agencies named below by United States Mail or by personal delivery to the following:

Original served on: Director
Division of Coastal Management
400 Commerce Avenue
Morehead City, NC 28557

copy: Attorney General's Office
Environmental Division
9001 Mail Service Center
Raleigh, NC 27699-9001

This the 4 day of January, 2010


Signature of Petitioner or Attorney

APPLICATION for Major Development Permit

(last revised 12/27/06)



North Carolina DIVISION OF COASTAL MANAGEMENT

1. Primary Applicant/ Landowner Information			
Business Name Bennett Brothers Yachts, Inc.		Project Name (if applicable) Maintenance Dredging Major Mod CAMA Permit #90-97	
Applicant 1: First Name Tricia	MI D	Last Name Bennett	
Applicant 2: First Name	MI	Last Name	
<i>If additional applicants, please attach an additional page(s) with names listed.</i>			
Mailing Address 1701 J.E.L. Wade Drive		PO Box	City Wilmington
			State NC
ZIP 28401	Country USA	Phone No. 910 - 772 - 9277 ext.	FAX No. 910 - 772 - 1642
Street Address (if different from above)		City	State
			ZIP -
Email tricia@bbyachts.com			

2. Agent/Contractor Information			
Business Name Bruce Marek, P.E.			
Agent/ Contractor 1: First Name Bruce	MI J	Last Name Marek	
Agent/ Contractor 2: First Name	MI	Last Name	
Mailing Address 5489 Eastwind Rd		PO Box	City Wilmington
			State NC
ZIP 28403		Phone No. 1 910 - 799 - 9245 ext.	Phone No. 2 910 - 228 - 2484 ext.
FAX No.	Contractor # NC P.E.# 15684		
Street Address (if different from above)		City	State
			ZIP -
Email marekyd@ec.r.com			

<Form continues on back>

3. Project Location			
County (can be multiple) New Hanover		Street Address 1701 J.E.L. Wade Drive	
Subdivision Name		City Wilmington	State NC
Phone No. 910 - 772 - 9277 ext.		Zip 28401 -	
a. In which NC river basin is the project located? Cape Fear		b. Name of body of water nearest to proposed project North East Cape Fear River	
c. Is the water body identified in (b) above, natural or manmade? <input checked="" type="checkbox"/> Natural <input type="checkbox"/> Manmade <input type="checkbox"/> Unknown		d. Name the closest major water body to the proposed project site. North East Cape Fear River	
e. Is proposed work within city limits or planning jurisdiction? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		f. If applicable, list the planning jurisdiction or city limit the proposed work falls within. Wilmington	

4. Site Description	
a. Total length of shoreline on the tract (ft.) 1910	b. Size of entire tract (sq.ft.) 456508 sf (10.48 Acres)
c. Size of individual lot(s) <i>(if many lot sizes, please attach additional page with a list)</i>	d. Approximate elevation of tract above NHW (normal high water) or NWL (normal water level) 10.68' at Travel Lift Pier <input checked="" type="checkbox"/> NHW or <input type="checkbox"/> NWL
e. Vegetation on tract Hardwoods, Pines, Coastal & 404 Wetlands and Domestic Grasses	
f. Man-made features and uses now on tract Boatyard, Boat Repair Building/Paint Shop, Offices, Mechanics Bldg/Sheds, Travel Lift Pit, Marina Club House, Parking Lot, Marina Dock/Slips	
g. Identify and describe the existing land uses <u>adjacent</u> to the proposed project site. Urban Waterfront/Industrial	
h. How does local government zone the tract? Industrial	i. Is the proposed project consistent with the applicable zoning? (Attach zoning compliance certificate, if applicable) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
j. Is the proposed activity part of an urban waterfront redevelopment proposal? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
k. Has a professional archaeological assessment been done for the tract? If yes, attach a copy. <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA If yes, by whom?	
l. Is the proposed project located in a National Registered Historic District or does it involve a National Register listed or eligible property? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> NA	

<Form continues on next page>

m. (i) Are there wetlands on the site?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
(ii) Are there coastal wetlands on the site?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
(iii) If yes to either (i) or (ii) above, has a delineation been conducted? <i>(Attach documentation, if available)</i>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
n. Describe existing wastewater treatment facilities. City of Wilmington	
o. Describe existing drinking water supply source. City of Wilmington	
p. Describe existing storm water management or treatment systems. Wet Pond on Site per Stormwater Permit # SW8-970403	

5. Activities and Impacts	
a. Will the project be for commercial, public, or private use?	<input checked="" type="checkbox"/> Commercial <input type="checkbox"/> Public/Government <input type="checkbox"/> Private/Community
b. Give a brief description of purpose, use, and daily operations of the project when complete. Maintenance Dredging for Continued Use of existing slips for Bennett Brothers Yachts/Cape Fear Marina; Construction of a Spoils Basin on-site outside of 75' AEC; Periodic emptying of Spoils Basin and Redredging to requested depths.	
c. Describe the proposed construction methodology, types of construction equipment to be used during construction, the number of each type of equipment and where it is to be stored. Hydraulic Dredge, Barge Mounted Back Hoe, or Back Hoe (Pit Area) for Dredging. Back Hoe, Bulldozer, Trucks, Tree Clearing Equipment for Construction of Spoils Basin. Back Hoe/Trucks for Periodic Emptying of Spoil Basin or for Spillway Maintenance	
d. List all development activities you propose. Periodic Maintenance Dredging of Existing Slips (existing footprint of marina, part of urban waterfront, no new navigation channel); Spoil Basin Construction, maintenance and periodic emptying. Note - this is 11 th year of slips in the water. Periodic dredging hopefully only needed at > 5 year intervals. First dredging: Appx 6500 cu yds	
e. Are the proposed activities maintenance of an existing project, new work, or both?	Maintenance of an existing project within existing marina 3.1 ac footprint.
f. What is the approximate total disturbed land area resulting from the proposed project?	Dredge Area 87,000 sf (2.0 Acres) Spoil Basin Area: 1 Acre (Upland) <input type="checkbox"/> Sq.Ft or <input type="checkbox"/> Acres
g. Will the proposed project encroach on any public easement, public accessway or other area that the public has established use of?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> NA
h. Describe location and type of existing and proposed discharges to waters of the state. N/A	
i. Will wastewater or stormwater be discharged into a wetland?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> NA
If yes, will this discharged water be of the same salinity as the receiving water?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
j. Is there any mitigation proposed? If yes, attach a mitigation proposal.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> NA

6. Additional Information

In addition to this completed application form, (MP-1) the following items below, if applicable, must be submitted in order for the application package to be complete. Items (a) – (f) are always applicable to any major development application. Please consult the application instruction booklet on how to properly prepare the required items below.

- a. A project narrative.
- b. An accurate, dated work plat (including plan view and cross-sectional drawings) drawn to scale. Please give the present status of the proposed project. Is any portion already complete? If previously authorized work, clearly indicate on maps, plats, drawings to distinguish between work completed and proposed.
- c. A site or location map that is sufficiently detailed to guide agency personnel unfamiliar with the area to the site.
- d. A copy of the deed (with state application only) or other instrument under which the applicant claims title to the affected properties.
- e. The appropriate application fee. Check or money order made payable to DENR.
- f. A list of the names and complete addresses of the adjacent waterfront (riparian) landowners and signed return receipts as proof that such owners have received a copy of the application and plats by certified mail. Such landowners must be advised that they have 30 days in which to submit comments on the proposed project to the Division of Coastal Management.

Name Hamett Landing (Adjacent Property to the North): (Mark Maynard)	Phone No. 910-251-5030
Address P.O. Box 1229, Wilmington, NC 28402	
Name Plantation Builders (South of Holmes Bridge, old Dean Hardwoods site) (Dave Spetrino, President/CEO)	Phone No. 910-763-8760
Address 720 N. Third Street, Suite 301, Wilmington, NC 28401	
Name	Phone No.
Address	
- g. A list of previous state or federal permits issued for work on the project tract. Include permit numbers, permittee, and issuing dates.

Stormwater: SW8-970403, Approved 6-23-97	CAMA #90-97 7-2-97, with mods through 3-19-07
Corps of Engineers Action I.D. #199602652, 8-15-97/5-29-05	Sediment & Erosion Control: Number unknown, 1997
- h. Signed consultant or agent authorization form, if applicable.
- i. Wetland delineation, if necessary.
- j. A signed AEC hazard notice for projects in oceanfront and inlet areas. (Must be signed by property owner)
- k. A statement of compliance with the N.C. Environmental Policy Act (N.C.G.S. 113A 1-10), if necessary. If the project involves expenditure of public funds or use of public lands, attach a statement documenting compliance with the North Carolina Environmental Policy Act.

7. Certification and Permission to Enter on Land

I understand that any permit issued in response to this application will allow only the development described in the application. The project will be subject to the conditions and restrictions contained in the permit.

I certify that I am authorized to grant, and do in fact grant permission to representatives of state and federal review agencies to enter on the aforementioned lands in connection with evaluating information related to this permit application and follow-up monitoring of the project.

I further certify that the information provided in this application is truthful to the best of my knowledge.

Date 4-6-09 Print Name Bruce Marek, P.E., Agent for Tricia D. Bennett

Signature Bruce Marek

Please indicate application attachments pertaining to your proposed project.

- DCM MP-2 Excavation and Fill Information
- DCM MP-3 Upland Development
- DCM MP-4 Structures Information
- DCM MP-5 Bridges and Culverts

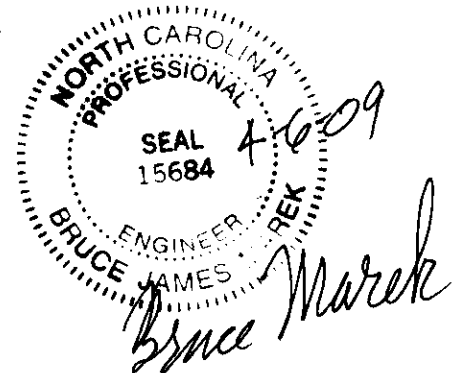
Bruce Marek, P.E.
5489 Eastwind Rd.
Wilmington, NC 28403

Approximate Dredge Volume Calculations for Bennett Brothers Yachts, Inc./Cape Fear Marina
Location D1 is at North End of Marina (North End of "U-Dock"); D27 is at South End of Marina
Length is Distance between Measurement Locations Depth Measurement Date = 2/16/2009

Location	Appx Dist to -12.0' MLW From Dock Landward Side	MLW Depth at Dock Landward Edge 2/16/2009	Desired Depth at Dock INBD Edge	Existing Triangular Profile Area sf	Proposed Triangular Profile Area sf	Dredge = Profile Difference	Length	Volume
D1	10'	-10.0'	-10.0'	10 sf	10 sf	0 sf		
D2A	10'	-10.0'	-10.0'	10 sf	10 sf	0 sf	155.0'	0 cu yds
D2B	42'	-0.5'	-6.0'	242 sf	126 sf	116 sf		
D3	30'	-0.3'	-6.0'	176 sf	90 sf	86 sf	60.0'	223 cu yds
D4	37'	0.7'	-6.0'	235 sf	111 sf	124 sf	30.0'	116 cu yds
D5	41'	0.0'	-6.0'	246 sf	123 sf	123 sf	96.0'	439 cu yds
D6	44'	0.0'	-6.0'	264 sf	132 sf	132 sf	96.0'	453 cu yds
D7	55'	0.0'	-6.0'	330 sf	165 sf	165 sf	57.0'	314 cu yds
D8	43'	0.0'	-6.0'	258 sf	129 sf	129 sf	50.0'	272 cu yds
D9	44'	0.0'	-6.0'	264 sf	132 sf	132 sf	32.0'	155 cu yds
D10	45'	0.1'	-6.0'	272 sf	135 sf	137 sf	47.0'	234 cu yds
D11	54'	0.1'	-6.0'	327 sf	162 sf	165 sf	100.0'	559 cu yds
D12	73'	0.0'	-6.0'	438 sf	219 sf	219 sf	51.0'	362 cu yds
D13	75'	-0.2'	-6.0'	443 sf	225 sf	218 sf	46.0'	372 cu yds
D14	83'	-0.2'	-6.0'	490 sf	249 sf	241 sf	51.0'	433 cu yds
D15	48'	-1.5'	-6.0'	252 sf	144 sf	108 sf	60.0'	387 cu yds
D16	48'	-1.9'	-6.0'	242 sf	144 sf	98 sf	78.0'	298 cu yds
D17	22'	-3.5'	-6.0'	94 sf	66 sf	28 sf	63.0'	147 cu yds
D18	37'	-3.2'	-6.0'	163 sf	111 sf	52 sf	60.0'	88 cu yds
D19	50'	-5.2'	-6.0'	170 sf	150 sf	20 sf	50.0'	66 cu yds
D20	43'	-3.7'	-6.0'	178 sf	129 sf	49 sf	58.0'	75 cu yds
D21	36'	-3.6'	-6.0'	151 sf	108 sf	43 sf	60.0'	103 cu yds
D22	44'	-3.0'	-6.0'	198 sf	132 sf	66 sf	108.0'	218 cu yds
D23A	52'	-1.0'	-6.0'	286 sf	156 sf	130 sf	71.0'	258 cu yds
D23B	52'	-1.0'	-6.0'	286 sf	156 sf	130 sf		
D24	51'	-2.5'	-6.0'	242 sf	153 sf	89 sf	127.0'	516 cu yds
D25	63'	-3.0'	-6.0'	284 sf	189 sf	95 sf	70.0'	238 cu yds
D26	65'	-5.4'	-6.0'	215 sf	195 sf	20 sf	61.0'	129 cu yds
D27	63'	-8.2'	-8.0'	120 sf	126 sf	-6 sf	117.0'	29 cu yds
Sums							1854'	6485 cu yds

Round-Up = 6500 cu yds

Sealed 4-6-09 Bruce Marek, P.E. NC #15684



EXCAVATION and FILL

(Except for bridges and culverts)

Attach this form to Joint Application for CAMA Major Permit, Form DCM MP-1. Be sure to complete all other sections of the Joint Application that relate to this proposed project. Please include all supplemental information.

Describe below the purpose of proposed excavation and/or fill activities. All values should be given in feet.

	Access Channel (NLW or NWL)	Canal	Boat Basin	Boat Ramp	Rock Groin	Rock Breakwater	Other (excluding shoreline stabilization)
Length			1854'				
Width			47' avg width (87,000 sf dredge area)				
Avg. Existing Depth					NA	NA	
Final Project Depth			-6'MLW to -12' MLW		NA	NA	

1. EXCAVATION

This section not applicable

- a. Amount of material to be excavated from below NHW or NWL in cubic yards.
6500 Cu Yds
- b. Type of material to be excavated.
Sand/Silt
- c. (i) Does the area to be excavated include coastal wetlands/marsh (CW), submerged aquatic vegetation (SAV), shell bottom (SB), or other wetlands (WL)? If any boxes are checked, provide the number of square feet affected.
 CW _____ SAV _____ SB _____
 WL _____ None
- d. High-ground excavation in cubic yards.
N/A
- (ii) Describe the purpose of the excavation in these areas:

2. DISPOSAL OF EXCAVATED MATERIAL

This section not applicable

- a. Location of disposal area.
Proposed SpoilBasin on-site, outside of 75' AEC
- b. Dimensions of disposal area.
Available 292'x148' = appx 1.0 acres; x 12' Berm Height
- c. (i) Do you claim title to disposal area?
 Yes No NA
- d. (i) Will a disposal area be available for future maintenance?
 Yes No NA
- (ii) If yes, where?
Proposed Basin with Berms is approx 12,500 cu yds, almost double initial dredge volume requested
- e. (i) Does the disposal area include any coastal wetlands/marsh (CW), submerged aquatic vegetation (SAV), shell bottom (SB), or other wetlands (WL)? If any boxes are checked, provide the number of square feet affected.
 CW _____ SAV _____ SB _____
 WL _____ None
- f. (i) Does the disposal include any area in the water?
 Yes No NA
- (ii) If yes, how much water area is affected?

- (ii) Describe the purpose of disposal in these areas:

3. SHORELINE STABILIZATION

(If development is a wood groin, use MP-4 – Structures)

This section not applicable

- a. Type of shoreline stabilization:
 Bulkhead Riprap Breakwater/Sill Other: _____
- b. Length: _____
 Width: _____
- c. Average distance waterward of NHW or NWL: _____
- d. Maximum distance waterward of NHW or NWL: _____
- e. Type of stabilization material: _____
- f. (i) Has there been shoreline erosion during preceding 12 months?
 Yes No NA
 (ii) If yes, state amount of erosion and source of erosion amount information.

- g. Number of square feet of fill to be placed below water level.
 Bulkhead backfill _____ Riprap _____
 Breakwater/Sill _____ Other _____
- h. Type of fill material.

- i. Source of fill material.

4. OTHER FILL ACTIVITIES

(Excluding Shoreline Stabilization)

This section not applicable

- a. (i) Will fill material be brought to the site? Yes No NA
 If yes,
 (ii) Amount of material to be placed in the water _____
 (iii) Dimensions of fill area _____
 (iv) Purpose of fill

- b. (i) Will fill material be placed in coastal wetlands/marsh (CW), submerged aquatic vegetation (SAV), shell bottom (SB), or other wetlands (WL)? If any boxes are checked, provide the number of square feet affected.
 CW _____ SAV _____ SB _____
 WL _____ None _____
 (ii) Describe the purpose of the fill in these areas:

5. GENERAL

- a. How will excavated or fill material be kept on site and erosion controlled?
 Constructed Berm, Vegetated/Stabilized Slopes, Silt Fence

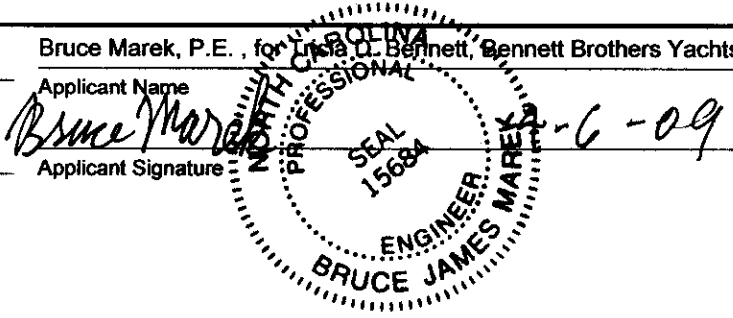
- b. What type of construction equipment will be used (e.g., dragline, backhoe, or hydraulic dredge)?
 Hydraulic Dredge &/or Backhoe

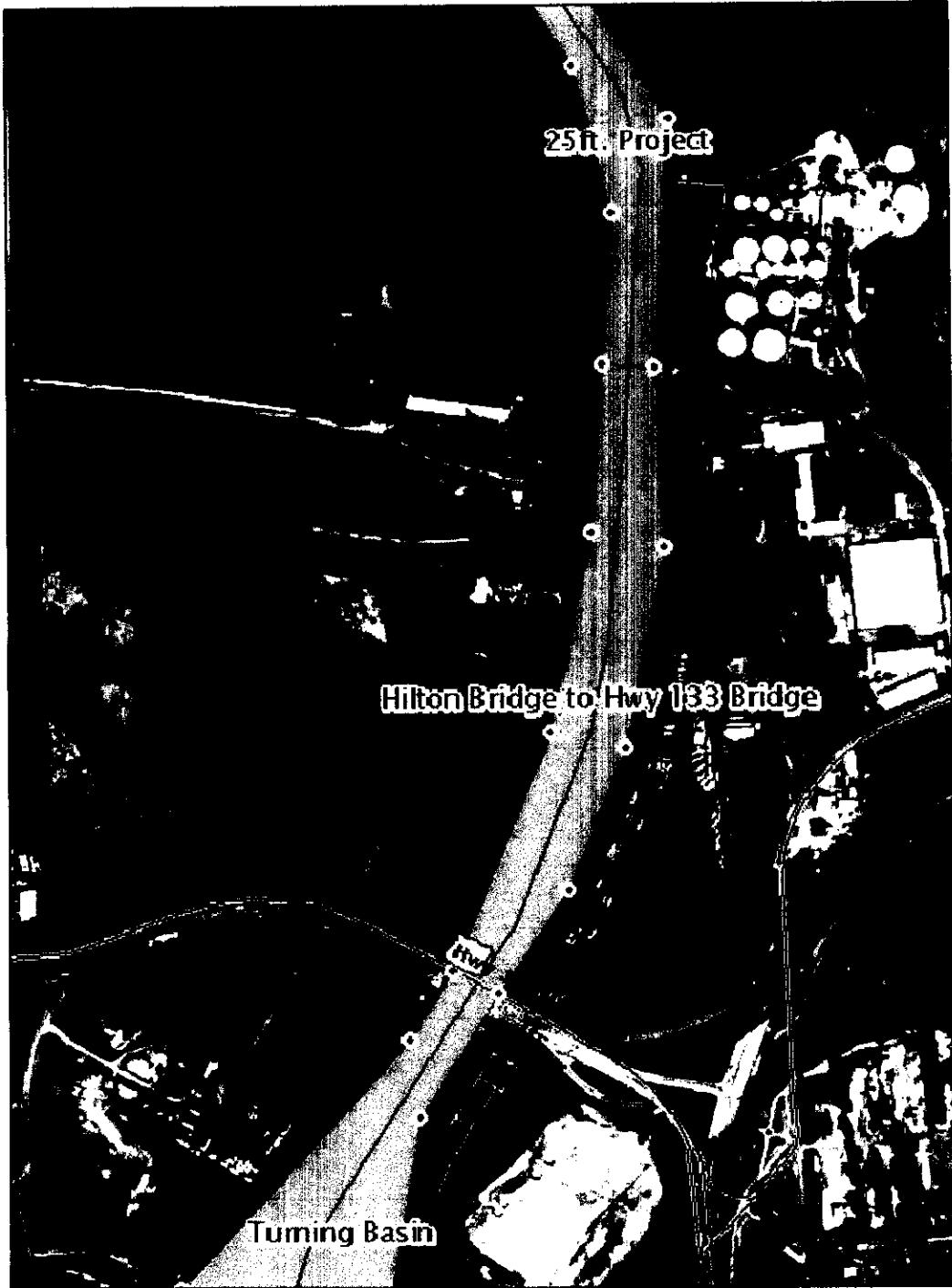
- c. (i) Will navigational aids be required as a result of the project?
 Yes No NA
 (ii) If yes, explain what type and how they will be implemented.

- d. (i) Will wetlands be crossed in transporting equipment to project site? Yes No NA
 (ii) If yes, explain steps that will be taken to avoid or minimize environmental impacts.

4-6-09
 Date
 Maintenance Dredging Major Mod CAMA Permit #90-97
 Project Name

Bruce Marek, P.E., for Lisa L. Bennett, Bennett Brothers Yachts
 Applicant Name
 Bruce Marek
 Applicant Signature





NORTH EAST CAPE FEAR RIVER
USACE NAV CHANNEL & DREDGE SETBACK
REFERENCE DRAWING
BENNETT BROTHERS YACHTS: CAMA #90-97
1701 J.E.L. WADE DR. WILMINGTON, NC 28401
EXISTING MARINA MAINTENANCE DREDGING MAJOR MOD REQUEST
BRUCE MAREK, P.E. 5489 EASTWIND RD. WILMINGTON, NC 28403

Project BBY-CAMA 90-97	Sheet R1
Issue 4-6-08	
Scale AS SHOWN	

Bruce Marek, P.E.
5489 Eastwind Rd
Wilmington, NC 28403
910-799-9245

Project Narrative: **Bennett Brothers Yachts/Cape Fear Marina Request for Major Modification to CAMA Permit #90-97 for Maintenance Dredging of Marina Slips Rev.1: 4-17-07**

Bennett Brothers Yachts, Inc seeks to be allowed to do periodic maintenance dredging of the Bennett Brothers Yachts/Cape Fear Marina, located at 1701 J.E.L. Wade Drive, Wilmington (immediately north of the Holmes Bridge), along the east bank of the North East Cape Fear River. The 1854' long marina is considered by Mike Christenbury, CAMA District Planner, to be the northern end of the Wilmington Urban Waterfront. The accompanying drawing C1 with photos dated 2-16-09 shows recent depth conditions whereas the main floating docks are no longer floating at low tide. This was not the case when the marina opened 11 years ago (2 photos are also included on drawing C1 from 1998). Reference drawing R-1 has a photo underlay of the North East Cape Fear River Navigation Channel.

This request is not a request to gain any additional berth area and is not a request for a new navigation channel. The project boundary as indicated on the drawing is the existing marina between the landward side of the main docks and the river side of the tee-heads/finger pier ends. The included area is approximately 135,000 sq ft (3.1 acres). River dock frontage from north to south is approx 1854 lf. Proposed dredge area for 2009 (shown hatched in red) is approximately 87,000 sf (2.0 acres), for an average width of 47'. The rivermost side of this 2009 dredge boundary is the -12' Mean Low Water Line. Depths were measured on 2-16-09. The depth requested for the landward side along the majority length of the main dock is -6 MLW. This equates to an approximate depth of -8' MLW to the water side of the main docks. Considering there are several approved slips 50' or larger that are parallel to the southern main floating dock, having sufficient depth for a sailboat with 8' draft is felt to be a reasonable request and in line with how the docks were most likely originally set.

Yard owner Paul Bennett passed away two years ago; thus we do not have the benefit of his recollection of permit discussions and mean low water depths from when the marina/boatyard was permitted in 1997 as CAMA #90-97. His wife, Tricia Bennett, now president of Bennett Brothers Yachts, Inc. has asked that I pursue this maintenance dredging major modification. The silting of several of the slips has reduced the ability of some slip holders to dock in their slips, and for the yard to effectively berth transients and vessels awaiting repairs. Such maintenance dredging is very important to the survival of a marina. Vessels or propellers could become stuck or damaged if water depth in a slip is too shallow to free float the vessel. Floating dock systems can likewise be damaged if the floats are aground at low tide. We also feel that slips being aground twice a day is not good for the water environment. With the downturn in the economy, marinas and marine businesses have all been hit especially hard. Having maintenance dredging capabilities eliminates one more strike against this job-producing downtown Wilmington business.

Drawing C-2 is the overall Bennett Brothers Yachts Boatyard Site Plan, including the proposed location for an on-site spoil basin, outside of the 75' AEC. Drawing C-3 includes typical Spoil Basin berm and spillway details. The basin is shown sized at 148' x 298', which equals approximately a one acre footprint. Proposed top of berm height is 12' above local grade. Note that a dredger has not yet been selected, and that they may have their own preferred details and thoughts on basin size. Included in this request for maintenance dredging is permitted ability to have sand/spoil removed from the basin to a Land Quality Permitted Site, outside of the AEC, either on-site or elsewhere. Any such spoil basin material movement to inside an AEC should, of course, require obtaining a Letter of Refinement.

Dredging will be primarily by hydraulic dredge. At this point the best guesstimate is for hydraulic dredging every 5 to 10 years, based on the 11 years that the marina has been open. We do ask for the option to use a land based back hoe (especially in the travel lift pit and adjacent maintenance slip area) or for use of a barge mounted back hoe (possible smaller/touch up jobs). We will make the proper advance notifications and provide spoil and spoil basin capacity estimates as required.

The Bennett Brothers Yachts Marina is in a historical wharf location along the North East Cape Fear River. Three sources of historical information include: "The Big Book of the Cape Fear River" by Claude V Jackson III, based on a 1993-94 U.S. Army Corps of Engineering cultural resource project and a NC DEHNR funded Underwater Archeology Unit cartographic study and submerged cultural resources survey; a 1902 Wilmington Chamber of Commerce Report, which has been scanned and available on the internet; and the Cape Fear Heart Pine website. Cartographic research of charts, maps and data dating back to the 1600's are included in "The Big Book of the Cape Fear". More specifically, an 1873's map of Wilmington shows a saw mill at the Bennett Brothers location. Several 1880's & 1890's reports of the North East Cape Fear River also mention a ferry landing south of the Hilton Railroad Bridge at Hilton Street, which is at the north end of the marina. An 1893 US Army Corps of Engineers chart/report lists the name of the wharf immediately south of the Hilton Street Ferry as "Parsely's Mill Wharf".

The 1902 Chamber of Commerce report on page 62 lists the Hilton Lumber Company, formed in 1894 by William L. Parsely, located on the site which included approximately 15 acres; 1700 ft of river frontage; railroad tracks running full length of the property; a 500 hp steam mill with 12,000,000 feet of annual capacity of dressed pine and cypress; with ships being able to be loaded on at the wharf directly from the mill. Further history indicates that William L. Parsely's father O.G. Parsley had founded the business in about 1856, and that for a while the business was also called Parsely & Wiggins.

Page 64 of the same report shows a picture of a couple of large three masted schooners docked further downtown in Wilmington. Page 24 is a summary of the Port of Wilmington, indicating that "the deepest draft a vessel could draw in antebellum days was ten to twelve feet, now are often unloaded ships at the wharfs up to twenty feet, and this without detention". Approximately half the vessels were steam, the other half sailing vessels. Pages 11 and 12 talk about the lumber and shingle business(es) in Wilmington. In 1901, of the 42,000,000 feet of lumber shipped from Wilmington, the amount of lumber shipped coastwise was 33,000,000 feet, with another 9,000,000 feet being dispatched to foreign countries.

The Hilton Lumber Company provided about ¼ of the area total of lumber. While no mention of vessel size was indicated for the wharf for the Hilton Lumber Company, it would appear that vessels drawing at least ten to twelve feet, if not greater in draft were commonly docked at the site. At the south end of the site, there was a ramp/wooden slipway at which the logs from "log rafts" or from barges were dragged up into the mill. There was no direct mention of dredging, but large vessels did use the site for many years. According to the Cape Fear Heart Pine website, logs occasionally fell off of barges, and/or got stuck amidst the wharf piles. Machinery in the 1800's and early 1900's was not such that such lost logs could be easily retrieved. With time, they sunk or got mired along the river bottom.

According to the deed for the property, Bennett Brothers Yachts purchased the site from Corbett Industries. Corbett Industries among other things is/was in the timber/lumber business, and presumably also used the site for bringing upstream timber to their mills and/or shipping finished lumber out. Another historic note is that the site was part of the Hilton Plantation owned by William Hilton in 1663, and later owned by Cornelius Harnett in the 1770's. William Parsley of the Hilton Lumber Company is the namesake of William L. Parsley Elementary School in New Hanover County.

In an October 2008 multi-agency project scoping meeting about maintenance dredging of the Bennett Brothers Yachts Marina, it was brought up that at least a portion of the site was considered to be in a primary nursery area (PNA). Any portion of the marina riverward of the navigation channel dredging setback line was considered outside of the PNA as it was construed as disturbed area. We were tasked to find proof that dredging/disturbance had occurred closer to shore. Historically speaking we believe it to be the case based on the long term site use as a saw mill/loading wharf. The deep draft lumber vessels and the dragging of logs undoubtedly were indications of this. More recent is the original CAMA #90-97 permit condition #5 regarding the wharf and crib structure. Pile removal was allowed, and item c allowed for other historical finds. There are still some pile remnants visible east of the south main dock of the prior wharf.

Evidentially, among the timber piles hundreds of submerged logs were found and subsequently pulled from the river bottom. This "riverwood" was as large as a 5' diameter cypress, several hundreds of years old. Removal of timber piles and harvesting of riverwood was in two major stages with CAMA knowledge. First in 1997-1998 when Phase One, the northern part of the marina (slips A-U) were constructed. Phase Two, the southern (numbered) slip construction/pile removal occurred in 2005. Additionally, riverwood was somewhat continuously removed from the southern portion of the site between 1998 and 2004 by a Mr. Pete Davida, of Riverwood Co., who had his own permit allowing harvesting of riverwood along the Cape Fear and the North East Cape Fear River. Note that there is believed to be an 11" x 17" hand drawing that Paul Bennett provided to CAMA that indicated timber pile locations. I do have a copy of correspondence between the site developer Yerkes Construction, Inc and the North Carolina Underwater Archaeology Unit, April 27, 1998 referencing Permit Number 97NER595, giving notice of intent to remove an old abandoned steel barge from Underwater Archaeology Unit Site #0038NER. This was submerged in the area north of the travel lift pit. It had to be cut up to be removed from the river bottom.

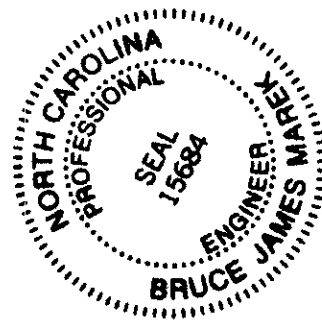
Another item of disturbance since Phase One of the marina was completed was the collapse of a City of Wilmington storm drain at the extension of Compton Street, near slips M-O. This sent a lot of silt into the river, and is part of the problem for the northern docks bottoming out at low tide.

The western edge of the marina slips/tee-heads are per permitted "Revised Slip Layout 6-17-97". Army Corps of Engineers letter dated 8-15-97 references the agreed on position. The channel dredging setback is approximately 140 ft, the agreed setback 112'. Thus, the western third of the marina is already located in an area of existing allowed dredging by virtue of being between the navigation channel and the dredging setback line. See reference drawing R-1. As mentioned previously, the marina also is part of the urban waterfront indentified in the Wilmington-New Hanover County 2006 CAMA Plan Update and the Wilmington Vision 2020 Plan. This allows the exception in a PNA for maintenance dredging where there is a water dependent need. We believe that a working boatyard/marina permitted in 1997 prior to the 1997 Cape Fear River Corridor Plan and 2004 Wilmington Vision 2020 Plan qualifies as water dependent. The site's purpose has been as a wharf/vessel dockage/ferry landing area for well over a century.

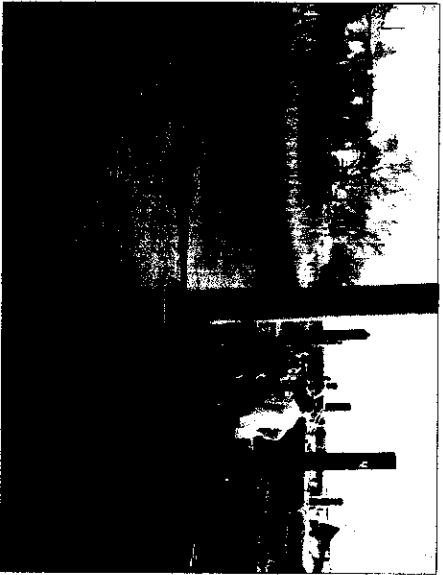
In further support of this maintenance dredging request, we feel that having the floating docks float, will be better for protecting water quality than having them rest aground twice a day. The removal of piles, riverwood and the barge indicates that what we are proposing is not new excavation. The width of the river is not being increased to create new or expanded use of the channel. We are just trying to define and return to what we believe was the original depth of the marina footprint.

Previously I mentioned that the landward side of the majority of the main docks is requested at a dredge depth of -6 MLW. The two exceptions to this are the 161' long "U-dock" at the north end of the marina and the 109' long southernmost main dock. Both of these have slips to the landward side, and both already exist at a depth greater than -6' MLW. The landward side of U-dock is presently at -9' MLW to -10' MLW. We ask to be allowed to define the allowed dredge depth to this landward side as -10' MLW, which equates to approximately -12' MLW on the river side. A sailing vessel longer than 100' could easily have a 12' keel draft. At the southern end of the marina, likewise there is existing -8' MLW depth to the landward side. We would like to designate the last 109' of the main dock with this present -8' MLW depth. As such, dredging would not occur under U-dock during this first dredging cycle, and only minor touch up is needed under the southernmost main dock.

The Mean Low Water Depth of -12' is our dredge limitation within the slips, i.e. we will start at -6 MLW at the main dock landward edge, and dredge in an approximate straight line taper until we intersect the existing -12 MLW contour. For the proposed 2009 dredging, this 87,000 sf (2.0 acre) red hatched area of proposed disturbed area on drawing C-1 has an approximate volume of 6500 cu yds.



CAMA 90-97 MAJOR MOD
MAINTENANCE DREDGING OF MARINA

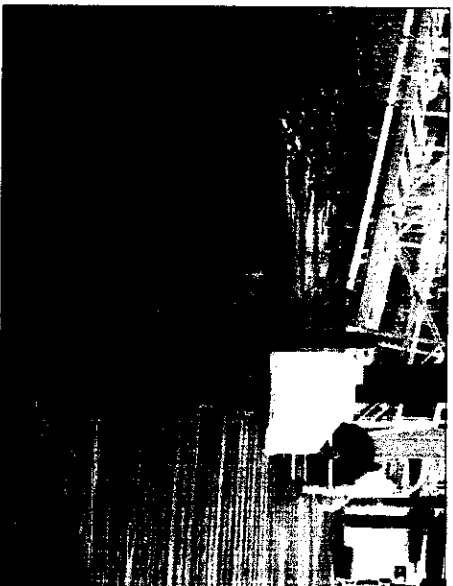


NORTH MAIN DOCK
LOOKING SOUTH

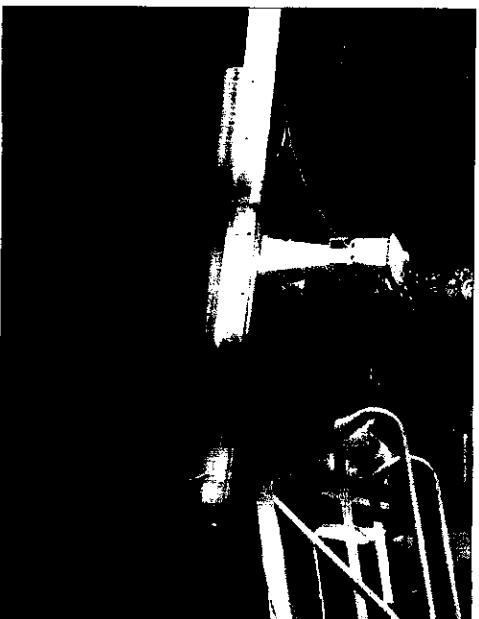


NORTH MAIN DOCK
LOOKING NORTH FROM RAMP

BENNETT BROTHERS YACHTS, INC.
VARIANCE REQUEST 1-4-2010: RECENT PHOTOS



NORTH MAIN DOCK
LOOKING SOUTH AT RAMP



NORTH MAIN DOCK
LOOKING AT SOUTH SIDE OF NORTH RAMP

PHOTOS TAKEN
1-1-2010 AT LOW TIDE

CAMA 90-97 MAJOR MOD
MAINTENANCE DREDGING OF MARINA

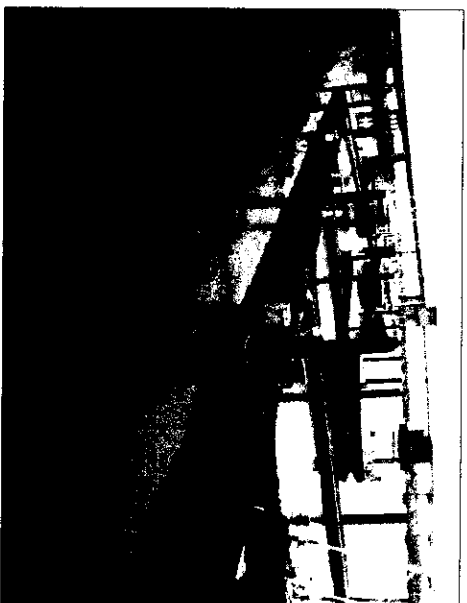
BENNETT BROTHERS YACHTS, INC.
VARIANCE REQUEST 1-4-2010: RECENT PHOTOS



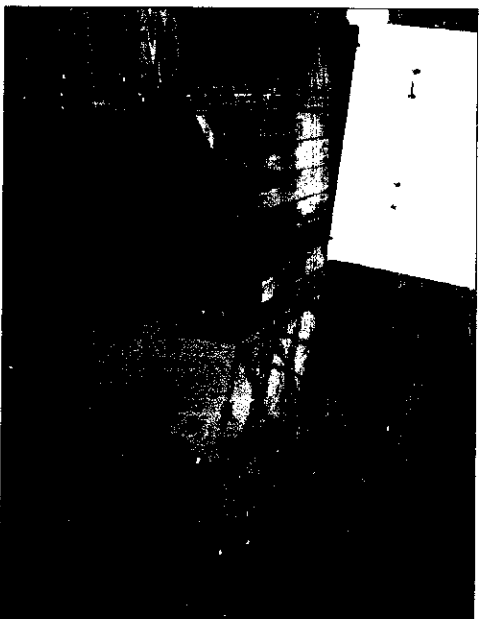
SOUTH MAIN DOCK
LOOKING SOUTH AT RAMP



SOUTH MAIN DOCK
LOOKING NORTH



SOUTH MAIN DOCK
LOOKING SOUTH FROM RAMP



SOUTH MAIN DOCK
AT BUMP OUT NEAR RAMP

PHOTOS TAKEN
1-1-2010 AT LOW TIDE

CAMA 90-97 MAJOR MOD
MAINTENANCE DREDGING OF MARINA



SWEENEY WATER TREATMENT
PLANT 16" OUTFALL IMMEDIATELY
NORTH OF MARINA



NORTH MAIN DOCK
OLD SHORELINE STABILIZATION

BENNETT BROTHERS YACHTS, INC.
VARIANCE REQUEST 1-4-2010: RECENT PHOTOS



LOOKING NORTH FROM T-DOCK
(NORTH DOCK) AT AREA OF PROPOSED
MITIGATION



LOOKING LANDWARD FROM U-DOCK
AT AREA OF PROPOSED MITIGATION

PHOTOS TAKEN
1-1-2010 AT LOW TIDE

CAMA 90-97
 Proposed Revised Calculations for Variance based on Minimizing Dredging
 To Keep Main Docks Afloat at MLLW

Bruce Marek, P.E.
 5489 Eastwind Rd.
 Wilmington, NC 28403

1/4/2010

Approximate Dredge Volume Calculations for Bennett Brothers Yachts, Inc./Cape Fear Marina
 Location D1 is at North End of Marina (North End of "U-Dock"); D27 is at South End of Marina
 Length is Distance between Measurement Locations

Depth Measurement Date = 2/16/2009

Location	Appx Dist to -12.0' MLW From Dock Landward Side	MLW Depth at Dock Landward Edge 2/16/2009	Desired Depth at Dock INBD Edge	Existing Triangular Profile Area sf	Proposed Triangular Profile Area sf	Dredge = Profile Differene	Length	Volume
D1	10'	-10.0'	-10.0'	10 sf	10 sf	0 sf		
D2A	10'	-10.0'	-10.0'	10 sf	10 sf	0 sf	155.0'	0 cu yds
D2B	42'	-0.5'	-4.5'	242 sf	158 sf	84 sf		
D3	30'	-0.3'	-4.5'	176 sf	113 sf	63 sf	60.0'	163 cu yds
D4	37'	0.7'	-4.5'	235 sf	139 sf	96 sf	30.0'	88 cu yds
D5	41'	0.0'	-4.5'	246 sf	154 sf	92 sf	96.0'	335 cu yds
D6	44'	0.0'	-4.5'	264 sf	165 sf	99 sf	96.0'	340 cu yds
D7	55'	0.0'	-4.5'	330 sf	206 sf	124 sf	57.0'	235 cu yds
D8	43'	0.0'	-4.5'	258 sf	161 sf	97 sf	50.0'	204 cu yds
D9	44'	0.0'	-4.5'	264 sf	165 sf	99 sf	32.0'	116 cu yds
D10	45'	0.1'	-4.5'	272 sf	169 sf	104 sf	47.0'	176 cu yds
D11	54'	0.1'	-4.5'	327 sf	203 sf	124 sf	100.0'	422 cu yds
D12	73'	0.0'	-4.5'	438 sf	274 sf	164 sf	51.0'	272 cu yds
D13	75'	-0.2'	-4.5'	443 sf	281 sf	161 sf	46.0'	277 cu yds
D14	83'	-0.2'	-4.5'	490 sf	311 sf	178 sf	51.0'	321 cu yds
D15	48'	-1.5'	-4.5'	252 sf	180 sf	72 sf	60.0'	278 cu yds
D16	48'	-1.9'	-4.5'	242 sf	180 sf	62 sf	78.0'	194 cu yds
D17	22'	-3.5'	-4.5'	94 sf	83 sf	11 sf	63.0'	86 cu yds
D18	37'	-3.2'	-4.5'	163 sf	139 sf	24 sf	60.0'	39 cu yds
D19	50'	-5.2'	-4.5'	170 sf	188 sf	-18 sf	50.0'	6 cu yds
D20	43'	-3.7'	-4.5'	178 sf	161 sf	17 sf	58.0'	0 cu yds
D21	36'	-3.6'	-4.5'	151 sf	135 sf	16 sf	60.0'	37 cu yds
D22	44'	-3.0'	-4.5'	198 sf	165 sf	33 sf	108.0'	98 cu yds
D23A	52'	-1.0'	-4.5'	286 sf	195 sf	91 sf	71.0'	163 cu yds
D23B	52'	-1.0'	-4.5'	286 sf	195 sf	91 sf		
D24	51'	-2.5'	-4.5'	242 sf	191 sf	51 sf	127.0'	334 cu yds
D25	63'	-3.0'	-4.5'	284 sf	236 sf	47 sf	70.0'	127 cu yds
D26	65'	-5.4'	-6.0'	215 sf	195 sf	20 sf	61.0'	75 cu yds
D27	63'	-8.2'	-8.0'	120 sf	126 sf	-6 sf	117.0'	29 cu yds
Sums							1854'	4417 cu yds



North Carolina Department of Environment and Natural Resources
Division of Coastal Management

Beverly Eaves Perdue, Governor

James H. Gregson, Director

Dee Freeman, Secretary

December 23, 2009

**CERTIFIED MAIL
RETURN RECEIPT REQUESTED**

Bennett Brothers Yachts, Inc.
c/o Trisha Bennett
1701 J.E.L. Wade Drive
Wilmington, NC 28401

Dear Ms. Bennett:

This letter is in response to your application for a Major Modification to Coastal Area Management Act (CAMA) Permit No. 90-97, in which authorization was requested to excavate an area 1,854' X 47' to a depth of -12' below the normal low water level in the Northeast Cape Fear River, in New Hanover County. Processing of the application, which was received as complete by the Division of Coastal Management's Wilmington Regional Office on June 10, 2009, is now finalized. Based on the state's review, the North Carolina Division of Coastal Management has made the following findings:

- 1) The subject property is located adjacent to the Northeast Cape Fear River.
- 2) The proposed project is located within a Primary Nursery Area (PNA), as designated by the North Carolina Marine Fisheries Commission.
- 3) CAMA Major Permit No. 90-97, which was originally issued to Bennett Brothers Yachts, Inc. on July 2, 1997, authorized construction of a 78-slip open water marina with associated development. No dredging activities were proposed or authorized as a part of the originally permitted project.
- 4) The proposed project involves periodic dredging of areas in and around the existing marina facility. The N.C. Division of Coastal Management has determined that the proposed project consists of new dredging in a Primary Nursery Area. Approximately 87,000 square feet of Primary Nursery Area habitat would be excavated as a result of the proposed project.
- 5) During the course of the joint State and federal permit application review process, N.C. Division of Marine Fisheries stated that, "the new dredging will have a significant adverse impact on the estuarine resources in the project area and objects to the project." The N.C. Wildlife Resources Commission also supported the N.C. Division of Marine Fisheries recommendation for denial of the permit.

400 Commerce Avenue, Morehead City, North Carolina 28557
Phone: 252-808-2808 \ FAX: 252-247-3330 \ Internet: www.nccoastalmanagement.net

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Additionally, the N.C. Division of Water Quality indicated that they were heading towards denial of the required 401 Water Quality Certification due to a finding that the adverse impacts to the Primary Nursery Area would result in a removal or degradation of significant existing water quality uses.

- 6) Based upon the above referenced findings, the Division has determined that the proposed project is inconsistent with the following rules of the Coastal Resources Commission:
 - a) 15A NCAC 07H.0203, which states "It is the objective of the Coastal Resources Commission to conserve and manage estuarine waters, coastal wetlands, public trust areas, and estuarine and public trust shorelines, as an interrelated group of AECs, so as to safeguard and perpetuate their biological, social, economic, and aesthetic values and to ensure that development occurring within these AECs is compatible with natural characteristics so as to minimize the likelihood of significant loss of private property and public resources. Furthermore, it is the objective of the Coastal Resources Commission to protect present common-law and statutory public rights of access to the lands and waters of the coastal area."
 - b) 15A NCAC 07H.0206(c), which states "Management Objective. To conserve and manage the important features of estuarine waters so as to safeguard and perpetuate their biological, social, aesthetic, and economic values; to coordinate and establish a management system capable of conserving and utilizing estuarine waters so as to maximize their benefits to man and the estuarine and ocean system."
 - c) 15A NCAC 07H.0208(a)(2)(B), which states "Before receiving approval for location of a use or development within these AECs, the permit-letting authority shall find that no suitable alternative site or location outside of the AEC exists for the use or development and, further, that the applicant has selected a combination of sites and design that will have a minimum adverse impact upon the productivity and biologic integrity of coastal marshland, shellfish beds, beds of submerged aquatic vegetation, spawning and nursery areas, important nesting and wintering sites for waterfowl and wildlife, and important natural erosion barriers (cypress fringes, marshes, clay soils)."
 - d) 15A NCAC 07H.0208(a)(2)(C), which states "Before being granted a permit by the CRC or local permitting authority, there shall be a finding that the applicant has complied with the following standards: Development shall not violate water and air quality standards."
 - e) 15A NCAC 07H.0208(b)(1), which states that "Navigation channels, canals, and boat basins shall be aligned or located so as to avoid primary nursery areas, highly productive shellfish beds, beds of submerged aquatic

vegetation, or significant areas of regularly or irregularly flooded coastal wetlands.”

- f) 15A NCAC 07H.0208(1)(B), which states “Marinas which require dredging shall not be located in primary nursery areas nor in areas which require dredging through primary nursery areas for access.”

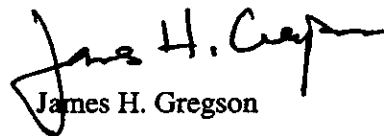
Given the preceding findings, it is necessary that your request for issuance of a Major Permit under the Coastal Area Management Act and State Dredge and Fill Law be denied. This denial is made pursuant to N.C.G.S. 113A-120(a)(8) which requires denial for projects inconsistent with the state guidelines for Areas of Environmental Concern or local land use plans, and N.C.G.S. 113-229(c)(5), which requires denial for projects that will cause a significant adverse effect on wildlife or freshwater, estuarine or marine fisheries.

If you wish to appeal this denial, you are entitled to a hearing. The hearing will involve appearing before an Administrative Law Judge who listens to evidence and arguments of both parties and then makes a recommendation to the Coastal Resources Commission. Your request for a hearing must be in the form of a written petition, complying with the requirements of §150B of the General Statutes of North Carolina, and must be filed with the Office of Administrative Hearings, 6714 Mail Service Center, Raleigh, NC 27699-6714, within twenty (20) days from the date of this letter. A copy of this petition should be filed with this office.

Also, you are advised that as long as this state permit denial stands, your project must be deemed inconsistent with the N.C. Coastal Management Program, thereby precluding the issuance of federal permits for this project. The Federal Coastal Zone Management Act (CZMA) gives you the right to appeal this finding to the U.S. Secretary of Commerce within thirty days of receipt of this letter. Your appeal must be on the grounds that the proposed activity is (1) consistent with the objectives or purposes of the CZMA, or (2) is necessary in the interest of national security, and thus, may be federally approved.

Members of my staff are available to assist you should you desire to modify your proposal in the future. If you have any questions concerning this matter, please contact Mr. Doug Huggett at (252) 808-2808, extension 212.

Sincerely,



James H. Gregson

cc: Colonel Jefferson M. Ryscavage – U.S. Army Corps of Engineers, Wilmington, NC
David Kennedy, Director – OCRM/NOAA, Silver Spring, MD
Dave Timpy, USACE
DCM – Wilmington

STATE OF NORTH CAROLINA
COUNTY OF NEW HANOVER

BEFORE THE NORTH CAROLINA
COASTAL RESOURCES COMMISSION

IN THE MATTER OF:)
PETITION FOR VARIANCE BY)
BENNETT BROTHERS YACHTS)
INC.)

FINAL ORDER

This matter was heard on oral arguments and stipulated facts at the regularly scheduled meeting of the North Carolina Coastal Resources Commission (hereinafter CRC) on November 21, 1997, in Wilmington, North Carolina pursuant to N.C.G.S. § 113A-120.1 and T15A NCAC 7J.0700, et seq. Associate Attorney General Mary Dee Carraway appeared for the Department of Environment and Natural Resources, Division of Coastal Management; Paul W. Bennett represented the Petitioner Bennett Brothers Yachts, Inc.

Upon consideration of the stipulated facts and the arguments of the parties, the CRC adopts the following:

FINDINGS OF FACT

1. Bennett Brothers Yachts (hereinafter Petitioner) owns property located adjacent to the Northeast Cape Fear River, on J.E.L. Wade Drive, on the north side of the 3rd Street Bridge, in Wilmington, New Hanover County, North Carolina. The property is located in the Estuarine Shoreline AEC.

2. In October of 1996, Petitioner applied to DCM for a CAMA Major Development permit to construct a yacht manufacturing and repair facility, including a 52 slip marina. The upland portion of the proposed project includes a building for offices, public toilets, a shop for the sale of marine supplies, and a building for the manufacture and repair of large sail and motor yachts. Proposed development in the Northeast Cape Fear River includes three piers elevated

over and extending across wetlands connecting to two main floating docks, with 54 finger slips, including a lift slip to be used for lifting yachts in and out of the Northeast Cape Fear River for maintenance and repair work. The project as originally proposed required no dredging activity.

3. The proposed development in the Northeast Cape Fear River is in the Estuarine Waters and Public Trust AEC's.

4. The area of the Northeast Cape Fear River in which the development is proposed has been designated as a primary nursery area ("PNA") by the Marine Fisheries Commission ("MFC").

5. The proposed project abuts a channel within the Northeast Cape Fear River which has been designated by Congress as a federal waterway to be maintained by the Corps of Engineers (Corps). This federally maintained channel is subject to periodic dredging by the Corp. The channel is authorized to be maintained at a depth of 32 feet.

6. The project includes a lift slip equipped with a travel lift designed for raising yachts from the water and moving them landward for maintenance and repair. The lift slip, as drawn on the original permit diagram was 132 feet long and 30 feet wide. At its watermost point, the lift slip was set back 80 feet from the near edge of the federally maintained channel.

7. Petitioner applied to the Corps for a Section 10 permit in order to construct the piers, docks and travel lift in the Northeast Cape Fear River. In June of 1997, the Corps informed Petitioner that in order to receive a Section 10 permit for the project, the development had to be set back 112 feet from the near edge of the channel, rather than the 80 feet that Petitioner had originally used in designing the marina. Thus, in order to comply with the Corps's regulations,

Petitioner's development in the Northeast Cape Fear River, which included the piers, docks, and travel slip, had to be moved shoreward a distance of 32 feet.

8. On June 17, 1997, Petitioner submitted a revised permit drawing in which the piers, docks, and lift slip were moved shoreward a distance of 32 feet. This was accomplished by both shortening boat slips and moving the entire project shoreward. Because of the shallowness of the water at the new location, Petitioner submitted a revised drawing to DCM which indicated an intent to dredge an area approximately 30 feet wide and 30 feet long (900 square feet) in the lift slip. The dredging operations would allow large sail and motor yachts (boats over 50 feet in length) to gain access to the lift slip. The entire area to be dredged in the Northeast Cape Fear River is in an area classified as PNA. The plan required excavation of approximately 480 cubic yards of material from above and below mean high water.

9. On July 2, 1997, DCM issued CAMA Major Development Permit No. 90-97 to Bennett Brother's Yachts, Inc. for development of the proposed marina and yacht repair facility. The permit is based on the revised plans; however, condition No. 2 of the permit states: "This permit does not authorize excavation at the boat lift or any other excavation or filling in the Northeast Cape Fear River and adjacent coastal wetlands."

10. On September 3, 1997, Petitioner and representatives from DCM met at the site of the proposed project. As a result of this meeting, Petitioner reduced the total area of PNA to be dredged from 900 square feet to 732 square feet by changing the shape of the travel lift from rectangular to oval. The total area of PNA to be dredged in waters shallower than four feet is 410 square feet. The proposal would require excavation of approximately 150 cubic yards of material from PNA. The maximum depth of the travel lift area after dredging is 15 feet.

Petitioner has agreed to bulkhead the perimeter of the excavated area in order to stabilize the edge and reduce the possibility of further disturbance of the PNA.

11. Petitioner voluntarily removed 1,728 square feet of rock fill in the PNA as well as in an area of coastal wetlands located along the shoreline, approximately 200 feet upstream from the proposed dredge area.

12. Dredging is prohibited in PNA's by 15A NCAC 7H.0208(b)(1) which states that "Navigation channels, canals, and boat basins shall be aligned or located so as to avoid primary nursery areas, highly productive shellfish beds, beds of submerged aquatic vegetation, or significant areas of regularly or irregularly flooded coastal wetlands."

13. Petitioner seeks a variance from 15A NCAC 7H.0208(b)(1) in order to conduct dredging activities in a PNA in the Northeast Cape Fear River to facilitate adequate depth for a travel lift capable of accommodating large sail and motor yachts.

14. The Division of Marine Fisheries ("DMF") originally objected to the planned dredging activities in the PNA. However, subsequent to the site meeting on September 3, 1997, and the reduction of the area of PNA to be dredged, DMF withdrew its objections to the project.

Based on the foregoing Findings of Fact the Coastal Resources Commission makes the following:

CONCLUSIONS OF LAW

1. The CRC has jurisdiction over the parties and the subject matter.
2. The parties have been correctly designated and there is no question of misjoinder or nonjoinder of parties.

3. All notices for the proceeding were adequate and proper.

4. Application of 15A NCAC 7H.0208(b)(1) will result in practical difficulties or unnecessary hardship to Petitioner in that compliance with the rule would cause Petitioner to lose approximately 50% of its anticipated boat repair business although the site is otherwise highly suitable for the storage, maintenance and haul-out of deep draft vessels.

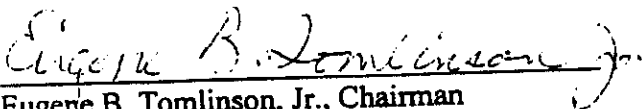
5. This hardship results from conditions peculiar to the subject property in that Petitioner planned the project to avoid any primary nursery area, but was forced to pull the proposed project closer to shore and into shallower water in order to comply with the Corps of Engineers' channel line, causing part of the project to be relocated into an area that is designated as a PNA, but does not have high functional values. The redesigned project would require dredging of only .02 acres of PNA

6. The Coastal Resources Commission could not reasonably have anticipated the application of the rule in conditions where a direct conflict between Corps of Engineers rules and those of the CRC would foreclose construction of a boat maintenance facility in an area otherwise highly suited to such a facility based on a very small impact to a PNA that does not have a high resource value.

7. The project is consistent with the spirit, purpose and intent of coastal management statutes and rules in that the applicant has minimized the impact to PNA to the extent possible and the Division of Marine Fisheries has determined that the minor amount of dredging proposed by Petitioner would have only an insignificant impact on functioning PNA.

Based on the foregoing Findings of Fact and Conclusions of Law, the Coastal Resources Commission hereby GRANTS Petitioner's request for a variance from 7H.0208(b)(1).

This the 3rd day of December, 1997.


Eugene B. Tomlinson, Jr., Chairman
Coastal Resources Commission

State of North Carolina
Department of Environment,
Health and Natural Resources
Wilmington Regional Office
Division of Coastal Management



James B. Hunt, Jr., Governor
Jonathan B. Howes, Secretary
Roger N. Schechter, Director

November 7, 1996

MEMORANDUM:

TO: Mr. Bruce Freeman, Director
Division of Marine Fisheries

FROM: John R. Parker
Major Permits Processing Coordinator

SUBJECT: CAMA/DREDGE & FILL Permit Application Review

Applicant: Bennett Brothers Yachts, Inc.

Project Location: Adj to the Northeast Cape Fear River, on the north side of the 3rd Street Bridge, in Wilmington, NC, in New Hanover County

Proposed Project: The construction of a yacht manufacturing and maintenance facility including a 52 slip marina

Please indicate below your agency's position or viewpoint on the proposed project and return this form by Dec 2, 1996. If you have any questions regarding the proposed project, please contact Tere Barrett at extension 246. When appropriate, in-depth comments with supporting data is requested.

REPLY: This agency has no objection to the project as proposed.

This agency has no comment on the proposed project.

This agency approves of the project only if the recommended changes are incorporated. See attached.

This agency objects to the project for reasons described in the attached comments.

SIGNED

DATE

11-21-96

RECEIVED ON

NOV 21 1996

by DMF-HABITAT

MEMORANDUM

November 21, 1996

TO: John Parker

FROM: Fritz Rohde

SUBJECT: Bennett Brothers Yacht

h, l
The Division of Marine Fisheries has no objection to the proposed project. Project depths for the marina ensure that no dredging is required. But since the waters are classified as Primary Nursery Area, the Division wants to make sure that the applicant understands that any future dredging, if requested, will be vigorously opposed and the permit should state "No dredging".



North Carolina Department of Environment and Natural Resources
Division of Marine Fisheries

Beverly Eaves Perdue
Governor

Dr. Louis B. Daniel III
Director

Dee Freeman
Secretary

MEMORANDUM

TO: Doug Huggett
Major Permits Processing Coordinator

FROM: Dr. Louis B. Daniel, III, Director
Division of Marine Fisheries

DATE: July 27, 2009

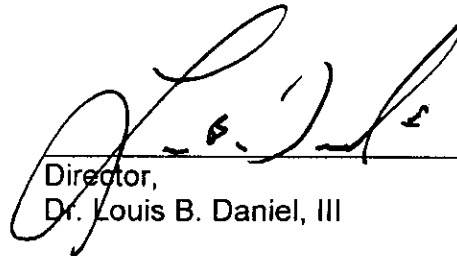
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JUL 31 2009

Morehead City DCM

SUBJECT: CAMA / DREDGE AND FILL PERMIT
Bennett Brothers Yachts, Inc.
Adjacent to the NE Cape Fear River, on the NE side of the Isabella Holmes Bridge
Wilmington, New Hanover County


I have reviewed the comments provided by the District Manager and/or Bio-Supervisor and concur with their recommendation(s).



Director,
Dr. Louis B. Daniel, III

7/28/09

Date

for - 

Deputy Director,
Barbara Y. Lupton

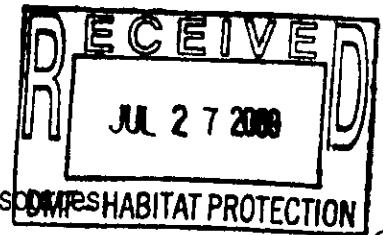
07/28/09

Date

Habitat Protection Section Chief, Date
Anne Deaton



North Carolina Department of Environment and Natural Resources
 Division of Coastal Management
 James H. Gregson
 Director



Beverly Eaves Perdue
 Governor

Dee Freeman
 Secretary

(E)

June 29, 2009

MEMORANDUM:

TO: Rich Carpenter
 Division of Marine Fisheries

FROM: Doug Huggett, NC DENR-DCM Major Permits Coordinator
 400 Commerce Ave., Morehead City, NC 28557 (*Courier 11-12-09*)

SUBJECT: CAMA / Dredge & Fill Major Permit Application Review

Applicant: **Bennett Brothers Yachts, Inc.**

Project Location: adjacent to the NE Cape Fear River, on the NE side of the Isabella Holmes Bridge, in Wilmington, New Hanover County

Proposed Project: Modification of State Permit No. 90-97 to hydraulically dredge to a depth of -12 feet at NLW within the footprint of the existing marina

Please indicate below your agency's position or viewpoint on the proposed project and return this form by **July 25, 2009**. If you have any questions regarding the proposed project, contact Holley Snider at (910) 796-7423, when appropriate, in-depth comments with supporting data is requested.

- REPLY:** This agency has no objection to the project as proposed.
- This agency has no comment on the proposed project.
- This agency approves of the project only if the recommended changes are incorporated. See attached.
- This agency objects to the project for reasons described in the attached comments.

SIGNED _____

[Handwritten Signature]
 A. Decker

DATE _____

7-21-09
 7-21-09



North Carolina Department of Environment and Natural Resources
Division of Marine Fisheries

Beverly Eaves Perdue
Governor

Dr. Louis B. Daniel III
Director

Dee Freeman
Secretary

July 21, 2009

MEMO TO: Doug Huggett

FROM: Rich Carpenter *RC AD*

SUBJECT: Bennett Brothers Yachts, Inc.

The Division of Marine Fisheries has reviewed the application from Bennett Brothers Yachts, Inc. on the Northeast Cape Fear River to modify their existing permit (#90-97) by expanding the dredged area of their marina. The project is located in a primary nursery area and a portion of the dredging is in an area that has not been previously dredged. The Division prohibits the use of bottom disturbing fishing gear and Coastal Management rules prohibit new dredging in order to protect these sensitive areas. Primary nursery areas are essential for post-larval and juvenile species of finfish, crabs and shrimp because they afford food and protection during a vulnerable period of their life cycle. The Division feels that the new dredging will have a significant adverse impact on the estuarine resources in the project area and objects to the project. The Division would drop its objection if the scope of the project was reduced to the areas that have been previously dredged.



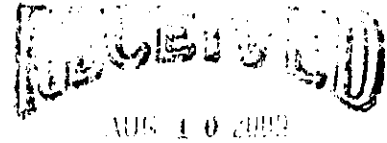
North Carolina Department of Environment and Natural Resources
Division of Coastal Management

Beverly Eaves Perdue
Governor

James H. Gregson
Director

Dee Freeman
Secretary

June 29, 2009



MEMORANDUM:

TO: Molly Ellwood
WiRO
NC Wildlife Resources Commission

Morehead City DCM

FROM: Doug Huggett, NC DENR-DCM Major Permits Coordinator
400 Commerce Ave., Morehead City, NC 28557 (*Courier 11-12-09*)

SUBJECT: CAMA / Dredge & Fill Major Permit Application Review

Applicant: **Bennett Brothers Yachts, Inc.**

Project Location: adjacent to the NE Cape Fear River, on the NE side of the Isabella Holmes Bridge, in Wilmington, New Hanover County

Proposed Project: Modification of State Permit No. 90-97 to hydraulically dredge to a depth of -12 feet at NLW within the footprint of the existing marina

Please indicate below your agency's position or viewpoint on the proposed project and return this form by **July 25, 2009**. If you have any questions regarding the proposed project, contact Holley Snider at (910) 796-7423, when appropriate, in-depth comments with supporting data is requested.

- REPLY:** _____ This agency has no objection to the project as proposed.
- _____ This agency has no comment on the proposed project.
- _____ This agency approves of the project only if the recommended changes are incorporated. See attached.
- This agency objects to the project for reasons described in the attached comments. *(To come from Raleigh)*

SIGNED Molly Ellwood **DATE** 06 Aug 2009

JH/KB



RECEIVED
AUG 17 2009

Morehead City DCM

☒ North Carolina Wildlife Resources Commission ☒

Gordon Myers, Executive Director

MEMORANDUM

To: Doug Huggett
NC DENR/DCM Major Permits Coordinator

From: Shannon L. Deaton, Manager
Habitat Conservation Program

Date: August 12, 2009

RE: Bennett Brothers Yachts, Inc., New Hanover County

Biologists with the North Carolina Wildlife Resources Commission (NCWRC) have reviewed the subject application for impacts to wildlife and fishery resources. Our comments are provided in accordance with provisions of the Coastal Area Management Act (G.S. 113A-100 through 113A-128), as amended, and the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.).

Bennett Brothers Yachts, Inc. is proposing to modify an existing permit to perform new dredging at a marina along the Cape Fear River in New Hanover County. Dredge depths will be to -12' NWL within the footprint of the existing marina. Waters in the project area are designated as Primary Nursery Area (PNA) by the Division of Marine Fisheries, classified as SC by the Division of Water Quality, and are closed to shellfishing.

The NCWRC does not support new dredging in functioning PNAs. These areas provide crucial habitat for recreationally and commercially important fish species during their early life stages. The Cape Fear River at the site of the existing Bennett Brothers Yachts, Inc. has been designated as a PNA since the issuance of the original permit (Major Permit #90-97) and we support comments provided by the Division of Marine Fisheries requesting the denial of any new dredging in the proposed project area.

Thank you for the opportunity to review and comment on this project at this time. Please feel free to contact Molly Ellwood, Southeast Region Coordinator, at (910) 796-7240 if you have any further questions or concerns.

cc: Rich Carpenter, NCDMF
Holley Snider, NCDCM
Dave Timpy, USACE



JH/RB

North Carolina Department of Environment and Natural Resources

Division of Water Quality

Coleen H. Sullins

Director

August 13, 2009

Beverly Eaves Perdue
Governor

Dee Freeman
Secretary

DWQ Project # 96-1054v2
New Hanover County

Bennett Brothers Yachts, Inc.
Ms. Tricia Bennett
1701 J.E.L. Wade Drive
Wilmington NC 28401

RECEIVED
AUG 18 2009

Subject Property:

Bennett Brothers Yachts Maintenance Dredging

Morehead City DCM

REQUEST FOR MORE INFORMATION

To Ms. Bennett

On July 1, 2009, the Division of Water Quality (DWQ) received your CAMA application to hydraulically dredge within the footprint of your existing marina. New information was received by the DWQ on August 7, 2009. The Division of Marine Fisheries (DMF) has determined that the proposed project would impact the surrounding Primary Nursery Areas (PNAs). Because the proposed project would result in significant impacts to the PNAs, the DWQ has determined that significant uses could be removed or degraded by this project. Therefore unless modifications of the proposal are made to alleviate the concerns of DMF, we will recommend moving towards denial of your application as required by 15A NCAC 2H .0506 and will place this project on hold as incomplete until we receive this additional information.

Additional Information Requested:

If the project is modified to address the concerns of the Division of Marine Fisheries and there are no other objections, DWQ will have no objection to the project.

Please respond within three weeks of the date of this letter by sending this information to me in writing and Ian McMillan of the 401 Oversight/Express Review Permitting Unit. His address is Ian McMillan, 401 Oversight/Express Review Permitting Unit, 2321 Crabtree Blvd., Raleigh, NC 27604-2260. If we do not hear from you within three weeks, we will assume that you no longer want to pursue this project and we will consider the project as withdrawn.

Wilmington Regional Office
127 Cardinal Drive Extension, Wilmington, North Carolina 28405
Phone: 910-796-7215 \ FAX: 910-350-2004 \ Customer Service: 1-877-623-6748
Internet: www.ncwaterquality.org

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One
North Carolina
Naturally

This letter only addresses the application review and does not authorize any impacts to wetlands, waters or protected buffers. **Please be aware that any impacts requested within your application are not authorized (at this time) by the DWQ.** Please call me at 910-797-7215 or Ian McMillan at 919-733-1786 if you have any questions regarding or would like to set up a meeting to discuss this matter.

Sincerely,



Chad Coburn
Senior Environmental Specialist

cc: Bruce Marek – 5489 Eastwind Road, Wilmington, NC 28403
Ian McMillan - DWQ 401 Oversight and Express Unit, Raleigh
Dave Timpy - USACE Wilmington Regulatory Field Office
Rich Carpenter – DMF Wilmington
Molly Ellwood – WRC Wilmington
Steve Everhart – DCM Wilmington Office
Doug Huggett – DCM Morehead Office
WiRO

NORTH CAROLINA
NEW HANOVER COUNTY

AFFIDAVIT

Patricia Bennett, under oath, states the following:

1. I am currently the sole owner of Bennett Brothers Yachts, Inc. (BBY).

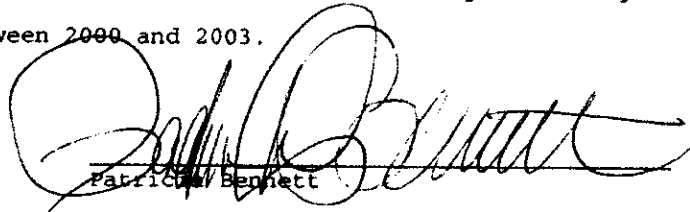
2. Prior to my husband's death in 2007, I was a co-owner of BBY with my husband. I have been involved in the operation of the Bennett Brothers Yachts facility from its beginning to the present.

3. The marina was expanded to the south in 2005 and the additional slips, including those closest to the main floating dock parallel to the shore had sufficient depth to accommodate boats with at least a 6 foot draft at all stages of the tide.

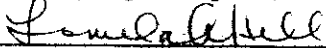
4. In 2000 a City of Wilmington storm sewer that collected storm water from J.E.L. Wade Drive area and discharged it through a storm sewer into the Northeast Cape Fear River failed in the vicinity of the entrance to Bennett Brothers Yachts and from that point to its discharge into the Northeast Cape Fear River. A sink hole developed around the storm water intake at the driveway for Bennett Brothers Yachts next to J.E.L. Wade Drive. The failure also caused a wash out of soil along the pipe and a discharge of sediment into the Northeast Cape Fear River at a point approximately midway along the northern docks north of the northernmost ramp leading to the floating docks. The sediment was discharged through an area of wetlands into the area of the floating docks as depicted on the photographs attached hereto and numbered 1-A, 1-B, 2-B and 3-B.

5. Repairs to the storm sewer were undertaken by the City of Wilmington on several occasions between 2000 and 2003.

Date: 4/22/10


Patricia Bennett

Sworn to and subscribed before me
this 22 day of April, 2010.


Notary Public

My commission expires: 10/10/2012



MEMORANDUM

To: Jonathan Howell
From: Michael Christenbury, Wilmington District Planner
Subject: Consistency Determination, Major Permit Application, Bennett Brothers Yachts, Inc., City of Wilmington
Date: September 22, 2009

This project appears to be consistent and not in conflict with the 2006 Wilmington-New Hanover County Joint Land Use Plan update.

The applicant proposes to modify an existing permit to hydraulically dredge to a depth of -12 feet at normal low water within the footprint of the existing marina. The project is located adjacent to the North East Cape Fear River, and directly adjacent to the northeast side of the Isabel Homes Bridge in Wilmington, New Hanover County.

Areas of Environmental Concern (AEC's) impacted by the proposal are EW and PTA. Waters at the project site are classified as SC and are not open to the harvesting of shellfish. The area is a Primary Nursery Area.

I have reviewed this proposal for consistency with the 2006 Wilmington-New Hanover County Joint CAMA Land Use Plan update and offer the following comments.

The general area of the project is classified Conservation/Developed.

In general, Wilmington-New Hanover County allows development in Conservation/Developed classified AECs, which is consistent with the State's minimum use standards. The Wilmington-New Hanover County Land Use Plan contains some policies which exceed the State's minimum use standards, including those for Marinas, Community Boating Facilities and new dredging.

Because the proposed dredging is located along and within the northern extent of the Urban Waterfront, these policies appear to be not applicable to this project.

This project appears to be consistent and not in conflict with the 2006 Wilmington-New Hanover County Joint Land Use Plan Update.

Cc: File

9. PROJECT DESCRIPTION

The project site is located adjacent to the Northeast Cape Fear River, approximately .85 miles north of its division with the Cape Fear River. This property abuts the Isabella Homes Bridge to the south side, and fronts J.E.L. Wade Drive. The tract is approximately 13 acres in size, and is comprised of several tracts of land controlled by Bennett Brothers Yachts. The project site has highground elevations ranging from 6 feet to 35 feet above mean sea level and has a grade of approximately 40+ degrees, sloping from J.E.L. Wade Drive to the river's edge. The soils are sandy, and support Loblolly Pine, Wax Myrtle, Red Maple, and various vines such as Poison Ivy and Catbrier. The site currently operates as Bennett Brothers Yachts, Inc., existing man-made highground features include a boat repair and maintenances building, paint shop, office building, mechanical building and shed, marina clubhouse and gravel/concrete parking lot. The highground also features several concrete retaining walls, located along the vegetated hillside, and some remnant building foundations are present. The project site has approximately 1,910 linear feet of shoreline frontage along the Northeast Cape Fear River. Water dependant structures on the property include a travel lift pit with piers and floating docks. The Bennett Brothers Yachts received CAMA Major Permit #90-97 on July 2, 1997, which authorized the development of the marina with an 80-slip docking facility and associated upland structures. The permit was modified to include changes to the slip lay-out and has been renewed five (5) times. Dredging within the travel lift pit was approved by CRC Variance #749 on March 19, 2007. CAMA Major Permit #90-97 is due to expire on December 31, 2010. The City of Wilmington supplies the drinking water to the project site and wastewater treatment facilities.

There are Section 404 Wetlands located on the project site although no development or impacts are proposed within these wetlands at this time. Along the river's edge, there are coastal wetlands, predominantly vegetated with *Spartina alterniflora*, *Spartina cynosuroides*, and *Scirpus spp.*. The wetlands along the north shoreline range in width from approximately 30 feet to greater than 100 feet along the south shore. *Typha latifolia* and *Cladium jamaicense* are interspersed along the shoreline. The Northeast Cape Fear River is approximately 700 feet wide in the immediate vicinity of the project site. Water depths in the area of the marina docking facility range from 0.0 feet at Normal Low Water (NLW) to approximately -3 feet along the landward side of the floating docks. The waterward edge of the floating finger piers have water depths of approximately -25.0 feet at NLW and are located approximately 110 feet from the edge of the Army Corps of Engineers Northeast Cape Fear Navigation Channel.

The Wilmington-New Hanover County LUP classifies the upland areas of the project site as Conservation/Developed. The waters of the Cape Fear River are classified as SC by the NC Division of Water Quality (DWQ). The NC Division of Marine Fisheries (DMF) has designated this area of the Cape Fear River as **Primary Nursery Area** and the waters adjacent to the proposed project are closed to the harvesting of shellfish. There has been no archeological assessment done on the project site. No Stormwater or Sedimentation/Erosion Control Plans have been submitted for this project and previous authorization was obtained in 1997 under the CAMA Major Permit #90-97.

10. PROPOSED PROJECT:

The applicant is proposing to modify the existing permit to hydraulically dredge to a depth of -12 feet at Normal Low Water within the footprint of the existing marina. The proposed dredge limits

would be located entirely within the footprint of the existing floating docks. The applicant is proposing to dredge the entire length of the marina facility (approximately 1790 feet). As proposed, the dredge limits would extend from the landward edge of the floating docks waterward approximately 60 feet and slope to meet the connecting water depth contours. The proposed dredging would increase water depths (on average) from an average depth of approximately -3.0 feet at NLW to approximately -12 feet at NLW along the landward edge of the southern floating dock. The proposed dredging under the northern floating dock, located approximately 15-45 feet waterward of coastal wetlands, would increase water depths from 0.0 feet at NLW to -12 feet at NLW along the landward edge of the floating dock. The dredge spoil material would be located on the property outside of the 75 feet Estuarine Shoreline Area of Environmental Concern (AEC). The applicant is proposing to construct a spoil retention basin, for disposal of dredge material, by grading the existing sloping hillside, utilizing native soils to construct dikes and retention walls. The basin footprint, including constructed dikes, would measure approximately 322 feet in length by 148 feet in width. The applicant is proposing to construct dike walls measuring approximately 10-15 feet in height at a 2:1 vertical slope. The applicant is proposing to install a 24-inch outlet pipe that would connect to an 8-inch outfall pipe extending south along the project site through wetlands ultimately depositing into the river. The applicant states the proposed spoil retention basin would have the ability to potentially retain approximately 9,050 cubic yards of material with approximately 4 feet of free board.

11. ANTICIPATED IMPACTS

As proposed the hydraulic dredging would impact approximately 87,000 square feet of shallow bottom area. The proposed dredging would result in approximately 6,500 cubic yards of material being removed from below Normal High Water (NHW). The proposed dredge would result in the disturbance of approximately 87,000 square feet of water bottom located within a designated Primary Nursery Area. Approximately 330 linear feet of floating dock is located approximately 15-45 feet from Coastal Wetlands. Proposed dredging to a depth of -12 feet NLW in these areas could potentially result in severe sloughing along the shoreline and adjacent wetlands. The proposed spoil retention basin construction would result in disturbance to the hillside that is currently stabilized with retaining walls and vegetation. Spoil disposal would disturb approximately 47,656 square feet of highground. The applicant states the retention basin could potentially retain 9,050 cubic yards of material. Increases in turbidity should be expected during the dredging period however, no long term or adverse impacts are anticipated.

Submitted by: **H. Snider**

Date: 6/24/09

Office: **Wilmington**

Recommendations for State Permit - Bennett Brother's Yachts, Inc.

It is staff's recommendation that the proposed excavation surrounding the proposed docking facility is **INCONSISTENT** with the Rule in 15 NCAC 7H.0208 (b) (1) which states "Navigation channels, canals, and boat basins shall be aligned or located so as to avoid primary nursery areas, highly productive shellfish beds, beds of submerged aquatic vegetation, or significant areas of regularly or irregularly flooded coastal wetlands." As proposed the excavation surrounding the docking facility would be located adjacent to, but outside of the existing federally maintained navigation channel. The proposed new excavation would result in the removal of approximately 6,500 cubic yards of material from the designated Primary Nursery Area located within the Northeast Cape Fear River. As proposed the dredge limits would be located, at the nearest point, within 15 feet of Coastal Wetlands, along the 0 feet contour at Mean Low Water and as proposed would be dredged to a depth of -12 feet at NLW.

This office has objections to the proposed dredging within the footprint of the existing docking facility based on the inconsistency with Rule in 15 NCAC 7H.0208 (b) (1) and the Wilmington-New Hanover County Land Use Plan that prohibits new excavation within designated Primary Nursery Areas.

NOTE: An archaeological investigation sufficient to determine the nature, extent, condition, and significance of resources, which might be adversely affected by the proposed construction, shall be conducted subject to the approval of the Division of Archives and History, through the Division of Coastal Management, if deemed necessary by the Division of Archives and History.

VARIANCE REQUEST

Bennett Brothers Yachts

Dredging Project

City of Wilmington

New Hanover County

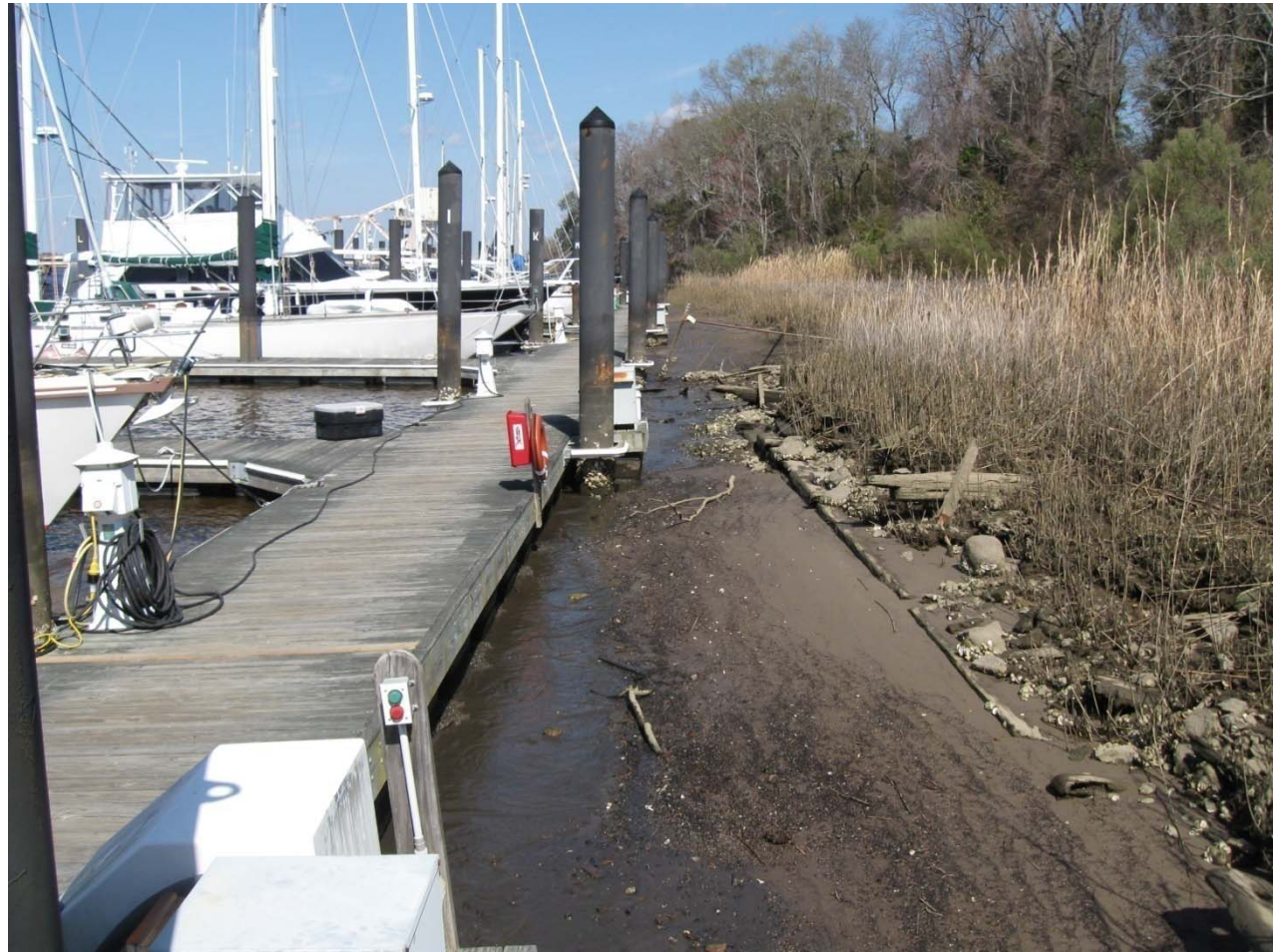
CAPE FEAR RIVER AT ISABELLE HOLMES/HWY 133 BRIDGE
Wilmington, New Hanover County 5/19/06



Bennett Brothers Yachts



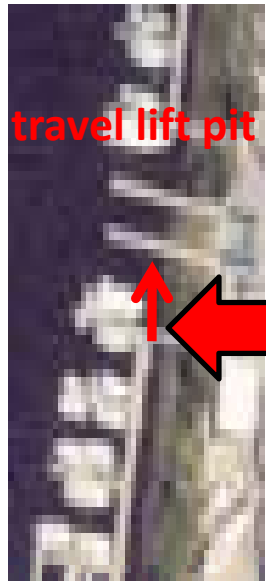
Bennett Brothers Yachts Property
1701 J.E.L. Wade Drive
Wilmington, New Hanover County



View of property shoreline facing north from the gangway of the northern floating dock 3/6/2009

View of property shoreline facing south from point on north end of floating dock 3/6/2009

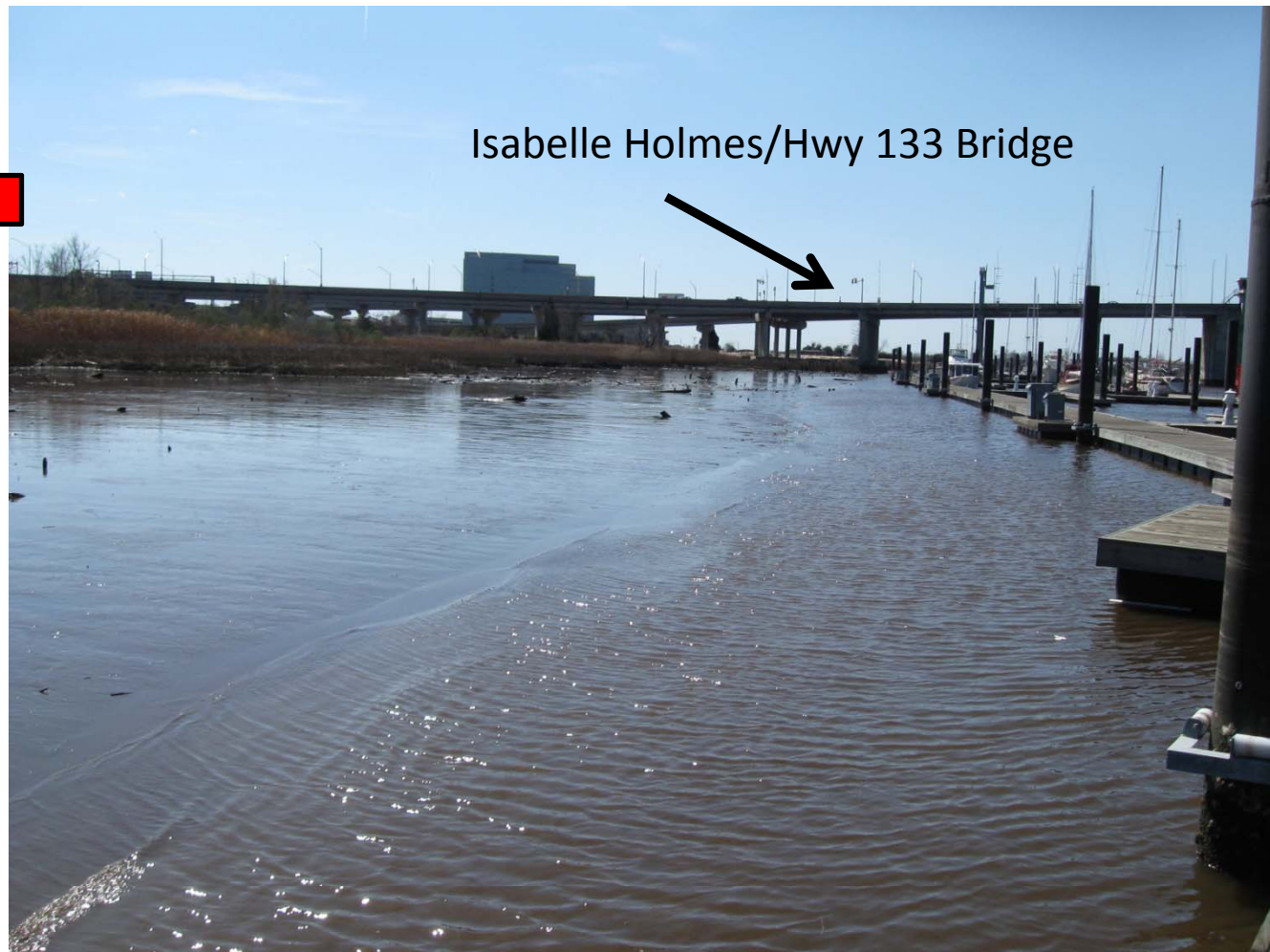




View of the property shoreline facing north (travel lift pit) from the gangway of the southern floating dock 3/6/2009



View of property shoreline facing south from the southern floating dock 3/6/2009



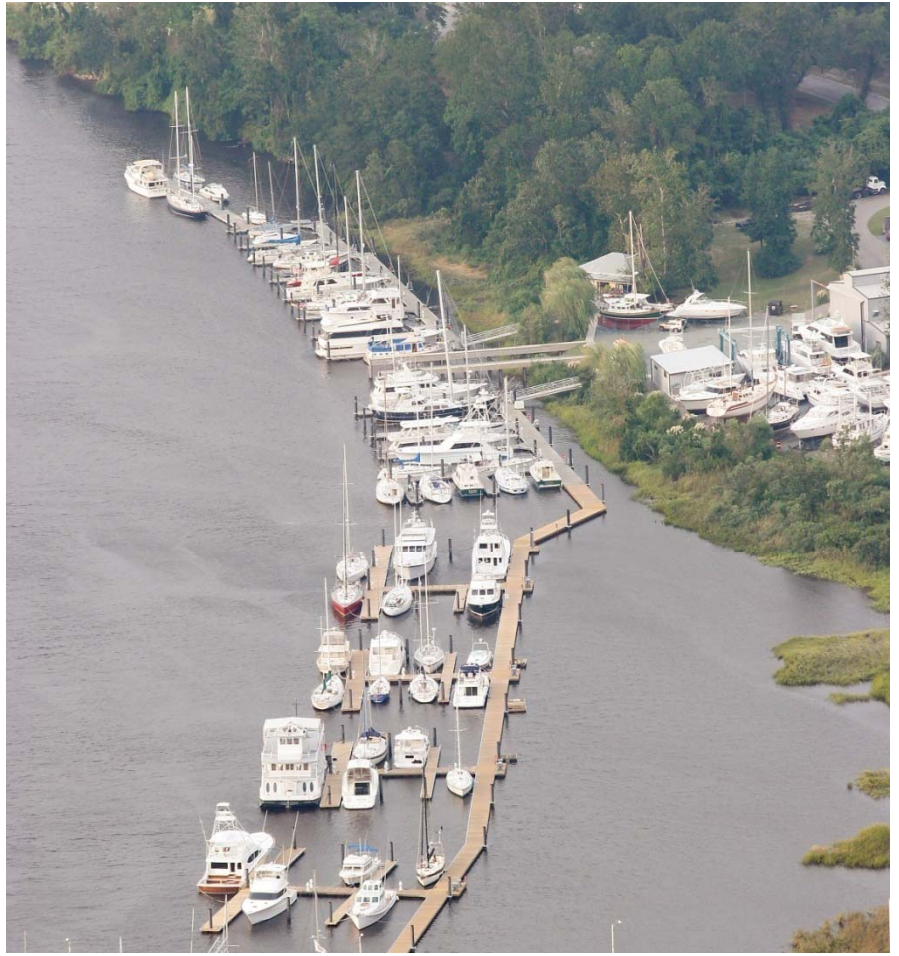
Isabelle Holmes/Hwy 133 Bridge



View of property shoreline facing north from the southern floating dock 3/6/2009

Photos Submitted by Petitioner















STATE OF NORTH CAROLINA
DEPARTMENT OF JUSTICE

ROY COOPER
ATTORNEY GENERAL

REPLY TO:
WARD ZIMMERMAN
wzimmerman@ncdoj.gov

MEMORANDUM

TO: Coastal Resources Commission
FROM: Ward Zimmerman, Assistant Attorney General
DATE: April 21, 2010 (for the May 2010, CRC Meeting)
RE: **Variance Request # 10-01 by Pierce Lawing**

Petitioner proposes to construct a 14' X 28' boathouse by building a roof over an existing boatlift attached to an existing pier and platform in Edenton, along the Chowan River in Chowan County, North Carolina. There is no dispute that Petitioner's property has approximately 50 linear feet of shoreline. The Division of Coastal Management (DCM) denied Petitioner's application based upon the inconsistency between the requirements set forth in 15A NCAC 7H.0208(b)(6)(G), which states, in applicable part, that "Boathouses shall not be allowed on lots with less than 75 linear feet of shoreline," and the geographical limitations of Petitioner's property.

The following additional information is attached to this memorandum:

Attachment A: Relevant Rule
Attachment B: Stipulated Facts
Attachment C: Petitioner's Position and Staff's Response to Criteria
Attachment D: Petitioner's Variance Request and Other Exhibits

cc: Pierce Lawing, Petitioner
DCM Staff
Jennie Hauser, Special Deputy Attorney General & CRC Counsel

ATTACHMENT A
(Relevant Rule)

15A NCAC 7H.0208(b)(6)(G) (emphasis added):

Boathouses shall not exceed 400 square feet except to accommodate a demonstrated need for a larger boathouse and shall have sides extending no farther than one-half the height of the walls and only covering the top half of the walls. Measurements of square footage shall be taken of the greatest exterior dimensions. **Boathouses shall not be allowed on lots with less than 75 linear feet of shoreline.** Size restrictions shall not apply to marinas.

ATTACHMENT B
(Stipulated Facts)

1. DCM is charged with enforcement of the Coastal Area Management Act (CAMA), N.C. Gen. Stat. § 113A-100 *et seq.*, the controlling statutes and regulations including the Administrative Procedure Act (APA), N.C. Gen. Stat. § 150B-1 *et seq.*, and the rules promulgated thereunder, and the rules of the Coastal Resources Commission (CRC) implementing CAMA, primarily found in Title 15A, Subchapter 7H of the North Carolina Administrative Code. Among DCM's administrative responsibilities is oversight of the State's coastal development permitting.
2. Petitioner Pierce Lawing (Petitioner) owns real property located at 1705 Arapahoe Trail, Edenton, North Carolina 27932. This property is approximately 50 feet in width along the shoreline and 260 feet deep (13,000 square feet), with an average elevation of roughly 21 feet above normal water level. The property contains a single family residence.
3. Petitioner has owned this property since 1978.
4. Petitioner's property includes a pier, platform, and boatlift that is located within the Estuarine Waters and Public Trust Areas categories of the Estuarine and Ocean System Area of Environmental Concern (AEC).
5. Petitioner's property has approximately 50 linear feet of shoreline on the Chowan River.
6. On April 16, 2009, Petitioner applied for a CAMA Major Development Permit to build a 14' X 28' boathouse by constructing a roof over an existing boatlift attached to an existing pier and platform that extends out into the Chowan River.
7. 15A NCAC 7H.0208(b)(6)(G) states, in applicable part: "Boathouses shall not be allowed on lots with less than 75 linear feet of shoreline."
8. On August 12, 2009, DCM denied Petitioner's application because Petitioner's 50 linear feet of shoreline along the Chowan River is less than the 75 linear feet of shoreline required by 15A NCAC 7H.0208(b)(6)(G).
9. DCM received this variance petition on January 20, 2010.

ATTACHMENT C

(Petitioner's Position and Staff's Response to Criteria)

- I. Will strict application of the applicable development rules, standards, or orders issued by the Commission cause the petitioner unnecessary hardships? If so, the petitioner must identify the hardships.**

Petitioners' Position: Yes.

"The subdivision I live in is called 'Arrowhead Beach and Boat Club,' and was laid out with 50 ft. lots; not being allowed to have a boathouse subverts the intent of this development, and will make my property less valuable as a result. The hardship has decreased use of my property and my boat. Due to my wife's handicapped status and my diminished physical capacity, we suffer the effects of unnecessary hardship. Since the rule has no apparent purpose, this hardship is made even more unnecessary."

Staff's Position: No.

Staff does not agree that strict application of the rules would create unnecessary hardship. Petitioner's property currently includes a boatlift attached to an existing pier and platform. From this boatlift, pier and platform, Petitioner and his wife have been able to utilize the Chowan River in their pontoon boat. Petitioner does not contend that his use of the water is curtailed by the absence of a boathouse roof, only that he is inconvenienced by its absence. It is staff's position that any such inconvenience is greatly outweighed by underlying benefits associated with 15A NCAC 7H.0208(b)(6)(G), including the preservation of the aesthetic value of our coastal resources by preventing clutter and excessive structures in public trust waters, as well as by protecting our valuable estuarine resources by limiting the shading of the Estuarine Waters AECs.

- II. Do such hardships result from conditions peculiar to the petitioner's property, such as location, size, or topography of the property? Explain.**

Petitioners' Position: Yes.

"Lot sizes in my neighborhood are generally 50 ft. in width."

Staff's Position: No.

Staff does not agree that any hardship experienced by Petitioner results from conditions peculiar to his property. Petitioner owns property within the Arrowhead Beach subdivision, which includes many lots with 50 linear feet of shoreline. Petitioner's property is approximately 50 feet by 260 feet (13,000 square feet), and is in roughly the same layout as many of his neighbors. The mere fact that Petitioner would need 50 percent more linear shoreline property to meet the standard set forth by 15A NCAC 7H.0208(b)(6)(G) does not, in itself, qualify the property as being "peculiar."

III. Do the hardships result from the actions taken by the Petitioner? Explain.

Petitioners' Position: No.

“Lot sizes in my neighborhood are generally 50 ft. in width, and were laid out in 1954, before I purchased my property.”

Staff's Position: No.

The rules that require a minimum of 75 linear feet of shoreline in order to qualify for a permit to build a boathouse went into effect in 1998, well after Petitioner purchased the property in question. Therefore, Staff agrees with Petitioner in that any hardship is not the result of Petitioner's actions.

IV. Will the variance requested by the petitioner: (1) be consistent with the spirit, purpose, and intent of the rules, standards or orders issued by the Commission; (2) secure the public safety and welfare; and (3) preserve substantial justice? Explain.

Petitioners' Position: Yes.

“There was no guiding philosophy behind the minimum lot width rule other than a vague reference to esthetics. The neighborhood boathouses have a charm and beauty all their own, as evidenced in the attached photographs. Thus, the spirit and intent of the rule is preserved in granting the variance.”

“The legality of the rule is questionable on constitutional grounds in that it prevents me from realizing the full value of my property. The rule is unconstitutional because it violates Amendment 5; specifically, ‘nor shall private property be taken for public use, without just compensation.’ Thus substantial justice is preserved by granting the variance.”

“There is no discernable issue of public safety.”

“In addition: I am in my 70s and my wife is handicapped. We recently purchased a new pontoon boat; our first boat. We learned that we did not have the strength to launch and retrieve the boat with a trailer, and decided to install a boatlift. Next we realized that it was very difficult to install and remove the canvas cover while it was on the lift. Then we found that the lockers leak on an uncovered boat, and life preservers, etc. are wet; and if not cleaned and dried within a few days, mildew and mold set in. Having a roof over our boat to keep it dry and clean will mean a lot less work, and will lead to longer life for the equipment and increased usage of the boat during what we have left of our retirement years.”

Staff's Position: No.

Spirit, Purpose, and Intent

15A NCAC 7H.0208(b)(6)(G) is designed to protect the aesthetic and environmental value of our state's coastal resources by minimizing the encroachment of structures onto public trust waters and the associated congestion along the shoreline. It does this by requiring a minimum amount of linear shoreline in order to build a boathouse, so as to ensure a certain

amount of distance between multiple structures. Petitioner's variance request to construct a boathouse on property with 50 linear feet of shoreline, with a neighboring property already possessing a boathouse, clearly contravenes the CRC's spirit, purpose, and intent in creating the rule.

In regard to Petitioner's Constitutional takings claim, under the Fifth Amendment, the CAMA provides that the exclusive remedy for determining takings questions is in the superior court after the CRC issues its final decision. N.C. Gen. Stat. § 113A-123(b). Specifically, N.C. Gen. Stat. § 113A-123(b) provides that any person directly affected by a final decision or order of the CRC may petition the superior court to determine whether the petitioner has been so restricted of the practical use of his property, being not otherwise authorized by the law, as to constitute an unreasonable exercise of the police power because it amounts to a taking without compensation. "Either party shall be entitled to a jury trial on all issues of fact . . ." Id. The statute further provides that "The method provided in this subsection for the determination of the issue of whether such order constitutes a taking without compensation shall be exclusive and shall not be determined in any other proceeding." N.C. Gen. Stat. § 113A-123(b) (emphasis added).

N.C. Gen. Stat. § 113A-128 of the CAMA protects landowner's rights by not authorizing any governmental agency to adopt a rule or issue an order that constitutes an unconstitutional taking. However, in Shell Island Homeowners Association v. Tomlinson, 134 N.C. App. 217, 224, 517 S.E.2d 406, 412 (1999), the Court of Appeals held that whether a statute violates a claimant's rights under the North Carolina and United States Constitutions is a question to be determined by the judiciary, not an administrative board. The Petitioners can only bring a taking claim in superior court under the exclusive remedy provided in N.C. Gen. Stat. § 113A-123(b). The Petitioners cannot raise a taking claim in an administrative proceeding based upon an alleged violation of N.C. Gen. Stat. § 113A-128. This would frustrate the clear intent of the General Assembly when it provided an exclusive remedy for resolving taking claims under the CAMA in superior court.

Riparian property owners have title only to the water's edge, but they have a right of access to and use of the public trust waters adjoining their property. Those riparian rights traditionally include a qualified right to build wharves, piers, and landings (although no specific right to an accompanying boathouse has been recognized). Additionally, the right to build piers is "qualified" in the sense that the North Carolina Supreme Court has held that the right to build any structure in state waters, even for riparian access, is "subject to such general rules and regulations as the Legislature, in the exercise of its powers, may prescribe for the protection of public rights in rivers or navigable waters." Wilson v. Forbes, 13 N.C. 31 (1818).

It is important to note that the common law recognizes only the power of the state to regulate pier construction in the interest of protecting *public* rights in navigable waters. 15A NCAC 7H.0208(b)(6)(G) is just such a public protection. For all of the reasons enumerated above, the duly-authorized state authority has determined that "Boathouses shall not be allowed on lots with less than 75 linear feet of shoreline." Therefore, the present variance request does not adhere to the spirit, purpose, and intent of the rules, standards or orders issued by the Commission.

Public Safety and Welfare

Staff agrees with Petitioner in that "There is no discernable issue of public safety."

Substantial Justice

Finally, Staff believes that there is no indication that allowing Petitioner's variance request would result in preserving substantial justice. This is not a case where the property owner is just slightly shy of meeting the standard set forth in the CRC's rule. Rather, Petitioner needs 50 percent more linear shoreline than he currently owns to be in compliance with the rule. Additionally, Petitioner's argument that he should be entitled a variance because of the existence of other boathouses on lots with 50 linear feet of shoreline in his subdivision fails to grasp the widespread nature of the rule. This is a state-wide policy. Like other rules adopted by the CRC, substantial justice requires that 15A NCAC 7H.0208(b)(6)(G) be applied consistently among all property owners where the only articulated peculiarity is the size of a property's shoreline. Denying the present variance request is substantially just in that it protects the rights of both riparian property owners and the public at large.

ATTACHMENT D
(Petitioner's Variance Request and Other Exhibits)

DCM FORM 11 CAMA VARIANCE REQUEST DCM FILE NO.
(revised 6/26/06)

Petitioner supplies the following information:

Pierce Lawing
1705 Arapahoe Trail
Edenton, NC 27932
Telephone 252-221-8419 home; or 252-339-5438 cell
Email, p.lawing@mchsi.com
Attorney --- no attorney

RECEIVED
JAN 19 2010
Morehead City DCM

RECEIVED
JAN 20 2010
Morehead City DCM

Have you received a decision from the Division of Coastal Management (DCM) or a Local Permit Officer denying your application for a CAMA permit?

Yes, I sought a permit to construct a roof over an existing boatlift on a 50 ft. waterfront lot.

What Coastal Resources Commission rule(s) prohibit this type of development?

Rule of the Coastal Resources Commission":

15A NCAC 07H.0208(b)(6)(G); which states that "boathouses shall not exceed 400 square feet except to accommodate a demonstrated need for a larger boathouse and shall have sides extending no farther than one-half the height of the walls and only covering the top half of the walls. Measurements of square footage shall be taken of the greatest exterior dimensions. Boathouses shall not be allowed on lots with less than 75 linear feet of shoreline. Size restrictions shall apply to marinas."

Can you redesign your proposed development to comply with this rule?

No.

If your answer is no, explain why you cannot redesign to comply with the rule.

Lot lines are fixed by riparian neighbors.

Can you obtain a permit for a portion of what you wish to do?

No.

State with specificity what you are NOT allowed to do as a result of the denial of your permit application. It will be assumed that you can make full use of your property, except for the uses that are prohibited as a result of the denial of your permit application.

1. I am not allowed to construct a roof over my boatlift, thus completing my boathouse. Without the roof, I will have to cover the boat with the heavy canvas cover, a difficult task for an arthritic man in his seventies, thus limiting my use of the boat.
2. I am not allowed the same privilege as 10 of my immediate neighbors, all on less than 74 ft of waterfront, most on 50 ft. lots, including my next-door neighbor.
3. The subdivision I live in is called the "Arrowhead Beach and Boat Club", and was laid out with 50 ft. lots; not being allowed to have a boathouse subverts the intent of this development, and will make my property less valuable as a result.

RESPOND TO THE FOUR STATUTORY VARIANCE CRITERIA:

I. Identify the hardship(s) you will experience if you are not granted a variance and explain why you contend that the application of this rule to your property constitutes an unnecessary hardship.

The subdivision I live in is called the "Arrowhead Beach and Boat Club", and was laid out with 50 ft. lots; not being allowed to have a boathouse subverts the intent of this development, and will make my property less valuable as a result. The hardship is decreased use of my property and my boat. Due to my wife's handicapped status and my diminished physical capacity, we suffer the effects of unnecessary hardship. Since the rule has no apparent purpose, this hardship is made even more unnecessary.

II. Describe the conditions that are peculiar to your property (such as location, size, and topography), and cause your hardship.

Lot sizes in my neighborhood are generally 50 ft. in width.

III. Explain why your hardship does not result from actions that you have taken.

Lot sizes in my neighborhood are generally 50 ft. in width, and were laid out in 1954, before I purchased my property.

IV. Explain why the granting of the variance you seek will be consistent with the spirit, purpose, and intent of the CRC's rules, standards, or orders; preserve substantial justice; and secure public safety.

There was no guiding philosophy behind the minimum lot width rule other than a vague reference to esthetics. The neighborhood boathouses have a charm and beauty all their

own, as evidenced in the attached photographs. Thus, the spirit and intent of the rule is preserved in granting the variance.

The legality of the rule is questionable on constitutional grounds in that it prevents me from realizing the full value of my property. The rule is unconstitutional because it violates Amendment 5; specifically, **“nor shall private property be taken for public use, without just compensation.”** Thus substantial justice is preserved by granting the variance.

There is no discernable issue of public safety.

In addition: I am in my 70's and my wife is handicapped. We recently purchased a new pontoon boat; our first boat. We learned that we did not have the strength to launch and retrieve the boat with a trailer, and decided to install a boatlift. Next we realized that it was very difficult to install and remove the canvas cover while it was on the lift. Then we found that the lockers leak on an uncovered boat, and life preservers, etc. are wet; and if not cleaned and dried within a few days, mildew and mold sets in. Having a roof over our boat to keep it dry and clean will mean a lot less work, and will lead to longer life for the equipment and increased usage of the boat during what we have left of our retirement years.

Please attach copies of the following:

Permit Application and Denial documents

Site Drawing with Survey and Topographical Information

See permit application

Any letters filed with DCM or the LPO commenting on or objecting to your project

Provide a numbered list of all true facts that you are relying upon in your explanation as to why you meet the four criteria for a variance. Please list the variance criterion, ex.

Unnecessary hardship, and then list the relevant facts under each criterion. [The DCM attorney will also propose facts and will attempt to verify your proposed facts. Together you will arrive at a set of facts that both parties agree upon. Those facts will be the only facts that the Commission will consider in determining whether to grant your variance request.] Attach all documents you wish the Commission to consider in ruling upon your variance request. [The DCM attorney will also propose documents and discuss with you whether he or she agrees with the documents you propose. Together you will arrive at a set of documents that both parties agree upon. Those documents will be the only documents that the Commission will consider in determining whether to grant your variance request.]

Pursuant to N.C.G.S. 113A-120.1 and 15A NCAC 7J .0700, the undersigned hereby requests a variance.

Date: Signature:

This variance request must be filed with the Director, Division of Coastal Management, and the

Attorney General's Office, Environmental Division, at the addresses shown on the attached

Certificate of Service form.

Provide a numbered list of all true facts that you are relying upon in your explanation as to why you meet the four criteria for a variance.

1. The subdivision I live in is called the "Arrowhead Beach and Boat Club", and was laid out with 50 ft. lots; not being allowed to have a boathouse subverts the intent of this development, and will make my property less valuable as a result. The hardship is decreased use of my property and my boat. Due to my wife's handicapped status and my diminished physical capacity, we suffer the effects of unnecessary hardship. Since the rule has no apparent purpose, this hardship is made even more unnecessary.

2. Lot sizes in my neighborhood are generally 50 ft. in width.

3. Lot sizes in my neighborhood are generally 50 ft. in width, and were laid out in 1954, before I purchased my property.

4. There was no guiding philosophy behind the minimum lot width rule other than a vague reference to esthetics. The neighborhood boathouses have a charm and beauty all their own, as evidenced in the attached photographs. Thus, the spirit and intent of the rule is preserved in granting the variance.

The legality of the rule is questionable on constitutional grounds in that it prevents me from realizing the full value of my property. The rule is unconstitutional because it violates Amendment 5; specifically, **"nor shall private property be taken for public use, without just compensation."** Thus substantial justice is preserved by granting the variance.

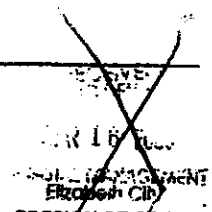
There is no discernable issue of public safety.

**ATTACHMENT A
Development Application**

DCM MP-1

**APPLICATION for
Major Development Permit**

(last revised 12/27/06)



North Carolina DIVISION OF COASTAL MANAGEMENT

1. Primary Applicant/ Landowner Information					
Business Name			Project Name (if applicable)		
Applicant 1: First Name PIERCE		MI L	Last Name LAWING		
Applicant 2: First Name		MI	Last Name		
If additional applicants, please attach an additional page(s) with names listed.					
Mailing Address 1705 ARAPAHOE TRAIL		PO Box	City EDENTON	State NC	
ZIP 27932	Country CANADA	Phone No. 252-221-8479 ext.		FAX No.	
Street Address (if different from above)		City	State	ZIP	
Email p.lawing@mchs.com					

2. Agent/Contractor Information					
Business Name LILLY BROS. CONSTRUCTION					
Agent/ Contractor 1: First Name TRAVIS		MI	Last Name LILLY		
Agent/ Contractor 2: First Name		MI	Last Name		
Mailing Address 308 Wingfield Road		PO Box	City Tyrer	State NC	
ZIP 27980	Phone No. 1 252-351-5047 ext.		Phone No. 2 252-221-8066 ext.		
FAX No.		Contractor #			
Street Address (if different from above)		City	State	ZIP	
Email					

<Form continues on back>

3. Project Location			
County (can be multiple) <i>CHOWAN</i>	Street Address <i>1705 APPALACHE TRAIL</i>	State Rd. #	
Subdivision Name <i>Arrowhead Beach</i>	City <i>Edenton</i>	State <i>NC</i>	Zip <i>27932</i>
Phone No. <i>252-221-8419 ext.</i>	Lot No.(s) (if many, attach additional page with list)		
a. In which NC river basin is the project located? <i>Chowan River</i>	b. Name of body of water nearest to proposed project <i>Chowan River</i>		
c. Is the water body identified in (b) above, natural or manmade? <input checked="" type="checkbox"/> Natural <input type="checkbox"/> Manmade <input type="checkbox"/> Unknown	d. Name the closest major water body to the proposed project site. <i>Chowan River</i>		
e. Is proposed work within city limits or planning jurisdiction? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	f. If applicable, list the planning jurisdiction or city limit the proposed work falls within.		

4. Site Description	
a. Total length of shoreline on the tract (ft.) <i>50 ft.</i>	b. Size of entire tract (sq.ft.) <i>50 x 260 ft</i>
c. Size of individual lot(s) <i>(If many lot sizes, please attach additional page with a list)</i>	d. Approximate elevation of tract above NHW (normal high water) or NWL (normal water level) <i>21 ft</i> <input type="checkbox"/> NHW or <input checked="" type="checkbox"/> NWL
e. Vegetation on tract <i>Gross and trees</i>	
f. Man-made features and uses now on tract <i>Residence, pier and boat lift.</i>	
g. Identify and describe the existing land uses adjacent to the proposed project site. <i>Residential</i>	
h. How does local government zone the tract? <i>Residential</i>	i. Is the proposed project consistent with the applicable zoning? (Attach zoning compliance certificate, if applicable) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
j. Is the proposed activity part of an urban waterfront redevelopment proposal? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
k. Has a professional archaeological assessment been done for the tract? if yes, attach a copy. <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA If yes, by whom?	
l. Is the proposed project located in a National Registered Historic District or does it involve a National Register listed or eligible property? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> NA	

<Form continues on next page>

RECEIVED
10/16/2011

WASTE MANAGEMENT
Elizabeth City

m. (i) Are there wetlands on the site? Yes No

(ii) Are there coastal wetlands on the site? Yes No

(iii) If yes to either (i) or (ii) above, has a delineation been conducted?
(Attach documentation, if available) Yes No

n. Describe existing wastewater treatment facilities.
Septic tank

o. Describe existing drinking water supply source.
Town of Edenton

p. Describe existing storm water management or treatment systems.
none

5. Activities and Impacts

a. Will the project be for commercial, public, or private use? Commercial Public/Government Private/Community

b. Give a brief description of purpose, use, and daily operations of the project when complete.
Act as a cover over existing road lift

c. Describe the proposed construction methodology, types of construction equipment to be used during construction, the number of each type of equipment and where it is to be stored.
Normal carpentry and framing techniques

d. List all development activities you propose.
none

e. Are the proposed activities maintenance of an existing project, new work, or both?
new work

f. What is the approximate total disturbed land area resulting from the proposed project? Sq.Ft or Acres
none

g. Will the proposed project encroach on any public easement, public accessway or other area that the public has established use of? Yes No NA

h. Describe location and type of existing and proposed discharges to waters of the state.
none

i. Will wastewater or stormwater be discharged into a wetland? Yes No NA
If yes, will this discharged water be of the same salinity as the receiving water? Yes No NA

j. Is there any mitigation proposed? Yes No NA
If yes, attach a mitigation proposal.

<Form continues on back>

6. Additional Information

In addition to this completed application form, (MP-1) the following items below, if applicable, must be submitted in order for the application package to be complete. Items (a)-(f) are always applicable to any major development application. Please consult the application instruction booklet on how to properly prepare the required items below.

- a. A project narrative. *Construction of a small boat house*
- b. An accurate, dated work plan (including plan view and cross-sectional drawings) drawn to scale. Please give the present status of the proposed project. Is any portion already complete? If previously authorized work, clearly indicate on maps, plats, drawings to distinguish between work completed and proposed.
- c. A site or location map that is sufficiently detailed to guide agency personnel unfamiliar with the area to the site.
- d. A copy of the deed (with state application only) or other instrument under which the applicant claims title to the affected properties.
- e. The appropriate application fee. Check or money order made payable to DENR.
- f. A list of the names and complete addresses of the adjacent waterfront (riparian) landowners and signed return receipts as proof that such owners have received a copy of the application and plats by certified mail. Such landowners must be advised that they have 30 days in which to submit comments on the proposed project to the Division of Coastal Management.

Name: *Mrs. Wilma Moore* Phone No: *252-221-8239*
 Address: *1709 Pineapple Lane, Edenton, NC 28542*

Name: *Mr. Lloyd Sholes* Phone No:
 Address: *1313 Canterbury Lane, Col. Hts. VA 23834* *804-526-3989*

Name:
 Address:

- g. A list of previous state or federal permits issued for work on the project tract. Include permit numbers, permittee, and issuing dates.
CAMA General Permit, No. A 51654, Pierce Lawing
2/18/08 -> boat lift

- h. Signed consultant or agent authorization form, if applicable.
- i. Wetland delineation, if necessary.
- j. A signed AEC hazard notice for projects in oceanfront and inlet areas. (Must be signed by property owner)
- k. A statement of compliance with the N.C. Environmental Policy Act (N.C.G.S. 113A 1-10), if necessary. If the project involves expenditure of public funds or use of public lands, attach a statement documenting compliance with the North Carolina Environmental Policy Act.

Certification and Permission to Enter on Land

I understand that any permit issued in response to this application will allow only the development described in the application. The project will be subject to the conditions and restrictions contained in the permit.

I certify that I am authorized to grant, and do in fact grant permission to representatives of state and federal review agencies to enter on the aforementioned lands in connection with evaluating information related to this permit application and follow-up monitoring of the project.

I further certify that the information provided in this application is truthful to the best of my knowledge.

Date: *4/16/2009* Print Name: *PIERCE L. LAWING*
 Signature: *Pierce L. Lawing*

~~RECEIVED
 APR 16 2009
 COASTAL MANAGEMENT
 Elizabeth City~~

- Please indicate application attachments pertaining to your proposed project.
- DCM MP-2 Excavation and Fill Information
 - DCM MP-3 Upland Development
 - DCM MP-4 Structures Information
 - DCM MP-5 Bridges and Culverts

STRUCTURES

(Construction within Public Trust Areas)

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PORT MANAGEMENT
Elizabeth City

Attach this form to Joint Application for CAMA Major Permit, Form DCM MP-1. Be sure to complete all other sections of the Joint Application that relate to this proposed project. Please include all supplemental information.

1. DOCKING FACILITY/MARINA CHARACTERISTICS

This section not applicable

a. (i) Is the docking facility/marina:
 Commercial Public/Government Private/Community

b. (i) Will the facility be open to the general public?
 Yes No

c. (i) Dock(s) and/or pier(s)
(ii) Number _____
(iii) Length _____
(iv) Width _____
(v) Floating Yes No

d. (i) Are Finger Piers included? Yes No
If yes:
(ii) Number _____
(iii) Length _____
(iv) Width _____
(v) Floating Yes No

e. (i) Are Platforms included? Yes No
If yes:
(ii) Number _____
(iii) Length _____
(iv) Width _____
(v) Floating Yes No

f. (i) Are Boatlifts included? Yes No
If yes:
(ii) Number _____
(iii) Length _____
(iv) Width _____

Note: Roofed areas are calculated from dripline dimensions.

g. (i) Number of slips proposed

(ii) Number of slips existing

h. Check all the types of services to be provided.
 Full service, including travel lift and/or rail, repair or maintenance service
 Dockage, fuel, and marine supplies
 Dockage ("wet slips") only, number of slips: _____
 Dry storage; number of boats: _____
 Boat ramp(s); number of boat ramps: _____
 Other, please describe:

i. Check the proposed type of siting:
 Land cut and access channel
 Open water; dredging for basin and/or channel
 Open water; no dredging required
 Other; please describe:

j. Describe the typical boats to be served (e.g., open runabout, charter boats, sail boats, mixed types).

k. Typical boat length: _____

l. (i) Will the facility be open to the general public?
 Yes No

m. (i) Will the facility have tie pilings?
 Yes No
(ii) If yes number of tie pilings?

2. DOCKING FACILITY/MARINA OPERATIONS

This section not applicable

a. Check each of the following sanitary facilities that will be included in the proposed project.

Office Toilets

Toilets for patrons; Number: _____; Location: _____

Showers

Boalholding tank pumpout; Give type and location: _____

b. Describe treatment type and disposal location for all sanitary wastewater.

c. Describe the disposal of solid waste, fish offal and trash.

d. How will overboard discharge of sewage from boats be controlled?

e. (i) Give the location and number of "No Sewage Discharge" signs proposed.

(ii) Give the location and number of "Pumpout Available" signs proposed.

f. Describe the special design, if applicable, for containing industrial type pollutants, such as paint, sandblasting waste and petroleum products.

g. Where will residue from vessel maintenance be disposed of?

h. Give the number of channel markers and "No Wake" signs proposed. _____

i. Give the location of fuel-handling facilities, and describe the safety measures planned to protect area water quality.

j. What will be the marina policy on overnight and live-aboard dockage?

k. Describe design measures that promote boat basin flushing?

l. If this project is an expansion of an existing marina, what types of services are currently provided?

- m. Is the marina/docking facility proposed within a primary or secondary nursery area?
 Yes No
- n. Is the marina/docking facility proposed within or adjacent to any shellfish harvesting area?
 Yes No
- o. Is the marina/docking facility proposed within or adjacent to coastal wetlands/marsh (CW), submerged aquatic vegetation (SAV), shell bottom (SB), or other wetlands (WL)? If any boxes are checked, provide the number of square feet affected.
 CW _____ SAV _____ SB _____
 WL _____ None

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 10/16/00
 MARINE MANAGEMENT
 Elizabeth City

- p. Is the proposed marina/docking facility located within or within close proximity to any shellfish leases? Yes No
 If yes, give the name and address of the leaseholder(s), and give the proximity to the lease.
- _____
- _____

3. BOATHOUSE (including covered lifts) This section not applicable

- a. (i) Is the boathouse structure(s):
 Commercial Public/Government Private/Community

(ii) Number 1
 (iii) Length 29' 28'
 (iv) Width 18' 14'

Note: Roofed areas are calculated from dripline dimensions.

4. GROIN (e.g. wood, sheetpile, etc.) If a rock groin, use MP-2, Excavation and Fill This section not applicable

- a. (i) Number _____
 (ii) Length _____
 (iii) Width _____

5. BREAKWATER (e.g. wood, sheetpile, etc.) This section not applicable

- a. Length _____
- b. Average distance from NHW, NWL, or wetlands _____
- c. Maximum distance beyond NHW, NWL or wetlands _____

6. MOORING PILINGs and BUOYS This section not applicable

- a. Is the structure(s):
 Commercial Public/Government Private/Community
- b. Number _____
- c. Distance to be placed beyond shoreline _____
 Note: This should be measured from marsh edge, if present.
- d. Description of buoy (color, inscription, size, anchor, etc.)

- e. Arc of the swing _____

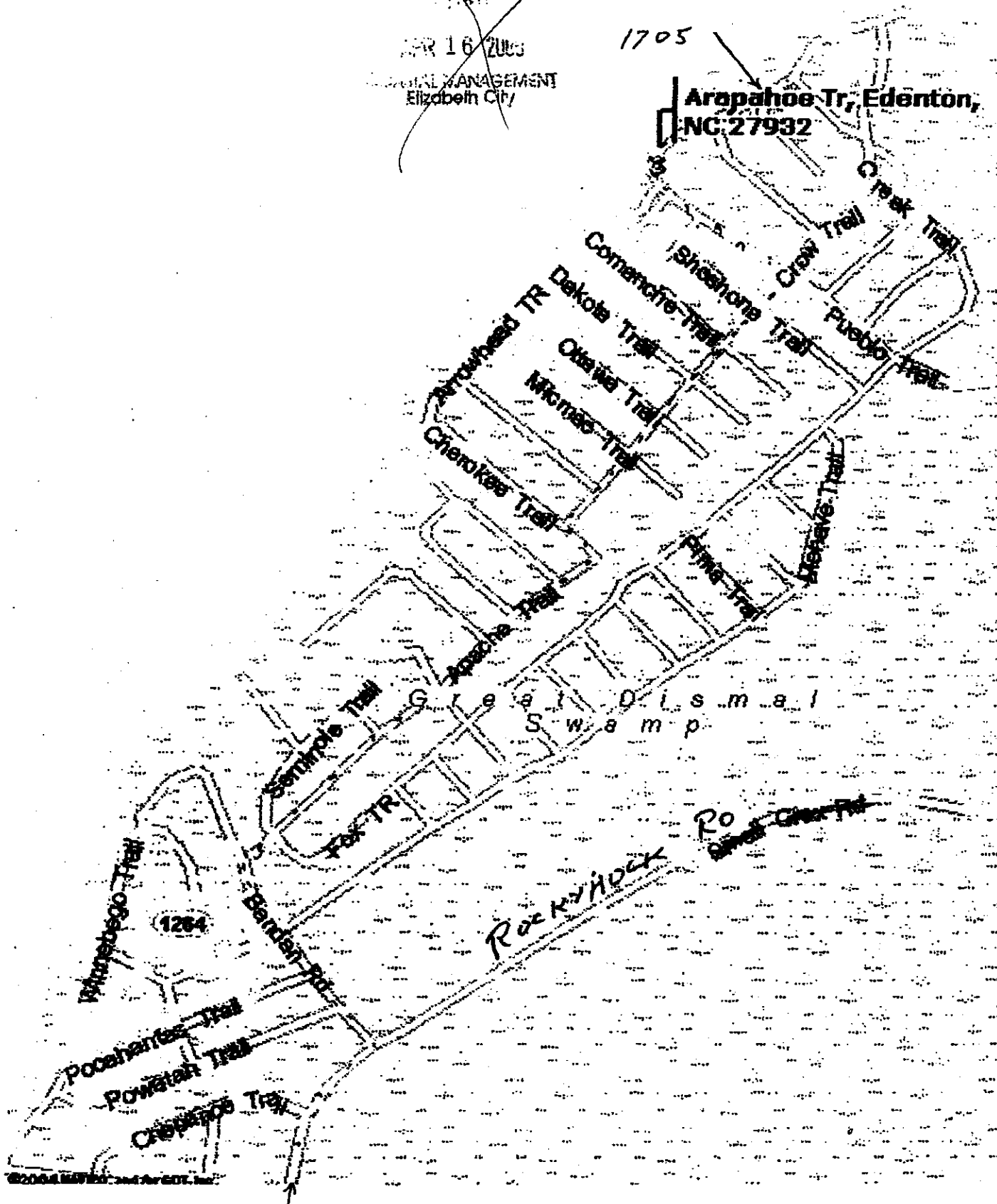
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LAND MANAGEMENT
Elizabeth City

1705

Arapahoe Tr, Edenton,
NC 27932



7. GENERAL

a. Proximity of structure(s) to adjacent riparian property lines

12'

b. Proximity of structure(s) to adjacent docking facilities.

50'

Note: For buoy or mooring piling, use arc of swing including length of vessel.

c. Width of water body

10,000'

d. Water depth at waterward end of structure at NLW or NWL

4'

e. (i) Will navigational aids be required as a result of the project?

Yes No NA

(ii) If yes, explain what type and how they will be implemented.

8. OTHER

This section not applicable

a. Give complete description:

4/16/2000
Date

New Wood House
Project Name

Franklin
Applicant Name

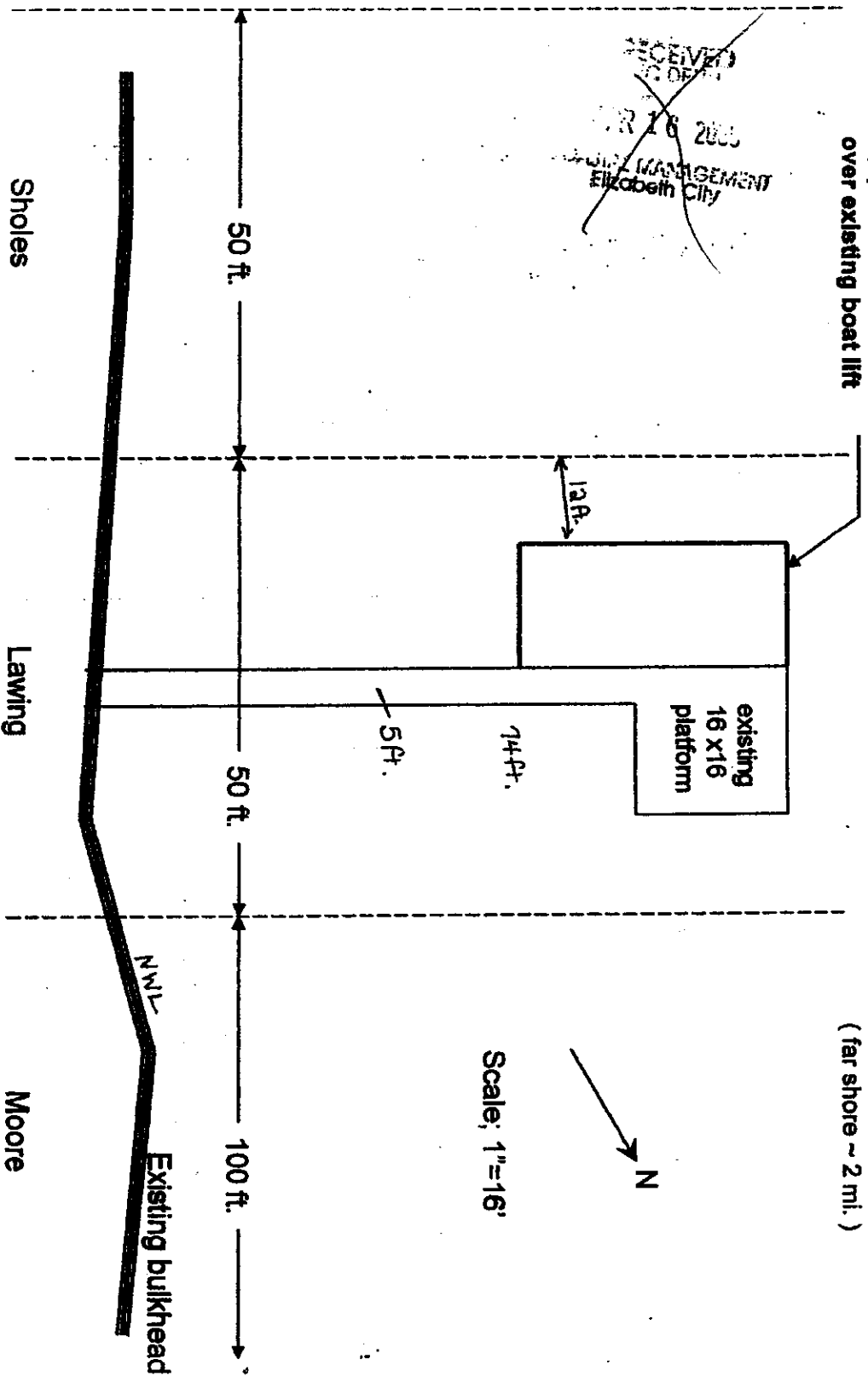
Franklin
Applicant Signature

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WATER MANAGEMENT
Elizabeth City

RECEIVED
MAR 16 2009
WATER MANAGEMENT
Elizabeth City

Proposed 14 x 28 roof
over existing boat lift

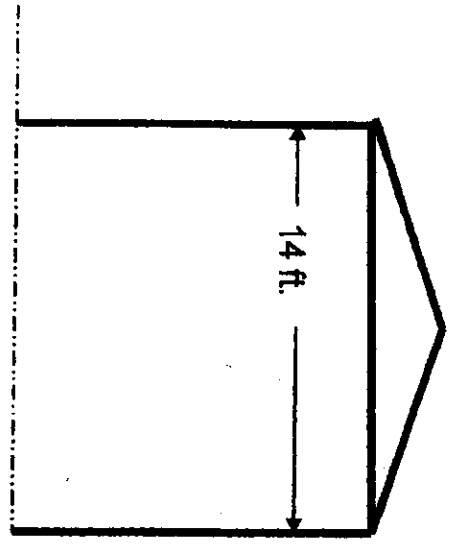
Chowan River
(far shore ~ 2 mi.)



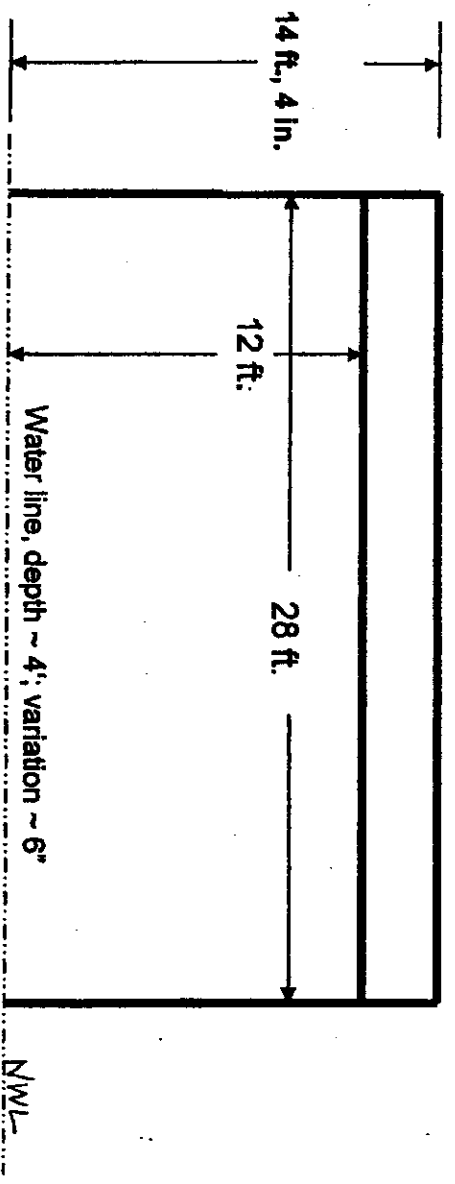
Scale: 1"=16'

ROOF FOR BOAT LIFT, scale 1"=16'
Plan view Drawing 1 of 2, P. Lawing, 03/12/2009

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APR 16 2009
WATER MANAGEMENT
Elizabeth City



End View



Side View

ROOF FOR BOAT LIFT
End and side view Drawing 2 of 2, P. Lawing, 03/12/2009
Scale: 1"=6'



North Carolina Department of Environment and Natural Resources
Division of Coastal Management

Beverly Eaves Perdue
Governor

James H. Gragson
Director

Dee Freeman
Secretary

August 12, 2009

**CERTIFIED MAIL
RETURN RECEIPT REQUESTED**

Mr. Pierce Lawing
1705 Arapahoe Trail
Edenton, NC 27932

Dear Mr. Lawing:

This letter is in response to your application for a Major Permit under the Coastal Area Management Act (CAMA), in which authorization was requested to create a 14' X 28' boathouse by constructing a roof over an existing boatlift attached to an existing pier and platform, in Chowan County. Processing of the application, which was received as complete by the Division of Coastal Management's Elizabeth City Office on April 16, 2009, is now complete. Based on the state's review, the Division of Coastal Management has made the following findings:

- 1) The joint State and Federal review of the proposed project was generally favorable.
- 2) The subject property has approximately 50 linear feet of shoreline.
- 3) The Division of Coastal Management has determined that the proposed project is inconsistent with the following Rule of the Coastal Resources Commission:
 - a) 15A NCAC 07H.0208(b)(6)(G); which states that "boathouses shall not exceed 400 square feet except to accommodate a demonstrated need for a larger boathouse and shall have sides extending no farther than one-half the height of the walls and only covering the top half of the walls. Measurements of square footage shall be taken of the greatest exterior dimensions. Boathouses shall not be allowed on lots with less than 75 linear feet of shoreline. Size restrictions shall apply to marinas."

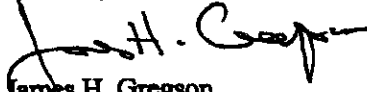
Given the preceding findings, it is necessary that your request for issuance of a CAMA Major Permit under the Coastal Area Management Act be denied. This denial is made pursuant to N.C.G.S. 113A-120(a)(8) which requires denial for projects inconsistent with the State guidelines for Areas of Environmental Concern or local land use plans.

If you wish to appeal this denial, you are entitled to a hearing. The hearing will involve appearing before an Administrative Law Judge who listens to evidence and arguments of both parties and then makes a recommendation to the Coastal Resources Commission. Your request for a hearing must be in the form of a written petition, complying with the requirements of §150B of the General Statutes of North Carolina, and must be filed with the Office of Administrative Hearings, 6714 Mail Service Center, Raleigh, NC 27699-6714, within twenty (20) days from the date of this letter. A copy of this petition should also be filed with this office.

Also, you are advised that as long as this state permit denial stands, your project must be deemed inconsistent with the N.C. Coastal Management Program, thereby precluding the issuance of federal permits for this project. The Federal Coastal Zone Management Act (CZMA) gives you the right to appeal this finding to the U.S. Secretary of Commerce within thirty days of receipt of this letter. Your appeal must be on the grounds that the proposed activity is (1) consistent with the objectives or purposes of the CZMA, or (2) is necessary in the interest of national security, and thus, may be federally approved.

If you have any questions concerning this matter, please contact either Mr. Doug Huggett or Mr. Daniel Govoni at (252) 808-2808.

Sincerely,


James H. Gregson

cc: Colonel Jefferson M. Ryscavage- U.S. Army Corps of Engineers, Wilmington, NC
David Kennedy, Director - OCRM/NOAA, Silver Spring, MD
Dave Timpy, ACOE



North Carolina Department of Environment and Natural Resources
Division of Water Quality

Rhodes Eason Perkins
Governor

Colleen H. Sullivan
Director

Don Freeman
Secretary

May 6, 2009

Mr. Pierce Lawing
1705 Arapahoe Trail
Edenton, NC 27932

**Subject: Exemption
Stormwater Review SW7090413
Boathouse Project
Chowan County**

Dear Mr. Lawing:

The Washington Regional Office received a copy of your CAMA application for the proposed boathouse project located at 1705 Arapahoe Trail in Edenton, NC on April 27, 2009. Staff has determined that the project, as proposed, consists of activities that will not pose new surface water quality threats from stormwater runoff since no significant new impervious area is proposed. The Director has determined that projects that are reviewed and approved by the Division as not posing water quality threats from stormwater runoff should not be subject to the stormwater management permitting requirements of 15A NCAC 2H.1000. For this reason, we are informing you by way of this letter that your project will not require a stormwater management permit.

Please keep in mind that this determination does not affect your legal requirements to obtain other permits which may be required by the Division of Water Quality, the Division of Land Resources, Division of Coastal Management or any other Federal, State or Local Government. In addition, any future modifications to the project will require additional review from this office to assure that stormwater impacts are not an issue.

North Carolina Division of Water Quality
943 Washington Square Mall
Washington, NC 27889

Internet: www.ncwaterquality.org
Phone: 252-946-6481
FAX: 252-946-9215

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North Carolina Department of Environment and Natural Resources
Division of Water Quality

Beverly Eaves Perdue
Governor

Coleen H. Sullins
Director

Dee Freeman
Secretary

June 30, 2009

DWQ 09-0468
Chowan County

Pierce Lawing
1705 Arapahoe Trail
Edenton, NC 27932

Subject Property: 1705 Arapahoe Trail

NO WRITTEN CONCURRENCE NEEDED

Dear Mr. Lawing:

You have our approval, in accordance with the attached conditions, to impact 0.009 acres of waters for the purpose of constructing a roof over an existing boatlift as you described in your application dated April 16, 2009. After reviewing your application, we have decided this fill is below the threshold for written authorization as long as all conditions of General Water Quality Certification Number 3641 are met, which may be viewed on our website at <http://h2o.enr.state.nc.us/ncwetlands>.

This approval is only valid for the purpose and design that you described in your application except as modified below. If you change your project, you must notify us and you may be required to send us a new application. If the property is sold, the new owner must be given a copy of this Certification and approval letter and is thereby responsible for complying with all conditions. If total wetland fills for this project (now or in the future) exceed one acre, compensatory mitigation may be required as described in 15A NCAC 2H .0506 (h) (6) and (7). This approval shall expire when the corresponding Nationwide Permit expires or as otherwise provided in the General Certification. For this approval to be valid, you must follow the conditions listed in the attached certification and any additional conditions listed below.

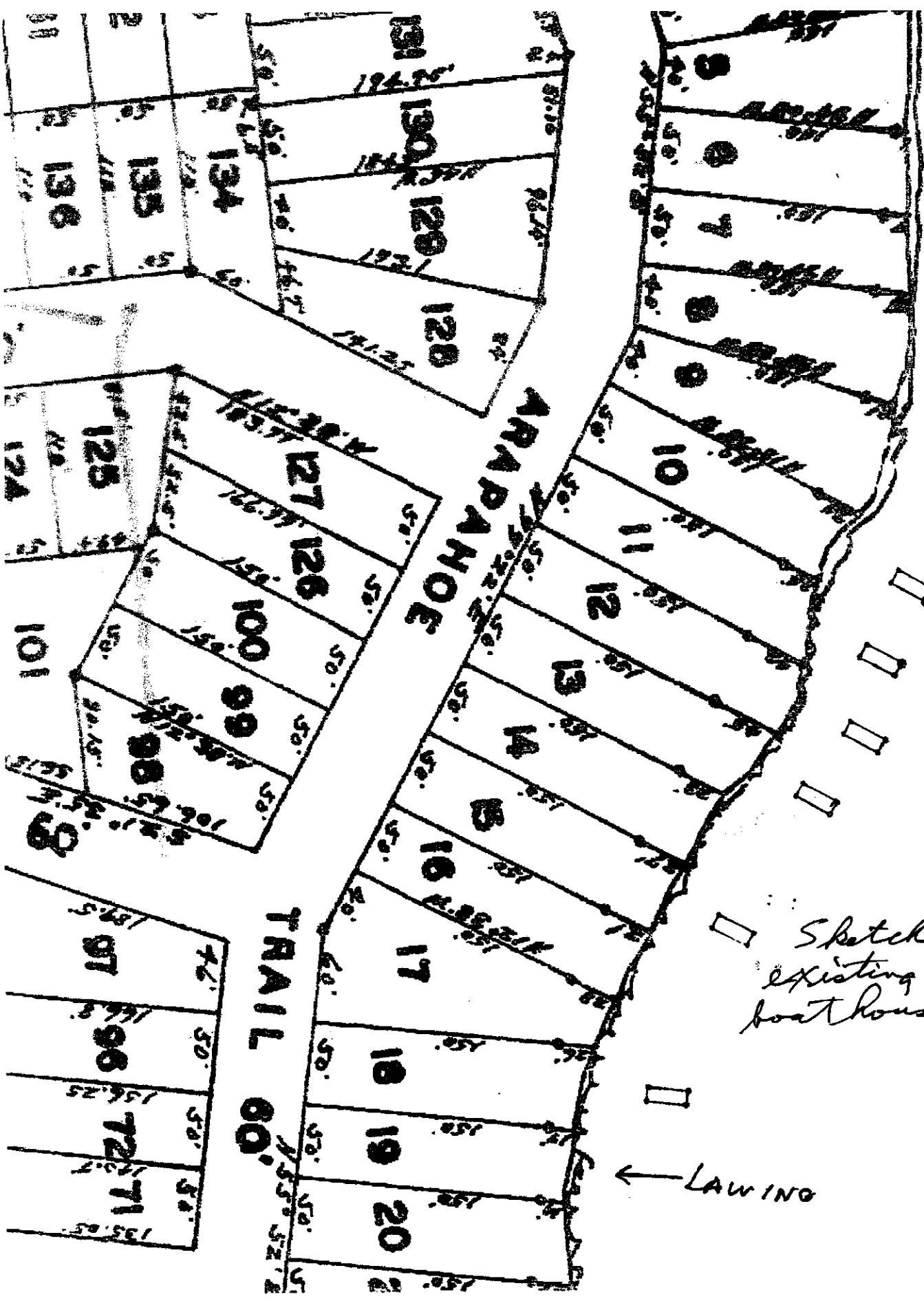
Conditions of Certification:

North Carolina Division of Water Quality
943 Washington Square Mall
Washington, NC 27889

Internet: www.ncwaterquality.org
Phone: 252-946-6481
FAX: 252-946-9215

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R



Sketch of existing boat houses

← LAWING



Photograph of boat houses existing
in 2008



*Scenic boat houses on the Chowan
River looking downstream from the
Lawing residence.*



North Carolina Department of Environment and Natural Resources
Division of Coastal Management

Beverly Eaves Perdue, Governor

James H. Gregson, Director

Dee Freeman., Secretary

MEMORANDUM

CRC-10-18

To: The Coastal Resources Commission
From: Michael Christenbury, Wilmington District Planner
Date: April 21, 2010
Subject: Certification of the Caswell Beach Core Land Use Plan (May 19, 2010 CRC Meeting)

Staff Recommendation: Certification of the Town of Caswell Beach Core LUP based on the determination that the document has met the substantive requirements outlined within the 2002 7B Land Use Plan Guidelines and that there are no conflicts evident with either state or federal law or the State's Coastal Management Program.

Overview

The Town of Caswell Beach is a south facing barrier island community located on the east end of Oak Island at the mouth of the Cape Fear River. The town is located in Brunswick County, adjacent to the Town of Oak Island and near the Town of Southport and the Village of Bald Head Island. The Town is separated from the mainland by the Atlantic Intracoastal Waterway and is linked to the mainland by a single high-rise bridge, though a second (new) high-rise bridge is currently under construction at the west end of Oak Island which may also serve the Town once completed. The Town of Caswell Beach has a year round population of approximately 451 with a seasonal peak population of approximately 2,000. The Town of Caswell Beach does not have significant issues with oversized structures. The Town does participate in occasional beach nourishment projects. The Future Land Use Plan Map depicts the vast majority of the Town as Conservation and Residential type designations.

The Town of Caswell Beach is considered a 'family beach' type community with the majority of land uses consisting of residential or "resort" type uses within the town. The housing stock within the town is primarily single-family residential with some duplex and multi-family uses. The majority of property owners are considered absentee owners.

Some notable policies and recommended actions in the plan include the following:

12. Commercial and Industrial Development

Policy: The Town opposes any new commercial or industrial related development activity in its planning jurisdiction. However, the existing commercial activity associated with the existing golf course (including clubhouse restaurant, driving-range and recreational 18-hole golf-course) is desired to be continued in its full present use (page 99).

127 Cardinal Drive Ext., Wilmington, North Carolina 28405
Phone: 910-796-7426 \ Internet: www.nccoastalmanagement.net

13. Preservation of Existing 18-Hole Golf Course

Policy (a): The Town opposes the redevelopment of the existing 18-hole golf course to any other use. The Town will work with the Town of Oak Island on the preservation of the golf course.

Policy (b): The Town shall seek methods to preserve the long-term continuation of the 18-hole golf course (page 99).

19. Building Height of New Development and Redevelopment

Policy (a): The Town shall regulate building height to preserve the existing low profile character of the community. Building height shall be measured using the vertical distance from the mean elevation of the finished grade along the front of the building to the highest point of a flat roof, or to the deck line of the mansard roof, or to the mean height level (roof midline) between eaves and ridge for gable, hip and gambrel roofs. Under any circumstance, the vertical distance shall not exceed the higher of:

- 26' feet above the Regulatory Flood Protection Elevation; or
- 35 feet above the mean finished grade elevation (page 101).

The Town of Caswell Beach held a duly advertised public hearing and voted by resolution to adopt the land use plan on April 8, 2010. The plan was prepared through a facilitated process utilizing workshops with citizens, elected officials, and the Land Use Planning Committee. The goals and policies in the plan are a result of detailed analysis and discussion of key issues identified in the workshops.

The public had the opportunity to provide written comments up to fifteen (15) business days prior to the CRC meeting (May 19, 2010). April 28th was the deadline date. No comments were received, written or otherwise.

To view a hard copy of the Caswell Beach Core Land Use Plan, go to the link below and scroll down to Caswell Beach LUP.

http://www.nccoastalmanagement.net/Planning/under_review.htm



North Carolina Department of Environment and Natural Resources
Division of Coastal Management

Beverly Eaves Perdue, Governor

James H. Gregson, Director

Dee Freeman., Secretary

MEMORANDUM

CRC-10-19

To: The Coastal Resources Commission
From: Michael Christenbury, Wilmington District Planner
Date: April 21, 2010
Subject: Certification of the Oak Island Core Land Use Plan (May 19, 2010 CRC Meeting)

Staff Recommendation: Certification of the Town of Oak Island Core LUP based on the determination that the document has met the substantive requirements outlined within the 2002 7B Land Use Plan Guidelines and that there are no conflicts evident with either state or federal law or the State's Coastal Management Program.

Overview

The Town of Oak Island is a south facing barrier island community located in southeastern Brunswick County, adjacent to the Town of Caswell Beach and near the Town of Southport. The Town of Oak Island was created following the merger of the Town of Yaupon Beach and the Town of Long Beach. This merger became effective on July 1, 1999. The Town is separated from the mainland by the Atlantic Intracoastal Waterway and is linked to the mainland by a single high-rise bridge, though a second (new) high-rise bridge is currently under construction at the west end of the Town. The Town of Oak Island has a year round population of approximately 8,260 with a seasonal peak population of approximately 27,600. The Town of Oak Island does not have significant issues with oversized structures, though the Town does favor less multi-family type structures and condominiums. The Town participates in occasional beach nourishment projects. The Future Land Use Plan Map depicts the majority of the Town as Medium and Low Density Residential type designations.

The Town of Oak Island is considered a 'family beach' type community with the majority of land uses consisting of residential, though a moderate amount of commercial uses exist within the town as well. The housing stock within the town is primarily single-family residential with some duplex and multi-family uses. The Town has annexed a large area of primarily vacant land on the mainland, which will be developed mostly as a Planned Unit Development (PUD) in the future. The majority of property owners are considered absentee owners.

Some notable policies and recommended actions in the plan include the following:

Action 1.A.4.c: The Town will provide public beach access and parking that meet the US Army Corps of Engineer standard for participation in beach renouishment projects. The Town provides "Resident Only" parking. These spaces are not included in the required Army Corps of Engineer parking

127 Cardinal Drive Ext., Wilmington, North Carolina 28405
Phone: 910-796-7426 \ Internet: www.nccoastalmanagement.net

calculations (page84).

Policy 1.A.5: *Public and private marinas offering access to area waters will be allowed when developed in accordance with the CAMA specific use standards for marinas (i.e. docks for more than 10 vessels). Marinas shall not be approved, however, that are incompatible with nearby land uses or whose designs fail to meet the environmental quality and development standards of the Town's zoning and subdivision ordinance. The Town will allow dry stack storage in conjunction with an operating marina. Marinas shall provide public access to public trust waters where practical (page 84).*

Policy 2.A.2: *Height on the Island: The Town supports maintaining a height limit of 41 feet in the V-zones and 35 feet elsewhere on the island, as established by referendum. Height on the Mainland: The Town supports maintaining a height limit of 35 feet on the mainland and up to 55 feet in the C-LD District on the mainland by Conditional Use Permit. The height limitations on the mainland are set by Town Council in the zoning ordinance (page 85).*

Action 2.A.4.a: *The Town will maintain overall gross density of 2.0 units per acre and net density of 4 units per acre within the ETJ. The Second Bridge Corridor will be developed as provided in the 1997 Second Bridge to Oak Island Corridor Land Use and Development Plan (page 86).*

The Town of Oak Island held a duly advertised public hearing and voted by resolution to adopt the land use plan on April 13, 2010. The plan was prepared through a facilitated process utilizing workshops with citizens, elected officials, and the Land Use Planning Committee. The goals and policies in the plan are a result of detailed analysis and discussion of key issues identified in the workshops.

The public had the opportunity to provide written comments up to fifteen (15) business days prior to the CRC meeting (May 19, 2010). April 28th was the deadline date. No comments were received, written or otherwise.

To view a hard copy of the Oak Island Core Land Use Plan, go to the link below and scroll down to Oak Island LUP.

http://www.nccoastalmanagement.net/Planning/under_review.htm



North Carolina Department of Environment and Natural Resources
Division of Coastal Management

Beverly Eaves Perdue
Governor

James H. Gregson
Director

Dee Freeman
Secretary

CRC-10-20

MEMORANDUM

To: Coastal Resources Commission
From: Michael Christenbury, Wilmington District Planner
Date: April 22, 2010
Subject: Amendment of the 1999 Town of Navassa Land Use Plan (May 19, 2010 CRC meeting)

Staff Recommendation: Certification of the 1999 Town of Navassa Land Use Plan (LUP) Amendment based on the determination that the amendment meets the substantive requirements outlined within the 2002 7B 0901 a(1) and (4) LUP Amendment Guidelines and that there are no conflicts evident with either state or federal law or the State's Coastal Management Program. Note, since this plan was originally certified prior to August 1, 2002, the plan is exempt from part 7B .0802(c)(3)(D) as noted in .0901 a (4).

Overview

The Town of Navassa is requesting Coastal Resources Commission (CRC) certification of an amendment to policy (2)(o)(1) "Marina and Floating Home Development" policy of the 1999 Town of Navassa Land Use Plan.

Policy (2)(o)(1) on page 59 of the 1999 LUP states:

"The Town of Navassa policy is to oppose the development of marinas due to the potential of excessive or irreversible damage to existing fragile or environmentally sensitive areas and degradation to its estuarine waters."

The Town of Navassa has amended Policy (2)(o)(1) to replace the language and state the following:

"Because of the potential of excessive or irreversible damage to existing fragile or environmentally sensitive areas and degradation to its estuarine waters, the Town of Navassa opposes the development of marinas. However, upland marinas that are constructed to the highest environmental standards, and are properly permitted and constructed as part of a Planned Unit Development (PUD) shall be allowed provided that they are open to the public and are not private facilities. The Town strongly supports the North Carolina Clean

Marina Program and the use of best management practices (BMPs) in marina construction and management.”

The Town of Navassa held a duly advertised public hearing and voted by resolution to adopt the 1999 Land Use Plan Amendment on March 18, 2010.

The public had the opportunity to provide written comments up to fifteen (15) business days prior to the CRC meeting (May 19, 2010). April 28th was the deadline date. No comments were received, written or otherwise.

Staff recommends certification of the amendment to Policy (2)(o)(1) of the 1999 Town of Navassa LUP.



North Carolina Department of Environment and Natural Resources
Division of Coastal Management

Beverly Eaves Perdue, Governor

James H. Gregson, Director

Dee Freeman, Secretary

April 21, 2010

MEMORANDUM

CRC 10-21

TO: Coastal Resources Commission

FROM: Jeffrey Warren, PhD, CPG
Coastal Hazards Specialist

SUBJECT: Public Comments on T15A NCAC 07H.0104

The Coastal Resources Commission (CRC) approved amendments to T15A NCAC 07H.0104 (Development Initiated Prior to Adoption by the CRC) at their meeting on January 13, 2010. The public comment period on these proposed rule changes was open from February 1 through April 5, 2010.

Division of Coastal Management (DCM) staff received one public comment on this rule from Mr. William Farriss of Concord, NC dated March 10, 2010 (attached). Mr. Farriss also provided verbal comments at the public hearing for this rule in Sunset Beach to the CRC on March 25, 2010. Both sets of comments were similar in that they mischaracterized the proposed changes to T15A NCAC 07H.0104 and referenced coastal management issues addressed by other oceanfront development rules, specifically T15A NCAC 07H.0305 and 07H.0306. I met with Mr. Farriss after the public hearing in Sunset Beach to clarify the proposed rule changes in 07H.0104 and answer his general questions about oceanfront development (questions primarily related to the static vegetation in place for Oak Island).

The proposed rule changes in T15A NCAC 07H.0104 (attached) may be considered by the CRC at the meeting in Beaufort on May 19th. DCM staff recommends adoption of the amended language as written without additional changes.

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March 10, 2010

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MAR 17 2010

Morehead City DCM

James Gregson, Director
NC Division of Coastal Management
400 Commerce Ave
Morehead City, NC 28557

Objections to the proposed rule Statutory Reference; G.S. 150B-21.2

Mr. Gregson,

Will this amendment, 15A NCAC 07H.0104, only affect with the development of lots created after June 1, 1979? Oak Island or more specifically Long Beach was created and developed before 1950. Therefore I assume the proposed regulation eliminates Ocean front Lots on Oak Island. In Fact it would eliminate Lots on Sunset Beach, Ocean Isles, Holden Beach and Caswell Beach from this proposal.

This amendment also proposes to limit the size of new homes or additions to no more than 2,000 square feet. Is this heated area? Also, these new buildings or additions to a building can be built as long as the building does not extend further oceanward than the landward-most adjacent building. Does this mean the building can be within the current 60 foot vegetation setback or the 1998 setback line?

Brunswick County is presently undergoing a 2011 revaluation of which I have a contract with Brunswick County to assist Brunswick County in the Revaluation. I am a professional General Certified Appraiser with the State of North Carolina with over 40 years experience including five past contracts with Brunswick County to revalue all the properties in Brunswick County. I also own property in Brunswick County including an ocean front lot on Oak Island and a lot on the intercostal canal near Ocean Isles. Therefore I think I am more than qualified to express my opinion on property value and property assessments in Brunswick County and how the current CAMA regulations affect property value.

The reader is referred to the attached spread sheet developed from the current Brunswick County Tax Records. Brunswick County has approximately 140,000 property ownerships of which Oak Island has approximately 10,000 parcels. However most of the value is on the Ocean Front lots and resort properties on the Beach. The beaches are divided into neighborhoods to assist the appraisers analyze smaller areas and fewer similar use properties. The spread sheet list three neighborhoods with statistics indicating the number of vacant lots and improved lots for each neighborhood. Neighborhood 306A is located west of Middleton Road to the west end of Oak Island. Neighborhood 306B is from Middleton Road east to 40th St East and neighborhood 306F is east of 40th St East to Yaupon Beach. These lines are also based on the renourishment boundaries.

Currently, (500) ocean front lots have an estimated assessed value set in 2007 not including the building values of \$378,394,660. Recent lot sales indicates in a worst case scenario these lot values due to the regulation causing the lots not being buildable combined with the effect of our economic conditions could decline \$231,680,382.

Applying the current tax rate of 44.50 cents per hundred to this assessed value, the result would yield an estimated overall tax loss of [REDACTED]. This does not count any building value loss due to extra depreciation from deferred maintenance.

An argument could be made that the value loss was due to the economy, but in comparing current sales of buildable ocean front property to an unbuildable ocean front property, the statistics indicates a loss of building value in addition to the loss of land value. Your regulations limit the rebuilding of a structure damaged more than 50% if caused by erosion, fire, wind, flood, hurricane, vandalism or just old age. This reduces the life expectancy of the building and consequently the market value. The estimated loss in land value is based on the residual lot still being worth \$75,000.

The main property value loss of \$239,000,000 MILLION is far more than any damage that could be caused by erosion. Nor does it consider the value lost due to the limit of 2,000 square foot beach cottage The size limit which would reduce the market value of the ocean front lot. The economic return on a 2,000 Square Foot Beach Cottage would not support a very expensive beach front lot. This does not include the cost of government to enforce and change these regulations.

This regulation was supposed to protect the general public from buying and building on ocean front lots that have history of erosion. The erosion was or will be caused by the Ocean waters rising 2 feet per year due to global warming. The 60 feet would give the property 30 years or perhaps the term of the mortgage before the building falls into the ocean. Now the maximum of 2,000 square feet was to make it easier to move the building and to prevent the larger buildings from placing a shadow on the beach that would affect the temperatures of the sand and consequently determine the turtle population.

Unfortunately, this regulation has caused more financial damage on Oak Island than any erosion or hurricane. First of all, Oak Island faces south and therefore does not create any shadows on the beach. Second, the Town Ordinance has a height limit that would not allow large buildings.

Since the Islands in Brunswick County have a southern view, according to your study these Island with a southern view do not erode however for the purpose of your study, these beaches were counted as having the minimum of 2 feet erosion rate per year. The erosion on the beaches has always been at the end of the Islands and in most cases the eastern end has the most erosion and ecreation. The ends of the Islands wag like a dog's tail created by erosion and ecreation. These areas need regulation or should be used for public access only. Yet development has been allowed on the very ends of the Islands.

Oak Island has Fort Caswell located on the very eastern end of the Island. The fort was built before 1800 and has eliminated erosion on the eastern end of Oak Island but in my opinion has caused the erosion on the ocean front properties at the old Yaupon Beach area and the eastern part of Oak Island.

From 40th Street East to the west end of Oak Island the main dune is still in place with almost 500 beach cottages on 600 lots. These homes have survived not only Hurricane Hazel in 1954, but four hurricanes in the 1990's and Hugo in the late 1980's. The reader is referred to the attached chart indicating the number of homes built by ten year increments and by sections along the ocean on Oak Island.

The real damage to the beaches was done after one of the 1990's hurricane when CAMA allowed the use of bulldozers to scrap up the sand along the Ocean edge to rebuild the southern half of the main dune. I have yet seen a report indicating the amount of cubic yards of sand scraped from the beach to the dune.

Even after all the hurricanes and sand graded to the dune, 500 beach cottages still stand. According to the tax records, Eight (8) homes survived Hurricane Haze in 1954 even though they were built on slabs and the main sand dune was leveled so they could see the ocean. Since 1955, four hundred (400) of the five hundred (500) homes were built before 1990 when all these regulations were enforced. Think about this please. FOUR HUNDRED (400) HOMES ARE OVER 20 YEARS OLD AND THREE HUNDRED (300) OVER 30 YEARS OLD. All are being used and do not have any erosion problems.

After the four hurricanes in the 1990's and the bull dozing, the vegetation line was set in 1998. Needless to say the 1998 and 2000 vegetation line was set based on sea oats not vegetation as stated in the ordinance. I personally had a building request turned down because my lot did not have SEA OATS growing past the 99 foot line that is presently the 98 vegetation line. The 98 vegetation line was also established during the winter months when the vegetation line was very difficult to determine due to the dormant vegetation. The line was also estimated by people with very little experience or training. Proof of this is the measurement of my lot on 20th west and the adjoining lot on my west boundary line. The vegetation line on my lot was determined by a trained CAMA employee in March and for the adjoining lot in late May of the same year. The vegetation line on my western line was set at 99' and the adjoining lot's eastern line (same line) at 105'. I did not blame the employee because the vegetation line had very much changed because the new vegetation and sea oaks growth over 2 to 3 months. Another problem with a vegetation line is the damage caused by the use of the beach by the general public. A public access with parking adjoins the lot I own at 20th west. The general public used the beach in front of and on my lot and even sunbathed next to the dune to stay warm. The dune protected the bathers from the north breeze. Any chance of vegetation growth was set back due to volleyball, sunbathers and night fisherman with camp fires.

The best thing that happened to the beach is the renourishment project in 2002. According to the U S Army Corps of Engineers, the renourishment from 40th St East to the west end of the Island was 30% short of the renourishment contract. The renourishment was completed from 40th St East all the way to the west end of Oak Island indicating the shortage was in the cubic yards of sand applied and not the distance. However it appears the renourishment project did replace most the sand that was removed by the bulldozing in the 1990's.

Since 2002 sand replacement, the vegetation and sea oats have been growing some 175 feet from Beach Drive indicating the 150 foot lot is now buildable. The only concern is the new dune created by

CAMA placing sand fences at the 150 foot lot line has created new sand dune that has taken all the sand that would have increased the width and height of the old main dune. Consequently the Old original dune has not grown.

Needless to say I think the facts listed above far outweigh all the subjective facts that erosion is caused by the Ocean rising 2 feet per year and by limiting the size of the buildings to 2,000 square feet for easier building removable after erosion. The smaller building with less height would also protect the beach sand from cooling and affect the female turtle population. This regulation has done what the real intent appears to be, reducing property values and increase deferred maintenance, rather than protect buyer from investing in property that could erode. The regulation has caused property owners and buyers to be fearful of not being able to build back or repair buildings with damages when over 50% of the value of the building has occurred after a hurricane, a fire, or any damage causing over 50% value loss to the house value.

The 1998 vegetation line makes most of the lots with a building and majority of vacant lots unbuildable. The market value ocean front lots is just the land. Therefore the 50% loss in value due to damages would be based on the depreciated building value. In some cases the depreciated building value is less than \$50,000. The beach cottages over 30 years old, two hundred and eighty nine, (289) according to the Brunswick County tax Records are in the old Long Beach area. This count does not include Yaupon or Caswell Beach.

The fact that over 500 homes on the ocean front, 400 of homes over 30 years old, are occupied by the owner or rented to the general public proves erosion is not the problem. But it does support the fact that the owners are just keeping the old home instead of replacing it with a much safer and larger new home. The end result due to this regulation is the gradual depreciation of the building causing a "eye sore" for Oak Island less tax revenue and a possible damage to surrounding buildings due to fire or high winds blowing building parts into surrounding houses.

Therefore I recommend that the age of the development not be a factor to determine if a development qualifies for the proposed new regulation.

I also recommend the 1998 vegetation line be replaced because it was establish with just sea oats and not green vegetation as the determining factor. The vegetation line was further affected by the bull dozing and the four hurricanes. The vegetation line needs an official survey to establish a permanent line foe all officials to follow including appraisers for the banks and tax office.

The tax records indicate a past history showing erosion, not hurricane damage has been the responsible for buildings being removed or torn down. Any erosion that has occurred is reflected on the tax records because the owner does not want to pay taxes on damaged property. Reliance on this information would reduce CAMA cost significantly.

This regulation has caused a significant loss in property value without any compensation to the property owner who have suffered more than any tax loss and the property owners are the ones this regulation was suppose to protect.

Respectfully

A handwritten signature in black ink, appearing to read "William P. Ferriss". The signature is written in a cursive style with a large, sweeping initial "W".

William P. Ferriss SRA

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SUBCHAPTER 7H - STATE GUIDELINES FOR AREAS OF ENVIRONMENTAL CONCERN

SECTION .0100 - INTRODUCTION AND GENERAL COMMENTS

15A NCAC 07H .0104 APPLICATION OF EROSION RATE SETBACK FACTORS

(a) Development on lots created on or after June 1, 1979 shall utilize the current erosion rate setback factor in the calculation of the development setback pursuant to 15A NCAC 7H .0304. If application of the current erosion rate setback factor in the calculation of the development setback would preclude the placement of permanent buildings, then the calculation may utilize the erosion rate setback factor in effect at the time that the lot was created, provided that the development:

- (i) shall comply with the current erosion rate setback factor to the maximum extent possible;
- (ii) is located at the landward most position on the lot without violating local zoning requirements;
- (iii) shall extend no further oceanward than the landward-most adjacent building; and
- (iv) shall be no more than 2,000 square feet in total floor area.

(b) Development on lots created prior to June 1, 1979 shall comply with the provisions of 15A NCAC 07H .0309(b) and (c).

History Note: Authority G.S. 113A-107; 113A-113; 113A-124;

Eff. September 15, 1979;

Amended Eff. April 1, 2004; April 1, 1997; April 1, 1995; May 1, 1990; November 1, 1988; September 1, 1988.

Deleted: DEVELOPMENT INITIATED PRIOR TO ADOPTION BY THE CRC
Deleted: (a) Development on lots created after January 29, 2004 shall comply with the current erosion rates established pursuant to 15A NCAC 07H .0304.¶ (b)
Deleted: Development on lots created between June 1, 1979 and January 29, 2004 must comply with the current rates to the maximum extent feasible and have a minimum setback equal to the rates in effect at the time the lots were created, or, those rates in effect at the time of issuance of any active CAMA permit for development on those lots, whichever is more restrictive.
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May 5, 2010

MEMORANDUM

TO: Coastal Resources Commission

FROM: Mike Lopazanski

SUBJECT: Outer Continental Shelf (OCS) Update

Leasing activities for energy development along the Atlantic Seaboard have historically been prohibited through Congressional and Presidential moratoriums. In June 2008, amid calls for more domestic production, President George W. Bush lifted the executive moratorium. At that time, the Department of Interior - Minerals Management Service (MMS) was directed to begin preparation of a new Five-Year Lease Program to take effect once the current Program expires. The Congressional moratorium that had been in place as part of the Department of Interior's appropriations for the past 26 years was allowed to expire on September 30, 2009. The MMS announced in July 2008 that it was jump starting the development of a new 5-Year Lease Program, giving the next administration a two-year head start in expanding energy production in federal waters (beyond three nautical miles) that would include areas under the Congressional moratorium. While unusual, the Outer Continental Shelf Lands Act (OCSLA) does allow for "out-of-cycle" leasing programs.

Current 2007-2012 Lease Program

With regard to the current 2007-2012 Lease Program, the Center for Biological Diversity filed suit on July 2, 2007 for violations under the OCSLA and the National Environmental Policy Act (NEPA). This suit was followed by another filed by the Native Village of Point Hope, Alaska, in August 2007. On April 17, 2009, the Court remanded the 2007-2012 OCS oil and gas leasing program, requiring the Interior Department to "conduct a more complete comparative analysis of the environmental sensitivity of different areas." The Court clarified that the decision was limited to three areas of the Alaska OCS—Beaufort, Chukchi, and Bering Seas. On March 31, 2010, Secretary Salazar announced his Preliminary Revised Program (PRP) for 2007-2012 which is subject to a 30-day public comment period ending May 3, 2010. After consideration of comments received, the Secretary plans to take another look at his PRP decisions and thereafter approve a final leasing program for 2007-2012.

Virginia Lease Sale 220

This remand of the 2007-2012 Lease Program, as well as the Secretary of Interior's decision to reconsider portions of the Revised Program does not affect the potential lease sale off the coast of Virginia. The 2007-2012 PRP includes a Mid-Atlantic Sale (VA Lease Sale 220) as a special interest sale. The first step in the process has concluded with comments having been due January 13, 2009 on 2.9 million acres located 50 miles offshore of VA. A lease sale is scheduled for this area in 2011. The MMS is now moving forward with public scoping meetings in preparation of a draft EIS. One of the scoping meetings will be held in Elizabeth City on May 27th at 1:00 and 7:00

pm. This is not an announcement to hold the proposed lease sale, but a continuation of the information gathering and environmental review required by NEPA. The State originally provided comments regarding this action on January 8, 2009. The next comment deadline is June 14, 2010.

Geological & Geophysical Activities PEIS

The MMS has announced its intent to prepare a Programmatic EIS (PEIS) to evaluate potential environmental effects of multiple Geologic and Geophysical (G&G) activities on the Atlantic Outer Continental Shelf. These activities (generally seismic surveys) are associated with Atlantic OCS siting for renewable energy projects, marine minerals extraction (sand and gravel), and oil and gas exploration. The areas of the Atlantic OCS that will be analyzed within the G&G PEIS are the Mid-Atlantic Planning Area (includes NC) and the South Atlantic Planning Area. A public scoping meeting was held in Wilmington on April 29, 2010. The Division of Coastal Management originally provided comments on March 23, 2009. The next comment deadline is May 17, 2010.

2012-2017 Five-Year Lease Program

On March 31, 2010, Secretary of the Interior Ken Salazar announced that the Obama Administration will expand oil and gas development and exploration on the U.S. Outer Continental Shelf, as part of a comprehensive strategy for strengthening the nation's energy security and reducing America's dependence on foreign oil. The Administration's strategy calls for developing oil and gas resources in new areas, such as the Eastern Gulf of Mexico, increasing oil and gas exploration in frontier areas, such as the Arctic Ocean and the Mid and South Atlantic Ocean. According to the Administration, this strategy is intended to expand offshore oil and gas exploration and development in "the right ways and in the right places" in order to provide order and certainty to industry and investors, while delivering a fair return to American taxpayers for the use of their resources. The strategy calls for the use of science and new technologies to expand OCS oil and gas production, while protecting fisheries, tourism, and places that are not appropriate for oil and gas development.

The potential opening of the Mid-Atlantic OCS to oil and gas leasing is the primary impetus for the G&G PEIS discussed above. Much of data for the Mid-Atlantic Planning Area is over 30 years old and since the potential benefits and risks of developing OCS frontier areas are not sufficiently known, the Administration is calling for seismic exploration in the Mid and South Atlantic OCS to support conventional and renewable energy planning. The MMS estimates of undiscovered, economically recoverable resources for the Atlantic OCS areas proposed for EIS scoping are: Mid-Atlantic: 0.5-1 billion barrels of oil and 2.5-11 trillion cubic feet of natural gas; South Atlantic: 0.03-0.15 billion barrels of oil and 0.3-0.7 trillion cubic feet of natural gas.

The development of a new (2012-2017) Five-Year Lease Program consists of the schedule for lease sales as well as the size and location of blocks to be offered. Once a Five-Year Program is developed, MMS will allow companies to bid for specific lease areas. Oil and gas leases are issued for an initial period of five years, and may be extended to 10 years where such longer period is necessary to encourage exploration and development in areas because of unusually deep water or other unusually adverse conditions. Once production is established, the term continues as long as there is

production. Upon completion of a lease sale, a company submits a Plan of Exploration (POE) with associated environmental documents. Exploration is comprised of seismic studies and exploratory wells. If a discovery is made, a company may submit a Plan of Development and Production to MMS. There are about 20 federal and state permits required for production which include air and water quality permits from the EPA. It takes about 1-3 years to reach production.

Under the current procedures outlined by the OCSLA, it takes approximately 2.5 years to develop a lease program and, absent additional Congressional action, this is the fastest a new plan can be prepared. The MMS has announced that public meetings specific to the development of the next Five-Year Lease Program (2012-2017) will be held in coastal locations in June and early July, 2010 to help determine the appropriate scope of the EIS in terms of geographical areas and issues. The comment deadline for this stage of the 2012-2017 Lease Program process is June 30, 2010.

States Reactions to Lifting of Moratorium

The Mid-Atlantic States have expressed varying opinions regarding development of oil and gas in their respective OCS planning areas. However, a common area of support voiced by all as been for oil and gas revenue sharing. For example, the State of Delaware has expressed an interest in increasing knowledge of what resources may exist off its shores but does not envision leasing in the near future. The Governor of Maryland does not support oil and gas activities at this time, but will reconsider in the next planning cycle if a critical need develops. The Governor of Virginia has strongly supported oil and gas leasing, exploration and potential production. In North Carolina, Governor Perdue has also indicated that she would like more information about the potential offshore resources and formed a Legislative Subcommittee tasked with providing input to her about potential OCS oil and gas activities within the State's OCS planning area.

Revenue Sharing

Prior to and since the lifting of the moratorium in the Atlantic OCS Planning Area, there has been a great deal of discussion regarding the benefits to states and revenue sharing. Under the current framework, a State retains all revenue from activities conducted within state waters, generally the first three miles off the coast (nine miles in the case of Texas and the Gulf Coast of Florida). States also receive 27 percent of revenues from the "section 8(g) zone," which extends out the next three miles from the state/federal boundary. The states also benefit from OCS revenues that come through the Historic Preservation, Land and Water and Reclamation Funds, and the Coastal Impact Assistance Program (CIAP). As a result of the Energy Policy Act of 2005, CIAP distributes \$250 million annually for four years to the six states with offshore oil and gas activity. The Gulf of Mexico energy Security Act (GOMESA) established revenue sharing with four Gulf Coast States in newly available Gulf areas through 2016 and all Gulf areas starting in 2017. Any further provision for revenue sharing with states would need to be enacted by Congress.

Deepwater Horizon Incident

On April 20, 2010 while working on an exploratory well approximately 50 miles offshore Louisiana, the semi-submersible drilling rig *Deepwater Horizon* experienced an explosion and fire. I will provide a summary and status of the incident at our upcoming meeting. To date the official responses have included:

- The National Response Team (NRT), an organization of 16 federal departments and agencies responsible for coordinating emergency preparedness and response to oil and hazardous substance pollution incidents was activated and a coordinated group of federal partners-including the United States Coast Guard, Departments of Homeland Security, Commerce, Interior and the Environmental Protection Agency-immediately began directing and overseeing BP's response.
- Secretary Napolitano (Homeland Security) and Secretary Salazar (Interior) signed an order establishing the next steps for a joint investigation into the causes of the explosion of the drilling rig *Deepwater Horizon* in the Gulf of Mexico. The U.S. Coast Guard (USCG) and the Minerals Management Service (MMS) share jurisdiction for the investigation.
- MMS is continuing inspection of all deepwater rigs and platforms as mandated by Secretary Salazar in the aftermath of the incident. MMS continues to ensure that BP moves forward on all methods to temporarily and permanently secure the source of the spill.
- No new drilling will be initiated until the investigation of the incident is completed. This does not mean that other OCS related planning efforts will not proceed.
- NOAA is restricting fishing for a minimum of ten days in federal waters most affected by the BP oil spill, largely between Louisiana state waters at the mouth of the Mississippi River to waters off Florida's Pensacola Bay. The closure is effective immediately.
- Two platforms have stopped production and one has been evacuated as a safety measure. Approximately 6.2 million cubic feet of natural gas is shut-in—less than one-tenth of a percent of daily gas production in the Gulf of Mexico.
- In response to the BP oil spill, the Secretary of Defense has authorized the mobilization of the Louisiana National Guard to help in the ongoing efforts to assist local communities in the cleanup and removal of oil and to protect critical habitats from contamination. As the responsible party in this incident, the government will hold BP accountable for the costs of the deployment.
- The Transocean drillship, *Discoverer Enterprise*, is preparing to conduct recovery operations for BP using a specially-built "dome" on the sea floor. With the use of the dome and connection system to flow the leaking oil the crew of the *Discoverer Enterprise* will be capable of recovering up to 125,000 barrels of oil.
- BP announced (May 4, 2010) that it has stopped the flow of oil from one of the three existing leak points on the damaged MC252 oil well and riser in the Gulf of Mexico. While this is not expected to affect the overall rate of flow from the well, it is expected to reduce the complexity of the situation.

Alternative Energy

The Energy Policy Act of 2005 granted the MMS authority to regulate renewable energy development on the OCS. In April 2009, the Department of the Interior finalized its framework for renewable energy production by establishing a program to grant leases, easements, and rights-of-way for renewable energy development activities, such as the siting and construction of off-shore wind farms. The framework also establishes

methods for sharing revenues generated from OCS renewable energy projects with adjacent coastal States. Very broadly, the framework includes coordination of offshore projects with state, local and tribal governments through the establishment of task forces. Mirroring the process for conventional OCS energy development, a process is in place for granting leases, requirements for plans and operations oversight including site assessments, construction and operations, plan approval and environmental safety and monitoring. Provisions are also in place to cover bonding activities and decommissioning.

In April 2010, the DOI announced approval of the Cape Wind renewable energy project, to be sited in federal waters in Nantucket Sound. The \$1 billion wind energy facility will be the first wind farm on the U.S. Outer Continental Shelf, generating enough power to meet 75 percent of the electricity demand for Cape Cod, Martha's Vineyard and Nantucket Island combined. According to the MMS, the Cape Wind facility would occupy a 25-square-mile section of Nantucket Sound with the capability of generating 468 megawatts with an average anticipated output of 182 megawatts. The expectation is that the facility will produce enough energy to power more than 200,000 homes in Massachusetts. The project includes a 66.5-mile buried submarine transmission cable system, an electric service platform and two 115-kilovolt lines connecting to the mainland power grid.

Also in April, the DOI announced the first steps in the newly developed leasing process to site a wind energy facility off the coast of Delaware. The State has approved a proposal by Bluewater Wind Delaware, LLC for the construction of a new power plant to sell up to 200 megawatts of power from an offshore wind farm to the state's largest utility, Delmarva. Bluewater Wind Delaware, LLC is still required to apply to the MMS for an offshore lease, which may entail competing with other companies if competitive interest exists. The project is part of a planned 450MW offshore wind development park to be sited 7.5 miles due east from Rehoboth Beach, Delaware. The geographic extent was selected through consultation with the Delaware Outer Continental Shelf Renewable Energy Task Force, an intergovernmental coordination group comprised of federal and state agencies, and local agencies that having a role in permitting, reviewing or regulating resources or activities that are involved in energy development on the OCS.

The NC Coastal Wind Demonstration Project has begun to move through the permitting process beginning with a public scoping meeting held by the US Army Corps of Engineers in Manteo on March 18, 2010. The purpose of the meeting was to solicit comments from the public, federal, state and local agencies and officials, and other interested parties regarding the proposed project to identify issues and concerns. As the project may require excavation and filling within jurisdictional waters of the United States, a permit will be required pursuant to Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act. The scoping meeting is a requirement of the National Environmental Policy Act (NEPA) in preparation of a Draft EIS.

The proposal currently includes the construction of three wind turbines in the Pamlico Sound with the intention of conducting research on the development of future offshore wind energy projects. The project site is comprised of three-mile square area located approximately seven miles west of Avon and nine miles north of Frisco in the Pamlico Sound. Construction of the demonstration facility will require barge-supported

equipment needed for the installation of foundations supporting the turbines and rock aprons to protect the base of the structures. The project will also include a six-inch diameter electric cable to be buried in the bottom of Pamlico Sound that will connect to an existing, land-based substation near the community of Avon, Buxton, Frisco, or Hatteras. Power generated by this project would be supplied to the electric grid on Hatteras Island. After completion of the EIS, the US Army Corps of Engineers will issue a Record of Decision Document which will serve as the basis for permitting decisions by federal and state agencies.



North Carolina Department of Environment and Natural Resources
Division of Coastal Management

Beverly Eaves Perdue, Governor

James H. Gregson, Director

Dee Freeman, Secretary

May 4, 2010

MEMORANDUM

CRC 10-26

TO: Coastal Resources Commission

FROM: Jeffrey Warren, PhD, CPG
Coastal Hazards Specialist

SUBJECT: Inlet Hazard Areas Study Update

Division of Coastal Management (DCM) staff have been working with the CRC Science Panel to complete revisions to the Inlet Hazard Area (IHA) boundaries as defined in T15A NCAC 07H.0304. Attached to this memo you will find the final report entitled "Inlet Hazard Area Boundaries Update: Recommendations to the North Carolina Coastal Resources Commission" dated May 2010. This final report, approved by both DCM and the Science Panel, contains boundary revisions for the State's 12 developed inlets (Tubbs, Shallotte, Lockwood Folly, Cape Fear River, Carolina Beach, Masonboro, Mason, Rich, New Topsail, New River, Bogue, and Beaufort). The report also includes the existing boundaries (without changes) for the remaining and essentially undeveloped inlets (with the exception of Mad Inlet, which has closed and is unlikely to reopen).

It has been almost two years since the CRC has discussed the IHA update and viewed an earlier version of these IHA boundaries. Therefore, I will devote a portion of the next CRC meeting on May 19th to review the methods and justifications used to develop these boundary change recommendations. Both DCM and the Science Panel recommend adoption of the final version of the attached report.

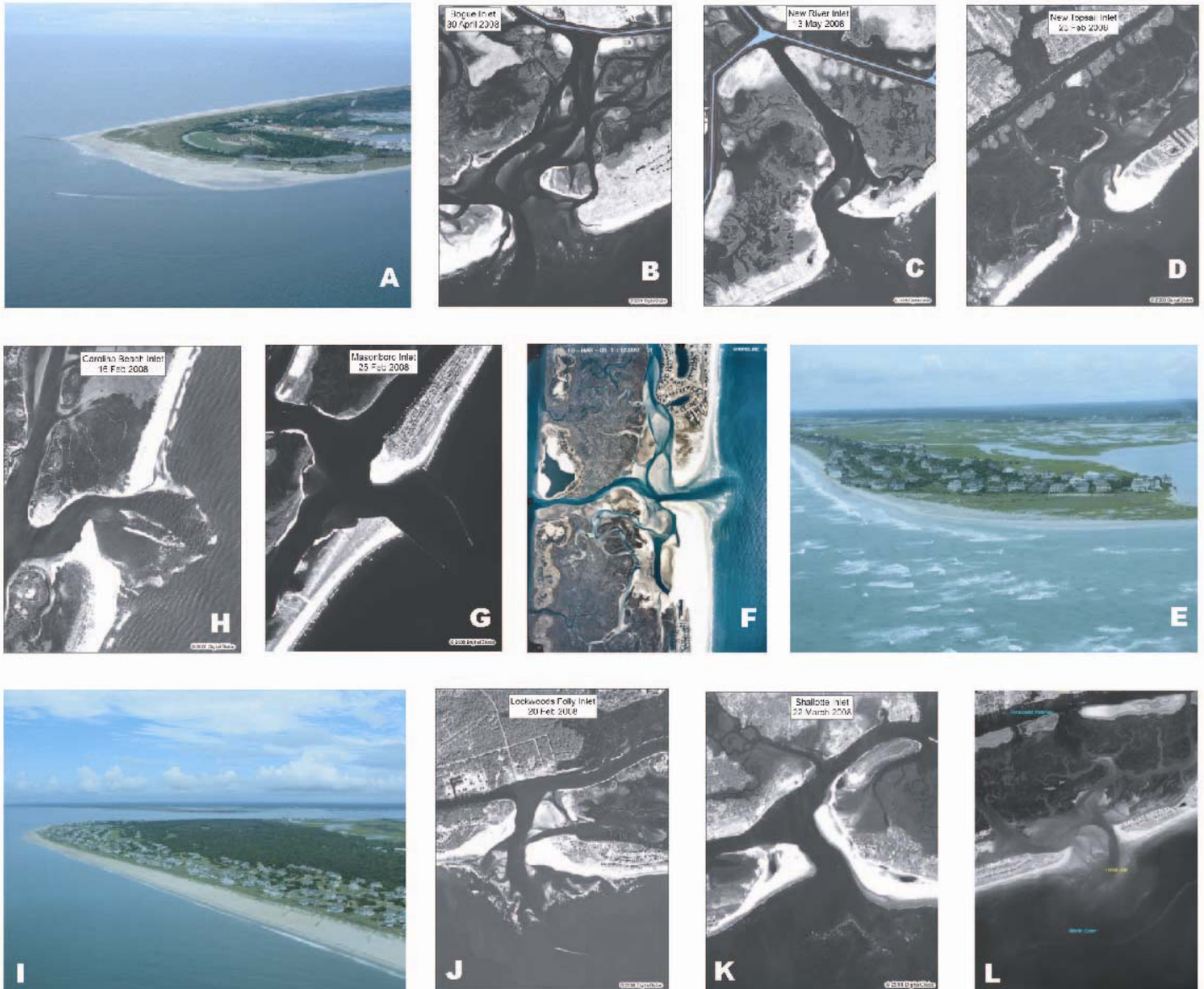
In addition to the IHA boundary recommendations, members of the CRC Science Panel have undertaken an additional effort to create a 30-year risk line within the proposed IHA boxes discussed above, and DCM has assisted in this study. Although a draft version of the 30-yr risk lines were used in the CRC's terminal groin study (as well as the proposed IHA boundaries themselves), subsequent modifications have been completed by the Science Panel's IHA subcommittee. The full Panel is scheduled to meet in Raleigh on May 12th to discuss the subcommittee's findings and potentially approve them. If this task is achieved, members of the Science Panel will be available at the May CRC meeting to discuss the methods used to develop the 30-year risk lines within the 12 revised IHA boundaries.

I look forward to the discussion of the revised IHA boundaries and the Science Panel's 30-yr risk lines, as well as a discussion of the necessary policies needed to govern development within the revised IHA boundaries. DCM continues to recommend that revisions to the IHA boundaries (T15A NCAC 07H.0304) and the development standards within these boundaries (T15A NCAC 07H.0310) occur in tandem.

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INLET HAZARD AREA BOUNDARIES UPDATE:

Recommendations to the North Carolina Coastal Resources Commission



Final Report Prepared and Submitted by:

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AVAILABILITY OF THIS REPORT

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ABOUT THE COVER

The aerial photographs on the cover of this report represent a montage of the twelve developed inlets along North Carolina's oceanfront. Each inlet is labeled with a letter (A-L), and the corresponding inlet name and the source of the imagery is as follows: A) Beaufort Inlet (NC Division of Coastal Management, September 2007), B) Bogue Inlet (US Army Corps of Engineers Wilmington District, April 2008), C) New River Inlet (US Army Corps of Engineers, May 2008), D) New Topsail Inlet (US Army Corps of Engineers Wilmington District, February 2008), E) Rich Inlet (Division of Coastal Management, September 2007), F) Mason Inlet (US Army Corps of Engineers Wilmington District, March 2003), G) Masonboro Inlet (US Army Corps of Engineers Wilmington District, February 2008), H) Carolina Beach Inlet (US Army Corps of Engineers Wilmington District, February 2008), I) Cape Fear River Inlet (NC Division of Coastal Management, September 2007), J) Lockwood Folly Inlet (US Army Corps of Engineers Wilmington District, February 2008), K) Shallotte Inlet (US Army Corps of Engineers Wilmington District, March 2008), and L) Tubbs Inlet (US Geological Survey / National Oceanic and Atmospheric Administration, Sept/Oct 2003). The US Army Corps of Engineers Wilmington District imagery was downloaded from <http://www.saw.usace.army.mil/nav/Inletindex.htm>. The US Geological Survey / National Oceanic and Atmospheric Administration imagery is available as base photography on the NC Division of Coastal Management Interactive Mapping website at http://www.nccoastalmanagement.net/Maps/shoreline_mapintro.htm.

ACKNOWLEDGMENTS

The authors wish to acknowledge Loie Priddy and Rick Carraway whose work with the NC Division of Marine Fisheries Technical Services Section thirty years ago provided the NC Coastal Resources Commission (CRC) with the State's first inlet hazard area boundaries. The efforts of Steve Benton (Division of Coastal Management, retired), Julia Knisel (former NOAA Coastal Services Center Fellow with the Division of Coastal Management), and the CRC Science Panel on Coastal Hazards catalyzed the assembly and analysis of appropriate technology, data, and knowledge of inlet processes necessary to update the original Priddy and Carraway (1978) study. The boundary amendments presented in this report are based primarily on the technical expertise of the CRC Science Panel on Coastal Hazards, which is reflected in the methodologies they developed and contributed to during this effort. This project would not have achieved its goals without the Science Panel's input and direct involvement. The Division of Coastal Management (DCM) would like to recognize the volunteered efforts of the Science Panel: Mr. Steve Benton (DCM retired); Mr. Bill Birkemeier (USACE Field Research Facility, Duck, NC); Dr. Bill Cleary (UNC Wilmington emeritus); Mr. Tom Jarrett, PE (Coastal Planning and Engineering); Dr. Dave Mallinson (East Carolina University); Dr. Margery Overton (current Science Panel Chair, NC State University); Dr. Charles "Pete" Peterson (UNC Chapel Hill Institute for Marine Science); Dr. Stan Riggs (East Carolina University); Dr. Tony Rodriguez (UNC Chapel Hill Institute for Marine Science); Mr. Spencer Rogers (NC Sea Grant); Dr. Beth Sciaudone, PE (NC State University); Dr. Greg Williams, PE (USACE Wilmington District); and Dr. Rob Young (Western Carolina University). The authors also express their gratitude to former members of the Science Panel who were involved in the early portions of this investigation: Dr. Walter Barnhardt (US Geological Survey); Dr. John Fisher (former Science Panel Chair, NC State University emeritus); Dr. Orrin Pilkey (Duke University emeritus); and Dr. John Wells (Virginia Institute of Marine Science). The authors also extend gratitude to the NC Department of Transportation Photogrammetry Unit whose collaborative efforts provided much of the historical aerial orthophotos necessary to study historical shoreline trends. This study could not have been completed without the dedicated support and input provided by the DCM staff, including Bonnie Bendell, Jim Gregson, Charles Jones (retired), Mike Lopazanski, Tancred Miller, Guy Stefanski, Ted Tyndall, Steve Underwood, and former NOAA Coastal Service Center (CSC) Fellows Patrick Limber and Lauren Theodore. Appreciation is extended to the numerous and diverse stakeholders that contributed ideas and concepts that certainly added to the quality and accuracy of what this report intends to achieve.

LIST OF ACRONYMS / ABBREVIATIONS USED IN THIS REPORT

AEC	Area of Environmental Concern
AIWW	Atlantic Intracoastal Waterway
CAMA	NC Coastal Area Management Act of 1974
CRC	NC Coastal Resources Commission
CSC	NOAA Coastal Services Center
DCM	NC Division of Coastal Management
ft	feet
GIS	Geographic Information System
GS	General Statute
IHA	Inlet Hazard Area
km	kilometers
LiDAR	Light Distance and Ranging
m	meters
mi	miles
MLW	Mean Low Water
MHW	Mean High Water
NC	North Carolina
NCAC	NC Administrative Code
NOAA	National Oceanic and Atmospheric Administration
NOS	National Ocean Service
T-sheet	Topographic Sheet
US	United States
USACE	US Army Corps of Engineers
USGS	US Geological Survey
yds	yards

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1.0 INTRODUCTION

The purpose of this study is to recommend amendments to the Priddy and Carraway (1978) Inlet Hazard Area (IHA) boundaries adjacent to the State's 12 developed inlets (Tubbs, Shallotte, Lockwood Folly, Cape Fear River, Carolina Beach, Masonboro, Mason, Rich, New Topsail, New River, Bogue, and Beaufort inlets).

The establishment of Areas of Environmental Concern (AECs) is the responsibility of the North Carolina Coastal Resources Commission (CRC) as authorized under the North Carolina Coastal Area Management Act (CAMA) of 1974 (GS 113A-100 et seq.) for the purposes of regulating coastal development. The CRC defines four specific ocean hazard AECs in their rules (Title 15A, Chapter 7, Subchapter H, Section 300 of the North Carolina Administrative Code, alternatively referred to as 15A NCAC 07H.0300). The four ocean hazard AECs are: 1) ocean erodible, 2) high hazard flood, 3) inlet hazard, and 4) unvegetated beach. The IHA AEC boundaries, which are the subject of this report, are defined in 15A NCAC 07H.0301(3) as locations that "are especially vulnerable to erosion, flooding and other adverse effects of sand, wind, and water because of their proximity to dynamic ocean inlets."

The existing IHA boundaries were defined by Priddy and Carraway (1978) based primarily on statistical analysis (and to a lesser extent previous inlet territory) of historic shoreline movement defined on multiple aerial photosets. For the purposes of this report, a shoreline is the approximate location of mean high water (MHW) along the oceanfront defined by either the wet/dry line from aerial photographs, MHW defined from National Oceanic and Atmospheric Administration (NOAA) National Ocean Service Topographic Sheets (NOS T-sheets), or MHW defined from Light Distance and Ranging (LiDAR) surveys.

The IHA boundary recommendations developed by Priddy and Carraway (1978) for all of the State's then-active inlets were adopted by the CRC in 1979. Minor amendments by the CRC followed in 1981. Of the 23 active tidal inlets studied by Priddy and Carraway (1978), specific inlet AEC boundaries were not designated for Masonboro Inlet, Drum Inlet, the southwestern side of Ocracoke Inlet, and Oregon Inlet because they were, at the time, excluded from requirements listed in the NC Coastal Plan (NC Department of Natural Resources and Community Development, 1977). Currently, 19 of the original 23 inlets analyzed by Priddy and Carraway (1978) are still active tidal inlet complexes. Although Drum Inlet has since expanded from one to three independent inlets (i.e., definable ebb and flood tidal deltas), the third of which opened as a result of Hurricane Ophelia in 2005, it is being considered as a single inlet complex for the purpose of this report. Three of the tidal inlets from the 1978 study have closed naturally: Mad Inlet, Old Topsail Inlet, and New/Corncake Inlet. One tidal inlet (New River Inlet) has migrated into South Carolina and is maintained by the US Army Corps of Engineers (USACE) to remain in its current general location.

In most cases, the statistical methods used by Priddy and Carraway (1978) identified the landward-most shoreline position (99% confidence interval) projected to occur between 1978 and 1988. Therefore, 1988 represented the point where the statistical significance of inlet shoreline trend predictions decreased. The CRC Science

Panel, a group of coastal engineers and geologists appointed by the CRC, identified the need to change the methodology for defining the IHA (Oct 21, 1998 Science Panel meeting minutes) and addressed this goal in their short-term recommendations to the CRC (Fisher, 1999):

Inlet Hazard Areas are coastal zones that are especially vulnerable to migration, erosion, flooding, and other adverse effects of sand, wind, and water because of their proximity to dynamic tidal inlets. Each of North Carolina's inlets is unique and there are distinct differences in the history and behavior of inlets in different coastal compartments of the state. Current Inlet Hazard Areas are based upon original studies conducted over twenty years ago. The Inlet Hazard Areas need revision to incorporate updated knowledge.

The Panel recommends that the delineation of the Inlet Hazard Areas be revised after a review of site-specific studies of each inlet by a group of experts. The hazard zone delineation shall consider such factors as previous inlet territory, structurally weak areas along migration pathways, unusually low and narrow sections of barriers prone to breaching, external influences such as jetties and channelization, and increased erosion extending along adjacent shorelines.

This specific recommendation fits well within the scope of the Science Panel's initial charge by the CRC, which included general directives to provide recommendations to the CRC and DCM, including: 1) studies to better describe North Carolina's coastal processes for management purposes, 2) specific methodology changes needed for DCM to better determine coastal hazards and 3) the consideration of new hazard identification methodologies (Coastal Resources Commission, 1997).

2.0 METHODS

2.1 Previous Investigation

The Priddy and Carraway (1978) methodology utilized a geographically stationary grid system superimposed onto appropriately scaled, commercially available aerial photographic prints spanning 1940 through 1977. The number of photos used at each inlet ranged from six to 32. The grid system applied to the photographs was oriented parallel to the predominant ocean shoreline and facilitated the detection of lateral movement of the inlet shoreline with a spatial resolution of 300 feet. Measurements were made on the photos themselves, scaled accordingly, and tabulated for each grid on the photograph. The shorelines along each side of the inlet were treated separately and individual grids were regressed both linearly and quadratically to determine the best-fit shoreline migration trends of each inlet. On accepted curve fits, the landward most 99% confidence interval projected to occur between 1978 and 1988 along a given transect represented the limit of the inlet hazard area at that transect (i.e., a 1% chance that shoreline position exceeds the designated hazard area at any time within the decade following the analysis). When inlets or grids did not conform to attempted regression methods, strong emphasis was placed on previous inlet territory as determined by relict inlet ridge locations, using the methods of Fisher (1962, 1967).

Priddy and Carraway (1978) only applied basic linear and quadratic regressions due to the scarcity of computing resources at that time. They noted that their approach limited a total regression analysis because any inlet is the product of many complex factors that are not necessarily polynomial in form. Future efforts were suggested to examine higher order polynomials, cyclic or transcendental patterns, and time-series forecasting. Priddy and Carraway (1978) also underscored the importance of applying common sense and good judgment in the establishment of inlet hazard areas.

2.2 Current Investigation

To facilitate the IHA update, the DCM collaborated extensively with the CRC Science Panel to develop methodologies for updating the original IHA boundaries. Lockwood Folly inlet was chosen as a test case by the Science Panel in order to establish an accurate method for hazard delineation (DCM, 2000; 2002), and the Science Panel proceeded with IHA re-delineation by looking at two major variables: 1) the spatial and temporal variability of the shoreline positions adjacent to the inlet, and 2) the application of simple statistical models based on shoreline variability to help determine the hazard areas. The Panel felt that defining the portions of oceanfront shoreline adjacent to inlets influenced by inlet processes was a major factor in delimiting the overall hazard area. By analyzing statistical shoreline trends (i.e., linear regression of shoreline rate of change and standard deviation of shoreline position), Panel members Drs. Margery Overton and John Fisher produced an objective assessment of the extent of inlet influence along the oceanfront shoreline (Overton and Fisher, 2004). This statistical methodology was applied to Hatteras Inlet by Overton and presented to the full Science Panel (DCM, 2004), which used it as the starting point to couple

shoreline trends with other factors including, inlet-specific processes and geomorphology, island-specific geomorphology, underlying geology, meteorological forcing (i.e., storms) and man-made interactions to all of the above (e.g., dredging, beach fill, engineered structures, creation of the AIWW). Although the IHA boundary to Hatteras Inlet was outside the scope of this study, it provided a valuable testing ground for synthesizing the aforementioned variables. Four major methods, discussed below, were used to carry out this study: 1) shoreline statistics (section 2.2.1), 2) the creation of a hybrid shoreline (section 2.2.2), 3) the consideration of beach width (section 2.2.3), and 4) barrier-island geomorphology (primarily topography of more stable upland regions). Additional factors such as anthropogenic influence were also considered and are discussed in the results on an inlet-by-inlet basis (see section 3.0).

2.2.1 Shoreline Statistics

Shorelines used in this investigation spanned 1933 through 2004. The earlier shorelines from the 1930s and early 1940s were digitized from NOS T-sheets, and most represented digitized wet/dry lines from historical orthophotos (with the exception of a USGS LiDAR-derived MHW shoreline from 1997). Two studies carried out by DCM (Limber et al., 2007a; 2007b) provided evidence that the 1997 USGS LiDAR-derived MHW could be used interchangeably with the wet/dry lines generated from historical aerial orthophotos. The Science Panel agreed that no shoreline before 1930 should be used due to the construction and maintenance dredging of the AIWW and other waterways and the influence these waterways had on the hydrodynamics of the inlets, particularly those in the southern portion of the State (i.e., south of Cape Lookout). A dataset of between nine and 14 shorelines was used at each inlet for statistical trend analysis. The final analysis of Tubbs Inlet ultimately relied on a subset of five shorelines, which was chosen to eliminate bias related to the man-made alteration (i.e., wholesale movement) of the inlet in the early 1970s, although the preliminary work considered the full 11-shoreline dataset.

The spatial and temporal variability of each inlet was analyzed using two statistical calculations: 1) compute linear shoreline change rate using simple regression techniques, and 2) compute sample standard deviation of shoreline position. These methods were applied to this study at the request of DCM by Fisher and Overton (2004) using the following methods:

1. Digitize shoreline.
2. Extract coordinates of the intersection of the transects and shoreline outlined in Benton et al. (2004). These transects are approximately 90 degrees to the shoreline and are evenly spaced at 50 m (164 ft) intervals (although, in some cases, supplemental analyses were conducted using additional transects created to span current inlets, where transects previously had not been established, or to wrap around the throat of an inlet to account for non-parallel and/or radial shoreline morphologies).
3. Compute relative change in shoreline position along each transect. For example, let one of the endpoints of each transect be the reference point for measurement. Compute distance from this endpoint using the coordinates (Benton et al., 2004).
4. Create a spreadsheet with relative shoreline position, time and transect number.

5. Use the Microsoft Excel spreadsheet function SLOPE to compute the linear shoreline change rate (the y variable is relative position, the x variable is time) for each transect.
6. Plot shoreline change with respect to location (or transect).
7. Use the Microsoft Excel spreadsheet function STDEV to compute the sample standard deviation of shoreline position for each transect.
8. Plot standard deviation with respect to location (or transect).

Overton and Fisher (2004) provided a simple dataset to illustrate the techniques described above (see Tables 2.1 and 2.2). The tabulated data are plotted in Figures 2.1 and 2.2. The data for the first dataset (dataset A, Table 2.1) follow a linear trend with a shoreline change rate of 14.4 m/yr (47.2 ft/yr) and R^2 of 0.95 (Figure 2.1). The R^2 value is a correlation coefficient that indicates the strength and direction of a linear relationship between two random variables (in this case, shoreline location and time). A higher R^2 value (maximum value = 1) indicates a higher correlation. The standard deviation is the average shoreline change around the mean shoreline position. For dataset A (defined above), the standard deviation is 307 m (1,007 ft). Considering dataset B (Table 2.2), the shoreline positions are the same but occur at different points in time (Figure 2.2). Because the position data are the same, the standard deviation is the same for the datasets in both Table 2.1 and 2.2. However, the trend in shoreline rate of change (i.e., erosion rate) is quite different (Figure 2.2). The shoreline change rate for dataset B is 1.0 m/yr (3.3 ft/yr) with an R^2 of 0.005.

In addition to the method discussed above, which considers raw data only, spatial smoothing was applied to shoreline change rate data using a simple moving average or running mean technique described by Davis (1986). For shoreline segments consisting of at least five transects (250 m, 820 ft), a “smoothed” average was calculated for the five transects and positioned on the third. Standard deviation data were not smoothed. Figure 2.3 plots smoothed shoreline trend data and standard deviation data for each transect along the Ocean Isle Beach side of Shallotte Inlet (western shoulder of inlet) to illustrate where the transect used to anchor the IHA polygon was defined. The graphs for the statistical analysis calculated for each of the twelve developed inlets are presented in the appendix.

The difference in rate and standard error are important for determining trends and predicting future shoreline positions. However, the standard deviation provides a measure of variability in shoreline position around the mean, one indicator of vulnerability for the delineation of the Inlet Hazard Area. For this reason, the Science Panel considered both the shoreline rate of change (linearly regressed) and standard deviation of shoreline position to establish the point along the oceanfront shoreline where inlet-related hydrodynamics no longer dominate coastal processes. Primarily, this was defined by obvious breaks in slope of the lines generated for each of the two distinct statistical datasets. This point, once defined, anchored the oceanfront portion of the IHA. From this point, a suite of additional methodologies were considered to define the IHA polygon (see sections 2.2.2, 2.2.3, and 2.2.4).

2.2.2 Hybrid Shoreline

The hybrid shoreline represents the landward-most position of all the shorelines in each inlet-specific dataset. Establishing this line from historical datasets (i.e., during the past 60 to 70 years) is a proxy for the potential landward migration of the shoreline and related geomorphology (i.e., dry sand beach, primary and front dunes, first line of stable and natural vegetation, etc.) due to the impact of a major storm event or shoreline-migration trend related to inlet processes. The hybrid shoreline is designated as a point along each of the 50-m (164-ft) spaced, shore-perpendicular transects that were used for the shoreline statistics described above as well as the long-term annual erosion rate calculations used for setback determinations in the Ocean Erodible AEC adjacent to the IHA (Benton et al., 2004). Figure 2.4 illustrates how the hybrid shoreline is established at each transect. The hybrid shoreline was used in conjunction with measurements of maximum and average beach widths determined along each transect (discussed below).

2.2.3 Beach Width

Beach width was calculated for all shorelines used in this study that were defined using historical aerial orthophotos by defining the wet/dry line on the beach. The width of the beach was measured as the distance between the shoreline (wet/dry line) and the first line of stable, natural vegetation (vegetation line) for each transect (see Figure 2.5). As discussed in section 2.2.1, the transect locations were the same ones used by DCM for long-term erosion rate calculations (Benton et al., 2004). Transects are approximately 90 degrees (i.e., shore perpendicular) to the shoreline and are evenly spaced at 50 m intervals. In some cases, supplemental beach width analyses were conducted using additional transects created to span current inlets, where transects previously had not been established, or to wrap around the throat of an inlet to account for non-parallel and/or radial shoreline morphologies. A beach width was calculated for each transect for every set of historical aerial orthophotos in each inlet's dataset. Beach widths could not be established using NOS T-sheets (which only delineated shoreline) or LiDAR surveys (which only delineate MHW).

Maximum beach width was transect specific in that it was determined by taking the highest width through the comparison of the same transect from each aerial orthophoto in the dataset. For example, consider the illustrative dataset provided in Table 2.3 for a transect A, which is a fixed reference line and occurs in the same geographic location regardless of photo date. The beach width at transect A for a multi-photo dataset acquired in 1971, 1974, 1983, 1995, 1998, and 2004 provides a set of hypothetical values of 120 ft or 37 m (1971 photo), 145 ft or 44 m (1974 photo), 263 ft or 80 m (1983 photo), 299 ft or 91 m (1995 photo), 316 ft or 96 m (1998 photo), and 357 ft or 109 m (2004 photo) (see Table 2.3). The maximum beach width for transect A from this dataset is 357 ft or 109 m (2004 photo). An average beach width was also calculated at each transect wherein all widths were summed specific to that transect and a mean

value calculated. Using the same hypothetical dataset, the average value is defined as (120 ft + 145 ft + 263 ft + 299 ft + 316 ft + 357 ft = 1,500 ft or 457 m) divided by six observations, or (1,500 ft / 6) which equals 250 ft (76 m). Therefore, while the maximum beach width equals 357 ft (109 m) for transect A, the average beach width equals 250 ft (76 m). Both of these values were then plotted along each transect using GIS as a distance landward from the hybrid shoreline (see section 2.2.2) for each transect.

Time	Relative position
1940	1,000 m (3,280 ft)
1951	1,200 (3,937 ft)
1958	1,420 m (4,659 ft)
1965	1,376 m (4,511 ft)
1977	1,500 m (4,921 ft)
1986	1,800 m (5,906 ft)
1992	1,725 m (5,659 ft)
1998	1,900 m (6,234 ft)

Table 2.1. Sample shoreline dataset A (from Overton and Fisher, 2004).

Time	Relative position
1940	1,725 m (5,659 ft)
1951	1,376 m (4,511 ft)
1958	1,420 m (4,659 ft)
1965	1,200 m (3,937 ft)
1977	1,900 m (6,234 ft)
1986	1,800 m (5,906 ft)
1992	1,000 m (3,280 ft)
1998	1,500 m (4,921 ft)

Table 2.2. Sample shoreline dataset B (from Overton and Fisher, 2004).

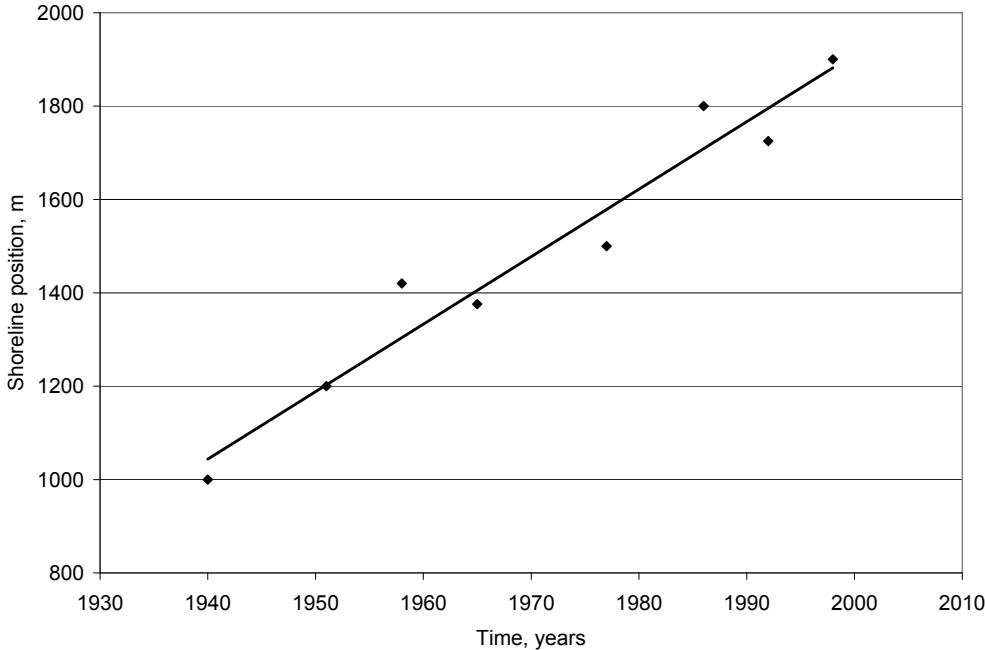


Figure 2.1. Shoreline position as a function of time (from Overton and Fisher, 2004).

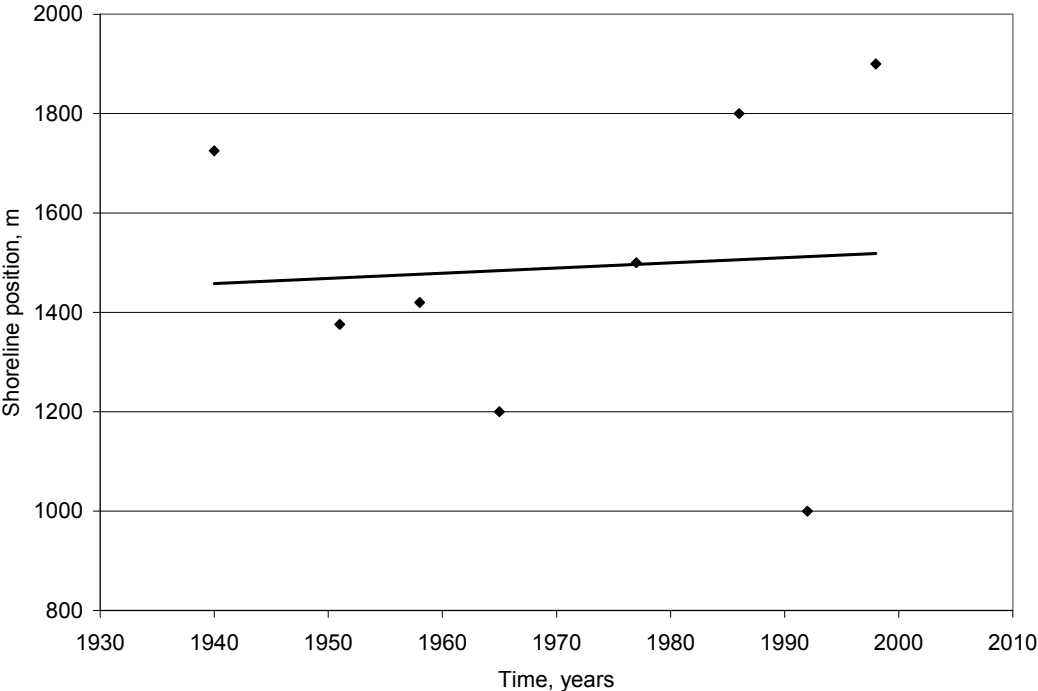


Figure 2.2. Shoreline position as a function of time (from Overton and Fisher, 2004).

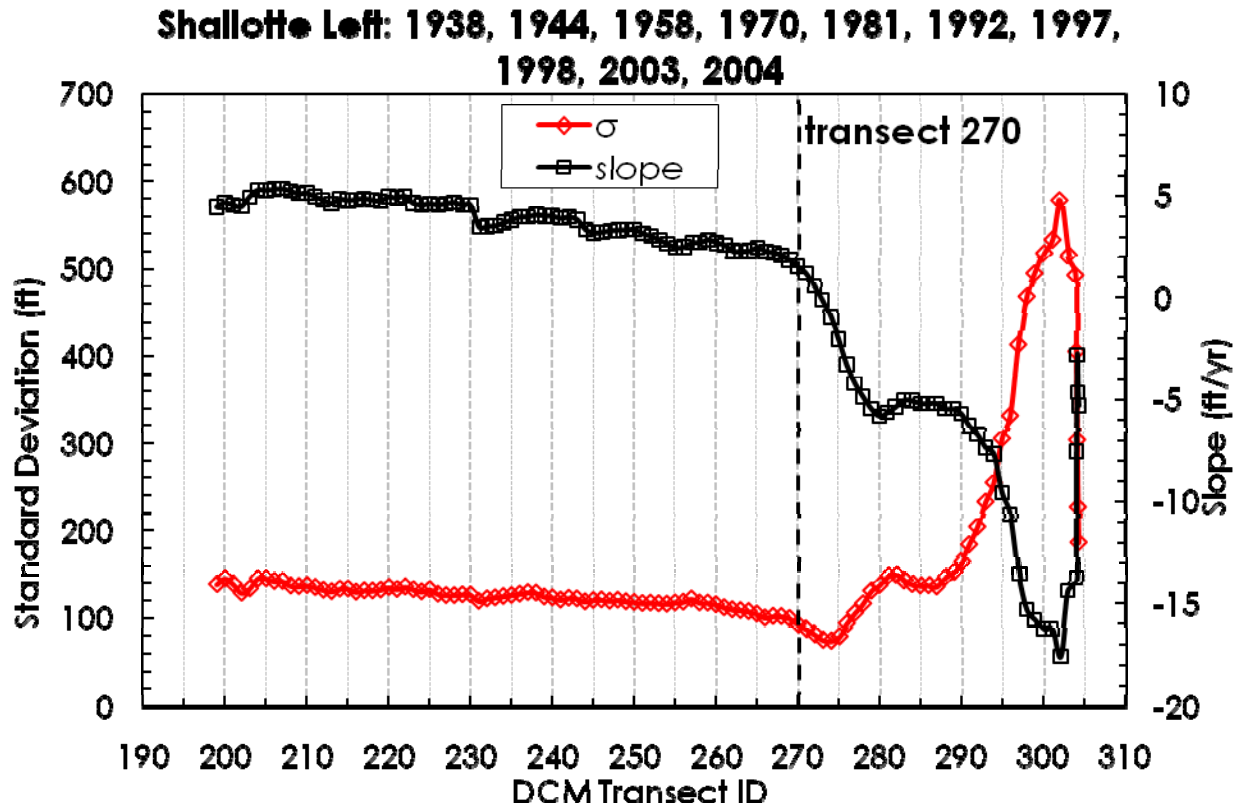


Figure 2.3. The linear regression of shoreline change rate (labeled as “slope”) defines the average rate of shoreline change for the dataset (10 shorelines spanning 1938 to 2004) at each transect. The slope data are plotted with a black line with squares superimposed, and the units for the slope data are reported in feet per year and are found on the right vertical axis. The standard deviation of shoreline position (labeled as “ σ ”) quantifies the extent of shoreline variation (i.e., back and forth movement) at each transect. The standard deviation data are plotted with a red line with diamonds superimposed, and the units for the standard deviation data are reported in feet and are found on the left vertical axis. The data along the horizontal axis (bottom) are unique transect ID numbers. Transect spacing is at 50 m (164 ft) intervals although the units in this graph are presented in feet. The graph is oriented with east being to the right, therefore, Shallotte Inlet is on the right hand side whereas the left hand side of the graph represents the central portion of the barrier island (the ocean can be visualized as being on the bottom portion of the graph). For this particular location, portions of the shoreline to the right of transect 270 (labeled) are dominated by inlet hydrodynamics, and portions of the shoreline to the left of transect 270 are dominated by oceanfront processes. Therefore, transect 270 is the anchor for the IHA polygon boundary. These

data, as well as similar graphs for each of the other 11 inlets studied, are included in the appendix of this report.

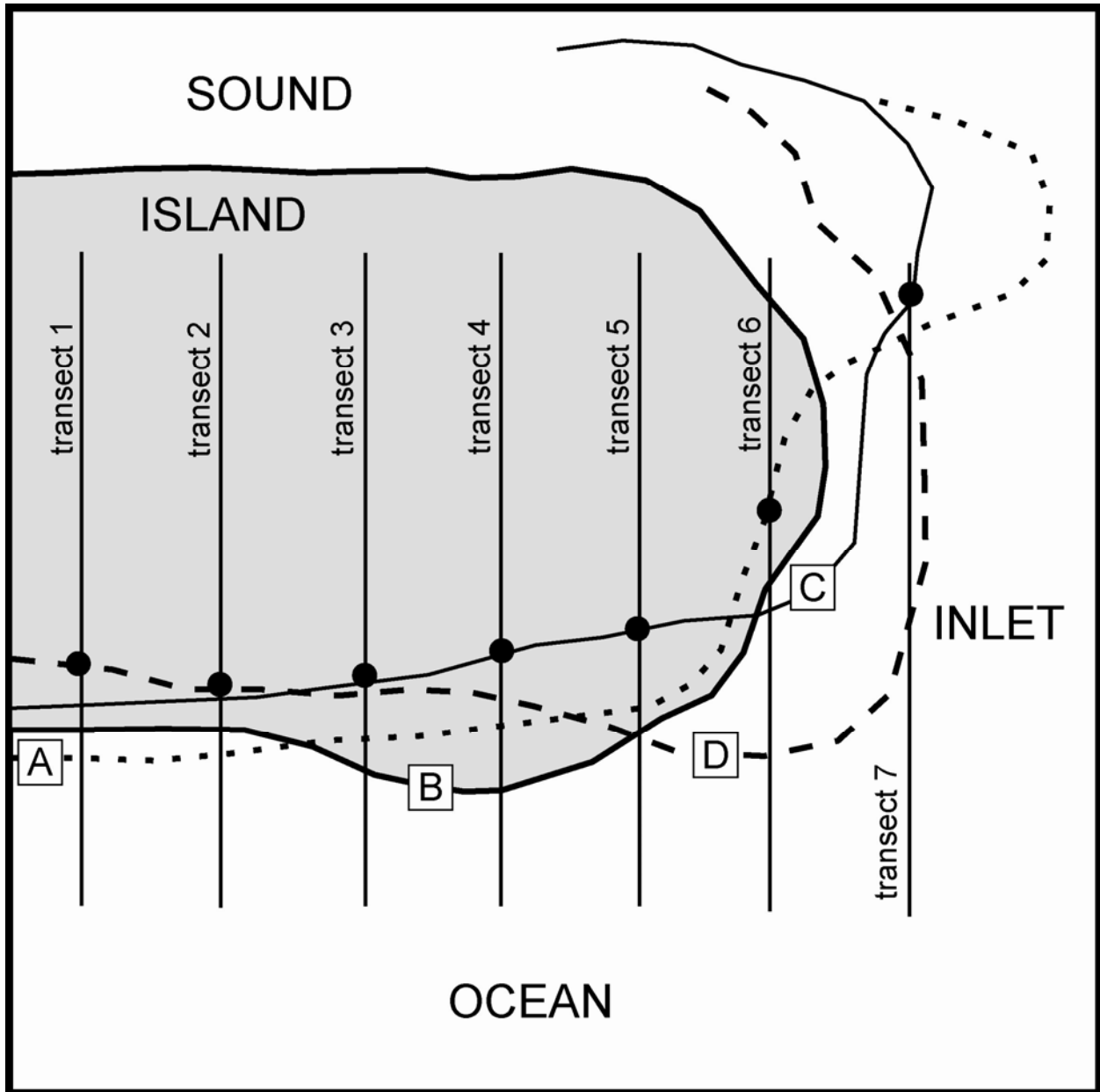


Figure 2.4. The establishment of a hybrid shoreline represented the landward position of all wet/dry shorelines in the dataset specific to each transect. Four shorelines are depicted here (labeled A through D) where B is the current shoreline and A, C, and D are historical. The black circles on transects 1 through 6 depict the landward most position of all shorelines in the dataset. In this example, the landward most shoreline at transect 1 is shoreline D, transect 2 is shoreline D, transect 3 is shoreline C, transect 4 is shoreline C, transect 5 is shoreline C, transect 6 is shoreline A, and transect 7 is shoreline C.

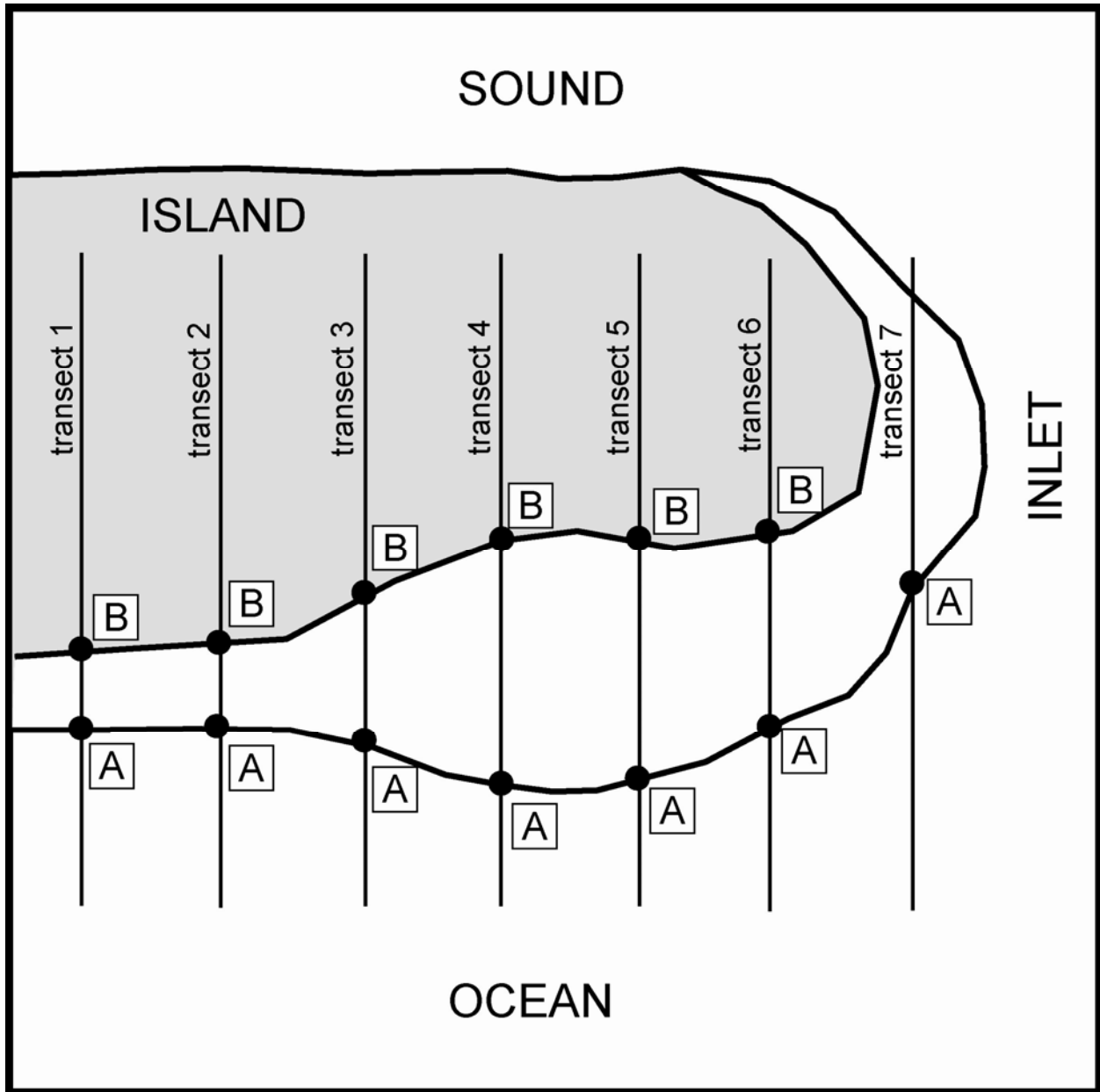


Figure 2.5. For this investigation, beach width was established on digital aerial orthophotos by determining the distance between the wet/dry shorelines and the vegetation line. In this example, the width is defined as the distance between points A and B at each transect. Where vegetation was not present at a transect (i.e., transect 7), width could not be determined. After a width was calculated for each transect in each orthophoto in the dataset, the widest beach width at a specific transect from all orthophotos established the maximum beach width at that transect for the photography dataset. All widths at each transect were then summed and a mean width calculated in order to establish the average beach width for that transect for the photography dataset. Beach widths could not be established using NOS T-sheets (which only delineated shoreline) or LiDAR surveys (which only delineate MHW).

Year	Beach Width
1971	37 m (120 ft)
1974	44 m (145 ft)
1983	80 m (263 ft)
1995	91 m (299 ft)
1998	96 m (316 ft)
2004	109 m (357 ft)

Table 2.3. Sample beach width dataset. In this example, the maximum beach width is 357 ft (109 m) and the average is 250 ft (76 m).

The results of this approach provide a general approximation of average and maximum beach conditions based on historical data at each transect by considering the landward-most shoreline position (hybrid shoreline), the average beach width at the same transect as measured landward of the hybrid shoreline, and the widest (maximum) beach width that occurred at said transect. Establishing beach width ranges from historical datasets (i.e., during the past 60 to 70 years) is a proxy for the potential response of coastal geomorphology (i.e., dry sand beach, primary and frontal dunes, first line of stable and natural vegetation, etc.) to a major storm event or shoreline migration trend related to inlet processes.

2.2.4 Geomorphology

In addition to considering hybrid shoreline locations and beach width relative to the hybrid shoreline on a transect-by-transect basis, the CRC Science Panel also considered geomorphological features at each inlet including paleo shorelines, dune ridges and other topography, ebb delta morphology, paleo river channels influencing inlet location, past inlet locations, inlet migration trends, meteorological (storms) forcing of shorelines and island morphology, as well as the underlying geology. An example of how geomorphological concepts were used in this investigation can be seen in Figure 2.6, which uses LiDAR-derived elevation data to show the topographic expression of geomorphic features such as dune ridges and paleo shorelines.

2.3 Summary of Methods used in this Investigation

Revised IHA boundaries are presented in this report for the State's 12 developed inlets: Tubbs, Shallotte, Lockwood Folly, Cape Fear River, Carolina Beach, Masonboro, Mason, Rich, New Topsail, New River, Bogue, and Beaufort. No boundary changes are

proposed for Brown's, Bear, Barden, Ocracoke, and Hatteras inlets, which were developed using the methods established by Priddy and Carraway (1978). No boundaries are proposed for Drum and Oregon inlets, which were excluded from the Priddy and Carraway (1978) study. The revised boundaries developed during this investigation rely on statistical analysis of shoreline change along the oceanfront shoreline (i.e., linearly regressed shoreline change rates and standard deviation of shoreline position) to establish the point along the shoreline, moving away from the inlet, where the inlet processes no longer dominate shoreline response. This point serves as the anchor for the proposed IHA boundary, which is defined on an inlet-by-inlet basis using a suite of methodologies, including the consideration of the hybrid shoreline, the average and maximum beach widths at each transect (as measured in a landward direction from the hybrid shoreline), and general considerations of geomorphology and other geological factors identified by the CRC Science Panel. In most cases, the transects used were those defined by Benton et al. (2004), although in specific cases, additional transects were considered in order to span inlets where transects did not exist or to follow radial shoreline trends along the shoulders of each inlet shoreline. DCM further refined the CRC Science Panel IHA boundaries, where appropriate, to follow geographic or other features such as lot lines, parcel boundaries, and roads to aid in the implementation of the IHA boundaries. A description of what methods were applied and where they were applied is presented in the following section (see section 3.0 Results).

3.0 RESULTS

3.1 Tubbs Inlet

BACKGROUND (*summarized from Cleary and Marden, 2001*)

- References to the inlet opening date at least as far back as 1856
- Migratory inlet (overall westward movement)
- Average rate of movement (westward) between 50 and 65 ft (15 to 20 m) per year between 1865 and 1970
- Relocated by private interests in January 1970 (approximately 3,000 ft or 914 m eastward) shifted migration from westward to an eastward trend (dredging of lagoon channels, principally Jinks Creek, presumed to have altered hydrodynamics)
- Shoaling in Jinks Channel behind Ocean Isle Beach could shift current migration back to west
- Relocation of inlet (1970) and potential effect(s) of dual jetty system installed at Little River Inlet, SC (approximately four mi or six km to the west) makes this a complex inlet

BOUNDARY SUMMARY

LEFT SIDE OF INLET (Sunset Beach)

Shorelines analyzed (5): 1981, 1992, 1998, 2003, 2004

- Original IHA boundary @ DCM transect 93
- Proposed IHA boundary @ DCM transect 92 (IHA boundary movement 165 ft or 50 m west)

Based on analysis of statistical shoreline trends and man-made interference with inlet processes (the inlet was relocated in 1970), the CRC Science Panel determined that the behavior of Tubbs Inlet is complex. Statistical shoreline trend analysis (standard deviation of shoreline position and average rate of shoreline change) excluded pre-1971 shorelines in order to identify the effect of inlet relocation on the Sunset Beach shoreline (down-drift from pre-project inlet migration trend). Consideration was given to the existing IHA boundary (Priddy and Carraway, 1978) and the complex nature of the inlet's recent history. In addition, the location of the 1970 shoreline (aerial orthophoto), which runs diagonally from the back-barrier lagoon near the intersection of Canal St. and Cobia St. to DCM transect 92, was used to help modify the western (left) boundary of the existing IHA (i.e., the inlet had occupied that location in the past and potentially could occupy that position in the future). Man-made landmarks (e.g., existing streets and parcel lines) were taken into consideration by DCM staff to refine the proposed IHA boundary. Therefore, in locations where the proposed IHA boundary (1970 shoreline) crossed any portion of a parcel, the entire parcel was included. Refer to Figure 3.1 for

proposed IHA boundary. Additional data figures for this inlet are included in the appendix.

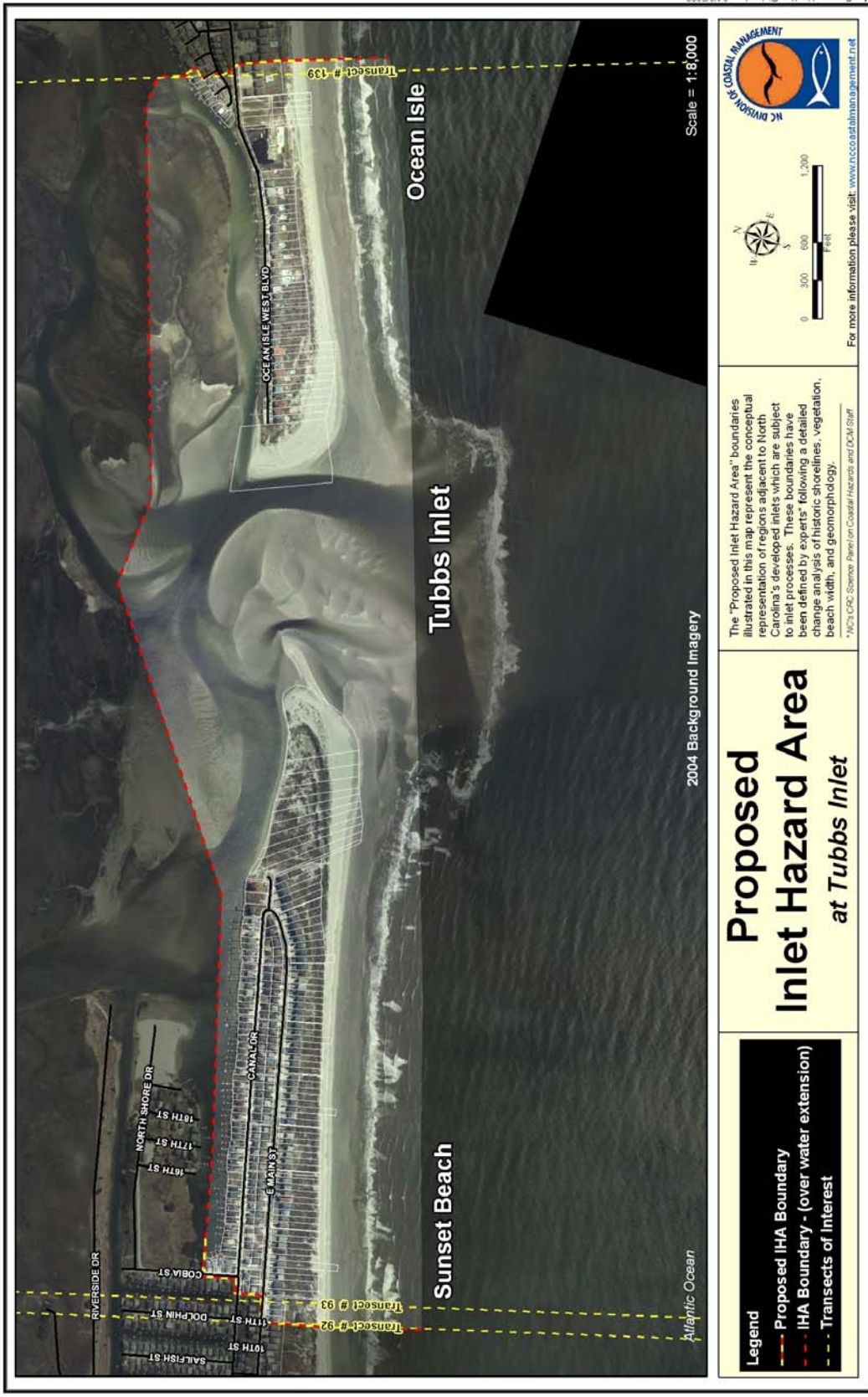
RIGHT SIDE OF INLET (Ocean Isle Beach)

Shorelines analyzed (5): 1938, 1944, 1954, 1961, 1970

- Original IHA boundary @ DCM transect 139
- Proposed IHA boundary @ DCM transect 139 (no movement of IHA boundary)

Based on analysis of statistical shoreline trends and man-made interference with inlet processes, the CRC Science Panel defined the behavior of Tubbs Inlet as complex. Statistical shoreline trend analysis (standard deviation of shoreline position and average rate of shoreline change) excluded post-1970 shorelines in order to identify the natural shoreline trends on Ocean Isle (up-drift from pre-project inlet migration trend) prior to the inlet relocation. Consideration was given to the existing IHA boundary (Priddy and Carraway, 1978) and the complex nature of the inlet's recent history. Man-made landmarks (e.g., existing streets and parcel lines) were taken into consideration by DCM staff to refine the proposed IHA boundary. Therefore, in locations where the current IHA boundary (which is also the proposed boundary) crossed any portion of a parcel, the entire parcel was included. Refer to Figure 3.1 for proposed IHA boundary. Additional data figures for this inlet are included in the appendix.

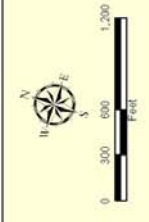
Figure 3.1. Proposed IHA boundary for Tubbs Inlet.



Scale = 1:8,000

2004 Background Imagery

Atlantic Ocean



For more information please visit: www.nccoastalmanagement.net

The "Proposed Inlet Hazard Area" boundaries illustrated in this map represent the conceptual representation of regions adjacent to North Carolina's developed inlets which are subject to inlet processes. These boundaries have been defined by experts* following a detailed change analysis of historic shorelines, vegetation, beach width, and geomorphology.

*NCEM CRC Science Panel on Coastal Hazards and DDM Staff

Proposed Inlet Hazard Area at Tubbs Inlet

- Legend**
- Proposed IHA Boundary
 - IHA Boundary - (over water extension)
 - - - - - Transects of Interest

3.2 Shallotte Inlet

BACKGROUND *(summarized from Cleary and Marden, 2001)*

- Inlet in existence for at least the past 300 years
- Oscillatory inlet
- When the ebb channel shifts orientation toward Holden Beach, the updrift shoulder of Ocean Isle experiences erosion (and vice versa)
- Bulbous shape of Holden Beach shoreline present since 1974. If ebb channel becomes more westerly then this accreted sand will erode. Ocean Isle had the same bulbous shape between 1938 and 1958 before the ebb channel shifted and caused erosion at the eastern end of Ocean Isle. If the ebb channel once again re-orientes itself towards Ocean Isle, the bulbous shape will return (and the Holden Beach side will erode).

BOUNDARY SUMMARY

LEFT SIDE OF INLET (Ocean Isle Beach)

Shorelines analyzed (10): 1938, 1944, 1958, 1970, 1981, 1992, 1997, 1998, 2003, 2004

- Original IHA boundary @ DCM transect 289
- Proposed IHA boundary @ DCM transect 270 (IHA boundary movement 3,135 ft or 950 m west)

Proposed IHA boundaries were delineated based on statistical shoreline trends, maximum historical beach width (as measured landward from the hybrid shoreline), width of the Ocean Erodible Area (OEA), recent stable vegetation, inlet processes, and geomorphology. Statistical shoreline analysis (standard deviation of shoreline position and average rate of shoreline change) identified transect 270 as the point along the oceanfront where inlet processes were no longer dominant. Although maximum historical beach width decreased towards the inlet, the width of the OEA (measured landward from the vegetation line delineated on 2006 digital aerial orthophotos) remained both constant and shore parallel. In addition, the low elevation along this portion of the island, coupled with the fact that inlet-related hazards increase toward the inlet, also justified that the IHA should not become narrower as the transects approach the inlet. Therefore, the proposed IHA follows the 2006 OEA boundary to transect 282. At transect 282, the most current long-term oceanfront erosion rates (calculated from 1998 aerial orthophotos) increased to 4.5 ft (1.4 m) per year, and, in turn, the OEA width increased to 570 ft (174 m). The proposed IHA boundary followed the OEA boundary between transect 282 and 285 where, at Shallotte Boulevard, it turns shore perpendicular and crosses the barrier island to the back-barrier lagoon. Man-made

landmarks (e.g., existing streets and parcel lines) were taken into consideration by DCM staff to refine the proposed IHA boundary. Therefore, in locations where the proposed IHA boundary (including those tied to shore-perpendicular measurement transects) crossed any portion of a parcel, the entire parcel was included. Refer to Figure 3.2 for proposed IHA boundary. Additional data figures for this inlet are included in the appendix.

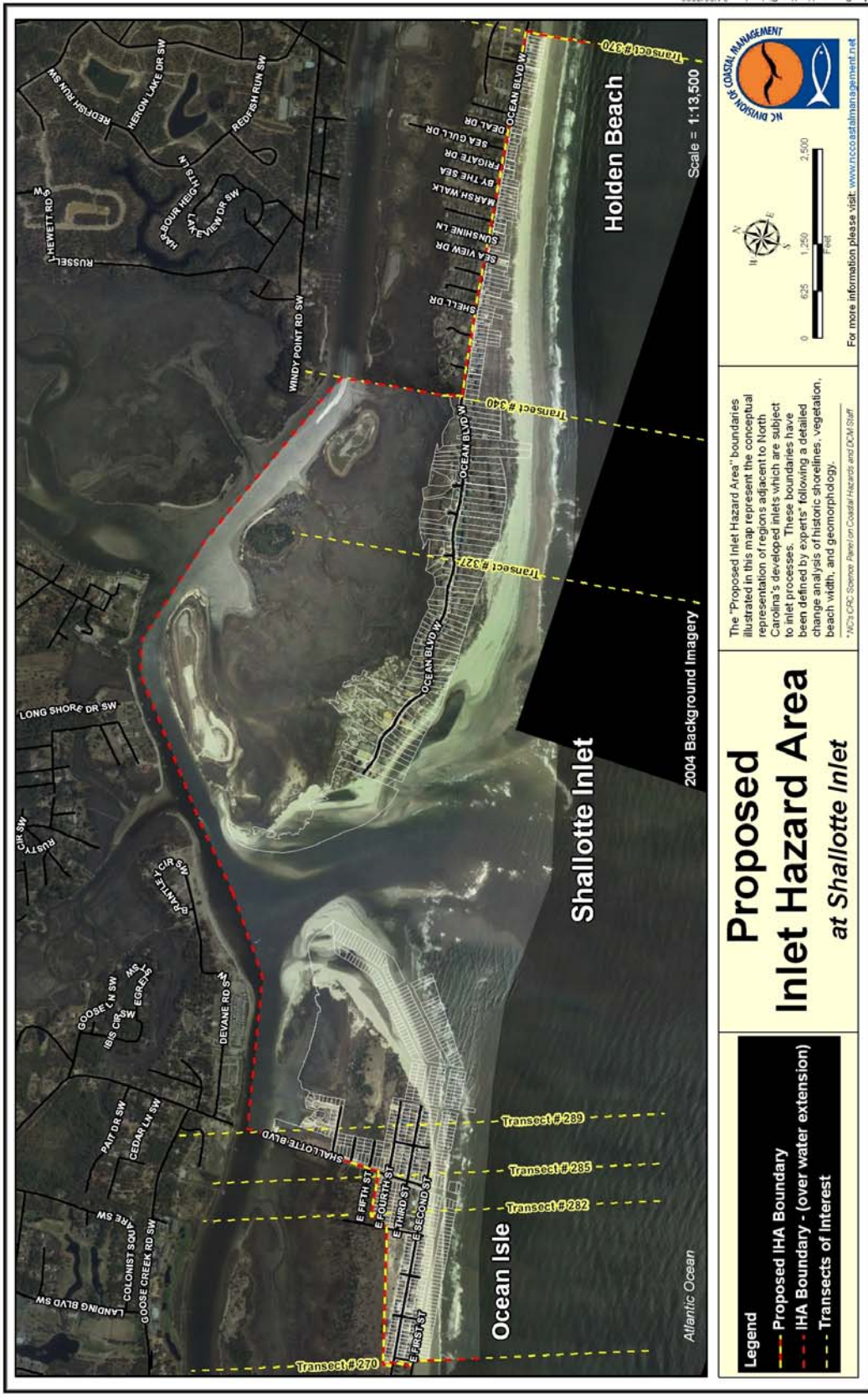
RIGHT SIDE OF INLET (Holden Beach)

Shorelines analyzed (10): 1938, 1944, 1958, 1970, 1981, 1992, 1997, 1998, 2003, 2004

- Original IHA boundary @ DCM transect 327
- Proposed IHA boundary @ DCM transect 370 (IHA boundary movement 7,095 ft or 2,150 m east)

Proposed IHA boundaries were delineated based on statistical shoreline trends, maximum historical beach width (as measured landward from the hybrid shoreline), historical storm-induced inlet shorelines, inlet processes, and geomorphology. Statistical shoreline analysis (standard deviation of shoreline position and average rate of shoreline change) identified transect 370 as the point along the oceanfront where inlet processes were no longer dominant. In addition, transect 370 was the approximate site where Hurricane Hazel caused severe overwash and breached the island. Maximum historical beach width was used between transects 370 and 340 at which point the island narrowed and the proposed shore parallel IHA boundary intersected the back-barrier lagoonal wetlands. Man-made landmarks (e.g., existing streets and parcel lines) were taken into consideration by DCM staff to refine the proposed IHA boundary. In locations where the proposed IHA boundary crossed any portion of a parcel, the entire parcel was included with one exception. One parcel along the back-barrier estuarine shoreline just east of transect 340 was not included because the maximum beach width line cut across only a few feet of a portion of the parcel line along Ocean Boulevard. The adjacent parcel (immediately to the west) was included because the historical maximum beach width included more than 50% of the parcel inside the proposed IHA boundary. Refer to Figure 3.2 for proposed IHA boundary. Additional data figures for this inlet are included in the appendix.

Figure 3.2. Proposed IHA boundary for Shallotte Inlet.



3.3 Lockwood Folly Inlet

BACKGROUND *(summarized from Cleary and Marden, 2001)*

- Inlet in existence since at least 1672
- Oscillatory inlet
- Geographic position of the inlet is relatively unchanged since 1938 although ebb channel position and orientation has experienced significant change
- Midpoint of the channel has migrated approximately 500 ft (152 m) east since 1938

BOUNDARY SUMMARY

LEFT SIDE OF INLET (Holden Beach)

Shorelines analyzed (12): 1933, 1938, 1944, 1958, 1970, 1971, 1978, 1988, 1997, 1998, 2003, 2004

- Original IHA boundary @ DCM transect 552
- Proposed IHA boundary @ DCM transect 530 (IHA boundary movement 3,630 ft or 1,100 m west)

Proposed IHA boundaries were delineated based on statistical shoreline trends, maximum historical maximum beach width (as measured landward from the hybrid shoreline), inlet processes, and geomorphology. Statistical shoreline analysis (standard deviation of shoreline position and average rate of shoreline change) identified transect 530 as the point along the oceanfront where inlet processes were no longer dominant. Between transects 530 and 538, the proposed IHA boundary followed the line of maximum historical beach width. At transect 538, the base of numerous parabolic dunes was mapped (generally between the 11 and 15 ft, or three and five m, contours) to define the remaining boundary that eventually is projected shore perpendicular back to the AIWW. These dunes are not relict beach ridges (i.e., shoreline related) but rather eolian in nature and indicate relative stability compared to the adjacent shoreline. Man-made landmarks (e.g., existing streets and parcel lines) were taken into consideration by DCM staff to refine the proposed IHA boundary. Therefore, the topographic trend of the dunes follows McCray Street to where it intersects Ocean Blvd East, cuts shore parallel along parcel boundaries to Serenity Lane and eventually turns shore perpendicular along a parcel boundary to intersect the AIWW. Refer to Figure 3.3 for proposed IHA boundary. Additional data figures for this inlet are included in the appendix.

RIGHT SIDE OF INLET (Oak Island)

Shorelines analyzed (12): 1933, 1938, 1944, 1958, 1970, 1971, 1978, 1988, 1997, 1998, 2003, 2004

- Original IHA boundary @ DCM transect 588
- Proposed IHA boundary @ DCM transect 605 (IHA boundary movement 2,805 ft or 850 m east)

Proposed IHA boundaries were delineated based on statistical shoreline trends, maximum historical beach width (as measured landward from the hybrid shoreline), inlet processes, and geomorphology. Statistical shoreline analysis (standard deviation of shoreline position and average rate of shoreline change) identified transect 605 as the point along the oceanfront where inlet processes were no longer dominant. Maximum historical maximum beach width encompassed the majority of the island toward the inlet (west) from transect 605 to approximately 66th Place West. The thin, bar-like nature of the entire western end of Oak Island, added to the fact that the proposed IHA is adjacent to the location of the inlet breach during Hurricane Hazel (1954), justified the inclusion of the entire barrier island within the proposed IHA from transect 605 westward to the inlet. Man-made landmarks (e.g., existing streets and parcel lines) were taken into consideration by DCM staff to refine the proposed IHA boundary. Refer to Figure 3.3 for proposed IHA boundary. Additional data figures for this inlet are included in the appendix.

Figure 3.3. Proposed IHA boundary for Lockwood Folly Inlet.



3.4 Cape Fear Inlet

BACKGROUND *(summarized from Cleary and Marden, 2001)*

- Largest inlet system in southeastern North Carolina
- Dredging of the river and estuary began in 1829 with modifications in 1871 (channel dimensions increased to 12 ft or four m deep and 100 ft or 30 m wide)
- Inlet has been modified for commercial traffic to the NC State Port in Wilmington City and continues to be maintained by the USACE
- Entrance channel to the Cape Fear River progressively deepened, widened and re-oriented since late 1800s to its current depth of 44 ft \pm two ft (13 m \pm one m) and approximate width of 600 ft or 183 m (current data provided by USACE)
- Increased volume of the navigation channel in the Cape Fear River from dredging has increased the tidal prism (volume of water exchanged during flood and ebb tides) but there is a net loss in the ebb tidal delta sediments (even though larger tidal prisms usually correlate to larger tidal deltas)
- Between 1855 and 1962, the South Beach (Bald Head Island) shoreline has accreted between 1,800 ft or 549 m (western portion) and 2,400 ft or 732 m (central portion). Since 1962, South Beach has experienced chronic erosion due to a lack of sand bypassing and the continued reconfiguration of the flood tidal channel.

BOUNDARY SUMMARY

LEFT SIDE OF INLET (Oak Island, Town of Caswell Beach)

Shorelines analyzed (14): 1944, 1970, 1971, 1973, 1974, 1977, 1984, 1992, 1995, 1997, 1998, 2000, 2003, 2004

- Original IHA boundary @ DCM transect 970
- Proposed IHA boundary @ DCM transect 901 (IHA boundary movement 11,385 ft or 3,450 m west)

Proposed IHA boundaries were delineated based on statistical shoreline trends, average historical beach width (as measured landward from the hybrid shoreline), inlet processes, and geomorphology. The western boundary of the proposed IHA (transect 901), although coincident with the siphon channel associated with the Brunswick Nuclear Power Plant located on the mainland, is related to numerous geomorphologic features: 1) a subsurface shore-perpendicular geologic ridge, 2) the low elevation of the island related to the paleo delta of the Elizabeth River, 3) the undulate nature of the shoreline and 4) the location where the edge of the ebb tidal delta welds to the shoreline. It was noted by the CRC Science Panel that the statistical shoreline trends were complex with no major shift in standard deviation of shoreline position. (Data analysis included, and omitted, shorelines from 2003 and 2004 in order to understand the effect of the 2001 beach fill project on the shoreline positions. It was concluded that

there was no significant shoreline effect from these beach fill projects.) Although the average shoreline rate-of-change increased dramatically at transect 901, the eastern boundary of the proposed IHA was defined primarily by expert knowledge of the island's geomorphology (see the four specific factors identified above). From transect 901 toward the inlet, the majority of the proposed IHA boundary was based on maximum historical beach width up to transect 956 (approximate entrance to Ft. Caswell) and then followed topography (ridge of frontal and primary dunes) around Ft. Caswell. Areas along the back-barrier portion of the island along the Cape Fear River with a potential for inlet-related spit development were also included in the proposed IHA boundary. Man-made landmarks (e.g., existing streets and parcel lines) were taken into consideration by DCM staff to refine the proposed IHA boundary. Therefore, the parcels along the oceanfront were included in their entirety. Refer to Figure 3.4 for proposed IHA boundary. Additional data figures for this inlet are included in the appendix.

RIGHT SIDE OF INLET (Bald Head Island)

Shorelines analyzed (14): 1944, 1970, 1971, 1973, 1974, 1977, 1984, 1992, 1995, 1997, 1998, 2000, 2003, 2004

- Original IHA boundary @ DCM transect 998
- Proposed IHA boundary @ DCM transect 1025 (IHA boundary movement 4,455 ft east)

Proposed IHA boundaries were delineated based on statistical shoreline trends, average historical beach widths (as measured landward from the hybrid shoreline), inlet processes, and geomorphology. This inlet complex is the largest in the State (e.g., the ebb delta of the Cape Fear River Inlet contains hundreds of millions of cubic yards of sediment) and operates on longer-term cycles (100 to 200 years) than the other inlets (decadal). Statistical shoreline analysis (standard deviation of shoreline position and average rate of shoreline change) identified transect 1025 as the point along the oceanfront (South Beach) where the processes affecting the shoreline transition from inlet-dominated to being influence more by processes associated with Cape Fear. In addition to this eastern boundary position along South Beach, a northern boundary was also defined as the tidal creek (Bald Head Creek). Although transects did not extend along west beach parallel to the Cape Fear River, the CRC Science Panel identified the western shoreline of the river (West Beach) and the sand spit on which the marina sits as being heavily influenced by inlet-related processes. This particular IHA boundary is defined currently in 15A NCAC 07H.0304(3) as not extending northeast of the Bald Head Island marina entrance channel. This was done, in part, due to the groin field that existed north of the marina entrance. However, similar to the CRC Science Panel recommendations, the Priddy and Carraway (1978) report also used Bald Head Creek as its recommended IHA boundary. Inclusion of inlet-related sand spits has been consistent for all twelve of the proposed IHAs presented in this report.

Historically, net shoreline accretion occurred (primarily on West Beach) in the early 1900s followed by a trend reversal in the 1920s. This net erosion was related to the collapse (i.e., redistribution and/or removal) of nearshore shoal systems. The western portion of South Beach (Bald Head Island) has experienced erosion since the 1960s at least in part due to the USACE dredging projects associated with the Cape Fear River (Military Operations Terminal Sunny Point and the State's Port of Wilmington). The long-term (approximately 50 to 60 years) average erosion rates referenced in 15A NCAC 07H.0304(1)(a) for the western portion of South Beach are between two and eight feet per year for the oceanfront within the proposed IHA, while the more robust dataset used for this investigation produces erosion rates between two and in excess of 15 feet per year. Not coincidentally, the island's terminal groin field (installed under a CRC variance in the 1990s and reconstructed in 2004) was placed along the higher erosion rate "hot spots" along western-most South Beach and southern-most West Beach in an effort to mitigate the erosion hazard.

Owing to the magnitude of the inlet and inlet-related processes on Bald Head Island, both recent and historic, the CRC Science Panel felt that historical maximum beach width methods used on the other inlets did not provide a large enough IHA, especially along South Beach. Instead, the ridgeline across the middle of the island (easily observed in 1978 color infrared aerial photos as well as 1998 and 2003 NC Floodplain Mapping topographic data) became the preferred boundary for the majority of the IHA. The CRC Science Panel felt determined that the proposed boundary on Bald Head Island is applicable due to the magnitude of the inlet size, its processes and the extensive area affected by these processes, and that it represented the location of the 1855 shoreline. Oceanward of the 1855 shoreline is accreted sand related to USACE-engineered dredging projects, which is vulnerable to inlet-related erosion (such as what happened in the 1920s shoal collapse).

The CRC Science Panel noted that the width of their proposed Bald Head Island IHA boundary, although based on historical inlet accretion trends and resultant geomorphology (i.e., the topographic high of the paleo dune ridge), was extreme and that, because of its large area, development inside of this boundary was not exposed to the same degree of risk. For example, the portion of the golf course and its support facilities contained within the majority of the proposed IHA may not need to be governed with the same restrictions as the other, smaller IHAs within this report due to its more landward location. Although the CRC Science Panel continued to support their initial boundary recommendation, DCM staff developed an alternative IHA boundary proposal that used a combination of the CRC Science Panel's boundary coupled with linear regressed erosion rates generated during the course of this investigation. These shoreline trends (i.e., erosion rates) were multiplied by a setback factor of 90, which is consistent with the maximum setback factor adopted by the CRC in September 2008. The resulting distance was then measured landward from the Village's current static vegetation line from transect 1025 westward to transect 1001, at which point it intersected the Science Panel's geomorphological line. The proposed IHA boundary follows this line east until it intersects with the existing IHA boundary (Priddy and Carraway, 1978) near the intersection of Green Teal Trail and West Bald Head Wynd. Where the existing IHA boundary approaches the intersection of Marina Wynd and

Keelson Row, the proposed boundary turns shore perpendicular (i.e., perpendicular to West Beach) and heads due west toward the Cape Fear River Inlet. As with all other inlet boundary proposals in this report, man-made landmarks (e.g., existing streets and parcel lines) were taken into consideration by DCM staff to refine the recommended IHA boundary. This DCM-amended IHA boundary, as described above, was presented to the CRC in November 2008 and subsequently approved by the CRC for inclusion in this report (Warren, 2008). Refer to Figure 3.5 for proposed IHA boundary. Additional data figures for this inlet are included in the appendix.

Figure 3.4. Proposed IHA boundary for the western side (Caswell Beach, Oak Island) of Cape Fear River Inlet.



For more information please visit: www.nccoastalmanagement.net

The "Proposed Inlet Hazard Area" boundaries illustrated in this map represent the conceptual representation of regions adjacent to North Carolina's developed inlets which are subject to inlet processes. These boundaries have been defined by experts* following a detailed change analysis of historic shorelines, vegetation, beach width, and geomorphology.

*NCEM, CRC, Science Panel on Coastal Hazards and DDM Staff

Figure 3.5. Proposed IHA boundary for the eastern side (Bald Head Island) of Cape Fear River Inlet.



3.5 Carolina Beach Inlet

BACKGROUND (*summarized from Cleary and Marden, 2001*)

- Opened by private interests in 1952
- Width of inlet varied as it reached equilibrium (a process disrupted by numerous storms between 1954 and 1962): 380 ft or 116 m (1966); 1,400 ft or 427 m (1985); 660 ft or 201 m (1999)
- High erosion rates occurred along Pleasure Island (Carolina Beach) and Masonboro Island in response to the opening of the inlet

BOUNDARY SUMMARY

LEFT SIDE OF INLET (Pleasure Island, Carolina Beach)

Shorelines analyzed (11): 1933, 1971, 1973, 1974, 1977, 1984, 1992, 1997, 1998, 2003, 2004

- Original IHA boundary @ DCM transect 1623
- Proposed IHA boundary @ DCM transect 1575 (IHA boundary movement 7,920 ft or 2,400 m south)

Proposed IHA boundaries were delineated based on statistical shoreline trends, maximum historical beach widths (as measured landward from the hybrid shoreline), inlet processes, and geomorphology. Statistical shoreline analysis along the northeastern-most portion of Pleasure Island (Carolina Beach) is complex due to 1) numerous historical and recent beach fill projects and 2) the lapse in large-scale beach fill projects during the 1970s and 1980s. The highest erosion rates in this area occurred at the end of Canal Drive during the period without large-scale beach fill maintenance. In addition, a rock (rip-rap) revetment (wall) was emplaced in 1970 and 1972 (the south end of this wall is near transect 1584). Therefore, although statistical shoreline analysis (standard deviation of shoreline position and average rate of shoreline change) was completed and reviewed, the proposed southern IHA boundary primarily was chosen based on the following factors: 1) erosion rates associated with the location of a historical inlet (opened in 1954 just south of the Carolina Beach Fishing Pier but within the proposed IHA), 2) the existence of the rock revetment (and its effect on the adjacent shoreline), 3) the effect of the numerous large-scale beach fill projects and their effect on the adjacent shoreline and 4) the location of the naturally vegetated dunes relative to those constructed and planted (which were washed out during Hurricane Hazel in 1954).

Between transects 1575 and 1583, the CRC Science Panel determined that the historical average beach width was not wide enough (oceanward of Carolina Beach Avenue) but the historical maximum beach width was too wide (landward of Carolina Beach Avenue). Therefore, the boundary was defined by Carolina Beach Avenue,

which incorporated no more than the oceanfront lots (a compromise between average and maximum historical beach widths. At transect 1583, the use of historical maximum beach width and the low-lying nature of the topography defined the boundary towards the estuary (west) and the Carolina Beach Yacht Basin. Man-made landmarks (e.g., existing streets and parcel lines) were taken into consideration by DCM staff to refine the proposed IHA boundary. Refer to Figure 3.6 for proposed IHA boundary. Additional data figures for this inlet are included in the appendix.

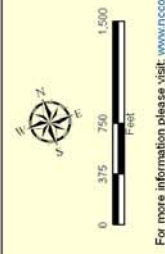
RIGHT SIDE OF INLET (Masonboro Island, North Carolina Coastal Reserve)

Shorelines analyzed (11): 1933, 1971, 1973, 1974, 1977, 1984, 1992, 1997, 1998, 2003, 2004

- Original IHA boundary @ DCM transect 1658
- Proposed IHA boundary @ DCM transect 2023 (IHA boundary movement 60,225 ft or 11.4 mi (18,357 m or 18.3 km) north to include Masonboro Island in its entirety, Masonboro Inlet and the southern-most portion of Wrightsville Beach)

Masonboro Island is heavily influenced by both Carolina Beach Inlet as well as Masonboro Inlet. Based on the narrow and low-lying topography of the island (e.g., extensive overwash, 1954 breach during Hurricane Hazel near transect 1700), its offshore geology, and the southern jetty at adjacent Masonboro Inlet (constructed in 1981), it was proposed that the Carolina Beach Inlet IHA include Masonboro Island in its entirety. The location of the southern jetty at Masonboro Inlet, while having a net gain of sand within the groin fillet (a positive effect at the inlet), has caused an erosional bight along the island (a negative effect along the Masonboro shoreline). This convex bight is also controlled by offshore sandstones (the shoreline “bump” observed northward of transect 1716) that, if removed from the shoreface, could create a convex shoreline and change the planform of the island. A planform change could also be expected if the southern jetty at Masonboro Inlet was removed or failed (the island is expected to rotate counterclockwise as it has adjusted to regain equilibrium conditions). Therefore, the proposed Carolina Beach/Masonboro IHA extends to Wrightsville Beach (the northern proposed IHA boundary of Masonboro Inlet). Refer to Figure 3.7 for proposed IHA boundary. Additional data figures for this inlet are included in the appendix.

Figure 3.6. Proposed IHA boundary for the southwestern side (Carolina Beach) of Carolina Beach Inlet.



For more information please visit: www.nccostalmanagement.net

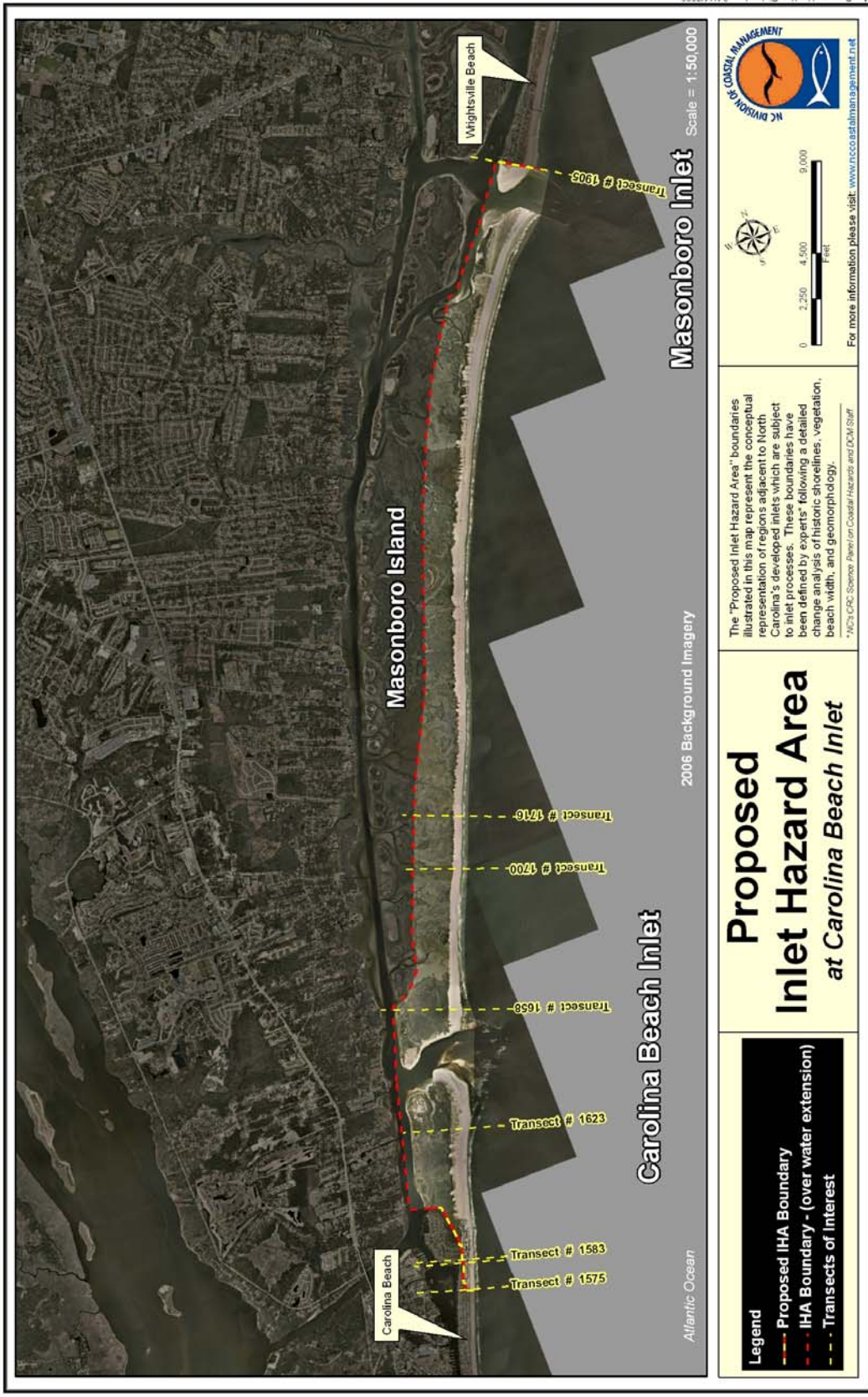
The "Proposed Inlet Hazard Area" boundaries illustrated in this map represent the conceptual representation of regions adjacent to North Carolina's developed inlets which are subject to inlet processes. These boundaries have been defined by experts following a detailed change analysis of historic shorelines, vegetation, beach width, and geomorphology.

*NCH, CRC, Science Panel on Coastal Hazards and DCM Staff

Proposed Inlet Hazard Area at Carolina Beach Inlet

- Legend**
- Proposed IHA Boundary
 - - - IHA Boundary - (over water extension)
 - - - Transects of Interest

Figure 3.7. Proposed IHA boundary for the area spanning Carolina Beach Inlet and Masonboro Inlet.



3.6 Masonboro Inlet

BACKGROUND (*summarized from Cleary and Marden, 2001*)

- Historical charts from 1733 first document the inlet, which opened in the early 1700s two km (6.562 ft) north of its present location
- Fifteen years after the completion of the Atlantic Intracoastal Waterway (AIWW) in 1932, the inlet's channel was relocated at the southern end of the barrier spit extending northward from Masonboro Island (designed to mitigate erosion to Wrightsville Beach)
- The northern jetty was completed in June 1966 with a weir to allow sand bypassing into the inlet
- The southern jetty was completed in April 1981
- A comparison of 1964 and 1985 bathymetry indicates an increased ebb-tidal delta volume from 6.2 million cubic meters or 8.1 million cubic yards to 9.4 million cubic meters or 12.3 million cubic yards (changes to depths of 20 ft or six m)
- Jetty construction and the consequent enlarged tidal prism have increased sediment entrapment where little or no sediment bypasses naturally (some material is transported over weir of the northern jetty into inlet)

BOUNDARY SUMMARY

LEFT SIDE OF INLET (Masonboro Island, North Carolina Coastal Reserve)

Shorelines analyzed (12): 1933, 1973, 1974, 1977, 1984, 1992, 1995, 1997, 1998, 2000, 2003, 2004

- No original IHA boundary designated due to northern jetty (constructed in 1965) and the southern jetty (proposed when IHA report published in 1978 but not constructed until 1981)
- Proposed IHA boundary @ DCM transect 1575 (includes southern-most portion of Wrightsville Beach, Masonboro Island in its entirety and extends across Carolina Beach Inlet into the southern-most portion of Carolina Beach)

Masonboro Island is heavily influenced by both Carolina Beach Inlet as well as Masonboro Inlet. Based on the narrow and low-lying topography of the island (e.g., extensive overwash, 1954 breach during Hurricane Hazel around transect 1700), its offshore geology, the southern jetty at adjacent Masonboro Inlet, inlet processes, and island geomorphology, it was proposed that the Masonboro Inlet IHA include Masonboro Island in its entirety. The location of the inlet's southern jetty (constructed in 1981), while having a net gain of sand within the groin fillet (a positive effect at the inlet), has caused an erosional bight along the island (a negative effect along the Masonboro shoreline). This convex bight is also controlled by offshore sandstones (the shoreline

“bump” observed northward of transect 1716) that, if removed from the shoreface, could create a convex shoreline and change the planform of the island. A planform change could also be expected if the southern jetty at Masonboro Inlet was removed or failed (i.e., the island is expected to rotate counterclockwise as it adjusts to regain equilibrium conditions). Therefore, the proposed Carolina Beach/Masonboro IHA extends all the way to Carolina Beach (the southern proposed IHA boundary of Carolina Beach Inlet). Refer to Figure 3.7 for proposed IHA boundary. Additional data figures for this inlet are included in the appendix.

RIGHT SIDE OF INLET (Wrightsville Beach)

Shorelines analyzed (12): 1933, 1973, 1974, 1977, 1984, 1992, 1995, 1997, 1998, 2000, 2003, 2004

- No original IHA at this inlet due to jetties
- Proposed IHA boundary @ DCM transect 1905 (IHA includes northern-most portion of Carolina Beach, Carolina Beach Inlet, Masonboro Island in its entirety and the southern-most portion of Wrightsville Beach)

The northern jetty at Masonboro Inlet (constructed in 1965) has created a net gain of sand as the jetty's fillet has filled. The statistical shoreline analysis for this proposed IHA was not considered because it identified shoreline trends associated with the engineered structure and not the natural system. With the assumption that the jetty remains in place and does not fail, the CRC Science Panel determined that this portion of the island will be influenced by the twin jetties flanking the inlet. Therefore, the proposed IHA boundary starts where the jetty intersects the shoreline (transect 1905) and follows transect 1905 across the island to Banks Channel. Man-made landmarks (e.g., existing streets and parcel lines) were taken into consideration by DCM staff to refine the proposed IHA boundary. Refer to Figure 3.8 for proposed IHA boundary. Additional data figures for this inlet are included in the appendix.

Figure 3.8. Proposed IHA boundary for the northeastern side (Wrightsville Beach) of Masonboro Inlet.



Map Prepared by Ken Richardson 04/09/2009

North Carolina DEIR - Division of Coastal Management - 2008

3.7 Mason Inlet

BACKGROUND *(summarized from Cleary and Marden, 2001)*

- Historical maps confirm the existence of inlets in this area in the early 18th century
- The inlet's southwestern migration and related erosion in the mid 1990s led to the inlet's northern relocation closer to Figure Eight Island
- The inlet relocation project moved the inlet approximately 3,000 ft or 914 m to the north and was completed in April 2002

BOUNDARY SUMMARY

LEFT SIDE OF INLET (Wrightsville Beach)

Shorelines analyzed (12): 1933, 1949, 1958, 1971, 1973, 1977, 1987, 1992, 1997, 1998, 2003, 2004

- Original IHA boundary @ DCM transect 2030
- Proposed IHA boundary @ DCM transect 2023 (IHA boundary movement 1,155 ft or 350 m southwest)

Proposed IHA boundaries were delineated based on statistical shoreline trends, historical inlet migration rates, inlet processes, and geomorphology. Because Mason Inlet was relocated in 2002 and is subject to future engineering, the CRC Science Panel determined that the alteration of the inlet, and subsequent shoreline response to the resultant inlet processes, make the system complex. The inlet historically migrated south and, prior to its closure and movement in 2003, was migrating at a rate of one foot per day. Members of the CRC Science Panel provided estimates that, without relocation, the inlet would have continued to migrate to the south before closing and re-opening back to the north. Statistical shoreline trend analysis (standard deviation of shoreline position and average rate of shoreline change) identified transect 2023 as the point along the oceanfront where inlet processes were no longer dominant. The position of the inlet shoreline in 2003 at the southern boundary of the existing IHA (Priddy and Carraway, 1978) and the rate at which the shoreline was migrating to the south at the time of inlet relocation prompted the CRC Science Panel to move the IHA boundary farther south. The proposed IHA boundary at transect 2023 follows the transect to the backside of the island, and man-made landmarks (e.g., existing streets and parcel lines) were taken into consideration by DCM staff to refine the proposed IHA boundary. Refer to Figure 3.9 for proposed IHA boundary. Additional data figures for this inlet are included in the appendix.

RIGHT SIDE OF INLET (Figure Eight Island)

Shorelines analyzed (13): 1933, 1944, 1949, 1958, 1971, 1973, 1987, 1992, 1997, 1998, 2003, 2004

- Original IHA boundary @ DCM transect 2061
- Proposed IHA boundary @ DCM transect 2074 (IHA boundary movement 2,133 ft or 650 m northeast)

Proposed IHA boundaries were delineated based on statistical shoreline trends, historical inlet migration directions, inlet processes, and geomorphology. Mason Inlet was relocated in 2002 and is subject to future engineering. The CRC Science Panel determined that the alteration of the inlet, and subsequent shoreline response to these inlet processes, make the system complex. Statistical shoreline trend analysis (standard deviation of shoreline position and average rate of shoreline change) identified transect 2074 as the point along the oceanfront where inlet processes were no longer dominant. Between transects 2074 and 2069, the proposed IHA boundary follows the historical maximum beach width and then follows topography to transect 2061 where it intersects with the existing IHA boundary. The CRC Science Panel determined that Mason Inlet was unlikely to migrate north (although the inlet had occupied positions farther northward in the past) due to numerous changes affecting the back-barrier side of the island (e.g., dredging of finger canals, creation of highlands for development, inlet relocation) so the existing IHA boundary was deemed appropriate. The northern extension of the proposed IHA along the oceanfront was justified due to the inlet-induced processes along the shoreline unrelated to lateral migration. Man-made landmarks (e.g., existing streets and parcel lines) were taken into consideration by DCM staff to refine the proposed IHA boundary. Refer to Figure 3.9 for proposed IHA boundary. Additional data figures for this inlet are included in the appendix.

Figure 3.9. Proposed IHA boundary for Mason Inlet.



Map Prepared by Ken Richardson 04/09/2009

North Carolina DEIR - Division of Coastal Management - 2008

3.8 Rich Inlet

BACKGROUND (*summarized from Cleary and Marden, 2001*)

- Inlet drains an expansive marsh area where two large tidal creeks, Nixon and Green channels, connect the AIWW
- Inlet's large tidal prism and historic stability are primarily responsible for the size of the ebb-tidal delta
- The ebb delta has been estimated to contain eight million cubic meters of sediment to a depth of six m (19.7 ft)
- Compared to other inlet systems found in this region, Rich Inlet is a relatively large inlet and depths in the main channel range from five to seven m (16 to 23 ft)

BOUNDARY SUMMARY

LEFT SIDE OF INLET (Figure Eight Island)

Shorelines analyzed (9): 1938, 1958, 1973, 1980, 1992, 1997, 1998, 2003, 2004

- Original IHA boundary @ DCM transect 2173
- Proposed IHA boundary @ DCM transect 2151 (IHA boundary movement 3,630 ft or 1,100 m southwest)

Proposed IHA boundaries were delineated based on statistical shoreline trends, inlet processes, and geomorphology. Statistical shoreline trend analysis (standard deviation of shoreline position and average rate of shoreline change) identified transect 2151 as the point along the oceanfront where inlet processes were no longer dominant. At transect 2151 the historical average beach width was used to define the landward extent of the proposed IHA boundary and transitioned to the maximum historical beach width between Clamdigger Point and the private drive that connects Beach Road to Surf Court. The proposed IHA boundary continued to follow maximum beach width along Beach Road and back to Oyster Catcher Road where it intersected the existing IHA boundary and followed that boundary to the backside of the island. A sand spit on the back-barrier portion of the island, the formation of which was driven by inlet processes, was also included in the proposed IHA. Inclusion of inlet-related spits has been the standard for all of the proposed IHAs presented in this report. Man-made landmarks (e.g., existing streets and parcel lines) were taken into consideration by DCM staff to refine the proposed IHA boundary. Refer to Figure 3.10 for proposed IHA boundary. Additional data figures for this inlet are included in the appendix.

RIGHT SIDE OF INLET (Lea/Hutaff Island complex)

Shorelines analyzed (9): 1938, 1958, 1973, 1980, 1992, 1997, 1998, 2003, 2004

- Original IHA boundary @ DCM transect 2208
- Proposed IHA boundary @ DCM transect 2370 (proposed IHA moved 26,730 ft or 5 mi (8,038 m or 8 km) to the northeast to include the northeastern-most portion of Figure Eight Island, Rich Inlet, the Lea/Hutaff Island complex – joined after the closure of Old Topsail Inlet, New Topsail Inlet and the southwestern-most portion of Topsail Island)

Similar to Masonboro Island, the Lea/Hutaff Island complex (also referred to as Coke and No-Name islands) was created as Old Topsail Inlet closed in 1997 and is heavily influenced by Rich Inlet as well as New Topsail Inlet flanking it to the north. Based on the narrow and low-lying geomorphology of the island complex (e.g., lack of dune ridges and extensive overwash) and inlet processes, the CRC Science Panel determined that the Rich Inlet IHA should include the Lea/Hutaff Island complex in its entirety.

Therefore, the proposed Rich/New Topsail IHA extends to Topsail Island (the northern proposed IHA boundary of New Topsail Inlet). This IHA includes the existing IHA for Old Topsail Inlet (spanning transects 2259 to 2301). Refer to Figure 3.11 for proposed IHA boundary. Additional data figures for this inlet are included in the appendix.

Figure 3.10. Proposed IHA boundary for the southwestern side of Rich Inlet (Figure Eight Island).



- Legend**
- Inlet Hazard Area (IHA) ~ Proposed
 - IHA Boundary
 - IHA Boundary - (over water extension)
 - Transects of Interest

Proposed Inlet Hazard Area at Rich Inlet (Figure Eight Island)

The "Proposed Inlet Hazard Area" boundaries illustrated in this map represent the conceptual representation of regions adjacent to North Carolina's developed inlets which are subject to inlet processes. These boundaries have been defined by experts* following a detailed change analysis of historic shore lines, vegetation, beach width, and geomorphology.

*NCEM, OIC, Science Personnel, Coastal Hazards and DOD Staff

2006 Background Imagery

Scale = 1:6,000

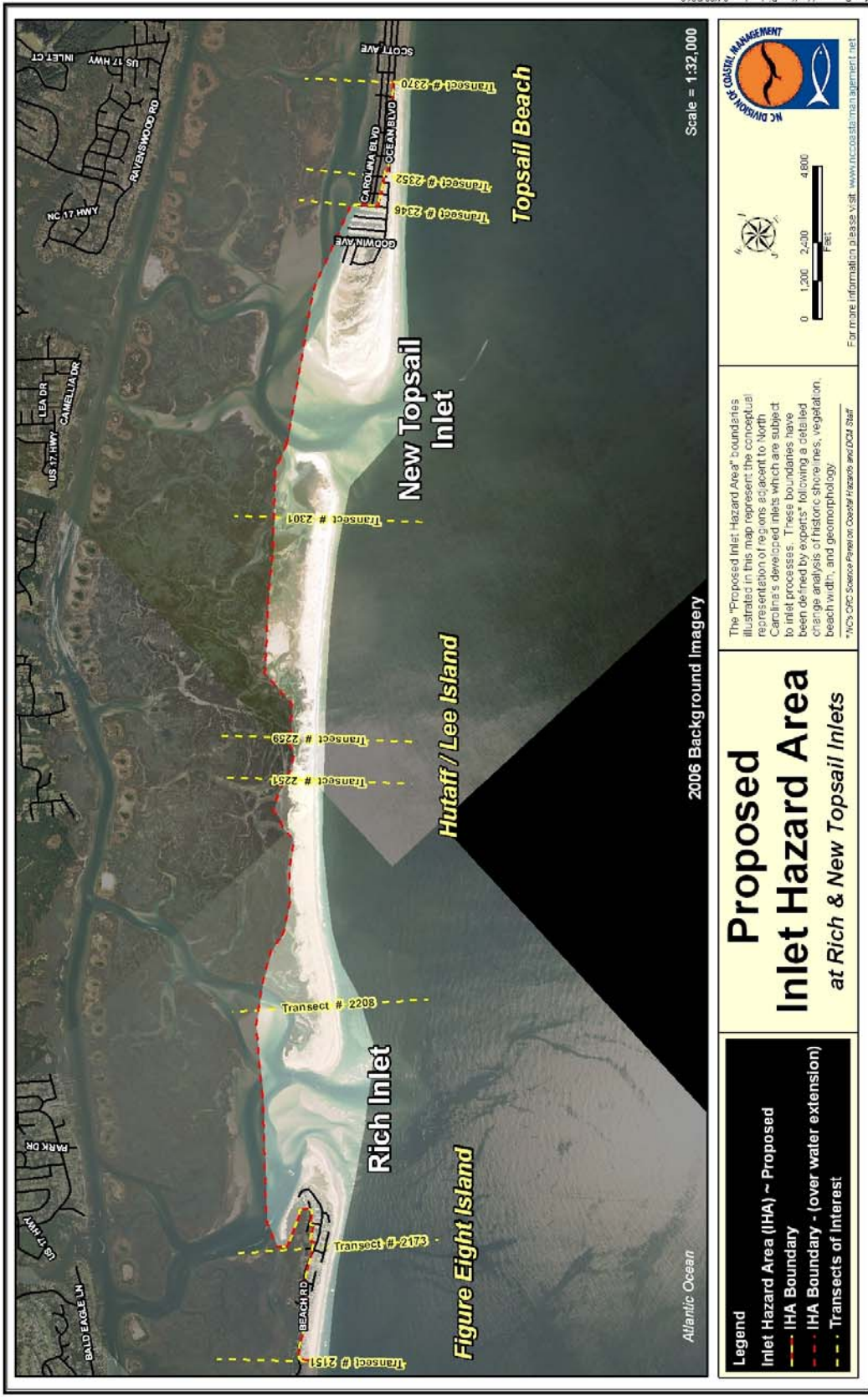
NC DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES

NC DEPARTMENT OF TRANSPORTATION

0 220 440 880 Feet

For more information please visit: www.nccostatm.mgmt.net

Figure 3.11. Proposed IHA boundary for the area between Rich Inlet and New Topsail Inlet.



Map Prepared by Ken Richardson 04/29/2010

North Carolina DEPR - Division of Coastal Management - 2010

3.9 New Topsail Inlet

BACKGROUND (*summarized from Cleary and Marden, 2001*)

- Land grants record the existence of New Topsail Inlet as early as 1726
- Maps indicate that the inlet has migrated to the southwest at an average rate of 38 m (125 ft) per year during the past 275 years and an 11-km (6.8-mi) chain of 20 low-relief marsh islands lies in the lagoon, recording the inlets movement
- The ebb-tidal delta is estimated to contain 9 million cubic m (11.8 cubic yds) of sand
- The inlet's width has fluctuated considerably from a minimum width of 295 m (968 ft) in 1984 to a maximum width of 690 m (2,264 ft) in 1995

BOUNDARY SUMMARY

LEFT SIDE OF INLET (Lea/Hutaff Island complex)

Shorelines analyzed (12): 1971, 1973, 1974, 1977, 1984, 1992, 1995, 1997, 1998, 2000, 2003, 2004

- Original IHA boundary @ DCM transect 2251
- Proposed IHA boundary @ DCM transect 2151 (proposed IHA moved 16,404 ft or 3.12 mi (5,000 m or 5 km) to the southwest to include the Lea/Hutaff Island complex – joined after the closure of Old Topsail Inlet in 1997, Rich Inlet and the northeastern-most portion of Figure Eight Island)

Similar to Masonboro Island, the Lea/Hutaff Island complex (also referred to as Coke and No-Name islands) was created as Old Topsail Inlet closed in 1997 and is heavily influenced by Rich Inlet as well as New Topsail Inlet flanking it to the north. Based on the narrow and low-lying geomorphology of the island complex (e.g., lack of dune ridges and extensive overwash) and the inlet processes, the CRC Science Panel determined that the New Topsail Inlet IHA include the Lea/Hutaff Island complex in its entirety. Therefore, the proposed/New Topsail/Rich IHA extends to Figure Eight Island (the northern proposed IHA boundary of Rich Inlet). This IHA includes the existing IHA for Old Topsail Inlet (spanning transects 2259 to 2301). Refer to Figure 3.11 for proposed IHA boundary. Additional data figures for this inlet are included in the appendix.

RIGHT SIDE OF INLET (Topsail Island, Topsail Beach)

Shorelines analyzed (12): 1971, 1973, 1974, 1977, 1984, 1992, 1995, 1997, 1998, 2000, 2003, 2004

- Original IHA boundary @ DCM transect 2347
- Proposed IHA boundary @ DCM transect 2370 (IHA boundary movement 3,795 ft or 1,150 m northeast)

Proposed IHA boundaries were delineated based on statistical shoreline trends, geomorphology, and inlet processes. Statistical shoreline trend analysis (standard deviation of shoreline position and average rate of shoreline change) identified transect 2370 as the point along the oceanfront where inlet processes were no longer dominant. The CRC Science Panel recognized that the inlet likely is the longest-lived migrating inlet in the State (and currently migrating south at rates approaching 90 ft per year), and the planform of the shoreline will continue to change along with inlet migration. From these observations, the CRC Science Panel expects continuing erosion along the oceanfront shoreline adjacent to the inlet. Between transects 2370 and 2352 the historical maximum beach width was used to define the landward extent of the proposed IHA boundary. Historical maximum beach width was used between transects 2352 and 2370 and where the boundary followed Trout Street to the back side of the island. Man-made landmarks (e.g., existing streets and parcel lines) were taken into consideration by DCM staff to refine the proposed IHA boundary. Refer to Figure 3.12 for proposed IHA boundary. Additional data figures for this inlet are included in the appendix.

Figure 3.12. Proposed IHA boundary for the northeastern side of New Topsail Inlet (Topsail Beach, Topsail Island).



Map Prepared by Ken Richardson 04/14/2009

North Carolina DEIR - Division of Coastal Management - 2008

3.10 New River Inlet

BACKGROUND (*summarized from Cleary and Marden, 2001*)

- Historical coastal charts indicate that the inlet has migrated within a two-kilometer zone since 1856; the migration zone width is controlled by the ancestral channel of the New River, the majority of which is located on the Onslow Beach (northeastern) shoulder of the inlet
- In recent history, the inlet's width has varied considerably ranging from 66 m (217 ft) in 1938 (prior to dredging) to a maximum width in 1987 of 304 m (997 ft)
- Although the inlet has generally moved southwest, it has periodically reversed direction (this northeastward movement was directly related to the enlargement of the marginal flood channel on the North Topsail Beach shoulder)

BOUNDARY SUMMARY

LEFT SIDE OF INLET (Topsail Island, North Topsail Beach)

Shorelines analyzed (14): 1934, 1952, 1971, 1973, 1974, 1977, 1984, 1992, 1995, 1997, 1998, 2000, 2003, 2004

- Original IHA boundary @ DCM transect 3017
- Proposed IHA boundary @ DCM transect 2996 (IHA boundary movement 3,465 ft or 1,050 m southwest)

Proposed IHA boundaries were delineated based on statistical shoreline trends, inlet processes, and geomorphology. Statistical shoreline trend analysis (standard deviation of shoreline position and average rate of shoreline change) identified transect 2996 as the point along the oceanfront where inlet processes were no longer dominant. Although shoreline accretion occurred in this area between the 1960s and 1990s, the shoreline has experienced inlet-induced erosion for the past decade. The historical maximum beach widths were used to establish the proposed IHA boundary between transects 2996 and 3017. The CRC Science Panel determined that the island geomorphology, primarily the low-lying topography of the island (i.e., lack of dune ridge), required an IHA boundary that followed Sea Gull Lane where it intersected with Oyster Lane (the approximate boundary of the existing IHA). From this point it followed Oyster Lane across the island through the back-barrier marsh and included a sand spit and extensive overwash along the inlet's southern shoreline. The formation of this spit was driven by inlet processes. Inclusion of inlet-related spits has been the standard for all of the proposed IHAs presented in this report. Man-made landmarks (e.g., existing streets and parcel lines) were taken into consideration by DCM staff to refine the proposed IHA boundary. Refer to Figures 3.13 and 3.14 for proposed IHA boundary. Additional data figures for this inlet are included in the appendix.

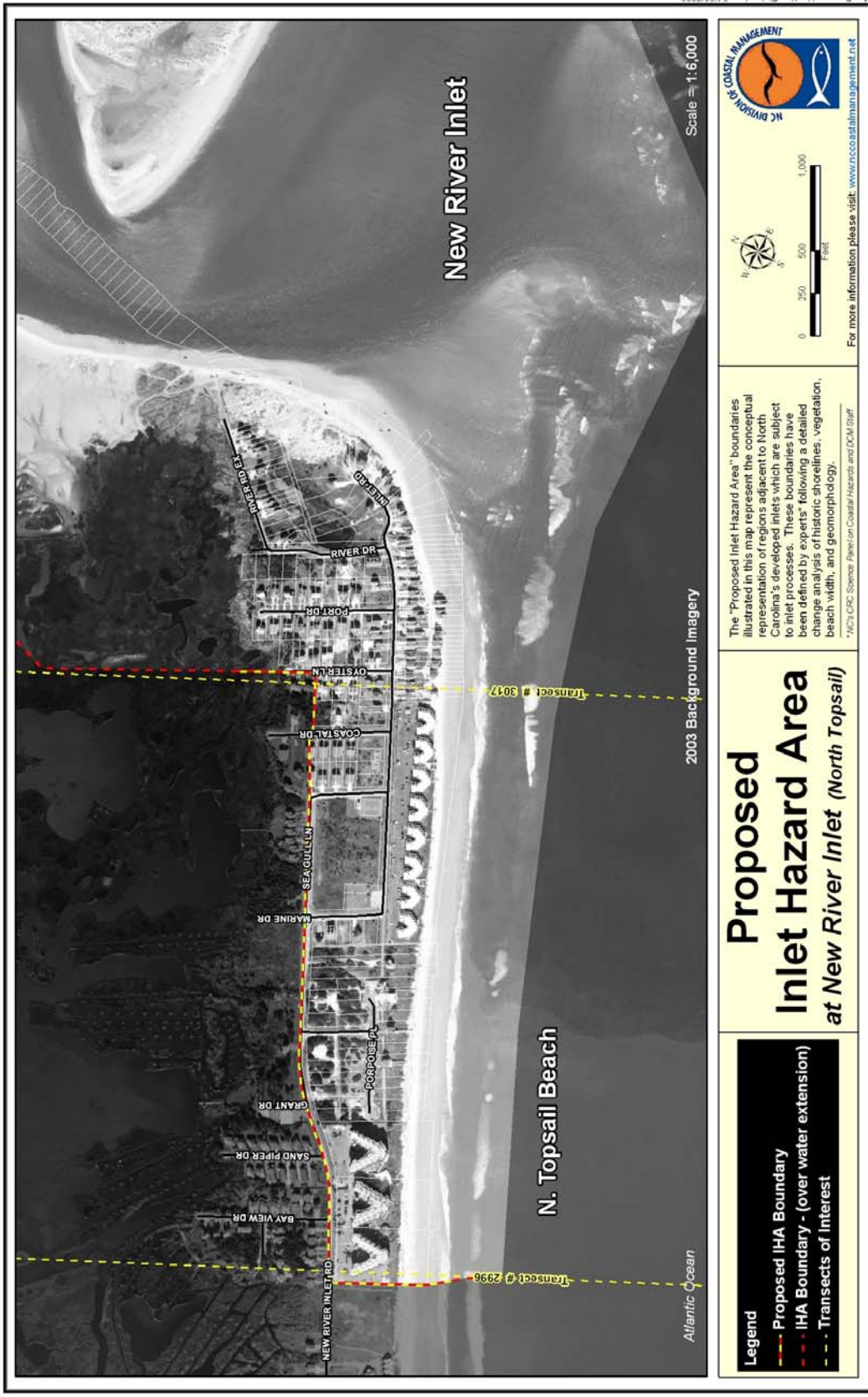
RIGHT SIDE OF INLET (Onslow Beach, Camp Lejeune)

Shorelines analyzed (14): 1934, 1952, 1971, 1973, 1974, 1977, 1984, 1992, 1995, 1997, 1998, 2000, 2003, 2004

- Original IHA boundary @ DCM transect 3069
- Proposed IHA boundary @ DCM transect 3101 (IHA boundary movement 5,280 ft or 1,600 m northeast)

The Onslow Beach proposed IHA boundary, which is shoreline perpendicular, stops at transect-3101. The CRC Science Panel determined that beach width data were insufficient and did not illustrate an adequate hazard boundary. The proposed IHA boundary follows the back-barrier canal based on the relative position of shorelines, inlet processes, and geomorphology. Man-made landmarks (e.g., existing streets and parcel lines) were taken into consideration by DCM staff to refine the proposed IHA boundary. Refer to Figure 3.14 for proposed IHA boundary. Additional data figures for this inlet are included in the appendix.

Figure 3.13. Proposed IHA boundary for New River Inlet (North Topsail Beach, Topsail Island).



Proposed Inlet Hazard Area at New River Inlet (North Topsail)

The "Proposed Inlet Hazard Area" boundaries illustrated in this map represent the conceptual representation of regions adjacent to North Carolina's developed inlets which are subject to inlet processes. These boundaries have been defined by experts following a detailed change analysis of historic shorelines, vegetation, beach width, and geomorphology.

*NCEM, LLC; Science Panel on Coastal Hazards and DDM Staff

For more information please visit: www.nccoastalmanagement.net

Scale = 1:6,000

0 250 500 1,000 Feet

NC DIVISION OF COASTAL MANAGEMENT

Figure 3.14. Proposed IHA boundary for New River Inlet (North Topsail Beach, Topsail Island and Camp LeJeune, Onslow Beach).



Map Prepared by Ken Richardson 04/09/2009

North Carolina DEIR - Division of Coastal Management - 2009

Proposed Inlet Hazard Area at New River Inlet

- Legend**
- Proposed IHA Boundary
 - IHA Boundary - (over water extension)
 - Transects of Interest

The "Proposed Inlet Hazard Area" boundaries illustrated in this map represent the conceptual representation of regions adjacent to North Carolina's developed inlets which are subject to inlet processes. These boundaries have been defined by experts* following a detailed change analysis of historic shorelines, vegetation, beach width, and geomorphology.

*NCEM CRC Science Panel on Coastal Hazards and DDM Staff

For more information please visit: www.nccoastalmanagement.net

NC DIVISION OF COASTAL MANAGEMENT

Scale = 1:14,000

0 500 1,000 2,000 FEET

3.11 Brown's Inlet

BACKGROUND (summarized from Cleary and Marden, 2001)

- Relatively stable inlet; evidence suggests that the inlet has migrated within a two-kilometer zone straddling the existing inlet
- Width has fluctuated dramatically; in 1938 the minimum width was only 154 m (505 ft) and the inlet reached a maximum width of 389 m (1,276 ft) in 1995
- While the position of the inlet has changed comparatively little during the past 50 years, the orientation of the ebb channel and the adjacent shorelines have altered significantly
- The migration of the channels within the inlet throat have governed the accretion and erosion on adjacent shorelines

BOUNDARY SUMMARY

LEFT SIDE OF INLET (Onslow Beach, Camp Lejeune)

Shorelines analyzed : none*

- Original IHA boundary @ DCM transect 3370
- Proposed IHA boundary @ DCM transect 3370

*Because of the undeveloped nature of this inlet, DCM recommends no change to the boundary of Priddy and Carraway (1978) in conjunction with applicable IHA boundary amendments in 1981 until further analysis can be completed (Figure 3.15).

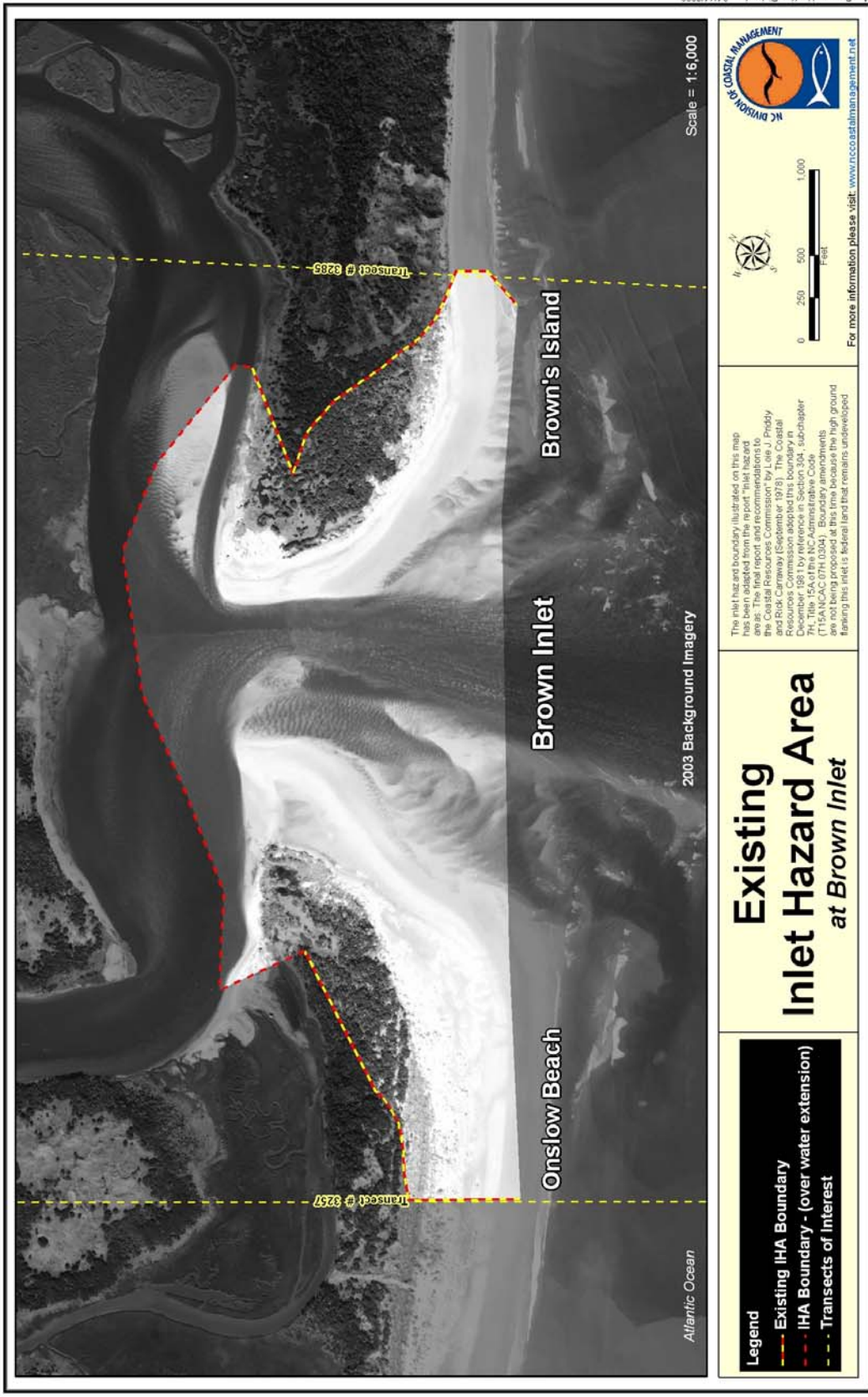
RIGHT SIDE OF INLET (Brown's Island, Camp Lejeune)

Shorelines analyzed: none*

- Original IHA boundary @ DCM transect 3394
- Proposed IHA boundary @ DCM transect 3394

*Because of the undeveloped nature of this inlet, DCM recommends no change to the boundary of Priddy and Carraway (1978) in conjunction with applicable IHA boundary amendments in 1981 until further analysis can be completed (Figure 3.15).

Figure 3.15. Existing IHA boundary for Brown's Inlet. No changes to this boundary are proposed at this time.



3.12 Bear Inlet

BACKGROUND (*summarized from Cleary and Marden, 2001*)

- Maps and aerial photographs suggest the inlet has migrated about two kilometers to the northeast from its original position on Brown's Island (seaward of Shackelfoot Creek)
- Initial position of the inlet channel was controlled by the position of an ancestral river channel
- During the past several thousand years, the estuary has filled in and water exchange through the inlet has decreased resulting in the migration of the inlet in the direction of the dominant eastward sediment transport
- Since 1938, inlet has remained relatively stable moving to the northeast approximately 65 m or 213 ft, during which time the throat of inlet has ranged in width from 300 m or 984 ft (1956) to 780 m or 2,559 ft (1938) with an average width of 500 m (1,640 ft)

BOUNDARY SUMMARY

LEFT SIDE OF INLET (Bear Island, Camp Lejeune)

Shorelines analyzed : none*

- Original IHA boundary @ DCM transect 3257
- Proposed IHA boundary @ DCM transect 3257

*Because of the undeveloped nature of this inlet, DCM recommends no change to the boundary of Priddy and Carraway (1978) in conjunction with applicable IHA boundary amendments in 1981 until further analysis can be completed (Figure 3.16).

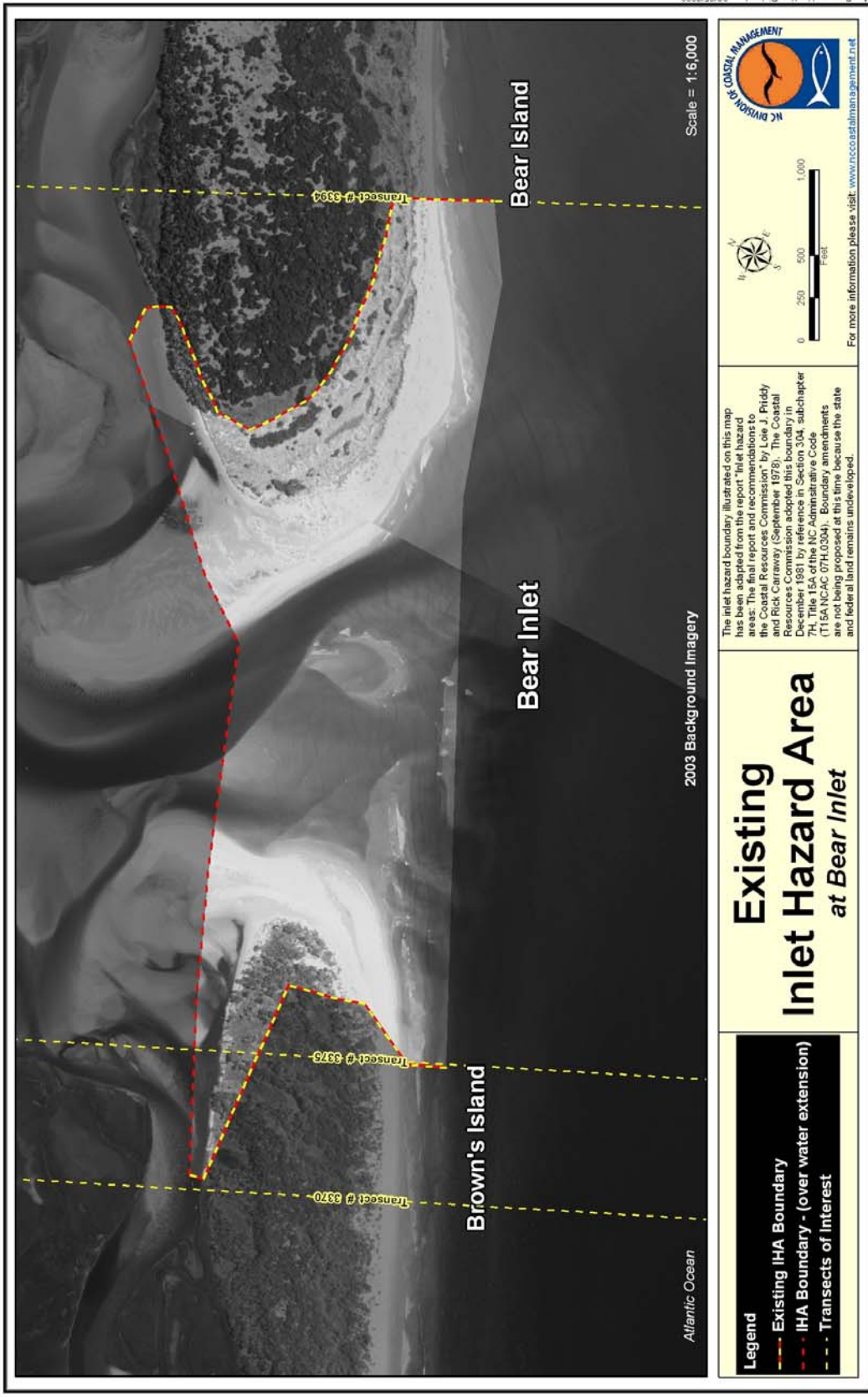
RIGHT SIDE OF INLET (Brown's Island, Hammocks Beach State Park)

Shorelines analyzed: none*

- Original IHA boundary @ DCM transect 3285
- Proposed IHA boundary @ DCM transect 3285

*Because of the undeveloped nature of both sides of this inlet, DCM recommends no change to the boundary of Priddy and Carraway (1978) in conjunction with applicable IHA boundary amendments in 1981 until further analysis can be completed (Figure 3.16).

Figure 3.16. Existing IHA boundary for Bear Inlet. No changes to this boundary are proposed at this time.



Map Prepared by Ken Richardson 03/25/2009

3.13 Bogue Inlet

BACKGROUND *(summarized from Cleary and Marden, 2001)*

- Records indicate that this inlet has served as a port of entry for the Town of Swansboro during the early 1700s
- Inlet width has fluctuated between 400 m (1,312 ft) to 1.9 km (1.2 mi) during the past 60 years, while depths in the ebb channel have fluctuated between 5 to 9 m (16 to 30 ft)
- Since 1946, the USACE has maintained a five-kilometer-long, two-m (7-ft) deep channel connecting the inlet to the AIWW
- Ebb tidal delta is estimated to contain approximately 13 million cubic m (17 million cubic yds) of sand
- Inlet is relatively stable with location controlled by ancestral location of White Oak River
- Ebb channel moved under private contract in 2005 from eastern-most portion of inlet to center

BOUNDARY SUMMARY

LEFT SIDE OF INLET (Bear Island, Hammocks Beach State Park)

Shorelines analyzed (11): 1949, 1956, 1960, 1971, 1973, 1974, 1987, 1992, 1997, 1998, 2003, 2004

- Original IHA boundary @ DCM transect 3447
- Proposed IHA boundary @ DCM transect 3440 (IHA boundary movement 1,148 ft or 350 m west)

Based on maximum beach width, geomorphology, and inlet processes, the CRC Science Panel defined the Bear Island proposed shoreline-perpendicular IHA boundary to stop at transect 3440. The proposed IHA boundary follows historical maximum beach width between transects 3440 and 3459. The boundary continues to follow the trend of maximum beach width as it approaches transect 3471, but also takes into consideration dune-ridge topography near the back side of the island. From this point, maximum beach width defines the proposed IHA boundary until it reaches the back-barrier shoreline. Refer to Figure 3.17 for proposed IHA boundary. Additional data figures for this inlet are included in the appendix.

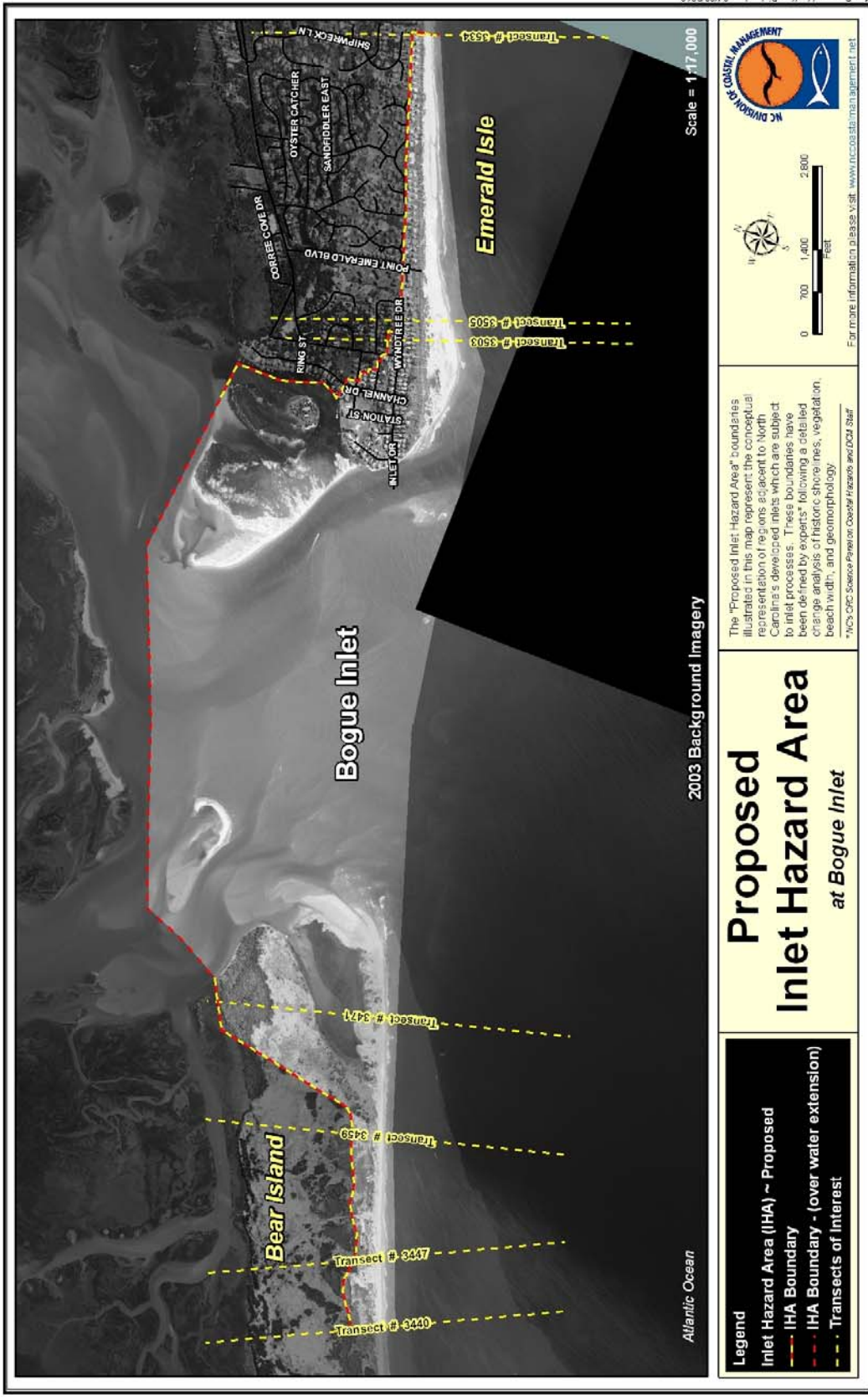
RIGHT SIDE OF INLET (Bogue Banks, Emerald Isle)

Shorelines analyzed (13): 1949, 1956, 1958, 1960, 1971, 1973, 1976, 1987, 1992, 1997, 1998, 2003, 2004

- Original IHA boundary @ DCM transect 3505
- Proposed IHA boundary @ DCM transect 3534 (IHA boundary movement 4,757 ft or 1,450 m east)

Based on average beach width, maximum beach width, geomorphology, and inlet processes, the CRC Science Panel defined the Emerald Isle shoreline-perpendicular proposed IHA boundary to stop at transect 3534. Between transects 3534 and 3505 the proposed IHA boundary follows parcel boundaries, placing the landward extent of the boundary between the average and maximum beach widths. The CRC Science Panel determined that the application of the average beach width was too conservative and the maximum beach width was too far landward. Therefore, at transect 3503 the proposed IHA boundary simply follows the existing IHA boundary (Priddy and Carraway, 1978). Man-made landmarks (e.g., existing streets and parcel lines) were taken into consideration by DCM staff to refine the proposed IHA boundary. Refer to Figures 3.17 and 3.18 for proposed IHA boundary. Additional data figures for this inlet are included in the appendix.

Figure 3.17. Proposed IHA boundary for Bogue Inlet.



Map Prepared by Ken Richardson 04/29/2010

Figure 3.18. Proposed IHA boundary for the eastern side of Bogue Inlet (Emerald Isle, Bogue Banks).

3.14 Beaufort Inlet

BACKGROUND (*summarized from Cleary and Marden, 2001*)

- Ancestral river channel controls inlet position
- Historical maps from 17th century confirms the inlet was in the same general location as today
- The large tidal prism associated with the Newport and North Rivers contributes to the inlet's relative stability
- Inlet has been modified for commercial traffic to the NC State Port in Morehead City by the USACE
- Inlet width fluctuates in conjunction with storm cycles with a maximum width of 2.5 km or 1.6 mi (1953) and a minimum of 1.1 km or 0.7 mi (1993), and the average width has been 1.4 km or 0.9 mi since 1939 (prior to changes made by the USACE for navigational purposes, which include dredging and the construction of a terminal groin at Ft. Macon on Bogue Banks, the average width was 2.1 km or 1.3 mi, as compared to 1.2 km or 0.7 mi over the past 40 years)
- Channel's average depth increases as width decreases, thereby maintaining similar cross-sectional flow characteristics (depth increase from 4 meters at turn of 19th/20th century to 7.5 m or 25 ft in 1974)

BOUNDARY SUMMARY

LEFT SIDE OF INLET (Bogue Banks, Ft. Macon State Park)

Shorelines analyzed (9): 1971, 1974, 1976, 1979, 1984, 1997, 1998, 2003, 2004

- Original IHA boundary @ DCM transect 4276
- Proposed IHA boundary @ DCM transect 4231 (IHA boundary movement 7,382 ft or 2,250 m west)

Based on geomorphology, and inlet processes, the CRC Science Panel defined the proposed shoreline-perpendicular IHA boundary at Fort Macon on Bogue Banks to stop at transect 4231. The proposed IHA boundary primarily follows historical maximum beach width and, to a lesser extent, topography (i.e., dune ridge). Man-made landmarks (e.g., existing streets and parcel lines) were taken into consideration by DCM staff to refine the proposed IHA boundary. Refer to Figure 3.19 for proposed IHA boundary. Additional data figures for this inlet are included in the appendix.

RIGHT SIDE OF INLET (Shackleford Banks, Cape Lookout National Seashore)

Shorelines analyzed (11): 1949, 1956, 1960, 1971, 1973, 1974, 1987, 1992, 1997, 1998, 2003, 2004

- Original IHA boundary @ DCM transect 3505
- Proposed IHA boundary @ DCM transect 3440 (IHA boundary movement 5,741 ft or 1,750 m east)

Based on maximum beach width, geomorphology, and inlet processes, the CRC Science Panel defined the proposed shoreline-perpendicular IHA boundary at Shackleford Banks to stop at transect 4327. Between transect 4327 and 4310, the proposed IHA boundary follows the maximum beach width and merges with the existing IHA boundary (Priddy and Carraway, 1978) due to engineering of this inlet (i.e., dredging of shipping channel by USACE for State Port in Morehead City). Refer to Figure 3.20 for proposed IHA boundary. Additional data figures for this inlet are included in the appendix.

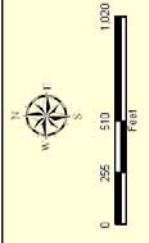
Figure 3.19. Proposed IHA boundary for the western side of Beaufort Inlet (Ft. Macon State Park).



Scale = 1:6,000

2004 Background Imagery

Atlantic Ocean



For more information please visit: www.nccostatemanagement.net

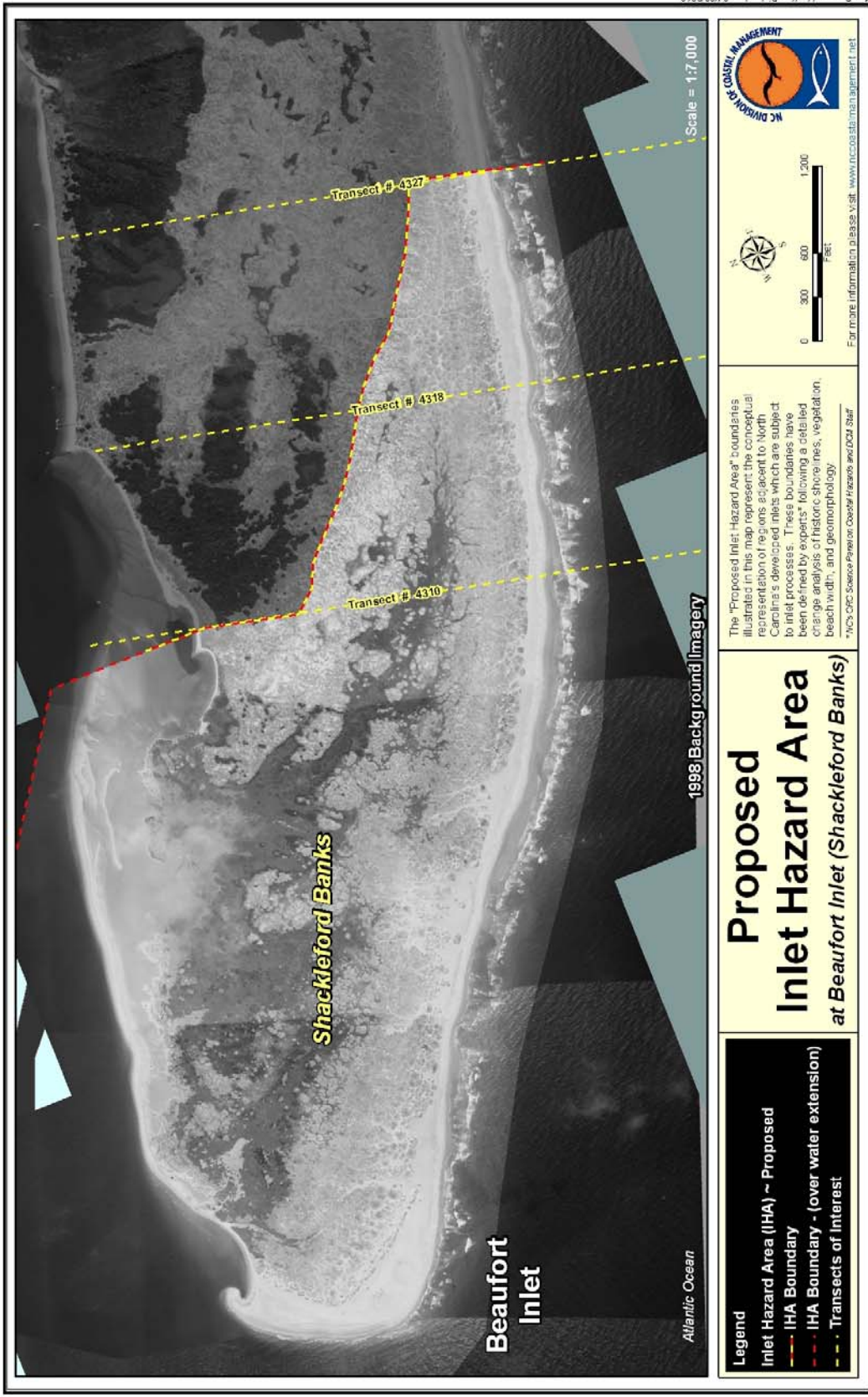
The "Proposed Inlet Hazard Area" boundaries illustrated in this map represent the conceptual representation of regions adjacent to North Carolina's developed inlets which are subject to inlet processes. These boundaries have been defined by experts* following a detailed change analysis of historic shore lines, vegetation, beach width, and geomorphology.

*NCEM, CRC Science Panel on Coastal Hazards and Local Staff

Proposed Inlet Hazard Area at Beaufort Inlet (Fort Macon)

- Legend**
- Inlet Hazard Area (IHA) ~ Proposed
- IHA Boundary
- IHA Boundary - (over water extension)
- Transects of Interest

Figure 3.20. Proposed IHA boundary for the eastern side of Beaufort Inlet (Shackleford Banks, Cape Lookout National Seashore).



Map Prepared by Ken Richardson 04/29/2010

Proposed Inlet Hazard Area (Shackleford Banks) at Beaufort Inlet

The "Proposed Inlet Hazard Area" boundaries illustrated in this map represent the conceptual representation of regions adjacent to North Carolina's developed inlets which are subject to inlet processes. These boundaries have been defined by experts* following a detailed change analysis of historic shore lines, vegetation, beach width, and geomorphology.

*NCEM, OIC, Science Personnel, Coastal Hazards and Local Staff

For more information please visit: www.nccos.state.nj.gov/management.net

Scale = 1:7,000

0 300 600 1,200 Feet

NC DIVISION OF COASTAL MANAGEMENT

- Legend**
- Inlet Hazard Area (IHA) ~ Proposed
 - IHA Boundary
 - IHA Boundary - (over water extension)
 - Transects of Interest

3.15 Barden Inlet

BACKGROUND *(summarized from Cleary and Marden, 2001)*

- Relatively small inlet that opened in 1933 and migrates to the east
- Inlet throat has alternatively constricted and expanded, the general trend has been towards expansion with the minimum width increasing from 280 meters in 1945 to 710 m or 2,329 ft in 1993 (average width of inlet has been 575 m or 1,886 ft since 1945)
- Inlet unique due to the large 300 by 500 m (984 by 1,640 ft) sand shoal extending from Shackleford Banks into the inlet throat

BOUNDARY SUMMARY

LEFT SIDE OF INLET (Shackleford Banks, Cape Lookout National Seashore)

Shorelines analyzed : none*

- Original IHA boundary @ DCM transect 4560
- Proposed IHA boundary @ DCM transect 4560

*Because of the undeveloped nature of this inlet, DCM recommends no change to the boundary of Priddy and Carraway (1978) in conjunction with applicable IHA boundary amendments in 1981 until further analysis can be completed (Figure 3.21).

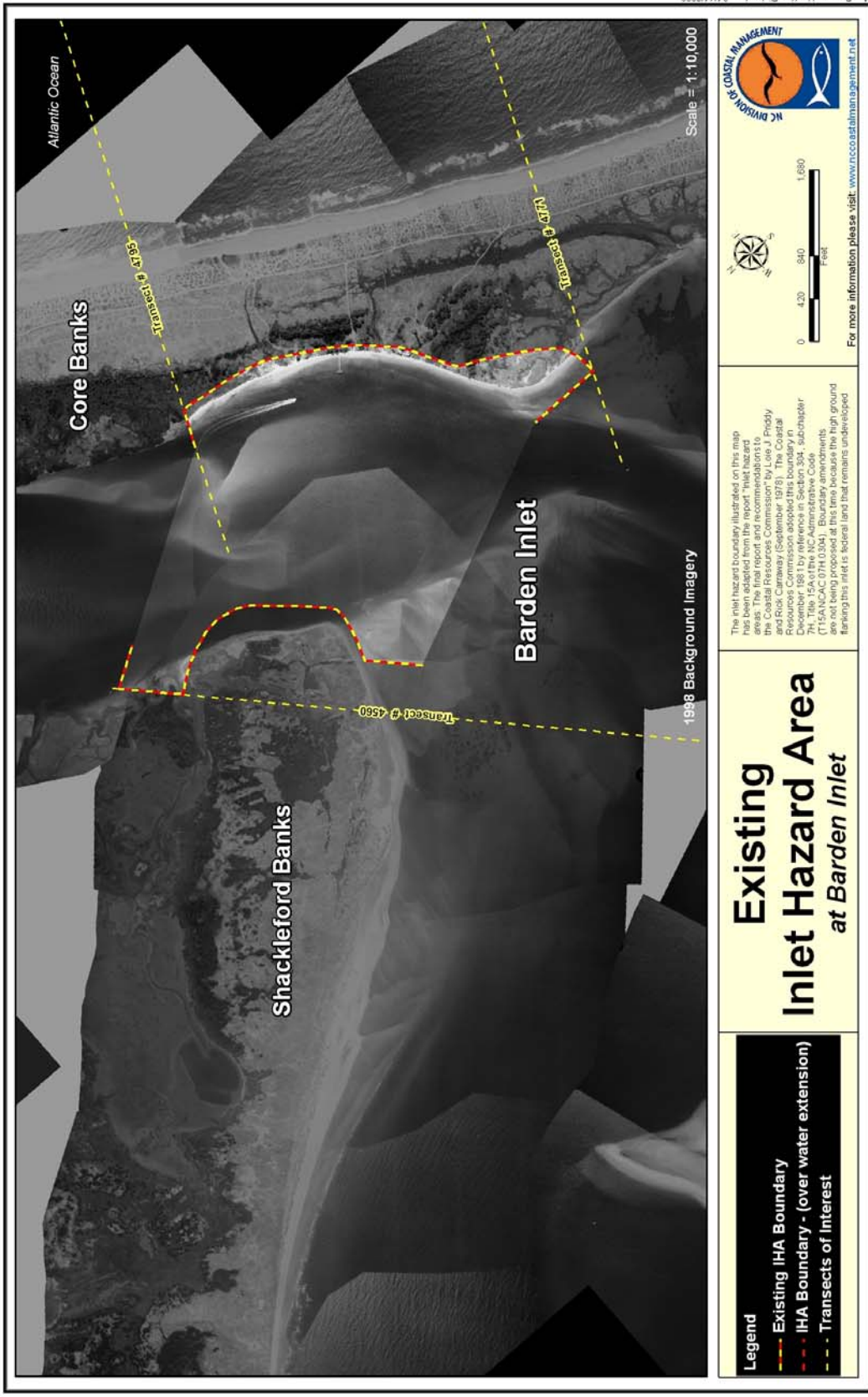
RIGHT SIDE OF INLET (Core Banks, Cape Lookout National Seashore)

Shorelines analyzed: none*

- Original IHA boundary @ DCM transect 4771 and 4795 (two transects listed because of the configuration of transects along this section of coastline relative to Cape Lookout)
- Proposed IHA boundary @ DCM transect 4771 and 3795 (two transects listed because of the configuration of transects along this section of coastline relative to Cape Lookout)

*Because of the undeveloped nature of this inlet, DCM recommends no change to the boundary of Priddy and Carraway (1978) in conjunction with applicable IHA boundary amendments in 1981 until further analysis can be completed (Figure 3.21).

Figure 3.21. Existing IHA boundary for Barden Inlet. No changes to this boundary are proposed at this time.



3.16 Drum Inlet Complex

BACKGROUND (summarized from Cleary and Marden, 2001)

- Since the turn of the 18th/19th century, Drum Inlet and its predecessors have had a history of opening and closing several times, and this area has been prone to inlet formation in the recent past
- A 61 m or 200 ft wide and 12 m or 39 ft deep channel was dredged in 1939 to connect Old Drum Inlet with the Core Sound Waterway but shoaled and became unnavigable by the early 1960s
- Old Drum Inlet migrated almost two kilometers between 1940 and its closure in 1971 at an average rate of 61 m or 200 ft per year
- The inlet was re-opened in 1971 several months after the old inlet closed; new inlet located approximately 3.5 km or 2.1 mi south of old inlet
- Characterized by a large flood-tidal delta extending across Core Sound and a small ebb-tidal delta fronting the inlet

BOUNDARY SUMMARY

LEFT SIDE OF INLET (Core Banks, Cape Lookout National Seashore)

Shorelines analyzed : none*

- No existing IHA boundary
- No proposed IHA boundary

* No inlet hazard area recommendations were made by Priddy and Carraway (1978) or in conjunction with subsequent 1981 amendments (Figure 3.21). Because of the undeveloped nature of these inlets, DCM recommends that no inlet hazard area be created for the three inlets of the Drum Inlet complex until further analysis can be completed. Note that photographic imagery in Figure 3.22 is ca. August/September 2004 and does not capture the third inlet opened during Hurricane Ophelia (September 2005).

RIGHT SIDE OF INLET (Core Banks / Portsmouth Island, Cape Lookout National Seashore)

Shorelines analyzed : none*

- No existing IHA boundary
- No proposed IHA boundary

* No inlet hazard area recommendations were made by Priddy and Carraway (1978) or in conjunction with subsequent 1981 amendments (Figure 3.22). Because of the undeveloped nature of these inlets, DCM recommends that no inlet hazard area be

created for the three inlets of the Drum Inlet complex until further analysis can be completed. Note that photographic imagery in Figure 3.22 is ca. August/September 2004 and does not capture the third inlet opened during Hurricane Ophelia (September 2005).

Figure 3.22. No IHA boundaries currently exist for Drum Inlet, and none are being proposed at this time.

Drum Inlets



Core Banks

Core Banks

Core Banks

Drum Inlet "#1"

Drum Inlet "#2"

Atlantic Ocean

2004 Background Imagery

Scale = 1:19,000

NC DIVISION OF COASTAL MANAGEMENT

0 1,000 2,000 4,000 FEET

For more information please visit: www.nccoastalmanagement.net

The creation of an inlet hazard area is not being proposed at this time because the high ground flanking this inlet is federal land that remains undeveloped.

No IHA boundary currently exists for this inlet

3.17 Ocracoke Inlet

BACKGROUND (summarized from Cleary and Marden, 2001)

- The largest of the current inlets north of Cape Lookout along the Outer Banks
- Maps show the existence of Ocracoke Inlet as early as 1585 and Ocracoke is one of the more stable inlets, as well as the deepest, in North Carolina
- The location of the inlet is governed by old river channel and stability is presumably related to large tidal prism associated with Pamlico Sound and the Pamlico River
- In the late 1950s, aerial photographs and bathymetric surveys of Pamlico Sound determined the enormous flood-tide delta extended into the sound for more than 10 kilometers; the corresponding ebb-tide delta is small by comparison (as are all ebb-tidal deltas along the Outer Banks)
- Since the mid-1800s, Ocracoke Inlet has migrated over 2.9 km or 1.8 mi to the southwest
- A USACE study from the 1950s indicated that the inlet was 610 m or 2,001 ft narrower in 1948 than it was in the early 1800s
- Since 1984, maintenance dredging has not been required by the USACE to maintain the authorized channel depth of 6 m or 20 ft
- The USACE monitors the depth of the channel to ensure continued operation of the Ocracoke-Cedar Island ferry run by the North Carolina Department of Transportation

BOUNDARY SUMMARY

LEFT SIDE OF INLET (Core banks / Portsmouth Island, Cape Lookout National Seashore)

Shorelines analyzed : none*

- No existing IHA boundary
- No proposed IHA boundary

* No inlet hazard area recommendations were made by Priddy and Carraway (1978) or in conjunction with subsequent 1981 amendments (Figure 3.23). Because of the undeveloped nature of this side of the inlet, DCM recommends that no inlet hazard area be created for the southwestern side of Ocracoke Inlet until further analysis can be completed.

RIGHT SIDE OF INLET (Ocracoke Island, Cape Hatteras National Seashore)

- Original IHA boundary @ DCM transect 6219
- Proposed IHA boundary @ DCM transect 6219

* Because of the undeveloped nature of this inlet, DCM recommends no change to the boundary of Priddy and Carraway (1978) in conjunction with applicable IHA boundary amendments in 1981 until further analysis can be completed (Figure 3.23).

Figure 3.23. Existing IHA boundary for northeastern side of Ocracoke Inlet (Ocracoke Island, Cape Hatteras National Seashore), and no changes to this boundary are proposed at this time. No IHA boundaries currently exist for the southwestern side of Ocracoke Inlet (Core Banks / Portsmouth Island, Cape Lookout National Seashore), and none are being proposed at this time.



3.18 Hatteras Inlet

BACKGROUND (summarized from Cleary and Marden, 2001)

- Inlet opened during a major hurricane in September 1846, the same time as Oregon Inlet to the north (the southwestern reach of Hatteras Island has historically been the site of recurring storm breaches, the most recent of which occurred during Hurricane Isabel in 2003 – an inlet that subsequently was closed by the NC Department of Transportation to restore access to NC Highway 12)
- Old Hatteras Inlet was located 16 kilometers to the west of the current inlet as early as 1585 and remained open until the late 1700s
- The inlet system has migrated to the southwest at varying rates, although the Hatteras Island shoulder (eastern side) has not migrated as much as the Ocracoke Island shoulder
- Following the Ash Wednesday Storm of March 1962, the inlet was approximately 2.6 km or 1.6 mi wide and has decreased to its current approximate width of 500 m or 1,530 ft

BOUNDARY SUMMARY

LEFT SIDE OF INLET (Core banks / Portsmouth Island, Cape Lookout National Seashore)

Shorelines analyzed : none*

- Original IHA boundary @ DCM transect 6584
- Proposed IHA boundary @ DCM transect 6584

* Because of the undeveloped nature of this inlet, DCM recommends no change to the boundary of Priddy and Carraway (1978) in conjunction with applicable IHA boundary amendments in 1981 until further analysis can be completed (Figure 3.24).

RIGHT SIDE OF INLET (Hatteras Island, Cape Hatteras National Seashore)

Shorelines analyzed : none*

- Original IHA boundary @ DCM transect 6697
- Proposed IHA boundary @ DCM transect 6697

* Because of the undeveloped nature of this inlet, DCM recommends no change to the boundary of Priddy and Carraway (1978) in conjunction with applicable IHA boundary amendments in 1981 until further analysis can be completed (Figure 3.24).

Figure 3.24. Existing IHA boundary for Hatteras Inlet. No changes to this boundary are proposed at this time.



- Legend**
- Existing IHA Boundary
 - - - IHA Boundary - (over water extension)
 - - - Transects of Interest

Existing Inlet Hazard Area at Hatteras Inlet

The inlet hazard boundary illustrated on this map has been adapted from the report "Inlet Hazard Areas: The Final Report and Recommendations to the Coastal Resource Commission" by Lois J. Priddy and Rick Caraway (September 1978). The Coastal Resource Commission adopted this boundary in December 1981 by its vote in section 304, subchapter 14a of the General Statutes of North Carolina (14a NCAC 07H 0304). Boundary amendments are not being proposed at this time because this federal land remains undeveloped.

For more information please visit: www.nccoastalmanagement.net

3.19 Oregon Inlet

BACKGROUND (summarized from Cleary and Marden, 2001)

- Maps dating back to 1585 show inlets in the vicinity of Oregon Inlet until 1808, but the present inlet did not open until September 1846
- Since its opening, the inlet has migrated 3.7 km or 2.3 mi to the south at an average rate of 15 m or 49 ft per year until the construction of a terminal groin on the southern shoulder of the inlet (Pea Island), which was constructed in 1990 to protect the Herbert C. Bonner Bridge that crosses the inlet
- The inlet's maximum width was 2 km or 1.2 mi following the Ash Wednesday Storm of 1962 and its minimum width of 450 m or 1,476 ft occurred in 1862; the inlet was 850 m or 2,789 ft wide in April 1999
- As the inlet has decreased in width, the channel has deepened to maintain cross-sectional area and flow; the current cross-sectional area and tidal prism have changed little over the past 50 years
- Oregon Inlet is the only outlet for the enormous volume of sound water along the northern stretch of the Outer Banks
- The navigability of the inlet is maintained by the USACE

BOUNDARY SUMMARY

LEFT SIDE OF INLET (Hatteras Island, Pea Island National Wildlife Refuge)

Shorelines analyzed : none*

- No existing IHA boundary
- No proposed IHA boundary

* No inlet hazard area recommendations were made by Priddy and Carraway (1978) or in conjunction with subsequent 1981 amendments (Figure 3.25). Because of the undeveloped nature of this inlet, DCM recommends that no inlet hazard area be created for the southern side of Oregon Inlet until further analysis can be completed.

RIGHT SIDE OF INLET (Bodie Island, Cape Hatteras National Seashore)

Shorelines analyzed : none*

- No existing IHA boundary
- No proposed IHA boundary

* No inlet hazard area recommendations were made by Priddy and Carraway (1978) or in conjunction with subsequent 1981 amendments (Figure 3.25). Because of the undeveloped nature of this inlet, DCM recommends that no inlet hazard area be created for the northern side of Oregon Inlet until further analysis can be completed.

Figure 3.25. No IHA boundaries currently exist for the Oregon Inlet. None are being proposed at this time.



Map Prepared by Ken Richardson 03/25/2009

4.0 RECOMMENDATIONS

DCM recommends the adoption of this report by reference in rule 15A NCAC 07H.0304.

The effect of this action will amend the IHA boundaries for the State's 12 developed inlets (Tubbs, Shallotte, Lockwood Folly, Cape Fear River, Carolina Beach, Masonboro, Mason, Rich, New Topsail, New River, Bogue, and Beaufort). Five of the original IHA boundaries developed by Priddy and Carraway (1978) will remain unchanged. DCM and the CRC Science Panel have determined that the original boundaries developed by Priddy and Carraway (1978) for Brown's, Bear, Barden, Ocracoke (northeastern boundary on Ocracoke Island), and Hatteras inlets (primarily due to the lack of existing and potential development at these locations) are sufficient until further analysis can be completed. Similarly, it is unnecessary to develop IHA boundaries for Drum Inlet, the southwestern side of Ocracoke Inlet (Core Banks), and Oregon Inlet at this time. Adoption of this report by the CRC will also remove existing IHA boundaries from three inlets (Mad and Corncake) because they have closed. DCM and the CRC Science Panel have determined that the threat of these two inlets reopening is no higher than the creation of new inlets through the breaching process associated with storms that historically have occurred along the State's barrier islands. (Although Old Topsail has also closed, its location and its original IHA boundaries will be included in the proposed IHA boundary for New Topsail Inlet presented herein). Adoption of this report will also remove the existing IHA boundary associated with Little River Inlet because it has migrated into South Carolina and is being stabilized by engineered structures maintained by the USACE and no longer poses a direct coastal hazard to Bird Island (which is owned by DCM and will continue to remain an undeveloped Coastal Reserve site).

It should be noted that while this report is a major effort in re-visiting the original IHA investigation study by Priddy and Carraway (1978), it does not represent the final word in defining hazardous areas relative to development flanking tidal inlets. The Division recommends that all of the State's tidal inlets continue to be analyzed and monitored as data and resources become available or, at least, within ten years of the incorporation of this report into CRC rules. It may be appropriate to review inlets based on a pre-determined set of priorities to maximize efforts rather than attempting a wholesale review of the entire State. Regardless of the approach, continuing studies of the interaction between background natural coastal processes and human activities must be planned and executed to develop better understandings of inlet and island process-response relationships. The non-linear influence of storms and sea level rise must also be considered. Therefore, continued data collection (e.g., shoreline locations, ebb and flood tide delta volumes, ebb and flood channel locations, bathymetry, dredge volumes and frequencies in and near inlets, as well as any other anthropogenic influences) and timely review and synthesis by coastal experts is appropriate and necessary. DCM also recommends that the review and amendment of development policy adjacent to inlets should occur concurrently with the scientific and engineering assessment and quantification of inlet processes and related hazards.

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Overton, M.F. and Fisher, J.S., 2004, Methodology for the analysis of shoreline change for the purpose of delineating the Inlet Hazard Area. Prepared for the NC Division of Coastal Management, December 13, 3 pp.

Priddy, L.J. and Carraway, R., 1978, Inlet hazard areas: The final report and recommendations to the Coastal Resources Commission. Prepared by the NC Division of Marine Fisheries Technical Services Section, NC Department of natural Resources and Community Development., September, 60 pp.

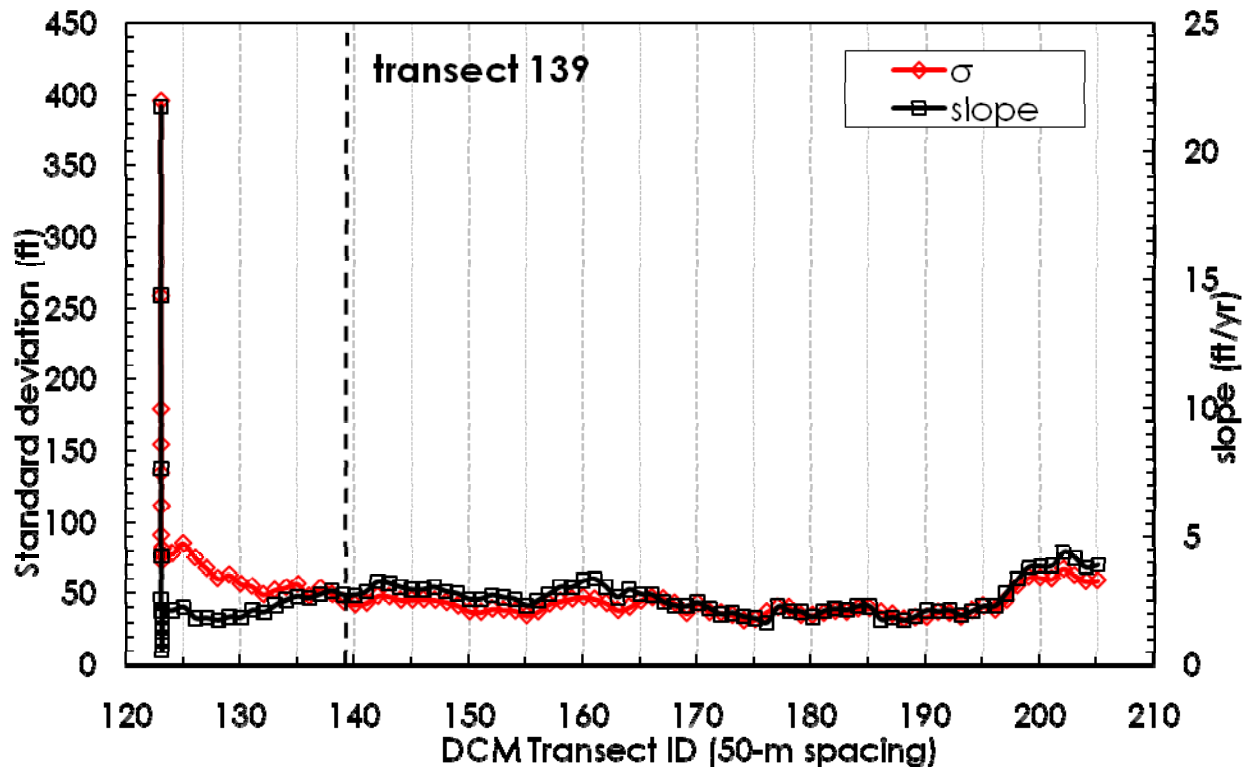
Warren, J.D., 2008, Inlet hazard area policy recommendations. NC Division of Coastal Management memo CRC 08-48, November 6, 2 pp.

APPENDIX

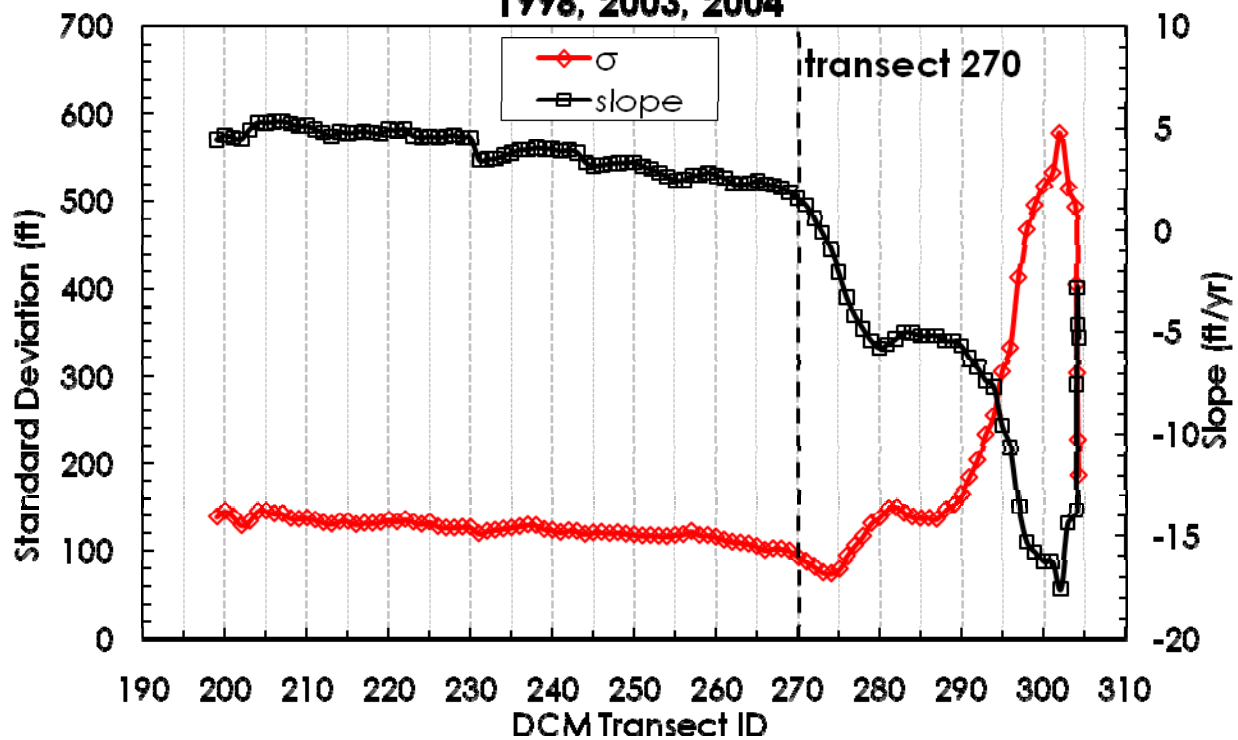
For convenience, the data in this appendix is arranged by inlet, geographically from south to north for the twelve developed inlets defined and analyzed in this study (Tubbs, Shallotte, Lockwood Folly, Cape Fear River, Carolina Beach, Masonboro, Mason, Rich, New Topsail, New River, Bogue, and Beaufort).

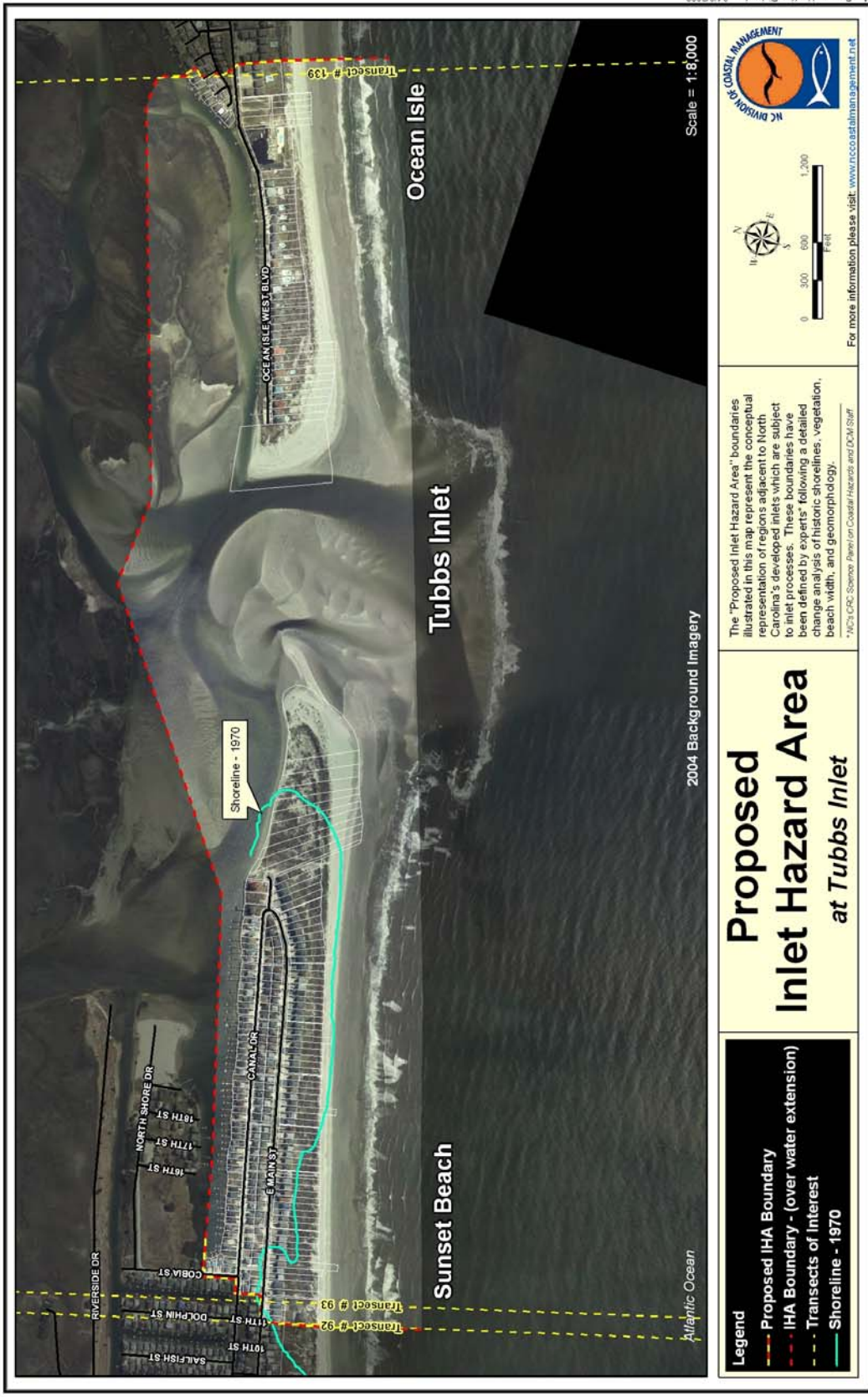
TUBBS INLET

Tubbs Right: 1938, 1944, 1954, 1961, 1970



Shalotte Left: 1938, 1944, 1958, 1970, 1981, 1992, 1997, 1998, 2003, 2004





Scale = 1:8,000

2004 Background Imagery



For more information please visit: www.nccoastalmanagement.net

The "Proposed Inlet Hazard Area" boundaries illustrated in this map represent the conceptual representation of regions adjacent to North Carolina's developed inlets which are subject to inlet processes. These boundaries have been defined by experts* following a detailed change analysis of historic shorelines, vegetation, beach width, and geomorphology.

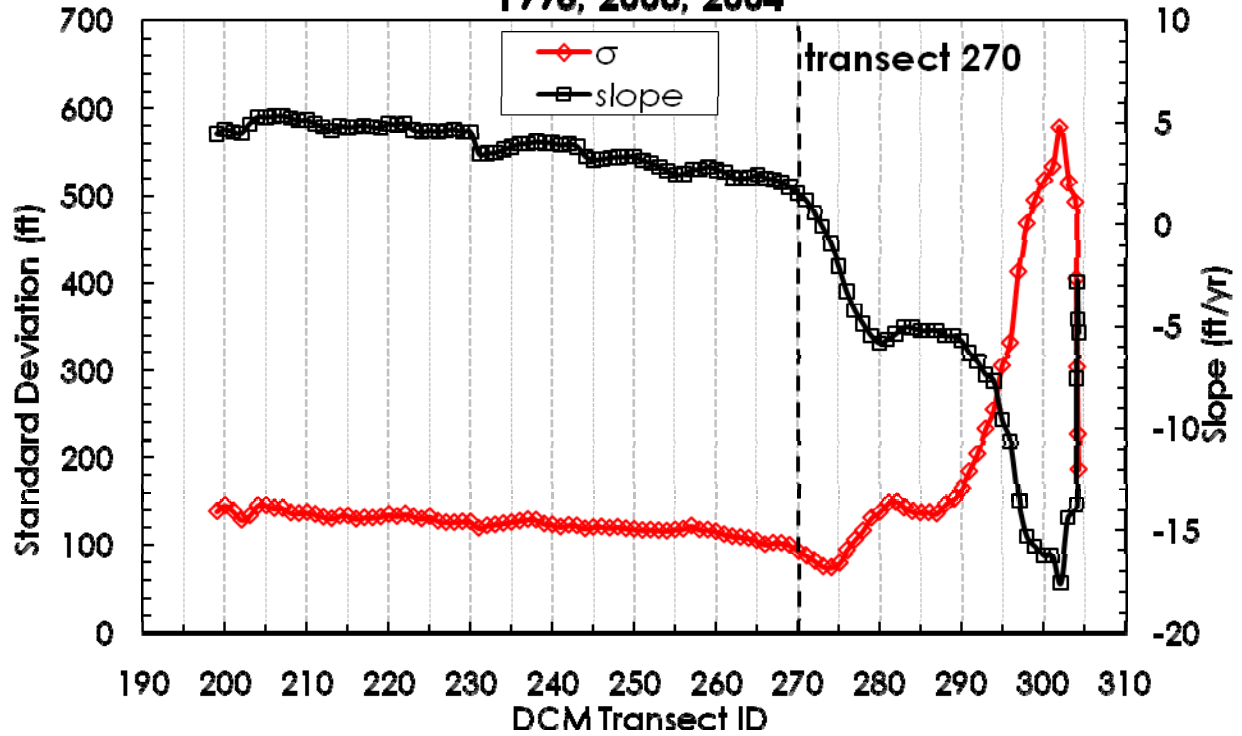
*NCEM CRC Science Panel on Coastal Hazards and DDM Staff

Proposed Inlet Hazard Area at Tubbs Inlet

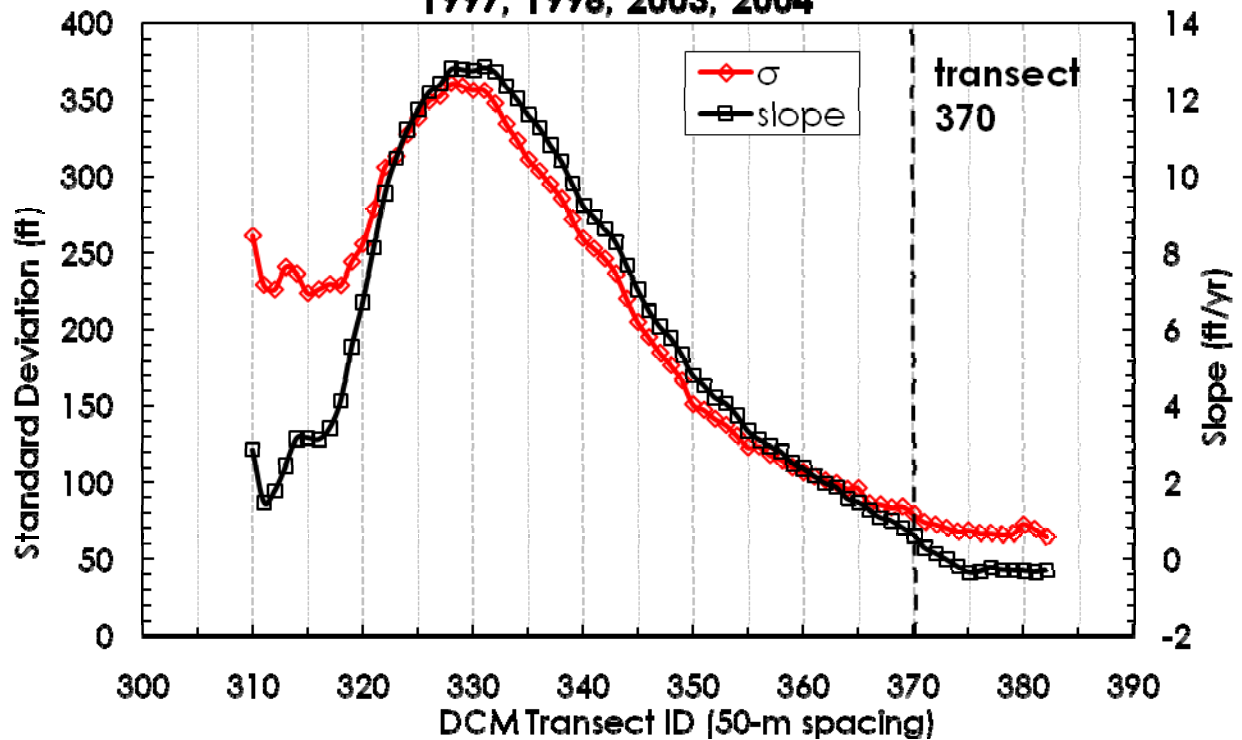
- Legend**
- Proposed IHA Boundary
 - - - IHA Boundary - (over water extension)
 - - - Transects of Interest
 - Shoreline - 1970

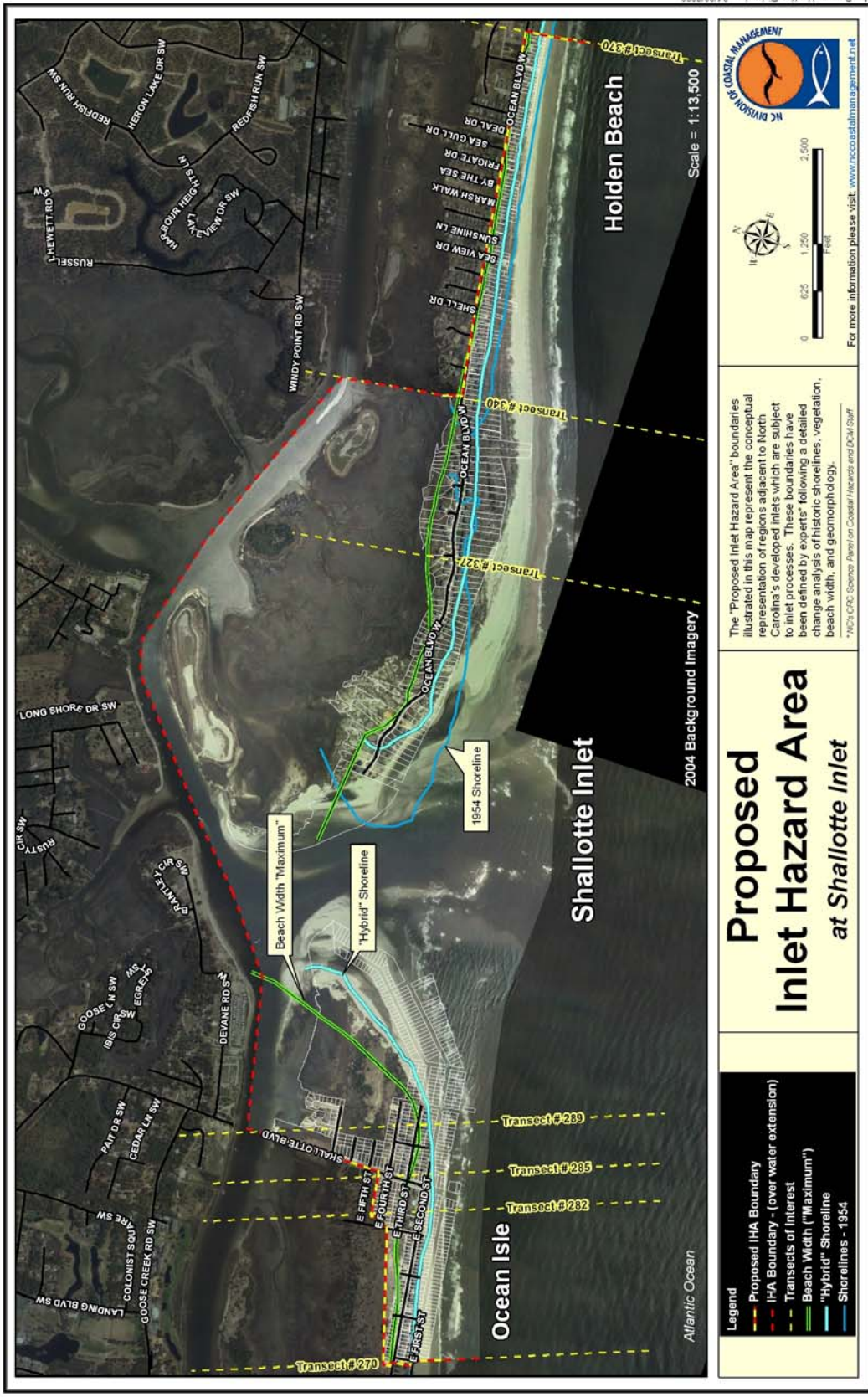
SHALLOTTE INLET

Shalotte Left: 1938, 1944, 1958, 1970, 1981, 1992, 1997, 1998, 2003, 2004



Shalotte Right: 1938, 1944, 1958, 1970, 1981, 1992, 1997, 1998, 2003, 2004





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Scale = 1:13,500

0 625 1,250 2,500 Feet

The "Proposed Inlet Hazard Area" boundaries illustrated in this map represent the conceptual representation of regions adjacent to North Carolina's developed inlets which are subject to inlet processes. These boundaries have been defined by experts* following a detailed change analysis of historic shorelines, vegetation, beach width, and geomorphology.

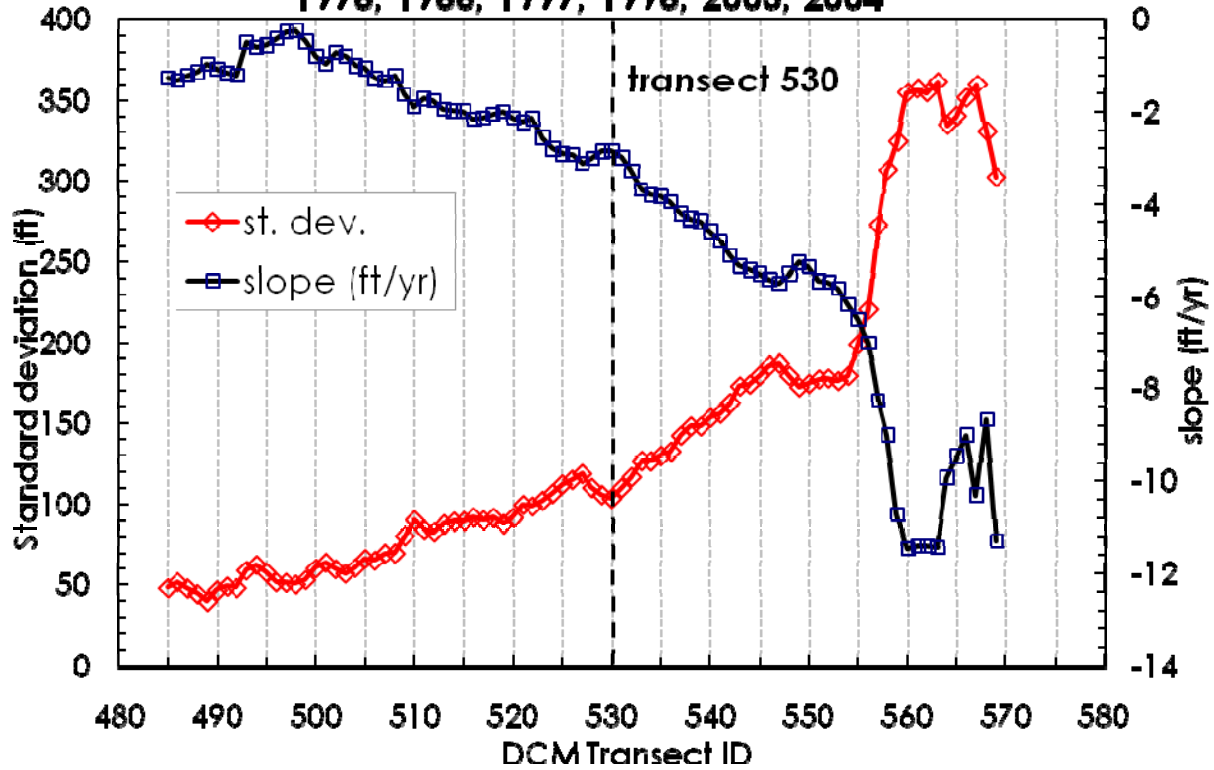
*NCEM, CRC, Science Panel on Coastal Hazards and DDM Staff

Proposed Inlet Hazard Area at Shallotte Inlet

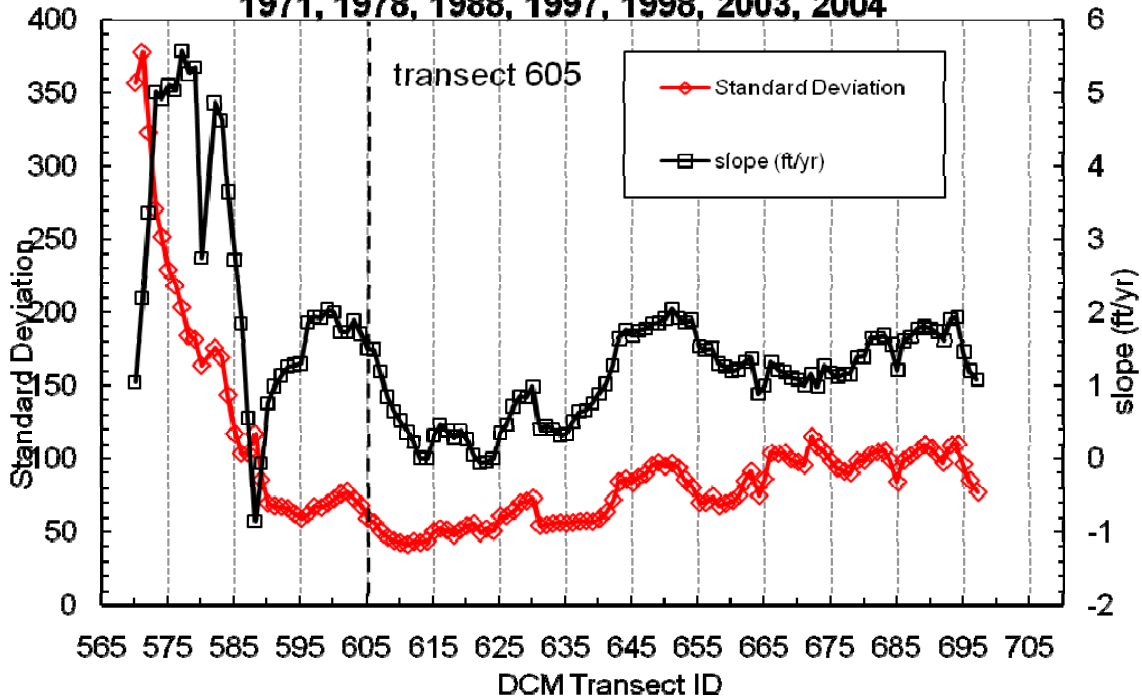
- Legend**
- Proposed IHA Boundary - (over water extension)
 - IHA Boundary - (over water extension)
 - Transsects of Interest
 - Beach Width ("Maximum")
 - "Hybrid" Shoreline
 - Shorelines - 1954

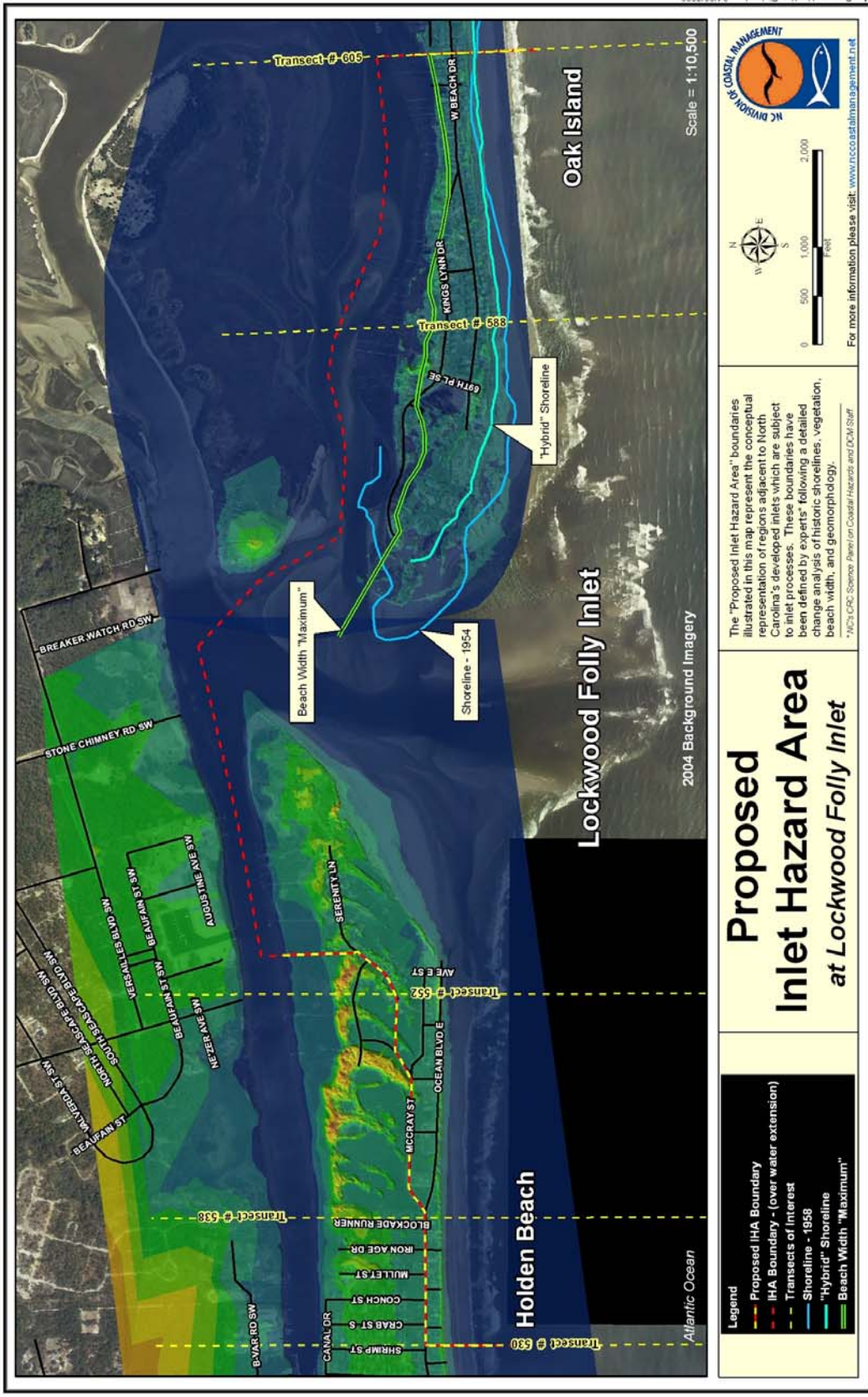
LOCKWOOD FOLLY INLET

Lockwood Left: 1933, 1938, 1944, 1958, 1970, 1971, 1978, 1988, 1997, 1998, 2003, 2004



Lockwood Folly Right: 1933, 1938, 1944, 1958, 1970, 1971, 1978, 1988, 1997, 1998, 2003, 2004





Proposed Inlet Hazard Area at Lockwood Folly Inlet

- Legend**
- Proposed IHA Boundary - (over water extension)
 - IHA Boundary
 - Transsects of Interest
 - Shoreline - 1954
 - 'Hybrid' Shoreline
 - Beach Width "Maximum"

The "Proposed Inlet Hazard Area" boundaries illustrated in this map represent the conceptual representation of regions adjacent to North Carolina's developed inlets which are subject to inlet processes. These boundaries have been defined by experts* following a detailed change analysis of historic shorelines, vegetation, beach width, and geomorphology.

*NCEM, CRC, Science, Policy on Coastal Hazards and DDM Staff

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Scale = 1:10,500

2004 Background Imagery

Atlantic Ocean

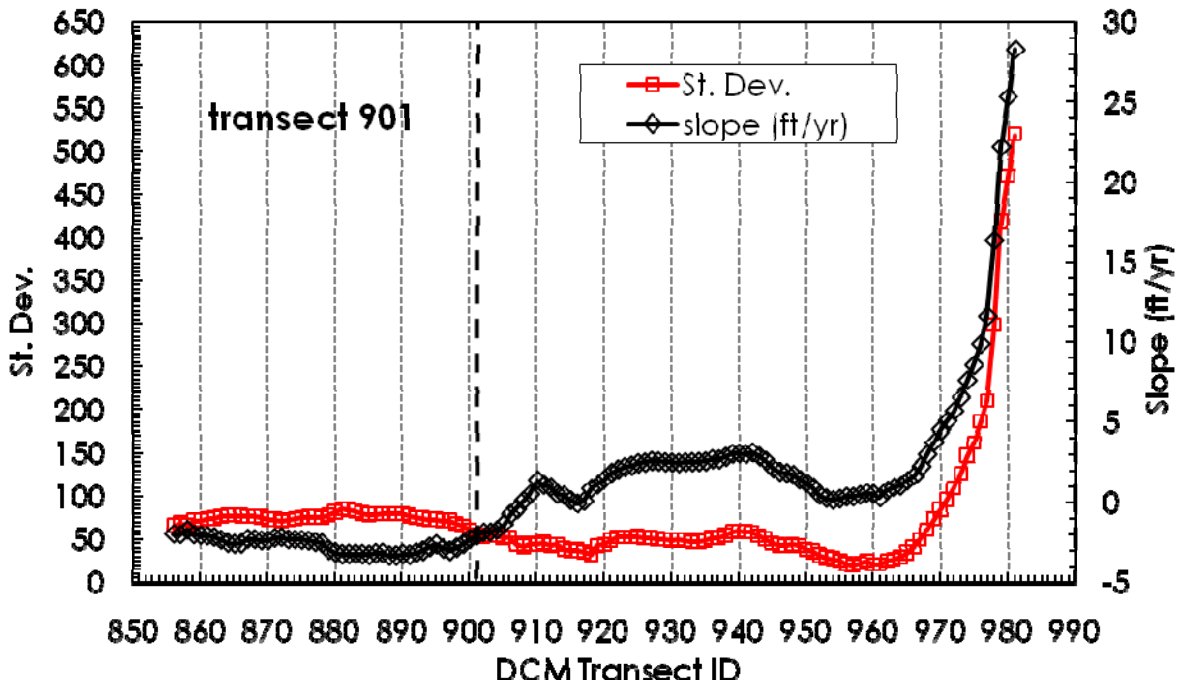
Holden Beach

Lockwood Folly Inlet

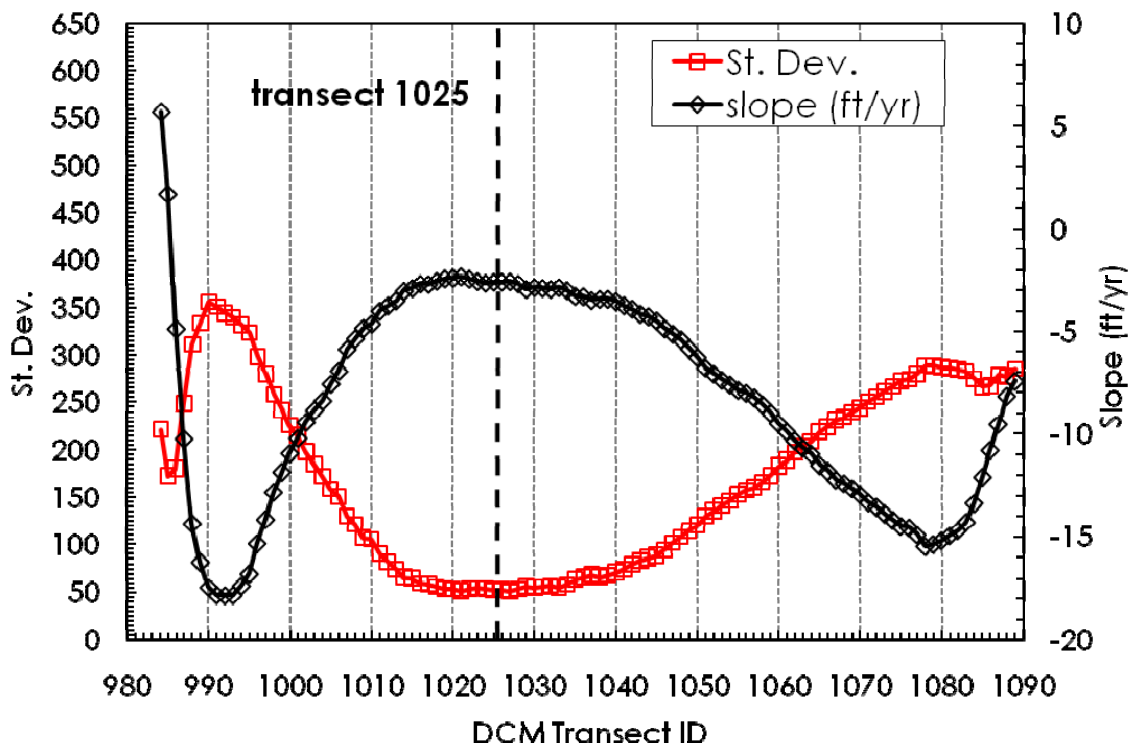
Oak Island

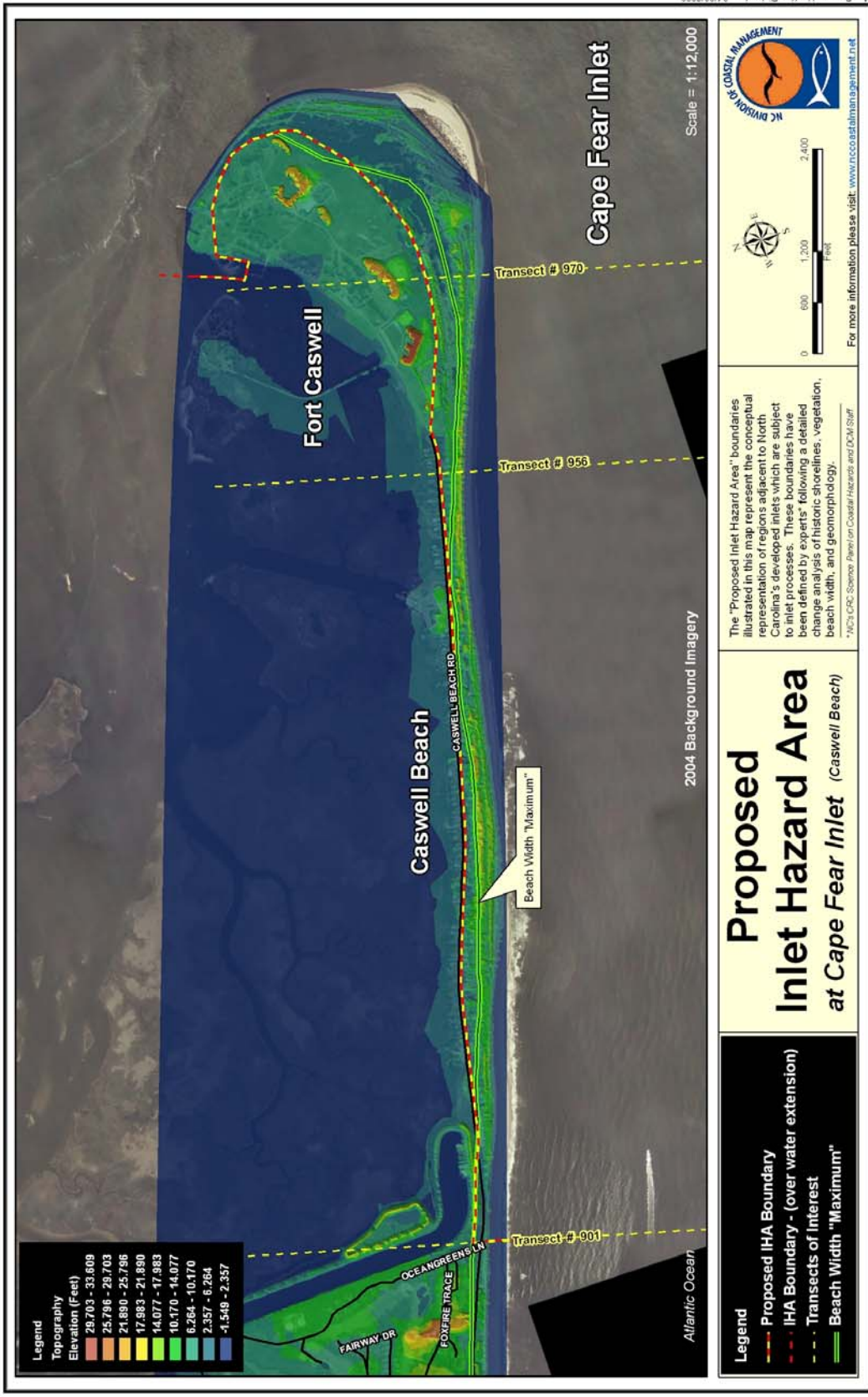
CAPE FEAR RIVER INLET

**Cape Fear Left: 1944, 1970, 1971, 1973, 1974, 1977,
1984, 1992, 1995, 1997, 1998, 2000, 2003, 2004**



**Cape Fear Right: 1942, 1970, 1971, 1973, 1974, 1977,
1984, 1992, 1995, 1997, 1998, 2000, 2003, 2004**

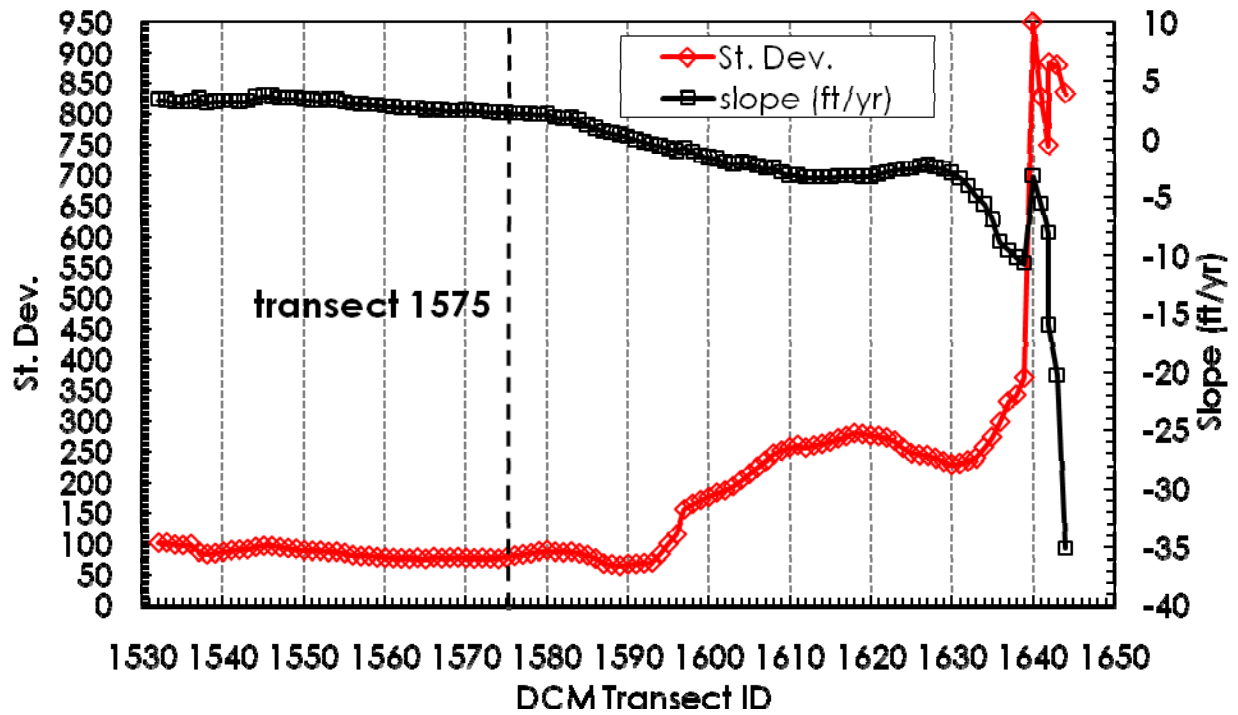




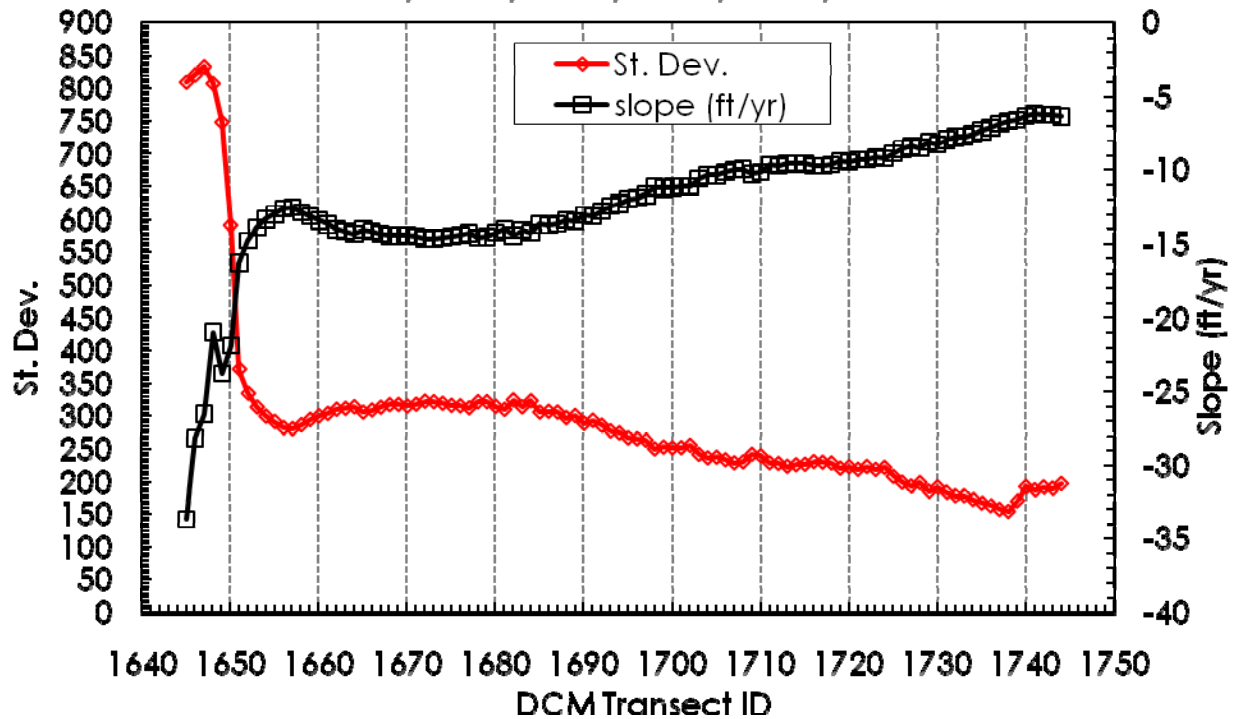


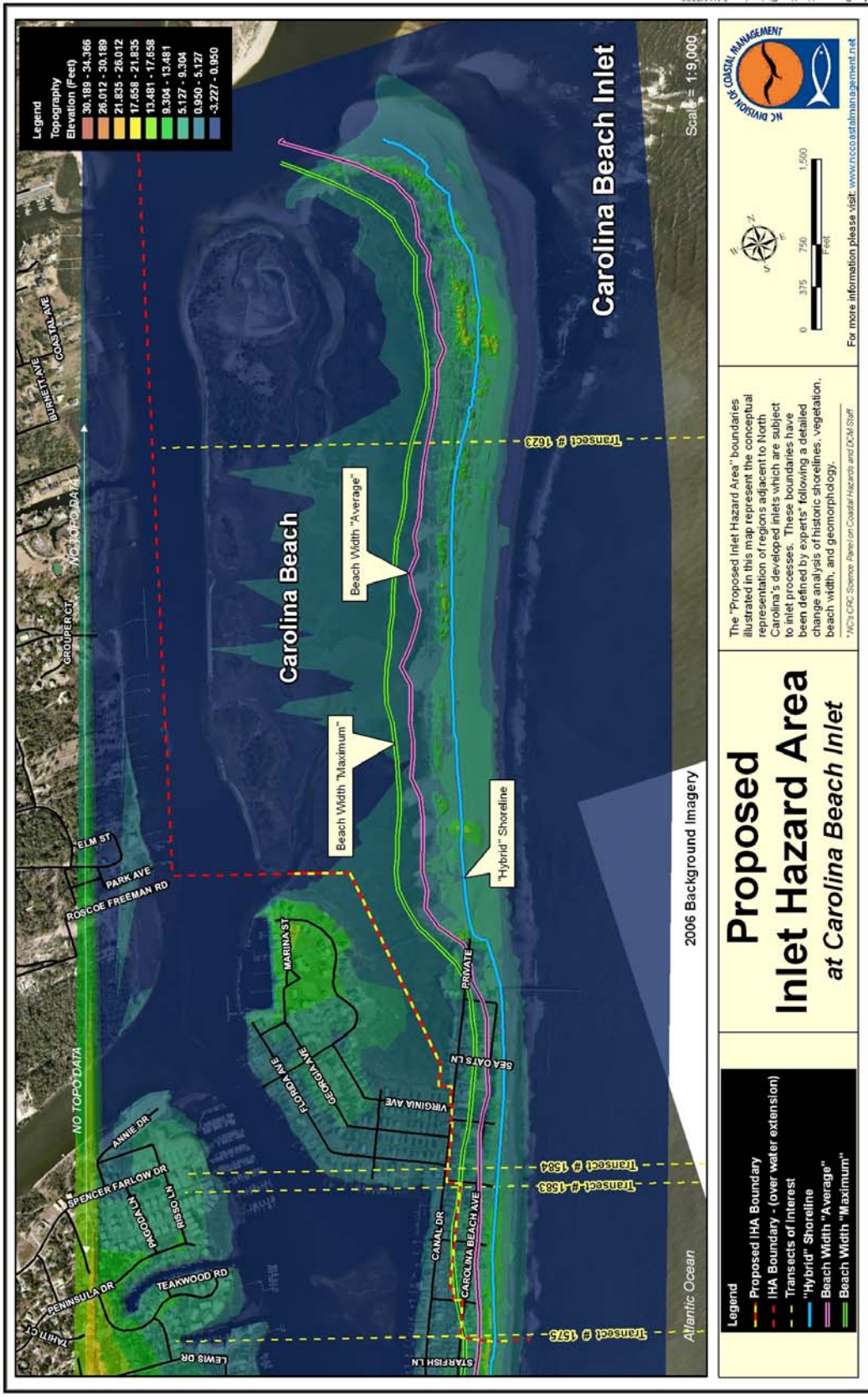
CAROLINA BEACH INLET and MASONBORO INLET

**Carolina Beach left: 1933, 1971, 1973, 1974, 1977,
1984, 1992, 1997, 1998, 2003, 2004**

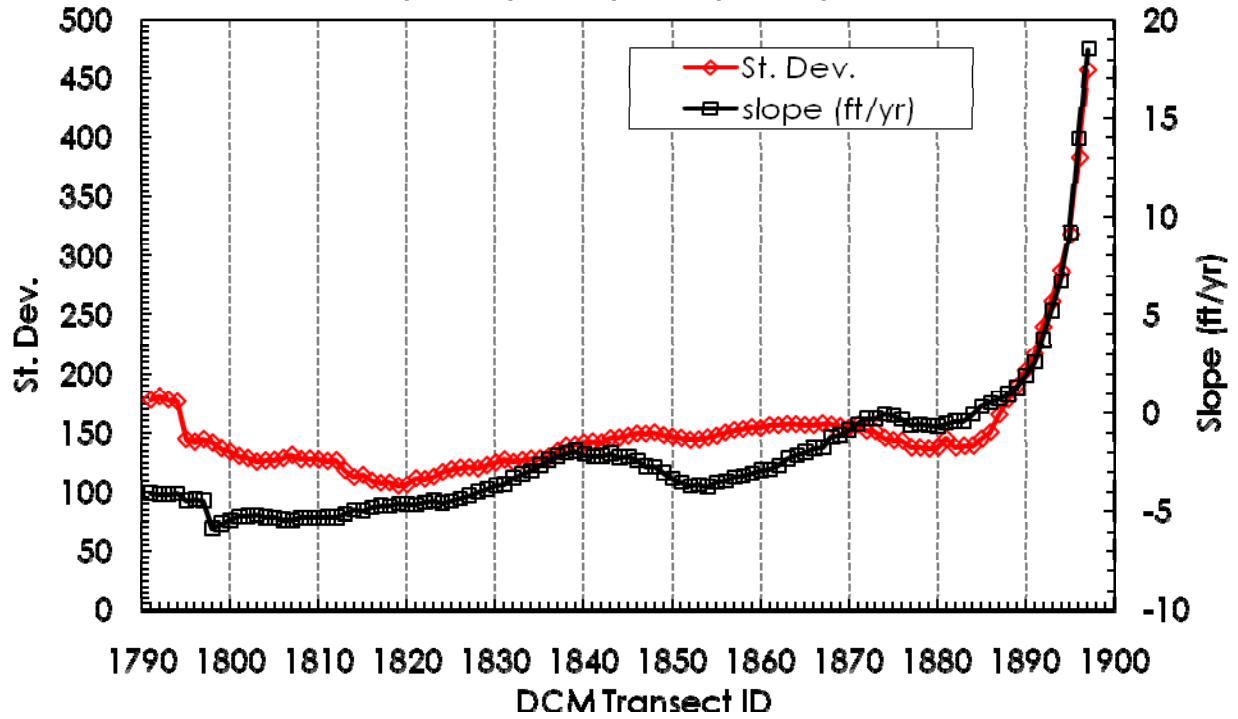


**Carolina Beach Right: 1933, 1971, 1973, 1974, 1977,
1984, 1992, 1997, 1998, 2003, 2004**

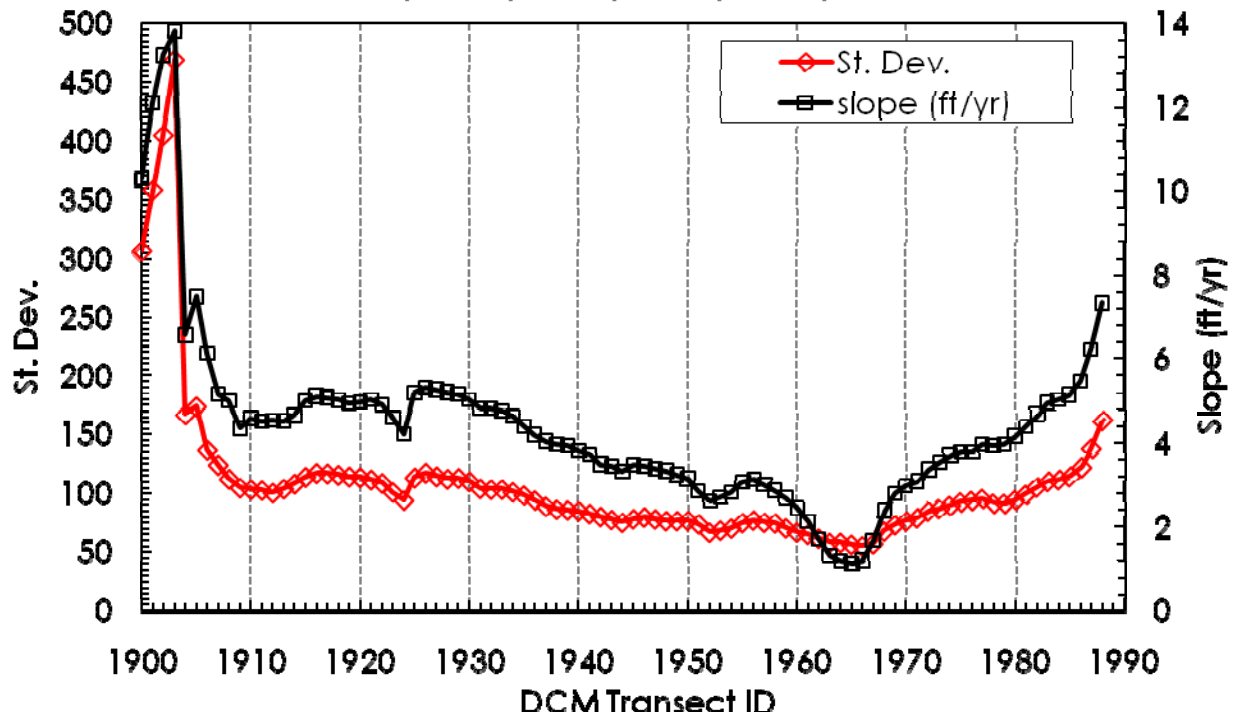


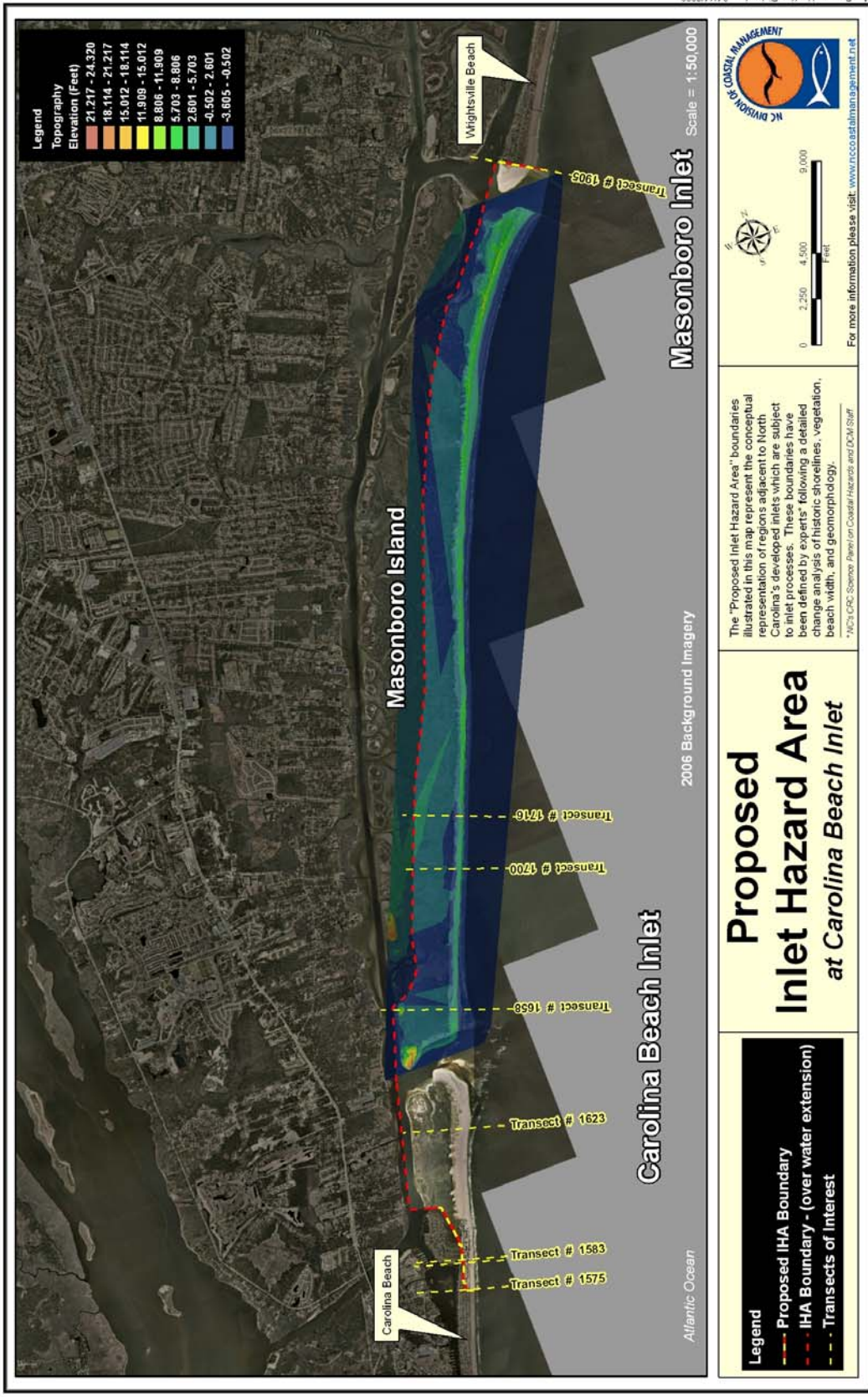


**Masonboro Left: 1933, 1973, 1974, 1977, 1984, 1992,
1995, 1997, 1998, 2000, 2003, 2004**



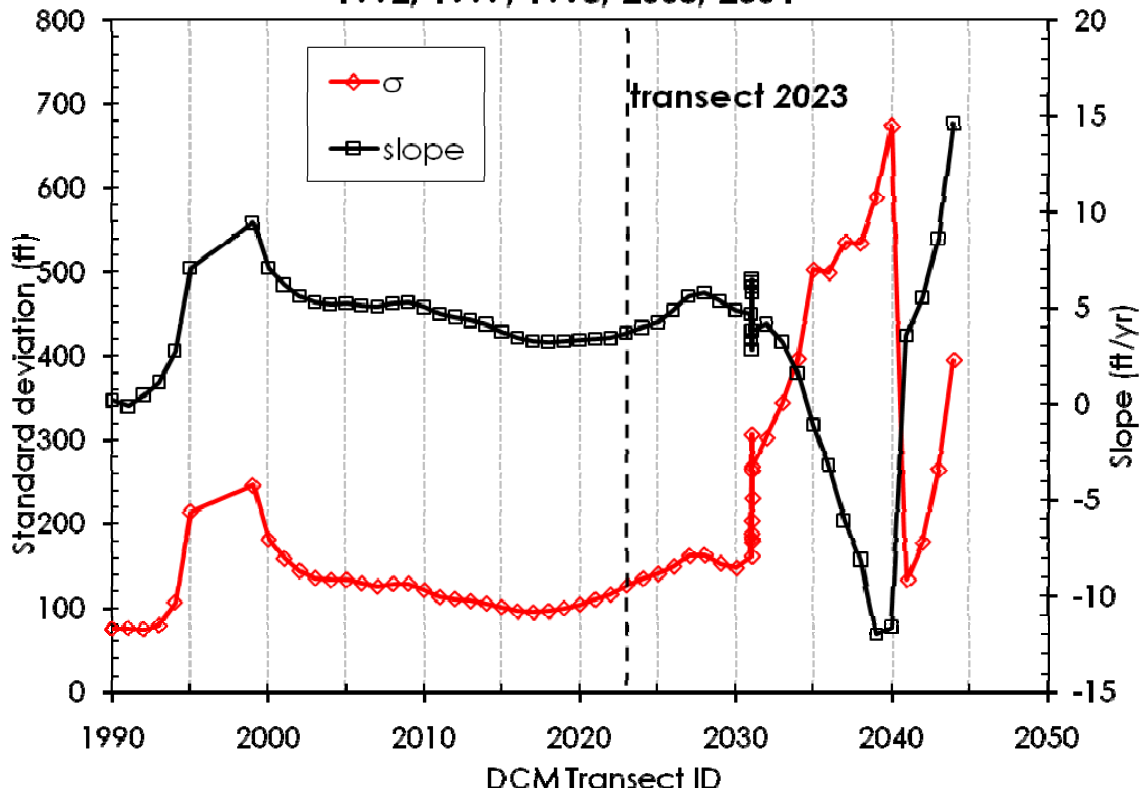
**Masonboro Right: 1933, 1973, 1974, 1977, 1984, 1992,
1995, 1997, 1998, 2000, 2003, 2004**



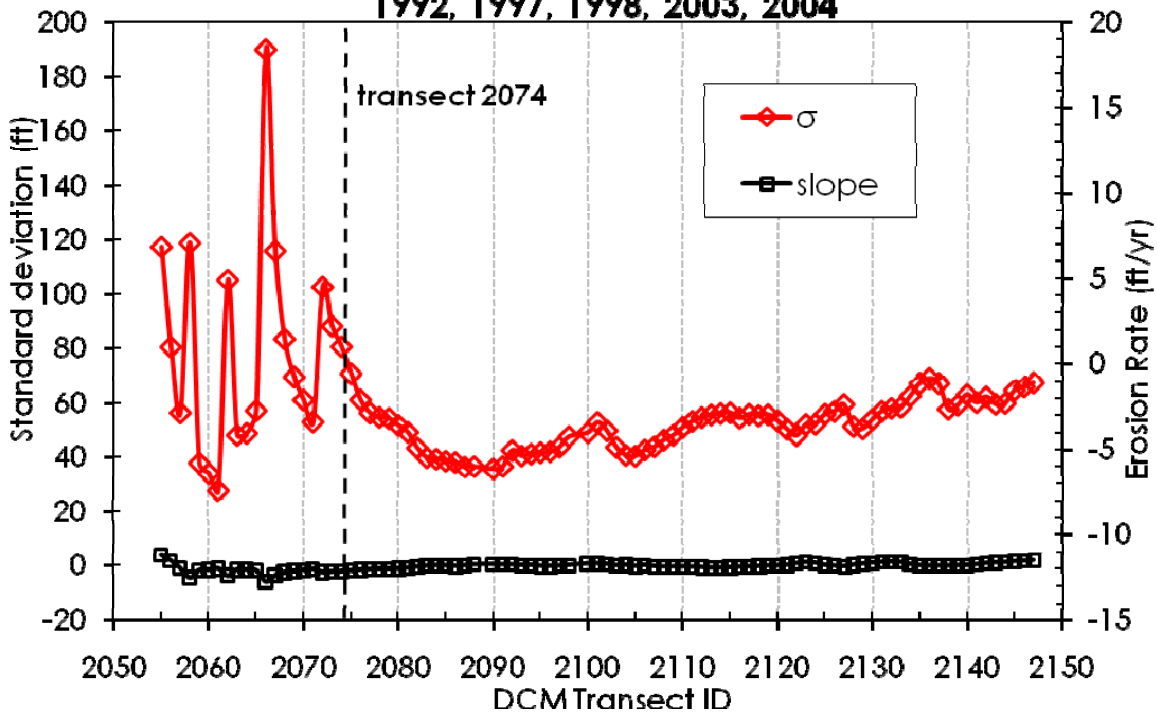


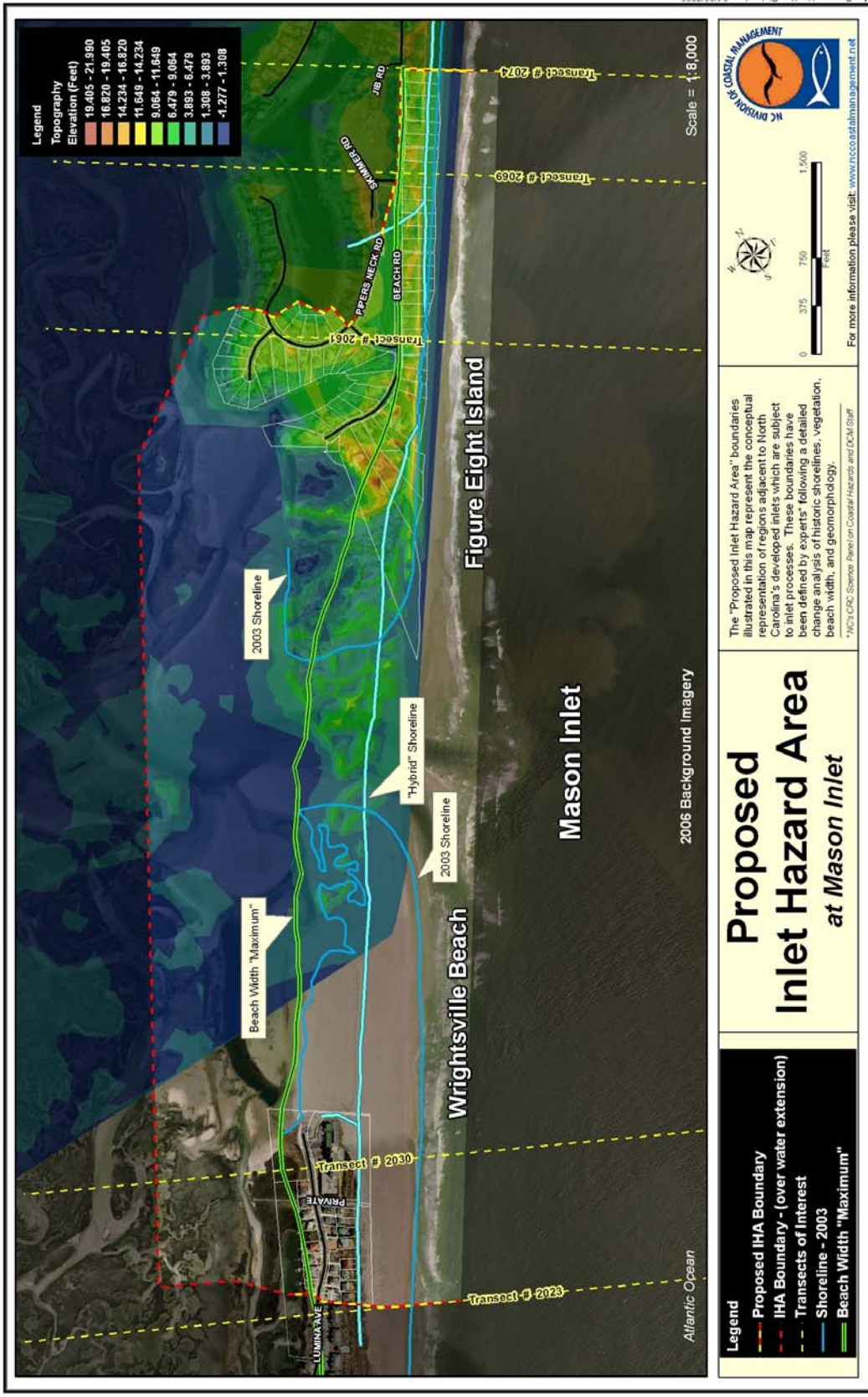
MASON INLET

Mason Left: 1933, 1949, 1958, 1971, 1973, 1977, 1987, 1992, 1997, 1998, 2003, 2004



Mason Right: 1933, 1949, 1958, 1971, 1973, 1977, 1987, 1992, 1997, 1998, 2003, 2004



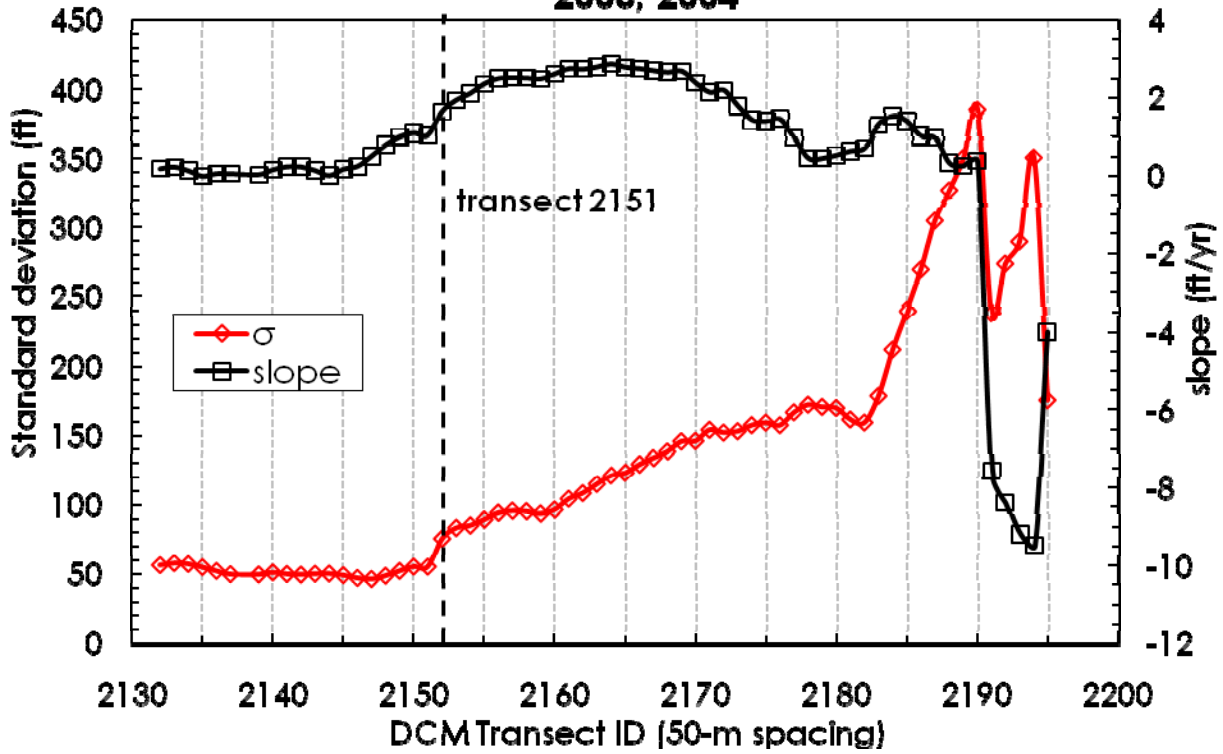


Map Prepared by Ken Richardson 04/09/2009

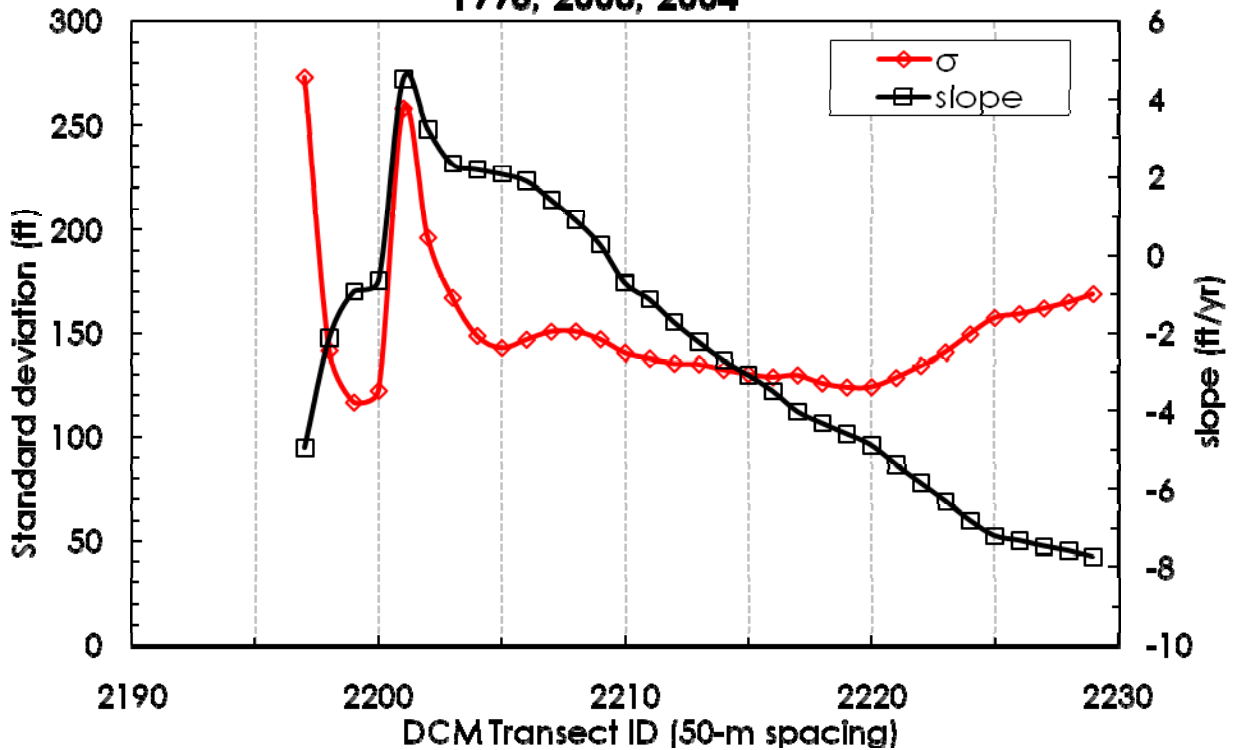
North Carolina DEIR - Division of Coastal Management - 2008

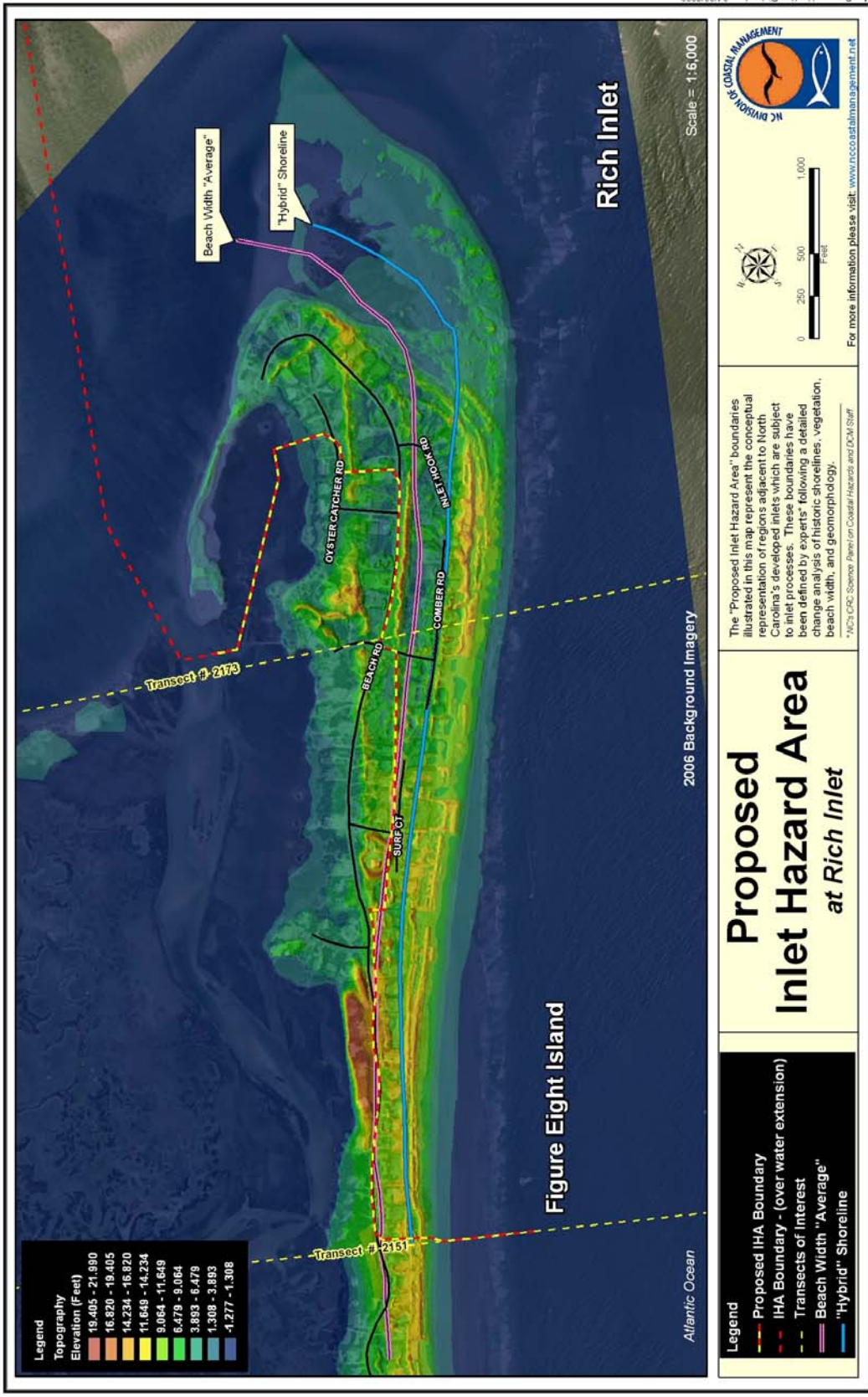
RICH INLET and NEW TOPSAIL INLET

Rich Inlet Left: 1938, 1958, 1973, 1980, 1992, 1997, 1998, 2003, 2004



Rich Inlet Right: 1938, 1958, 1973, 1980, 1992, 1997, 1998, 2003, 2004

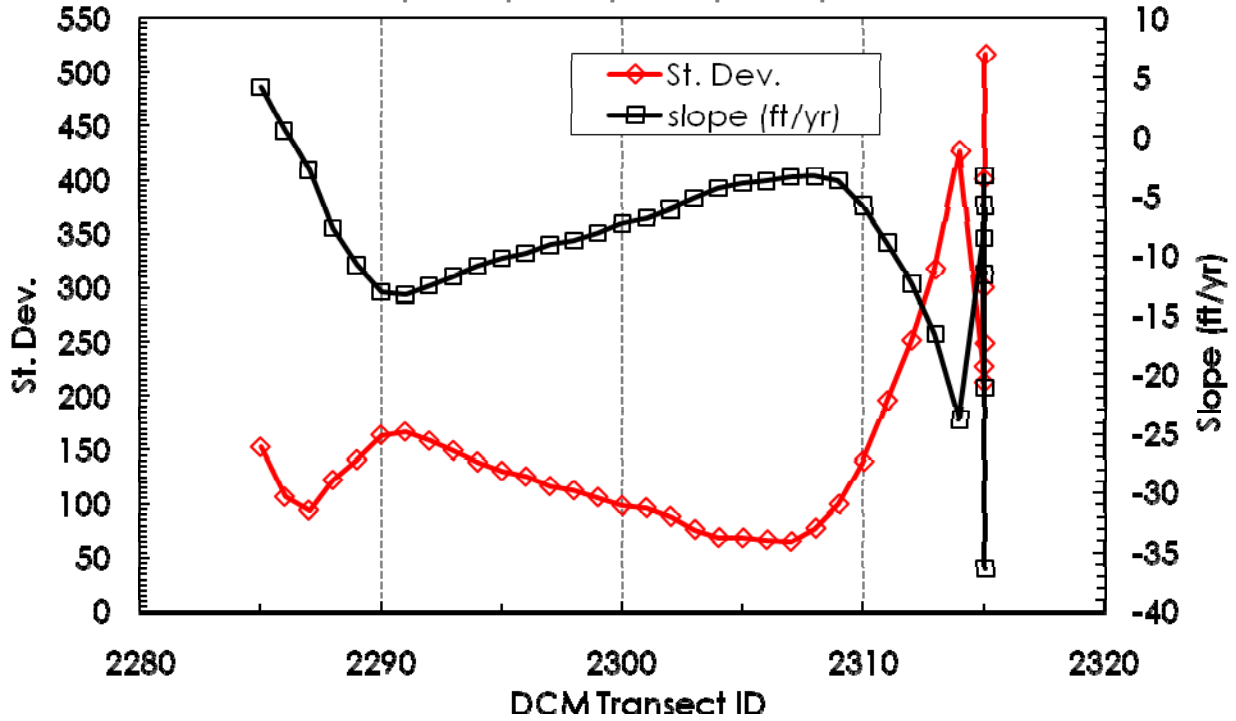




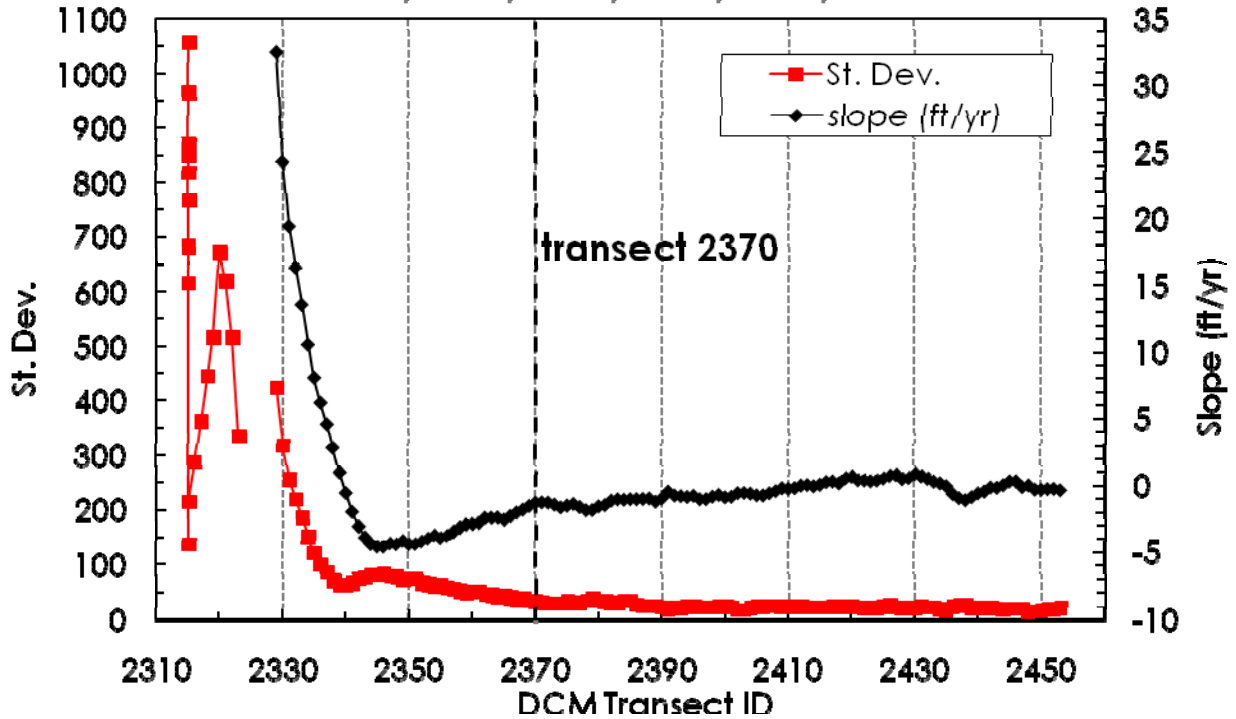
Map Prepared by Ken Richardson 04/09/2009

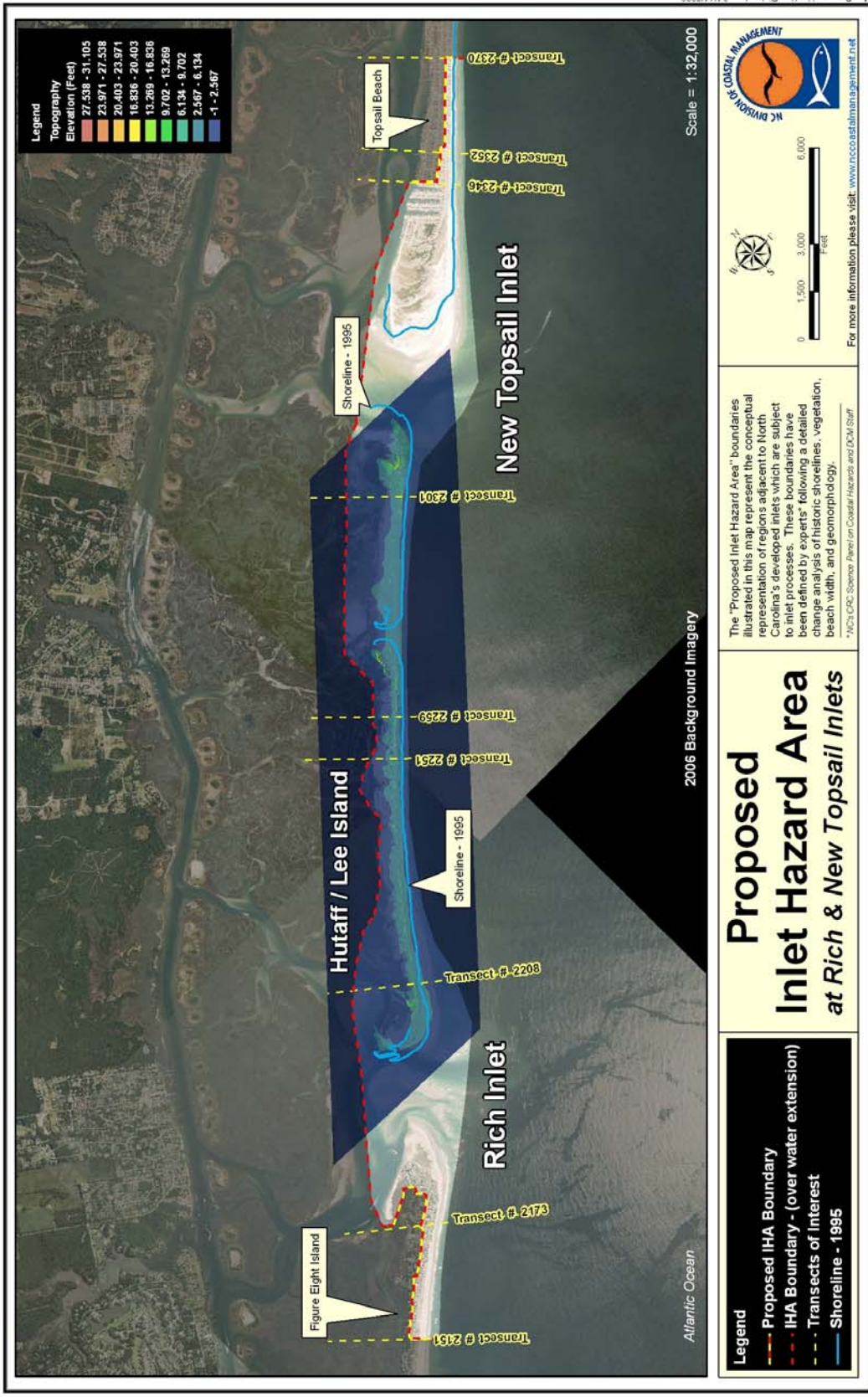
North Carolina DEIR - Division of Coastal Management - 2008

New Topsail Left: 1971, 1973, 1974, 1977, 1984, 1992, 1995, 1997, 1998, 2000, 2003, 2004



New Topsail Right: 1971, 1973, 1974, 1977, 1984, 1992, 1995, 1997, 1998, 2000, 2003, 2004





Legend

Topography
Elevation (Feet)

27,538 - 31,105
23,971 - 27,538
20,403 - 23,971
16,836 - 20,403
13,269 - 16,836
9,702 - 13,269
6,134 - 9,702
2,567 - 6,134
-1 - 2,567

Scale = 1:32,000

NC DIVISION OF COASTAL MANAGEMENT

0 1,500 3,000 6,000
FEET

For more information please visit: www.nccostalmanagement.net

The "Proposed Inlet Hazard Area" boundaries illustrated in this map represent the conceptual representation of regions adjacent to North Carolina's developed inlets which are subject to inlet processes. These boundaries have been defined by experts* following a detailed change analysis of historic shorelines, vegetation, beach width, and geomorphology.

*NCEM, CRC, Science Panel on Coastal Hazards and DDM Staff

Proposed Inlet Hazard Area at Rich & New Topsail Inlets

Legend

- Proposed IHA Boundary
- IHA Boundary - (over water extension)
- Transsects of Interest
- Shoreline - 1995

2006 Background Imagery

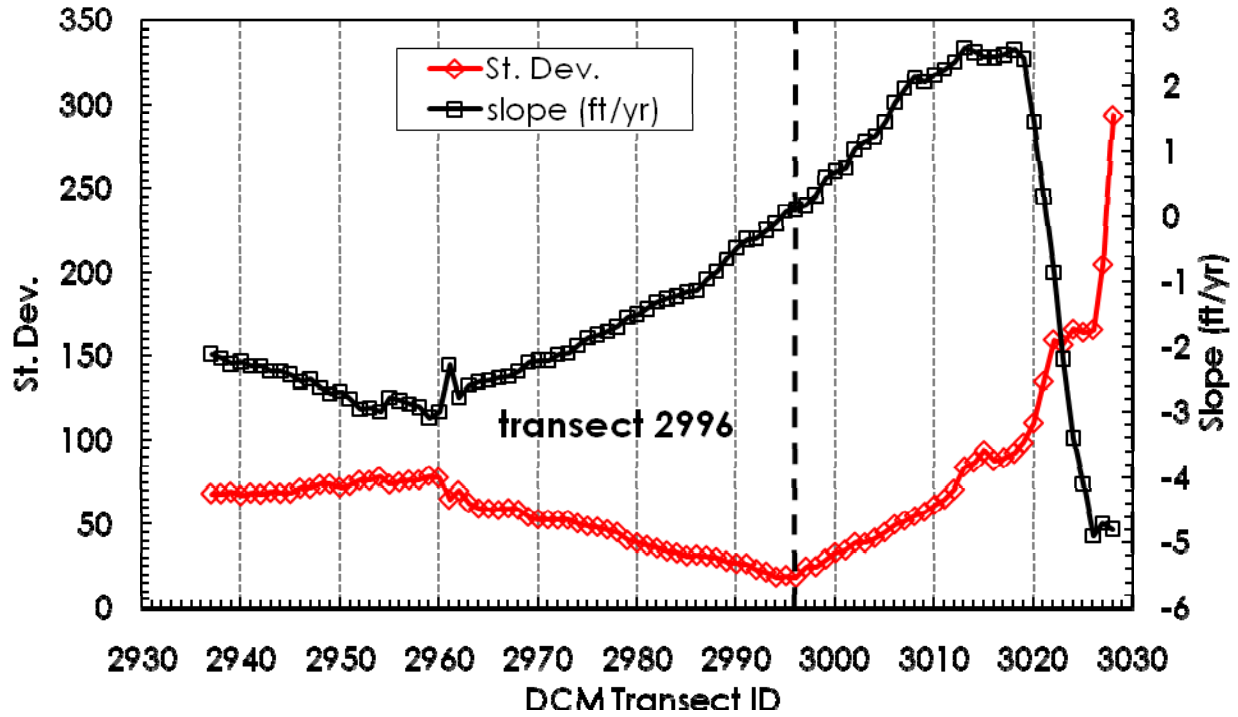
Atlantic Ocean



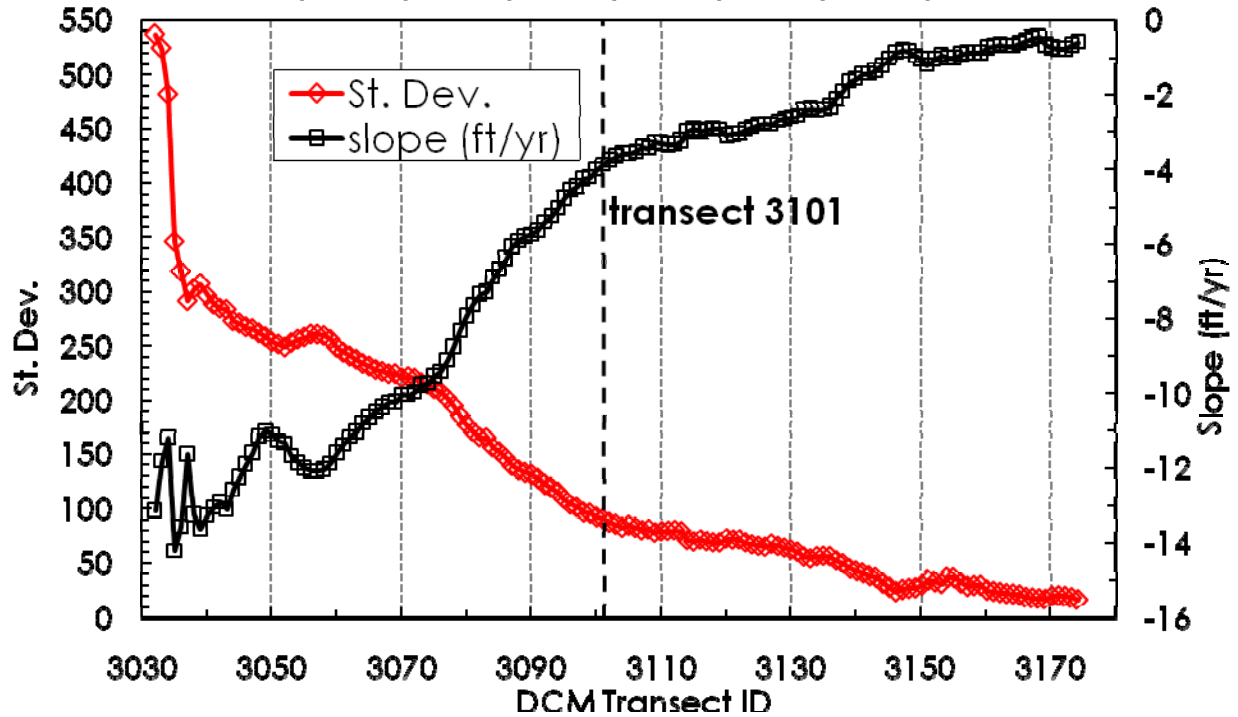
Map Prepared by Ken Richardson 04/14/2009

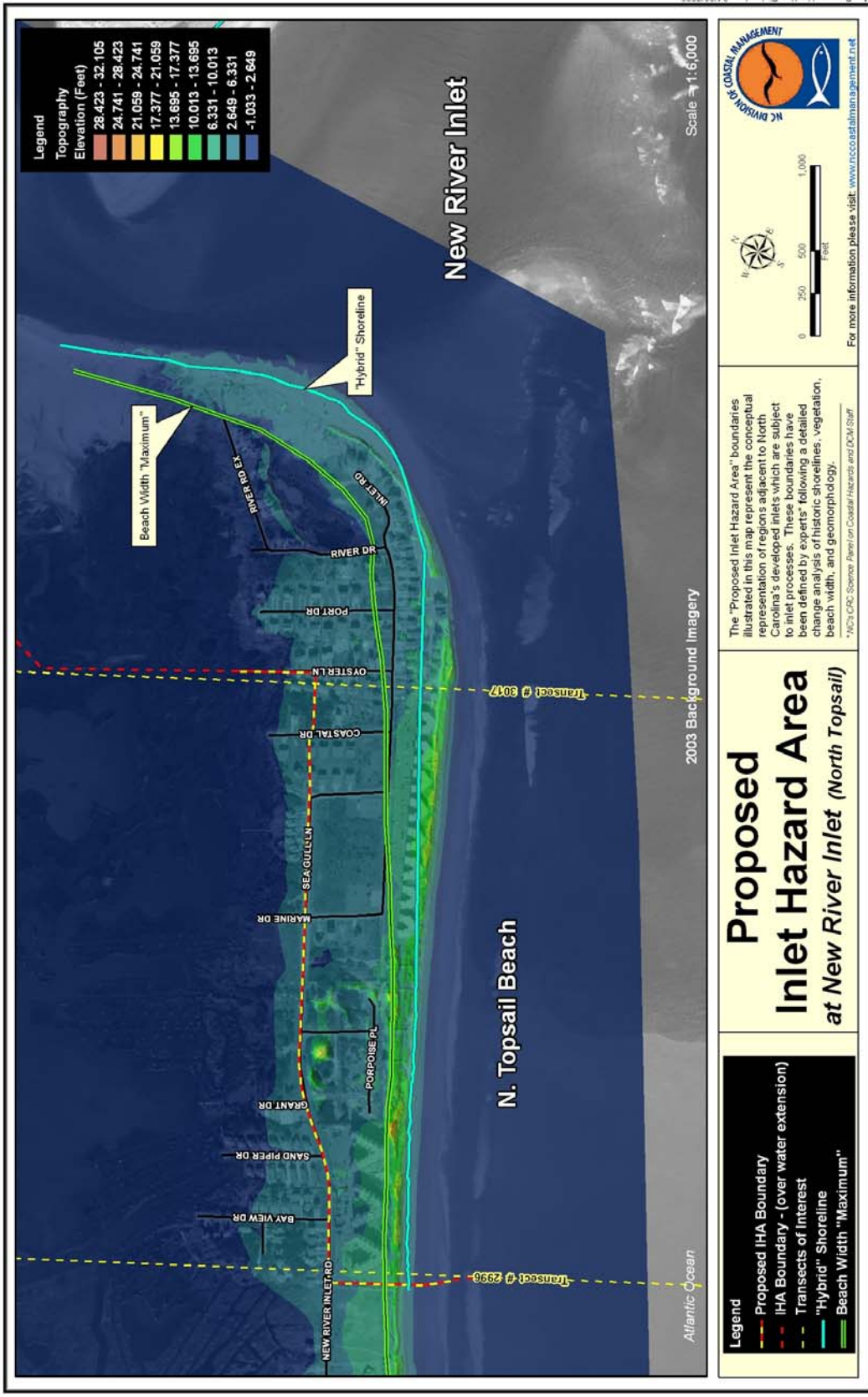
NEW RIVER INLET

**New River Left: 1934, 1952, 1971, 1973, 1974, 1977,
1984, 1992, 1995, 1997, 1998, 2000, 2003, 2004**



**New River Right: 1934, 1952, 1971, 1973, 1974, 1977,
1984, 1992, 1995, 1997, 1998, 2000, 2003, 2004**

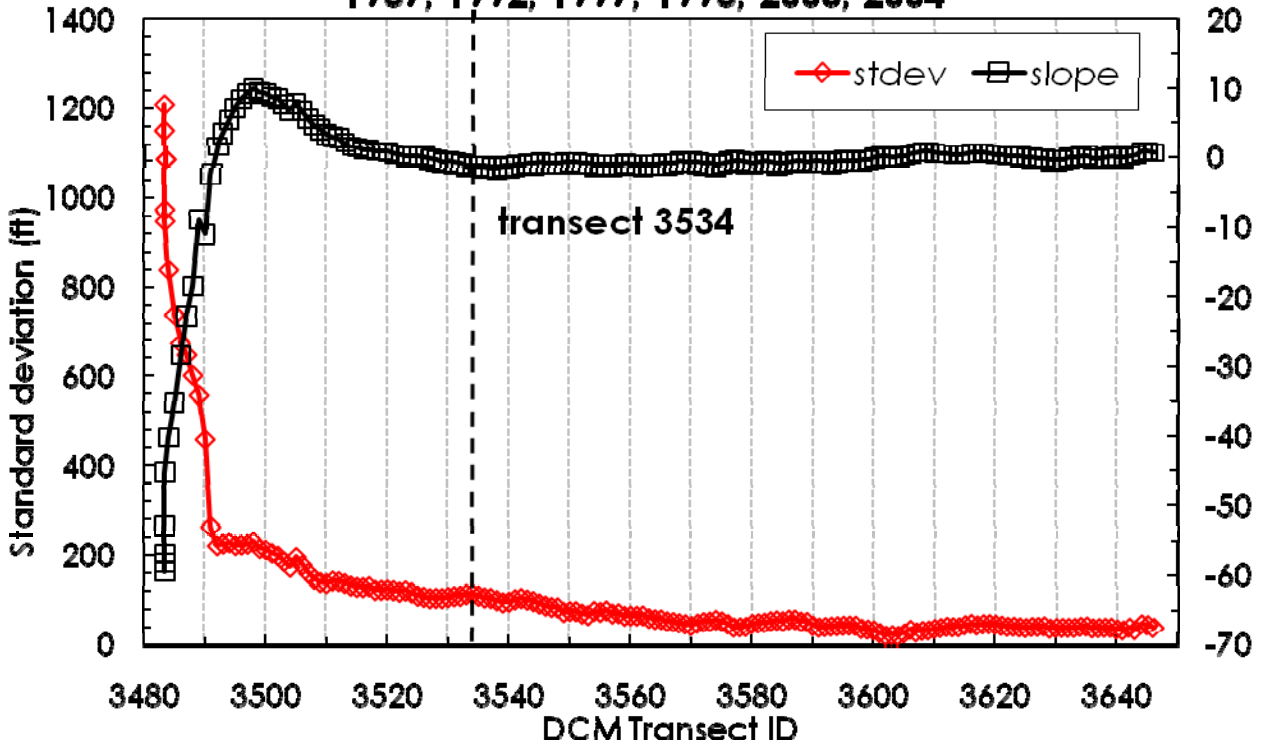




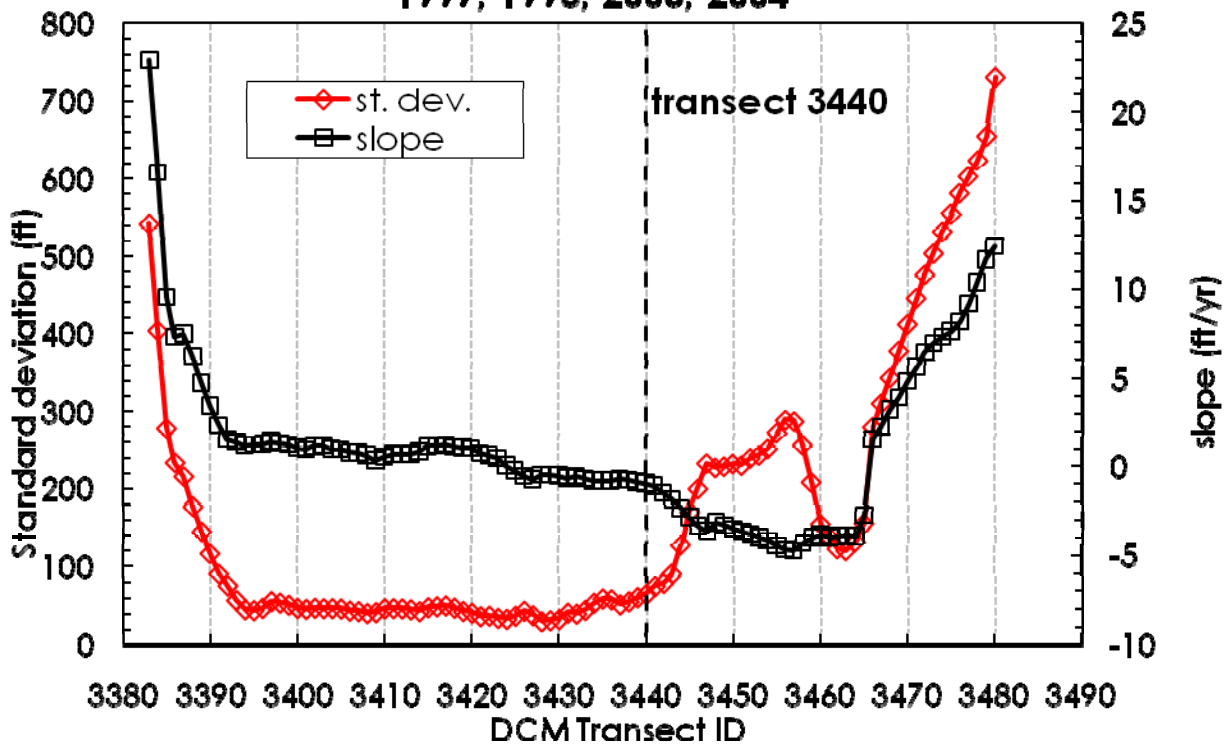
Map Prepared by Ken Richardson 04/09/2009

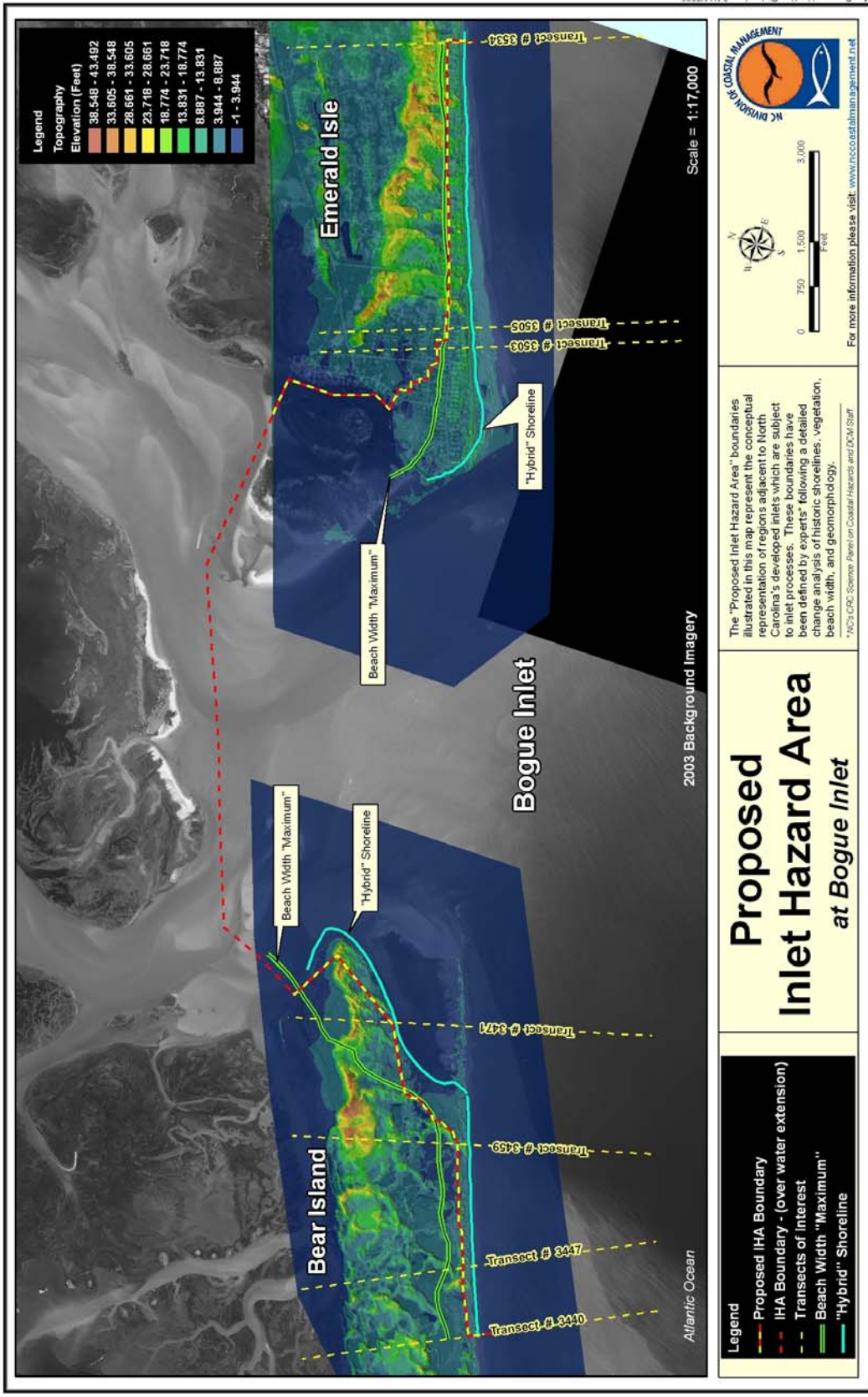
BOGUE INLET

Bogue Right: 1949, 1956, 1958, 1960, 1971, 1973, 1976, 1987, 1992, 1997, 1998, 2003, 2004



Bogue Left: 1949, 1956, 1960, 1971, 1973, 1987, 1992, 1997, 1998, 2003, 2004





Map Prepared by Ken Richardson 04/14/2009

North Carolina DEIR - Division of Coastal Management - 2008



- Legend**
- Proposed IHA Boundary
 - IHA Boundary - (over water extension)
 - Transsects of Interest
 - "Hybrid" Shoreline
 - Beach Width "Average"
 - Beach Width "Maximum"

Proposed Inlet Hazard Area at Bogue Inlet (Emerald Isle)

The "Proposed Inlet Hazard Area" boundaries illustrated in this map represent the conceptual representation of regions adjacent to North Carolina's developed inlets which are subject to inlet processes. These boundaries have been defined by experts following a detailed change analysis of historic shorelines, vegetation, beach width, and geomorphology.

*NCEM, CRC, Science Panel on Coastal Hazards and DDM Staff

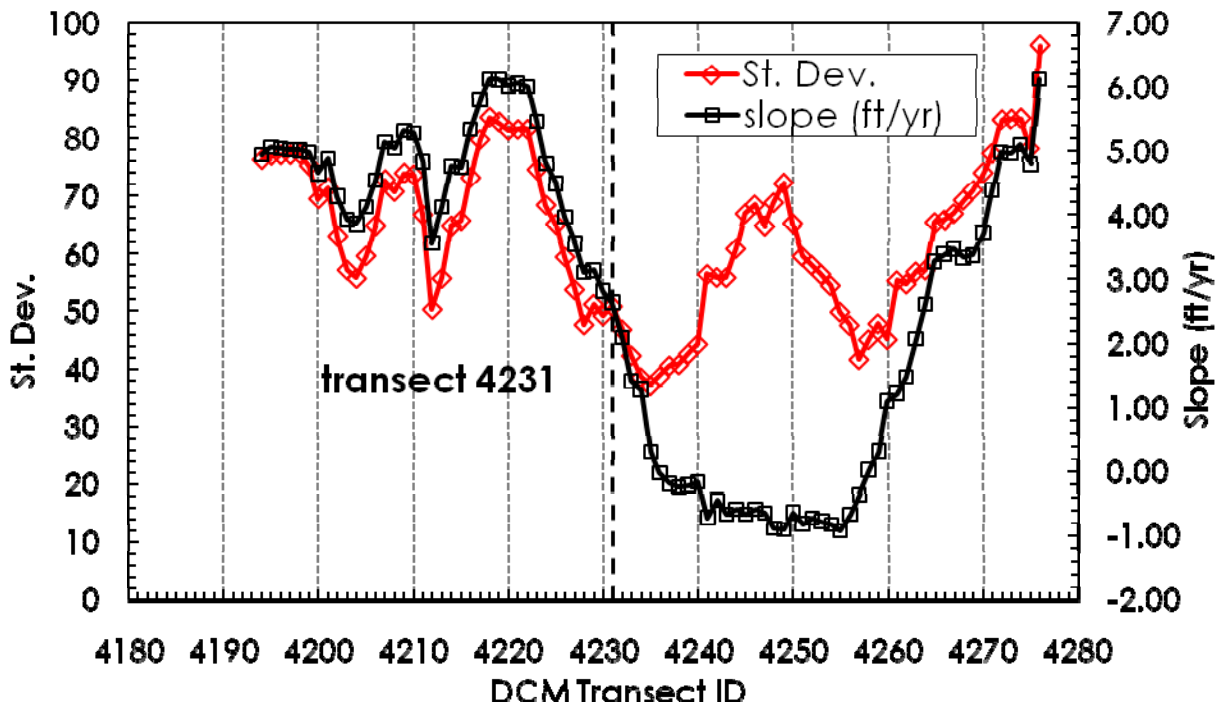
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2004 Background Imagery

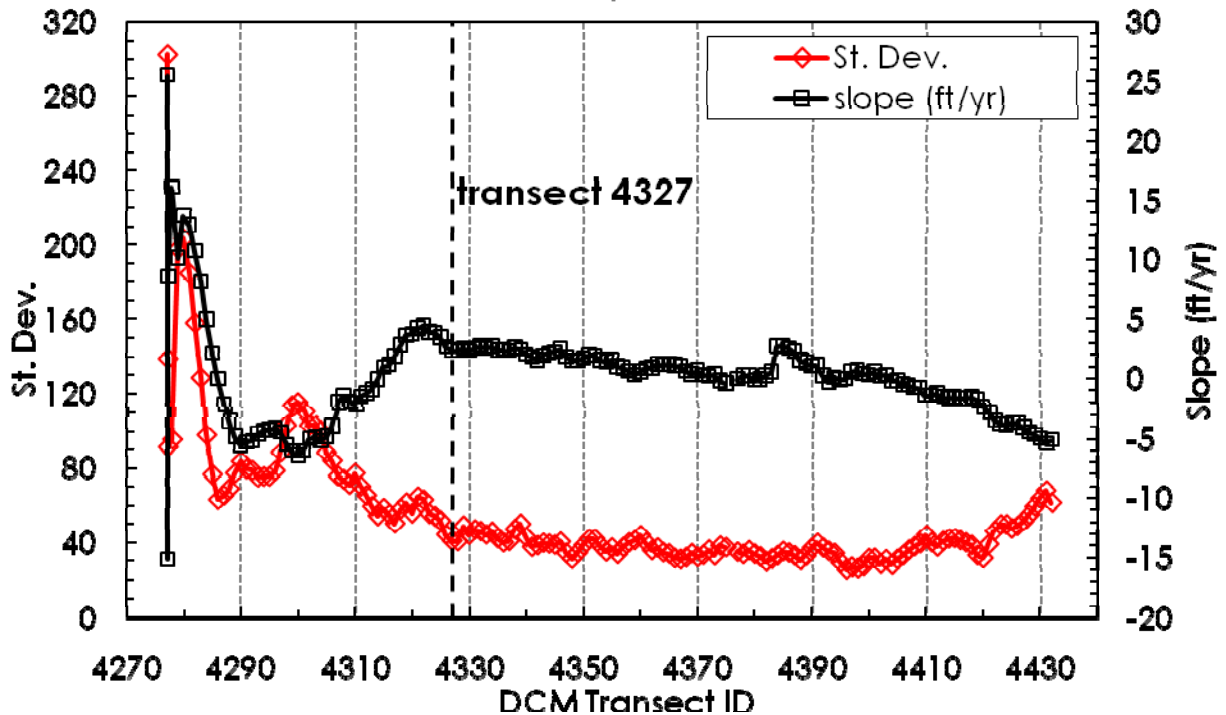
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BEAUFORT INLET

Beaufort Left: 1971, 1974, 1976, 1979, 1984, 1997, 1998, 2003, 2004



Beaufort Right: 1971, 1974, 1976, 1979, 1984, 1997, 1998, 2004





Legend
Topography
Elevation (Feet)

48,719 - 56,078
43,360 - 48,719
37,002 - 43,360
30,643 - 37,002
24,284 - 30,643
17,925 - 24,284
11,567 - 17,925
5,208 - 11,567
-1,151 - 5,208


Legend


- Proposed IHA Boundary
- - - IHA Boundary - (over water extension)
- - - Transects of Interest

Proposed Inlet Hazard Area at Beaufort Inlet (Fort Macon)

The "Proposed Inlet Hazard Area" boundaries illustrated in this map represent the conceptual representation of regions adjacent to North Carolina's developed inlets which are subject to inlet processes. These boundaries have been defined by experts* following a detailed change analysis of historic shorelines, vegetation, beach width, and geomorphology.

*NCEM CRC Science Panel on Coastal Hazards and DDM Staff


 NC DIVISION OF COASTAL MANAGEMENT


 0 280 560 1,120
 FEET

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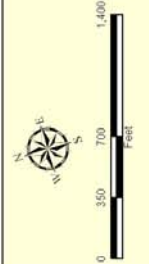


- Legend**
- Proposed IHA Boundary
 - IHA Boundary - (over water extension)
 - - - Transects of Interest
 - "Hybrid" Shoreline
 - Beach Width "Maximum"

Proposed Inlet Hazard Area at Beaufort Inlet (Shackleford Banks)

The "Proposed Inlet Hazard Area" boundaries illustrated in this map represent the conceptual representation of regions adjacent to North Carolina's developed inlets which are subject to inlet processes. These boundaries have been defined by experts following a detailed change analysis of historic shorelines, vegetation, beach width, and geomorphology.

*NCEM, CRC Science Panel on Coastal Hazards and DDM Staff



For more information please visit: www.nccoastalmanagement.net



North Carolina Department of Environment and Natural Resources
Division of Coastal Management

Beverly Eaves Perdue
Governor

James H. Gregson
Director

Dee Freeman
Secretary

(CRC-10-27)

May 5, 2010

MEMORANDUM

TO: Coastal Resources Commission
FROM: Mike Lopazanski
SUBJECT: 2010 Draft Coastal Habitat Plan Recommendations

As part of the five year review of the Coastal Habitat Protection Plan (CHPP), the CHPP Steering Committee has met over the past several months to update and revise the CHPP. These revisions reflect changes in the implementation goals and recommendations as the result of accomplishments, new information based on scientific studies as well as adding new areas of focus, such as sea level rise, climate change, and endocrine disrupting chemicals. The goals and revisions are designed to achieve the CHPP's goal of the "long-term enhancement of coastal fisheries associated with each coastal habitat."

In addition, the CHPP Steering Committee revises every two years, Implementation Plans, containing goals, recommendations and action items for the participating commissions: Environmental Management Commission, Coastal Resources Commission, Marine Fisheries Commission and the Wildlife Resources Commission, and their supporting agencies.

The four goals are:

- (1) Improve effectiveness of existing rules and programs protecting coastal fish habitats;
- (2) Identify, Designate and Protect Strategic Habitat Areas;
- (3) Enhance habitat and protect it from physical impacts; and
- (4) Enhance and protect water quality

Attached are materials included in the 2010 CHPP Revision (Goals Recommendations Table and Executive Summary). Also included is a map showing the general locations of the six habitats identified in the CHPP. As you will recall, the six habitats are water column, shell bottom, submerged aquatic vegetation, wetlands, soft bottom, and hard bottom.

Jimmy Johnson, the Department's CHPP Coordinator, will present the revisions at the upcoming meeting in Beaufort. The intention of the CHPP Steering is to have the revisions approved by the commissions for presentation at a series of public meetings this summer to receive comment on the revised Draft Plan. The revised Plan will be brought back to the commissions for approval in September. Following approval, the involved agencies will begin preparing implementation plans.

EXECUTIVE SUMMARY

This document is intended as a resource and guide for implementation of the goals and recommendations in Chapter 9 (Table 9.1).

North Carolina's coastal fisheries are among the most productive in the United States because of the diversity of habitats available in the largest estuarine system (2.3 million acres) of any single Atlantic coast state. The state's coastal fisheries also benefit from the location of North Carolina at the transition between mid-Atlantic and south Atlantic regions and a management system that supports active citizen participation. The current management system was developed following the decline of some important fish stocks during the late 1980s and early 1990s (for example, river herring, weakfish, and summer flounder) as fish kills and water-borne disease outbreaks increased. Protection and enhancement of fish habitats utilized by such species was considered especially beneficial in supporting stock recovery.

Recognizing the critical importance of healthy and productive habitats to produce fish for human benefits, the North Carolina General Assembly included a provision in the Fisheries Reform Act of 1997 instructing the Department of Environment and Natural Resources (DENR) to prepare Coastal Habitat Protection Plans (CHPPs). ***The legislative goal of the plans is long-term enhancement of coastal fisheries associated with each habitat.*** Unlike other planning efforts, the Fishery Reform Act mandated that the three regulatory commissions (Environmental Management, Coastal Resources, and Marine Fisheries Commissions) must adopt and implement the plan, thus requiring a coordinated management approach.

The purpose of the CHPP is to compile the latest scientific information on each habitat so that management needs can be identified to protect, enhance, and restore associated fish populations. The CHPP area includes all habitats within the coastal draining river basins in North Carolina. Because the Fall Line is the upper limit for migration of almost all coastal fisheries species, emphasis is placed on the area downstream from that point. The plan is organized by six fish habitat categories - water column, shell bottom, submerged aquatic vegetation, wetlands, soft bottom, and hard bottom. Each habitat chapter includes information on the distribution, ecological function, status and trends, and threats to those habitats; and management needs to address the threats. The interdependence of these habitats and the need to manage them at an ecosystem level is discussed in the Ecosystem Management and Strategic Habitat Areas Chapter, and habitat goals and recommendations are included in the final chapter.

The first edition of the CHPP was adopted in December 2004, and published in January 2005. The recommendations provide the framework to guide CHPP implementation. Each participating division, commission and the Department agreed to develop bi-annual implementation plans. Implementation plans have been developed for the 2005-06, 2006-07, and 2007-09 fiscal years. The Intercommission Review Committee (IRC), consisting of two members of each commission, was transformed into the CHPP Steering Committee (CSC) following CHPP adoption. The CSC's new charge was to meet quarterly and discuss progress in implementation, how to resolve complex habitat issues and exchange information on emerging issues. The CSC was also responsible for carrying back CHPP related information to their full commissions to enhance communication and coordination. The CSC asked the WRC to join their committee in 2009 as they saw increasing implementation actions that required coordination and cooperation with other agencies.

During the first five years of CHPP implementation, the CHPP was an active part of the decision making process for DENR, the divisions, and regulatory commissions. Numerous implementation actions were accomplished or begun. In the first year, most of the implementation work involved securing funding and positions to support implementation work. In the second year, many implementation actions were initiated and substantially advanced in the following year. Budget shortfalls somewhat constrained implementation success in 2008-2009. The CSC, in reviewing CHPP progress, concluded that the six

most significant accomplishments and advancements of the CHPP were:

- Interagency coordination/cooperation – CHPP coordinator position established, CHPP Steering Committee and interagency quarterly meetings
- Stormwater runoff management – adoption of EMC Phase 2 and coastal stormwater rules
- Habitat mapping – coastwide SAV mapping organized by APNEP workgroup, shellfish and shellfish closures mapping with new positions, SHA process to prioritize habitat areas, and shoreline mapping through grant funding
- Compliance monitoring – new positions in multiple divisions, cross training marine patrol, increased permit fees and fines
- Beach nourishment management – development of the Beach and Inlet Management Plan through grant funding, and adoption of CRC sediment criteria rules
- Oyster reef restoration – new positions and funding for sanctuary development and monitoring, funding for construction of a shellfish hatchery, and creation of an oyster shell recycling program

The FRA required that the CHPP be reviewed and updated every five years. The updated CHPP follows the same organizational format as the initial plan, with additional focus on fisheries ecosystem management. The following information is a brief summary of the 2010 CHPP, highlighting new information, status, accomplishments, and priority needs.

Habitat maps throughout the plan were updated to include newly mapped areas (foldout map). While much progress has been made on mapping, about 10% of shell bottom remains to be mapped, updated SAV maps are incomplete, more detailed mapping of nearshore hard bottom is needed, and wetland and bathymetry maps are in need of updating.

Since 2005, land-use patterns continued to change with population growth along the coast. During and just after completion of the first CHPP, there was a coastal boom in development. Rapidly accelerating property values made once small coastal mainland counties targeted for large new developments. Marketed as the “Inner Banks”, Pamlico, Chowan, Bertie, Washington, Brunswick, and Down East Carteret counties experienced rapid increase in population, and subsequent decline in farmland, fish houses, and water access. While coastal North Carolina has historically supported a strong commercial fishing industry, the past five years showed a decline of about 10% in the number of licensed commercial fishermen (~ 8565 in 2008) and a 13% decline in fish dealers (~738 in 2008). Although commercial fishing has declined, recreational fishing has increased (~ 1.9 million anglers in 2007). The economic recession beginning in 2008 has greatly slowed new development. However, because population along the coast has been growing for decades, pollutants and habitat stressors from a diversity of sources remain a significant threat to coastal fish habitat.

The **water column** is the habitat in which all fish live, and the physico-chemical characteristics of specific waterbodies determines the fish assemblages that will utilize it. The DWQ use support assessments are used to assess status of water quality. The last assessment (2004-2006) indicated little change in impairment. However, DWQ ambient monitoring coverage for estuaries remains low and only about 30% of freshwater streams are assessed where the majority of ambient stations are located. Fish kill events, which can be an indication of eutrophication, hypoxia, or toxic chemical issues, did not show an increasing trend over the past five years, though total mortality of fish was greater in recent years. Drought conditions from 2006-2008, reducing stormwater runoff, could have contributed to good water quality during the past few years. There was however an increase in reporting of wastewater treatment plant Notices of Violation and sewage spills, which contribute substantially to pollutant loading in coastal waters. Completion of several studies indicates that sea level rise is expected to increase in North Carolina at least 1 m per 100 yr. The effect of this rise, along with other weather changes associated with climate change will have a great influence on water quality, salinity, water depth, and temperature, all of which will alter fish distribution and abundance. Accomplishments of the CHPP which will benefit the

water column include adoption of coastal stormwater rules by EMC, designation of Anadromous Fish Spawning Areas by MFC and WRC, additional DWQ and Forestry compliance positions, advancements in swine farm wastewater management, and removal of two dams and USACE funding for dam modification to allow fish passage past Lock and Dam 1 on the Cape Fear River. Continued priority management needs include removing obstructions to anadromous fish passage, improving water monitoring coverage in gap areas identified by modeling, and developing tools (i.e., TMDLs) to address cumulative impacts. Emerging management needs include reducing pollutant loading from wastewater (including endocrine disrupting chemicals) through increased treatment and prevention of spills and violations, conducting research on rapid infiltration systems before further use, and implementing drug take-back program to reduce endocrine disrupting chemicals in waters.

Shell bottom is both an important fish habitat and a historical fishery, requiring a careful balance in management. The ecological value of shell bottom has been recognized to be as or more significant than the fishery, due to the many species it supports and the ecosystem services it provides. Subtidal shell bottom habitat significantly declined in the 1900s due to previous oyster dredging practices and has not substantially recovered due to disease, sedimentation, declining water quality, and fishing gear impacts. Since the 2005 CHPP was completed, additional habitat was mapped by DMF (90% complete), but no comparisons were done to assess change. However oyster spatfall in northern areas improved slightly from 2003-2006 and spatfall in the southern areas continues to be stable. Fishery rules currently restrict all bottom disturbing gear from 36% of the shell bottom area year-round and over 70% of shell bottom area has either trawling, dredging, mechanical shellfish harvest or a combination of these restrictions. Accomplishments of the 2005 CHPP regarding shell bottom include accelerated oyster shell recycling program, additional oyster sanctuary habitat (from state appropriated funds and federal stimulus project), and several research studies on larval dispersal and oyster restoration. Continued priorities include completing baseline mapping, refining programs for determining status and trends in shell bottom resources, and continuing scientifically based shell bottom restoration efforts. An emerging issue is conducting studies on the effect and prevalence of endocrine disruptor chemicals on shellfish.

Submerged aquatic vegetation is another important fish habitat known to support a high diversity of invertebrates and fish, and provide valuable ecosystem services as a primary producer and water quality enhancer. New ecological information in the plan includes information on the light and optical water quality conditions needed and available for SAV growth in North Carolina, and valuation studies that indicate the monetary value of the ecosystem services such as waste management, food production, and climate regulation are very high, making SAV habitat protection a priority. The major threats to SAV remain channel dredging and water quality degradation associated with excess nutrient and sediment accumulation. Since the 2005 CHPP coastwide imagery of SAV was obtained in 2007-2008 due to a multi-agency effort. Preliminary delineation in Bogue and Core Sounds noted an increase in patchiness of SAV compared to historical maps. There were anecdotal reports of an increase in SAV abundance in low salinity areas and high salinity areas south of New River. The observed increase could be attributed to drought and lack of storms during that period. Although a quantified estimate of SAV abundance or change over time has not been completed in North Carolina, a metadata study found a global and national decline in SAV. Accomplishments of the 2005 CHPP that may benefit SAV include adoption of coastal stormwater rules by EMC, a modified SAV definition by MFC, and revised dock rules by CRC. Continued priority needs include completing delineation of SAV imagery, and modeling water quality parameters to identify potential SAV habitat to aid in restoration and establishment of appropriate water quality standards. Emerging issues include developing comprehensive monitoring program to determine trends, initiating monitoring of SAV indicators, and assessing sea level rise effects.

Wetlands are the fish habitat occupying the transition between land and water. By storing and filtering land runoff, they enhance coastal water quality and play a vital role in providing refuge and food for juvenile fish. It is estimated that over 95% of the commercial finfish and shellfish fisheries are dependent on wetlands for some portion of their life cycle. Like SAV, valuation studies indicate wetlands provide

huge ecosystem services through water filtration, carbon sequestration, and production of food fish. Precolonial estimates of wetlands in North Carolina are approximately 7.2 million acres, and current estimates are approximately 5.1 million acres. No new mapping information was available since the last CHPP. However, there is data suggesting a loss of marsh islands from erosion. Between 2001 and 2008 approximately 1,700 acres of permitted wetland impacts were documented. Conversion for development and shoreline alterations are the major cause of wetland loss. Wetland losses and gains through mitigation are difficult to track, but it appears that mitigation and restoration are currently preventing net loss of wetlands. Improvements in wetland restoration are an important accomplishment of the CHPP. Continued priority needs include updating wetland and shoreline maps, improving mapping and tracking system for wetland loss by wetland types, and modifying shoreline stabilization techniques to maintain shallow nursery habitat and enhance riparian buffers. Emerging needs include developing CRC and DENR policies regarding sea level rise adaptations and revising land use planning guidelines, as well as considering alternative types of restoration/mitigation.

Soft bottom habitat is a key foraging habitat for juvenile and adult fish and invertebrates, and aids in storing and cycling of sediment, nutrients, and toxins between the bottom and water column. Shallow unvegetated bottom is particularly productive and, by providing refuge from predators, is an important nursery area. Species dependent on soft bottom include clams, crabs, flounder, and rays, although almost all fish will forage on microalgae, infauna, or epifauna on the soft bottom. Soft bottom habitat is dynamic and resilient to change, although it can be degraded by toxins, hypoxia, or dredging. There is minimal monitoring of sediment condition. Since the 2005 CHPP, there has been a large increase in requests for federally authorized and private beach nourishment projects. Large scale projects have been conducted or are underway at Bogue Banks, and Brunswick County beaches, and are in late planning stages for portions of Dare County and most of Topsail Island. Accomplishments of the 2005 CHPP that may benefit soft bottom include MFC and WRC designation of Anadromous Fish Spawning Areas, implementation of revised CRC sediment criteria rules, modification to CRC dock rules to protect PNAs, DCM development of a Beach and Inlet Management Plan, and research on effect of hypoxia on fish productivity. Emerging priority needs include updating existing bathymetric maps, preventing hardened structures on ocean shorelines, dredging and water quality restrictions for Anadromous Fish Spawning Areas, and implementing sand management strategies of the 2009 Ocean Policy Report.

Low to high relief **hard bottom** in nearshore ocean waters adds to the diversity of North Carolina's waters. The reefs serve as secondary nursery areas for estuarine dependent reef fish such as black sea bass and gag. Little new information is available for this habitat. SEAMAP-SA has conducted some mapping, but is limited in information on fish use or habitat description or quality. There are currently 11 artificial reefs in state waters and 47 in federal waters. The largest threat to hard bottom is large scale beach nourishment projects where hard bottom occurs immediately offshore of the nourished beach or near borrow areas. Continuing priority needs include establishing baseline data on the extent and quality of ocean hard bottom & fish use, monitoring water quality trends in bottom waters of the coastal ocean, and monitoring the effect of beach nourishment projects on nearshore hard bottom.

Ecosystem management is an approach to maintaining or restoring the composition, structure, function, and delivery of ecosystem services that focuses on multiple interdependent species and/or habitats rather than single species or habitats. The 2010 CHPP, while looking at each habitat individually also examines the interrelationship among habitats. Almost all threats mentioned in the CHPP affected more than one habitat and all habitats are affected by more than one threat. The largest threat to coastal fish habitats is the cumulative impact of multiple threats. Similarly, no single habitat is the most ecologically important. Multiple habitats are needed to maintain the functions of the entire system. Areas having high quality, structurally complex and diverse habitats are known to support ecosystem stability and resilience and should be high priorities for protection and conservation. Identification of Strategic Habitat Areas, areas of exceptional habitat quality, was a recommendation of the CHPP to accomplish this. MFC approved a process in 2006, the first assessment (Region 1 - Albemarle Sound area) was completed in 2008, and the

second assessment for Region 2 (Pamlico Sound, Pamlico and Neuse rivers) began in April 2010.

The 2010 CHPP identified numerous management needs, some accomplished, others with progress, without progress, or newly identified. The CHPP staff and CSC reviewed these management needs to determine if the existing goals and recommendations established in the 2005 CHPP adequately addressed all the specific management needs. The results suggested some necessary revision of the goals/recommendation language. The goals and recommendations listed below will serve as the new guiding framework for CHPP implementation over the next five years.

GOAL 1. IMPROVE EFFECTIVENESS OF EXISTING RULES AND PROGRAMS PROTECTING COASTAL FISH HABITATS

- Continue to enhance enforcement of, and compliance with, Coastal Resources Commission (CRC), Environmental Management Commission (EMC), Marine Fisheries Commission (MFC), and Wildlife Resources Commission (WRC) rules and permit conditions.
- Coordinate and enhance water quality, physical habitat, and fisheries resource monitoring (including data management) from headwaters to the nearshore ocean.
- Enhance and expand educational outreach on the value of fish habitat, threats from land-use and human activities, climate change, and reasons for management measures.
- Coordinate rulemaking and data collection for enforcement among regulatory commissions and agencies.
- Develop and enhance assessment and management tools for addressing cumulative impacts.
- Enhance control of invasive species with existing programs.

GOAL 2. IDENTIFY, DESIGNATE, AND PROTECT STRATEGIC HABITAT AREAS

- Support Strategic Habitat Area assessments by:
 - Coordinating, completing, and maintaining baseline habitat mapping (including seagrass, shell bottom, shoreline, and other bottom types) using the most appropriate technology.
 - Selective monitoring of the status of those habitats, and
 - Assessing fish-habitat linkages and effects of land use and human activities on those habitats
- Identify, designate, and protect Strategic Habitat Areas.

GOAL 3. ENHANCE HABITAT AND PROTECT IT FROM PHYSICAL IMPACTS

- Expand habitat restoration in accordance with ecosystem restoration plans, including:
 - Creation of subtidal oyster reef no-take sanctuaries.
 - Re-establishment of riparian wetlands and stream hydrology.
 - Restoration of SAV habitat and shallow soft bottom nurseries.
 - Developing compensatory mitigation process to restore lost fish habitat functions.
- Sustain healthy barrier island systems by maintaining and enhancing ecologically sound policies for ocean and inlet shorelines and implement a comprehensive beach and inlet management plan that provides ecologically based guidelines to protect fish habitat and address socio-economic concerns.
- Protect habitat from fishing gear effects through improved enforcement, establishment of protective buffers around habitats, modified rules, and further restriction of fishing gears, where necessary.
- Protect estuarine and public trust shorelines and shallow water habitats by revising shoreline stabilization rules to include consideration of erosion rates, and the benefits of alternatives to vertical shoreline stabilization measures that maintain shallow nursery habitat.
- Protect and enhance habitat for migratory fishes by:
 - Incorporating the water quality and quantity needs of fish in water use planning and rule making.
 - Eliminating or modifying obstructions to fish movements, such as dams and culverts, to improve fish passage.

- Ensure that energy development and infrastructure is designed and sited in a manner that minimizes negative impacts to fish habitat, avoids new obstructions to fish passage, and where possible provides positive impacts.
- Protect important fish habitat functions from damage associated with activities such as dredging and filling.
- Develop coordinated policies including management adaptations and guidelines to increase resiliency of fish habitat to climate change and sea level rise.

GOAL 4. ENHANCE AND PROTECT WATER QUALITY

Point sources

- Reduce point source pollution discharge by:
 - Increasing inspections of discharge treatment facilities, collection infrastructure, and disposal sites.
 - Providing incentives for upgrading all types of discharge treatment systems.
 - Develop standards and treatment facilities that minimize the threat of endocrine disrupting chemicals on aquatic life.
- Adopt or modify rules or statutes to prohibit ocean wastewater discharges.
- Prevent additional shellfish and swimming closures through targeted water quality restoration and prohibit new or expanded stormwater outfalls to coastal beaches and to coastal shellfishing waters (EMC surface water classifications SA and SB) except during times of emergency (as defined by the Division of Water Quality’s Stormwater Flooding Relief Discharge Policy) when public safety and health are threatened, and continue to phase-out existing outfalls by implementing alternative stormwater management strategies.

Non-point sources

- Enhance coordination with, and financial/technical support for, local government actions to better manage stormwater and wastewater.
- Improve strategies throughout the river basins to reduce non-point pollution and minimize cumulative losses of fish habitats through voluntary actions, assistance, and incentives, including:
 - Improved methods to reduce pollution from construction sites, agriculture, and forestry.
 - Increased on-site infiltration of stormwater.
 - Documentation and monitoring of small but cumulative impacts to fish habitats from approved, un-mitigated activities.
 - Encouraging and providing incentives for low impact development.
 - Increased inspections of onsite wastewater treatment facilities.
 - Increased water re-use and recycling.
- Improve strategies throughout the river basins to reduce non-point pollution and minimize cumulative losses of fish habitats through rule making, including:
 - Increased use of effective vegetated buffers,
 - Implementing and assessing coastal stormwater rules and modify if justified.
 - Modified water quality standards that are adequate to support SAV habitat.
- Reduce non-point source pollution from large-scale animal operations by the following actions:
 - Support early implementation of environmentally superior alternatives to the current lagoon and spray field systems as identified under the Smithfield Agreement and continue the moratorium on new/expanded swine operations until alternative waste treatment technology is implemented.
 - Seek additional funding to phase-out large-scale animal operations in sensitive areas and relocate operations from sensitive areas, where necessary.
 - Use improved siting criteria to protect fish habitat.
- Maintain adequate water quality conducive to the support of present and future aquaculture.

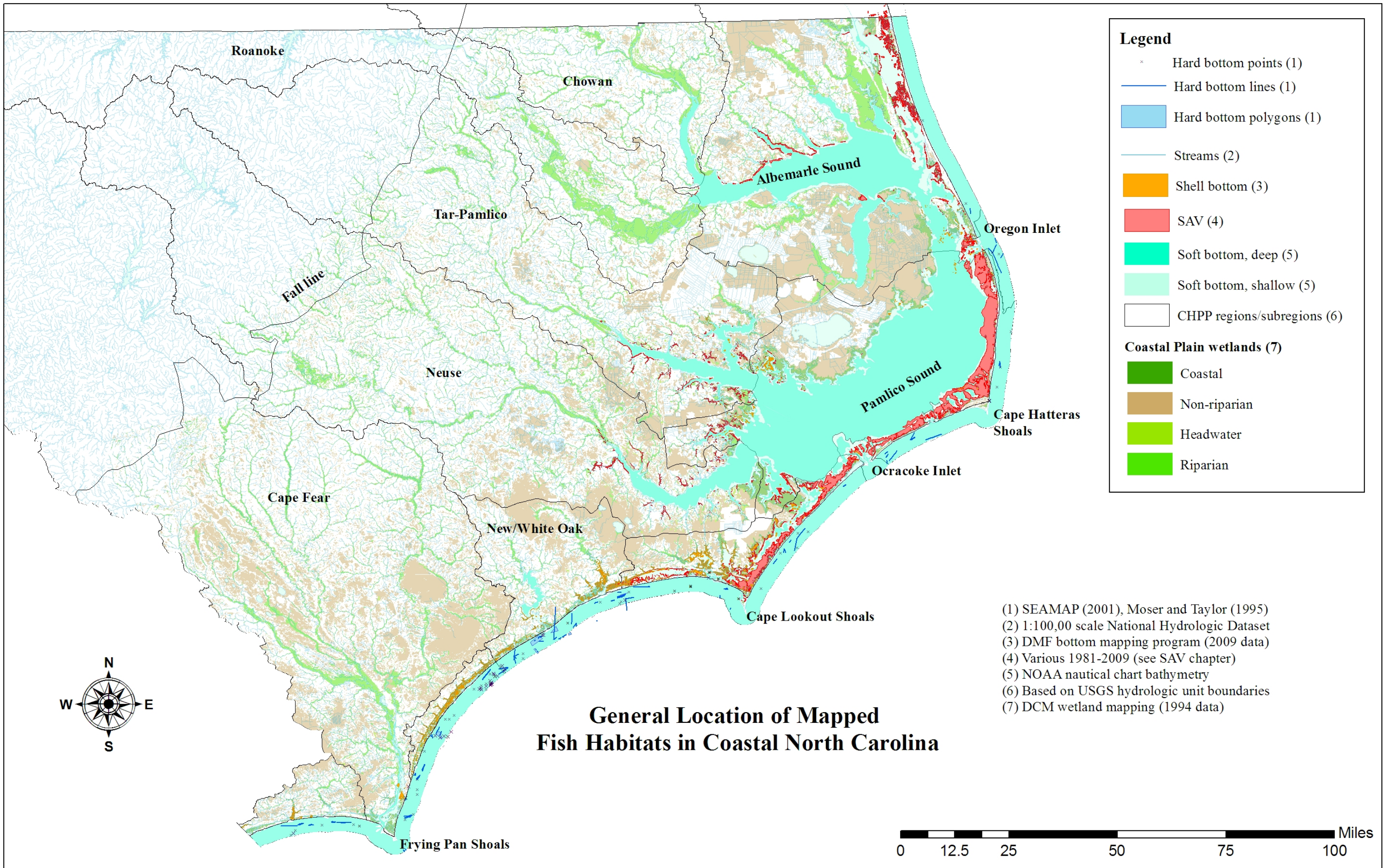
Table 9.1 Recommendations for the long-term enhancement of coastal fisheries associated with coastal habitats. Note: * signifies new recommendation.

Reference No.	Recommended actions to protect, enhance, restore, and manage coastal fish habitats	Responsible commission or agency [Lead group(s) in bold]	Progress
GOAL 1. IMPROVE EFFECTIVENESS OF EXISTING RULES AND PROGRAMS PROTECTING COASTAL FISH HABITATS			
1.1	Continue to enhance enforcement of, and compliance with, Coastal Resources Commission (CRC), Environmental Management Commission (EMC), Marine Fisheries Commission (MFC), and Wildlife Resource Commission (WRC) rules and permit conditions.	CRC/DCM, EMC/DWQ, MFC/DMF, CHS, SCC, WRC, DFR, DLR, S&WCC	☑
1.2	Coordinate and enhance water quality, physical habitat, and fisheries resource monitoring (including data management) from headwaters to the nearshore ocean.	DENR, DMF, DWQ, DCM, WRC	☑
1.3	Enhance and expand educational outreach on the value of fish habitat, threats from land-use and human activities, climate change and reasons for management measures.	DENR, WRC	☑
1.4	Coordinate rulemaking and data collection for enforcement among regulatory commissions and agencies.	EMC, CRC, MFC, DENR, WRC, SWCC, DFR	☑
1.5*	Develop and enhance assessment methodology and management tools for addressing cumulative impacts.	CRC/DCM, EMC/DWQ, MFC/DMF, CHS, SCC, WRC, DFR, DLR, S&WCC, APNEP, DENR	☑
1.6*	Enhance control of invasive species with existing programs.	DENR, WRC	☑
GOAL 2. IDENTIFY, DESIGNATE, AND PROTECT STRATEGIC HABITAT AREAS			
2.1	Support Strategic Habitat Area assessments by: a) coordinating, completing, and maintaining baseline habitat mapping (including seagrass, shell bottom, shoreline, and other bottom types) using the most appropriate technology b) selective monitoring of the status of those habitats c) assessing fish-habitat linkages and effects of land use and human activities on those habitats	DMF, DCM, DWQ, DENR, WRC	☑

Reference No.	Recommended actions to protect, enhance, restore, and manage coastal fish habitats	Responsible commission or agency [Lead group(s) in bold]	Progress
2.2	Identify, designate, and protect Strategic Habitat Areas .	DENR, CRC/DCM, EMC/DWQ, MFC/DMF, WRC	<input checked="" type="checkbox"/>
GOAL 3. ENHANCE HABITAT AND PROTECT IT FROM PHYSICAL IMPACTS			
3.1	Expand habitat restoration in accordance with restoration plan goals, including: a) creation of subtidal oyster reef no-take sanctuaries b) re-establishment of riparian wetlands and stream hydrology c)* restoration of SAV habitat and shallow soft bottom nurseries d)* develop compensatory mitigation process to restore lost fish habitat function	DMF, EEP, CRC, WRC?	a) <input checked="" type="checkbox"/> b) <input checked="" type="checkbox"/> c) <input checked="" type="checkbox"/> d) <input checked="" type="checkbox"/>
3.2	Sustain healthy barrier island systems by maintaining and enhancing ecologically sound policies for ocean and inlet shorelines and implement a comprehensive beach and inlet management plan that provides ecologically based guidelines to protect fish habitat and address socio-economic concerns.	CRC/DCM, EMC/DWQ, MFC/DMF, DWR, WRC, DENR	<input checked="" type="checkbox"/>
3.3	Protect habitat from fishing gear effects through improved enforcement, establishment of protective buffers around habitats, modified rules and further restriction of fishing gear where necessary.	MFC/DMF	<input checked="" type="checkbox"/>
3.4	Protect estuarine and public trust shorelines and shallow water habitats by revising shoreline stabilization rules to include consideration of erosion rates, and benefits of using alternatives to vertical shoreline stabilization that maintain shallow nursery habitats.	CRC/DCM, DWQ/EMC	<input checked="" type="checkbox"/>
3.5	Protect and enhance habitat for migratory fishes by: a) incorporating the water quality and quantity needs of fish in water use planning and rule making. b) eliminating or modifying obstructions to fish movements, such as dams and culverts, to improve fish passage.	DENR, EMC, DWQ, DWR, WRC, DMF	a) <input checked="" type="checkbox"/> b) <input checked="" type="checkbox"/>
3.6*	Ensure that energy development and infrastructure is designed and sited in a manner that minimizes negative impacts to fish habitat, avoids new obstructions to fish passage, and where possible provides positive impacts.	CRC/DCM, EMC/DWQ	<input checked="" type="checkbox"/>
3.7*	Protect important fish habitat functions from damage associated with activities such as dredging and filling.	CRC/DCM, EMC/DWQ	<input checked="" type="checkbox"/>

Reference No.	Recommended actions to protect, enhance, restore, and manage coastal fish habitats	Responsible commission or agency [Lead group(s) in bold]	Progress
3.8*	Develop coordinated policies including management adaptations and guidelines to increase resiliency of fish habitat to climate change and sea level rise.	DENR, WRC	<input type="checkbox"/>
GOAL 4. ENHANCE AND PROTECT WATER QUALITY			
4.1	Reduce point source pollution discharges by a) increasing inspections of wastewater treatment facilities, collection infrastructure, and disposal sites, b) providing incentives for upgrading all types of discharge treatment systems, and c)* developing standards and treatment methods that minimize the threat of endocrine disrupting chemicals on aquatic life.	EMC/ DWQ, CPH/DEH	a) <input checked="" type="checkbox"/> b) <input checked="" type="checkbox"/> c) <input type="checkbox"/>
4.2	Adopt or modify rules or statutes to prohibit ocean wastewater discharges.	EMC	<input type="checkbox"/>
4.3	Prevent additional shellfish closures and swimming advisories through targeted water quality restoration and prohibit new or expanded stormwater outfalls to coastal beaches and to coastal shellfishing waters (EMC surface water classifications SA and SB) except during times of emergency (as defined by the Division of Water Quality’s Stormwater Flooding Relief Discharge Policy) when public safety and health are threatened, and continue to phase-out existing outfalls by implementing alternative stormwater management strategies.	EMC/ DWQ, CPH/DEH, CRC/ DCM	<input checked="" type="checkbox"/>
4.4	Enhance coordination with, and financial/technical support for, local government actions to better manage stormwater and wastewater.	DENR, DWQ, DCM, DEH	<input checked="" type="checkbox"/>
4.5	Improve strategies throughout the river basins to reduce non-point pollution and minimize cumulative losses of fish habitat through voluntary actions, assistance, and incentives, including a) improved methods to reduce pollution from construction sites, agriculture, and forestry, b) increased on-site infiltration of stormwater, c) documentation and monitoring of small but cumulative impacts to fish habitats from approved, unmitigated activities, d) encouraging and providing incentives for low-impact development, e) increased inspections of onsite wastewater treatment facilities, and f) increased water re-use and recycling.	DENR, EMC, CRC, DWQ, DCM, SCC, DLR, S&WCC, DS&WC, Dept. of Agriculture & Consumer Services, DFR	a) <input checked="" type="checkbox"/> b) <input checked="" type="checkbox"/> c) <input checked="" type="checkbox"/> d) <input checked="" type="checkbox"/> e) <input checked="" type="checkbox"/> f) <input checked="" type="checkbox"/>

Reference No.	Recommended actions to protect, enhance, restore, and manage coastal fish habitats	Responsible commission or agency [Lead group(s) in bold]	Progress
4.6	Improve strategies throughout the river basins to reduce non-point pollution and minimize cumulative losses of fish habitat through rule making, including a) increased use of effective vegetated buffers, b)* implement and assess coastal stormwater rules and modify if justified. c)* modify water quality standards to adequately support SAV habitat.	EMC, CRC, DWQ, DCM, SCC, DLR	a) <input checked="" type="checkbox"/> b) <input checked="" type="checkbox"/> c) <input type="checkbox"/>
4.8	Reduce non-point source pollution from large-scale animal operations by the following actions: a) support early implementation of environmentally superior alternatives to the current lagoon and spray field systems as identified under the Smithfield Agreement and continue the moratorium on new/expanded swine operations until alternative waste treatment technology is implemented, b) seek additional funding to phase-out large-scale animal operations in sensitive areas and relocate operations where necessary c) use improved siting criteria to protect fish habitat.	General Assembly, DENR, EMC, DWQ, S&WCC, DS&WC, Dept. of Agriculture & Consumer Services	a) <input checked="" type="checkbox"/> b) <input checked="" type="checkbox"/> c) <input checked="" type="checkbox"/>
4.7*	Maintain adequate water quality conducive to the support of present and future aquaculture.	DENR	<input type="checkbox"/>





North Carolina Department of Environment and Natural Resources
Division of Coastal Management

Beverly Eaves Perdue, Governor

James H. Gregson, Director

Dee Freeman, Secretary

May 5, 2010

MEMORANDUM

TO: CRC & Interested Parties
FROM: Tancred Miller
SUBJECT: Rulemaking Update

Along with this memo is a spreadsheet that contains all of the Commission's rules that are currently in the rulemaking process—from those being proposed for initial action to those reviewed by the N.C. Rules Review Commission (RRC) since the last CRC meeting. Listed below is a description and recent history of the CRC's action on each rule. Complete drafts of rules scheduled for public hearing at this meeting will be available on the DCM website.

RULE DESCRIPTIONS

1. 15A NCAC 7H.0104 Development Initiated Prior to Effective Date of Revisions
Status: Eligible for adoption.
The proposed amendments are to clarify how erosion rate setback factors for oceanfront development are to be applied. The amendments also establish limitations for new development that cannot meet the current setback, but could meet the setback based on the rate in effect when the lot was created. Anticipated effective date August 1, 2010.
2. 15A NCAC 7H.0106 General Definitions (Wind Energy)
Status: Going to public hearing.
The proposed amendment creates a definition for wind energy facilities. Public hearing anticipated in late spring or early summer 2010.
3. 15A NCAC 7H.0208 Estuarine System Use Standards (Docks & Piers provisions, wind energy)
Status: Docks and piers changes at rules review; wind energy changes going to public hearing.
This rule is being amended to make conforming changes to the CRC's shoreline stabilization and docks & piers rules. The public comment period closed on November 2nd, with no comments received. These changes are still under consideration by the Rules Review Commission. Additional changes proposed at the January meeting for wind energy facilities were approved for public hearing, anticipated in summer 2010.
4. 15A NCAC 7H.0304 AECs Within Ocean Hazard Areas
Status: Going to public hearing.
The proposed amendment changes the formula used to calculate the Ocean Erodible AEC to make it consistent with the CRC's new oceanfront setbacks. The amendment would also remove the "unvegetated beach" designation for Hatteras Island that was adopted in 2004.

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5. 15A NCAC 7H.0309 Use Standards for Ocean Hazard Areas: Exceptions

Status: At rules review.

This rule underwent one round of public comment to make the development limitations conform with changes to 7H.0306, and changes to the pier house section that allow construction and expansion of pier houses oceanward of the setback. Another round of public comment was necessary to incorporate additional changes related to allowing electrical transmission lines oceanward of the development setback. The public comment period closed on November 2nd, with no comments received. Changes were adopted at the January 2010 meeting and are still under consideration by the Rules Review Commission.

6. 15A NCAC 7H.0310 Use Standards for Inlet Hazard Areas

Status: Under Science Panel review.

The CRC has seen the new inlet hazard area delineations prepared by its Science Panel on Coastal Hazards and had further discussion in July and November 2008. The CRC Science Panel and DCM staff continue to work on recommendations to bring to the CRC at a later meeting. Science panel work on this rule has been delayed by the Panel's focus on the terminal groin study and preparation of a sea level rise metrics report.

7. 15A NCAC 7H.1704-5 GP for Emergency Work Requiring a CAMA and/or Dredge & Fill Permit

Status: Effective May 1, 2010.

Changes are being made to this rule to conform with newly-effective changes to 7H.0308, Use Standards for Ocean Hazard Areas. The changes primarily address general and specific use standards related to temporary erosion control structures. The public comment period closed on November 2nd, with no comments received. Changes were adopted at the January 2010 meeting and the rule is now in effect.

8. 15A NCAC 7H.2300 GP for Replacement of Existing Bridges

Status: Effective May 1, 2010.

These amendments are intended to streamline the process under which the Department of Transportation (DOT) replaces two-lane bridges on secondary roads. The changes will expand the applicability of the GP and shorten the project delivery time for bridge replacements. Public hearing was held at the January 2010 meeting with no comments received. Changes were adopted at the February 2010 meeting and the rule is now in effect.

9. 15A NCAC 7M.0400

Status: Going to public hearing.

Amendments proposed in January to define policies for wind energy facilities were approved for public hearing, anticipated in late spring or early summer 2010.

COASTAL RESOURCES COMMISSION RULEMAKING STATUS - MAY 2010

Item #	Rule Citation	Rule Title	May '10 Status	May Action Required?	Next Steps
1	15A NCAC 7H.0104	Development Initiated Prior to Effective Date of Revisions	Eligible for adoption	Yes	Send to Rules Review Commission. Anticipated effective date August 1, 2010.
2	15A NCAC7H.0106	General Definitions	Going to public hearing	No	Changes to insert a definition of "wind energy facilities" going to public hearing in late spring/early summer 2010.
3	15A NCAC 7H.0208	Estuarine System Use Standards	At Rules Review	No	Public hearing held in September. Adopted at January 2010 meeting. Additional changes proposed in January for wind energy facilities will go to public hearing in summer 2010.
4	15A NCAC 7H.0304	AECs Within Ocean Hazard Areas	Going to public hearing	No	Changes proposed to make the ocean erodible area calculation consistent with oceanfront setback calculations, and to remove "unvegetated beach" designation for Hatteras Island.
5	15A NCAC 7H.0309	Use Standards for Ocean Hazard Areas: Exceptions	At Rules Review	No	Re-published for changes related to electrical transmission lines oceanward of the setback. Public hearing held in September. Anticipated effective date is March 1st, 2010.
6	15A NCAC 7H.0310	Use Standards for Inlet Hazard Areas	Under Science Panel review	No	DCM and Science Panel continue to work on recommendations to CRC.
7	15A NCAC 7H.1704 & 1705	GP for Temporary Erosion Control Structures	Effective May 1st, 2010	No	Public hearing held in September. Adopted at January 2010 meeting. Anticipated effective date is March 1st, 2010.
8	15A NCAC 7H.2300	GP for Replacement of Existing Bridges	Effective May 1st, 2010	No	Public hearing held at the January 2010 meeting. No comments received.
9	15A NCAC 7M.0400	Coastal Energy Policies	Going to public hearing	No	Amendments proposed in January to define policies for wind energy facilities. Approved for public hearing.