



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
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MAR 3 2003

F/SER3:DLK

Keith A. Harris
Chief, Wilmington Regulatory Field Office
Wilmington District, Corps of Engineers
Department of the Army
P.O. Box 1890
Wilmington, NC 28402-1890

RECEIVED

MAR 11 2003

**REGULATORY
WILMINGTON FIELD OFFICE**

Dear Mr. Harris:

This correspondence is in reply to the December 4, 2002, letter and accompanying information from the U.S. Army Corps of Engineers (COE), Wilmington District. The COE has requested section 7 consultation from the National Marine Fisheries Service (NOAA Fisheries), pursuant to the Endangered Species Act of 1973 (ESA). The project is the Bogue Inlet Channel Relocation Project, Emerald Isle, North Carolina. The NOAA Fisheries' consultation number for this project is I/SER/2002/01442; please refer to this number in future correspondence on this project.

The project would involve the relocation of Bogue Inlet Channel to protect residential homes and town infrastructure, and to place the dredged material on approximately 4 miles of beach for nourishment. The channel to be relocated is between Emerald Isle and Hammocks Beach State Park (Bear Island). The primary purpose of the project is to create a stable channel that will divert tidal flow away from the Pointe subdivision of Emerald Isle. Currently, severe erosion resulting from tidal movements is threatening to cause severe damage to structures, streets, and utilities in the Pointe subdivision. The design includes closure of the existing channel by constructing a sand dike across the existing channel in the vicinity of the Pointe. It is estimated that 250,000 cubic yards of material obtained from the dredging of the new channel will be used to create the dike. The remaining material will be used for nearby beach nourishment. All dredging for the project will be performed using a cutter-suction pipeline dredge. The final design details have not yet been established, and will be presented in the draft environmental impact statement (DEIS) when available.

ESA-listed species under the purview of NOAA Fisheries which potentially occur in the project area include the green (*Chelonia mydas*), loggerhead (*Caretta caretta*), Kemp's ridley (*Lepidochelys kempii*), leatherback (*Dermochelys coriacea*), and hawksbill (*Eretmochelys imbricata*) sea turtles, and the shortnose sturgeon (*Acipenser brevirostrum*). A number of endangered large whale species are known to occur along coastal North Carolina but are not expected to occur in the shallow waters in which the project would take place. No critical habitat has been designated nor proposed for listed species within the project area.

Of the sea turtle species, leatherback and hawksbill turtles are highly unlikely to occur in the nearshore areas in which the work will be performed. Additionally, the dredging of the channels will be performed using cutter-suction pipeline dredges, which have not been shown to take sea turtles, and dredging within the channel will be conducted outside of the nesting and migration periods.



Biological observers will be on site during the dredge and fill operations to monitor for protected species. NOAA Fisheries shares joint jurisdiction over sea turtle issues with the U.S. Fish and Wildlife Service (FWS), with FWS' purview extending to sea turtles on land (nesting) and NOAA Fisheries' purview including sea turtles in the water. The COE should consult with FWS regarding any potential sea turtle nesting issues related to placement of sand or other activities on the beaches, or erosion of beaches as a result of the project. Shortnose sturgeon are known to occur in coastal North Carolina. However, they are strongly associated with larger rivers, and in North Carolina are known primarily in the Cape Fear area. Therefore, contrary to the opinion in your letter of December 10, 2002, shortnose sturgeon are not likely to occur in the project area. Based upon this review, NOAA Fisheries believes that the proposed action is not likely to adversely affect any listed species under our purview.

This letter concludes the COE's consultation responsibilities under section 7 of the ESA for the proposed actions for federally-listed species, and their critical habitat, under NOAA Fisheries' purview. Consultation should be reinitiated if there is a take, new information reveals impacts of the proposed actions that may affect listed species or their critical habitat, a new species is listed, the identified action is subsequently modified, or critical habitat is designated that may be affected by the proposed activity. Any substantive changes to the project design or methods which may potentially impact any listed species will require reinitiation of consultation when the DEIS is completed.

Pursuant to the essential fish habitat consultation requirements of the Magnuson-Stevens Fishery Conservation and Management Act (16 U.S.C. 1855(b)(2) and 50 CFR 600.905-.930, Subpart K), the NOAA Fisheries' Habitat Conservation Division (HCD) is being copied with this letter. The HCD biologist for this region is Ron Sechler. If you have any questions about consultation regarding essential fish habitat for this project, please contact Mr. Sechler at (252) 728-5090.

If you have any questions, please contact Dennis Klemm, fishery biologist, at the number above or by e-mail at Dennis.Klemm@noaa.gov.

Sincerely,



for,

Roy E. Crabtree, Ph.D.
Regional Administrator

cc: F/PR3
F/SER41- Sechler

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April 30, 2003

Memorandum For the File

Subject: Bogue Inlet Channel Relocation Project
Applicant: Town of Emerald Isle
April 25, 2003, conference call with Coastal Planning and Engineering, Inc. to discuss additional information and monitoring needed for the subject project

From: Ron Sechler, Fishery Biologist
NMFS, HCD
Beaufort, NC 28516

1. The subject conference call with the applicants consultant was originally scheduled to include both NMFS and DCM. Due to a scheduling conflict only the NMFS participated on 04/25/03. The applicant will coordinate with the DCM at a later date.
2. The objective was to inform the applicant regarding any additional site specific information needed to complete the EIS and to develop additional plans to evaluate impacts of the project.
3. The issue of the Permit Area versus Project Area was discussed. I advised that regardless of how these terms are applied by the COE and/or applicant, NOAA Fisheries would recommend documentation of the aquatic resources at risk (e.g. seagrass, shellfish beds) and an assessment of impacts to the resources by pre and post-construction monitoring (e.g. change analysis). We noted that many high quality resources are located in the Project Area as identified at the April 16th meeting.
4. NOAA Fisheries recommends using aerial photograph and GPS/GIS tools to conduct pre and post-construction monitoring of projects impacts to high quality resources. The resulting information can be used to assess changes over time in the habitats effected by the project. Any post-construction mitigative measures required would be based on the observed changes resulting from construction of the project. Habitat types to be mapped include SAV, intertidal salt marsh, unvegetated intertidal flats, shallow subtidal areas and upland areas above mean high water. The effects of natural phenomena (e.g. hurricanes) would be considered in the analysis of change in the Project Area.
5. Annual aerial photography of the Project Area should occur for a period not less than five years. The the initial pre-project photography should be procured and processed using SAV habitat mapping protocols followed by two years of standard aerial photography. Site specific data using GPS should be acquired for any area where changes are occurring. Aerial photography in year 4 should also be procured and processed using SAV habitat mapping protocols. This high quality photography would allow for a quantitative analysis of changes in SAV and other high quality habitat within the project area.
6. Depending on the results of the first 4 years of monitoring (change analysis), mitigative

measures may be required to offset documented losses of high quality resources. The 5th and final year of photography would allow for an evaluation of any mitigative measures required to be implemented in the project/permit area.

7. The recommended habitat change analysis is in addition to the previously discussed monitoring efforts.

8. The recommended habitat change analysis does not include the area of Bogue Banks beach re-nourished during construction of the Bogue Inlet Channel Relocation project. Any monitoring of this beach nourishment component should be consistent with that required by the previously issued permit for beach nourishment.

-----Original Message-----

From: Ron Sechler [mailto:ron.sechler@noaa.gov]
Sent: Thursday, May 22, 2003 10:26 AM
To: Erin Haight
Subject: Re: Bogue Inlet - SAFMC and NMFS Species

Erin,

Add the following from the list you provided to your list of species that occur in or in the vicinity of Bogue Inlet. Those species for which EFH has been designated by the SAFMC, MAFMC and NMFS (Highly Migratory Species) are identified. I'm not sure why these were not included on the list you referenced. I'm not saying that project will necessarily impact these species. But, that determination needs to be made in the EFH Assessment. However, pay close attention to Red Drum and shrimp and other (not federally managed, but many are managed by the ASMFC) estuarine dependent species because of their affinity for and movement through the inlet. Also note that State PNA and SAV are EFH and HAPC. Also tidal inlets are HAPC for Red Drum.

Black Sea Bass
Bluefish - EFH MAFMC
Cobia - EFH SAFMC
Gray Snapper EFH SAFMC
Gag Grouper
King Mackerel EFH SAFMC
Little Tunny
Penaeid shrimp EFH SAFMC (3 species)
Red Drum - EFH SAFMC
Red Grouper
Sharks - Highly Migratory Species -NMFS (**Coastal Species:** Dusky shark, Spinner shark, Tiger shark, Sand tiger shark, Atlantic sharpnose shark)
Spanish Mackerel - SAFMC
Weakfish - Managed by the Atlantic States Marine Fisheries Commission

Best Regards,

Ron Sechler
Fishery Biologist
NMFS (NOAA Fisheries)
Habitat Conservation Division
101 Pivers Island Road
Beaufort, North Carolina

252 728 5090
ron.sechler@noaa.gov

Erin Haight wrote:

Ron, Could you please review and confirm the list below of SAFMC and NMFS species listed for the Bogue Inlet area. The Bogue Banks Renourishment Project listed many of these species as not applicable (not found) to Bogue Inlet, however I would like to request your review of these species to confirm their presence or absence in the Bogue Inlet project area. Let me know if you have any questions. Thank you Erin

Almaco Jack	<i>Seriola rivoliana</i>
Atlantic Spadefish	<i>Chaetodipterus faber</i>
Banded Rudderfish	<i>Seriola zonata</i>
Bank Sea Bass	<i>Centropristis ocyurus</i>
Bigeye Tuna	<i>Thunnus obesus</i>
Black Grouper	<i>Mycteroperca bonaci</i>
Black Margate	<i>Anisotremus surinamensis</i>
Black Sea Bass	<i>Centropristis striatus</i>
Black Snapper	<i>Apsilus dentatus</i>
Blackfin Snapper	<i>Lutjanus buccanella</i>
Blue Marlin	<i>Makaira nigricans</i>
Blue Stripe Grunt	<i>Haemulon sciurus</i>
Bluefin Tuna	<i>Thunnus thynnus</i>
Bluefish	<i>Pomatomus saltatrix</i>
Blueline Tilefish	<i>Caulolatilus microps</i>
Cero	<i>Scomberomorus regalis</i>
Cobia	<i>Rachycentron canadum</i>
Coney	<i>Epinephelus fulvus</i>
Cubera Snapper	<i>Lutjanus cyanopterus</i>
Dog Snapper	<i>Lutjanus jocu</i>
Dolphin Fish	<i>Coryphaena hippurus</i>
French Grunt	<i>Haemulon flavolineatum</i>
Gag Grouper	<i>Mycteroperca microlepis</i>
Golden Crab	<i>Chaceon fenneri</i>
Golden Tilefish	<i>Lopholatilus chamaeleonticeps</i>
Goliath Grouper	<i>Epinephelus itajara</i>
Gray Snapper	<i>Lutjanus griseus</i>
Gray Triggerfish	<i>Balistes capriscus</i>
Graysby	<i>Epinephelus cruentatus</i>
Greater Amberjack	<i>Seriola dummerili</i>
Hogfish	<i>Lachnolaimus maximus</i>
Jolthead Porgy	<i>Calamus bajonado</i>
King Mackerel	<i>Scomberomorus cavalla</i>
Knobbed Porgy	<i>Calamus nodosus</i>
Lane Snapper	<i>Lutjanus synagris</i>
Lesser Amberjack	<i>Seriola fasciata</i>
Little Tunny	<i>Euthynnus alletteratus</i>
Mahogany Snapper	<i>Lutjanus mahogoni</i>
Margate	<i>Haemulon album</i>
Misty Grouper	<i>Epinephelus mystacinus</i>
Mutton Snapper	<i>Lutjanus analis</i>
Nassau Grouper	<i>Epinephelus striatus</i>

Ocean Triggerfish	Canthidermis sufflamen
Penaeid Shrimp	
Queen Snapper	Etelis oculatus
Queen Triggerfish	Canthidermis sufflamen
Red Drum	Sciaenops ocellatus
Red Grouper	Epinephelus morio
Red Hind	Epinephelus guttatus
Red Porgy	Pagrus pagrus
Red Snapper	Lutjanus campechanus
Rock Hind	Epinephelus adscensionis
Rock Sea Bass	Centropristis philadelphicus
Rock Shrimp	Sicyonia brevirostris
Sailfish	Istiophorus platypterus
Saucereye Porgy	Calamus calamus
Scamp	Mycteroperca phenax
Schoolmaster	Lutjanus apodus
Scup	Stenotomus chrysops
Sharks	(Several species)
Sheepshead	Archosargus probatocephalus
Silk Snapper	Lutjanus vivanus
Snowy Grouper	Epinephelus niveatus
Spanish Mackerel	Scomberomorus maculatus
Speckled Hind	Epinephelus drummondhayi
Spiny Lobster	Panulirus argus
Swordfish	Xiphias gladius
Tiger Grouper	Mycteroperca tigris
Tomtate	Haemulon aurolineatum
Vermilion Snapper	Rhomboplites aurorubens
Wahoo	Acanthocybium Solanderi
Warsaw Grouper	Epinephelus nigritus
Weakfish	Cynoscion Regalis
White Grunt	Haemulon plumier
White Marlin	Tetrapturus albidus
Whitebone Porgy	Calamus leucosteus
Wreckfish	Polyprion americanus
Yellowfin Grouper	Mycteroperca venenosa
Yellowfin Tuna	Thunnus albacares
Yellowmouth Grouper	Mycteroperca interstitialis
Yellowtail Snapper	Ocyrus chrysurus

Erin A. Haight

Environmental Scientist

Coastal Planning & Engineering

2481 N.W. Boca Raton Blvd.

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June 24, 2003

MEMORANDUM

TO: Mickey Suggs, COE
FROM: Todd Miller
SUBJECT: Preliminary Comments on the Bogue Inlet Draft Report

Below are comments from my very preliminary review of the engineering report that was given to the PDT back in April. You encouraged team members to provide some feedback on the report at our last meeting. Please note that many of the Figures in the report are missing (at least on the CD we were given).

1. Section 2.1: The primary purposes of the project is to protect private property at Bogue Inlet and to provide a source of beach quality sand for beach renourishment. It is not the purpose of the project to create a “stable” channel. The relocated channel will be no more “stable” than the existing channel. Use of this word throughout the document gives the impression that the new channel will be safer and easier to navigate—which it will not except perhaps in the initial months after construction.
2. Section 3.10 states that “... In contrast to the net accretion recorded along Bogue Banks, chronic erosion has been the norm along the Bear Island oceanfront since 1973.” Actually, according to the Inlet Atlas (1999), Bear Island Oceanfront appeared to accrete near Bogue Inlet between 1974 and 1985. Rapid oceanfront erosion has occurred since 1985. While net erosion ranged from 68 feet at transect 37 to 531 feet at transect 25 since 1973, these erosion rates would be much higher if 1985 were used as the baseline for measurements. The erosion rates would be substantially larger if 1959 was used as the baseline.
3. Section 3.17 states that “...The eastward migration of the ebb channel and the attendant morphologic changes in the inlet system has not only controlled the shoreline change patterns along Bogue Banks, but concurrently they have played a significant role in the Bear Island oceanfront erosion.... The data show there has been a net shoreline loss along the majority of Bear Island. The greatest losses have occurred since the late 1980s when the ebb delta and the inlet throat began to assume their current morphologic identities...The complex interaction of the above variables combined to produce a reconfigured barrier that was increasingly exposed to increased wave activity and hence continued shoreline recession.” If the channel is moved back to the west (and happens to continue to migrate to the west after it is moved), what will be the impact on Bogue Banks oceanfront? The report states that the entire shoreline of Bear Island (approximately 3 miles) has been impacted by the movement of the channel in Bogue Inlet. If that is true, what is the basis for determining that a much smaller reach of Bogue Banks will be impacted by this project? What are the chances that the extent of erosion now occurring on Bear Island will, as a result of this project, begin to take place on Bogue Banks? Since no

estimates of future shoreline changes can be precise, please provide upper and lower estimates of shoreline changes and probabilities of such changes occurring.

4. Section 3.18 documents shoreline changes beginning in 1976 for Dudley's Island. During this period of time, the inlet channel location shifted from the middle of the inlet to its current easterly location. Between 1938 and 1976, the inlet channel shifted back and forth from the western side to the middle of the inlet. Photos in the Inlet Atlas seem to show rapid shoreline erosion on Dudley Island's prior to 1976. Figure 3.22 should include much more historical data (at least back to 1938) so we can get a longer term perspective of the impact of the channel's location of erosion rates on Dudley Island. Without this additional data, there is no basis to conclude that the rapid erosion of Dudley Island shorelines is "...primarily due to the eastward migration of the ebb channel; the attendant spit growth along the Bogue Banks shoulder, and the consequent migration of the Eastern Channel toward Dudley Island." The time period examined to draw that conclusion provides no other inlet channel configurations upon which to compare erosion rate impacts on Dudley Island.
5. There is no discussion about what relationships may exist, if any, between Bogue Inlet, Bear Inlet, and Beaufort Inlet. All three inlets influence the tidal exchanges in Bogue Sound, the White Oak River, and the waters behind Bear Island. While the location of Bear Inlet has been relatively stable, its width has ranged from 300 meters in 1956 to 780 meters in 1938. Does the width of Bear Inlet have any influence over the width of Bogue Inlet? Photos in the Inlet Atlas make it appear that when Bear Inlet is wide, Bogue Inlet narrows, and vice versa. Is there any relationship between these two inlets? If there is a relationship, how does this relationship effect oceanfront erosion rates on Bear Island and Bogue Banks? In addition, has the recent deepening of Beaufort Inlet had any impact on the tidal exchanges through Bogue Inlet? If so, what effect would these changes have on the width of Bogue Inlet, and future projections of inlet changes based upon historical data?
6. Section 3.25 and subsequent Sections discuss shoreline adjustments that are predicted to occur on Bogue Banks and Bear Island. The accuracy of these predictions are crucial to whether this project is highly successful or a colossal and very expensive failure. As requested above, additional historical data on shoreline changes at least dating back to 1938 are necessary to fully understand the amount of shoreline change that might potentially occur when the inlet channel is relocated. If Bogue Inlet, Bear Inlet, and Beaufort Inlet do interact as well, changes in those inlet systems need to be factored into any future predictions about Bogue Inlet. If oceanfront erosion rates on Bear Island were measured beginning in 1959 they would be substantially greater than what is reported to have occurred since 1974. Those rates would also increase substantially if the shoreline as it was positioned in 1985 is used as the baseline for measurements. The conclusion that erosion on Bogue Banks after the channel is relocated will follow a similar pattern to the erosion that has occurred on Bear Island in the past decade is probably correct—but the magnitude of erosion that has occurred on Bear Island seems to be significantly under-reported in the Study by using 1973 as the baseline for measurements. In 1999, Cleary predicted in the Inlet Atlas that

Bogue Inlet's channel would likely reposition on its own back to the west. The fact that this prediction has not yet occurred underscores the speculative nature of all estimates of future inlet behavior.

7. The report states that the artificial repositioning of the channel to a more central location between Bogue Banks and Bear Island will essentially emulate a major shift in the channel location similar to what occurred during the mid 1970's. In 1974, the inlet channel was located at approximately the location where the proposed new channel is to be located by this project. When the channel was in the middle of the inlet in 1974, there was significant erosion occurring threatening homes on Bogue Banks at the inlet. Could this happen again as a result of this project?
8. Section 3.32 states that "...neither scenario is expected to have a direct negative impact on the integrity of Island 2." There is no factual basis to make this claim. Photos from 1938, 1959, 1962, and 1974 when the channel was located towards the west and then center of the inlet show that the island did not exist during those periods. In all likelihood, island number two will disappear and be replaced either by new islands or become parts of sand spits extending out from either Bear Island or Bogue Banks. Again, the report needs to use all the data that is available for the inlet and not only data that available since 1973 or later.
9. Based upon my own observations over the past several months, very coarse shell hash comprises a portion of the western shoreline of Island #1. Would the existence of this shell hash have been predicted by the cores that have been collected? There is also a layer of silt and dark sand along the northern shoreline of Island #2. Would this silt and dark sand have been predicted by the cores that have been collected?
10. Section 5.4. outlines the design of channel cross-section. It states that the shallowest depths in the existing inlet channel are 8 feet as the channel crosses on the ebb tidal delta. On our field trip June 10, the captain reported depths of 4 to 6 feet on the ebb tidal delta one week after the channel had been dredged. Is 8 feet correct or simply the "authorized" depth that is seldom obtained through the existing maintenance dredging that takes place? What is the average actual depth on the channel between times that it is dredged? Please compare the actual size of the existing channel to the one that is proposed by this project, taking into account the planned dredging of shoals that are situated between existing deep water in the inlet itself.
11. Section 6.8 discusses logistics of dike construction. Please outline what will happen to estimates of amount of sand required for the dike, time of construction, etc. if the dredge cannot work without interruptions while the dike is being constructed. For example, if weather forces the dredge to shutdown partway through construction, what type of erosion will occur along the partly built dike, and how much additional sand might be needed to complete the job? Since sand for the dredging will be obtained after the new channel has been opened, is there a chance that all authorized areas for dredging could be completed prior to obtaining enough sand to build the

dike, especially if the job encounters delays due to weather or mechanical breakdowns?

12. Section 6.10 concludes that the turbidity standard for tidal saltwater (as well as for SA, SB and ORW waters) will not be violated. This is simply absurd given the nature of this project and the direct disposal of dredge spoil that is proposed into the water column. This Section needs to be further developed to address the following water quality standard issues: (a) Within the area of the proposed dike, the EMC's water quality standards listed at NCAC .0220 require that the water column be protected for its best usages and remain suitable for aquatic life. The project will completely fill a large area of open saltwater. How can these water quality standards not be violated since the project is designed to eliminate the water column through construction of the dike? (b) The Turbidity standards requires that: "the turbidity in the receiving water shall not exceed 25 NTU." How can open water disposal of dredge spoil realistically be expected to achieve this limit? The burden is on the applicant to show it will be in compliance with water quality standards—and data needs to be presented from other dredging projects to show that there will be no violations of standards. If violations are expected to occur, than the applicants should explore whether or not variances can be granted from these water quality standards—not ignore that violations will be taking place.
13. Section 8.1 provides a figure of what is anticipated to occur in terms of redistributed sediment once the channel is relocated. As requested in early comments, this projection needs to be based upon more complete historical information. The Inlet Atlas shows that in 1962 the channel was located in approximately the same location as the proposed new channel. Between 1962 and 1973, Figure 3.4 indicates that the main channel had moved and snaked slightly east of the center of the inlet. Even though the channel was still a long way from Bogue Banks, rapid erosion was taking place at the end of Coast Guard road and houses were threatened (and moved). Please explain why Bogue Banks was eroding so rapidly even while the channel was many hundreds of yards west of the island. Could this pattern of redistributed sediment occur as a result of this project? Why or why not?
14. Economic Benefits of the project should include: a. Please provide data sheets that show the estimated values of private property that will be saved. Do the values reflect current tax values for the waterfront homes at the inlet? Which homes to be saved by the project are likely to still be protected by the time the project gets underway? There also needs to be a clear understanding of how the project will impact private property ownership since many of these existing waterfront lots are now severely eroded and everything below sea level currently belongs to the public; b. Value of Streets and Public Infrastructure Saved - The value of existing public infrastructure (streets, etc.) appears to be based on what they cost to construct. If the private property served by this infrastucture washes away, the Town will have no on-going future expenses associated with operating and maintaining this infrastucture. Also, doesn't the infrastructure have a depreciated value? I would assume that over time this infrastucture is an on-going expense to the Town that is paid for through

fees and property taxes--and thus there is really no cost or benefit associated with maintaining it.

15. Economic Costs of the Project should include: a. What is the value of oceanfront properties on Bogue Banks and Dudley's Island that are projected to experience erosion as a result of the channel relocation? Will the oceanfront lots that erode as a result of this project become less valuable? (Would someone be as willing to buy one of these lots if they see that it is eroding?) Since it is projected that the project will cause these oceanfront lots to erode and become smaller, does the town need to obtain permission from each individual landowner to proceed with the project? What potential financial liabilities exist for the Town when property owners realize the project is causing their lots to erode? If more erosion occurs than has been projected, what could be the potential financial liability for the town property if oceanfront lots become non-conforming in their size? A few years ago Dudley's Island was on the market for \$600,000. What impact will this project have on its value?
16. Other Economic Costs of the Project need to be estimated: a. If the project results in restrictions on public use of recreational beaches adjacent to the inlet due to permit conditions to protect wildlife resources, what will be the economic impact of this lost recreational use? What will it cost the Town to mitigate lost recreational uses? b. At our PDT meeting several months ago, Cleary predicted that the inlet channel will keep migrating east for the foreseeable future. If that prediction is correct, will movement of the channel to the east cause Bear Island to migrate to the east and grow larger? Existing shoaling now occurring on the east end of Bear Island makes it appear that this eastern migration of Bear Island may now be occurring. The Attached report entitled: Estimating the Total Economic Value of Undeveloped Coastal Barriers in the Coastal Barrier Resources System and the Impact of Development on that Value places economic values on undeveloped barrier islands. Using this report, what will be the economic losses that will result from this project if Bear Island is not allowed to migrate east?
17. If predictions of oceanfront erosion on Bogue Banks are too low, losses of valuable private oceanfront property could escalate catastrophically. Provide projected loss data if erosion estimates are increased by 25%, 50%, 100%, and 200%.
18. The purpose of the EIS is to give decision-makers complete information upon which to base decisions about whether or not it is prudent to go forward with a project. In this case, decision-makers need a full appreciation of what financial and legal liabilities (costs) might be assumed by the Town or State if the project causes unanticipated impacts (such a more severe oceanfront erosion on Bogue Banks or Bear Island.) The cost/benefit analysis needs to include these potential costs to give decision-makers not only best case, but worse case, scenarios (with probabilities) upon which to make informed judgments. A legal analysis would be helpful that fully explores what legal responsibilities will be assumed by the Town (and others) if this project proceeds and unanticipated harm occurs as a direct result of channel relocation.

These are some preliminary comments based upon my first review of the draft report. As the EIS proceeds, NCCF will circulate documents to people with expertise on certain issues to make sure we can provide useful feedback on a broader range of technical issues.