

Table 21  
Summary of Direct, Indirect, and Cumulative Impacts  
Bogue Inlet, North Carolina

Environmental Factors Bogue Inlet, North Carolina	Definition of Impact Timeframes	Alternative A – No Action	Alternative B – Relocate Homes	Alternative C – Sandbag Revetments	Alternative E – Channel Relocation without Beach Nourishment	Alternative F – Channel Relocation with Beach Nourishment
<b>5.3 VEGETATION</b>						
5.3.1 Maritime Hammock	No associated timeframe	Insignificant	Insignificant	Insignificant	Insignificant	Insignificant
5.3.2 Beach and Dune Communities	Direct = days Indirect = 0 to 2 years (2 yrs = beach stabilization time) Cumulative = after 2 yrs.	Negative long-term cumulative impacts. Loss of 600 feet of ocean shoreline and the Bogue Banks sand spit. Continued erosion on the east end of Bear Island. Nourishment of Phase 3 with offshore sand source. Short-term negative direct impacts during nourishment from burial of beach organisms.	Same as Alternative A	Negative direct and cumulative impacts. Direct mortality from sand bag placement and loss of 240 feet of ocean shoreline and loss of Bogue Banks sand spit. Continued erosion on the east end of Bear Island. Nourishment of Phase 3 with offshore sand source. Short-term negative direct impacts during nourishment from burial of beach organisms.	Direct negative impacts to communities on Bogue Banks sand spit from dike construction and stockpiling of material. Positive cumulative impacts from the recovery of the inlet shoreline and dune communities. Negative long-term impact from erosion of 7,500 feet on west end of Emerald Isle. Positive long-term impacts from accretion of 7,500 feet on east end of Bear Island. Nourishment of Phase 3 with offshore sand source will include the eastern portion of the affected shoreline on Emerald Isle. Phase 3 delayed until 2007-2008 for funding. Short-term negative direct impacts during nourishment from burial of beach organisms.	Direct negative impacts on the Bogue Banks sand spit from dike construction. Positive cumulative impacts from the recovery of the inlet shoreline and dune communities. Negative long-term impact from erosion of 7,500 feet on west end of Emerald Isle. Positive long-term impact from accretion of 7,500 feet on east end of Bear Island. Nourishment of Phase 3 with inlet material will include the eastern portion of the affected shoreline on Emerald Isle. Short-term negative direct impacts during nourishment from burial of beach organisms.
5.3.3 Salt Marsh Communities						
High Salt Marsh	Direct = 0 to 3 days (3 days = est. max settling time of med. grain sediments) Cumulative = 2 to 4 years	Negative direct long-term if breaching of sand spit destroys the substantial high salt marsh community on the sound side of the sand spit. Negative cumulative impacts if hydraulics change and high salt marsh becomes inundated or transitions to low salt marsh resource.	Same as Alternative A.	Same as Alternative A.	Positive indirect and cumulative impacts from the restoration of the inlet shoreline and preventions of the possible breach o the existing sand spit. Allows for the preservation of the character of the sand spit and prevents the possible loss of high salt marsh located on the sound side	Same as Alternative E.

					of the sand spit.	
<b>Low Salt Marsh</b>	Direct = 0 to 3 days (3 days = est. max. settling time of med. grain sediments) Indirect = 6 mons to 2 and up to 4 years 6 mos. To 2 yrs. = beach stabilization time; 4 yrs = time for sand spit to merge with sand dike under Alternative F) Cumulative = 2 to 4 years	Negative direct impacts to low marsh lining the old Coast Guard Channel from breaching of the Bogue Banks sand spit. Sand spit would evolve to an overwash terrace. Negative cumulative impacts if inlet hydraulics change to include flow through old Coast Guard Channel. Positive long-term impact if high marsh is converted to low marsh along old Coast Guard Channel and behind sand spit.	Same as Alternative A.	Same as Alternative A.	Positive indirect and cumulative impacts. Restoration of the inlet shoreline and prevention of the possible breach of the Bogue Banks sand spit. Allows for the preservation of the character of the sand spit and prevents the possible loss of low marsh located on the sound side of the sand spit.	Same as Alternative E.
<b>5.3.4 Submerged Aquatic Vegetation (SAV)</b>	Direct = 0 to 3 days (3 days = est. max. settling time of med. grain sediments) Indirect = 6 mos. To 2 and up to 4 years (6 mos. To 2 yrs = beach stabilization time; 4 yrs = time for sand spit to merge with sand dike under Alternative F0 Cumulative = 2 to 4 years	Negative direct, indirect, and cumulative impacts if breaching of the Bogue Banks sand spit changes water flux, salinity, or turbidity in Bogue Sound where SAV have historically been found.	Same as Alternative A.	Same as Alternative A.	Negative direct impacts from temporary suspension of sediments and possible increase in turbidity due to project construction.	Same as Alternative E.
<b>5.4 THREATENED AND ENDANGERED SPECIES</b>						
<b>5.4.1 Sea Turtles</b>	Direct = days Indirect = 0 to 2 yrs. (2 yrs = beach stabilization time) Cumulative = after 2 yrs.	Minor direct and indirect negative impacts for the formation of vertical erosion scarps on the Emerald Isle inlet shoreline. Negative direct and indirect impacts along the 7,500 feet of ocean shoreline on the east end of Bear Island due to erosion scarps. Positive long-term impacts from nourishment of the Phase 3 shoreline using an offshore sand source.	Same as Alternative A.	Minor negative direct and indirect impacts along inlet shoreline protected by sandbags. Positive long-term impacts from nourishment of the Phase 3 shoreline using an offshore sand source.	Negative long-term indirect impacts from erosion of western 7,500 feet of Emerald Isle ocean shoreline. Positive long-term impacts from nourishment of the Phase 3 shoreline using an offshore sand source. Phase 3 would extend into the affected shoreline on the west end of Emerald Isle. Positive long term indirect impacts from accretion of the eastern 7,500 feet of Bear Island.	Negative long-term indirect impacts from erosion of western 7,500 feet of Emerald Isle ocean shoreline. Positive long-term impacts from nourishment of the Phase 3 shoreline using material from Bogue Inlet. Phase 3 would extend into the affected shoreline on the west end of Emerald Isle. Positive long term indirect impacts from accretion of the eastern 7,500 feet of Bear Island .
<b>5.4.2 Mammals</b>						

<b>Humpback and Right Whales</b>	No associated timeframe	Insignificant	Insignificant	Insignificant	Insignificant	Insignificant
<b>West Indian Manatee</b>	No associated timeframe	Insignificant	Insignificant	Insignificant	Insignificant	Insignificant
<b>5.4.3 Birds</b>						
<b>Piping Plover</b>	<p>Direct = days  Indirect = 0 to 4 yrs.  (4 yrs = time for sand spit to merge with sand dike under Alternative F)  Cumulative = after 4 yrs.</p>	<p>The continued westerly migration of Island 2 and erosion of the east end of Bear Island could result in the loss of habitat. Breaching of the Bogue Banks sand spit could have both positive and negative indirect impacts as the spit would evolve from an upland area to an overwash terrace. Dynamic nature of Bogue Inlet area would continue to provide suitable habitat for piping plover with no significant cumulative impacts.</p>	Same as Alternative A.	Same as Alternative A.	<p>Island 2 will likely continue to migrate to the west and could disappear. Direct short – term loss of nesting and foraging habit due to the stockpiling of material. Direct negative impacts for the presence of construction and loss of infauna prey base. Long-term positive impacts from the gain of habitat on the west end of Emerald Isle (filling of existing channel and development of sand spit) and accretion of the ocean shoreline on the east end of Bear Island. Negative long-term impacts due to erosion of ocean shoreline on the west end of Bogue Banks. Long-term negative impacts due increased pedestrian and vehicular access to the inlet shoreline.</p>	<p>Island 2 will likely continue to migrate to the west and could disappear. Direct negative impacts for the presence of construction and loss of infauna prey base. Long-term positive impacts from the gain of habitat on the west end of Emerald Isle (development of sand spit) and accretion of the ocean shoreline on the east end of Bear Island. Negative long-term impacts due to erosion of ocean shoreline on the west end of Bogue Banks. Long-term negative impacts due increased pedestrian and vehicular access to the inlet shoreline.</p>
<b>Critical Habitat for Wintering Piping Plover</b>	<p>Direct = days to months (during dredging operations)  Indirect = 0 to 4 years  (4 yrs = time for sand spit to merge with sand dike under Alternative F)  Cumulative = after 4 yrs.</p>	<p>Cumulative impacts due to the loss of habitat on the east end of Bear Island and the possible disappearance of Island 2. Breaching of the Bogue Banks sand spit could have both positive and negative impacts as the area would evolve from an upland area with fringe marsh to an overwash terrace. Dynamic nature of Bogue Inlet area would continue to provide suitable habitat for piping plover with no significant cumulative impacts</p>	Same as Alternative A.	Same as Alternative A.	<p>Positive cumulative gain habitat from accretion on Bear Island. Negative cumulative impact due to loss of habitat from erosion on the west end of Emerald Isle. Positive long-term indirect impacts from filling of existing channel and development of sand spit off the west end of Emerald Isle which will create shallow water habitat and upland nesting and loafing areas. Long-term negative impacts due increased pedestrian and vehicular</p>	<p>Positive cumulative gain habitat from accretion on Bear Island. Negative cumulative impact due to loss of habitat from erosion on the west end of Emerald Isle. Positive long-term indirect impacts from the development of sand spit off the west end of Emerald Isle which will fill the existing channel and create shallow water habitat and upland nesting and loafing areas. Long-term negative impacts due increased pedestrian and vehicular</p>

					access to the inlet shoreline.	access to the inlet shoreline.
<b>Roseate Tern</b>	Direct = days to months (during dredging operations) Indirect = 0 to 4 years (4 yrs = time for sand spit to merge with sand dike under Alternative F) Cumulative = after 4 yrs.	Impacts on roseate tern habitat would be similar to the impacts on piping plover habitat.	Impacts on roseate tern habitat would be similar to the impacts on piping plover habitat.	Impacts on roseate tern habitat would be similar to the impacts on piping plover habitat.	Impacts on roseate tern habitat would be similar to the impacts on piping plover habitat.	Impacts on roseate tern habitat would be similar to the impacts on piping plover habitat.
<b>5.4.4 Seabeach Amaranth</b>	Direct = days to months (during beach nourishment operation) Indirect = 0 to 4 yrs. (4 yrs. = time for sand spit to merge with sand dike under Alternative F) Cumulative - after 4 yrs.	Negative cumulative impacts due to erosion of the inlet shoreline, erosion of 600 feet of ocean shoreline on west end of Emerald Isle associated with eastward migration of inlet channel, and continued erosion of the eastern 7,500 feet of Bear Island. Positive cumulative impacts from nourishment of Phase 3 shoreline using offshore borrow material and possible inclusion of area in Federal storm damage reduction project.	Same as Alternative A.	Negative cumulative impacts due to erosion of the inlet shoreline, erosion of 240 feet of ocean shoreline on west end of Emerald Isle associated with eastward migration of inlet channel, and continued erosion of the eastern 7,500 feet of Bear Island. Positive cumulative impacts from nourishment of Phase 3 shoreline using offshore borrow material and possible inclusion of area in Federal storm damage reduction project.	Negative cumulative impacts for the loss of potential habitat along the beach and dune system on the western 7,500 feet of Emerald Isle. Positive cumulative impacts from gain in beach dune system habitat on the eastern 7,500 feet of Bear Island and eventual restoration of potential habitat along 23,831 feet of ocean shoreline associated with Phase 3 nourishment from an offshore borrow area and possible inclusion of area in Federal storm damage reduction project. Phase 3 would extend into the affected shoreline on the west end of Emerald Isle. Positive cumulative impacts from the continued development of the sand spit off the west end of Emerald Isle.	Negative cumulative impacts for the loss of potential habitat along the beach and dune system on the western 7,500 feet of Emerald Isle. Positive cumulative impacts from gain in beach dune system habitat on the eastern 7,500 feet of Bear Island and immediate restoration of potential habitat along 23,831 feet of ocean shoreline associated with Phase 3 nourishment with material from Bogue Inlet and possible inclusion of area in Federal storm damage reduction project. Phase 3 would extend into the affected shoreline on the west end of Emerald Isle. Positive cumulative impacts from the continued development of the sand spit off the west end of Emerald Isle.
<b>5.5 MARINE RESOURCES</b>						
<b>5.5.1 Inlet Resources</b>						
<b>Benthic Infaunal Community</b>	Direct = days to months (during dredging operation) Indirect = 1 to 2 years. (1 to 2 yrs = Infaunal recovery time for medium grain sediments) Cumulative = after 2 years.	Short-term negative impacts from Corps of Engineers maintenance dredging.	Same as Alternative A.	Same as Alternative A.	Short-term negative impacts associated with dredging of new channel, burial due to dike construction and stockpiling of material on the Emerald Isle sand spit and burial with closure of existing channel. Short-term negative impacts	Short-term negative impacts associated with dredging of new channel and burial due to dike construction. Short-term negative impacts with the resumption of Corps of Engineers maintenance dredging in 1 to 2 years after channel relocation.

					with the resumption of Corps of Engineers maintenance dredging in 1 to 2 years after channel relocation.	
<b>Shellfish</b>	Direct = 0 to 3 days (3 days = est. max. settling time of med. grain sed.) Indirect = 6 mos. To 2 and up to 4 years (6 mos. To 2 yrs. = beach stabilization time; 4 yrs = time for sand spit to merge with sand dike under Alternative F) Cumulative = 2 to 4 yrs.	Negative direct and cumulative impacts due to possible breach of the Bogue Banks sand spit which would reroute flow to old Coast Guard Channel possibly impacting water quality and sediment influx. .	Same as Alternative A.	Same as Alternative A.	Negative short-term impacts due to increased turbidity during construction. Sediment redistribution to sound and ebb tide delta for period of 4 to 6 weeks after construction as new channel develops equilibrium cross-sectional area.	Same as Alternative E.
<b>Finfish</b>	Direct = 0 to 3 days (3 days = est. max. settling time of med. grain sed.) Indirect = 6 mos. To 2 and up to 4 years (6 mos. To 2 yrs. = beach stabilization time; 4 yrs = time for sand spit to merge with sand dike under Alternative F) Cumulative = 2 to 4 yrs	Insignificant	Insignificant	Insignificant	Negative short-term direct impacts due to construction noise. Negative short-term indirect impacts from increases in turbidity during construction and the temporary loss of infaunal prey from new channel area, sand dike construction, stockpiling of channel material, and filling of existing channel.	Negative short-term direct impacts due to construction noise. Negative short-term indirect impacts from increases in turbidity during construction and the temporary loss of infaunal prey from new channel area and sand dike construction.
<b>Marine Mammals - Dolphins</b>	Direct = days to months (during construction) Indirect = 0 to 4 years (4 years = time for sand spit to merge with sand dike under Alternative F) Cumulative = 2 to 4 yrs.	Insignificant	Insignificant	Insignificant	Negative direct impacts from construction noise.	Negative direct impacts from construction noise.
<b>Intertidal Flats and Shoals</b>	Direct = days to months (during construction) Indirect = 0 to 4 years (4 yrs = time for sand spit to merge with sand dike under Alternative F) Cumulative = after 4 yrs.	Continue erosion of the inlet shoreline will convert some upland area of the Pointe to intertidal shoals and sand flats. Material eroded from the upland area will be redistributed to the sound and outer portions of the ebb tide delta.	Insignificant	Insignificant	Direct negative impacts for the loss of 47.6 acres of subtidal shoals due to new channel construction and short-term negative impacts on 22.8 acres on the Emerald Isle sand spit from the stockpile of dredged material. Long-term positive impacts with restoration of 127.5 acres from dike construction, filling of existing channel, and	Direct negative impacts for the loss of 47.6 acres of subtidal shoals due to new channel construction. Partial restoration of 22 acres from dike construction. Long-term positive impacts with the development of sand spit off the west end of Emerald Isle which will eventually fill 127.5 acres of the existing channel.

					development of sand spit off the west end of Emerald Isle.	
<b>5.5.2 Beach Resources</b>						
<b>Supratidal Beach and Dune Communities</b>	<p>Direct = days  Indirect = 0 to 2 years (2 yrs = beach stabilization time)  Cumulative = after 2 yrs</p>	<p>Direct negative impacts from the loss of beach and dune habitat along 600 feet on the western end of Emerald Isle due to the eastward migration of the inlet channel and erosion of the eastern 7,500 feet of Bear Island. Restoration of 23,831 feet of ocean shoreline on Emerald Isle with nourishment of Phase 3 with offshore material.</p>	Same as Alternative A.	<p>Direct negative impacts from the loss of beach and dune habitat along 240 feet on the western end of Emerald Isle due to the eastward migration of the inlet channel and erosion of the eastern 7,500 feet of Bear Island. Positive cumulative impacts from the restoration of 23,831 feet of ocean shoreline on Emerald Isle with nourishment of Phase 3 with offshore material.</p>	<p>Temporary negative impacts to the Bogue Banks sand spit from dike construction and the stockpiling material. Long-term direct positive impacts with filling of existing channel and long-term indirect impacts from the rapid development (2 yrs) of sand spit off the west end of Emerald Isle. Negative indirect impacts from erosion of 7,500 feet of ocean shoreline on west end of Emerald Isle. Positive indirect impacts from accretion of 7,500 feet of ocean shoreline on east end of Bear Island. Positive cumulative impacts from the restoration of 23,831 feet of ocean shoreline on Emerald Isle with nourishment of Phase 3 with offshore material. Phase 3 would extend into the affected shoreline on the west end of Emerald Isle.</p>	<p>Temporary negative impacts to the Bogue Banks sand spit from dike construction. Indirect positive impacts with filling of existing channel and development of sand spit off the west end of Emerald Isle over 4 to 6 years. Negative indirect impacts from erosion of 7,500 feet of ocean shoreline on west end of Emerald Isle. Positive indirect impacts from accretion of 7,500 feet of ocean shoreline on east end of Bear Island. Positive cumulative impacts from the restoration of 23,831 feet of ocean shoreline on Emerald Isle with material from Bogue Inlet. Phase 3 would extend into the affected shoreline on the west end of Emerald Isle.</p>
<b>Intertidal Beach</b>	<p>Direct = days to months (during construction)  Indirect = 0 to 4 years (4 yrs = time for sand spit to merge with sand dike under Alternative F)  Cumulative = after 4 yrs.</p>	<p>Direct negative short-term impacts from the burial of infaunal prey with nourishment material from offshore. Moderate long-term negative impacts depending on compatibility of offshore borrow material.</p>	Same as Alternative A.	Same as Alternative A.	Same as Alternative A.	<p>Direct negative short-term impacts from the burial of infaunal prey with nourishment material from Bogue Inlet. Positive long-term impacts due to compatibility of inlet material with native beach material.</p>
<b>Nearshore Soft Bottom (unconsolidated)</b>	<p>Direct = days  Indirect = 0 to 2 years (2 yrs = beach stabilization time)  Cumulative = after 2 yrs</p>	<p>Nourishment of Phase 3 shoreline will directly impact nearshore soft bottoms located landward of the 10-foot depth contour and indirectly</p>	Same as Alternative A.	Same as Alternative A.	Same as Alternative A.	<p>Essentially the same as Alternative A, however, material quality from the inlet would be more compatible with existing nearshore soft bottom</p>

<b>Sediment) Communities</b>		impact soft bottoms landward of the 20-foot depth contour as the nourishment material migrates offshore.				communities which should lead to more rapid recovery.
<b>Offshore Soft Bottom (Unconsolidated Sediment) Communities</b>	Direct = days Indirect = 0 to 2 years (2 yrs = beach and offshore borrow area stabilization time) Cumulative = after 2 yrs	Nourishment of the beach with offshore borrow material may indirectly impact soft bottoms seaward of the 20 foot depth contour. The use of an offshore borrow area will have a direct negative impact on 141.5 acres of offshore soft bottoms.	Same as Alternative A.	Same as Alternative A	Same as Alternative A	Nourishment of the beach with material from Bogue Inlet may indirectly impact soft bottoms seaward of the 20 foot depth contour. Avoid the direct negative impact on 141.5 acres of offshore soft bottom communities.
<b>Benthic Infaunal Community</b>	Direct = days to months (during construction) Indirect = 1 to 3 years (1 to 3 yrs = infaunal recovery time for medium grain sed.) Cumulative = after 3 yrs.	Direct negative impacts from decreases in infaunal prey densities and abundances for birds and finfish due to direct burial landward of the 10-foot depth contour. Moderate indirect negative impacts due to offshore migration of nourishment material to the 20-foot depth contour.	Same as Alternative A.	Same as Alternative A.	Same as Alternative A.	Same as Alternative A; however recovery times should be less due to the compatibility of the inlet material with the native beach material.
<b>Finfish (Beach Resources)</b>	Direct = 0 to 3 days (3 days = est. max settling time of med. grain sed.) Indirect = 6 mos. to 2 and up to 4 years (6 mos to 2 yrs = time for sand spit to merge with sand dike under Alternative F) Cumulative = after 2 to 4 years	Temporary increase of turbidity and suspended sediments during beach nourishment operation with material from offshore borrow areas.	Same as Alternative A.	Same as Alternative A.	Same as Alternative A.	Similar to Alternative A; however, low silt content of inlet material should result in less turbidity and suspended sediments during the nourishment operation.
<b>5.6 TURTLE RESOURCES</b>						
<b>5.6.1 Diamondback Terrapin</b>	No associated timeframe	Insignificant	Insignificant	Insignificant	Insignificant	Insignificant
	Direct = days to months (during construction) Indirect = 0 to 2 years (2 yrs = beach stabilization time) Cumulative = after 2 yrs.	Negative cumulative impacts from loss of 600 feet of nesting habitat on the west end of Emerald Isle, continued erosion of the inlet shoreline which could result in a breach of the sand spit, and	Same as Alternative A.	Negative cumulative impacts from loss of 240 feet of nesting habitat on the west end of Emerald Isle, continued erosion of the inlet shoreline which could result in a breach of the sand spit, and	Negative cumulative impacts due to erosion of western 7,500 feet of Emerald Isle. Positive cumulative impacts to 23,831 feet of shoreline included in Phase 3 nourishment with	Negative cumulative impacts due to erosion of western 7,500 feet of Emerald Isle. Positive cumulative impacts to 23,831 feet of shoreline included in Phase 3 nourishment with

<p><b>5.6.2 Sea Turtle Nesting Habitat</b></p>		<p>erosion of the eastern 7,500 feet of Bear Island. Continued erosion of inlet shoreline would have a minor impact since turtles nest primarily on the ocean shoreline. Positive cumulative impacts to 23,831 feet of shoreline included in Phase 3 nourishment with offshore borrow material.</p>		<p>erosion of the eastern 7,500 feet of Bear Island. Continued erosion of inlet shoreline would have a minor impact since turtles nest primarily on the ocean shoreline. Positive cumulative impacts to 23,831 feet of shoreline included in Phase 3 nourishment with offshore borrow material.</p>	<p>offshore borrow material. Phase 3 would extend into the affected shoreline on the west end of Emerald Isle. Positive cumulative impacts from the accretion on eastern 7,500 feet of Bear Island.</p>	<p>material from Bogue Inlet. Phase 3 would extend into the affected shoreline on the west end of Emerald Isle. Positive cumulative impacts from the accretion on eastern 7,500 feet of Bear Island.</p>
<p><b>5.6.3 Offshore Sea Turtle Habitat</b></p>	<p>Direct = days to months (during construction) Indirect = 0 to 2 years (2 yrs = recovery time of borrow areas for Alternatives A thru E) Cumulative = after 2 yrs.</p>	<p>Direct and indirect negative impacts to 141.5 acres of offshore habitat from using offshore borrow areas to nourish the Phase 3 shoreline.</p>	<p>Same as Alternative A.</p>	<p>Same as Alternative A.</p>	<p>Same as Alternative A.</p>	<p>No direct or indirect impacts on offshore sea turtle habitat with use of inlet material to nourish the Phase 3 shoreline.</p>
<p><b>5.7 RESIDENT AND MIGRATORY BIRD RESOURCES</b></p>						
<p><b>5.7.1 Shorebirds</b></p>	<p>Direct = days to months (during construction) Indirect = 0 to 4 years (4 yrs = time for sand spit to merge with sand dike under Alternative F) Cumulative = after 4 yrs.</p>	<p>Negative cumulative impacts from the erosion of nesting, foraging, and roosting habitats on the Bogue Banks sand spit and Dudley Island. However, impacts would be insignificant as inlet environment is normally highly dynamic. Direct negative impacts from noise and other factors associated with channel maintenance. Island 2 appears to be migrating to the west and may eventually disappear. Minor negative cumulative impacts due to Erosion on east end of Bear Island, however shorebirds will adapt. Short-term negative impacts due to Phase 3 nourishment with offshore borrow material.</p>	<p>Same as Alternative A.</p>	<p>Same as Alternative A.</p>	<p>Direct negative impacts from the presence of construction equipment and loss of 50 acres infaunal prey habitat in new channel area. Positive short term impacts on Dudley Island until sand spit reforms in about 2 years. Negative short-term impacts due to dike construction and stockpiling of material. Positive cumulative impacts from filling of existing channel and relatively rapid development of the sand spit off the west end of Emerald Isle. Island 2 appears to be migrating to the west and may eventually disappear. Direct negative impacts from noise and other factors associated with channel maintenance once this activity resumes. Short-term</p>	<p>Direct negative impacts from the presence of construction equipment and loss of 50 acres infaunal prey habitat in new channel area. Positive short term impacts on Dudley Island until sand spit reforms in about 4 to 6 years. Negative short-term impacts due to dike construction and construction of the Phase 3 fill with inlet material. Positive cumulative impacts from the development of the sand spit off the west end of Emerald Isle. Island 2 appears to be migrating to the west and may eventually disappear. Direct negative impacts from noise and other factors associated with channel maintenance once this activity resumes.</p>

					negative impacts due to Phase 3 nourishment with offshore borrow material.	
<b>5.7.2 Colonial Waterbirds</b>	<p>Direct = days to months (during construction)  Indirect = 0 to 4 years (4 yrs = time for sand spit to merge with sand dike under Alternative F)  Cumulative = after 4 yrs</p>	<p>Negative cumulative impacts from the erosion of nesting, foraging, and roosting habitats on the Bogue Banks sand spit and Dudley Island. However, impacts would be insignificant as inlet environment is normally highly dynamic. Direct negative impacts from noise and other factors associated with channel maintenance. Island 2 appears to be migrating to the west and may eventually disappear. Short-term negative impacts due to Phase 3 nourishment with offshore borrow material.</p>	Same as Alternative A.	Same as Alternative A.	<p>Direct negative impacts from the presence of construction equipment and loss of 50 acres infaunal prey habitat in new channel area. Negative short-term impacts due to dike construction and stockpiling of material. Positive cumulative impacts from filling of existing channel and relatively rapid development of the sand spit off the west end of Emerald Isle. Positive short term impacts on Dudley Island until sand spit reforms in about 2 years. Island 2 appears to be migrating to the west and may eventually disappear. Direct negative impacts from noise and other factors associated with channel maintenance once this activity resumes. Short-term negative impacts due to Phase 3 nourishment with inlet material.</p>	<p>Direct negative impacts from the presence of construction equipment and loss of 50 acres infaunal prey habitat in new channel area. Positive cumulative impacts from the development of the sand spit off the west end of Emerald Isle. Positive short term impacts on Dudley Island until sand spit reforms in about 4 to 6 years. Island 2 appears to be migrating to the west and may eventually disappear. Direct negative impacts from noise and other factors associated with channel maintenance once this activity resumes. Short-term negative impacts due to Phase 3 nourishment with inlet material.</p>
<b>5.7.3 Other Waterbirds</b>	<p>Direct = days to months (during construction)  Indirect = 0 to 4 years (4 yrs = time for sand spit to merge with sand dike under Alternative F)  Cumulative = after 4 yrs</p>	<p>Negative cumulative impacts from the erosion of nesting, foraging, and roosting habitats on the Bogue Banks sand spit and Dudley Island. However, impacts would be insignificant as inlet environment is normally highly dynamic. Direct negative impacts from noise and other factors associated with channel maintenance. Island 2 appears to be migrating to the west and may</p>	Same as Alternative A.	Same as Alternative A.	<p>Direct negative impacts from the presence of construction equipment and loss of 50 acres infaunal prey habitat in new channel area. Negative short-term impacts due to dike construction and stockpiling of material. Positive cumulative impacts from filling of existing channel and relatively rapid development of the sand spit off the west end of</p>	<p>Direct negative impacts from the presence of construction equipment and loss of 50 acres infaunal prey habitat in new channel area. Short-term negative impacts due to Phase 3 nourishment with inlet material. Positive cumulative impacts from the development of the sand spit off the west end of Emerald Isle. Positive short term impacts on Dudley Island until sand</p>

		eventually disappear. Short-term negative impacts due to Phase 3 nourishment with offshore borrow material			Emerald Isle. Positive short term impacts on Dudley Island until sand spit reforms in about 2 years. Island 2 appears to be migrating to the west and may eventually disappear. Direct negative impacts from noise and other factors associated with channel maintenance once this activity resumes. Short-term negative impacts due to Phase 3 nourishment with offshore borrow material.	spit reforms in about 4 years. Island 2 appears to be migrating to the west and may eventually disappear. Direct negative impacts from noise and other factors associated with channel maintenance once this activity resumes.
<b>5.8 WATER QUALITY</b>						
<b>5.8.1 Turbidity</b>	Direct = 0 to 3 days (during construction) (3 days = approx. settling time for med. grained sed.) Indirect = 0 years Cumulative = 0 years	Direct short-term increases in turbidity due to construction of Phase 3 beach fill from an offshore borrow area. No apparent significant impact on turbidity in the inlet due to continued maintenance of the inlet channel. Annual maintenance has involved the disposal of between 100,000 and 600,000 cy of material into the open waters of Bogue Inlet.	Same as Alternative A.	Same as Alternative A.	Temporary negative impacts during dredging of the new channel, construction of the sand dike, and filling of the existing channel with stockpiled material. Direct short-term increases in turbidity due to construction of Phase 3 beach fill from an offshore borrow area. No apparent significant impact on turbidity in the inlet due to a resumption of inlet channel maintenance 1 to 2 years following channel relocation. Annual maintenance has involved the disposal of between 100,000 and 600,000 cy of material into the open waters of Bogue Inlet. Construction of the new channel will suspend channel maintenance for 1 to 2 years.	Temporary negative impacts during dredging of the new channel and construction of the sand dike. Direct short-term increases in turbidity due to construction of Phase 3 beach fill with the inlet material, however, turbidity should be low due to low silt content in inlet material. No apparent significant impact on turbidity in the inlet due to a resumption of inlet channel maintenance 1 to 2 years following channel relocation. Annual maintenance has involved the disposal of between 100,000 and 600,000 cy of material into the open waters of Bogue Inlet. Construction of the new channel will suspend channel maintenance for 1 to 2 years.
	Direct = 0 to 3 days (during construction) (3 days = approx. settling time for med. grained sed.)	Direct, indirect, and cumulative impacts associated with the possible breach of the Bogue Banks sand spit	Same as Alternative A.	Same as Alternative A.	Construction of the new channel and closure of the existing channel will temporarily decrease the cross-sectional area of	Construction of the new channel and construction of the sand dike across the existing channel will temporarily decrease the

5.8.2 Salinity	Indirect = 1 to 2 months Cumulative = after 2 months	which would provide a direct connection between the inlet and the old Coast Guard channel.			Bogue Inlet. This could reduce the tidal prism for 4 to 6 weeks. Cross-sectional area of inlet will return to its equilibrium size and the tidal prism would be restored to normal within 6 weeks of construction.	cross-sectional area of Bogue Inlet. This could reduce the tidal prism for 4 to 6 weeks. Cross-sectional area of inlet will return to its equilibrium size and the tidal prism would be restored to normal within 6 weeks of construction.
5.9 AIR QUALITY	No associated timeframe.	Insignificant	Insignificant	Insignificant	Insignificant	Insignificant
5.10 PUBLIC SAFETY	Direct = 0 to 5 years Indirect = 5 to 10 years Cumulative = 10 years or greater	Direct, indirect, and cumulative impacts associated with the loss of 36 to 51 homes. The damage to roads in the Pointe subdivision could create hazards to vehicular traffic. Public water system would have to be repaired and rerouted in response to continuing erosion of inlet shoreline. This may require boiling of water following each disruption. Individual septic systems would be exposed and have to be removed with possible spillage into adjacent waterways.	Same as Alternative A.	Direct, indirect, and cumulative impacts associated with the loss of 23 homes. The damage to roads in the Pointe subdivision could create hazards to vehicular traffic. Public water system would have to be repaired and rerouted in response to continuing erosion of inlet shoreline. The use of sandbags should provide the town with more response time to reroute waterlines and remove threatened septic systems, however, boiling of water may still be required following each disruption.	Impacts associated with the continued eastward migration of the inlet channel would be eliminated. Erosion of the western 7,500 feet of Emerald Isle would expose homes in this area to a higher degree of risk from coastal storms; however, the level of protection remaining would be sufficient to prevent damage except during the most severe events (Category 4 or 5 hurricanes). Also, a portion of the affected shoreline would be included in the Phase 3 nourishment project.	Impacts associated with the continued eastward migration of the inlet channel would be eliminated. Erosion of the western 7,500 feet of Emerald Isle would expose homes in this area to a higher degree of risk from coastal storms; however, the level of protection remaining would be sufficient to prevent damage except during the most severe events (Category 4 or 5 hurricanes). Also, a portion of the affected shoreline would be included in the Phase 3 nourishment project.
5.11 AESTHETIC RESOURCES	Direct = 1 to 6 mos. (during construction) Indirect = up to 2 years. Cumulative = 10 years	Regular channel maintenance could distract from natural scenery. Construction activities associated with nourishing the Phase 3 shoreline would distract from the natural scenery. Material from offshore borrow area used to nourish Phase 3 would temporarily (up to 6 mos) be darker than the native material. Erosion of the inlet shoreline would continue to result in unsightly vertical erosion scarps.	Same as Alternative A.	Regular channel maintenance could distract from natural scenery. Construction activities associated with nourishing the Phase 3 shoreline would distract from the natural scenery. Material from offshore borrow area used to nourish Phase 3 would temporarily (up to 6 mos) be darker than the native material. The sandbag revetments would distract from the natural setting.	Resumption of regular channel maintenance 1 to 2 years following channel relocation could distract from natural scenery. Construction activities associated with nourishing the Phase 3 shoreline would distract from the natural scenery. Material from offshore borrow area used to nourish Phase 3 would temporarily (up to 6 mos) be darker than the native material. Positive long-term impacts on the inlet shoreline aesthetics as channel fill and sand spit development assume	Resumption of regular channel maintenance 1 to 2 years following channel relocation could distract from natural scenery. Construction activities associated with nourishing the Phase 3 shoreline would distract from the natural scenery. Material from Bogue Inlet used to nourish Phase 3 would temporarily (up to 6 mos) be darker than the native material. Positive long-term impacts on the inlet shoreline aesthetics as channel fill and sand spit development assume

					more natural characteristics.	more natural characteristics.
5.12 <b>RECREATIONAL RESOURCES</b>	Direct = days to months Months = beach stabilization time) Indirect = up to 2 yrs. Cumulative = > 2 yrs.	Direct, indirect, and cumulative negative impacts to beachgoers from shellhash accumulation in the nearshore zone. Access to the Emerald Isle inlet shoreline would continue to be restricted.	Same as Alternative A.	Same as Alternative A.	Direct, indirect, and cumulative negative impacts to beachgoers for shellhash accumulation in the nearshore zone. Public access to the Emerald Isle inlet shoreline would be restored.	Positive direct, indirect, and cumulative impacts from use of inlet material for beach nourishment. Public access to the Emerald Isle inlet shoreline would be restored.
5.13 <b>NAVIGATION</b>	Direct = days to months (during construction) Indirect = 3 to 6 months (3 to 6 months = stabilization of channel depths) Cumulative = > 12 months	No change from existing conditions in Bogue Inlet and connecting channel.	Same as Alternative A.	Same as Alternative A.	Short-term improvement in navigability of inlet channel for 1 to 2 years following channel construction. Channel depths beyond 2 years would be the same as under existing conditions. Temporary disruption of navigation for 30 days due to construction of sand dike and remarking of navigation channel.	Short-term improvement in navigability of inlet channel for 1 to 2 years following channel construction. Channel depths beyond 2 years would be the same as under existing conditions. Temporary disruption of navigation for 30 days due to construction of sand dike and remarking of navigation channel.
5.14 <b>HISTORIC PROPERTIES AND CULTURAL RESOURCES</b>	Direct = days to months Indirect = no associated timeframe Cumulative = indefinite	Potential negative cumulative impact to anomaly located in the existing navigation channel from maintenance dredging.	Same as Alternative A.	Same as Alternative A.	Anomaly located in existing channel is in an area that would be covered by the sand dike, therefore, no significant impact.	Anomaly located in existing channel is in an area that would be covered by the sand dike, therefore, no significant impact.
5.15 <b>SOCIO-ECONOMIC</b>	Direct = days to months Indirect = 6 mos to 2 and up to 4 years (6 mos to 2 yrs = time for sand spit to merge with sand dike under Alternative F) Cumulative = 2 to 4 years	Direct and indirect negative impacts due to the loss of seven homes following removal of existing sandbags. Cumulative negative impacts from erosion of inlet shoreline. Cumulative long-term impacts from protection provided by Phase 3 beach fill.	Same as Alternative A.	Same as Alternative A.	Cumulative long-term impacts from protection provided by Phase 3 beach fill and prevention of losses associated with erosion of inlet shoreline. Cumulative positive impacts from restoration of public access to inlet shoreline.	Cumulative long-term impacts from protection provided by Phase 3 beach fill.
5.16 <b>LAND USE</b>	Direct = 0 to 5 years Indirect = 5 to 10 years Cumulative = 10 yrs or greater	Direct, indirect, and cumulative negative effects from the loss of available land and change in land use.	Same as Alternative A.	Same as Alternative A.	Direct, indirect, and cumulative positive effects from preservation of homes and increased beach and recreational access to the Emerald Isle inlet shoreline. Any new land that accretes would be owned by the adjacent upland property owner.	Same as Alternative E.

5.17 <b>HYDRODYNAMICS</b>						
<b>Tides and Flow</b>	Direct = days to months (during construction) Indirect = 3 to 6 mos following channel construction Cumulative = > 6 mos.	No change in existing conditions unless a breach occurs in sand spit connecting Bogue Inlet with the old Coast Guard channel, flow patters would change but not the overall tidal exchange through the inlet.	Same as Alternative A.	Same as Alternative A.	Direct negative impacts from filling of existing channel and opening of new channel. Indirect impacts from scouring of new channel. Cumulative positive impacts from restoration of tidal flow regime.	Direct negative impacts from construction of sand dike and opening of new channel. Indirect impacts from scouring of new channel. Cumulative positive impacts from restoration of tidal flow regime.
<b>Waves</b>	Direct = days to 2 months (during construction) Indirect = 4 to 6 years (4 to 6 years timeframe for ebb tide delta to adjust to new channel position. Cumulative = 15 to 35 yrs. = est. timeframe for life of new channel location	Direct positive impacts from accretion of western end of Emerald Isle protected by the migrating ebb tide delta. Direct negative impacts from erosion of eastern 7,500 feet on Bear Island.	Same as Alternative A.	Same as Alternative A.	Indirect positive impacts from shoreline accretion along the east end of Bear Island due to wave sheltering by ebb tide delta. Indirect negative impacts due to higher degree of wave exposure on west end of Emerald Isle.	Indirect positive impacts from shoreline accretion along the east end of Bear Island due to wave sheltering by ebb tide delta. Indirect negative impacts due to higher degree of wave exposure on west end of Emerald Isle. .
<b>Littoral Transport</b>	Direct = days to 2 months (during construction) Indirect = 4 to 6 years (4 to 6 years timeframe for ebb tide delta to adjust to new channel position. Cumulative = 15 to 35 yrs. = est. timeframe for life of new channel location	No change in normal rates of littoral transport except along the extreme west end of the Phase 3 beach fill. Sediment transport rates off the west end of the fill will likely be greater than normal rates; however, the increased sediment transport rates will not extend to the inlet.	Same as Alternative A.	Same as Alternative A.	Net sediment transport rates along the extreme west end of Emerald Isle will gradually increase from its present value near 0 to a rate comparable to that which occurs east of the area influenced by the existing ebb tide delta. Since the Phase 3 fill ends 4,500 feet from the inlet, sediment transport rates of the west terminus of the Phase 3 fill should not be impacted. Filling of the existing channel will accelerate the rate of spit development with the spit reaching the sand dike in about 2 years.	Net sediment transport rates along the extreme west end of Emerald Isle will gradually increase from its present value near 0 to a rate comparable to that which occurs east of the area influenced by the existing ebb tide delta. Since the Phase 3 fill ends 4,500 feet from the inlet, sediment transport rates of the west terminus of the Phase 3 fill should not be impacted. Sediment transport into the inlet will be intercepted by the existing channel until the channel is filled. This will slow the rate of spit development with the spit reaching the sand dike in about 4 to 6 years.
5.18 <b>INFRASTRUCTURE</b>	Direct = 0 to 5 years Indirect = 5 to 10 years Cumulative = >10 years	Cumulative negative impacts from repeated responses to disconnect and reroute utility services (water, electrical, etc.) and	Same as Alternative A.	Essentially the same as Alternative A; however, sandbags would reduce the magnitude of the impact on infrastructure.	Positive cumulative impacts from prevention of loss of infrastructure in the Pointe subdivision. Potential negative long-term impacts should	Positive cumulative impacts from prevention of loss of infrastructure in the Pointe subdivision. Potential negative long-term impacts should

		remove septic systems. Temporary access roads would have to be constructed to reach isolated homes.			erosion of the ocean shoreline exceed predicted adjustments.	erosion of the ocean shoreline exceed predicted adjustments.
<b>5.19 WATER COLUMN</b>						
<b>5.19.1 Marine</b>	Direct = 0 to 3 days (3 days = estm max settling time of med. grain sed.) Indirect = 6 mos to 2 and up to 4 yrs. (6 mos. To 2 yrs = beach stabilization time; 4 yrs = time for sand spit to merge with sand dike under Alternative F) Cumulative = 2 to 4 yrs.	Direct negative impacts due to increased turbidity during maintenance dredging and beach nourishment activities.	Same as Alternative A.	Same as Alternative A.	Direct negative impacts during channel construction, dike construction, stockpiling of channel material, and filling of existing channel. Direct negative impacts from increased turbidity during beach nourishment activities.	Direct negative impacts during channel and dike construction. Direct negative impacts from increased turbidity during beach nourishment activities.
<b>5.19.2 Estuarine</b>	Direct = 0 to 3 days (3 days = estm max settling time of med. grain sed.) Indirect = 6 mos to 2 and up to 4 yrs. (6 mos. To 2 yrs = beach stabilization time; 4 yrs = time for sand spit to merge with sand dike under Alternative F) Cumulative = 2 to 4 yrs.	Minor direct negative impacts due to increased turbidity during maintenance dredging. Impacts on estuarine resources minor due to low suspension time and transport distances for suspended sediment.	Same as Alternative A.	Same as Alternative A.	Direct negative impacts during channel construction, dike construction, stockpiling of channel material, and filling of existing channel. However, due to low suspension time and travel distance of suspended sediment, impacts on estuarine resources should be minor. Indirect impacts would occur as the new channel scours in response to the tidal flow through Bogue Inlet. Material scoured from the channel will move as bed load along the bottom of the Eastern and Western Channels and should not accumulate above mean high water.	Direct negative impacts during channel and dike construction. However, due to low suspension time and travel distance of suspended sediment, impacts on estuarine resources should be minor. Indirect impacts would occur as the new channel scours in response to the tidal flow through Bogue Inlet. Material scoured from the channel will move as bed load along the bottom of the Eastern and Western Channels and should not accumulate above mean high water.
<b>5.20 URBAN QUALITY</b>	Direct = 0 to 5 years Indirect = 5 to 10 years Cumulative = >10 years	Direct and indirect negative impacts from continued erosion of The Pointe shoreline and demolition of structures. Cumulative negative impacts from decreased storm protection in the Pointe subdivision.	Same as Alternative A.	Same as Alternative A.	Short-term direct negative impacts due to presence of dredging equipment. Indirect and cumulative positive impacts from increase in property values. Indirect and cumulative negative impacts from erosion of	Short-term direct negative impacts due to presence of dredging equipment. Indirect and cumulative positive impacts from increase in property values. Indirect and cumulative negative impacts from erosion of

					the western 7,500 feet of Emerald Isle. Partial mitigation of the erosion by Phase 3 beach nourishment project.	the western 7,500 feet of Emerald Isle. Partial mitigation of the erosion by Phase 3 beach nourishment project.
<b>5.21 SOLID WASTE</b>	Direct = 0 to 5 years Indirect = 5 to 10 years Cumulative = >10 years	Direct, indirect, and cumulative negative impacts on landfills from the debris produced by the demolition of at least 36 structures, 1,640 feet of roads and associated utilities.	Direct, indirect, and cumulative negative impacts on landfills from the debris produced by the demolition of concrete pads and driveways of the relocated 36 structures, 1,640 feet of roads and associated utilities.	Direct, indirect, and cumulative negative impacts on landfills from the debris produced by the demolition of at least 23 structures, 890 feet of roads and associated utilities, and sandbag removal.	No negative impacts.	No negative impacts
<b>5.22 DRINKING WATER</b>	Direct = 0 to 5 years Indirect = 5 to 10 years Cumulative = >10 years	Direct, indirect, and cumulative negative impacts from disconnecting and rerouting potable water lines within the Pointe subdivision. Property owners would have to boil water after each such incident.	Same as Alternative A.	Similar to Alternative A; however the number of service interruptions and the need to reroute waterlines would be reduced.	No negative impacts	No negative impacts
<b>5.23 ECONOMICS</b>	Direct = 0 to 5 years Indirect = 5 to 10 years Cumulative = >10 years	Negative direct, indirect, and cumulative impacts due to loss of 36 structures, 1,640 feet of roads and utilities, loss of tax revenues, and reduction in household spending. Economic impact would range from \$1.9 million in year 2 to \$14.6 million in year 10. Town of Emerald Isle would nourish Phase 3 from using an offshore borrow area at a cost of about \$5.8 million.	Negative direct, indirect, and cumulative impacts due to the cost of relocating 36 structures to other areas in Emerald Isle, the loss of 1,640 feet of roads and utilities, and a reduction of tax revenues for lots lost to erosion. Economic impact would range from \$1.9 million in year 2 to \$14.6 million in year 10. Town of Emerald Isle would nourish Phase 3 from using an offshore borrow area at a cost of about \$5.8 million.	Negative direct, indirect, and cumulative impacts due to loss of 23 structures, 890 feet of roads and utilities, loss of tax revenues, reduction in household spending, and installation, maintenance, and removal costs for sandbag revetments. Economic impact would range from \$1.9 million in year 2 to \$14.6 million in year 10. Town of Emerald Isle would nourish Phase 3 from using an offshore borrow area at a cost of about \$5.8 million.	Positive direct, indirect, and cumulative impacts from the protection of threatened homes and infrastructure in the Pointe subdivision for at least 15 years and possibly 35 years. Cost of project would deplete Town of Emerald Isle's funds available for beach nourishment. Negative direct impact on Town of Emerald Isle as nourishment of the Phase 3 shoreline from an offshore borrow area would still be needed. Emerald Isle would probably need a new bond referendum.	Positive direct, indirect, and cumulative impacts from the protection of threatened homes and infrastructure in the Pointe subdivision for at least 15 years and possibly 35 years. Positive direct impacts from use of inlet material to nourish the 23,831 feet of shoreline included in Phase 3.
<b>PROJECT GOALS AND OBJECTIVES</b>						
<b>Short-term protection of 7 homes and infrastructure.</b>	For 0 to 5 years	No. Seven homes and portions of Inlet Drive and Bogue Court would be lost during the next 2	No. Seven homes would be removed from the Pointe subdivision during the next 2 years and	No. NC coastal regulations would require the removal of the existing 700-foot long	Yes. Inlet shoreline erosion would be controlled and inlet shoreline would build to	Yes. Inlet shoreline erosion would be controlled and inlet shoreline would build to

		years.	portions of Inlet Drive and Bogue Court would be lost.	sandbag revetment resulting in the loss of the 7 structures and portions of Inlet Drive and Bogue Court.	the west in the form of a sand spit.	the west in the form of a sand spit.
<b>Long-term protection of 36 to 50 homes and infrastructure.</b>	For 15 to 35 years	No. Over a 10 year period at least 36 homes would be lost along with 1,640 feet of roads within the Pointe subdivision.	No. Over a 10 year period at least 36 homes would be relocated from the Pointe subdivision to other areas of Emerald Isle and 1,640 feet of roads within the Pointe subdivision would be lost.	No. Over a 10 year period at least 23 homes would be lost and 890 feet of roads within the Pointe subdivision would be lost.	Yes. Relocation of the channel should provide protection to the Pointe subdivision for a minimum of 15 years and a maximum of 35 years.	Yes. Relocation of the channel should provide protection to the Pointe subdivision for a minimum of 15 years and a maximum of 35 years.
<b>Eliminate or reduce erosion rates along the Pointe shoreline.</b>	For 15 to 35 years	No. Erosion of the Pointe shoreline would continue.	No. Erosion of the Pointe shoreline would continue.	No. The sandbag revetments would slow but not eliminate erosion of the Pointe shoreline.	Yes. Erosion of the Pointe shoreline would be eliminated for a period of at least 15 years and possibly 35 years.	Yes. Erosion of the Pointe shoreline would be eliminated for a period of at least 15 years and possibly 35 years.
<b>Reestablish public access to the inlet shoreline.</b>	For 15 to 35 years	No. Continued erosion of the inlet shoreline would prevent the establishment of a public access with parking.	No. Continued erosion of the inlet shoreline would prevent the establishment of a public access with parking.	No. Continued erosion of the Pointe shoreline and the construction of sandbag revetments would prevent the establishment of a public access with parking.	Yes. The filling of the existing channel would allow the reestablishment of public access with parking within 1 to 2 years following channel relocation.	Yes. Public access could be established within 2 to 4 years of channel relocation or until the sand spit develops sufficiently to provide the land area necessary to accommodate the public access and parking. During the interim, public access could be hampered by the continued existence of sandbags protecting the 7 threatened homes.
<b>Improve recreational opportunities along ocean shoreline.</b>	For 5 to 10	Partially. The improved recreational opportunities will depend on the quality of material from the offshore borrow areas. Previous nourishment operations from these offshore sources have had high shell content which has had some negative impacts on beach use.	Same as Alternative A.	Same as Alternative A.	Same as Alternative A.	Yes. The inlet material, which would be used to construct the beach fill along the 23,831 feet of shoreline included in Phase 3, is completely compatible with the native beach and has a low (less than 5%) shell content.
<b>Acquisition of beach compatible material for shore protection project.</b>	No associated timeframe	Partially. The offshore borrow material does not appear to have any significant negative impacts on beach organisms, plants, or	Same as Alternative A.	Same as Alternative A.	Same as Alternative A.	Yes. The inlet material, which was derived from the adjacent beaches, is completely compatible with the native beach material.

		nesting sea turtles; however, beach use has been affected due to the high shell content.				
<b>Restoration of beach and inlet habitats.</b>	For 10 to 35 years	No. The inlet shoreline would continue to erode and could lead to the possible breach of the Bogue Banks sand spit. A breach of the sand spit could result in the spit evolving into an overwash terrace with completely different environmental characteristics compared to historic conditions. Except for possible negative impacts to human use of the ocean shoreline, the offshore material should provide suitable beach habitat for the ocean shoreline.	Same as Alternative A.	No. In spite of the sandbag revetments that would slow erosion of the Pointe shoreline and protect threatened homes and infrastructure, the Bogue Banks sand spit would continue to erode. This could result a possible breach of the Bogue Banks sand spit. A breach of the sand spit could result in the spit evolving into an overwash terrace with completely different environmental characteristics compared to historic conditions. Except for possible negative impacts to human use of the ocean shoreline, the offshore material should provide suitable beach habitat for the ocean shoreline.	Yes. The relocation of the channel and filling of the existing channel should restore the inlet habitat within 2 years after construction. The recovery time would be impacted by the stockpiling of material on the sand spit and inlet shoals. Except for possible negative impacts to human use of the ocean shoreline, the offshore material should provide suitable beach habitat for the ocean shoreline.	Yes. The time required for the inlet habitat to assume natural characteristics could be 4 to 6 years as the sand spit develops off the west end of Emerald Isle. The ocean beach habitat would be restored to natural conditions within 6 months to 12 months following the nourishment operation using the material from Bogue Inlet.
<b>Maintain Town's tax base.</b>	For 15 to 35 years	No. The present worth of tax revenues collected by Emerald Isle and Carteret County would continually decline over the 10-year economic analysis period. Total town and county tax revenues would decrease by \$5,900 in year 1 to over \$337,000 in year 10.	No. The present worth of tax revenues collected by Emerald Isle and Carteret County would continually decline over the 10-year economic analysis period. Total town and county tax revenues would decrease by \$2,400 in year 1 to over \$191,000 in year 10.	No. The present worth of tax revenues collected by Emerald Isle and Carteret County would continually decline over the 10-year economic analysis period. Total town and county tax revenues would decrease by \$5,900 in year 1 to over \$183,000 in year 10.	Yes. However, the Town of Emerald Isle would use all of the funds available from its exiting bond referendum to relocate the channel and fill the existing channel. This would probably require the town to request another bond referendum to support completion of Phase 3 of the beach nourishment project. This could result in an increase in the Town's tax rate.	Yes.