DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT CORPS OF ENGINEERS
P. O. BOX 4970
JACKSONVILLE, FLORIDA 32232-0019

REPLY TO
ATTENTION OF

MAINTENANCE DREDGING
VENICE INLET, SARASOTA COUNTY, FLORIDA

FINDING OF NO SIGNIFICANT IMPACT

I have reviewed the Environmental Assessment (EA) of the proposed action. Based on information analyzed in the EA, reflecting pertinent information obtained from other agencies and special interest groups having jurisdiction by law and/or special expertise, I conclude that the proposed action will have no significant impact on the quality of the human environment. Reasons for this conclusion are, in summary:

1. There will be no adverse impacts to endangered or threatened species. The work was coordinated with the US Fish and Wildlife Service in accordance with the Endangered Species Act and the Fish and Wildlife Coordination Act.

2. In coordination with the State Historic Preservation Officer, it was determined there would be no impacts on sites of cultural or historical significance.

3. State water quality standards will be met.

4. The proposed project has been determined to be consistent with the Florida Coastal Zone Management Program.

5. Measures to eliminate, reduce, or avoid potential impacts to fish and wildlife resources will be implemented during project construction.

6. Benefits to the public will be maintenance of the navigation channel, local economic stimulus from construction activities, benefits to tourism from maintaining the beach, and retardation of shoreline erosion.

In consideration of the information summarized, I find that the proposed action will not significantly affect the human environment and does not require an Environmental Impact Statement.

March 10, 1998
Date

JOE R. MILLER
Colonel, Corps of Engineers
Commanding

U.S. ARMY CORPS OF ENGINEERS

JACKSONVILLE DISTRICT

ENVIRONMENTAL ASSESSMENT

FOR

Maintenance Dredging of Venice Inlet

SARASOTA COUNTY, FLORIDA

CONTRACT NO.: DACW17-94-D-0019
Requisition No.: W32CS5-6261-5229

Prepared by:

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1.00 PURPOSE AND NEED FOR ACTION

1.1 Introduction. The Jacksonville District U.S. Army Corps of Engineers (Corps) is considering maintenance dredging of the Venice Inlet (Inlet) (Figure 1). The dredging is anticipated to generate approximately 30,604 cubic meters (40,000 cubic yards) of dredged material per dredging event. The dredging frequency is on an as-needed basis. The area to be dredged includes the portion of the Gulf Intracoastal Waterway (GIWW) in the vicinity of Venice Inlet from Station 10+00, Cut S-19 to Station 15+00, Cuts-21, and Venice Inlet from Station 10+00, Cut 1 in the Gulf of Mexico to the intersection with the GIWW at Station 6+00.005, Cut 4 (Figure 2).

1.2 Authority. The deepening of the channel at Casey's Pass (Venice Inlet) was authorized by House Document 371/76/1 on March 2, 1945.

1.3 Decision to be Made. The decision to be made is whether to conduct maintenance dredging, and whether to use Snake Island as a disposal area or beach placement of the dredged material.

1.4 Relevant Issues

a. Water Quality
b. Benthos
c. Seagrass
d. Sea Turtles
e. Marine Mammals
f. Wildlife
g. Cultural Resources
h. Aesthetics
i. Recreation
j Economics

1.5 Permits Required. An Environmental Resource Permit (ERP) from the Florida Department of Environmental Protection (FDEP) in accordance with the Memorandum of Understanding between the FDEP and the Corps, and in accordance with Section 401 of the Clean Water Act of 1977, as amended, would be required for the proposed dredging activity.

1.6 Methodology. An interdisciplinary team used a systematic approach to analyze the affected area, to estimate the probable environmental effects, and to prepare the Environmental Assessment (EA). This included literature search, coordination with agencies having expertise in particular areas, and on-site field investigations. Lotspeich and Associates, Inc. (L&A) in conjunction with Mote Environmental Services, Inc. (MESI) conducted a field investigation of the Inlet and the surrounding area during November 1996.

2.00 ALTERNATIVES

2.1 Introduction. This section is based upon concerns for resources and impacts on resources expressed in Section 3.00, Affected Environment, and Section 4.00, Environmental Consequences. The key to this section is the Alternative Comparison Chart (Table 1), page EA-4. This section has three (3) parts:

a. A description of each alternative.
b. An analysis of the alternatives.
c. Identification of the Preferred Alternative.

2.2 Description of Alternatives

2.2.1 No-Action Alternative. Venice Inlet would not be dredged.

2.2.2 Dredging With Snake Island Placement Disposal. This alternative would consist of dredging the Inlet and the placement of dredged material on the west end of Snake Island (Figure 3). To reduce the potential for impacting manatees the contract would include special operational conditions recommended by the State of Florida and the US Fish and Wildlife Service.

2.2.3 Dredging With Beach Placement Disposal. This alternative would consist of dredging the Inlet and pumping the dredged material to a beach placement site that starts 259.1 meters (850 feet) south of the Venice Inlet and continues for a distance of 1,829.3 meters (6,000 feet) along the shoreline of Venice Beach (Figure 3). This placement area is included within the beach placement site that was permitted for the Venice Beach Nourishment Project (FDEP Permit #581802529). To reduce the potential for impacting manatees the contract would include special operational conditions recommended by the State of Florida and the US Fish and Wildlife Service. In addition, impacts on nesting sea turtles would be reduced by implementing a monitoring and nest relocation program.

2.3 Alternatives Analysis. The positive and/or adverse effects upon the important resources for the alternatives have been reviewed and compared in Table 1, Alternative Comparison Chart. This comparison was utilized in the decision-making process.

2.4 Preferred Alternative. The preferred alternative would be to dredge the Inlet and dispose of the material along the beach south of Venice Inlet.

3.00 AFFECTED ENVIRONMENT

3.1 Introduction. The Affected Environment section briefly describes the environmental resources, relevant issues, and their location on or in relation to the site. The environmental issues that are relevant to the decision to be made are:

a. Water Quality
b. Benthos
c. Seagrass
d. Sea Turtles
e. Marine Mammals
f. Wildlife
g. Cultural Resources
h. Aesthetics
i. Recreation
j. Economics

3.2 General Description. Venice Inlet is located in Sarasota County on Florida's west coast, approximately 21 kilometers (13 miles) south of Sarasota. The Inlet is situated at the confluence of Lyons Bay, Dona Bay, and Roberts Bay. The lands adjacent to the Inlet and the GIWW are heavily developed for single-family residential, high-density residential, and commercial uses. There is also a County-owned park adjacent to the Inlet on the south side. Some mangrove islands (Turner Key and Bird Island) are located adjacent to the GIWW.

Shoaling and channel relocation have long been a problem at the Inlet, and attempts to solve and/or stabilize these conditions have not been completely successful. Dredging and disposal of sand and sediments is required to maintain the Federal project, to meet the public need, and to provide for safe passage as authorized by Congress. The GIWW is used by a variety of pleasure and commercial watercraft. Shoals and dangerous currents that could develop within the Federal navigation project area under the No-Action Alternative may inhibit navigation and endanger lives.

3.3 Relevant Factors of the Environment that Would be Affected

3.3.1 Physical

a. Water Quality. The waters of Lyons Bay, Dona Bay, and Roberts Bay are used for recreational and commercial finfishing, boating, and other recreational uses. The FDEP lists the area's waters as Class III quality (suitable for recreation, propagation and maintenance of a healthy, well-balanced population of fish and wildlife).

TABLE 1: Alternative Comparison Chart

Resource	No-Action Alternative	Dredging with Snake Island Disposal	Dredging with Beach Placement Disposal
Water Quality	Long-term adverse effects may occur as volume of water exchanged decreases.	No adverse effects are anticipated.	No adverse effects are anticipated.
Benthos	May decrease long-term productivity if decreased water quality occurs.	No adverse effects are anticipated.	No adverse effects are anticipated.
Seagrass	May decrease long-term productivity if decreased water quality occurs.	May cause potential loss of seagrass beds located adjacent to the proposed dredged area due to increased scour. A small patch of shoal grass will be covered up by fill placement.	May cause potential loss of seagrass beds located adjacent to the proposed dredged area due to increased scour.
Sea Turtles	No direct adverse effects are anticipated.	Unlikely to have adverse effects. Compliance with NMFS and USFWS recommendations should minimize "Incidental Take".	Unlikely to have adverse effects. Compliance with NMFS and USFWS recommendations should minimize "Incidental Take".
Marine Mammals	No direct adverse effects are anticipated.	No adverse effects are anticipated; compliance with NMFS and USFWS recommendations should prevent "Incidental Take".	No adverse effects are anticipated; compliance with NMFS and USFWS recommendations should prevent "Incidental Take".
Wildlife	No direct adverse effects are anticipated.	May have a potential adverse impact on the great blue heron nesting colony on Snake Island.	May have a potential adverse impact on the great blue heron nesting colony on Snake Island.
Cultural Resources	Long-term adverse impact on cultural resources due to erosion of island.	Long-term benefit by stabilizing shoreline erosion	Continued shoreline erosion and impacts to cultural resources
Aesthetics	No adverse effects are anticipated.	No long-term adverse effects are anticipated.	No long-term adverse effects are anticipated.
Recreation	Long-term reduction in recreation from reduced navigable capacity of the channel. Recreational beach activities would experience moderate long-term adverse effects due to continued loss of beach area.	Temporary delays due to construction traffic congestion. Long-term benefit from increased navigable capacity of channel.	Temporary delays due to construction traffic congestion. Long-term benefit from increased navigable capacity of channel. Temporary adverse effects upon beach activities during beach placement. Recreational beach activities benefit from increased beach area.
Economics	Impedance of navigation would have major long-term adverse effects.	Would result in long-term increase in recreation and commercial marine traffic in the GIWW	Would result in long-term increase in recreational and commercial marine traffic in the GIWW.

3.3.2 Biological

a. **Benthos**. All coral species are protected within Florida Waters. On the west coast of Florida, coral species are restricted to the Gulf of Mexico or to bay areas near passes with near-open-Gulf salinities. Corals are limited to hard-bottom substrates, and are likely to occur on the breakwater structure of the Venice Inlet (Mote Environmental Services, Inc., 1996).

Oyster beds are fairly common in the vicinity of the proposed project, usually located adjacent to mangrove islands. A live oyster bed is within close proximity to the proposed dredging limits at the mouth of Roberts Bay. The exact locations of observed oyster beds in the vicinity of the proposed project are detailed in the report contained in Appendix I.

b. **Seagrass**. Seagrass meadows are a common estuarine habitat on the Florida west coast. There are four species of seagrass common to this area; shoal grass (*Halodule wrightii*), manatee grass (*Syringodium filiforme*), turtle grass (*Thalassia testudinum*), and widgeon grass (*Ruppia maritima*). Turtle grass, shoal grass, and manatee grass were all observed within the vicinity of the proposed dredging area during the field investigation conducted during November 1996. A small patch of shoal grass was observed adjacent to the west side of Snake Island. During the field review, seagrasses were not observed growing in the existing GIWW channel, but they may be as close as 6.1 meters (20 feet) away from the existing channel. Detailed field observations are contained in Appendix I

c. **Sea Turtles**. Venice beaches host a significant nesting population of loggerhead sea turtles (*Caretta caretta*) and occasional green turtle (*Chelonia mydas*) nesting. Juvenile green turtles and Kemp's ridley (*Lepidochelys kempii*) utilize the offshore and nearshore environs (Mote Environmental Services, Inc., 1996). Green and Kemp's ridley sea turtles are listed as endangered species by both the U.S. Fish and Wildlife Service (USFWS) and the Florida Game and Fresh Water Fish Commission (FGFWFC), and the loggerhead sea turtle is listed as threatened by the USFWS and the FGFWFC.

Nesting activity has been monitored along the Gulf beaches within the vicinity of Venice Inlet and sea turtle nesting activity has been increasing over the years. Over three times the number of sea turtles nest on the beaches south of Venice Inlet when compared to the beaches north of Venice Inlet (Mote Environmental Services, Inc., 1996). Detailed survey information is contained in Appendix I.

d. **Marine Mammals**. Manatee population surveys within the Inlet region have been performed continuously since 1985. Manatees have been documented in the area of the Venice Inlet all year round, but in greater numbers during April through November (Mote Environmental Services, Inc., 1996). Specific manatee sightings are illustrated in the report contained in Appendix I. The project area lies within a region designated as "Critical Habitat" by the USFWS.

Dolphins also utilize the same areas as manatees and dolphin locations are documented during manatee population surveys. Specific dolphin sightings are illustrated in the report contained in Appendix I.

e. **Wildlife**. The Inlet and surrounding estuarine and nearshore waters support a variety of fish species. These include important game and commercial species such as redfish (*Sciaenops ocellatus*), snook (*Centropomus undecimalis*), sea trout (*Cynscion* spp.), grouper (*Myctopercus* spp., *Epinephelus* spp.), and mullet (*Mugil cephalus*). Sheepshead (*Archosargus probatocephalus*), mullet, and pipefish (*Syngnathus scovelli*) were observed during the field review.

Wading and shorebirds noted near the Inlet during the field investigation included royal tern (*Sterna maxima*), herring gull (*Larus argentatus*), great blue heron (*Ardea herodias*), white ibis (*Eudocimus albus*), and brown pelican (*Pelecanus occidentalis*). Royal terns, gulls, and a great blue heron were also observed along the proposed beach disposal placement area. Mr. Rich Paul of the National Audubon Society was contacted for information pertaining to documented wading and shorebird nesting and roosting areas within the vicinity of the Inlet. He indicated there currently is no documented nesting colonies on Bird Island, but that does not exclude the potential for nesting. It appeared during the field investigation that Bird Island was utilized by wading and shorebirds for roosting. Mr. Paul also stated that Snake Island was utilized by great blue herons as a nesting site and that great blue herons have a prolonged nesting season which can extend from November through August.

f. **Threatened and Endangered Species**. The following species listed as threatened (T) or endangered (E) by the USFWS pursuant to the Endangered Species Act are known to inhabit Sarasota County and are also known to occur in the project area:

Loggerhead sea turtle	*Caretta caretta* (T)
Green sea turtle	*Chelonia mydas* (E)
Leatherback sea turtle	*Dermochelys coriacea* (E)
Hawksbill sea turtle	*Eretmochelys imbricata* (E)
Kemp's ridley sea turtle	*Lepidochelys kempii* (E)

Piping plover	*Charadrius melodus* (T)
Bald eagle	*Haliaeetus leucocephalus* (T)
Wood stork	*Mycteria americana* (E)
West Indian manatee	*Trichechus manatus latirostris* (E)

(Source: USFWS, 1996; S. Simon, personal communication)

None of the above-listed species were noted in the vicinity of the Inlet during the field investigations.

Species listed as threatened, endangered, or species of special concern (SSC) in the State of Florida by the FGFWFC, exclusive of those listed above, include:

Common snook	*Centropomus undecimalis* (SSC)
Little blue heron	*Egretta careulea* (SSC)
Reddish egret	*Egretta rufescens* (SSC)
Snowy egret	*Egretta thula* (SSC)
Tricolored heron	*Egretta tricolor* (SSC)
White ibis	*Eudocimus albus* (SSC)
American oystercatcher	*Haematopus palliatus* (SSC)
Brown pelican	*Pelecanus occidentalis* (SSC)

(Source: FGFWFC, 1996)

Brown pelicans were observed in the vicinity of the project area during the field investigations. The pelicans were primarily observed roosting on residential docks adjacent to the navigation channel.

3.3.3 Social

a. Cultural Resources. The National Register of Historic Places has been consulted and the following sites listed on the Register are located in Venice, Florida:

- *Armada Road Multi-Family District, bounded by Granada Ave., Harbor Dr. S., Armada Rd. S., and Park Blvd. S.*
- *Blalock House, 241 S. Harbor Dr.*
- *Edgewood Historic District, bounded by School St., Mrytle Ave., Venice-By-Way, and Groveland Ave.*
- *Hotel Venice, 200 N. Nassau St.*
- *House at 710 Armada Rd South*
- *Johnson-Schoolcrafy Bldg., 201-203 W. Venice Ave.*
- *Levillain-Letton House, 229 S. Harbor Dr.*
- *Triangle Inn, 351 S. Nassau St.*
- *Venice Depot, 303 E. Venice Ave.*
- *Warm Mineral Springs, 12 mi. SE of Venice*

During a reconnaissance-level cultural resources investigation, an archeological site (8-So-2336) was located on Snake Island. The erosion of the island has exposed portions of approximately 10 meters by 12 meters of the site.

b. **Aesthetics**. The Inlet project area offers scenic views of beaches, and estuarine and salt marsh wetlands. The beach is utilized for a variety of activities, including surf fishing, shell collecting, and surfing. The areas adjacent to the beach are developed for high-density residential, single-family residences, and commercial. The Inlet is immediately bordered on the south by a Sarasota County park (Humphris Park).

c. **Recreation**. The Inlet is used for recreational boat traffic, sight-seeing, fishing, and accessing the Gulf of Mexico. The adjacent beaches are used for a variety of recreational activities such as sunbathing, swimming, surf-fishing, shell and shark tooth collecting, and surfing.

3.3.4 **Economics**. The areas surrounding the Inlet is a mixture of residential (single-family and high-density), commercial, and park properties, and has a high generation of revenues. Further, use of the beach by residents and visitors generates a significant amount of revenue for Sarasota County and the coastal municipalities. Future economic growth in the project area is currently expected to be based upon residential and commercial land sales, as well as from recreation and tourism-based industries associated with beach utilization, recreational and commercial use of the GIWW, and ready access to the Gulf of Mexico.

4.00 ENVIRONMENTAL CONSEQUENCES

4.1 **Introduction**. This section describes the probable consequences of implementing each alternative upon selected environmental resources. These resources are directly linked to the relevant issues listed in Section 1.4 that have served to fine-tune the environmental analysis. The following narrative includes predicted changes to the existing environment including both direct and indirect effects, irreversible and irretrievable commitment of resources, unavoidable effects, and cumulative effects.

4.1.1 **Cumulative Impacts**. Cumulative impact is the impact upon the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions... (40 CFR §1508.7).

4.1.2 Irreversible and Irretrievable Commitment of Resources

a. **Irreversible**. An irreversible commitment of resources is one in which the ability to utilize a resource is lost forever (e.g., the mining of a mineral resource).

b. **Irretrievable**. An irretrievable commitment of resources is one in which the ability to utilize a resource in its present state or configuration is lost for a period of time (e.g., restricting the flow of a river with a dam).

4.2 No-Action Alternative

4.2.1 Physical

a. **Water Quality**. There would be no immediate adverse effects upon the water quality of the Inlet area from the No-Action Alternative. Should the Inlet "close" in the future, water quality in the adjacent estuarine habitat and bays would be adversely affected due to decreased circulation and loss of flushing.

4.2.2 Biological

a. **Benthos**. There would be no immediate adverse effects upon the benthic communities located within the project area of the Inlet from the No-Action Alternative. Long term adverse effects could result from decreased water quality as discussed in Section 4.2.1.a.

b. **Seagrass**. There would be no direct effects upon seagrasses from the No-Action Alternative. There would be an increased likelihood of boat/barge impacts on seagrasses due to shallower depths in the navigation channel. Additional secondary effects from the future "closing" of the Inlet could include decreased productivity due to degradation of water quality.

c. **Sea Turtles**. There would be no direct effects upon sea turtles from the No-Action Alternative. There would be an increased likelihood of boat/barge impacts on turtles due to shallower depths in the navigation channel. Additional secondary effects from the future "closing" of the Inlet could include restriction of movement between the estuary and the Gulf of Mexico, and loss of suitable habitat or feeding areas due to degradation of water quality.

d. **Marine Mammals**. There would be no direct effects upon marine mammals from the No-Action Alternative. There would be an increased likelihood of boat/barge impacts on manatees due to shallower depths in the navigation channel. Additional secondary effects from the possible future "closing" of the Inlet could include restriction of movement patterns, and loss of suitable habitat or feeding areas due to degradation of water quality.

e. **Wildlife**. There would be no direct effects upon wildlife from the No-Action Alternative. Secondary effects from the future "closing" of the Inlet could include loss of suitable habitat or feeding areas due to degradation of water quality.

4.2.3 Social

a. **Cultural Resources**. There would be a long-term adverse effect on cultural resources located on Snake Island. This would occur from the continued erosion of the island and exposure of site 8-So-2336. This alternative would not affect any properties listed on the National Register of Historic Places in Venice, Florida.

b. **Aesthetics**. There would be no adverse effects upon the aesthetics of the Inlet from the No-Action Alternative.

c. **Recreation**. There would be a moderate long-term reduction in recreation resulting from the reduced navigable capacity of the Inlet channel. Additionally, recreation beach activities would experience a moderate long-term adverse effect due to the continued loss due to beach erosion.

4.2.4 Economics. If the Inlet is not dredged, commercial and recreational navigation would be directly impacted by increased shoaling and decreased navigational capacity of the channel. Recreational revenues may also be decreased if beach erosion continues.

4.2.5 Cumulative Effects. The cumulative effect of the implementation of this alternative may be the loss of access to the Gulf of Mexico from the GIWW in the immediate vicinity of Sarasota County.

4.2.6 Unavoidable Effects. No unavoidable effects resulting from the No-Action Alternative were identified.

4.2.7 Irreversible and Irretrievable Commitments of Resources. There would be no utilization of resources should this alternative be implemented. Therefore, there is no irreversible or irretrievable commitment of resources.

4.2.8 Relationship of Short-term Uses of Man's Environment and the Maintenance and Enhancement of Long-term Productivity. The No-Action Alternative would allow natural shore dynamics to continue and could result in the eventual "closing" of the Inlet. The maintenance and enhancement of the area's long-term productivity could be adversely affected.

4.3 Dredging with Snake Island Disposal

4.3.1 Physical

a. **Water Quality**. Given the fact that the shoal material to be removed from the project has less than 10% fine sediments, and the active nature of the Inlet and surrounding waters, the dredging of the Inlet is not expected to result in the degradation of local water quality. Additionally, extensive monitoring of turbidity levels in and around the work areas is required by the FDEP. In the event turbidity exceeds acceptable levels, the contractor must take appropriate measure to reduce turbidity including the use of turbidity curtains, modification of operations, and/or stopping of dredging operations if necessary (Best Management Practices).

4.3.2 Biological

a. **Benthos**. There are live oyster reefs within close proximity to the dredging limits in the vicinity of the mouth of Roberts Bay. A slight increase in turbidity or sedimentation from dredging will not affect the productivity of the oyster bed. No oyster beds or other benthic communities are located within close proximity to Snake Island.

b. **Seagrass**. Seagrasses are found within close proximity to the edges of the channel. An increase in the side slopes of the channel may cause increased scour and erosion of the seagrass beds into the channel. There is a small patch of shoal grass located within the area proposed for dredged spoil placement on the west side of Snake Island. This area will be covered up by dredged spoil.

c. **Sea Turtles**. Sarasota County, in conjunction with Federal and State agencies, and volunteer organizations, has been tracking, mapping, and recording sea turtle nesting activities. Nesting activity has increased over the years with 1992, 1995, and 1996 representing the largest aggregate with 196, 203, and 263 nests, respectively, south of the Inlet and 62, 75, and 58 nests for the zone immediately to the north of the Inlet (Mote Environmental Services, Inc., 1996).

Dredging activities pose a large threat to sea turtles in and around the project area. The use of dredges can result in the "Incidental Take" of sea turtles due to work boat collision, turtles becoming trapped beneath equipment, or turtles being caught in the dredge machinery itself. The National Marine Fisheries Service (NMFS) recommended measures to reduce the likelihood of adverse affects by hopper dredging in their comments in the Final Environmental Assessment for the Beach Erosion Control Project, dated June 1992. These measures include the following: informing dredge

personnel of the potential presence of sea turtles in the project area, the turtle's endangered status, the need for precautionary measures, and the Endangered Species Act prohibition on taking sea turtles; require dredge personnel and Corps' dredge inspectors to monitor the dredging area and spoil for the presence of sea turtles; and inform NMFS immediately should the take of a sea turtle occur (U.S. Army Corps of Engineers, 1992).

d. **Marine Mammals**. A number of marine mammals have been observed in nearshore and inshore waters of the Florida coast. Of particular interest at the Inlet project area are manatees and dolphins. Standard manatee construction techniques, including observers, signage, and work crew education, would be required.

e. **Wildlife**. The National Audubon Society has indicated that Australian pine trees (*Casuarina* sp.) located on the east side of Snake Island are used by great blue herons for nesting. Dredged spoil placement is currently proposed for the west side of Snake Island. Because Snake Island is used for nesting by great blue herons and there is a potential for wading birds to nest on Bird Island, dredging may need to be limited to months of the year when nesting does not occur. Increases in noise levels during the nesting season may deter birds from nesting or cause them to abandon nests. The National Audubon Society should be contacted in order to verify that nesting occurs on Snake Island or on Bird Island before dredging the Inlet.

4.3.3 Social

a. **Cultural Resources**. There would be a long-term benefit to cultural resources located on Snake Island. This would be accomplished through stabilizing the placement area with a structure either riprap, geo-tubes or sheet piling and covering the archeological site (8-So-2336) with dredged material. A systematic archeological survey and testing program would be initiated to determine eligibility and adverse effects to the site. This alternative would not affect any properties listed on the National Register of Historic Places in Venice, Florida.

b. **Aesthetics**. The project would have minor effects on the short-term aesthetics of the area due to the proposed dredging activities. The dredge would be observed in the Inlet and GIWW for several weeks. The dredging would limit boat access to Snake Island. Although Snake Island is used as a rest area for boaters, other shoreline areas within the vicinity of the project can provide the same recreational use.

c. **Recreation**. Recreational boat traffic would experience temporary delays due to construction traffic congestion. However, recreational boat traffic in

the Inlet would experience a long-term benefit from the increased navigable capacity of the channel once the dredging operation is complete.

4.3.4 Economics. There would be a short-term localized generation of revenues associated with dredge operation. The dredging of the GIWW and the Inlet would result in a moderate long-term secondary benefit by encouraging commercial and recreational navigation.

4.3.5 Cumulative Effects. The maintenance of the Inlet may result in a long-term benefit through the preservation of the tidal connection and the concomitant flushing of the adjacent estuaries and bays. The disposal of dredge spoil on the west end of Snake Island would offset the continuing effects of erosion on the island.

4.3.6 Unavoidable Effects. There may be short-term degradation of water quality due to turbidity during dredging and dredged material disposal operations. The potential exists for the "Incidental Take" of sea turtles and marine mammals during dredging operations. However, implementation of State and Federally mandated protective measures should minimize and mitigate for this potential. A small patch of shoal grass located waterward of the west end of Snake Island will be covered up by dredge spoil.

4.3.7 Irreversible and Irretrievable Commitment of Resources. Mobilization of equipment, dredging, and on-going maintenance would require the expense of time and resources, such as labor, energy, and project materials, purchased with Federal financial contributions. There is the potential for "Incidental Take" of sea turtles or manatees during dredging and disposal operations. Once lost, these resources could not be recovered. The implementation of a biological observer program in order to avoid or minimize losses of protected species would require additional expenses of time, labor, and resources.

4.3.8 Relationship of Short-term Uses of Man's Environment and the Maintenance and Enhancement of Long-term Productivity. The Inlet provides a valuable link from the GIWW to the Gulf of Mexico and is an important factor in the local economy. Impacts resulting from the proposed dredging are expected to be minimal and short-term, while the beneficial effects, such as maintaining good local water quality and contributing to the local economy, are expected to be significant and far-reaching.

4.4 Dredging with Beach Placement Disposal

4.4.1 Physical

a. **Water Quality**. Given the fact that the shoal material to be removed from the project has less than 10% fine sediments, and the active nature of the Inlet and surrounding waters, the dredging of the Inlet is not expected to result in the degradation of local water quality. Additionally, BMP's would be employed to further reduce the possibility of water quality degradation due to the proposed dredging.

The disposal of the dredged material on the beach south of the Inlet should not result in the degradation of local water quality.

4.4.2 Biological

a. **Benthos**. There are live oyster reefs within close proximity to the dredging limits in the vicinity of the mouth of Roberts Bay. The implementation of BMP's will prevent impacts to benthic communities that may be located within close proximity to the dredging limits.

The disposal of the dredged material on the beach south of the Inlet should not result in impacts to benthic communities.

b. **Seagrass**. Seagrasses are found within close proximity to the edges of the channel. An increase in the side slopes of the channel may cause increased scour and erosion of the seagrass beds into the channel. The disposal of dredged material on the beach should not result in any impacts to seagrass beds.

c. **Sea Turtles**. Sarasota County, in conjunction with Federal and State agencies, and volunteer organizations, has been tracking, mapping, and recording sea turtle nesting activities. Nesting activity has increased over the years with 1992, 1995, and 1996 representing the largest aggregate with 196, 203, and 263 nests, respectively, south of the Inlet and 62, 75, and 58 nests for the zone immediately to the north of the Inlet (Mote Environmental Services, Inc., 1996).

Dredging activities pose a large threat to sea turtles in and around the project area. The use of dredges can result in "Incidental Take" of sea turtles due to work boat collision, turtles becoming trapped beneath equipment, or being caught in the dredge machinery itself. The NMFS recommended a series of preventative measure in order to avoid and minimize impacts to sea turtles. These measures include the following: informing dredge personnel of the

potential presence of sea turtles in the project area, the turtle's endangered status, the need for precautionary measures, the Endangered Species Act prohibition on taking sea turtles; require dredge personnel and Corps' dredge inspectors to monitor the dredging area and spoil for the presence of sea turtles; and inform NMFS immediately should the take of a sea turtle occur (U.S. Army Corps of Engineers, 1992).

The USFWS included reasonable and prudent measures to minimize the potential for "Incidental Take" of sea turtles in their response to the proposed beach erosion control project for Venice Beach (U.S. Army Corps of Engineers, 1992). Those same recommendations should be implemented for the proposed project.

d. **Marine mammals**. A number of marine mammals have been observed in nearshore and inshore waters of the Florida coast. Of particular interest at the Inlet project area are the manatees and dolphins. Standard manatee construction techniques, including observers, signage, and work crew education would be required.

e. **Wildlife**. The noise inherent to dredging operations may adversely affect wading bird nesting colonies on Snake Island. The placement of dredged spoil on the beach should not adversely affect wildlife.

4.4.3 Social

a. **Cultural Resources**. This alternative would not prevent continued shoreline erosion on Snake Island and impacts to site 8-So-2336. This alternative would not affect any properties listed on the National Register of Historic Places.

b. **Aesthetics**. The project would have minor effects on the short-term aesthetics of the area during to the proposed dredging activities. The dredge would be seen in the Inlet and GIWW for several weeks, and the scow or dump barge would regularly travel along the shoreline during transit to and from the disposal area. By timing the dredging to occur during the winter months when beaches are not as crowded, the perceived effects upon aesthetics may be minimized.

Air and Noise. Sarasota County's Ordinance 94-038 regulates the control of air and noise pollution. This ordinance states that the maximum dedible (dBA) levels from any activity shall not exceed 65 dBA, at any point on a receiving property in residential areas from 7 a.m. to 8 p.m., or exceed 55 dBA from 8 p.m. to 7 a.m. Construction equipment and construction activities are exempt fromo this ordinance between 7 a.m. and 8 p.m. on Monday throught Saturday only.