

MAINTENANCE DREDGING
INTRACOASTAL WATERWAY
VICINITY BAKERS HAULOVER
DADE 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, if the work is conducted in accordance with the Biological Opinion issued by the U.S. Fish and Wildlife Service for dredging within the Intracoastal Waterway and beach placement.

2. It is the District's determination that there will be no affect on significant historic properties. The Florida State Historic Preservation Officer concurred with this determination.

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, continued local economic stimulus, increased sea turtle nesting habitat, and increased recreational beach area.

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.

Date

TERRY L. RICE
Colonel, Corps of Engineers
Commanding

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July 1997

MAINTENANCE DREDGING

IWW - VICINITY BAKERS HAULOVER
DADE COUNTY, FLORIDA

ENVIRONMENTAL ASSESSMENT

**US Army Corps
of Engineers**
Jacksonville District
South Atlantic Division

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1. Purpose and Need for Action

- i. Economics
- j. Navigation

1.1 Introduction.

The Jacksonville District, US Army Corps of Engineers is the responsible federal agency for maintaining the Intracoastal Waterway (IWW), Jacksonville to Miami, Florida. Certain areas of the waterway develop shoals and impede the navigable capacity of the channel. The IWW near Bakers Haulover Inlet has been previously dredged and the material has been placed on the beach near the Inlet. An additional area located near the channel and the Inlet has been proposed for dredging, in order to reduce the long-term costs associated with maintenance dredging of the channel.

1.2 Authority.

The project was authorized by House Document 1889/86/1, the River and Harbors Act of 14 July 1960. The authority to dredge outside the channel is in accordance with 33 CFR 335-338 for advanced maintenance outside the dredging prism was granted by the Division Engineer by memorandum.

1.3 Decision to be Made.

The decision to be made is whether to conduct maintenance dredging, dredge the new area and whether to place the material on the beach either north or south of the Inlet.

1.4 Relevant Issues

- a. Water quality
- b. Benthos
- c. Seagrasses
- d. Sea turtles
- e. Manatees
- f. Cultural resources
- g. Aesthetics
- h. Recreation

1.5 Permits Required.

The maintenance dredging and beach placement of the dredged material will require a Florida Department of Environmental Protection Water Quality Certification in accordance with the Memorandum of Understanding between DEP and the US Army Corps of Engineers, and in accordance with Section 401 of the Clean Water Act.

1.6 Methodolgy.

An interdisciplinary team used a systematic approach to analyze the affected area, to estimate the environmental effects, and to write the environmental impact assessment. This included literature searches, coordination with agencies and private groups having expertise in particular areas, and field investigations.

2. ALTERNATIVES.

2.1 Introduction.

The alternatives section is the heart of this Environmental Assessment. This section describes in detail the no-action alternative, the proposed action, and other reasonable alternatives that were studied in detail. Then based on the information and analysis presented in the sections on the Affected Environment and the Probable Impacts, this section presents the beneficial and adverse environmental effects of all alternatives in comparative form, providing a clear basis for choice among the options for the decisionmaker and the public. A summary of this comparison is located in the alternative comparison chart, Table 2.1, page 5. This section has five parts:

- a. A description of the process used to formulate alternatives.
- b. A description of alternatives that were considered but were eliminated from detailed consideration.
- c. A description of each alternative.
- d. A comparison of the alternatives.
- e. The identification of the preferred alternative.

2.2 History of Alternative Formulation.

During the construction and subsequent maintenance of the existing channel, dredged materials have been placed in numerous locations including adjacent mangrove and emergent wetland areas. Sometimes the dredged material from maintenance was placed in these wetland areas to eliminate the wetland characteristics and allow the newly created fast land for residential and commercial development. As more and more areas became upland residential, no upland sites remained and available disposal options became limited. Beach placement became the only viable option. In addition, the State of Florida also requested that all suitable beach quality material be placed on the beach.

2.3 Eliminated Alternatives.

With the passage of the Clean Water Act, the placement of dredged material into waters of the United States became more difficult. The State of Florida would not issue water quality certification for placement of this dredged material into these waters. Therefore, the filling of wetlands and the creation of disposal islands were eliminated as alternatives. Upland sites are also not available in the area. Because the

material to be dredged is beach quality, the State of Florida objects to the placement in an ocean disposal site and since no ocean sites are within a range which would economically justify its use, the use of an ODMDS site was eliminated.

2.4 Description of Alternatives.

The only alternative to maintenance dredging is the No Action alternative. Only two alternative disposal options are available other than the No Action alternative; the beach area north and south of the Inlet.

2.4.1 No Action Alternative.

With this alternative no maintenance dredging or disposal operations would occur.

2.4.2 Dredging and North Beach Placement.

The work consists of dredging approximately 34,000 cubic yards of material from the IWW and 108,000 cubic yards of material from adjacent advanced maintenance dredging area. The material would be placed south of the Inlet on Haulover Beach. The impacts to manatees would be mitigated by the implementation of the standard manatee protection conditions (Appendix II). The seagrass beds would also be avoided. Impacts to nesting sea turtles would be avoided by placing the material on the beach outside of sea turtle nesting season. If this is not possible, then, the impacts would be mitigated by implementing a nest relocation program. Impacts from the physical placement of the material on subsequent sea turtle nesting would be mitigated by monitoring compaction of the beach material and if the placed material exceeds 500 cone penetrometer units (cpu's) then the beach will be tilled. Also, the beach will be

monitored for escarpments. If they are identified as being harmful to sea turtles trying to nest on the beach, then, the beach would also be tilled in that area.

2.4.3 Dredging and South Beach Placement.

The work consists of dredging approximately 34,000 cubic yards of material from the IWW and 108,000 cubic yards of material from adjacent advanced maintenance dredging area. The material would be placed south of the Inlet on Bal Harbour Beach. The impacts to manatees would be mitigated by the implementation of the standard manatee protection conditions (Appendix II). The seagrass beds would also be avoided. Impacts to nesting sea turtles would be avoided by placing the material on the beach outside sea turtle nesting season. If this is not possible, then, the impacts would be mitigated by implementing a nest relocation program. Impacts from the physical placement of the material on subsequent sea turtle nesting would be mitigated by monitoring compaction of the beach material and if the placed material exceeds 500 cone penetrometer units (cpu's) then the beach will be tilled. Also, the beach will be monitored for escarpments. If they are identified as being harmful to sea turtles trying to nest on the beach, then, the beach would also be tilled in that area.

2.5 ALTERNATIVE COMPARISON.

Table 2.1, Alternative Comparison

RESOURCES	NO ACTION	DREDGING AND NORTH BEACH PLACEMENT - SITE A	DREDGING AND SOUTH BEACH PLACEMENT - SITE B
Water Quality	No impacts.	Minor short-term increase in turbidity at dredge site and from return water along the beach.	Minor short-term increase in turbidity at dredge site and from return water along the beach.
Navigation	Major decrease in navigable capacity of the channel.	Major long-term benefit to recreational navigation.	Major long-term benefit to recreational navigation.
Benthos	No impact.	Minor long-term reduction of benthos at the dredging site and disposal site.	Minor long-term reduction of benthos at the dredging site and disposal site.
Manatees	No impact.	No impact with inclusion of special manatee protection conditions in contract.	No impact with inclusion of special manatee protection conditions in contract.
Seagrasses	No impact.	No impact.	No impact.
Biscayne Bay Aquatic Preserve	No impact.	Minor impact on resources in the preserve from the turbidity generated during dredging.	Minor impact on resources in the preserve from the turbidity generated during dredging.
Nearshore hardbottoms	No impact.	No impact.	No impact.
Sea turtle nesting	Minor reduction in the overall available nesting habitat in the area.	Medium long-term benefit from the maintenance of turtle nesting areas. Minor short-term impact from the relocation of turtles from construction area.	Medium long-term benefit from the maintenance of turtle nesting areas. Minor short-term impact from the relocation of turtles from construction area.
Cultural resources	No effect.	No adverse effect.	No adverse effect.
Recreation	Minor reduction in available beach for recreational purposes.	Medium short-term impact from beach placement of sandy material during recreational season. Medium long-term benefit to recreational activities by maintaining beach.	Medium short-term impact from beach placement of sandy material during recreational season. Medium long-term benefit to recreational activities by maintaining beach.
Aesthetics	Minor long-term reduction in the aesthetics from the loss of beach.	Major short-term impact from the presence and operation of construction equipment on the beach.	Major short-term impact from the presence and operation of construction equipment on the beach.
Economics	Minor long-term economic impact from reduction in tourism due to loss of beach.	Medium short-term impact on the local economy from the sale of goods and services in support of the construction. Medium long-term benefit on tourism from the maintenance of the beach.	Medium short-term impact on the local economy from the sale of goods and services in support of the construction. Medium long-term benefit on tourism from the maintenance of the beach.

2.6 PREFERRED ALTERNATIVE.

Both disposal alternatives are environmentally acceptable. The selected alternative would be dependent upon the desired results on the respective beach.

3. AFFECTED ENVIRONMENT.

3.1 INTRODUCTION.

The Affected Environment section succinctly describes the existing environmental resources of the areas that would be affected if any of the alternatives were implemented. This section describes only those environmental resources that are relevant to the decision to be made. It does not describe the entire existing environment, but only those environmental resources that would affect or that would be affected by the alternatives if they were implemented. This section, in conjunction with the description of the "no-action" alternative forms the base line conditions for determining the environmental impacts of the proposed action and reasonable alternatives. The environmental issues that are relevant to the decision to be made are the following:

- a. Water quality.
- b. Navigation.
- c. Benthos
- d. Manatees.
- e. Seagrasses.
- f. Nearshore hardbottom communities.
- g. Biscayne Bay Aquatic Preserve.

h. Sea turtle nesting.

i. Cultural resources.

j. Recreation.

k. Aesthetics.

l. Economics.

3.2 GENERAL DESCRIPTION.

Bakers Haulover connects the Atlantic Ocean with the Intracoastal Waterway in the upper portions of Biscayne Bay through a barrier island in Miami, Dade County, Florida. Bal Harbour Park is a narrow fringe of public owned beach in front of a line of privately owned hotels and condominiums located on the south side of the Inlet. A public parking area is located adjacent to the Inlet with a paved path used for beach access. No motorized vehicles are allowed on the beach except for police and beach maintenance crews that drag the beach for debris. This beach has a exercise/jogging/walking path running parallel to the shoreline. The dune vegetation is watered by a sprinkler system. Haulover Park is located on the north side of the inlet. The park is highly developed with a marina, restaurant and a launching ramp in addition to the beach facilities. Parking facilities are located on the west side of the main highway with tunnels connecting the parking areas to the beach. Isolated mangrove wetlands subject to some tidal influence are located between the highway and paved parking areas. Feral cats inhabit most of the dune environment along both parks. It is thought that these cats were released due to the inability of the former owners to care for the pets. Some of these cats are still being feed by new residents of

the local community. These cats are also predators on birds and rodents that inhabit this area.

3.3 RELEVANT ISSUES.

3.3.1 Physical.

a. Water quality. The water quality of the area around the Inlet is quite high. This is also evidenced by the aquatic preserve and Class I, Outstanding Florida waters designation by the State of Florida. This is mostly attributed to the tidal flushing action through the inlet and the Gulf stream waters located near the shoreline. Indicators present which confirm this are the seagrass beds and abundant aquatic life in the inlet.

3.3.2 Biological.

a. Benthos. Benthos in the channel and along the beach would likely consist of worms and clams. There are no hardbottoms for colonization by algae.

b. Manatees. The Florida manatee, *Trichechus manatus*, is a federally-listed endangered species. It uses the Bay and IWW as a corridor for transportation up and down the coastline and the lush seagrass beds provide food.

c. Seagrasses. Seagrasses are located in the inlet within the photic zones of the IWW but outside the navigation channel. The clean saltwater from the ocean allows the light penetration for the growth of

the Seagrasses in this area. Seagrasses are limited within the channel due to the continual dredging, bottom disturbance from large vessels and the water depths within the channel.

d. Hardbottom communities. Hardbottom communities are located offshore of the beach areas. South of the Inlet, the hardbottoms are located far from the shoreline. North of the Inlet these hardbottom areas are located closer toward the shoreline. These provide cover for small fishes and crustaceans. These hardbottoms are colonized by algae and soft corals.

e. Sea turtles. Four species of sea turtles are found in the waters off the coast of Florida. They include the green (*Chelonia mydas*), loggerhead (*Caretta caretta*), leatherback (*Dermochelys coriacea*) and the hawksbill (*Eretmochelys imbricata*) sea turtles (USFWS, 1991). The green and leatherback comprise a small percentage of the turtles that nest in this area while the loggerhead makes up 97% of the nests on these beaches (Hoover, 1990).. The green sea turtles feed off the algae colonizing the reefs and jetties in the area. Loggerheads like to forage on the jelly fish and crustaceans on the bottom. The limiting factor for nesting along the beaches is development.

f. Biscayne Bay Aquatic Preserve. The State of Florida has designated this area of Biscayne Bay as an aquatic preserve due to its unusual and sensitive habitat for seagrasses

and manatees and good water quality.

3.3.3 *Social.*

a. Historic, Archeological and Cultural Resources. The National Register of Historic Places has been consulted and no properties listed therein are located within the project area. The project has been coordinated with the State Historic Preservation Officer who confirmed that the project would not affect Register properties. The area located adjacent to the confluence of the Inlet and the IWW has been surveyed for cultural resources. No resources were identified within the area to be dredged.

b. Recreation. Haulover Beach and Bal Harbour Beach Parks are located north and south of the Inlet, respectively. Overall the recreation of area is centered around tourism with the hotels and parks along the beaches. Beach activities include swimming, fishing, snorkeling, sunbathing, volleyball, surfing, sailing and various forms of exercising. Waterborne activities on the IWW and ocean include boating, sailing, and fishing.

c. Aesthetics. The Bal Harbour area is typical of urban beach environments with public access in that there are tall buildings adjacent to the beach with numbers of beach goers using the beach and its exercise trail. Haulover Park area is a typical public beach with its numerous parking lots and

recreational facilities. The Inlet has State Highway A-1A bridge over it with its concrete bulkheads.

3.3.4 *Economics.*

a. Navigation. Much of the navigation using the Inlet and IWW is for recreational purposes.

b. Economics. The economics of the area is centered around tourism and recreation. The placement areas are located in Bal Harbour and Haulover Parks north and south of the Inlet. Much of the adjacent beaches contain hotels and residential condominiums. The inlet is used by people renting vessels for fishing or boating.

4. ENVIRONMENTAL CONSEQUENCES.

4.1 INTRODUCTION.

This section describes the probable consequences of implementing each alternative on selected environmental resources. These resources are directly linked to the relevant issues listed in Section 1.4 that have driven and focus the environmental analysis. The following includes anticipated changes to the existing environment including direct and indirect impacts, irreversible and irretrievable commitment of resources, unavoidable effects and cumulative impacts.

4.1.1 Cumulative Impacts.

Cumulative impact is the impact on 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 use and/or enjoy the resource is lost forever. One example of an irreversible commitment might be the mining of a mineral resource.

b. Irretrievable. An irretrievable commitment of resources is one in which, due to decisions to manage the resource for another purpose, opportunities to use or enjoy the resource as they presently exist are lost for a period of time. An example of an irretrievable loss might be where a type of vegetation is lost due to road construction.

4.2 NO ACTION ALTERNATIVE

4.2.1 Physical.

a. Water quality. There would be no impact on water quality.

4.2.2 Biological

a. Benthos. There would be no impact on benthos.

b. Manatees. There would be no impact on manatees.

c. Seagrasses. There would be no impact on seagrass beds in the area.

d. Hardbottom communities. There would be no impact on hardbottoms.

e. Sea turtles. There would be a long-term minor impact on sea turtle nesting from the erosion of the beach without replenishment.

f. Biscayne Bay Aquatic Preserve. There would be no impact on the aquatic preserve.

4.2.3 Social.

a. Historic, archeological and historic resources. There would be no impacts on historic properties.

b. Recreation. There would be a long-term minor impact on recreation from the continual loss of navigation channel for recreational boat traffic and from the continual erosion of the beach.

c. Aesthetics. There would be a minor long-term adverse impact from the loss of beach area.

4.2.4 Economic.

a. Navigation. There would be a long-term major impact on navigation from the decrease in navigable capacity of the channel.

b. Economics. There would be a long-term impact on economics from the reduction in revenues attributed to the loss of recreational beach and the loss of navigable capacity of the channel.

4.2.5 Cumulative effects.

If this action was considered in conjunction with other similar projects and similar No Actions, there would be a substantial

adverse impact on recreation and economics of the State of Florida.

4.2.6 Unavoidable effects.

There would be an eventual loss of navigable capacity of the waterway and recreational beach from the continual sedimentation of the channel and erosion of the shoreline.

4.2.7 Irreversible and Irrecoverable Resource Commitments.

There would be no irreversible or irretrievable commitment of resources from the selection of this alternative.

4.3 DREDGING AND NORTH BEACH PLACEMENT

4.3.1 Physical.

a. Water quality. There would be a minor short-term increase in turbidity at the dredging site and the beach placement area.

4.3.2 Biological

a. Benthos. The benthic organisms at the dredging site would be eliminated. This area would be rapidly recolonized by the organisms that can be moved by tidal flows from adjacent areas. Crustaceans and clams would take longer to re-enter the area. The benthic organisms would be covered and smothered by the placement of material along the beach. The organisms in the dredged material would help recolonize the beach area.

b. Manatees. The auxiliary vessels associated with the dredging operation could impact manatees. In

order to reduce this impact, the standard state and Federal manatee protection conditions would be implemented. Included in these conditions are an education requirement, monitoring and avoidance of manatees. This avoidance includes a requirement to shutdown equipment should individuals come close to the equipment.

c. Seagrasses. Seagrasses in the area would be avoided and the contractor would be instructed to the presence of seagrasses in the area. No anchoring or disturbance of seagrass beds would be allowed. If seagrasses are inadvertently disturbed, the beds would be restored to their pre-project conditions. Minor, short-term increases in turbidity could impact seagrasses, however, the turbidity levels would be dissipated by the tidal velocities in the Inlet.

d. Hardbottom communities. There would be no impacts on hardbottom communities in the beach placement area.

e. Sea turtles. Dredging would not impact sea turtles. The placement of the material on the beach would impact sea turtle nesting if placed during the nesting season. This impact could be avoided by monitoring nesting activities and relocating the nests outside the construction area. Handling the eggs reduces the nesting success. However, when relocating the nests to a protected area, predation, a major cause of mortality in natural nests, would be eliminated having no

net loss or gain. Placing the material on the beach would have a long-term benefit on sea turtle nesting both on this beach and downdrift of this beach by retarding the erosion rate of the beach which is important nesting area.

f. Biscayne Bay Aquatic Preserve. There would be no adverse impacts on the integrity of the resources contained within the aquatic preserve.

4.3.3 *Social.*

a. Historic, archeological and historic resources. There would be no impact on historic resources within the project area.

b. Recreation. There would be a short-term minor impact on recreational navigation from the presence and operation of the dredging equipment in the navigation channel. There would also be a short-term minor impact on recreational activities on the beach from the presence and operation of the pipeline and heavy equipment at the placement area. There would be a short-term benefit on recreation from this same equipment as it provides entertainment in the form of curiosity to the beach goes on vacation as well as a source of new shell for collecting. There would be along-term minor benefit to beach recreation from the retardation of beach erosion which allows for a larger beach to recreate from.

c. Aesthetics. There would be a short-term degradation of the aesthetics of the navigation channel and a more substantial impact on aesthetics from the noise from the presence and the noise from the operation of heavy equipment and a disruption of the seascape.

4.3.4 *Economic.*

a. Navigation. There would be a long-term major benefit from the continued maintenance on the navigable capacity.

b. Economics. There would be a medium, short-term benefit to the local economy from the sale of goods and services in support of the construction effort. There would also be a medium long-term benefit on tourism from the maintenance of the beach.

4.3.5 *Cumulative effects.*

If this action was considered in conjunction with other similar projects and similar No Actions, there would be a substantial adverse impact on recreation and economics of the State of Florida.

4.3.6 *Unavoidable effects.*

There would be an eventual loss of navigable capacity of the waterway and recreational beach from the continual sedimentation of the channel and erosion of the shoreline.

4.3.7 Irreversible and Irretrievable Resource Commitments.

There would be no irreversible or irretrievable commitment of resources from the selection of this alternative.

4.4 DREDGING AND SOUTH BEACH PLACEMENT

4.4.1 Physical.

a. Water quality. There would be a minor short-term increase in turbidity at the dredging site and the beach placement area.

4.4.2 Biological

a. Benthos. The benthic organisms at the dredging site would be eliminated. This area would be rapidly recolonized by the organisms that can be moved by tidal flows from adjacent areas. Crustaceans and clams would take longer to re-enter the area. The benthic organisms would be covered and smothered by the placement of material along the beach. The organisms in the dredged material would help recolonize the beach area.

b. Manatees. The auxiliary vessels associated with the dredging operation could impact manatees. In order to reduce this impact, the standard state and Federal manatee protection conditions would be implemented. Included in these conditions are an education requirement, monitoring and avoidance of manatees. This avoidance includes a requirement to shutdown equipment should

individuals come close to the equipment.

c. Seagrasses. Seagrasses in the area would be avoided and the contractor would be instructed to the presence of seagrasses in the area. No anchoring or disturbance of seagrass beds would be allowed. If seagrasses are inadvertently disturbed, the beds would be restored to their pre-project conditions. Minor, short-term increases in turbidity could impact seagrasses, however, the turbidity levels would be dissipated by the tidal velocities in the Inlet.

d. Hardbottom communities. There would be no impacts on hardbottom communities in the beach placement area.

e. Sea turtles. Dredging would not impact sea turtles. The placement of the material on the beach would impact sea turtle nesting if placed during the nesting season. This impact could be avoided by monitoring nesting activities and relocating the nests outside the construction area. Handling the eggs reduces the nesting success. However, when relocating the nests to a protected area, predation, a major cause of mortality in natural nests, would be eliminated having no net loss or gain. Placing the material on the beach would have a long-term benefit on sea turtle nesting both on this beach and downdrift of this beach by retarding the erosion rate of the beach which is important nesting area.