

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

4.4.3 *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 goers 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., especially near the condominiums

and hotels along the beach. This impact could be offset by the limitation of construction equipment after dark.

4.4.4 *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.

4.4.5 *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.

4.4.6 *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.

4.4.7 *Irreversible and Irrecoverable Resource Commitments.*

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

5. LIST OF PREPARERS.

The following professionals prepared the Environmental Assessment.

<u>NAME</u>	<u>DISCIPLINE</u>	<u>EXPERIENCE</u>	<u>ROLE IN PREPARING EIS</u>
William J. Fonferek	Biologist	19 years environmental impacts assessment	NEPA Coordinator, Biological Impact Assessment, Endangered Species Consultation
Don Fore	Civil Engineer	6 ½ years experience	Project Manager
Paul Stevenson	Landscape Architect	5 years experience recreation design, construction and development	Recreation Resources Analysis and Mitigation Development
Janice E. Adams	Archeologist	10 years cultural resources assessment	Cultural Resources
Matthew Miller	Environmental Engineer	3 years	HTRW and Water Quality Investigations and Impact Assessment

6. CONSULTATION WITH OTHERS - PUBLIC INVOLVEMENT PROCESS.

a. A public notice (PN-IWB-150) dated 23 April 1987 was initially issued for the project. A new area of advanced maintenance is now proposed for inclusion in the project. A public notice (PN-BH-212) dated 5 December 1996 and an addendum public notice (PN-BH-213) dated was issued for this addition. Comments following comments were received.

b. Ms Estelle Stern Spiegel, Mayor, Bal Harbour Village, responded to the public notice by letter dated 7 March 1997 strongly urging that the sand be placed on the Bal Harbour beach versus the Haulover Beach area since the natural sand transport southward is interrupted by the inlet. She also stated a willingness to provide financial assistance to ensure that sand is placed there.

Response: This area is within the federal standard and material could be placed there depending upon the wishes of the local sponsor.

c. Mr. Stanley Feinman responded to the public notice by telephone conversation dated 18 February 1997 stating his preference for placement of the material north of the Inlet.

d. Mr. Charles Edwards (sp.) responded to the public notice by letter dated 25 February 1997 suggesting a new alignment to the channel.
Response: This information will be considered if the project is re-evaluated.

7. INDEX.

A	
aesthetics.....	5
alternative comparison.....	1
alternatives.....	1, 2, 6
authority.....	1
C	
cultural resource	7, 10
D	
decision to be made	1, 6
description of alternatives.....	2
E	
economics	7, 8, 9
M	
manatee.....	2, 3, 4
mangrove	2
N	
navigation	4, 7
O	
ocean disposal.....	2
P	
physical.....	2, 3
preferred alternative.....	2
R	
recreation	7, 9, 10
relevant issues.....	7
S	
sea turtle.....	2, 3
seagrass.....	2, 3
U	
unavoidable effects	8
W	
water quality	2
wetlands.....	2

8. REFERENCES

U.S. Army Corps of Engineers. June 1982. Survey Report and EIS Supplement. *Beach Erosion Control and Hurricane Protection Study for Dade County, Florida, North Haulover Beach Park.*

U.S. Army Corps of Engineers. June 1982. Appendices. . *Beach Erosion Control and Hurricane Protection Study for Dade County, Florida, North Haulover Beach Park.*

U.S. Fish And Wildlife Service. 1992. *Endangered and Threatened Species of the Southeast United States* (The Red Book). Prepared by the Ecological Services, Division of Endangered Species, Southeast Region. Government Printing Office, Washington, D.C. 1,606 pp. (two volumes).

U.S. Fish and Wildlife Service. 1991. Biological Opinion (FWS Log No. 4-1-91-210) , Baker's Haulover Cut.

APPENDIX I

COMPLIANCE WITH ENVIRONMENTAL LAWS AND REGULATIONS

COMPLIANCE WITH ENVIRONMENTAL REQUIREMENTS

1.0 National Environmental Policy Act of 1969, as amended. Environmental information on the project has been compiled and the draft Environmental Assessment, was made available for public review through public notice in compliance with 33 CFR Parts 335-338. These regulations govern the Operations and Maintenance of US Army Corps of Engineers Civil Works Projects involving the Discharge of Dredged or Fill Material into Waters of the US or Ocean Waters. Public notice PN-IWB-150 dated 23 April 1987 initially advertised the work with an Environmental Assessment prepared. An additional area was proposed for advanced maintenance dredging. Public notice PN-BH-212 dated 5 December 1996 was issued. It was decided to include additional interested members of the public and a second notice PN-BH-213 dated shortly thereafter. Comments received in response to the public notice have been included in the new environmental assessment. This public coordination and environmental impact assessment complies with the intent of NEPA. The process will fully comply with the Act once the Findings of No Significant Impact has been signed by the District Commander.

2.0 Endangered Species Act of 1973, as amended.

Consultation was initiated with the US Fish and Wildlife Service by letter dated 25 January 1991 stating that the project would not impact sea turtles because it was initially scheduled outside the nesting season. Subsequent to that letter, it was determined that the completion would be delayed. Therefore, the USFWS responded with a Biological Opinion dated 15 February 1991. The Terms and Conditions of the BO require a monitoring and relocation program to begin on 1 March and continue until 15 October. The BO also requires compaction testing and escarpment monitoring for at least 2 years after the project is completed. These actions must be reported to the USFWS within 60 days after completion of the work. We reinitiated consultation by FAX dated 17 September 1993 to include the placement area located on the south side of the Inlet. The USFWS responded by letter dated 5 October 1993 stating the existing BO would apply to the alternative area. This project was fully coordinated under the Endangered Species Act; therefore, this project is in full compliance with the Act.

3.0 Fish and Wildlife Coordination Act of 1958, as amended. The project has been coordinated with the USFWS during the public notice period. No adverse comments were received. Therefore, it is in compliance with the Act.

4.0 National Historic Preservation Act of 1966, as amended (PL 89-665). An archival and literature review, including a review of the current National Register of Historic Places listing and consultation with the Florida State Historic Preservation Officer (SHPO), was conducted to determine if significant cultural resources are present in the project area. No significant archeological sites or historic properties are recorded in the project area, and the area is judged to have little potential for containing significant cultural resources. January 1995, the SHPO recommended that no further cultural resources investigations are required to meet the

requirements of the National Historic Preservation Act (PL 89-665). Therefore, the project would be in compliance.

5.0 Clean Water Act of 1972, as amended.

5.1. Section 401. A Water Quality Certification was issued by the Florida Department of Environmental Protection by letter dated 18 September 1995 (#502233929).

5.2. Section 404 (b)(1). The purpose of Section 404(b)(1) of the Clean Water Act is to restore and maintain the chemical, physical, and biological integrity of the waters of the United States through the control of discharges of dredged or fill material. Controls are established through restrictions placed on the discharges in Guidelines published in 40 CFR 230. The return water discharge is subject to evaluation pursuant this Section. An evaluation of the dredged material was conducted in accordance with Part 230.61 (Appendix I). The impacts are addressed in the Environmental Assessment and are primarily related to a minor increases in turbidity levels adjacent to the disposal area from the return water in the surf zone. Since there would be no other practicable alternatives to the proposal, the adverse impacts have been minimized to the extent possible, and no other restrictions have been violated, and, consequently, the proposed work would comply with the restrictions in Section 230.10. In addition, there is no indication that the return water from the dredged material to be used for the project would be contaminated above background levels. Therefore, the dredged material is designated as a Category 1 discharge and, in accordance with Part 230.63(a), no testing of chemical-biological interactive affects is required. Based on the probable impacts addressed above, compliance with the restrictions, and all other information concerning the fill materials to be used, the proposed work would comply with the Guidelines and the intent of Section 404(b)(1) of the Clean Water Act.

6.0 Clean Air Act of 1972, as amended. No air quality permits will be required for this project. Therefore, this Act would not be applicable.

7.0 Coastal Zone Management Act of 1972, as amended. The project has been evaluated in accordance with Section 307 of the Coastal Zone Management Act. It has been determined that the project would have no unacceptable impacts and would be consistent with the Florida Coastal Management Plan (Appendix III). In accordance with the 1979 Memorandum of Understanding and the 1983 Addendum to the Memorandum concerning acquisition of water quality certifications and other State of Florida authorizations, the final acceptance of the federal consistency determination is the issuance of the State water quality certification.

8.0 Farmland Protection Policy Act of 1981. No prime or unique farmland will be impacted by implementation of this project. This act is not applicable.

9.0 Wild and Scenic River Act of 1968, as amended. No designated Wild and Scenic river reaches will be affected by project related activities. This act is not applicable.

10.0 Marine Mammal Protection Act of 1972, as amended. Incorporation of the safe guards used to protect manatees during dredging and disposal operations will be implemented during construction, therefore, this project is in compliance with the Act.

11.0 Estuary Protection Act of 1968. No designated estuary will be affected by project activities. This act is not applicable.

12.0 Federal Water Project Recreation Act, as amended. There is no recreational development proposed for maintenance dredging or disposal. Therefore, this Act does not apply.

13.0 Resource Conservation and Recovery Act of 1976, (PL 94-580; 7 U.S.C. 100, et seq. This law has been determined not to apply as there are no items regulated under this act being disposed of or affected by this project.

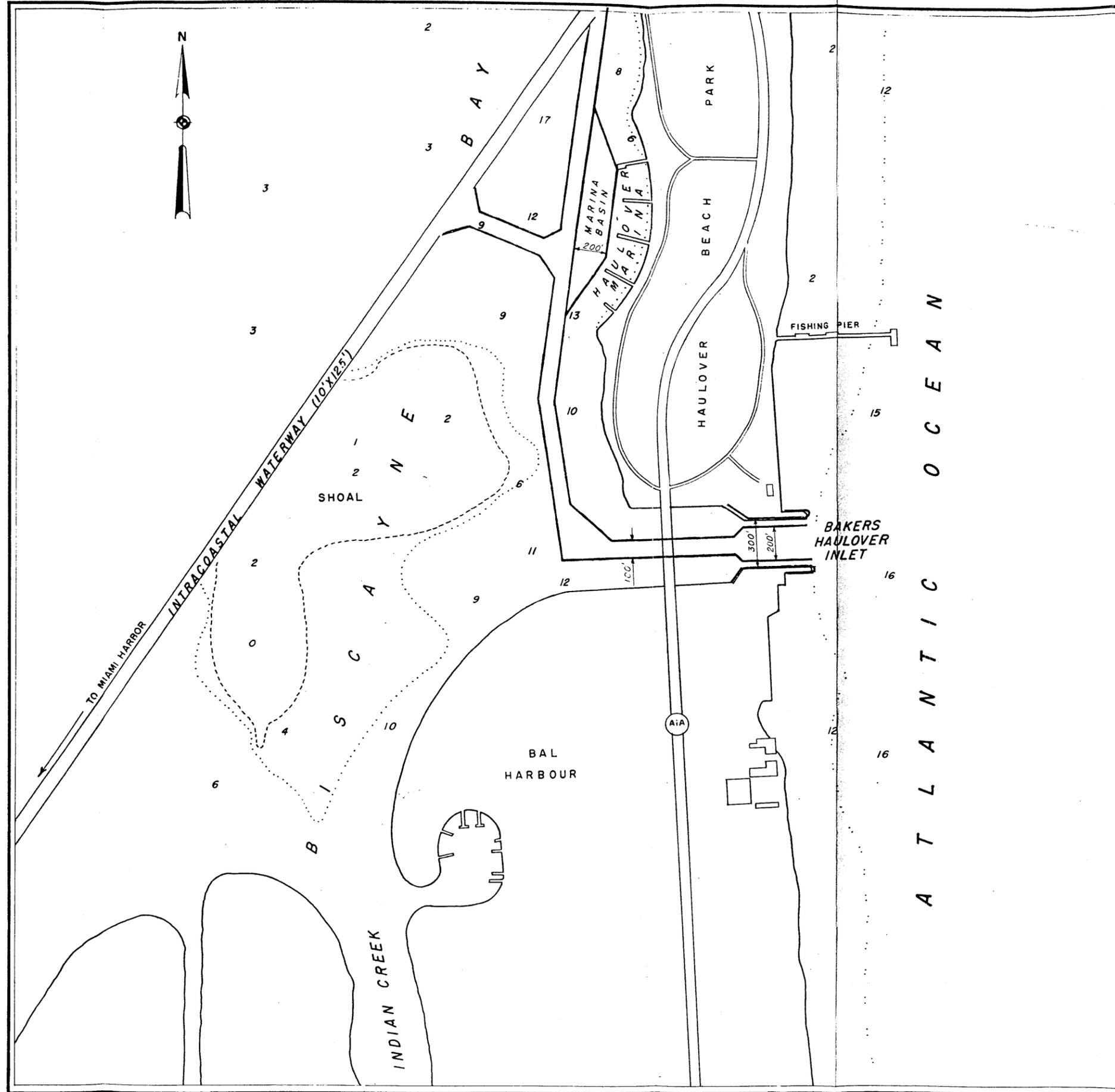
14.0 Toxic Substances Control Act of 1976, (PL 94-469; U.S.C. 2601, et seq. This law has been determined not to apply as there are no items regulated under this act being disposed of or affected by this project.

15.0 Migratory Bird Treaty Act. The work has been evaluated pursuant to the Migratory Bird Treaty Act. No migratory bird nesting areas would be affected by the proposed work.

16.0 E.O. 11990, Protection of Wetlands. No wetlands will be affected by project activities. This project is in compliance with the goals of this Executive Order.

17.0 E.O. 11988, Floodplain Management. No activities associated with this project will take place within a floodplain, therefore this project is in compliance with the goals of this Executive Order.

18.0 E.O. 11593, Protection and Enhancement of the Cultural Environment. An archival and literature review, including a review of the current National Register of Historic Places listing and consultation with the Florida State Historic Preservation Officer (SHPO), was conducted to determine if significant cultural resources are present in the project area. No significant archeological sites or historic properties are recorded in the project area, and the area is judged to have little potential for containing significant cultural resources. In a letter dated 21 February, 1995, the SHPO recommended that no further cultural resources investigations are required to meet the requirements of the National Historic Preservation Act (PL 89-665). Therefore, the work would comply with this Executive Order.



PROJECT: Reconstruction of existing jetties; protection of inlet shores seaward of existing 500-foot section; provision of a channel 11 feet deep and 200 feet wide in the ocean entrance, thence 8 feet deep and 100 feet wide to the Intracoastal Waterway, and a marina basin 8 feet deep and 200 feet wide. Length of project is 1.02 miles.

MEAN TIDAL RANGE: 2.5 feet near the inlet in the ocean and 2 feet in Biscayne Bay.

AUTHORIZATION FOR EXISTING PROJECT		
ACT	WORK AUTHORIZED	DOCUMENT
14 July 1960	Channel 11 x 200 feet in ocean entrance, thence 8 x 100 feet to Intracoastal Waterway; marina basin 8 x 200 feet; reconstruction of jetties and protection of inlet shores.	H.Doc. 189/86/1

BAKERS HAULOVER INLET, FLORIDA

SCALE IN FEET

200 0 200 400 600 800 1000

DEPARTMENT OF THE ARMY
 JACKSONVILLE DISTRICT, CORPS OF ENGINEERS
 JACKSONVILLE, FLORIDA 6-30-71

APPENDIX II

ENDANGERED SPECIES CONSULTATION

file

September 20, 1993

Planning Division
Environmental Branch

Mr. David L. Ferrell
Field Supervisor
U.S. Fish and Wildlife Service
P.O. Box 2676
Vero Beach, Florida 32961-2676

Dear Mr. Ferrell:

This is in reference to the proposed maintenance dredging of the Intracoastal Waterway and Bakers Haulover Inlet in Dade County, Florida, and the subsequent placement of the dredged material on the beach south of the inlet (enclosure 1).

Consultation was previously conducted by letters dated September 24, 1990 and January 24, 1991 for the dredging and beach placement north of the inlet. We would like to incorporate by reference your previous Biological Opinion (BO) (FWS Log No. 4-1-91-210) dated February 15, 1991, and amend the project to include the beach south of the inlet as advertised in the April 23, 1987, public notice issued for the project. The work is likely to be conducted by a pipeline or suction dredge.

We do not believe this addition to the work first coordinated with your office would alter the conclusions of the BO. Therefore, we are asking for your concurrence in this matter. Your verbal or faxed response is required by September 21, 1993.

If you have any question regarding this request or project, please contact Mr. Bill Fonferek at 909-232-2803.

Sincerely,

A. J. Salem
Chief, Planning Division

Enclosure

bcc:
CESAJ-CO-ON
CESAJ-DP

Fonferek/CESAJ-PD-ES
Kurzbach/CESAJ-PD-ES
Smith/CESAJ-PD-E
Davis/CESAJ-PD-A
Salem/CESAJ-PD

January 24, 1991

Planning Division
Environmental Resources Branch

Mr. David Ferrell
Field Supervisor
U.S. Fish and Wildlife Service
P.O. Box 2676
Vero Beach, Florida 32961-9712

Dear Mr. Ferrell:

This reinitiates consultation under Section 7 of the Endangered Species Act regarding proposed maintenance dredging of 30,000 cubic yards of sandy material from the vicinity of Baker's Haulover Cut with disposal on the beach at Sunny Isles, Dade County, Florida.

Consultation was initiated ^{by} ~~conducted~~ with your office by our letter of September 24, 1990. In your October 17, 1990 response, you concurred with our no effect determination provided work be completed before March 31, 1991. You required reinitiation of Section 7 consultation if work was expected to continue beyond March 31, 1991.

Work is scheduled to start mid-February and would be finished by March 31, 1991, barring delays due to weather or equipment failure. To allow for such contingencies, your concurrence with an extension of the dredging period until May 15, 1991 is requested.

Since our initial letter, the method of beach disposal has changed. The contractor intends to haul the material by truck on local roads to the Sunny Isles disposal site. This will eliminate the hydraulic pipeline initially proposed along 4 miles of beach.

To avoid affecting any turtle nests the contractor will begin beach monitoring and nest relocation activities March 1, and continue concurrently with project work until the contract is complete. Except for the above stated changes, project and biological information previously submitted remains unchanged.

Based on the above information, the Corps has determined that the proposed action will not affect any threatened or endangered species.

We would appreciate your prompt response to this notification.

Sincerely,

A. J. Salem
Chief, Planning Division

Lang/CESAJ-PD-ES/3691

pkp 1/28/91

Atmar/CESAJ-PD-ES

Smith/CESAJ-PD-E

Davis/CESAJ-PD-A

Salem/CESAJ-PD



Based on the above information, the Corps has determined that the proposed action will not affect any threatened or endangered species.

~~Your prompt response to this notification is respectfully requested.~~

Sincerely,

A. J. Salem
Chief, Planning Division

LANG/CESAJ-PD-ES/3691

W WL/RKD/1/23/91
AT ATMAR/CESAJ-PD-ES
S SMITH/CESAJ-PD-E
D DAVIS/CESAJ-PD-A
S SALEM/CESAJ-PD

BIOLOGICAL INFORMATION
INTRACOASTAL WATERWAY - MAINTENANCE DREDGING
IN THE VICINITY OF BAKERS HAULOVER CUT, DADE COUNTY, FLORIDA

1. Location: The Corps proposes to dredge in the Intracoastal Waterway (IWW) in the vicinity of Bakers Haulover Cut, Dade County and place the material on 400 feet of eroded beach at Sunny Isles, Florida (Figure 1).

2. Identification of Listed Species and Critical Habitat in the Area of the Proposed Activity. The Corps has identified the Florida manatee and the loggerhead, green and leatherback sea turtles as occurring in the project area.

3. Project Description: The Corps proposes to remove approximately 30,000 cubic yards of shoaled material from the IWW and to place it on 400 feet of eroded beach at Sunny Isles, north of Bakers Haulover Cut. A hydraulic pipeline dredge will remove the shoal to a depth of 10 feet (project depth of 8 feet with 2 feet of advanced maintenance). The material is primarily sand with some rock and shell.

Sand grain analysis data (enclosure 2) indicate that borrow sources for material suitable for beach disposal contain 2 - 10% fines. Based on the quantities of material to be dredged from these areas, the composition of fines contained in the material to be placed on the beach will be 4 - 7%

4. Assessment of Potential Impacts of the Proposed Activity on Listed Species or Critical Habitat. Manatees forage in the the project area and could be encountered during dredging operations in the Intracoastal Waterway. Dredged material disposal on the Sunny Isles beach front will occur in areas which are used for nesting by listed sea turtles.

Based on a personal communication with Mr. James Hoover, Supervisor for beach Maintenance in Dade County and DNR Marine Turtle permit holder for the subject area, the disposal beach is eroded and heavily used for recreation. Placement of the sandy dredged material on the Sunny Isles beach could benefit turtle nesting as project completion should result in a wider beach. Additionally, adverse impacts from erosion of turtle nesting habitat could be reduced as a result of project completion.

5. Efforts to Eliminate Potential Impacts on Listed Species.

a. Manatee: The usual contract provisions to educate work crews concerning the manatee's endangered and protected status will be implemented. Its presence/absence in the work area will be monitored daily and every precaution (including the shut-down of operations if appropriate) will be taken to avoid any encounter with or affect on this species.

b. Sea Turtles: According to Mr. Hoover, 185 nests were found on Miami beaches this year. Loggerhead nests represented 97% of the total; while green turtle nests comprised 3%. In 1989, 164 nests were found. Again, loggerheads represented 97% of the total while green and leatherback turtles accounted for 1% and 2%, respectively.

Mr. Hoover also advised the Corps that the total number of turtle nests has increased each year since the beaches were renourished in the mid 1980's. However, due to the extensive development and heavy recreational use of the beach, all nests found on the Miami beaches are moved to a hatchery.

As this project is scheduled to be completed during the winter of 1990-91, turtles will not be present and all direct affects will be avoided. However, the composition of the dredged material to be placed on the beach may affect sea turtle nesting habitat. To eliminate this affect, beach compaction measurements will be taken immediately after completion of dredged material disposal operations. If penetrometer readings are 500 or higher the beach will be thoroughly tilled to a 30 inch depth. Based on the planned measures to avoid impacts to species listed, the Corps has determined that project implementation will not affect the continued existence of those species which occur in the project area.

REFERENCES

Hoover, James. Personal communication. September 6, 1990,
(305) 868-7075.



United States Department of the Interior

FISH AND WILDLIFE SERVICE

P.O. BOX 2676

VERO BEACH, FLORIDA 32961-2676

October 5, 1993

U.S. Army Corps of Engineers
Planning Division
Attn: Mr. A.J. Salem
P.O. Box 4970
Jacksonville, Florida 32232-0019

Dear Mr. Salem,

This letter is in response to a FAX sent to us on September 17, 1993, regarding a change in the proposed maintenance dredging of Bakers Haulover Inlet in Dade County, Florida. The proposed change is to deposit dredged material on the south side of the inlet, rather than the north side. The U.S. Fish and Wildlife Service does not anticipate any additional adverse impact to listed sea turtles by this proposed change. Provided the area to be dredged does not contain material with more than 7 percent fines (as stated in the original project) the Service believes our February 15, 1991, Biological Opinion address the currently proposed activity.

If you have any questions, please contact Mr. Mark Yanno at (407) 562-3909.

Sincerely yours,

Kalani D. Cairns
Acting Field Supervisor

cc:
FWS, Jacksonville, FL
EPA, Atlanta, GA
NMFS, St. Petersburg, FL
NMFS, Panama City, FL
DEP, Tallahassee, FL (Attn: Dave Arnold)
DEP, Stuart, FL (Attn: Barbara Schroeder)



United States Department of the Interior

FISH AND WILDLIFE SERVICE

P.O. BOX 2676

VERO BEACH, FLORIDA 32961-2676

PD

February 15, 1991

Mr. A.J. Salem
Chief, Planning Division
U.S. Army Corps of Engineers
P.O. Box 4970
Jacksonville, Florida 32232-0019

FWS Log No: 4-1-91-210
Corps' Project: Baker's Haulover Cut

Dear Mr. Salem:

This responds to your letter, dated January 25, 1991, regarding the above-referenced project. Our comments are submitted in accordance with the consultation requirements of Section (7)(a)(2) of the Endangered Species Act, as amended (16 U.S.C. 1531 et. seq.).

PROJECT DESCRIPTION

The proposed work will consist of placing approximately 30,000 cubic yards of sandy dredged material along 1300 linear feet of beach at Baker's Haulover Cut, Dade County, Florida. The material will be dredged from the inlet, and hauled by trucks to the beach. The Corps of Engineers (Corps) reports less than 7 percent fines from samples in the area to be dredged, with most samples around 5 percent fine material.

CONSULTATION HISTORY

The Corps provided information on the project by letter, dated September 24, 1990, including grain size of sample borings, and density of sea turtle nesting. The Corps determined at that time that the project was not likely to adversely affect threatened and endangered species of sea turtles, because the work would be completed prior to March 31, 1991, thereby not affecting the beach during the turtle nesting season. Your letter, dated January 25, 1991, stated that the work was scheduled to start in mid-February, and that barring any delays, should be completed by March 31. However, your letter requested that the Service concur with an extension of the project completion date to May 15, 1991, due to uncertainties about weather conditions or other circumstances that may delay the project. Due to the probability of incidental take of sea turtle nests later in the spring, the Service is unable to concur with a "not likely to adversely affect" determination, and provides the following Biological Opinion.

BIOLOGICAL OPINION

This represents the Biological Opinion of the Fish and Wildlife Service pursuant to Section 7(a)(2) of the Endangered Species Act. An administrative record of this consultation is on file in the Vero Beach, Florida, Field Office.

A. Species affected

Four species of sea turtles are known to nest in Florida: the loggerhead (Caretta caretta), green (Chelonia mydas), leatherback (Dermochelys coriacea), and hawksbill (Eretmochelys imbricata). The loggerhead turtle is expected to be by far the most common nesting species at the project site. Nesting by green turtles and leatherback turtles is relatively low along Florida's Atlantic coast. Hawksbill turtles are rarely found nesting on Florida's beaches, although they have been known to nest on other beaches in Dade County.

The loggerhead sea turtle (Caretta caretta) was listed as threatened on July 28, 1978. The nesting population of loggerheads in the United States is one of the two most significant nesting populations in the world, representing up to 30 percent of the worldwide loggerhead nesting population (Ross, 1982). This is in contrast to all other species of sea turtles, which nest primarily outside the U.S. Within the U.S., it nests primarily on beaches from North Carolina to Florida. Approximately 90 percent of loggerhead nesting within the U.S. occurs in Florida (Murphy and Hopkins, 1984). The highest density nesting beaches in Florida occur from Canaveral National Seashore, Volusia County, south to John U. Lloyd State Recreation Area in Broward County (Conley and Hoffman, 1986). Nesting densities vary from less than one nest per kilometer (km) on the average for some beaches in the northeast, southeast, and panhandle of Florida to over 600 nests per km on some stretches of beach in southern Brevard County (Conley and Hoffman, 1986; Ehrhart and Witherington, 1986). The most recent estimate for total annual nesting effort for the southeastern U.S. is 50,000 nests, based on ground surveys conducted in 1989 (Florida DNR, unpublished data; Georgia DNR, unpublished data; South Carolina WMRC, unpublished data; North Carolina WC, unpublished data).

The loggerhead nesting season is from late April to August, with most nesting occurring in June and July, and occasional nesting during September. The incubation period is temperature-dependent, and most nests hatch within 60 days, although 70 days may be required for some nests, particularly in the northern periphery of the nesting range. Primary threats to loggerheads within the U.S. include: 1) accidental drowning of sub-adult and adult turtles by commercial fishing activities; 2) degradation of nesting habitat by human activities from beach-front developments and the resulting artificial lighting, riprap bulkheads, seawalls, and other human disturbances; and 3) excessive nest predation by raccoons or hogs on some major nesting beaches, which is also associated with human alteration of the coastal environment.

Green sea turtle (Chelonia mydas) nesting within the U.S. occurs principally along the east-central and southeast Florida beaches. Nesting densities are much lower than for the loggerhead and range from 1-5 nests per km on most beaches within its major nesting range to 13-20 nests per km on high density green turtle nesting beaches in southern Brevard County and south Jupiter Island in Palm Beach County (Conley and Hoffman, 1986; Ehrhart and Witherington, 1986). Overall green turtle nesting in Florida has shown an increasing trend, with the highest recorded total of 746 nests in 1985 (Conley and Hoffman, 1986; Dodd, 1981). Nesting occurs from May to September, with the peak nesting occurring in July and August. The hatching period is similar to that of the loggerhead. The green turtle was listed on July 28, 1978, as endangered in Florida and on the west coast of Mexico, and as threatened elsewhere. Major threats to the green turtle within the U.S. are similar to those for the loggerhead. Green turtles, however, appear to be more sensitive to human disturbance and artificial lighting.

The leatherback sea turtle (Dermochelys coriacea) was listed as endangered throughout its range on June 2, 1970. Nesting within the U.S. occurs primarily in Puerto Rico and the Virgin Islands. However, the following total of leatherback turtle nests were reported from Florida's east coast beaches: 45 in 1986, 125 in 1987, 111 in 1988, and 99 in 1989 (B. Schroeder, 1990, pers. comm.). Nesting begins as early as late February and terminates by late July. Much of the leatherback's nesting effort is centered in Palm Beach County, but scattered nesting has been recorded on almost all of Florida's east coast beaches, with the most northerly record being from Blackbeard Island, Georgia (Conley and Hoffman, 1986; Seyle, 1985). The primary threat to this species in Florida is degradation of nesting habitat from beach-front developments.

The hawksbill sea turtle (*Eretmochelys imbricata*), listed as endangered on June 2, 1970, is a rare nester on the southeastern U.S. beaches, with only 1-2 nests recorded annually in Florida (Conley and Hoffman, 1986; Lund, 1985; McMurtray and Richardson, 1985). Nesting has been recorded for the months of June, July, August, and October and from Volusia, Brevard, Martin, and Dade Counties (Dalrymple, 1985; McMurtray and Richardson, 1985; Florida DNR, unpublished data).

B. Potential adverse impacts

We are concerned with the timing of the nourishment activities and compaction of the beach from nourishment material. We believe that if beach nourishment is undertaken during the nesting season, even with a relocation program, some nests will most likely remain undetected and subsequently buried by the nourishment material or crushed by heavy equipment. In spite of the best intentions and efforts by persons relocating nests; wind, rain, and tides can quickly obscure tracks and prevent workers from finding nests. In addition, turtle activities can often obscure nest locations, making interpretation of the site difficult, and depending on the experience and motivation of workers, some nests will remain undetected. Nearly all the nests are already relocated along this beach, mainly to avoid the disorientation of hatchlings caused by the bright lights along this beach. However, the depositing of material will further complicate the attempts to identify and relocate the nests and will pose an added threat to any undetected nests by the physical impact of the construction equipment on the beach. Although the material appears to be suitable, compaction of the sand could also adversely affect sea turtle nesting.

C. Determination

It is the Service's Biological Opinion that the project is not likely to jeopardize the continued existence of listed sea turtles. We do believe, however, that adverse impacts to sea turtles could result, particularly when viewed cumulatively in the context of other nourishment projects planned on sea turtle nesting beaches in Florida this year. The Reasonable and Prudent Measures provided with the Incidental Take Statement will reduce these possible impacts.

INCIDENTAL TAKE

Section 7(b)(4) of the Act requires that when a proposed agency action is found to be consistent with Section 7(a)(2) of the Act and the proposed action is likely to result in the take of some individuals of the listed species incidental to the action, the Service will issue a statement that specifies the impact (amount or extent) of such incidental taking. It also states that reasonable and prudent measures, coupled with terms and conditions to implement these measures, be provided to minimize such impacts. The Service must also specify procedures to be used to handle or dispose of any individual specimens taken. Reasonable and prudent measures are requirements of the action agency.

We have reviewed the biological information and other information relevant to this action, and based on our review, incidental take is authorized for all nests missed by a nest relocation program within the project boundary. This is inclusive of the direct impacts of nest burial and crushing and the indirect impacts of aberrant nests and broken eggs which may result from sand compaction in nesting seasons subsequent to nourishment activities.

REASONABLE AND PRUDENT MEASURES

The Service considers the following reasonable and prudent measures are necessary and appropriate to minimize the take of threatened and endangered sea turtles:

1. As stated in our previous concurrence letter on this project, all possible efforts should be made to complete the project prior to March 31.
2. If any beach nourishment activity occurs after March 1, nest surveys and relocation must begin on that date.
3. Nourished beaches will be tilled if compaction or escarpments occur.

TERMS AND CONDITIONS

Section 9 of the Endangered Species Act prohibits the taking of listed species without a special exemption. In order to be exempt from the prohibitions of Section 9 of the Act, the following terms and conditions, which implement the reasonable and prudent measures described above, must be complied with.

1. If any beach nourishment activity occurs after March 1, nest surveys and relocation must begin on that date. This small project is expected to be completed quickly; however, if it suffers a lengthy delay, nest relocation must continue until completion of the project or until October 15, whichever comes first.
3. Nourished beaches will be plowed to a depth of at least 36 inches immediately following completion of beach nourishment if sand compaction measures greater than 500 cone penetrometer index units (cpu). Sand compaction measurements will be taken in February for at least two consecutive years and tilling repeated if 500 cpu is exceeded.
4. Nest surveys and relocations will be conducted by personnel with prior experience and training in nest survey and relocation procedures, and with a valid Florida Department of Natural Resource permit. This is essential to reduce the number of undetected nests.
5. Nests shall be relocated between sunrise and 10 a.m. each day, and the relocation will be to a nearby self-release beach hatchery in a secure setting where artificial lighting will not conflict with hatchling orientation.
6. A report describing the actions taken to implement the terms and conditions will be submitted to this office within 60 days of completion of the proposed work for each year when activity has occurred. This report will include dates of actual construction activities, names and qualifications of personnel involved in nest surveys and relocation activities, description and location of hatcheries, nest survey and relocation results and hatching success of nests.

In the event a turtle nest is dug up by beach construction activities, the following procedure should be followed:

1. Immediately notify the Florida Department of Natural Resources-permitted individual responsible for nest relocation on the project for removal of the nest to the beach hatchery. Before eggs are relocated, the top of each egg will be marked with a non-toxic felt-tipped pen and individually and gently placed on 2-3 inches of moist sand in a rigid-walled container, being careful not to change the axis of the eggs. Eggs will be covered with a fine nylon mesh and then 2-3 inches of moist sand, shaded from the sun, and immediately transported to the hatchery. Eggs will be placed one at a time in the artificial nest chamber, while ensuring that the orientation of each egg remains as in the natural nest.

This concludes consultation under Section 7 of the Act, as amended. If there are modifications made in the project or if additional information becomes available relating to threatened or endangered species, re-initiation of consultation may be necessary.

Sincerely yours,


David L. Ferrell
Field Supervisor

cc:

FWS, Jacksonville, FL (Attention: E. Possardt)
EPA, Atlanta, GA
NMFS, St. Petersburg, FL
NMFS, Panama City, FL
DER, Tallahassee, FL
DNR, Tallahassee, FL
DNR, Stuart, FL (Attention: Barbara Schroeder)

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APPENDIX III

**COASTAL ZONE MANAGEMENT CONSISTENCY
DETERMINATION**

Florida Coastal Zone Management Program Federal Consistency Evaluation Procedures

1. Chapter 161, Beach and Shore Preservation.

The intent of the coastal construction permit program established by this chapter is to regulate construction projects located seaward of the line of mean high water and which might have an effect on natural shoreline processes.

Response: The proposed work project is not seaward of the mean high water line and beach disposal would preserve shorelines and not affect shoreline processes. Information will be submitted to the state for a permit in compliance with this chapter.

2. Chapters 186 and 187, State and Regional Planning.

These chapters establish the State Comprehensive Plan which sets goals that articulate a strategic vision of the State's future. Its purpose is to define in a broad sense, goals, and policies that provide decision-makers directions for the future and provide long-range guidance for an orderly social, economic and physical growth.

Response: The proposed work has been coordinated with the State without objection.

3. Chapter 252, Disaster Preparation, Response and Mitigation.

This chapter creates a state emergency management agency, with the authority to provide for the common defense; to protect the public peace, health and safety; and to preserve the lives and property of the people of Florida.

Response: The dredging and disposal of material on Juno Beach will protect the waterway which could be used in emergency situations for transportation purposes. Therefore, this work would be consistent with the efforts of Division of Emergency Management.

4. Chapter 253, State Lands.

This chapter governs the management of submerged state lands and resources within state lands. This includes archeological and historical resources; water resources; fish and wildlife resources; beaches and dunes; submerged grass beds and other benthic communities;

swamps, marshes and other wetlands; mineral resources; unique natural features; submerged lands; spoil islands; and artificial reefs.

Response: The maintenance dredging the Intracoastal waterway with beach disposal has been previously accomplished. The use of these State lands has been approved by the State. The proposal would comply with the intent of this chapter.

5. Chapters 253, 259, 260, and 375, Land Acquisition.

This chapter authorizes the state to acquire land to protect environmentally sensitive areas.

Response: Since the affected property already is in public ownership, this chapter would not apply.

6. Chapter 258, State Parks and Aquatic Preserves.

This chapter authorizes the state to manage state parks and preserves. Consistency with this statute would include consideration of projects that would directly or indirectly adversely impact park property, natural resources, park programs, management or operations.

Response: The proposed work would not affect any state parks or preserves, and would, therefore, be consistent with this chapter.

7. Chapter 267, Historic Preservation.

This chapter establishes the procedures for implementing the Florida Historic Resources Act responsibilities.

Response: Maintenance of the existing waterway and use of the beach disposal area has been coordinated with the Florida State Historic Preservation Officer (SHPO). There are no known historic properties within the waterway or on the beach segments proposed as disposal area. If such resources are identified during construction, procedures will be implemented to avoid affects on such resources within the area of project impact. Therefore, the work will be consistent with the goals of this chapter.

8. Chapter 288, Economic Development and Tourism

This chapter directs the state to provide guidance and promotion of beneficial development through encouraging economic diversification and promoting tourism.

Response: The maintenance dredging of the waterway and beach disposal encourages commercial and recreational use which provides economic benefits to the area. Therefore, the work would be consistent with the goals of this chapter.

9. Chapters 334 and 339, Public Transportation.

This chapter authorizes the planning and development of a safe balanced and efficient transportation system.

Response: The maintenance dredging of the waterway promotes commercial navigation within the area.

10. Chapter 370, Saltwater Living Resources.

This chapter directs the state to preserve, manage and protect the marine, crustacean, shell and anadromous fishery resources in state waters; to protect and enhance the marine and estuarine environment; to regulate fishermen and vessels of the state engaged in the taking of such resources within or without state waters; to issue licenses for the taking and processing products of fisheries; to secure and maintain statistical records of the catch of each such species; and, to conduct scientific, economic, and other studies and research.

Response: The maintenance dredging of this area would not adversely affect saltwater living resources. Based on the overall impacts of the work, the work is consistent with the goals of this chapter.

12. Chapter 372, Living Land and Freshwater Resources.

This chapter establishes the Game and Freshwater Fish Commission and directs it to manage freshwater aquatic life and wild animal life and their habitat to perpetuate a diversity of species with densities and distributions which provide sustained ecological, recreational, scientific, educational, aesthetic, and economic benefits.

Response: No living land or freshwater resources would be impacted by the maintenance dredging. Therefore, the work would comply with the goals of this chapter.

13. Chapter 373, Water Resources.

This chapter provides the authority to regulate the withdrawal, diversion, storage, and consumption of water.

Response: This work does not involve water resources as described by this chapter.