

5.0. LIST OF PREPARERS. The following professionals prepared the draft Environmental Assessment for the Tampa Harbor Big Bend Navigation Study Project.

<u>NAME</u>	<u>DISCIPLINE</u>	<u>EXPERIENCE</u>	<u>ROLE IN PREPARING EIS</u>
William J. Fonferek	Biologist	18 years environmental impacts assessment	Environmental Study Manager, Biological Impact Assessment, Endangered Species Coordination
Tim Murphy	Hydraulic Engineer	6 years planning experience	Technical Manager
Paul Stevenson	Landscape Architect	14 years experience recreation design, construction and development	Recreation Resources Analysis
Janice Adams	Archeologist	16 years cultural resources assessment	Cultural Resources
Matt Miller	Environmental Engineer	5 years	HTRW and Water Quality Investigations and Impact Assessment

6.0. CONSULTATION WITH OTHERS - PUBLIC INVOLVEMENT PROCESS.

6.1. Scoping was conducted by letter dated 26 November 1990 to develop issues, concerns, and ideas about the project. The comments received expressed concerns for impacts on migratory birds and manatees (Exhibit III).

6.2. The draft EA was circulated to all interested parties for comment by cover letter dated 28 June 1996. The following comments were received (Exhibit III):

6.2.1. The Florida Division of Historical Resources responded to the request for comments by letter dated 7 August 1996, stating that no archeological or historical sites are recorded for or likely to be present in the project area and it is unlikely that such sites would be affected. Therefore, it is the opinion of this office that the proposed work would not affect historic properties listed on or eligible for the *National Register of Historic Places*.

6.2.2. The Tampa Bay Regional Planning Council responded by letter dated 1 August 1996, stated it would submit its comments following the receipt of additional information.

6.2.3. The National Marine Fisheries Service responded by letter dated 23 July 1996 stating that the proposed work is consistent with previous comments and they offer no additional comments.

6.2.4. The Clearwater Power Squadron, Inc., responded by letter dated 15 July 1996 noted no serious environmental problems and offered their assistance.

6.2.5. The US Department of Housing and Urban Development responded by letter dated 10 July 1996, stating that the review indicates no significant adverse impacts on any HUD programs.

6.2.6. The US Environmental Protection Agency responded by letter dated 12 August 1996 stating that the proposals impacts appear relatively straight forward and mitigation should compensate for significant alterations. We believe that the best management measures would be implemented during construction and any changes directed by monitoring should lessen short-term adverse effects. The environmental features proposed appear to be excellent and should establish a precedent for future development.

6.2.7. The US Department of Interior responded by letter dated 22 August 1996 based on comments received from the US Fish and Wildlife Service (Service). The Service stated that it had concerns even with the manatee protection conditions. While no dredge has ever taken a manatee, it has been documented that associated boat traffic has caused injury or death. They also stated that seagrasses, an attractant to manatees, have been located in recent year north of the project area in an area referred to as the "kitchen". The Service agrees that the bulkhead should keep manatees out of the turning basin. The Service requests that we reconsider the decision to dredge during the winter months (15 November-31 March) because the project is adjacent to a state-designated manatee sanctuary. It recommended an alternative solution would be to dredge the inner channel first and the

outer channel during the colder months. If this were not possible, then, a Service-approved biologist be used as an observer at the project and that all service boats with propellers be fitted with guards. They recommend disposal at CMDA-3D be done outside the bird nesting season and that any nourishment of Sites C-3 or C-4 avoid impacting seagrass beds.

RESPONSE: We responded by letter dated 3 September 1996 stating we plan to implement the Districts' Migratory Bird Protection Policy and avoid impacting bird nesting season. We do agree that manatees could be impacted by the dredging project and plan to implement the standard manatee conditions, add a special manatee observer to the operation, require fitting of guards on propellers and restrict boats speeds to no wake. We disagree with the use of any window because no deaths or injuries have been ever attributed to Corps dredging or auxiliary equipment, the dredging is segregated from the power plant outfall by a bulkhead, and no seagrasses are located within the project area. The window would significantly limit our ability to construct the project. If limited construction to daylight hours, the project would cost three times as much and take twice as long. Since we are trying to avoid the bird nesting season and the manatee window, there would not be enough time to construct the channel. We believe the impacts to nesting are almost certain and the impacts to manatees unlikely if we follow the precautions outlined above.

6.2.8. The Florida Department of Community Affairs acting as the State Clearing house for comments responded by letter dated 29 August 1996, requesting an extension until 17 September to provide their comments.

RESPONSE: Based on the regulations published by the Department of Commerce for Coastal Zone Consistency, we are giving the State an additional 15 days to respond.

6.2.9. We have been in constant contact with the DEP and Clearinghouse regarding a response and any problems associated with their response. A conference telephone call was conducted with Florida DEP, Tampa Port Authority, Florida Game and Freshwater Fish Commission and the Clearinghouse on 9 September 1996. On 10 September we conducted a second conference call with DEP and the Clearinghouse regarding a modification to the manatee protection conditions. By letter dated 10 September 1996, we agreed to the additional conditions recommended by DEP. Based on this resolution, DEP provided the Clearinghouse with a concurrence in our Coastal Zone Consistency Determination.

6.2.10. Mr. Roger Johansson, representing the City of Tampa, Bay Study Group, responded by letter dated 21 August 1996 stating concerns for seagrasses in the project area and provided information concerning their location.

RESPONSE: We will incorporate the seagrass information provided.

6.2.11. The Florida Department of Community Affairs, acting as the State Clearinghouse for review of federal project responded by letter dated 13 September 1996 stating that proposal had been coordinated the Environmental Assessment in accordance with Executive Order 12372 and the Coastal Zone Management Act (CZMA). They received comments

from the Department of Environmental Protection stating concerns for the large number of manatees that congregate in the area. It found that as initially proposed the project was unacceptable. However, with the modifications agreed upon with DEP and the Corps (See Section 6.2.9) the project is consistent with the CZMA. The DEP also recommended the use of a hydraulic dredge instead of a clamshell. It also recommended taking precautions from impacting submerged aquatic vegetation. The DEP also stated that an Environmental Resources Permit would be required for construction. The Southwest Florida Water Management District recommended additional analysis of filling the holes and restoration proposed for the Whiskey Stump Key area. The Florida Game and Freshwater Fish Commission indicates that several listed species occur in the area and recommends measures to protect nesting birds and seagrass beds in the area.

RESPONSE: We have incorporated into our manatee protection conditions (Exhibit I) additional measures to insure that manatees are protected. We cannot exclude certain types of equipment from bidding on our contracts unless it is restricted through other legal means such as the Endangered Species Act or Water Quality Certifications. The hydraulic dredge has been determined to be the most economical method for this project for cost estimating purposes. We have surveyed the area and the dredging would not directly affect seagrasses. Seagrass are found adjacent to the beneficial use sites at Whiskey Stump Key area and impacts would be minimized by the use of silt curtains. A water quality permit would be sought for the work in accordance with the Memorandum of Agreement between the Corps and DEP even though dredging does not require a permit in accordance with Section 301 of the Clean Water Act. The Corps currently has results of various studies conducted by the Waterways Experiment Station (WES) concerning open-water filling and capping of silt materials. During the preparation of Plans and Specifications for the filling of these holes, we will consult with the experts at the WES. We have always recognized the impacts on migratory bird nesting in the area and because of our concerns have developed the Districts Migratory Bird Protection Policy which will be implemented for this project.

6.3. A notice of a public meeting was sent to of all interested parties by letter dated 10 July 1996. The public meeting was conducted in Tampa at the Tampa Port Authority Office on 29 July 1996. A list of attendees is attached.

6.4. A public presentation was given to the Tampa Bay Regional Planning Council, Agency on Bay Management by Mr. Tim Murphy (CESAJ-DP-I) on 12 August 1996.

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EXHIBIT I

ENDANGERED SPECIES CONSULTATION

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 Tampa Harbor - Big Bend Navigation Feasibility Study which we are currently conducting. A Planning Aid Report was submitted to this office by letter dated December 21, 1990.

The West Indian manatee (*Trichechus manatus*) was identified as the only species in the area that could be affected by the project. The Big Bend channel connects the Hillsborough Bay Channel with the Industrial Port Complex. Manatees congregate south of this channel during the winter months at the Tampa Electric Company warmwater outfall. A retaining wall segregates this power plant outfall from the Industrial Port Complex. Several islands and shallow-water areas created by previous dredging and disposal operations are located south of the Big Bend channel. These shallow-water areas are sometimes exposed during low tide. No seagrass beds are located north of the power plant, they are in fact located along Tampa Bay, south of the power plant.

Based on this information, we do not believe manatees will be found in the project area since their food source is located in the opposite direction and a physical barrier exists between where they are located and the project area. In addition, the standard manatee protection conditions established by the state will be included in the Plans and Specifications. Therefore, pursuant to Section 7 of the Act, we have determined that there would be No Effects to the West Indian manatee and are asking for your concurrence in this matter.

If you have any questions concerning this project, please contact Mr. Bill Fonferok at 904-232-2803.

Sincerely,

A. J. Salem
Chief, Planning Division

STANDARD MANATEE PROTECTION CONDITIONS

9.4.1 Manatee Protection.

9.4.1.1 The Contractor shall instruct all personnel associated with the project of the potential presence of manatees and right whales and the need to avoid collisions with these animals.

9.4.1.2 All construction personnel shall be advised that there are civil and criminal penalties for harming, harassing, or killing manatees and right whales which are protected under the Marine Mammal Protection Act of 1972, the Endangered Species Act of 1973, and the Florida Manatee Sanctuary Act. The Contractor shall be held responsible for any manatee or right whale harmed, harassed, or killed as a result of construction activities.

9.4.1.3 If siltation barriers are used, they shall be made of material in which manatees cannot become entangled, are properly secured, and are regularly monitored to avoid manatee entrapment. Barriers must not block manatee entry to or exit from essential habitat.

9.4.1.4 All vessels associated with the project shall operate at "no wake/idle" speeds at all times while in waters where the draft of the vessel provides less than a four foot clearance from the bottom and vessels shall follow routes of deep water whenever possible. Boats used to transport personnel shall be shallow-draft vessels, preferably of the light-displacement category where navigational safety permits.

9.4.1.5 If a manatee(s) is sighted within 100 yards of the project area, all appropriate precautions shall be implemented by the Contractor to ensure protection of the manatee. These precautions shall include the operation of all moving equipment no closer than 50 feet of a manatee. If a manatee is closer than 50 feet to moving equipment or the project area, the equipment shall be shut down and all construction activities shall cease to ensure protection of the manatee. Construction activities shall not resume until the manatee has departed the project area.

9.4.1.6 9.4.1.6 Prior to commencement of construction, each vessel involved in construction activities shall display at the vessel control station or in a prominent location, visible to all employees operating the vessel, a temporary sign at least 8 1/2" x 11" reading, "Caution: Manatee Habitat/Idle Speed is Required in Construction Area." In the absence of a vessel, a temporary 3' x 4' sign reading "Caution: Manatee Area" will be posted adjacent to the issued construction permit. A second temporary sign measuring 8 1/2" X 11" reading "Caution: Manatee Habitat. Equipment Must Be Shutdown Immediately If A Manatee Comes Within 50 Feet Of Operation" will be posted at the dredge operator control station and at a location prominently adjacent to the displayed issued construction permit. The Contractor shall remove the placards upon completion of construction.

U.S. Fish and Wildlife Service
6620 Southpoint Drive South
Suite 310
Jacksonville, Florida 32216

Chief, Environmental Resources Branch
U.S. Army Corps of Engineers (CESAJ-PD-E)
P.O. Box 4970
Jacksonville, Florida 32232-0019

Florida Marine Patrol's District 8 Office
2510 2nd Avenue North
Jacksonville Beach, Florida 32250

Area Engineer, _____

9.4.1.9. Manatee Observer. The contractor shall have a special manatee observer onboard to watch for manatees and advise the contractor about avoiding impacts to manatees. The observer will be approved by either Florida Department of Environmental Protection or the US Fish and Wildlife Service and be a qualified biologist knowledgeable about manatees and their behavior. The observer shall be responsible for keeping the manatee log.

9.4.1.10. Equipment. All auxiliary vessels equipped with propellers shall be fitted with propeller guards and shall operate at no wake speeds.

9.4.1.11. Work shall be halted and reconsultation with the US Fish and Wildlife Service and the Department of Environmental Protection will be initiated should, as a result of this project, any person, at any time, by any means or in any manner, intentionally or negligently, annoy, molest, harass, or disturb any manatee.

9.4.1.12. Clamshell-type dredges will be restricted to daylight hours during the winter manatee window of 15 November through 31 March.

9.4.1.7 Any collisions with a manatee or sighting of any injured or incapacitated manatee shall be reported immediately to the Corps of Engineers. The order of contact within the Corps of Engineers shall be as follows:

Order of Contact of Corps Personnel
for Dredging Contractor to Report
Manatee Death or Injury

<u>Title</u>	<u>Telephone Number</u>	
	<u>Work Hours</u>	<u>After Hours</u>
Corps, Inspector	On site	Lodging Location
Mr. _____, Area Engineer, _____ (CESAJ-__ - __)	_____	_____
Dr. Hanley K. Smith, Chief Environmental Resources Branch, Planning Division (CESAJ-PD-E)	904/232-2202	904/745-0632
Mr. C. Alex Morrison, Acting Chief, Construction Branch, Construction- Operations Division (CESAJ-CO-C)	904/232-1120	904/367-0758
Mr. Giralmo DiChiara, Chief Construction-Operations Division (CESAJ-CO)	904/232-1122	904/737-1909

The Contractor shall also immediately report any take of a manatee to the Florida Marine Patrol "Manatee Hotline" (800) 342-5367 as well as the U.S. Fish and Wildlife Service, Jacksonville Endangered Species Field Station (904) 232-2580 and the Department of Environmental Protection, Office of Protected Species at (904) 922-4330.

9.4.1.8 The Contractor shall maintain a daily log detailing sightings, collisions, or injuries to manatees occurring during the contract period. The data shall be recorded on forms provided by the Contracting Officer (sample form is appended to the end of this section). All data in original form shall be forwarded directly to Dr. Hanley K. Smith, Chief Environmental Resources Branch, P. O. Box 4970, Jacksonville, Florida, 32232-0019, within 10 days of collection and copies of the data will be supplied to the Contracting Officer. Within 15 days, following project completion, a report summarizing the above incidents and sightings, including a list and addresses of all observers utilized during the construction will be submitted to the following:

Florida Department of Natural Resources
Office of Protected Species
3900 Commonwealth Blvd. Mail Station 245
Tallahassee, Florida 32399

EXHIBIT II

FISH AND WILDLIFE COORDINATION ACT REPORT

TAMPA HARBOR - BIG BEND
NAVIGATION FEASIBILITY STUDY
HILLSBOROUGH COUNTY, FLORIDA

Fish and Wildlife Coordination Act Report



Submitted to:
Department of the Army
Jacksonville District
Corps of Engineers
Jacksonville, Florida

U.S. Fish and Wildlife Service
Ecological Services
Vero Beach, Florida

FEBRUARY, 1994

TAMPA HARBOR- BIG BEND NAVIGATION FEASIBILITY STUDY
Hillsborough County

Fish and Wildlife
Coordination Act Report

Submitted to Jacksonville District
U.S. Army Corps of Engineers
Jacksonville, Florida

Prepared by: Bruce Birnhak, Project Biologist
Approved by: David L. Ferrell, Field Supervisor

Vero Beach, Florida, Field Office
U.S. Fish and Wildlife Service
Vero Beach, Florida
February 1994



United States Department of the Interior
FISH AND WILDLIFE SERVICE
P.O. BOX 2676
VERO BEACH, FLORIDA 32961-2676

February 4, 1994

Colonel Terrence C. Salt
District Engineer
U.S. Army Corps of Engineers
P.O. Box 4970
Jacksonville, FL 32232-0019

Attn: Planning Division

Dear Colonel Salt:

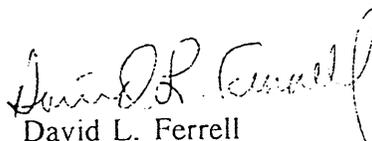
In accordance with Section 2(b) and other provisions of the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.), the Fish and Wildlife Service has completed the Fish and Wildlife Coordination Act Report on the Tampa Harbor-Big Bend Navigation Channel Feasibility Study, Hillsborough County, Florida.

This report is provided in accordance with the 1993 Scope of Work for this project by providing the Fish and Wildlife's (Service) evaluation of impacts for dredging of the Big Bend channel as well as offering recommendations on alternative spoil sites as described by the Jacksonville District, Corps of Engineers.

Letters of concurrence have been received from the Florida Game and Fresh Water Fish Commission and the National Marine Fisheries Service and are included in the Attachments section of the report. This report constitutes the final report of the Secretary of the Interior as required by Section 2(b) of the Fish and Wildlife Coordination Act (16 U.S.C. 1531 et seq.) and represents the views of the Department of the Interior.

This report is forwarded to you for inclusion in the Environmental Assessment for this Federal project.

Sincerely yours,


David L. Ferrell
Field Supervisor

cc:

EPA, Atlanta, GA

NMFS, St. Petersburg, FL

NMFS, Panama City, FL

FG&FWFC, Tallahassee, FL

FG&FWFC, Vero Beach, FL

DEP, Tallahassee, FL

FWS, Jacksonville, FL

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Figure 1. Vicinity Map 1

EXECUTIVE SUMMARY

The Corps of Engineers (Corps) has requested a Fish and Wildlife Coordination Act Report from the U.S. Fish and Wildlife Service (Service) regarding the environmental impacts of widening and deepening the Big Bend Channel and recommendations on alternative spoil disposal sites that could benefit fish and wildlife resources in Tampa Bay, Hillsborough County, Florida. The Service does not anticipate adverse impacts to general fish and wildlife resources from the project; however, to protect the endangered West Indian manatee, the Conservation Recommendations listed in the enclosed Biological Opinion should become an integral component of any Federally authorized project.

It is the Service's opinion that the most beneficial use of the spoil material would be to place it on the Alafia Bank to alleviate erosion of one of the nation's premier bird nesting sites. Other acceptable spoil locations are the two dredge holes near Whiskey Key. Use of the Whiskey Key site would improve water quality, thus benefitting fish and wildlife resources. Spoil could also be placed on spoil island 3D; however, this would require implementation of our recommended management plan to protect the many nesting shorebirds on the island in accordance with the Migratory Bird Treaty Act.

The Service is opposed to your plan for open water disposal immediately south of Big Bend Channel because of adverse impacts to the shallow water benthic community, loss of estuarine seagrass beds, and disruption of water circulation patterns.

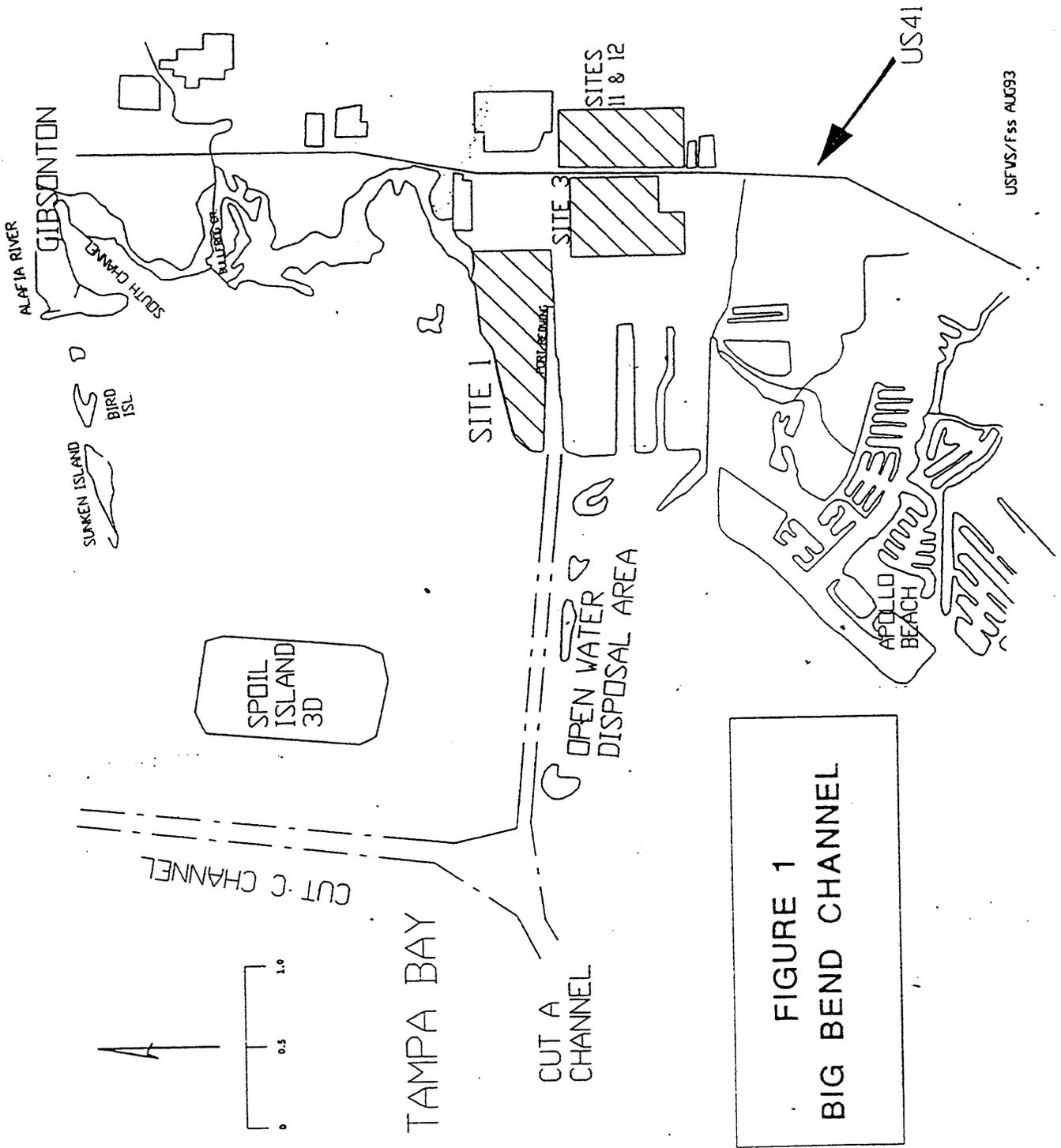


FIGURE 1
BIG BEND CHANNEL

USFVS/FSS AUG93

I. INTRODUCTION

The Tampa Harbor-Big Bend Channel Navigation Feasibility Study was authorized by Senate and House Resolutions adopted May 29, 1979, and November 14, 1979, respectively. The primary purpose of the Corps of Engineers (Corps) study is to determine the need and feasibility of widening and deepening Big Bend Channel, as well as disposing of the spoil material.

II. PROJECT DESCRIPTION

The Big Bend Channel connects a multi-owner Industrial Port Complex with the Hillsborough Bay Ship Channel. The channel is about 2.2 miles long, 35 feet deep at mean low water and 200 feet wide, with a turning basin 1,000 feet long by 700 to 1500 feet wide. The Corps will examine the feasibility of widening the channel 50 feet and deepening it about 2-3 feet. The spoil material consists of good quality sand. Various alternative locations are being considered as spoil disposal sites for the material dredged from the channel. These include four upland disposal sites, two dredge holes in the vicinity of Whiskey Key, open water disposal along the Big Bend Channel, and use of spoil island 3D.

III. DESCRIPTION OF STUDY AREA

Hillsborough County is situated on Tampa Bay in central Florida. The proposed project is located within Tampa Bay about one mile north of the town of Apollo Beach (Fig. 1).

IV. FISH AND WILDLIFE RESOURCES

Taxa and Important Species

Birds

Dunstan and Lewis (1974) list 83 species of birds associated with marine habitats that occur in Tampa Bay. Spoil island 3D alone supports an estimated 20,000 nests of the laughing gull.

During Service field inspections, the following bird species in the project area were observed: brown pelican, laughing gull, ring-billed gull, cormorant, green heron, and black-necked stilt. According to the Florida Game and Fresh Water Fish Commission, the emergent spoil islands south of Big Bend Channel serve as breeding areas for the American oystercatcher. Species of migrating birds are protected under the Migratory Bird Treaty Act. The Service recommends measures to avoid impacts to migratory birds and maintains permitting authority over such actions.

Fish

Springer and Woodburn (1960) in their study of the fishes of the Tampa Bay area, reported that 253 species had been collected or observed in the region. Comp (1977) accounted for 56 species of fish at Big Bend. Ninety one percent of the fish collected consisted of the following ten species: tidewater silverside, bay anchovy, longnose killifish, spotfin mojarra, striped mullet, sheepshead minnow, silver jenny, rough silverside, scaled sardine, and pinfish.

West Indian manatee

The endangered West Indian manatee is found within the vicinity of the Big Bend Channel. During periods of cold weather, they congregate at the outfall of Big Bend Power Plant which is located immediately south 3/4 mile from the eastern end of the Big Bend Channel. During the months of November through March, up to sixty manatees have been observed using the heated discharge of the Big Bend Power Plant for their survival.

V. FISH AND WILDLIFE SERVICE OBSERVATIONS

On June 9 and July 27, 1993, Service biologists inspected the project area. One of the main goals of our study was to ascertain the impact of the proposed project on seagrassbeds. We were aware from a published seagrass study performed by the Southwest Water Management District that no seagrass was found in this section of Tampa Bay. Because of reduced light penetration in the project area, we limited our seagrass search to depths less than -7 feet mean sea level. We surveyed the area with a depth recorder and snorkeled those areas where shallow depths were found. Sand bottom was encountered on all the shallow water areas investigated.

Water depths in the area where the channel is proposed for widening is about 15 feet deep mean low water (m.l.w.) which is below the depth of seagrass growth in the area.

SPOIL DISPOSAL

The location of the spoil disposal sites is shown on Figure 1.

a. OPEN WATER SPOIL SITES

Big Bend Open Water Disposal Site

This proposed spoil area was used in the past to create a series of four spoil islands. These spoil islands occur south of and parallel to the Big Bend spoil island. Two of these islands are emergent, approximately four acres in size and occur on the east and west end of the Big Bend Channel. The two middle islands are submerged about three feet below m.l.w. The only grassbeds observed were small patches of Cuban shoalgrass (Halodule wrightii) found on the western side of the eastern emergent spoil island. These grassbeds occupy an area of approximately one-half an acre.

Whiskey Key

Two borrow sites are present on the east and west side of Whiskey Key. The depths of these dredge holes are about 12 feet deep m.l.w. while the surrounding substrate consisted of shallow sand flats approximately one foot deep at the time of inspection.

b. UPLAND SPOIL SITES

Port Redwing

This site is a 284-acre man-made spoil created area vegetated by Brazilian pepper and cabbage palm.

Site 3

This potential spoil area is 183 acres in size and is used as an improved pasture.

Sites 11 & 12

These spoil sites occur adjacent to one another and are farmland presently under cultivation.

c. SPOIL ISLAND 3D

This is a man-made spoil island about 500 acres in size that is located approximately one and one half miles offshore in Hillsborough Bay. The island was constructed by the Corps and is designed as a spoil disposal area.

The island has become an important shorebird nesting area as the following data demonstrate. This information was provided by Rich Paul, National Audubon Society (personal communication), and reflects the nest counts on the island in 1991.

<u>Species</u>	<u>Number of Nests</u>
American Oystercatcher	10
Laughing Gull	10,000-20,000
Caspian Tern	65
Royal Tern	20
Black Skimmer	110

Alafia Bank

This area, comprised of two dredged material islands totalling about 49 acres, is a National Audubon Society Sanctuary. These islands are located about 2.8 miles north of the project area and occur at the mouth of the Alafia River. 10-15,000 pairs of breeding birds use the site, which makes it the largest mixed-species bird breeding colony in the State of Florida. Nesting diversity also may be unrivalled in Florida, with up to 20 species breeding annually. These two islands are presently being eroded. The following species of birds have been recorded nesting on the Alafia Bank: anhinga, brown pelican, double-crested cormorant, great blue heron, green heron, snowy egret, little blue heron, tricolored heron, reddish egret, cattle egret, black-crowned night heron, yellow-crowned night heron, white ibis, glossy ibis and roseate spoonbill.

VI. THREATENED AND ENDANGERED SPECIES

The following represents the Biological Opinion of the Fish and Wildlife Service pursuant to Section 7(a) of the Endangered Species Act of 1973, as amended (Act) concerning the Tampa Harbor-Big Bend Navigation Feasibility Study. An administrative record of this consultation is on file in the Vero Beach, Florida, Field Office.

PROPOSED PROJECT

The Corps of Engineers has determined that the proposed project would have no effect on the West Indian manatee. The Service does not concur with this determination and believes the project "may affect" the West Indian manatee.

There have been seven manatee mortalities attributed to boat/barge collisions from 1974 through December 1990. Manatees aggregate at the Tampa Electric Company warm water discharge during the cooler months. The State of Florida has designated this area as a manatee protection zone from November 15-March 31. This manatee protection zone is located 1 mile south of the proposed project. The Corps has stated that they will condition the contracts for the proposed project with the standard construction precautions to protect manatees. Therefore, it is our Biological Opinion that this project may adversely affect but is not likely to jeopardize the continued existence of the West Indian manatee.

CONSERVATION RECOMMENDATIONS

Section 7(a)(1) of the Act directs Federal Agencies to utilize their authorities to further the purposes of the Act by carrying out conservation programs for the benefit of endangered and threatened species.

To further reduce the impact of the proposed project on the manatee, the Service recommends the following conditions, in addition to the standard construction precautions, be made part of any dredging contract issued for this project:

1. That the standard manatee conditions be included in any contract issued for the work.
2. That no dredging occur between November 15 and March 31.

INCIDENTAL TAKE

Sections 4(d) and 9 of the Act, as amended, prohibit taking (harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in any such conduct) of listed species of fish or wildlife without a special exemption. Harm is further defined to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns such as breeding, feeding, or sheltering. Harass is defined as actions that create the likelihood of injury to listed species to such an extent as to significantly disrupts normal behavior patterns which include, but are not limited to, breeding, feeding or sheltering. Under the terms of Section 7(b)(4) and 7(o)(2), taking that is incidental to and not intended as part of the agency action is not considered a prohibited taking provided that such taking is in compliance with the terms and conditions of this incidental take statement. The measures described and conditions of this incidental take statement. The measures described below are nondiscretionary, and must be implemented by the agency so that they become binding conditions of any grant or permit issued to the applicant, as appropriate, in order for the exemption in Section 7(o)(2) to apply.

The Federal agency has a continuing responsibility to regulate the activity that is covered by this incidental take statement. If the agency fails to require the applicant to adhere to the terms and conditions of the incidental take statement through enforceable terms that are added to the permit or grant document, the protective coverage of Section 7(o)(2) may lapse.

We have reviewed the biological information and other available information relevant to this action. Based upon our review, incidental take is not anticipated for the manatee during implementation of this project. If an accident involving a manatee occurs, all work should cease, and our Vero Beach, Florida, Field Office should be notified immediately (407-562-3909) (1360 U.S. Highway 1, Suite 5, Vero Beach, Florida 32960), as well as the Manatee Hotline (1-800-DIALFMP).

This completes consultation in accordance with the Act. If there are modifications made in the project or if additional information becomes available relating to threatened or endangered species, reinitiation of formal consultation may be required under 50 CFR Section 402.16.

VII. IMPACTS

Big Bend Open Water Disposal Site

Creating emergent spoil islands south of the Big Bend Channel would inhibit tidal circulation and destroy a half acre of seagrassbeds.

Whiskey Key

Filling in the two dredge holes in the vicinity of Whiskey Key to one foot m.l.w. would be beneficial to the benthic community and would improve the dissolved oxygen level of the surrounding waters.

Upland Spoil Sites

Deposition of spoil in the four identified upland sites would not adversely impact fish and wildlife resources.

Spoil Island 3D

We would also not be opposed to spoiling on spoil island 3D if the nesting shorebirds and gulls are protected. To protect these nesting shorebirds the Service advises that material deposition shall not occur during the nesting season, which is April 1 to September 1. We also advise that vegetative encroachment on the spoil island shall be managed to provide barren nest sites. Techniques such as prescribed burning, tilling, and raking are acceptable control methods, and shall be completed outside the nesting season. It is envisioned that when vegetation becomes dense and relatively high, it will need to be controlled probably every three years.

Alafia Bank

The most beneficial use of the spoil material that will be dredged from Big Bend Channel would be to place it on Alafia Bank to inhibit erosion of the two islands. As mentioned previously, these are the most important mixed-colony bird breeding islands in Florida and their continual longevity demands a commitment to stabilize these islands. (see attached National Audubon Society letter requesting spoil material to alleviate erosion at this location).

VIII. DISCUSSION

The project area is located in Tampa Bay which has been designated a National Estuary under the Environmental Protection Agency's National Estuary Program. This means the estuary has outstanding natural resource values of national significance. In view of these outstanding values it is important that resource protection be given the highest degree of consideration when planning projects that may alter the natural systems. These outstanding values should be properly reflected in the Benefit/Cost ratio for this project. Environmental benefits should receive greater weight for this estuary.

Widening and deepening the Big Bend Channel will have a temporary adverse impact on the benthic community of marine worms, mollusks and echinoderms but would be expected to recolonize the channel over several years.

One of the spoil areas, Alafia Bank, is an important rookery area for a variety of bird species. Placing spoil on the eroding Alafia Bank would protect this bird rookery of national significance and should thus receive the highest environmental benefit.

As mentioned previously, if raising of the dikes surrounding spoil island 3D is contemplated the potential exists for harming the shorebirds and gulls that nest in high numbers on this spoil island. To prevent adverse impact to the birds (and thus avoid violation of the Migratory Bird Treaty Act) spoil should not be placed on this island during the nesting season.

Filling in the deep holes in the vicinity of Whiskey Key would also produce environmental benefits by providing shallow water habitat as well as increasing the water quality of the area.

Spoil placement on the upland sites would have a neutral benefit to the environment. While spoil disposal in the Big Bend open water disposal site would have negative environmental consequences as it could cover benthic habitat, fill estuarine grassbeds and disrupt circulation patterns in the area.

The endangered West Indian manatee could also be adversely impacted by the channel dredging, however implementation of our Conservation Recommendations listed in the Biological Opinion on the manatee should adequately protect this species.

Spoil Site Ranking

The following is a priority listing of the spoil sites in relation to their importance in enhancing fish and wildlife resources.

1. The most important spoil disposal area to benefit an extremely important bird breeding area would be to place spoil on the Alafia Bank to inhibit erosion. Spoil placement would have to occur during the breeding birds colony non-nesting season (September 2 to March 31).
2. Filling in the deep borrow sites in the vicinity of Whiskey Key will benefit the benthic community and raise the dissolved oxygen level of the nearby water column.
3. Spoil placement on spoil island 3D needs careful planning so as not to impact the breeding shorebirds that nest on this island. No material deposition should occur during the nesting season, which is April 1 to September 1. Also, vegetative encroachment on the island should be managed to provide barren nest sites.
4. Spoiling on any of the four upland disposal sites should have minimal adverse impact on fish and wildlife resources.
5. Creating spoil islands south of Big Bend Channel could destroy benthic habitat and create water circulation problems.

IX. FISH AND WILDLIFE SERVICE RECOMMENDATIONS

The Fish and Wildlife Service recommends the following be included in Tampa Harbor-Big Bend Navigation Feasibility Study:

1. The proposed open water disposal area located south of the Big Bend Channel be should be deleted from project plans because of adverse environmental effects.
2. The highest priority should be given to providing the spoil needs of the Alafia Bank and its irreplaceable nesting bird colonies.
 - A. No spoil should be placed during the birds' breeding season which is April 1 to September 1.