

### 3.2 General Environmental Setting

The Industrial Canal is located on the eastern boundary of Clewiston, Florida. The Industrial Canal primarily serves as a water supply canal from Lake Okeechobee to the sugarcane fields to the south. The canal also serves as water access to the Okeechobee Waterway for the U.S. Army Corps of Engineers, South Florida Operations Office. Additionally, the canal is important to the business community of Clewiston by providing access for vessels needing to reach marine facilities. Two marinas that operate along the canal provide a point of entry for many visitors and locals using Lake Okeechobee and the Okeechobee Waterway. The Industrial Canal is not a Federally authorized navigation channel. The canal is privately owned. No historical dredging records are available. If necessary, dredging may also be performed in C-21. C-21 is a flood control feature, which intersects the Industrial Canal at S-310.

Disposal area 1 is adjacent to the Industrial Canal on SFOO property. The area has previously been used as storage for SFOO equipment, supplies, and materials such as rock. Disposal area 2 is on a tract of land adjacent to Ridgelawn Cemetery located adjacent to SFOO property. Hendry County is the property owner.

### 3.3 Vegetation

Typical vegetation located along the fringe of the canal include non-native species such as water lettuce (*Pistia stratiotes*) and water hyacinth (*Eichhornia crassipes*) and native vegetation such as spatterdock (*Nuphar luteum*) and cattails (*Typha spp.*).

### 3.4 Threatened and Endangered Species

Species under the jurisdiction of the U.S. Fish and Wildlife Service that may be found in the project area are the West Indian manatee (*Trichechus manatus latirostris*, E) and the wood stork (*Mycteria americana*, E)

The West Indian manatee inhabits the open waters of Lake Okeechobee and the surrounding canals and could potentially be encountered during the proposed activity.

Wood storks are regularly seen foraging around Lake Okeechobee, particularly along roadside and agricultural ditches. Even though the project area may be used by storks foraging, the area is not suitable for nesting birds due to the lack of woody vegetation and the high level of human activity.

### **3.5 Fish and Wildlife Resources**

The project area includes a wide variety of wildlife including birds, mammals, amphibians, and reptiles. Typical resident bird species found along the canal include great blue heron (*Ardea herodias*), American anhinga (*Anhinga anhinga*), brown pelican (*Pelicanus occidentalis*), fish crow (*Corvus ossifragus*), turkey vulture (*Cathartes aura*) and black vulture (*Coragyps atratus*). Common herpetofauna species found in the project area include American alligator (*Alligator mississippiensis*), banded water snake (*Nerodia fasciata*), cottonmouth (*Agkistrodon piscivorus*), turtles and a variety of frogs.

### **3.6 Essential Fish Habitat**

The resources affected by the proposed project are not under the responsibility of the National Marine Fisheries Service.

### **3.7 Water Quality**

The Industrial Canal primarily functions as a water diversion feature. Water quality in the canal has been influenced by drainage. Turbidity is moderate due to boat traffic.

Waters of Lake Okeechobee have been designated by the state of Florida as Class I Waters, suitable for potable water supplies.

### **3.8 Hazardous, Toxic and Radioactive Waste**

The Hazardous, Toxic or Radioactive Waste (HTRW) preliminary assessment indicated, that in general, no evidence of HTRW exists.

### **3.9 Air Quality**

No significant sources of air quality pollutants are located in the vicinity of the site. Hendry County is in compliance with FDEP air quality standards (FDEP, 2001a).

### **3.10 Noise**

Ambient noise levels in the project area are low to moderate. The major noise producing sources are adjacent residential and marina areas, and the SFOO.

### **3.11 Socioeconomics**

The Industrial Canal primarily functions as a water diversion feature between Lake Okeechobee and the sugarcane fields to the south. The canal also serves as water access to the Okeechobee Waterway for the U.S. Army Corps of Engineers, South Florida Operations Office. Additionally, the canal is important to the business community of Clewiston by providing access for vessels needing to reach marine facilities. Two marinas that operate along the canal provide a point of entry for many visitors and locals using Lake Okeechobee and the Okeechobee Waterway.

### **3.12 Aesthetic Resources**

The Industrial Canal from S-310 south to State Road 27, is located in a developed area, which includes a residential community, marinas, and the SFOO office. The Industrial Canal south of SR 27 is located in an agricultural area.

### **3.13 Recreation Resources**

The Industrial Canal is a point of entry for boaters using Lake Okeechobee. Lake Okeechobee is a recreational resource, which includes a very popular sportfishery.

### **3.14 Navigation**

The canal serves as water access to the Okeechobee Waterway for the U.S. Army Corps of Engineers, South Florida Operations Office. The canal also provides access for commercial and recreational vessels using marina facilities.

### **3.15 Historic Properties**

Historic research indicates that there are no known cultural resources in the proposed project area. Consultation with the Florida State Division of Historical Resources concluded that the likely hood of locating significant cultural resources in the project area is low and no survey is needed.

## 4.0 ENVIRONMENTAL EFFECTS

This section is the scientific and analytic basis for the comparison of the alternatives. The following includes anticipated changes to the existing environment including direct, indirect, and cumulative effects (Additionally, see Table 1, Summary of Direct and Indirect Effects).

### 4.1 Vegetation

#### 4.1.1 *Dredging Alternative*

Significant adverse impacts to aquatic vegetation are not anticipated.

#### 4.1.2 *No Action Alternative*

The no action alternative would have no impacts to vegetation.

#### 4.1.3 *Disposal Areas*

Impacts to vegetation are not anticipated.

### 4.2 Threatened and Endangered Species

#### 4.2.1 *Dredging Alternative*

Consultation with the U.S. Fish and Wildlife Service (FWS) pursuant to Section 7 of the Endangered Species Act, as amended, was initiated by letter dated May 14, 2001. The Corps determined in the letter that the proposed activities would have no effect on listed species and other fish and wildlife resources. As a response to the Public Notice issued on April 13, 2001, the FWS stated that the proposed action is not expected to significantly impact fish and wildlife resources, including endangered and threatened species, under their jurisdiction.

However, since manatees are known to inhabit the open waters of Lake Okeechobee, and could potentially enter the canal through S-310 lock, protective measures would be taken during dredging activities to ensure the safety of manatees. To make the contractor and his personnel aware of the potential presence of this species in the project area, their endangered status, and the need for precautionary measures, the contract specifications would include the typical standard manatee protection clause. No information has been found to indicate a past history of negative impacts to this species as a result of previous dredging and disposal activities in the project area.

#### 4.2.2 *No Action Alternative*

The no action alternative would have no impacts to manatees.

#### 4.2.3 *Disposal Areas*

There would be no affect to threatened and endangered species if either disposal area would be used.

### **4.3 Fish and Wildlife Resources**

#### 4.3.1 *Dredging Alternative*

There would be a short-term disturbance to fish and wildlife utilizing the canal.

#### 4.3.2 *No Action Alternative*

The no action alternative would have no impacts to fish and wildlife resources.

#### 4.1.3 *Disposal Areas*

There would be no impacts to fish and wildlife resources if either disposal area would be used.

### **4.4 Essential Fish Habitat**

There are no known EFH resources located in the project area.

### **4.5 Water Quality**

#### 4.5.1 *Dredging Alternative*

The dredging would cause temporary increases in turbidity. This will be a temporary condition and will not affect the area's water quality.

#### 4.5.2 *No Action Alternative*

The no action alternative would have no direct impact on water quality. However, localized turbidity levels could increase from vessels utilizing the canal at the lower water depth.

## **4.6 Hazardous, Toxic and Radioactive Waste**

### **4.6.1 *Dredging Alternative***

The preliminary assessment indicated that no Hazardous, Toxic, Radioactive Waste (HTRW), or other harmful substances are impacting the project area. However, if contaminants are found during the project activities the site must be remediated. No impacts related to HTRW are expected as a result of this project.

### **4.6.2 *No Action Alternative***

The no action alternative would not create situations to cause potential impacts.

### **4.6.3 *Disposal Areas***

The HTRW review indicated that no contamination exists on the proposed dredge material disposal site.

## **4.7 Air Quality**

No long-term significant impacts would occur from project dredging. Short-term effects to air quality may occur during dredging activities.

## **4.8 Noise**

There would be a temporary increase in the noise level during construction. Construction equipment would be properly maintained in order to minimize the effects of noise.

## **4.9 Socioeconomics**

Dredging of the Industrial Canal would allow full access to Lake Okeechobee and the Okeechobee Waterway for the SFOO. Additionally, the local marina owners would possibly participate in a private dredging project in conjunction with the Federal dredging project. If so, this would improve the local economy by providing adequate navigation depth for commercial and recreational vessels accessing Lake Okeechobee and the Okeechobee Waterway.

#### **4.10 Aesthetic Resources**

Dredging activities would have a temporary adverse effect on aesthetic resources at the disposal site.

#### **4.11 Recreation Resources**

Recreational boaters may benefit if local marina owners participate in a private dredging project in conjunction with the Federal dredging project.

#### **4.12 Navigation**

##### *4.12.1 Dredging Alternative*

Dredging the canal would provide adequate navigation depth for SFOO floating plant and marine equipment.

##### *4.12.2 No Action Alternative*

Navigation would be further impacted due to increased shoaling.

#### **4.13 Historic Properties**

In accordance with Section 106 of the National Historic Preservation Act as implemented by 36CFR800 in consultation with the Florida Historic Preservation Officer (DHR Project File #2001-03639) it has been determined that the Industrial Canal maintenance dredging project would have no effect on historic properties

#### **4.14 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 reasonable foreseeable future actions (40 CFR 1508.7). It is essential that all floating plant have access to Lake Okeechobee and the Okeechobee Waterway for necessary maintenance of the dikes, spillways, and locks.

#### **4.15 Irreversible and Irrecoverable Commitment of Resources**

Dredging and on-going operation and maintenance would require the expense of time and resources, such as labor, energy, and project materials, purchase with Federal funds. Once used, these resources cannot be recovered.

#### **4.16 Unavoidable Adverse Environmental Effects**

No significant adverse impacts would occur with the dredging of the Industrial Canal.

#### **4.17 Environmental Commitments**

The following standard protection measures will be implemented to minimize potential impacts to manatees:

- 1) The contractor will instruct all personnel associated with the construction of the project about the presence of manatees in the area and the need to avoid collisions with manatees. All construction personnel shall be responsible for observing water-related activities for the presence of manatees and shall implement appropriate precautions to ensure the protection of manatees.
- 2) All construction personnel shall be advised that there are civil and criminal penalties for harming, harassing or killing manatees, which are protected under the Marine Mammals Protection Act of 1972, the Endangered Species Act of 1973, and the Florida Sanctuary Act. The contractor shall be held responsible for any manatee harmed, harassed, or killed as a result of the construction of the project.
- 3) Prior to commencement of construction, the construction contractor shall construct and install at least two temporary signs concerning manatees. These signs shall read "Caution: Manatee Habitat. Idle Speed is Required if Operating a Vessel in the Construction Area" and "Caution: Manatee Habitat. Equipment Must be Shutdown Immediately if a Manatee Comes Within 50 Feet of Operation.
- 4) All vessels associated with the project will be required to operate at "no wake" speeds at all times while in waters where the draft of the vessel provides less than four feet of clearance from the bottom. All vessels shall follow routes of deep water whenever possible.
- 5) If a manatee is sighted within a hundred yards of the construction area, appropriate safeguards will be taken, including suspension of construction activities, if necessary, to avoid injury to manatees.
- 6) The contractor shall maintain a log detailing sightings, collisions, or injuries to manatees should they occur during the contract period.

## **4.18 Compliance with Environmental Requirements**

### **4.18.1 NATIONAL ENVIRONMENTAL POLICY ACT**

Environmental information on the project has been compiled and an Environmental Assessment, dated July 2001, has been prepared. The project is in compliance with the National Environmental Policy Act.

### **4.18.2 ENDANGERED SPECIES ACT OF 1973**

Consultation was initiated with NMFS on April 13, 2001 and completed on May 11, 2001. Consultation was initiated with USFWS on May 14, 2001 by separate letter. However, the USFWS responded to the Public Notice on May 8, 2001. This project was fully coordinated under the Endangered Species Act and is therefore, in full compliance with the Act.

### **4.18.3 FISH AND WILDLIFE COORDINATION ACT OF 1958**

This project has been coordinated with the USFWS. The project is in full compliance with the Act.

### **4.18.4 NATIONAL HISTORIC PRESERVATION ACT OF 1966 (INTER ALIA) (PL 89-665, the Archeology and Historic Preservation Act (PL 93-291), and executive order 11593)**

Archival research and consultation with the Florida State Historic Preservation Officer (SHPO), have been conducted in accordance with the National Historic Preservation Act, as amended; the Archeological and Historic Preservation Act, as amended and Executive Order 11593. SHPO consultation was initiated April 30, 2001. In a June 4, 2001 response the SHPO indicated that there are no identified historic properties in the area of potential effect and issued an opinion that the project will have no effect on historic properties. The project will not affect historic properties included in or eligible for inclusion in the National Register of Historic places. The project is in full compliance with each of these Federal laws.

### **4.18.5 CLEAN WATER ACT OF 1972**

The project is in compliance with this ACT. The Florida Department of Environmental Protection has reviewed the proposed maintenance dredging of the Industrial Canal and determined that the project qualifies for an exemption, pursuant to Rule 40E-4.051(2)(a), Florida Administrative Code. This project is waived water quality certification under Public Law 92-500 and has been found to be in concurrence with Florida's Coastal Zone Management Program (see letter dated May 15, 2001 in Appendix C).

### **4.18.6 CLEAN AIR ACT of 1972**

No air quality permits would be required for this project.

**4.18.7 COASTAL ZONE MANAGEMENT ACT OF 1972**

This project is waived water quality certification under Public Law 92-500 and has been found to be in concurrence with Florida's Coastal Zone Management Program (see letter dated May 15, 2001 in Appendix C).

**4.18.8 FARMLAND PROTECTION POLICY ACT OF 1981**

No prime or unique farmland would be impacted by implementation of this project. This act is not applicable.

**4.18.9 WILD AND SCENIC RIVER ACT OF 1968**

No designated Wild and Scenic river reaches would be affected by project related activities. This act is not applicable.

**4.18.10 MARINE MAMMAL PROTECTION ACT OF 1972**

Incorporation of the safe guards used to protect threatened or endangered species during dredging and disposal operations would also protect any marine mammals in the area, therefore, this project is in compliance with the act.

**4.18.11 ESTUARY PROTECTION ACT OF 1968**

No designated estuary would be affected by this project. This act is not applicable.

**4.18.12 FEDERAL WATER PROJECT RECREATION ACT**

The principles of the Federal Water Project Recreation Act, (Public Law 89-72) does not apply to this project.

**4.18.13 FISHERY CONSERVATION AND MANAGEMENT ACT OF 1976**

The project has been coordinated with the National Marine Fisheries Service (NMFS) and is in compliance with the act.

**4.18.14 SUBMERGED LAND ACT OF 1953**

This project would not occur on submerged lands, therefore this act is not applicable.

**4.18.15 COASTAL BARRIER RESOURCES ACT AND COASTAL BARRIER IMPROVEMENT ACT OF 1990**

There are no designated coastal barrier resources in the project area. These acts are not applicable.

**4.18.16 RIVERS AND HARBORS ACT OF 1899**

The proposed work would not obstruct navigable waters of the United States. The project is in full compliance.

#### 4.18.17 ANADROMOUS FISH CONSERVATION ACT

Anadromous fish species would not be affected. The project has been coordinated with the National Marine Fisheries Service and is in full compliance with the Act.

#### 4.18.18 MIGRATORY BIRD TREATY ACT AND MIGRATORY BIRD CONSERVATION ACT

No migratory birds would be adversely affected by project activities. The project is in compliance with these acts.

#### 4.18.19 MARINE PROTECTION, RESEARCH AND SANCTUARIES ACT

This project does not involve any ocean dumping. Therefore, the Marine Protection, Research and Sanctuaries Act does not apply to this project.

#### 4.18.20 MAGNUSON-STEVENSON FISHERIES MANAGEMENT AND CONSERVATION ACT (PL 94-265)

This project has been fully coordinated with the National Marine Fisheries Service. The resources affected by the project are not ones for which the NMFS is responsible.

#### 4.18.21 E.O. 11990, PROTECTION OF WETLANDS

No wetlands would be affected by project activities. The project is in compliance with the goals of this Executive Order.

#### 4.18.22 E.O. 11988, FLOOD PLAIN MANAGEMENT

The project is in the base flood plain (100-year flood) and has been evaluated in accordance with this Executive Order. The project is in compliance with this E.O.

#### 4.18.23 E.O. 12898, ENVIRONMENTAL JUSTICE

The proposed action would not result in adverse human health or environmental effects. Any impact of the action would not be disproportionate towards any minority or low-income population. The activity does not (a) exclude persons from participation in, (b) deny persons the benefit of, or (c) subject persons to discrimination because of their race, color, or national origin. The activity would not impact "subsistence consumption of fish and wildlife".

#### 4.18.24 E.O. 13089, CORAL REEF PROTECTION

No coral reef organisms would be affected by this project.

## 5.0 LIST OF PREPARERS

### 5.1 Preparers

| preparers         | Discipline             | Role                |
|-------------------|------------------------|---------------------|
| Yvonne Haberer    | Biologist              | Principal Author    |
| Brian Brodehl     | Engineer               | Engineering         |
| Grady Caulk       | Archaeologist          | Historic Properties |
| Peter Besrutschko | Environmental Engineer | HTRW                |

### 5.2 Reviewers

This Environmental Assessment was reviewed by Kenneth Dugger, Chief, Environmental Branch, Gulf Coast Section.

## 6.0 PUBLIC INVOLVEMENT

### 6.1 Scoping

Federal, State and local agencies were consulted prior to preparation of this EA. A public notice (PN-CO-IC-251) dated April 13, 2001, was issued for the project (Appendix A). Notices were mailed to appropriate local, state, and Federal agencies as well as environmental groups.

### 6.2 Comments Received

Comments received as a result of the Public Notice were from the following:

1. National Marine Fisheries Service (NMFS). The NMFS reviewed the project plans and determined that no resources under their jurisdiction would be affected by the project.
2. U.S. Fish and Wildlife Service (USFWS). The USFWS reviewed the project plans and determined that the proposed action is not expected to significantly impact fish and wildlife resources under their jurisdiction.
3. Southwest Florida Regional Planning Council (SWFRPC). The SWFRPC determined that the proposed activities are "Regionally Significant and Consistent" with the adopted Southwest Florida Strategic Regional Policy Plan. The determination of "Regional Significance" is based upon the importance of the Industrial Canal to the Clewiston area, and upon the potential for the endangered West Indian manatee to occur in the canal. The staff "Consistency" finding is based upon a recommendation that standard

April 13, 2001

Construction-Operations Division  
Public Notice NO. PN-CO-IC-251

## **PUBLIC NOTICE**

TO WHOM IT MAY CONCERN: The District Engineer, Jacksonville District, U.S. Army Corps of Engineers, is in the process of submitting a request for water quality certification to the State of Florida, Department of Environmental Protection. This Federal project is being evaluated and coordinated pursuant to 33 CFR 335 through 338.

Comments regarding the project should be submitted either in writing or e-mail to the District Engineer at the above address within 30 days from the date of this notice. Any person who has an interest, which may be affected by the construction of this project may request a public hearing. The request must be submitted in writing to the District Engineer within 30 days of the date of this notice and must clearly set forth the interest, which may be affected and the manner in which the interest may be affected by this activity.

If you have any questions concerning this application, you may contact Mr. Brian Brodehl of this office, telephone 904-232-3600; or E-mail: [brian.k.brodehl@saj02.usace.army.mil](mailto:brian.k.brodehl@saj02.usace.army.mil)

WATERWAY & LOCATION: Industrial Canal, South Florida Operations Office (SFOO), Clewiston, Florida

WORK & PURPOSE: The proposed work consists performing urgent maintenance dredging of approximately 700 feet the Industrial Canal between Lock S-310 to the turning basin. The estimated 15,000 cubic yards of dredged material will be placed adjacent to the canal on Army Corps of Engineers property. The canal will be excavated to a depth of -8 feet mean lake level. Mean lake level is recorded at +12.56 NGVD.

The purpose of the maintenance dredging is to obtain adequate navigation depth for the SFOO floating plant and marine equipment. Decreased water elevation in Lake Okeechobee in combination with normal shoaling has restricted the navigable depth in the Industrial Canal. It is essential that all floating plant have access to Lake Okeechobee for necessary maintenance of the dikes, spillways, and locks.

PROJECT AUTHORIZATION: The work is being performed under the authorization of the Central and Southern Florida Flood Control Project.

APPLICABLE LAWS: The following laws are, or may be, applicable to the review of the proposed disposal sites and to the activities affiliated with this Federal project:

1. Section 404 of the Clean Water Act of 1977 (PL 95-217) (33 U.S.C. 1344).
2. Section 302 of the Marine Protection, Research, and Sanctuaries Act of 1972 (PL 92-532, 86 Stat. 1052).
3. The National Environmental Policy Act of 1969 (PL 91-190) (42 U.S.C. 4321-4347).
4. The Fish and Wildlife Act of 1956 (16 U.S.C. 472a et seq).
5. The Migratory Marine Game-Fish Act of 1959 (16 U.S.C. 760c-760g).
6. The Fish and Wildlife Coordination Act of 1958 (16 U.S.C. 661-666c).
7. The Endangered Species Act of 1973 (PL 93-205) (16 U.S.C. 668aa-668cc-6, 87 Stat. 884).
8. The National Historic Preservation Act of 1966 (16 U.S.C. 470, 80 Stat. 915).
9. Section 313 of the Clean Water Act of 1977 (33 U.S.C. 1323, 85 Stat. 816).

EVALUATION FACTORS: All factors which may be relevant to the proposal will be considered including the cumulative effects thereof. Among these are conservation, economics, aesthetics, general environmental concerns, wetlands, historic resources, fish and wildlife values, flood hazards, floodplain values, land use, navigation, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production, mineral needs, consideration of property ownership and, in general, the needs and welfare are of the people.