

Draft Programmatic Environmental Assessment

**LOW-IMPACT ALTERATIONS TO USACE
FEDERALLY AUTHORIZED CIVIL WORKS
PROJECTS CONDUCTED BY NON-
FEDERAL SPONSORS OR INDEPENDENT
REQUESTORS**

***IN ACCORDANCE WITH SECTION 14 OF
THE RIVERS AND HARBORS ACT OF 1899
(CODIFIED AT 33 U.S.C. § 408 [“SECTION
408”])***



**U.S. Army USACE
of Engineers
JACKSONVILLE
DISTRICT**

**DRAFT PROGRAMMATIC ENVIRONMENTAL ASSESSMENT
ON
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TABLE OF CONTENTS

TABLE OF CONTENTS..... i

1 PROJECT PURPOSE AND NEED 2

 1.1 INTRODUCTION..... 2

 1.2 AUTHORITY..... 2

 1.3 LOCATION..... 3

 1.4 PROJECT NEED OR OPPORTUNITY..... 3

 1.5 RELATED DOCUMENTS. 4

 1.6 DECISIONS TO BE MADE. 4

 1.7 SCOPING AND ISSUES..... 4

 1.7.1 ISSUES EVALUATED..... 4

 1.7.2 ISSUES ELIMINATED FROM FURTHER ANALYSIS..... 4

 1.8 FEDERAL LAWS, STATE STATUES, PERMITS, LICENSES, AND ENTITLEMENTS. 5

2 ALTERNATIVES..... 6

 2.1.1 NO-ACTION ALTERNATIVE (STATUS QUO)..... 6

 2.1.2 ALTERNATIVE A: APPROVE LOW-IMPACT SECTION 408 REQUESTS 6

 2.2 ISSUES AND BASIS FOR CHOICE 8

 2.3 PREFERRED ALTERNATIVE 9

3 AFFECTED ENVIRONMENT 12

 3.1 GENERAL ENVIRONMENTAL SETTING12

 3.2 VEGETATION12

 3.3 THREATENED AND ENDANGERED SPECIES12

3.4	MIGRATORY BIRDS	13
3.5	OTHER FISH AND WILDLIFE RESOURCES	13
3.6	ESSENTIAL FISH HABITAT	13
3.7	WATER QUALITY	13
3.8	WETLANDS	14
3.9	AIR QUALITY	14
3.10	NOISE	14
3.11	AESTHETIC RESOURCES	14
3.12	RECREATION RESOURCES	14
3.13	CULTURAL, HISTORIC AND ARCHAEOLOGICAL PROPERTIES	15
3.14	NATIVE AMERICANS	15
3.15	SOCIO-ECONOMICS	15
4	ENVIRONMENTAL EFFECTS	16
4.1	GENERAL ENVIRONMENTAL EFFECTS	16
4.1.2	NO ACTION ALTERNATIVE (STATUS QUO).....	16
4.2	VEGETATION	16
4.2.1	PROPOSED ACTION, APPROVE LOW-IMPACT SECTION 408 REQUESTS, ALTERNATIVE A	16
4.2.2	NO ACTION ALTERNATIVE (STATUS QUO).....	16
4.3	THREATENED AND ENDANGERED SPECIES	17
4.3.1	PROPOSED ACTION, APPROVE LOW-IMPACT SECTION 408 REQUESTS, ALTERNATIVE A	17
4.3.1.1	WEST INDIAN AND ANTILLEAN MANATEE	17
4.3.1.2	FLORIDA BONNETED BAT	17
4.3.1.3	WOOD STORK	17
4.3.1.4	EASTERN INDIGO SNAKE	18
4.3.1.5	PUERTO RICAN BOA	18
4.3.1.6	EVERGLADE SNAIL KITE, AUDUBON'S CRESTED CARACARA, YELLOW-SHOULDERED BLACKBIRD, AND GOPHER TORTOISE.....	18
4.3.2	NO ACTION ALTERNATIVE (STATUS QUO).....	18
4.4	FISH AND WILDLIFE RESOURCES	18
4.4.1	PROPOSED ACTION, APPROVE LOW-IMPACT SECTION 408 REQUESTS, ALTERNATIVE A	18
4.4.1	NO ACTION ALTERNATIVE (STATUS QUO).....	19
4.5	ESSENTIAL FISH HABITAT ASSESSMENT	19
4.5.1	PROPOSED ACTION, APPROVE LOW-IMPACT SECTION 408 REQUESTS, ALTERNATIVE A	19
4.5.2	NO ACTION ALTERNATIVE (STATUS QUO).....	19
4.6	WATER QUALITY	19
4.6.1	PROPOSED ACTION, APPROVE LOW-IMPACT SECTION 408 REQUESTS, ALTERNATIVE A	19
4.6.2	NO ACTION ALTERNATIVE (STATUS QUO).....	20
4.7	WETLANDS	20
4.7.1	PROPOSED ACTION, APPROVE LOW-IMPACT SECTION 408 REQUESTS, ALTERNATIVE A	20

4.7.2	NO ACTION ALTERNATIVE (STATUS QUO).....	20
4.8	AIR QUALITY.....	20
4.8.1	PROPOSED ACTION, APPROVE LOW-IMPACT SECTION 408 REQUESTS, ALTERNATIVE A	20
4.8.2	NO ACTION ALTERNATIVE (STATUS QUO).....	20
4.9	NOISE.....	20
4.9.1	PROPOSED ACTION, APPROVE LOW-IMPACT SECTION 408 REQUESTS, ALTERNATIVE A	20
4.9.2	NO ACTION ALTERNATIVE (STATUS QUO).....	21
4.10	AESTHETIC RESOURCES.....	21
4.10.1	PROPOSED ACTION, APPROVE LOW-IMPACT SECTION 408 REQUESTS, ALTERNATIVE A	21
4.10.2	NO ACTION ALTERNATIVE (STATUS QUO).....	21
4.11	RECREATION RESOURCES.....	21
4.11.1	PROPOSED ACTION, APPROVE LOW-IMPACT SECTION 408 REQUESTS, ALTERNATIVE A	21
4.11.2	NO ACTION ALTERNATIVE (STATUS QUO).....	21
4.12	CULTURAL, HISTORIC AND ARCHAEOLOGICAL PROPERTIES.....	21
4.12.1	PROPOSED ACTION, APPROVE LOW-IMPACT SECTION 408 REQUESTS, ALTERNATIVE A	21
4.12.2	NO ACTION ALTERNATIVE (STATUS QUO).....	22
4.13	NATIVE AMERICANS.....	22
NATIVE AMERICANS.....		22
4.13.1	PROPOSED ACTION, APPROVE LOW-IMPACT SECTION 408 REQUESTS, ALTERNATIVE A	22
4.13.2	NO ACTION ALTERNATIVE (STATUS QUO).....	22
4.14	SOCIO-ECONOMIC.....	22
4.14.1	PROPOSED ACTION, APPROVE LOW-IMPACT SECTION 408 REQUESTS, ALTERNATIVE A	22
4.14.2	NO ACTION ALTERNATIVE (STATUS QUO).....	22
4.15	CUMULATIVE IMPACTS.....	23
5	LIST OF PREPARERS	29
5.1	PREPARERS	29
5.2	REVIEWERS	29
6	PUBLIC INVOLVEMENT	30
6.1	SCOPING	30
6.2	AGENCY COORDINATION	30
6.3	COMMENTS RECEIVED AND RESPONSE	30
APPENDIX A SUMMARIES OF CURRENT SECTION 408 REQUESTS.....		34
APPENDIX B – COASTAL ZONE MANAGEMENT CONSISTENCY PERTINENT		50
APPENDIX C – PERTINENT CORRESPONDENCE.....		55

APPENDIX D – USFWS EFFECT DETERMINATION KEYS 56

LIST OF TABLES

Table 1 Summary of Environmental Effects Considered.....9

Table 2 Threatened and Endangered Species.....12

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1 PROJECT PURPOSE AND NEED

1.1 INTRODUCTION.

The U.S. Army Corps of Engineers (USACE), Jacksonville District and its associated non-Federal sponsors have constructed Federally authorized Civil Works projects across the Civil Works jurisdiction of the District, which includes peninsular Florida and Puerto Rico. Typically, these projects encompass large areas and serve various purposes such as flood risk management, coastal storm damage risk reduction, navigation, environmental restoration, as well as providing fish and wildlife habitat. Many are operated and maintained by the non-Federal sponsors; however, the USACE is responsible for ensuring that the integrity and primary functions of these projects are maintained at all times. Requests by non-Federal sponsors or independent entities (i.e. private, public, tribal, or other Federal entities) to make alterations to, or temporarily or permanently occupy or use, any USACE Federally authorized Civil Works project (Civil Works project) must be processed in accordance with Section 14 of the Rivers and Harbors Act of 1899 (Mar. 3, 1899, 30 Stat. 1152) (codified at 33 U.S.C. § 408) (commonly referred to as “Section 408”).

1.2 AUTHORITY.

The authority to grant permission for temporary or permanent alterations to Civil Works projects is contained in Section 408, which is titled *Taking possession of, use of, or injury to harbor or river improvements*, and states the following:

“It shall not be lawful for any person or persons to take possession of or make use of for any purpose, or build upon, alter, deface, destroy, move, injure, obstruct by fastening vessels thereto or otherwise, or in any manner whatever impair the usefulness of any sea wall, bulkhead, jetty, dike, levee, wharf, pier, or other work built by the United States, or any piece of plant, floating or otherwise, used in the construction of such work under the control of the United States, in

whole or in part, for the preservation and improvement of any of its navigable waters or to prevent floods, or as boundary marks, tide gauges, surveying stations, buoys, or other established marks, nor remove for ballast or other purposes any stone or other material composing such works: Provided, That the Secretary of the Army may, on the recommendation of the Chief of Engineers, grant permission for the temporary occupation or use of any of the aforementioned public works when in his judgment such occupation or use will not be injurious to the public interest: Provided further, That the Secretary may, on the recommendation of the Chief of Engineers, grant permission for the alteration or permanent occupation or use of any of the aforementioned public works when in the judgment of the Secretary such occupation or use will not be injurious to the public interest and will not impair the usefulness of such work.”

Many proposed alterations to Civil Works projects require a USACE regulatory permit in compliance with Section 10 of the Rivers and Harbors Act (33 USC § 403) and/or Section 404 of the Clean Water Act (33 USC § 1344) (Section 404/10). However, some proposed alterations do not require a Section 404/10 permit, but must still be reviewed, a decision documented, and approved by the USACE in accordance with the National Environmental Policy Act and Section 408. All requests to alter a Civil Works project must be sent to the USACE, and the USACE will determine whether a Section 404/10 permit is required and whether the proposed alteration shall be approved pursuant to Section 408. The Jacksonville District Commander has the authority to approve certain low-impact Section 408 requests in accordance with the delegation of authority contained in Engineer Circular (EC) 1165-2-216, *Policy and Procedural Guidance for Processing Requests to Alter U.S. Army Corps of Engineers Civil Works Projects Pursuant to 33 USC 408* (Change 1, 30 Sep 2015). All other proposed alterations must be reviewed by the USACE Director of Civil Works in Washington, D.C.

1.3 LOCATION.

This assessment applies to proposed modifications to Civil Works projects within the jurisdiction of the Jacksonville District, including peninsular Florida and Puerto Rico.

1.4 PROJECT NEED OR OPPORTUNITY.

There are numerous proposed alterations being planned by non-Federal sponsors and independent requestors that would modify Civil Works projects. The types of alterations proposed are primarily roadways, utility lines (including gas, water, and power), bridge expansions, culvert or well installation, docks, light poles, structures (including buildings and kiosks), signs, and towers but could also include other proposed low-impact alterations subject to Section 408. These projects are needed in order to develop local infrastructure and provide basic services to stakeholders.

1.5 RELATED DOCUMENTS.

Related documents include EC 1165-2-216. Additional documents for Civil Works projects can be viewed at the following website:

<http://www.saj.usace.army.mil/About/DivisionsOffices/Planning/EnvironmentalBranch/EnvironmentalDocuments.aspx>

1.6 DECISIONS TO BE MADE.

In order to expedite the Federal review and approval process, the USACE has prepared this Programmatic Environmental Assessment (PEA) to address National Environmental Policy Act compliance for low-impact Section 408 requests that do not require a USACE Section 404/10 regulatory permit, but are still subject to the Jacksonville District Commander's approval authority. Though this document addresses environmental effects for these requests, it does not circumvent the USACE Jacksonville District review process to determine whether a proposed alteration is subject to approval.

This PEA identifies proposed known and future alterations that USACE has determined to be low-impact that are or may be planned by non-Federal sponsors or other independent requestors. It also assesses the direct and cumulative impacts from these proposed actions on the human environment. A PEA assesses the overall environmental effects of Federal programs that involve multiple individual projects, a large geographical area, or a chain of proposed projects. Because the proposed action covers a large geographic area and includes multiple proposed alterations and potential future alterations of Civil Works projects across the Jacksonville District, a PEA is appropriate.

1.7 SCOPING AND ISSUES.

1.7.1 ISSUES EVALUATED.

The following issues were identified to be relevant to the proposed known or future alterations: (1) vegetation; (2) threatened and endangered species; (3) migratory birds; (4) other fish and wildlife resources; (5) Essential Fish Habitat; (6) water quality; (7) wetlands; (8) air quality; (9) noise; (10) recreation; (11) aesthetics; (12) cultural, historic and archaeological resources; (13) Native Americans; (14) socio-economics.

1.7.2 ISSUES ELIMINATED FROM FURTHER ANALYSIS.

All Section 408 requests covered under this PEA would result in alterations with small footprints. The majority of requests would also occur within the boundaries of Civil Works projects that have been altered for the project purpose; however, some requests may be located outside the project's footprint but would still result in an alteration to the project. This PEA does not cover Section 408 requests that require approval by the USACE Director of Civil Works in Washington, D.C. Typically alterations would occur

within disturbed areas such as levees, canals, impoundments, etc. The following issues were determined to have been appropriately addressed by other NEPA documents, and therefore eliminated from further analysis: (1) physical conditions; (2) hazardous, toxic, and radioactive waste; (3) scientific resources; (4) solid waste; (5) drinking water; (6) urban quality; (7) energy requirements and conservation; (8) natural or depletable resources; (9) re-use and conservation potential.

1.8 FEDERAL LAWS, STATE STATUES, PERMITS, LICENSES, AND ENTITLEMENTS.

The State of Florida and the Commonwealth of Puerto Rico typically issue permits for proposed actions subject to Section 408 review. The USACE approval of Section 408 requests is also subject to the requirements of a number of laws including, but not limited to, the National Environmental Policy Act; the Endangered Species Act; the Marine Mammal Protection Act; Sections 401, 402, and 404 of the Clean Water Act; Sections 9 or 10 of the Rivers and Harbors Act of 1899; the Coastal Zone Management Act; the Coastal Barrier Resources Act; the Wild and Scenic Rivers Act; and the National Historic Preservation Act (and related laws).

2 ALTERNATIVES

The Alternatives Section is perhaps the most important component of this PEA. This section describes the no-action alternative and the proposed action. The beneficial and adverse environmental effects of the alternatives are presented in comparative form, providing a clear basis for choice for the decision maker and the public. A preferred alternative was selected based on the information and analysis presented in the sections on the Affected Environment and Probable Impacts.

2.1 DESCRIPTION OF ALTERNATIVES.

2.1.1 NO-ACTION ALTERNATIVE (STATUS QUO)

Under the “No Action” alternative, the USACE would not approve the proposed low-impact alterations of Civil Works projects located within the jurisdiction of the Jacksonville District. This would result in the alteration not being constructed or would require the alteration to be located outside of the project boundaries.

2.1.2 ALTERNATIVE A: APPROVE LOW-IMPACT SECTION 408 REQUESTS

This PEA addresses only those low-impact Section 408 requests within the Jacksonville District Civil Works jurisdiction for which District-level approval is authorized. Additionally, this PEA does not address Section 408 requests that are also subject to Regulatory review under Section 10 of the Rivers and Harbors Act of 1899 or Section 404 of the Clean Water Act (Public Law 92-500), 33 U.S.C. § 1344, as amended. Section 408 requests considered under this PEA include twenty one (21) currently known low-impact Section 408 requests that have already been proposed (listed below; refer to Appendix A for a summary of each request) and future actions anticipated to have similar effects (acceptance criteria listed below). Under Alternative A, the USACE would approve proposed alterations of Civil Works projects that are within the scope of this PEA.

CURRENTLY KNOWN LOW-IMPACT SECTION 408 REQUESTS

Requests made by South Florida Water Management District (SFWMD), or other entities through SFWMD:

1. Aventura Isles Irrigation System and Monitoring Wells on C-9 Canal
2. C-4 Canal Bank Improvements, Palmetto Phase Section 1
3. Florida City Gas Subaqueous Crossing of L-8
4. All Aboard Florida Bridge Expansion and Subaqueous Crossing of C-17
5. Miami Dade County Monitoring Wells on C-8
6. Shahr Turgeman Drainage Outfall into C-15 Canal
7. City of Miramar Subaqueous Crossing of C-9

8. City of Sunrise Water Conservation Area Monitoring Wells
9. Canal Point Pedestrian Bridge over L-10
10. S-39A Structure Replacement
11. Crown Castle Subaqueous Crossing of C-1W
12. Village Royale Bridge and Outfall on C-51 Canal
13. Uniform Waterway Marker Signs on C-31 Canal
14. Miami-Dade County Subaqueous Crossing of C-102
15. Miccosukee Tribe Airboat Concession on L-29
16. Florida Power & Light Pole Replacement on L-20E
17. U.S. Fish & Wildlife Service Fee Booth on L-39
18. Palm Beach County Shooting Sports Park Drainage Outfall into C-18
19. S-12 Tower Relocation Section 408 Request
20. Florida Turnpike Subaqueous Crossing of C-100 Canal

Requests made by St. Johns River Water Management District (SJRWMD), or other entities through SJRWMD:

1. L-74 East Slope Modifications

FUTURE LOW-IMPACT SECTION 408 REQUESTS

Future “low-impact” Section 408 requests adhering to the following criteria and including, but not limited to, the general categories listed below would also be covered by this PEA:

Criteria

- Temporary wetland or upland vegetative impacts, or restoration of impacted vegetation.
- No adverse impacts to functions or values of Federal mitigation areas.
- Impacts to waters of the United States would have to meet the requirements of a Nationwide Permit. More information on Nationwide Permits can be found at the following link:
<http://www.usace.army.mil/Missions/CivilWorks/RegulatoryProgramandPermits/NationwidePermits.aspx>
- No significant impacts to threatened or endangered species to ensure Endangered Species Act (ESA) compliance.
- No significant impacts to cultural resources.

General Categories*

- Bridge Alteration or Installation (vehicular or pedestrian)
- Canal Bank Improvements
- Culvert Removal or Replacement
- Drainage Outfall Installation

- Drainage Pump Station installation
- Flood Protection Berm
- Irrigation System Installation
- Levee Modifications
- Monitoring Well Installation
- Navigation Marker Installation
- Radio Tower Relocation
- Structure Alteration or Installation (i.e. building, collection booth, concession stand, kiosk, chickee [Seminole or Miccosukee for house], etc.)
- Subaqueous Crossing Installation (i.e. utility lines under canals, etc.)
- Utility Pole Replacement

***General categories do not include changes to water control plans in south Florida.**

If the proposed low-impact Section 408 request does not meet the above criteria, or implicates issues eliminated from analysis in this PEA as identified above in Section 1.7.2., then a standalone or supplemental EA or EIS would be required.

2.2 ISSUES AND BASIS FOR CHOICE

Selecting the No-Action Alternative may result in the proposed action being located outside the Civil Works project boundaries. This may be physically possible; however, it is not normally practical due to the fact that the majority of the Civil Works projects bisect large areas within increasingly crowded urban footprints, adding additional costs, potential for reduced operational function of the proposed individual actions, and potential property relocations. If the alteration was located outside of the boundaries of a Civil Works project, then Section 408 would not apply and no NEPA documentation would be necessary. However, it may require other Federal actions such as compliance with Section 404 of the Clean Water Act. Under the No Action alternative, there would be no significant impacts to the environment of the Civil Works project.

Alternative A would approve low-impact Section 408 requests after the USACE has determined that the alterations would not adversely affect the function or alter the purpose of the Civil Works project. The proposed alterations would enhance, and in some cases significantly improve water management options, recreation, public safety, and/or socio-economic development. In addition, the USACE has determined that these requests would not have a significant adverse environmental impact. If the USACE determines that future requests would result in significant impacts and the alteration is necessary, then the request would fall outside the scope of this PEA and a separate or supplemental NEPA document would be required.

2.3 PREFERRED ALTERNATIVE

Alternative A, approving low-impact Section 408 requests, is the preferred alternative or proposed action.

2.4 SUMMARY OF ENVIRONMENTAL EFFECTS.

Table 1 summarizes the effects of the low-impact Section 408 requests. Additional information can be found in Chapters 3 and 4 of this document.

Table 1. Summary of Effects

ALTERNATIVE ENVIRONMENTAL FACTOR	ALTERNATIVE A: APPROVE LOW-IMPACT SECTION 408 REQUESTS (PROPOSED ACTION)	NO-ACTION ALTERNATIVE (STATUS QUO)
VEGETATION	Effects would be temporary and minor. Disturbed vegetation should recover in one to two growing seasons. Restoration (planting) may be necessary in some cases.	No effect would occur within the boundaries of the Civil Works project. However, effects may still occur if the action is performed outside the boundaries of the project.
THREATENED AND ENDANGERED SPECIES (T&E species)	Some alterations may affect, but are not likely to adversely affect T&E species. Potential temporary and minor disturbances may occur. Where appropriate, protection measures would be implemented.	No effect would occur within the boundaries of the Civil Works project. However, effects may still occur if the action is performed outside the boundaries of the project.
MIGRATORY BIRDS	Effects would be temporary and minor, or no effect. Where appropriate, protection measures would be implemented.	No effect would occur within the boundaries of the Civil Works project. However, effects may still occur if the action is performed outside the boundaries of the project.
OTHER FISH AND WILDLIFE RESOURCES	Effects would be temporary and minor, or no effect.	No effect would occur within the boundaries of the Civil Works project. However, effects may still occur if the action is performed outside the boundaries of the project.
ESSENTIAL FISH HABITAT (EFH)	Effects would be temporary and minor, or no effect.	No effect would occur within the boundaries of the Civil Works project. However, effects may still occur if the action is performed outside the boundaries of the project.

ALTERNATIVE ENVIRONMENTAL FACTOR	ALTERNATIVE A: APPROVE LOW-IMPACT SECTION 408 REQUESTS (PROPOSED ACTION)	NO-ACTION ALTERNATIVE (STATUS QUO)
WATER QUALITY	Effects would be temporary and minor, or no effect. Work would comply with State water quality criteria. Section 408 requests for the installation of monitoring wells or water control structures would provide data and improved water management options.	Section 408 requests for monitoring wells or water control structures would not be approved and would result in the loss of water quality data and improved water management options.
WETLANDS	Effects would be temporary and minor, or no effect.	No effect would occur within the boundaries of the Civil Works project. However, effects may still occur if the action is performed outside the boundaries of the project.
AIR QUALITY	Effects would be temporary and minor and would be restricted to construction operations.	No effect would occur within the boundaries of the Civil Works project. However, effects may still occur if the action is performed outside the boundaries of the project.
NOISE	Noise generated by construction activities would be temporary and minor.	No effect would occur within the boundaries of the Civil Works project. However, effects may still occur if the action is performed outside the boundaries of the project.
RECREATION	Temporary disruption may occur in the immediate construction area. Section 408 requests for additional boat access, information and payment kiosks, bike paths, and signage would improve recreational opportunities or management.	Section 408 requests for additional boat access, information and payment kiosks, and signage would not be approved. This would result in the loss of additional recreational opportunities or management.
AESTHETICS	Minor effect or no effect.	No effect would occur within the boundaries of the Civil Works project. However, effects may still occur if the action is performed outside the boundaries of the project.
CULTURAL, HISTORIC AND ARCHEOLOGICAL RESOURCES	No adverse effects to Historic Properties are anticipated.	No effect would occur as the resource would remain in place and subject to protective measures. No effect would occur as no changes to the resource would occur.

ALTERNATIVE ENVIRONMENTAL FACTOR	ALTERNATIVE A: APPROVE LOW-IMPACT SECTION 408 REQUESTS (PROPOSED ACTION)	NO-ACTION ALTERNATIVE (STATUS QUO)
NATIVE AMERICANS	No effects to lands belonging to Native Americans and no tribal concerns.	No effect.
SOCIO-ECONOMICS	Section 408 requests for utility line installation, road construction, and bridge expansion may improve local economies and services.	Section 408 requests for utility line installation, road construction, and bridge expansion would not be approved and local economies and services would not benefit.

3 AFFECTED ENVIRONMENT

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

3.1 GENERAL ENVIRONMENTAL SETTING

The majority of Section 408 requests are located within the footprint of Civil Works projects; however, some requests may be located outside the project's footprint but would still result in an alteration to the project. These are diverse projects of varying purposes with many components. They provide flood reduction, ecosystem restoration, navigation, coastal storm damage reduction, and protection of fish and wildlife resources, among others. Project components typically include levees, canals, navigation channels, dredged material management areas, ecosystem restoration features, and water control structures. The requests are primarily associated with levees, canals, water control structures, impoundments, and other man-made structures within the footprint of Civil Works projects. These structures may be adjacent to impounded or naturally occurring wetlands, as well as various upland habitats.

3.2 VEGETATION

Vegetation within the footprint of most Section 408 requests would typically consist of planted grasses. However, some requests may require working within aquatic or other terrestrial environments where natural plant communities may occur (i.e. hydrophytic vegetation [rushes and sedges, sawgrass, pickerel weed, cattails, etc.] and upland forested communities).

3.3 THREATENED AND ENDANGERED SPECIES

Threatened and endangered species that may occur within likely locations of Section 408 requests are listed in Table 2.

Table 2. Threatened and Endangered Species

Common Name	Scientific Name	Listing Status
South and Central Florida		
West Indian manatee*	<i>Trichechus manatus</i>	Endangered
Florida bonneted bat	<i>Eumops floridanus</i>	Endangered
Everglade snail kite*	<i>Rostrhamus sociabilis plumbeus</i>	Endangered

Common Name	Scientific Name	Listing Status
Audubon's crested caracara	<i>Polyborus plancus audubonii</i>	Threatened
Wood stork	<i>Mycteria americana</i>	Threatened
Eastern indigo snake	<i>Drymarchon corais couperi</i>	Threatened
Gopher tortoise	<i>Gopherus polyphemus</i>	Candidate**
North Florida		
West Indian manatee*	<i>Trichechus manatus</i>	Endangered
Wood stork	<i>Mycteria americana</i>	Threatened
Eastern indigo snake	<i>Drymarchon corais couperi</i>	Threatened
Gopher tortoise	<i>Gopherus polyphemus</i>	Candidate**
Puerto Rico		
Antillean manatee	<i>Trichechus manatus</i>	Endangered
Puerto Rican boa	<i>Epicratus inornatus</i>	Endangered
Yellow-shouldered blackbird	<i>Agelaius xanthomus</i>	Endangered

*Species with designated critical habitat within the footprint of Civil Works projects.

**Candidate for listing as endangered or threatened.

3.4 MIGRATORY BIRDS

Migratory birds would typically include passerine species, or perching birds, as well as aquatic species. Common species of perching birds may nest in disturbed habitats (i.e. canal banks, levees). Some aquatic species may also nest along canals or impoundment shorelines.

3.5 OTHER FISH AND WILDLIFE RESOURCES

A wide variety of native and non-native mammals, reptiles, amphibians, fish, and invertebrates adapted to disturbed areas (i.e. levees) or aquatic habitats (i.e. canals and impoundments) are likely to be present.

3.6 ESSENTIAL FISH HABITAT

Pursuant to the Magnuson-Stevens Fishery Conservation and Management Act of 1996, some inland waters, substrate, and associated plant communities (i.e. freshwater tidal wetlands) have been identified as Essential Fish Habitat (EFH) by the South Atlantic Fishery Management Council (SAFMC, 1998). EFH is defined as those waters and substrate necessary for fish to spawn, breed, feed, or grow to maturity.

3.7 WATER QUALITY

Existing water quality conditions within the footprint of the Central & South Florida Project (Lake Okeechobee, coastal estuaries, Everglades Agricultural Area, Water Conservation Areas and Everglades National Park) are impaired due to high nutrient concentrations. The Florida Department of Environmental Protection (FDEP) has developed numeric nutrient criteria. Where water bodies are impaired, FDEP develops total maximum daily load (TMDL) limits, which when enforced will improve water quality conditions (USACE 2014). North Florida water bodies are typically listed as Class III waters by the State of Florida. Class III waters are designated for recreation,

propagation and maintenance of a healthy, well-balanced population of fish and wildlife (FDEP 2008). Surface waters within Puerto Rico are typically listed as Class SD. Class SD waters are intended for use as a raw source of public water supply, propagation and preservation of desirable species, including threatened and endangered species, as well as primary and secondary contact recreation. Some water bodies are classified as SE due to their exceptional ecological value (Commonwealth of Puerto Rico 2014). Class SE waterbodies include Laguna Tortuguero, Laguna Cartagena and any other surface body of exceptional quality or high ecological or recreational value.

3.8 WETLANDS

The USACE defines wetlands as “those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions.” There are many different wetland communities within or adjacent to Civil Works projects including, but not limited to, freshwater marsh and forested wetlands.

3.9 AIR QUALITY

All areas of Florida are now attainment areas (EPA 2016). Attainment areas are in reference to any area that meets the national primary or secondary ambient air quality standard for the pollutant. In Puerto Rico, there are areas of concern due to lead and particulate matter concentrations (EPA 2010, Federal Register 2016), while other parts of the Commonwealth are in attainment.

3.10 NOISE

Within natural areas, external sources of noise are limited. Existing sources of noise are mainly due to recreational users including air boats, off road vehicles, swamp buggies, and motor boats. Existing sources of noise outside of the rural communities are limited to vehicular traffic, agricultural vehicles, etc. Within urban areas, existing sources of noise include noise associated with transportation arteries, operations of construction and landscaping equipment, and operations at commercial and industrial facilities.

3.11 AESTHETIC RESOURCES

Natural areas may include a variety of wetlands and uplands. With the exception of some areas in Puerto Rico, the land is very flat, with slight topographic rises in some areas. Much of the visible topographic features are a result of human development, such as canals and levees.

3.12 RECREATION RESOURCES

Many areas throughout Civil Works projects are used for recreational activities including nature study, hunting, camping, bicycling, hiking, jogging, horseback riding, canoeing, boating, swimming, freshwater and saltwater fishing.

3.13 CULTURAL, HISTORIC AND ARCHAEOLOGICAL PROPERTIES

Civil Works projects where the proposed Section 408 action would occur have been reviewed for impacts to significant historic properties. Each of these projects were reviewed to identify if the USACE structure is eligible or is to be considered a historic property. Each was examined for potential effects to the USACE resources and for potential impacts to unknown or potential for resources occurring within the disturbed area of the project. Some USACE properties were developed prior to the implementation of the National Historic Preservation Act (1967) and unknown resources may exist within proposed project areas. Where the project extends outside of the Civil Works project, the USACE is limited in its ability to review that portion of the project as the authority only extends to impacts on the project. Portions of the requested project will likely fall to Florida State statute Chapter 267 regarding historic resources and potential impacts would thus have to be considered by the applicant separately.

3.14 NATIVE AMERICANS

There are two Federally recognized tribes (Miccosukee Tribe of Indians of Florida and the Seminole Tribe of Florida) that are located within the state of Florida. Both tribes maintain strong connections within all of Florida and shared use of the region which may have historically included portions of Civil Works projects.

Members of both Tribes continue to rely upon the Everglades to support their cultural, medicinal, subsistence, and commercial activities. The specific issues impacting each tribe have been different over the last few decades, but they are all related to impacts due to man-made changes to the Everglades ecosystem. Consultation will be updated with both tribes in regards to project impacts.

3.15 SOCIO-ECONOMICS

Generally, a strong wholesale and retail trade, government and service sectors characterize Florida's economy. Compared to the national economy, the manufacturing sector has played less of a role in Florida, but high technology manufacturing has begun to emerge as a significant sector over the last decade. Agricultural production is an important sector of the State's economy. In Puerto Rico, industry has surpassed agriculture as the primary sector of economic activity and income. However, agriculture remains an important economic sector of the Commonwealth.

4 ENVIRONMENTAL EFFECTS

This section is the scientific and analytic basis for the comparisons of the alternatives. See Table 1 in Section 2.4 for summary of impacts. The following includes anticipated changes to the existing environment by low-impact Section 408 requests covered under this PEA, including direct, indirect, and cumulative effects. Please refer to Section 2.1.2 and Appendix A of this document for more information on requests

4.1 GENERAL ENVIRONMENTAL EFFECTS

4.1.1 PROPOSED ACTION, APPROVE LOW-IMPACT SECTION 408 REQUESTS, ALTERNATIVE A

Section 408 requests typically have small footprints (i.e. culvert replacements, monitoring wells, etc.) and are located within disturbed areas (i.e. levees, canals, etc.); therefore, general environmental effects would be minor. Approval of these actions would benefit water management (i.e. water control structures), water quality (i.e. monitoring wells), recreation (i.e. kiosks, boat ramps), and socio-economics or services (i.e. utility lines, roadways, etc.).

4.1.2 NO ACTION ALTERNATIVE (STATUS QUO)

Under this scenario, Section 408 requests would not be approved and there would be no general environmental effects within the boundaries of the Civil Works project. However, benefits to water management, water quality monitoring, recreation, and socio-economics may not be realized unless the action is performed outside of the project boundaries.

4.2 VEGETATION

4.2.1 PROPOSED ACTION, APPROVE LOW-IMPACT SECTION 408 REQUESTS, ALTERNATIVE A

Vegetation disturbance would be primarily limited to planted grass. In some cases, Section 408 requests would require disturbing other types of vegetation including hydrophytic plant communities. These effects are expected to be minor and temporary. Herbaceous vegetation should recover within two growing seasons. Some areas may need to be reseeded or replanted in order to stabilize the construction footprint.

4.2.2 NO ACTION ALTERNATIVE (STATUS QUO)

No effect to vegetation would occur within the Civil Works project boundaries. In the event that the proposed action occurred outside of the project boundaries, then unknown impacts to vegetation may occur.

4.3 THREATENED AND ENDANGERED SPECIES

4.3.1 PROPOSED ACTION, APPROVE LOW-IMPACT SECTION 408 REQUESTS, ALTERNATIVE A

The USACE has determined that the Proposed Action, depending on location and action, may affect, but is not likely to adversely affect (MANLAA) the West Indian manatee or its designated critical habitat, Antillean manatee, Florida bonneted bat Everglade snail kite or its designated critical habitat, Audubon's crested caracara, wood stork, yellow-shouldered blackbird, eastern indigo snake, Puerto Rican boa, and gopher tortoise. The known requests would have no effect on the Florida bonneted bat. As previously stated, Section 408 requests typically include work on or within man-made structures such as impoundments, levees, or canals. Construction footprints would be small, and the work would be of short duration. Since exact locations and actions of future requests are not known, the USACE shall continue to make effect determinations on each new request using the keys or guidelines described in the following sections. The USFWS keys that were used to make these effect determinations can be found in Appendix D. The USACE final determination relative to project impacts, as well as the need for protective and mitigation measures, is subject to review by and coordination with the U.S. Fish and Wildlife Service (USFWS).

4.3.1.1 WEST INDIAN AND ANTILLEAN MANATEE

Known Section 408 requests may include in-water work. However, utilizing the USFWS Manatee Key, April 2013 version and the USFWS Antillean Manatee Conservation Measures (January 2012), the USACE has made a MANLAA determination for each of the proposed in-water projects. Where ever manatees may be present, the USACE shall require that all standard in-water protection measures be implemented. The USACE shall continue to use these documents to make effect determinations on future requests.

4.3.1.2 FLORIDA BONNETED BAT

The known Section 408 requests for bridge alterations do not fall within the range of the "Florida bonneted bat Focal Area, or Consultation Area." The USACE utilized the draft USFWS Florida bonneted bat guidelines (key) for the known requests and has made a no effect determination. Also, even though some of the other requests may be located in these areas, there is no proposed removal of large trees with hollows, snags, or abandoned buildings where this bat may roost. The USACE shall continue to use this key to make determinations on future requests.

4.3.1.3 WOOD STORK

Known Section 408 requests are greater than 0.47 miles from active colonies. In-water work projects would have small footprints and would impact less than one-half acre of suitable foraging habitat; therefore, the USACE has made a MANLAA determination for

the stork based on the 2010 USFWS revised wood stork key. The USACE shall continue to use the wood stork key to make determinations on future requests.

4.3.1.4 EASTERN INDIGO SNAKE

Known Section 408 requests would impact less than 25 acres of xeric habitat. However, this species is known to occur on some levees and canal banks in Florida. The USACE has determined that requests (i.e. work on levees or canal banks) may affect, but are not likely to adversely affect this species. Where appropriate, the USFWS Standard Protection Measures for the Eastern Indigo Snake (2004) shall be required. The USACE shall continue to use the USFWS revised eastern indigo snake programmatic key (2013) to make determinations on future requests.

4.3.1.5 PUERTO RICAN BOA

This species is known to tolerate a wide variety of habitat types (Rivero, 1978), including disturbed sites (Reagan, 1984). Therefore, some Section 408 requests may affect, but are not likely to adversely affect the Puerto Rican boa. The USACE shall require, where appropriate, that the USFWS conservation (protection) measures for the boa be implemented for Section 408 requests. The USACE shall continue to review future requests for impacts to this species and appropriate protection measures shall be required.

4.3.1.6 EVERGLADE SNAIL KITE, AUDUBON'S CRESTED CARACARA, YELLOW-SHOULDERED BLACKBIRD, AND GOPHER TORTOISE

Some known Section 408 requests, depending on location and action, may temporarily alter the behavior (i.e. foraging) of these species, or in the case of the tortoise they may impact burrows. Therefore, some Section 408 requests may affect, but are not likely to adversely affect these species. The USACE shall require, where appropriate, that the appropriate protection measures be implemented. The USACE shall continue to review future requests for impacts to these species and appropriate protection measures shall be required.

4.3.2 NO ACTION ALTERNATIVE (STATUS QUO)

No impacts to threatened or endangered species would occur under the No Action Alternative as there would be no Section 408 requests approved within the Civil Works project boundaries. However, unknown impacts would occur if the alterations were performed outside these boundaries.

4.4 FISH AND WILDLIFE RESOURCES

4.4.1 PROPOSED ACTION, APPROVE LOW-IMPACT SECTION 408 REQUESTS, ALTERNATIVE A

The majority of the Section 408 requests are located within areas that have been disturbed for a long period of time. Since the fish and wildlife have adapted to the

present conditions and the proposed alteration would not significantly alter those conditions, any impacts to wildlife and their habitats would be temporary in nature and limited to the construction phase. Any impacts to grassed areas and other habitats would be restored after completion of construction.

4.4.1 NO ACTION ALTERNATIVE (STATUS QUO)

The No Action alternative would not impact any fish and wildlife species within the Civil Works project boundaries because no construction activities would occur within the boundaries of the project. However, unknown impacts would occur if the alterations were performed outside these boundaries.

4.5 ESSENTIAL FISH HABITAT ASSESSMENT

4.5.1 PROPOSED ACTION, APPROVE LOW-IMPACT SECTION 408 REQUESTS, ALTERNATIVE A

The Section 408 requests would not substantially affect Essential Fish Habitat or any Federally managed species. This determination is based on the small footprints (i.e. culvert replacements, monitoring wells, etc.) of the alterations and their locations (i.e. levees, canals, impoundments, etc.). There would be no significant hydrological changes associated with these requests.

4.5.2 NO ACTION ALTERNATIVE (STATUS QUO)

The No Action alternative would not impact Essential Fish Habitat within the Civil Works project boundaries because no construction activities would occur within the boundaries of the project. However, unknown impacts would occur if the alteration is performed outside these boundaries.

4.6 WATER QUALITY

4.6.1 PROPOSED ACTION, APPROVE LOW-IMPACT SECTION 408 REQUESTS, ALTERNATIVE A

The Proposed Action may include earth moving, concrete work, boring, and placement of structures adjacent to aquatic areas (i.e. impoundments and canals). Best management practices such as silt fences, hay bales, and other methods would be utilized to avoid soil erosion, degradation, and siltation into adjacent waters; therefore, the proposed alterations would not result in adverse impacts to surface waters. All work would be performed in compliance with mandated water quality criteria. Also, several Section 408 requests include installation of monitoring stations in order to collect water quality data. Other requests include installation of water control structures which would improve the management of water levels.

4.6.2 NO ACTION ALTERNATIVE (STATUS QUO)

No impacts to water quality would occur if the No Action Alternative was selected. However, under this scenario, Section 408 requests for monitoring wells or water control structures would not be approved and would result in no additional water quality data and improved water management options.

4.7 WETLANDS

4.7.1 PROPOSED ACTION, APPROVE LOW-IMPACT SECTION 408 REQUESTS, ALTERNATIVE A

The Proposed Action may include various construction activities in close proximity to wetlands. Best management practices such as marking wetland boundaries and excluding construction activities from wetlands to the maximum extent practical would be implemented. Silt fences, hay bales, and other methods would also be utilized to avoid soil erosion, degradation, and siltation into adjacent wetlands; therefore, the proposed alterations would result in only minor and temporary or no adverse impacts to wetlands.

4.7.2 NO ACTION ALTERNATIVE (STATUS QUO)

No impacts to wetlands would occur if the No Action Alternative was selected. However, minor impacts may occur if the alteration is performed outside Civil Works project boundaries.

4.8 AIR QUALITY

4.8.1 PROPOSED ACTION, APPROVE LOW-IMPACT SECTION 408 REQUESTS, ALTERNATIVE A

Due to the restricted size and short duration of the Section 408 requests, impacts to air quality resulting from construction activities would be temporary and minimal.

4.8.2 NO ACTION ALTERNATIVE (STATUS QUO)

There would either be no impacts to air quality as a result of implementing the No Action Alternative because no construction would occur, or there would be temporary and minor impacts to air quality if the work is performed outside the boundaries of the Civil Works project.

4.9 NOISE

4.9.1 PROPOSED ACTION, APPROVE LOW-IMPACT SECTION 408 REQUESTS, ALTERNATIVE A

Noise generated by construction activities would be temporary and minor. Section 408 requests are generally located in areas that are not near sensitive receptor sites (i.e. schools).

4.9.2 NO ACTION ALTERNATIVE (STATUS QUO)

The No Action alternative would not result in any noise impacts because no construction activities would occur within the boundaries of the Civil Works project. However, unknown impacts would occur if the alteration is performed outside these boundaries.

4.10 AESTHETIC RESOURCES

4.10.1 PROPOSED ACTION, APPROVE LOW-IMPACT SECTION 408 REQUESTS, ALTERNATIVE A

The Proposed Action should have minor or no effect to aesthetic resources. Section 408 requests are typically located on levees, canals, impoundments or other man-made structures; therefore, natural areas should not be affected. Views from elevated structures, such as levees, should also not be adversely affected.

4.10.2 NO ACTION ALTERNATIVE (STATUS QUO)

The No Action alternative would not result in any aesthetic impacts because no construction activities would occur within the boundaries of the Civil Works project. However, unknown impacts would occur if the alteration is performed outside these boundaries.

4.11 RECREATION RESOURCES

4.11.1 PROPOSED ACTION, APPROVE LOW-IMPACT SECTION 408 REQUESTS, ALTERNATIVE A

Construction activities may temporarily disrupt recreation activities. Section 408 requests for additional boat access, information and payment kiosks, bike paths, and signage would improve recreational opportunities or recreational management.

4.11.2 NO ACTION ALTERNATIVE (STATUS QUO)

Section 408 requests for additional boat access, information and payment kiosks, bike paths, and signage would not be approved. This would result in no additional recreational opportunities or improvements to recreational management.

4.12 CULTURAL, HISTORIC AND ARCHAEOLOGICAL PROPERTIES

4.12.1 PROPOSED ACTION, APPROVE LOW-IMPACT SECTION 408 REQUESTS, ALTERNATIVE A

For each known Proposed Action, a survey and/or records search was conducted to determine the presence of potentially significant cultural resources within the proposed alteration area. In addition, a review was undertaken to determine if the proposed action alternative would create a potential for affects to the significant historic properties. As outlined within the proposed action, reviews are designed to occur in such a manner that if such resources are present, then the impacts of the proposed alteration would be assessed to determine if the implementation of the Proposed Action would cause

adverse effects to significant historic properties. Proposed Actions that have the potential to cause adverse effects to historic properties would be screened out of consideration under this PEA. Proposed Actions that qualify for approval are those which would not cause any adverse effects or would have no effect to historic properties.

4.12.2 NO ACTION ALTERNATIVE (STATUS QUO)

Under the No Action alternative, any cultural resources that may be present in the proposed alteration area would remain in place subject to both the protective effects of no ground disturbing activity, as well as the potential negative effects that occur through natural and biological actions such as erosion, scouring, or rodent and tree root activity. No additional impacts to cultural resources would result from the No Action Alternative.

4.13 NATIVE AMERICANS

4.13.1 PROPOSED ACTION, APPROVE LOW-IMPACT SECTION 408 REQUESTS, ALTERNATIVE A

For each known proposed action, a survey and/or records search was conducted to determine the location of the action to determine potential impacts to Native Americans. If there is potential for impacts to Native Americans, then the proposed action would be screened out of consideration under this PEA, and consultation would be re-initiated with appropriate Federally recognized tribes. Proposed actions that qualify for approval are those which would not cause any effects to Native Americans. This PEA addresses low-impact Section 408 requests by the Miccosukee and Seminole tribes; however, it does not take into consideration non-tribal entities performing alterations on tribal lands.

4.13.2 NO ACTION ALTERNATIVE (STATUS QUO)

There would be no effect to Native Americans if the no action alternative were selected. Current Civil Works projects would remain unaltered.

4.14 SOCIO-ECONOMIC

4.14.1 PROPOSED ACTION, APPROVE LOW-IMPACT SECTION 408 REQUESTS, ALTERNATIVE A

Section 408 requests for utility line installation, road construction, and bridge expansion may improve local economies and services.

4.14.2 NO ACTION ALTERNATIVE (STATUS QUO)

Section 408 requests for utility line installation, road construction, and bridge expansion would not be approved and local economies and services would not benefit.

4.15 CUMULATIVE IMPACTS

Cumulative impact is the “impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions” (40 CFR 1508.7).

Past actions include construction of the Civil Works projects. As previously stated, the primary components of these projects include levees, canals, impoundments, navigation channels, and water control structures. In addition, many agricultural and industrial operations, residential subdivisions and commercial properties have been constructed adjacent to these projects.

Present actions include the operation and maintenance of the Civil Works project by the non-Federal sponsors. Other projects are in various stages of design or construction. Urban expansion continues in areas adjacent to these projects, but agriculture remains a significant land use.

Future actions within the footprint of Civil Works projects would include low-impact Section 408 requests. Additional ancillary projects are also scheduled to be completed. Urban expansion and the decline of agriculture are expected to continue.

Since the approval of low-impact Section 408 requests would result in minor impacts, it is reasonable to conclude that their approval would have no adverse cumulative impacts.

4.16 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

4.16.1 IRREVERSIBLE

An irreversible commitment of resources is one in which the ability to use and/or enjoy the resource is lost forever. The only irreversible commitment of resources associated with selecting the Proposed Action would be the minor consumption of energy resources.

4.16.2 IRRETRIEVABLE

An irretrievable commitment of resources is one in which, due to decisions to manage the resource for another purpose, opportunities to use or enjoy the resource as they presently exist are lost for a period of time. There would be no irretrievable commitment of resources with selecting the Proposed Action.

4.17 UNAVOIDABLE ADVERSE ENVIRONMENTAL EFFECTS

There would be minor unavoidable environmental effects with choosing the Proposed Action.

4.18 LOCAL SHORT-TERM USES AND MAINTENANCE/ENHANCEMENT OF LONG-TERM PRODUCTIVITY

There would be no significant effect on long-term productivity with choosing the Proposed Action.

4.19 INDIRECT EFFECTS.

Some of the Section 408 requests may lead to increased recreational usage, which in turn may indirectly benefit local economies. There will be no known negative indirect effects.

4.20 COMPATIBILITY WITH FEDERAL, STATE, AND LOCAL OBJECTIVES

The Federal objective is to contribute to national economic development consistent with protecting the nation's environment, pursuant to national environmental statutes, applicable executive orders, and other Federal planning requirements. Federal planning concerns other than economic include environmental protection and enhancement, human safety, social well-being, and cultural and historical resources. The Proposed Action would be compatible with the Federal objective. It is also consistent with Federal and Local objectives and with the State's Coastal Zone Management Plan.

4.21 CONFLICTS AND CONTROVERSY

There are no known conflicts or controversy associated with the Proposed Action.

4.22 UNCERTAIN, UNIQUE, OR UNKNOWN RISKS

There are no uncertain, unique or unknown risks associated with the Proposed Action.

4.23 PRECEDENT AND PRINCIPLE FOR FUTURE ACTIONS.

The Proposed Action is consistent with, and/or adaptations of, prior permitted activities conducted by the USACE.

4.24 COMPLIANCE WITH ENVIRONMENTAL REQUIREMENTS

4.24.1 NATIONAL ENVIRONMENTAL POLICY ACT OF 1969

Environmental information on the project has been compiled and this PEA has been prepared. A Public Notification on the Proposed Action will be issued to relevant Federal, State, and local agencies and other stakeholders. The project shall be in full compliance with the National Environmental Policy Act.

4.24.2 ENDANGERED SPECIES ACT OF 1973

Coordination with the USFWS is on-going. This Proposed Action shall be fully coordinated under the Endangered Species Act and shall therefore, be in full compliance with the Act.

4.24.3 FISH AND WILDLIFE COORDINATION ACT OF 1958

This project shall be coordinated with the U.S. Fish and Wildlife Service (USFWS). This project shall be in full compliance with the Act.

4.24.4 NATIONAL HISTORIC PRESERVATION ACT OF 1966 (INTER ALIA)

The Proposed Action is in compliance with Section 106 of the National Historic Preservation Act, as amended (PL89-665). As part of the requirements and consultation process contained within the National Historic Preservation Act implementing regulations of 36 CFR 800, this project is also in compliance through ongoing consultation with the Archaeological and Historic Preservation Act, as amended (PL93-29), Archeological Resources Protection Act (PL96-95), American Indian Religious Freedom Act (PL 95-341), Native American Graves Protection and Repatriation Act (NAGPRA), Executive Order 11593, 13007, and 13175, the Presidential Memo of 1994 on Government to Government Relations and appropriate Florida Statutes. Consultation with the Florida State Historic Preservation Officer, appropriate Federally recognized tribes, and other interested parties has been initiated and is ongoing. The Proposed Action will be in compliance with the goals of this Act upon completion of coordination as stated above.

4.24.5 CLEAN WATER ACT OF 1972

The Proposed Action shall be in compliance with this Act. All required water quality criteria shall be met. A Section 404(b) evaluation is not necessary as the Proposed Action does not include discharge to waters of the United States.

4.24.6 CLEAN AIR ACT OF 1972

If appropriate, the action agency (requestor) would be required to acquire air quality, or burn, permits. The Proposed Action shall be in full compliance with the Act.

4.24.7 COASTAL ZONE MANAGEMENT ACT OF 1972

The Proposed Action is consistent with Florida and Puerto Rican Coastal Zone Management Programs and the Act.

4.24.8 FARMLAND PROTECTION POLICY ACT OF 1981

No prime or unique farmland should be impacted by the Proposed Action. This Act is not applicable.

4.24.9 WILD AND SCENIC RIVER ACT OF 1968

No designated Wild and Scenic river reaches would be affected by the Proposed Action. This Act is not applicable.

4.24.10 MARINE MAMMAL PROTECTION ACT OF 1972

The Proposed Action would be performed in compliance with the Act.

4.24.11 ESTUARY PROTECTION ACT OF 1968

No designated estuary would be affected by the Proposed Action. This Act is not applicable.

4.24.12 FEDERAL WATER PROJECT RECREATION ACT

The principles of the Federal Water Project Recreation Act, (Public Law 89-72) as amended, have been fulfilled by complying with the recreation cost sharing criteria as outlined in Section 2 (a), paragraph (2). The Proposed Action shall be in compliance with the Act.

4.24.13 SUBMERGED LANDS ACT OF 1953

Section 408 approvals shall be coordinated with the State of Florida and Puerto Rico and shall be in compliance with the Act.

4.24.14 COASTAL BARRIER RESOURCES ACT AND COASTAL BARRIER IMPROVEMENT ACT OF 1990

There are no designated coastal barrier resources in the Proposed Action area that would be affected by this project. These Acts are not applicable.

4.24.15 RIVERS AND HARBORS ACT OF 1899

The Proposed Action would not obstruct navigable waters of the United States. The Proposed Action would be in full compliance with the Act. This PEA is being prepared as a result of requests being submitted in compliance with Section 14 of this Act.

4.24.16 ANADROMOUS FISH CONSERVATION ACT

Anadromous fish species would not be affected. The Proposed Action shall be coordinated with the National Marine Fisheries Service and shall be in compliance with the Act.

4.24.17 MIGRATORY BIRD TREATY ACT AND MIGRATORY BIRD CONSERVATION ACT

Where appropriate, protective measures shall be implemented so that no migratory birds would be affected by the Proposed Action. The Proposed Action shall be in compliance with these Acts.

4.24.18 MARINE PROTECTION, RESEARCH AND SANCTUARIES ACT

The Marine Protection, Research and Sanctuaries Act does not apply to the Proposed Action.

4.24.19 MAGNUSON-STEVENSON FISHERY CONSERVATION AND MANAGEMENT ACT

The Proposed Action would not substantially effect Essential Fish Habitat. The Proposed Action shall be coordinated with the National Marine Fisheries Service.

4.24.20 UNIFORM RELOCATION ASSISTANCE AND REAL PROPERTY ACQUISITION POLICIES ACT OF 1970.

The purpose of PL 91-646 is to ensure that owners of real property to be acquired for Federal and Federally assisted projects are treated fairly and consistently and that persons displaced as a direct result of such acquisition will not suffer disproportionate injuries as a result of projects designed for the benefit of the public as a whole. The Proposed Action would not involve real property acquisition and/or displacement of property owners or tenants. This Act does not apply.

4.24.21 E.O. 11990, PROTECTION OF WETLANDS

In the event that jurisdictional wetlands are identified within the footprint, or adjacent to, proposed Section 408 actions, then protective measures shall be implemented in order to avoid adverse effects. This project shall be in compliance with the goals of this Executive Order.

4.24.22 E.O. 11988, FLOOD PLAIN MANAGEMENT

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

4.24.23 E.O. 12898, ENVIRONMENTAL JUSTICE

The District has determined that there are no minority or low-income populations present in the Proposed Action area, therefore, the proposed work would not result in adverse impacts to any populations specified in E.O. 12898. Additionally, the Proposed Action would not result in adverse human health or environmental effects, nor would the activity impact subsistence consumption of fish and wildlife within the region. The Proposed Action is in compliance with this Executive Order.

4.24.24 E.O. 13089, CORAL REEF PROTECTION

The EO refers to "those species, habitats, and other natural resources associated with coral reefs." There are no coral reefs in the Proposed Action area. This EO does not apply.

4.24.25 E.O. 13112, INVASIVE SPECIES

The Proposed Action does not include activities that would introduce invasive species.

4.24.26 E.O. 13186, MIGRATORY BIRDS.

This Executive Order requires, among other things, a Memorandum of Understanding (MOU) between the Federal Agency and the U.S. Fish and Wildlife Service concerning migratory birds. Neither the Department of Defense MOU nor the USACE' Draft MOU clearly address migratory birds on lands not owned or controlled by the USACE. For many Civil Works projects, the real estate interests are provided by the non-Federal sponsor. Control and ownership of the project lands remain with a non-Federal interest. Measures to avoid the destruction of migratory birds and their eggs or hatchlings shall be implemented.

4.25 PUBLIC INTEREST FACTORS.

Factors were considered in determining whether a regulatory permit for this action would be in the public interest (33 CFR 325.3(C)). The Proposed Action, on balance, would not be contrary to the public interest.

5 LIST OF PREPARERS

5.1 PREPARERS

Preparer	Discipline	Role
Paul Stodola, U.S. Army Corps of Engineers	Biologist	Principal Author
Wendy Dauberman-Zerby, U.S. Army Corps of Engineers	Biologist	Appendix A
Daniel Hughes, U.S. Army Corps of Engineers	Archaeologist	Cultural Resources

5.2 REVIEWERS

This draft Programmatic Environmental Assessment was reviewed by the USACE Jacksonville District supervisory chain of the Planning and Policy Division, Environmental Branch, Office of Counsel, and Project Management.

6 PUBLIC INVOLVEMENT

6.1 SCOPING

A public notice dated [date] was issued for this action (see Appendix B, Pertinent Correspondence). The draft PEA and Finding of No Significant Impact (FONSI) was also made available to the public during the notification period. In accordance with NEPA, a 30-day review period of the draft PEA was provided.

6.2 AGENCY COORDINATION

Copies of agency coordination letters are in Appendix B. Coordination shall be conducted with the following agencies:

- South Florida Water Management District
- Florida Department of Environmental Protection
- Florida Fish and Wildlife Conservation Commission
- Florida State Historic Preservation Officer
- Miccosukee Tribe of Indians of Florida
- Seminole Tribe of Indians of Florida
- U.S. Fish and Wildlife Service
- National Marine Fisheries Service
- Commonwealth of Puerto Rico

6.3 COMMENTS RECEIVED AND RESPONSE

Comments on the Proposed Action shall be compiled in the Final PEA.

REFERENCES

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USFWS. 2012. Antillean Manatee Conservation Measures.

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APPENDIX A – SUMMARIES OF CURRENT SECTION 408 REQUESTS

SOUTH FLORIDA WATER MANAGEMENT DISTRICT REQUESTS

1. Adventure Isles Irrigation System and Monitoring Wells on C-9 Canal

Project Type: Irrigation System and Monitoring Well Installation

Location: Miami-Dade County and Broward County, Florida. The project area is the C-9 (Snake Creek) Canal located on or about the Miami-Dade/Broward County line in the C-9 basin. The project location is approximately 3.3 miles upstream of structure S-29, just west of Interstate 5 on the north side of the canal, Section 06, Township 52, South Range 42 East. 25° 57'9.7"N/80° 11'31.7" W.

Project Description: Adventura Isles proposes to install two 10-inch HDPE irrigation suction lines through the C-9 Canal bank to supply irrigation water to the common areas of a large residential development. The equipment within the right-of-way limits will also include electrical service to a control valve and box, and a 2-inch PVC cleaning pipe. A water use permit has been issued by South Florida Water Management District (SFWMD) which allows a maximum annual withdrawal of 99.2 million gallons (MG) for landscape irrigation purposes. The proposed pumping equipment (located outside of the right-of-way limits) consists of two 50hp x 600-gpm centrifugal pumps. In addition, local permit conditions require the installation of five monitoring wells as part of the county's groundwater monitoring plan. The wells will be installed near the top of bank and flush with the ground to avoid interference with access or maintenance

Existing Conditions: The C-9 (Snake Creek) Canal serves as a drainage canal for northern Miami-Dade County. The canal design section consists of a 100 foot bottom at elevation -12.0 feet NGVD29 and side slopes of 2H: 1V.

The C-9 basin has an area of approximately 98 square miles and is located in northeastern Miami-Dade County and southeastern Broward County. The basin includes two sub-basins, C-9 east (45 square miles) and C-9 west (53 square miles). Flood protection is the primary function of the canal and secondary use includes land drainage for agriculture and urban or residential development, and regulation of groundwater table elevations to prevent saltwater intrusion.

References:

http://www.sfwmd.gov/portal/page/portal/xrepository/sfwmd_repository_pdf/canalssf_l_apependixa-c.pdf

2. C-4 Canal Bank Improvements, Palmetto Phase Section 1

Project Type: Canal Bank Improvements and Flood Protection Berm

Location: Miami-Dade County, Florida. The C-4 Basin is located in central Miami-Dade County. The Palmetto segment of the C-4 Canal Bank Improvements and Flood Protection Berm Project is located between SW 97th Avenue and the Palmetto Expressway. Phase 1 of the Palmetto segment includes the area of SW 92nd Avenue to SW 94th Avenue and the Palmetto (Phase 2) area between SW 82nd Avenue and SW 87th Avenue. The proposed project is located within the South Florida Management District right-of-way of the C-4 Canal, in Sections 3 and 4, Township 54 South, Range 40 East, Miami-Dade County, Florida.

Project Description: The proposed C-4 Canal Bank Improvements and Flood Protection Berm – Palmetto (Phase 1) Project includes a drainage system designed to accommodate the historical overland flow from the backyards along the north side of the proposed flood protection berm into the C-4 Canal and some regrading and slope reinforcement to the north bank of the C-4 Canal.

Existing Conditions: Historically, it appears the lots adjoining to the C-4 Canal right-of-way drain excess surface waters by sheet flow from the backyards onto the C-4 Canal right-of-way and then overtop the bank into the C-4 Canal.

The surficial aquifer in central Miami-Dade County, where the C-4 Basin is located, has extremely high sub-surface transmissivity. This high transmissivity allows for a tertiary drainage network of exfiltration trenches that penetrate the cap rock, thereby indirectly routing surface water into the canals via the surficial aquifer.

Drainage in the secondary canal system is limited by the available capacity in the primary canal system. Historically, the system discharges to the east through the C-4 Canal, which in turn discharges into the Miami River and Biscayne Bay. Discharges from the C-4 Canal into the Miami River are mostly through the S-25B gated spillway structure.

3. Florida City Gas Subaqueous Crossing of L-8

Project Type: Subaqueous Crossing Installation

Location: Palm Beach County, Florida. The project area is located at the L8 Canal, State Road 80 which is approximately 0.5 miles east of 210th Terrace, Loxahatchee, Palm Beach County, Florida. 26°41'7.4" N/80°21'50.8" W.

Project Description: Florida City Gas proposes to install a 12-inch steel gas main to replace an existing main approximately 10 feet north of the proposed location. An anomaly was discovered in the existing pipe crossing during inspections that were performed earlier this year. Based upon the severity of the anomaly and its location in the middle of the crossing, the utility is required by regulation to replace the pipe. The existing pipe will be purged, capped, and left in place for possible future non-

pressurized use. The new gas main will be installed using the Horizontal Directional Drilling (HDD) method. The bore entry and exit locations are outside the L-8 right-of-way limits. The gas main will be installed a minimum of 10 feet below the existing canal bottom elevation in accordance with USACE guidelines, which will place it approximately 38 feet below the east and west levees. A frac-out contingency plan is in place.

Existing Conditions: The L-8 Canal and Levee system was constructed in 1953 to provide flood drainage to surrounding agricultural interests. At the project location, just north of the State Road 80 crossing, there are levees on the east and west sides of the canal. The existing subaqueous gas main on the north side of the State Road 80 bridge was installed in 2003. The replacement pipe will tie into the existing gas utility facilities on either side of the canal right-of-way. The canal design cross section at this location consists of a bottom width of 160 feet at an elevation of 7.0 feet NGVD29 and side slopes of 3H: 1V. The existing canal bottom is several feet deeper than the design. The east and west levees have a design crown elevation of 24 feet and side slopes of 3H:1V, although the existing conditions also vary.

4. All Aboard Florida Subaqueous Crossing of Lower East Coast Canals (C-7, C-9, C-14, C-15, C-16, and C-51)

Project Type: Subaqueous Crossing Installation

Location: Palm Beach, Broward, and Miami-Dade Counties, Florida. The project is located adjacent to existing railroad bridges which are just upstream of the control structures.

C-7:	25°51'8.5" N	80°11'18.3" W
C-9:	25°55'44.3" N	80°9'12.2" W
C-14:	26°12'21.9" N	80°7'56.7" W
C-15:	26°25'21.5" N	80°4'35.6" W
C-16:	26°32'20.8" N	80°3'28.5" W
C-51:	26°38'41.2" N	80°3'31.6" W

Project Description: All Aboard Florida proposes to install fiber optic communication cable encased in HDPE conduit under the above canals using the Horizontal Directional Drilling (HDD) method. The conduit will be placed a minimum of 10 feet below the canal bottom elevation in accordance with USACE guidelines. The drill entry and exit points will be located more than 25 feet away from the top of the canal banks and drilling fluid

pressures will be maintained at less than 10 psi. A frac-out contingency plan has been established.

Existing Conditions: The six canals (C-7, C-9, C-14, C-15, C-16, and C-51) convey excess drainage toward the east coast, discharging to tide through coastal spillway structures. The following canal design parameters apply to this project's footprint:

Canal Crossing:	Side Slopes:	Bottom Elev.:	Bottom Width
C-7	1V:1.5H	(-) 15.0' NGVD	40'
C-9	1V:2H	(-) 12.0' NGVD	100'
C-14	1V:2H	(-) 15.0' NGVD	59'
C-15	1V:2H	(-) 7.0' NGVD	75'
C-16	1V:2H	(-) 12.0' NGVD	50'
C-51	1V:2.5H	(-) 14.0' NGVD	30'

5. Miami-Dade County Monitoring Wells on C-8 Canal

Project Type: Monitoring Well Installation

Location: Miami-Dade County, Florida. The project area is located on the east side of the C-8 Canal, approximately 2.2 miles upstream from structure S-28 in Miami-Dade County Florida. 25°54'0.9" N/80°11'41.3" W.

Project Description: Miami-Dade County proposes to install a new monitoring well in the C-8 right-of-way for the collection of groundwater data. The well will be installed below grade to a depth of 50 feet and constructed flush with the ground surface. Authorization is also requested for an existing well (G-3601) located 12 feet away from the proposed new well location. This well was constructed in 1995 and collects data from a depth of 190 feet. Data collection from these wells supports a collaborative saltfront monitoring project between Miami-Dade Water and Sewer Department and the U.S. Geological Survey.

Existing Conditions: The C-8 (Biscayne) Canal and Extension provide drainage to a 27.2 square mile area from Biscayne Bay to the Palmetto Expressway. The project location is on the east side of the canal, approximately 2.2 miles upstream from structure S-28. This area is in a section where there were no improvements to the

existing canal cross-section. The design water surface elevation is 3.98 feet NGVD29, and the canal is 90 feet wide.

6. *Shahar Turgeman Drainage Outfall into C-15 Canal*

Project Type: Drainage Outfall Installation

Location: Palm Beach County, Florida. The project location of the C-15 Canal is in Southern Palm Beach County. The C-15 Canal is approximately 1.2 miles upstream of S-40, immediately west of Interstate 95 and the Tri-Rail bridge crossing, on the south side of the canal. This location is near Station 88. 26°25'27.3" N/80°5'28.1" W

Project Description: Shahar Turgeman proposes to improve the stormwater management system of a commercial/industrial parcel as part of a building addition to the property. On-site retention improvements and a 15-inch RCP drainage culvert outfall to the C-15 Canal are proposed. FDOT Standard Index sand-cement endwall will be installed at the discharge end, and the canal bank slope will be excavated to its original design profile.

Existing Conditions: Discharge from the C-15 Basin is through the S-40 Control Structure. The canal design section consists of a 95 foot bottom at elevation -7.0 feet NGVD29 and side slopes of 2H: 1V. Project Culvert 9 was originally installed near this location but was removed when the Tri-Rail track was expanded in 2001. The canal basin is highly developed. The primary function of the canal is to provide flood protection. Secondary use of the canal is for land drainage for agriculture and urban/residential development, and regulation of groundwater table elevations to prevent saltwater intrusion.

References:

http://www.sfwmd.gov/portal/page/portal/xrepository/sfwmd_repository_pdf/canalssfl_appendixa-c.pdf

7. *City of Miramar Subaqueous Crossing of C-9 Canal*

Project Type: Subaqueous Crossing Installation

Location: Miami/Dade County and Broward County, Florida. The C-9 (Snake Creek) Canal project area is located on or about the Miami-Dade/Broward County line and is immediately east of Flamingo Road, approximately 10.5 miles is upstream of structure S-29. 25°57'50.9" N/80°18'37.9" W.

Project Description: The City of Miramar proposes to install an 8-inch HDPE reclaimed water main under the C-9 Canal, using the Horizontal Directional Drilling (HDD) method. The water main will be installed a minimum of 10 feet below the design canal bottom elevation in accordance with USACE guidelines. The drill entrance and exit points are located outside of the canal right-of-way limits and will not impact the canal banks. Drilling fluid pressures will not exceed 10 psi. A frac-out contingency plan has been established.

Existing Conditions: The C-9 (Snake Creek) Canal design section consists of a 20 foot bottom at elevation -12.0 feet NGVD29 and side slopes of 2H: 1V. The primary function of the canal is to provide flood protection. Secondary use of the canal is for land drainage for agriculture and urban/residential development, and regulation of groundwater table elevations to prevent saltwater intrusion.

References:

http://www.sfwmd.gov/portal/page/portal/xrepository/sfwmd_repository_pdf/canalssfl_appendixa-c.pdf

8. City of Sunrise Water Conservation Area Monitoring Wells

Project Type: Monitoring Well Installation

Location: Broward County, Florida. The project area is located approximately 0.3 Miles north of Mile Marker 2, west of the Sawgrass Expressway, and 65 linear feet west of Levee L-35, within Water Conservation Area 2, in the Florida Everglades. This is an unincorporated area of Broward County, Florida. 26°9'38.1" N/80°19'54.0" W

Project Description: The City of Sunrise proposes to install two monitoring wells (one shallow, one deep) attached to a free-standing platform within Water Conservation Area (WCA) 2, Broward County, Florida. The wells will be constructed of 2-inch PVC pipe in a 12-inch PVC stilling well. The 8' X 8' wood platform will be supported on 2-inch galvanized pipe supports. The wells are required as a condition of the City of Sunrise's water use permit to monitor groundwater and surface water levels in WCA 2 for potential wellfield impacts

Existing Conditions: WCA Area 2 is 210 square miles in size and primarily consists of sawgrass marsh, interspersed with tree islands. The property is owned by the South Florida Water Management District. This impoundment serves multiple water resource and environmental purposes, including flood control, water supply, and habitat for South Florida's plant and animal communities. The Florida Fish and Wildlife Conservation Commission manages the area and conducts hunts for waterfowl, deer and small game (SFWMD 2016).

References:

http://www.sfwmd.gov/portal/page/portal/xrepository/sfwmd_repository_pdf/jtf_wca_management.pdf

http://www.sfwmd.gov/portal/page/portal/pg_grp_sfwmd_landresources/pg_sfwmd_landresources_recopps_se_wca2_3

9. Canal Point Pedestrian Bridge over L-10

Project Type: Pedestrian Bridge Installation

Location: Palm Beach County, Florida. The project area of the L-10 Canal is located approximately 600 feet east of structure S-352. In the Canal Point area, the designed levee ties into a previously existing dike and road on the north side of the canal. 26°51'47.2" N/80°37'51.0" W

Project Description: Palm Beach County proposes to install a pre-fabricated pedestrian/bicycle truss bridge approximately 150 feet in length with adjacent ADA-accessible concrete walkways, a historical information kiosk, and aesthetic landscaping. The single-span bridge will be supported by concrete pile abutments located above the top of the embankments, and has a low member elevation of 17.5 feet. Rip rap erosion protection will be provided on the embankment slopes around the bridge abutments. The amenities are located to allow SFWMD maintenance access to the canal.

Existing Conditions: The L-10 Levee was constructed in 1956 as part of the enlargement of the existing West Palm Beach Canal which provided additional flood drainage to surrounding agricultural interests. Although the levee has a design crown elevation of 18.5 NGVD29, the existing elevations are higher at the project location immediately west of the abandoned boat lock (outside of the levee limits). The canal design water elevation at this location is 13.5 feet.

10. STRUCTURE S-39A CULVERT REPLACEMENT AND AUTOMATION

Project Type: Culvert Replacement

Location: Palm Beach County, Florida. Structure S-39A is located in southern Palm Beach County at the northern terminus of the L-36 borrow canal at its junction with the Hillsboro Canal. It is located approximately 6 miles west of US State Road 7 along Loxahatchee Road that runs parallel to the Hillsboro Canal. The project site is adjacent to Water Conservation Areas (WCA) 1 and 2A. Access is from Loxahatchee Road (County Road 827), located on the south side of the Hillsboro Canal. Loxahatchee

Road also provides a primary access point to the adjacent WCA 1 and WCA 2A and the recreation area located west of the project site. 26°21'19"N/80°17'50"W

Project Description: The project location will be the primary access to the project. The project will entail the removal of the existing three (3) 72" CMP structure, S-39A, connecting the L-36 Canal and the Hillsboro Canal. The S-39A will have new bidirectional flow CIP box culverts constructed with automated lift gates at the southern end of the structure. The box culvert openings and gates will be 10 feet wide and 8 feet high. A precast control building will be constructed and will include a backup generator. Extensive riprap will be placed on the north bank of the Hillsboro Canal to protect it against combined flows of the S-39 and S-39A. Access to the WCA shall be maintained throughout the duration of the project and as such a bypass road will be constructed across the L-36 Canal south of S-39A. Flow in the L-36 will be maintained by three (3) 84" CMP pipes. Contractor shall be sensitive to the needs of businesses that require access to the WCA including air-boat tour guides and shall ensure roads are maintained to the WCA.

Existing Conditions: The S-39A structure is a three barreled, 6 feet diameter CMP culvert, approximately 54 feet in length, manually operated with a flashboard riser structure. The S-39A structure was originally designed together with water control structure S-38B, to control seepage from WCA 2A by regulating the water level in the north half of the L-36 borrow canal. The L-36 borrow canal and Hillsboro canal in the vicinity of S-39A consists of primarily 1.5H: 1V side slopes that have caused sluffing and erosion of the channel sides. The canal side slopes are grassed with no inlet or outlet slope/channel bottom protection at the S-39A culvert.

11. Crown Castle Subaqueous Crossing of C-1W Canal

Project Type: Subaqueous Crossing Installation

Location: Miami-Dade County, Florida. The C-1 (Black Creek) Canal project area is located at SW 127th Avenue in Miami, Florida (Cutler Ridge) on the west side of the C-1 (Black Creek) Canal. The west side of the canal is also referred to as Section 2 and begins at U.S. Highway 1 and extends northwesterly to Levee L-31N. The project location is approximately one mile upstream of structure S-148, where the canal crosses Burr Road/SW 127th Avenue. 25°34'28.8" N/80°23'48.6" W

Project Description: Crown Castle NG East proposes to install a subaqueous crossing of C-1W Canal using 1.25-inch HDPE fiber optic cable conduit under the canal, using the Horizontal Directional Drilling (HDD) method. The conduit will be installed a minimum of 10 feet below the canal bottom elevation in accordance with USACE guidelines. The drill entrance and exit points are outside the canal right-of-way limits

and will not impact the canal banks. Drilling fluid pressures will not exceed 10 psi. A frac-out contingency plan has been established.

Existing Conditions: The C-1 (Black Creek) Canal provides flood protection for a 55 square mile area south of the city of Miami. The C-1 Canal consists of a 40 foot wide bottom at an elevation of -12.0 feet NGVD29, and side slopes of 1:1. The canal right-of-way is 170 feet wide.

12. Village Royale Bridge and Drainage Outfall on C-511 Canal

Project Type: Bridge Installation and Drainage Outfall Installation

Location: Palm Beach County, Florida. The C-51 (West Palm Beach) Canal extends from Twenty Mile Bend in Central Palm Beach County east to the coast. It is located approximately $\frac{3}{4}$ mile west of State Road 7 at the western terminus of Acme Road. The Acme Improvement District (AID) C-8 Canal is the western boundary and South Florida Water Management District (SFWMD) C-51 Canal is the northern boundary. The project location is a partially developed property approximately 0.5 mile upstream of structure S-155A. Bridge: 26°40'48.9"N/80°12'47.5"W; Outfall: 26°40'48.8"N/80°13'0.4"W

Project Description: TLH-20 Hughes LLC proposes to build a new multi-family residential community on the property adjacent to the C-51 Canal. The project includes a traffic bridge over the canal to provide access to the property, and a drainage outfall for the on-site stormwater management system.

The 7-lane bridge will be supported on 5 rows of concrete piles. Rubble rip rap will be placed to protect the canal banks under the bridge and 25 feet upstream and downstream. The low member elevation is 18.15 feet NGVD29, which meets SFWMD right-of-way permitting criteria. A canal hydraulic analysis shows negligible impact to canal flows and stages. .

The 30-inch HDPE drainage outfall will incorporate a Florida Department of Transportation (FDOT) standard concrete end wall and riprap to protect the bank against erosion.

Existing Conditions: At the project location, the canal is approximately 150 feet wide. This part of the canal was unimproved, so there is no design section. The existing canal bottom is approximately 70 feet wide a 0 feet elevation. The design water surface elevation is 12.0 feet NGVD29.

The property is currently developed into a moderately sloped grass area with some internal drainage ditches and several structures including houses, barns, and various small structures.

13. Uniform Waterway Markers on C-31 Canal

Project Type: Navigation Marker Installation

Location: Osceola County, Florida. The project area for the two waterway navigation markers on the C-31 Canal are at the south limit of the canal, and approximately 2 miles upstream at the Florida Turnpike bridge crossing, Osceola County. The C-31 Canal connects Lake Tohopekaliga to East Lake Tohopekaliga. Marker T19 will be installed at the entrance to the canal from Lake Tohopekaliga, and Marker T20 will be installed between the boat ramp and the Turnpike bridge crossing. Marker T19 will be installed on the overbank area of the canal. Marker T20 will be installed in the canal but outside of the main channel, in line with the existing Turnpike bridge pilings. Marker T19: 28°13'45.6"N/81°20'42.0"W; Marker T20: 28°15'6.8"N/81°19'46.6"W

Project Description: Osceola County proposes the installation of two waterway navigation markers. Osceola County has adopted an ordinance to create a "Slow Speed Minimum Wake" zone in the C-31 Canal in order to reduce canal bank erosion from boat traffic. Boat traffic in this canal has increased following the construction of the County-operated Partin Triangle boat ramp and dock, which was approved by USACE in December 2014. Osceola County proposes to install the two Uniform Waterway Markers, following guidelines established by the Florida Fish & Wildlife Conservation Commission (FFWCC). The markers consist of a 3 foot x 4 foot aluminum sign mounted on a single 6-inch square wood post.

Existing Conditions: The C-31 Canal bottom width is 20 feet at an elevation of 45.6 feet (NGVD29), with side slopes of 1V:2H. Flows and stages in the C-31 Canal are based on the East Lake Tohopekaliga Regulation Schedule. The East Lake Tohopekaliga basin has an area of 50.8 square miles and the Lake Tohopekaliga basin has an area of 131.4 square miles located within Orange and Osceola counties.

14. Miami-Dade County Subaqueous Crossing of C-102 Canal

Project Type: Subaqueous Crossing Installation

Location: Miami-Dade County, Florida. The project location is approximately 1.9 miles upstream of Structure S-21S, on the west side of Allapattah Road Bridge. At this location, the design cross-section consists of a bottom width of 20 feet at an elevation of 12.0 feet NVGD29 and side slopes of 1H: 1V. 25°31'25.8"N/80°22'19.7"W

Project Description: The Miami-Dade County Water and Sewer Department proposes to install a 54-inch concrete pipe force main in a 72-inch steel casing beneath the C-102 Canal, using the micro-tunneling method. The top of the casing will be located a minimum of 10 feet below the design canal bottom, and the tunneling shafts will be located outside the canal right-of-way limits. A frac-out contingency plan has been established.

Existing Conditions: The C-102 and C102N Canals were constructed to provide flood control for a 32.7 square mile area of South Miami-Dade County.

15. Miccosukee Tribe Airboat Concession of L-29 Canal and Levee

Project Type: Structure (Concession Stand) Installation

Location: Miami-Dade County, Florida. The project location is approximately 0.8 mile west of structure S-12C on the south side of the canal. U.S. 41 is constructed on top of the levee, and the borrow canal is coincident with the Tamiami Canal that crosses the state from the west coast to Biscayne Bay. 25°45'43.6" N\80°44'25.6" W

Project Description: The Miccosukee Tribe has constructed an airboat concession facility within the L- 29 right-of-way. The improvements consist of a dock, a chickee hut concession building, sidewalk, asphalt paving, fencing, signposts, and portable toilets. These facilities are all located within the levee maintenance berm. The dock is 62 feet long and projects 15 feet from the top of the bank, with one row of support piles in the canal. The low member elevation of the dock is 10.61 feet NGVD, which meets SFWMD permit criteria. These facilities are not expected to impact operation or maintenance activities.

Existing Conditions: The L-29 Levee forms the south boundary of Water Conservation Area 3 (WCA 3). Section 2 of L-29 lies between water control structure S-333 and the intersection of U.S. Highway 41 and State Road 94. Four water control structures (S12A-D) are built in this section of the levee to help manage flow from WCA3 into Everglades National Park to the south. The canal design section at the project location consists of a bottom elevation of -10.0 feet NGVD, bottom width of 20 feet, and side slopes of 1:1. The canal is approximately 65 feet wide, and there is a 30 foot maintenance berm between the canal and levee. The design water elevation is 7.5 feet NGVD29.

16. Florida Power & Light Pole Replacement on L-20 Levee

Project Type: Utility Pole Replacement

Location: Palm Beach County, Florida. The project area for the replacement of the utility pole is in the right-of-way of the L-20 East Levee, Palm Beach County. Placement for the replacement pole is approximately 45 feet away from the design levee toe. Project location is approximately 3.5 miles south of structure S-351, on the east side. 26°38'58.4"N/80°42'41.3"W

Project Description: Florida Power and Light (FPL) proposes to replace an existing wood H-frame transmission line structure with a spun concrete pole in approximately the same location. The overhead line crossing meets all SFWMD criteria for vertical clearance above the canal and levees.

Existing Conditions: L-20 Levee is the northernmost segment of the canal, and includes flood protection levees on both sides. The L-20E Levee has a design grade of 20.0 feet NGVD29, minimum crown width of 10 feet, and side slopes of 1V:3H.

17. U.S. Fish and Wildlife Service Fee Booth on L-39

Project Type: Structure (Collection Booth) Installation

Location: Palm Beach County, Florida. The project area is located on the east end of L-39 Levee where it intersects Levee L-36 and Loxahatchee Road, Palm Beach County. The Fee Collection Booth will be installed on the L-39 Levee at the entrance to a public-use area which is part of the Arthur R. Marshall Loxahatchee National Wildlife Refuge. 26°21'19.7" N/80°17'52.2" W

Project Description: The U.S. Fish and Wildlife Service (FWS) proposes to install a 6' x 10' prefabricated fee collection booth on the existing concrete pad at the entrance to a public-use area which is part of the Arthur R. Marshall Loxahatchee National Wildlife Refuge. Recreational use fees will be collected by FWS staff under the America the Beautiful national fee program for care and improvement of public recreation areas. The installation will also include four 6-inch bollards at the corners of the booth to protect the structure and staff from vehicular traffic. These structures will not impede access by South Florida Water Management District (SFWMD) for operations and maintenance activities.

Existing Conditions: The L-39 Levee forms the southwest boundary of Water Conservation Area 1 (WCA 1). Structure S-39 is located just north, and structure S-39A is located just to the east of L-39 Levee. There are boat ramps and other facilities a short distance west of this location that are used by the public on a daily basis. There is an existing 32' x 10.5' concrete pad across the levee road, where an old fee booth was previously located.

18. Palm Beach County Shooting Park Drainage Outfall into C-18 Canal

Project Type: Drainage Outfall Installation

Location: Palm Beach County, Florida. The project area is located near the west terminus of the west leg of the C-18 Canal, approximately 100 feet east of Project Culvert 19 on the south side of the canal, Palm Beach County. Section 36 Township 41 South Range 40 East. 26°54'14.7" N\80°17'28.8" W

Project Description: The Florida Fish and Wildlife Conservation Commission (FWCC) proposes to develop a property which was previously used for agriculture into a recreational facility for shooting sports. The site improvements will include a stormwater management system which will provide water quality treatment and attenuation before discharging into the C-18 canal through a control structure and a 30-inch corrugated metal pipe culvert. Rip rap erosion protection is proposed at the outfall location and the opposite bank.

Existing Conditions: The C-18 Canal provides drainage of lands tributary to the Southwest Fork of the Loxahatchee River in northeastern Palm Beach County. At the project location point, the existing canal is approximately 50 feet wide and the South Florida Water Management District (SFWMD) right-of-way is 200 feet wide. The canal has a design bottom elevation of 14 feet NGVD29 and side slopes of 2H: 1V.

19. S-12 Levee Radio Tower Relocation Project

Project Type: Radio Tower Relocation

Location: Miami-Dade County, Florida. The existing tower is located on the Tamiami Trail approximately 8.7 miles west of the Trail's intersection with Krome Avenue, Miami-Dade County. The location is also located approximately three miles east of the Miccosukee Tribal Area. The proposed site for the new S-12 Tower is comprised of a small (0.3 acres) fill area abutting the west side of the L-67A Levee at the southeast corner of Water Conservation Area 3A. It will be approximately 0.4 miles north of the intersection of the L-67A Levee and the Tamiami Trail (US 41) which is across the L-67A Canal (to the east) from the Miccosukee Tribal Area. 25°46'03.93" N\80°40'25.75" W

Project Description: The purpose of the S-12 Tower Relocation Project is to replace the District's existing S-12 telemetry and communication tower with a new, 190 foot high, self-supporting tower structure that complies with the South Florida Water Management District's (SFWMD) current performance criteria and meets the SFWMD's immediate

and long term telemetry and communications needs. The new tower, which may also be known as “Miami West”, will have a total height of 107 feet above ground level consisting of the 190-foot tower and a 17-foot antenna. The S-12 (Miami West) Tower is currently and will continue to be a part of the SFWMD’s south loop telemetry and communications system. The new S-12 Tower is approximately 150 feet by 80 feet.

Existing Conditions: The existing tower is a 200-foot tall, guyed tower which will remain operational during construction of the new S-12 Tower. The communication systems cut-over activities to the new tower and equipment shelter will be scheduled and coordinated to minimize down time. After cut-over and successful startup of the new facility, the old tower, equipment shelter with generator room and facilities will be demolished and disposed. The topography at the existing site will then be degraded to allow for natural recruitment of native plants and transition to a freshwater herbaceous wetland.

20. Florida Turnpike Subaqueous Crossing of C-100 Canal

Project Type: Subaqueous Crossing Installation

Location: Miami-Dade County, Florida. The project area is located immediately west of the Homestead Extension of the Florida Turnpike (HEFT) which crosses the C-100 Canal approximately 3.5 miles upstream of structure S-118 in Miami-Dade County, Florida. 25°39.8'8.3"N\80°23'14.0" W

Project Description: The Florida Department of Transportation (FDOT) proposes to install 492 linear feet of fiber optic ITS cable in a 6” HDPE casing under the canal, using the Horizontal Directional Drilling (HDD) method. This work is part of the ongoing Florida Turnpike Expansion project which includes several previously approved bridge crossings. The conduit will be installed a minimum of 10 feet below the canal bottom elevation. The drill entrance and exit points are outside of the canal right-of-way limits and will not impact the canal banks. Drilling fluid pressures will not exceed 10 psi. A frac-out contingency plan is in place.

Existing Conditions: The C-100 Canal provides flood protection to the Cutler Drain Area of Miami-Dade County. At the project location, the original alignment and cross-section of the canal were modified when the bridges were constructed in 1972. The modified cross-section consists of a 10 foot wide bottom at an elevation of -10.0 feet NGVD29, and side slopes of 2H: 1V. The design water surface elevation is 5.17 feet, and the canal right-of-way is 140 feet wide at this location.

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT REQUESTS

1. L-74 East Slope Modifications

Project Type: Levee Modifications

Location: Brevard County, Florida. The project area is located within the base floodplain, but all work will occur above 25 feet NGVD.

Project Description: The Saint Johns River Water Management District proposes to modify the levee between S-96A and S-96B. The southern slope along the Saint Johns Water Management Area (SJWMA) will be flattened from 2-Horizontal to 1-Vertical (2H: 1V) to 3H: 1V above approximate elevation +25 feet. The top of the northern slope along the C-54 Retention Area will be flattened to 3H: 1V as well. The crest of the levee will be shifted slightly to the north maintaining a minimum width of 15 feet at elevation +30 feet or higher. The shift of the levee northward will encroach onto the bench along the C-54 Retention Area; however, the resulting width will be 10 feet or more. The project includes minor structural modifications. No hazardous wastes or disposal will occur from this project. The L-75 East modification project has been designed to avoid any possible impairment to the federal project, nor will this project be injurious to the public interest. The placement of additional fill on the north side of the levee to flatten the side slopes will allow for safer and easier mowing and maintenance activities. The levee top will shift by 3 feet to the north to allow excavation on the south side to achieve the desired flatter slopes on that side as well to avoid placing additional fill. The planned improvements will result in flatter slopes and facilitate future maintenance operations and mowing. The proposed project will be conducted entirely in uplands above elevation 25 feet NGVD.

Existing Conditions: This is a single stretch of levee within the Upper Basin Project with no measurable effect on the human environment. The overall Upper Basin restores and preserves the floodplain for the Saint Johns River in this area. The L-74 modifications are located on real estate currently owned or controlled by the District, the non-federal sponsor for the federal Upper Basin Project.

APPENDIX B – COASTAL ZONE MANAGEMENT CONSISTENCY

FLORIDA COASTAL ZONE MANAGEMENT PROGRAM

FEDERAL CONSISTENCY EVALUATION PROCEDURES

LOW-IMPACT ALTERATIONS TO CIVIL WORKS PROJECTS CONDUCTED BY NON-FEDERAL SPONSORS AND OTHER INDEPENDENT REQUESTORS

FLORIDA

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 alterations are primarily being requested by the State, and do not involve projects located seaward of the line of mean high water.

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 alterations shall be coordinated with various Federal, State and local agencies during the planning process. The project meets the primary goal of the State Comprehensive Plan through preservation and protection of development and infrastructure.

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 proposed Section 408 requests involve low-impact alterations to Civil Works projects. Most requests would not be applicable to this chapter. Other requests involve roads, bridge expansions, and other actions that would improve response capabilities. Therefore, these requests 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 proposed Section 408 alterations would typically occur on State owned lands, and the requests are being primarily made by State agencies or other entities through the State. Most alteration proposals are for levees, canals, impoundments, and other man-made structures, and, therefore, impacts to State lands and resources would be low-impact. Appropriate protective measures shall be implemented. The proposed requests 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: No land acquisition is proposed for these Section 408 alterations.

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: There are no state parks or preserves that are expected to occur within the alteration areas.

7. Chapter 267, Historic Preservation. This chapter establishes the procedures for implementing the Florida Historic Resources Act responsibilities.

Response: No significant impacts to historical properties are expected from the alterations. Appropriate protective measures shall be implemented.

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 alterations include recreational amenities. This would be compatible with tourism for this area and therefore, is 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: No public transportation systems would be impacted by these alterations.

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 proposed alterations would have low-impact or temporary effects on saltwater living resources.

11. 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: The alterations are expected to have no significant effect on freshwater aquatic life or wild animal life.

12. Chapter 373, Water Resources. This chapter provides the authority to regulate the withdrawal, diversion, storage, and consumption of water.

Response: The proposed alterations do not involve water resources as described by this chapter.

13. Chapter 376, Pollutant Spill Prevention and Control. This chapter regulates the transfer, storage, and transportation of pollutants and the cleanup of pollutant discharges.

Response: The alterations would prohibit the contractor from dumping oil, fuel, or hazardous wastes in the work area and would require that the contractor adopt safe and sanitary measures for the disposal of solid wastes. A spill prevention plan will be required.

14. Chapter 377, Oil and Gas Exploration and Production. This chapter authorizes the regulation of all phases of exploration, drilling, and production of oil, gas, and other petroleum products.

Response: The alterations do not involve the exploration, drilling or production of gas, oil or petroleum product and therefore, this chapter does not apply.

15. Chapter 380, Environmental Land and Water Management. This chapter establishes criteria and procedures to assure that local land development decisions consider the regional impact nature of proposed large-scale development.

Response: The alterations would not have any regional impact on resources in the area. Therefore, the project is consistent with the goals of this chapter.

16. Chapter 388, Arthropod Control. This chapter provides for a comprehensive approach for abatement or suppression of mosquitoes and other pest arthropods within the state.

Response: The alterations will not further the propagation of mosquitoes or other pest arthropods.

17. Chapter 403, Environmental Control. This chapter authorizes the regulation of pollution of the air and waters of the state by the Florida Department of Environmental Regulation (now a part of the Florida Department of Environmental Protection).

Response: Environmental protection measures will be implemented to ensure that no lasting adverse effects on water quality, air quality, or other environmental resources will occur. The project complies with the intent of this chapter.

18. Chapter 582, Soil and Water Conservation. This chapter establishes policy for the conservation of the state soil and water through the Department of Agriculture. Land use policies will be evaluated in terms of their tendency to cause or contribute to soil erosion or to conserve, develop, and utilize soil and water resources both onsite or in adjoining properties affected by the project. Particular attention will be given to projects on or near agricultural lands.

Response: The proposed alterations would not occur near or on agricultural lands; therefore, this chapter does not apply.

APPENDIX C – PERTINENT CORRESPONDENCE

**APPENDIX D – USFWS ESA EFFECT DETERMINATION KEYS,
PROTECTIVE MEASURES**



United States Department of the Interior

FISH AND WILDLIFE SERVICE
South Florida Ecological Services Office
1339 20th Street
Vero Beach, Florida 32960



April 25, 2013

Donald W. Kinard
Chief, Regulatory Division
U.S. Army Corps of Engineers
701 San Marco Boulevard, Room 372
Jacksonville, Florida 32207-8175

Dear Mr. Kinard:

This letter acknowledges the U.S. Fish and Wildlife Service's (Service) receipt of your April 12, 2013, letter requesting concurrence on the U.S. Army Corps of Engineers' (Corps) implementation of the revised Manatee Key and its enclosures dated April 2013. This letter represents the Service's views on the potential effects of the proposed action in accordance with section 7 of the Endangered Species Act of 1973, as amended (Act) (16 U.S.C. 1531 *et seq.*) and the Marine Mammal Protection Act of 1972, as amended (MMPA) (16 U.S.C. 1361 *et seq.*). For future reference, we have assigned this concurrence letter to Service Consultation Code 2013-I-0151.

The Manatee Key is a tool that has been used by the Corps' Regulatory Division since 1992 to assist in making its effect determinations, as required under 50 CFR 402.14(a), on permit applications for in-water activities such as, but not limited to, maintenance dredging, the placement of fill material for shoreline stabilization, the construction or placement of other in-water structures, as well as the construction of docks, marinas, boat ramps, boat slips, dry storage or any other watercraft access structures or facilities. Your agency has determined utilization of the 2013 Manatee Key, and its enclosures, to review projects in waters accessible to the endangered West Indian manatee (*Trichechus manatus*) may affect, but is not likely to adversely affect the manatee or its designated critical habitat.

Since July 2011, the Service has worked closely with the Corps and the Florida Fish and Wildlife Conservation Commission (FWC) on revising the March 2011 version of the Manatee Key and its associated maps. Minor changes to the March 2011 Manatee Key were made to ensure consistency with the manatee programmatic consultation co-developed by the Corps and the Service in cooperation with the FWC.

For all new or expanding multi-slip facilities located in a county with a State-approved MPP in place that reach a "may affect, not likely to adversely affect" determination using the 2013 Manatee Key, the Service concurs with these determinations and no further consultation with the Service is necessary.

For all applications to construct residential dock facilities that reach a “may affect, not likely to adversely affect” determination using the 2013 Manatee Key, the Service concurs with these determinations and no further consultation with the Service is necessary. As such, the Service will not receive permit applications from the Corps for these types of facilities.

For those counties with a watercraft-related mortality rate that averages less than one dead manatee a year, we conclude take is not reasonably certain to occur as a result of new or expanding watercraft access facilities in these counties. Therefore, for multi-slip facilities proposed to be built or expanded in those counties that reach a “may affect, not likely to adversely affect” determination using the 2013 Manatee Key, the Service concurs with these effect determinations and no further consultation with the Service is necessary.

For all applications to repair or replace existing multi-slip facilities that do not provide new watercraft access and reach a “may affect, not likely to adversely affect” determination using the 2013 Manatee Key, the Service concurs with these determinations. As such, the Service will not receive permit applications from the Corps for these types of existing facilities since they were covered by the Service’s March 17, 2011, consultation on the 2011 Manatee Key.

All other future applications for multi-slip facilities reaching a “may affect, not likely to adversely affect” determination using the 2013 Manatee Key will be forwarded to the Service for concurrence. The Corps agreed to forward to the Service those applications that are consistent with the Manatee Key.

All culverts 8 inches to 8 feet in diameter must be grated to prevent manatee entrapment. To effectively prevent manatee access, grates must be permanently fixed, spaced a maximum of 8 inches apart (may be less for culverts smaller than 16 inches in diameter) and may be installed diagonally, horizontally, or vertically. Culverts less than 8 inches or greater than 8 feet in diameter are exempt from this requirement. If new culverts and/or the maintenance or modification of existing culverts are grated as described above, the determination of “may affect, not likely to adversely affect” is appropriate and no further consultation with the Service is necessary.

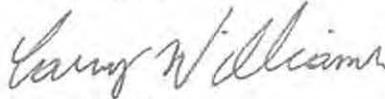
We have examined the April 2013 version of the Manatee Key and its enclosures and agree with its structure and content. Currently, the FWC does not require implementation of the signage component of the standard construction conditions for in-water work for the State’s review of the permit application. However, the Corps and the Service will require applicants to implement the signage component of the standard construction conditions for any in-water work authorized by a Department of the Army permit. Therefore, except as noted above, for all future applications reviewed with the April 2013 version of the Manatee Key in which the Corps reaches a “may affect, not likely to adversely affect” determination with respect to the manatee and/or its designated critical habitat, the Service hereby concurs with those determinations in accordance with 50 CFR 402.14(b)1. As such, the March 2011 version of the Manatee Key and its associated maps, as well as other earlier versions of the Manatee Key, are no longer applicable.

The Service does not anticipate the proposed action will result in the incidental take of manatees. Furthermore, the Service is not including an incidental take authorization for marine mammals at this time because the incidental take of marine mammals is not expected to occur and has not been authorized under section 101(a)(5) of the MMPA and/or its 1994 Amendments. Following issuance of such regulations or authorizations, the Service may reinitiate consultation to include an incidental take statement for marine mammals, if deemed appropriate.

This concurrence letter fulfills the requirements of section 7 of the Act and no further action is required. If modifications are made to the Manatee Key, if additional information involving potential effects to listed species becomes available, or if a new species is listed or new critical habitat is designated that may be affected by the project, then reinitiation of consultation may be necessary.

This concurrence letter represents the collective assessment of the April 2013 version of the Manatee Key and its enclosures from the Service's three field offices in Florida: Panama City, North Florida, and South Florida. If you have any questions or concerns about this consultation, please feel free to contact Kalani Cairns at 772-469-4240.

Sincerely yours,



Larry Williams
State Supervisor

cc: electronic copy only
Corps, Jacksonville, Florida (Stuart Santos)
Service, Atlanta, Georgia (Jack Arnold)
Service, Jacksonville, Florida (Dawn Jennings)
Service, Panama City, Florida (Don Imm)

THE CORPS OF ENGINEERS, JACKSONVILLE DISTRICT, AND THE STATE OF FLORIDA EFFECT DETERMINATION KEY FOR THE MANATEE IN FLORIDA

April 2013

Purpose and background of the key

The purpose of this document is to provide guidance to improve the review of permit applications by U.S. Army Corps of Engineers' (Corps) Project Managers in the Regulatory Division regarding the potential effects of proposed projects on the endangered West Indian manatee (*Trichechus manatus*) in Florida, and by the Florida Department of Environmental Protection or its authorized designee or Water Management District, for evaluating projects under the State Programmatic General Permit (SPGP) or any other Programmatic General Permits that the Corps may issue for administration by the above agencies. Such guidance is contained in the following dichotomous key. The key applies to permit applications for in-water activities such as, but not limited to: (1) dredging [new or maintenance dredging of not more than 50,000 cubic yards], placement of fill material for shoreline stabilization, and construction/placement of other in-water structures as well as (2) construction of docks, marinas, boat ramps and associated trailer parking spaces, boat slips, dry storage or any other watercraft access structures or facilities.

At a certain step in the key, the user is referred to graphics depicting important manatee areas or areas with inadequate protection. The maps can be downloaded from the Corps' web page at <http://www.saj.usace.army.mil/Missions/Regulatory/SourceBook.aspx>. We intend to utilize the most recent depiction of these areas, so should these areas be modified by statute, rule, ordinance and/or other legal mandate or authorization, we will modify the graphical depictions accordingly. These areas may be shaded or otherwise differentiated for identification on the maps.

Explanatory footnotes are provided in the key and must be closely followed whenever encountered.

Scope of the key

This key should only be used in the review of permit applications for effect determinations on manatees and should not be used for other listed species or for other aquatic resources such as Essential Fish Habitat (EFH). Corps Project Managers should ensure that consideration of the project's effects on any other listed species and/or on EFH is performed independently. This key may be used to evaluate applications for all types of State of Florida (State Programmatic General Permits, noticed general permits, standard general permits, submerged lands leases, conceptual and individual permits) and Department of the Army (standard permits, letters of permission, nationwide permits, and regional general permits) permits and authorizations. The final effect determination will be based on the project location and description; the potential effects to manatees, manatee habitat, and/or manatee critical habitat; and any measures (such as project components, standard construction precautions, or special conditions included in the authorization) to avoid or minimize effects to manatees or manatee critical habitat. Projects that key to a "may affect" determination equate to "likely to adversely affect" situations, and those projects should not be processed under the SPGP or any other programmatic general permit. For

all “may affect” determinations, Corps Project Managers shall refer to the Manatee Programmatic Biological Opinion, dated March 21, 2011, for guidance on eliminating or minimizing potential adverse effects resulting from the proposed project. If unable to resolve the adverse effects, the Corps may refer the applicant to the U.S. Fish and Wildlife Service (Service) for further assistance in attempting to revise the proposed project to a “may affect, not likely to adversely affect” level. The Service will coordinate with the Florida Fish and Wildlife Conservation Commission (FWC) and the counties, as appropriate. Projects that provide new access for watercraft and key to “may affect, not likely to adversely affect” may or may not need to be reviewed individually by the Service.

MANATEE KEY
Florida¹
April 2013

The key is not designed to be used by the Corps' Regulatory Division for making their effect determinations for dredging projects greater than 50,000 cubic yards, the Corps' Planning Division in making their effect determinations for civil works projects or by the Corps' Regulatory Division for making their effect determinations for projects of the same relative scope as civil works projects. These types of activities must be evaluated by the Corps independently of the key.

- A. Project is not located in waters accessible to manatees and does not directly or indirectly affect manatees (see Glossary).....*No effect*
- Project is located in waters accessible to manatees or directly or indirectly affects manatees B
- B. Project consists of one or more of the following activities, all of which are *May affect*:
1. blasting or other detonation activity for channel deepening and/or widening, geotechnical surveys or exploration, bridge removal, movies, military shows, special events, etc.;
 2. installation of structures which could restrict or act as a barrier to manatees;
 3. new or changes to existing warm or fresh water discharges from industrial sites, power plants, or natural springs or artesian wells (but only if the new or proposed change in discharge requires a Corps permit to accomplish the work);
 4. installation of new culverts and/or maintenance or modification of existing culverts (where the culverts are 8 inches to 8 feet in diameter, ungrated and in waters accessible, or potentially accessible, to manatees)²;
 5. mechanical dredging from a floating platform, barge or structure³ that restricts manatee access to less than half the width of the waterway;
 6. creation of new slips or change in use of existing slips, even those located in a county with a State-approved Manatee Protection Plan (MPP) in place and the number of slips is less than the MPP threshold, to accommodate docking for repeat use vessels, (e.g., water taxis, tour boats, gambling boats, etc; or slips or structures that are not civil works projects, but are frequently used to moor large vessels (>100') for shipping and/or freight purposes; does not include slips used for docking at boat sales or repair facilities or loading/unloading at dry stack storage facilities and boat ramps); [Note: For projects within Bay, Dixie, Escambia, Franklin, Gilchrist, Gulf, Hernando, Jefferson, Lafayette, Monroe (south of Craig Key), Nassau, Okaloosa, Okeechobee, Santa Rosa, Suwannee, Taylor, Wakulla or Walton County, the reviewer should proceed to Couplet C.]
 7. any type of in-water activity in a Warm Water Aggregation Area (WWAA) or No Entry Area (see Glossary and accompanying Maps⁴); [Note: For residential docking facilities in a Warm Water Aggregation Area that is not a Federal manatee sanctuary or No Entry Area, the reviewer should proceed to couplet C.]
 8. creation or expansion of canals, basins or other artificial shoreline and/or the connection of such features to navigable waters of the U.S.; [Note: For projects proposing a single residential dock, the reviewer should proceed to couplet C; otherwise, project is a *May Affect*.]

9. installation of temporary structures (docks, buoys, etc.) utilized for special events such as boat races, boat shows, military shows, etc., but only when consultation with the U.S. Coast Guard and FWS has not occurred; [Note: See programmatic consultation with the U.S. Coast Guard on manatees dated May 10, 2010.].
- Project is other than the activities listed above..... C
- C. Project is located in an Important Manatee Area (IMA) (see Glossary and accompanying Maps⁴)D
- Project is not located in an Important Manatee Area (IMA) (see Glossary and accompanying Maps⁴)G
- D. Project includes dredging of less than 50,000 cubic yards E
- Project does not include dredgingG
- E. Project is for dredging a residential dock facility or is a land-based dredging operationN
- Project not as above.....F
- F. Project proponent **does not elect** to follow all dredging protocols described on the maps for the respective IMA in which the project is proposed *May affect*
- Project proponent **elects** to follow all dredging protocols described on the maps for the respective IMA in which the project is proposed G
- G. Project provides new⁵ access for watercraft, *e.g.*, docks or piers, marinas, boat ramps and associated trailer parking spaces, new dredging, boat lifts, pilings, floats, floating docks, floating vessel platforms, boat slips, dry storage, mooring buoys, or other watercraft access (residential boat lifts, pilings, floating docks, and floating vessel platforms installed in existing slips are not considered new access) or improvements allowing increased watercraft usage..... H
- Project does not provide new⁵ access for watercraft, *e.g.*, bulkheads, seawalls, riprap, maintenance dredging, boardwalks and/or the maintenance (repair or rehabilitation) of currently serviceable watercraft access structures provided all of the following are met: (1) the number of slips is not increased; (2) the number of existing slips is not in question; and (3) the improvements do not allow increased watercraft usage..... N
- H. Project is located in the Braden River Area of Inadequate Protection (Manatee County) (see Glossary and accompanying AIP Map⁴) *May affect*
- Project is not located in the Braden River Area of Inadequate Protection (Manatee County) (see Glossary and accompanying AIP Map⁴)..... I
- I. Project is for a multi-slip facility (see Glossary) J
- Project is for a residential dock facility or is for dredging (see Glossary).....N
- J. Project is located in a county that currently has a State-approved MPP in place (BREVARD, BROWARD, CITRUS, CLAY, COLLIER, DUVAL, INDIAN RIVER, LEE, MARTIN, MIAMI-DADE, PALM BEACH, ST. LUCIE, SARASOTA, VOLUSIA) or shares contiguous waters with a county having a State-approved MPP in place (LAKE, MARION, SEMINOLE)⁶ K
- Project is located in a county not required to have a State-approved MPP L

- K. Project has been developed or modified to be consistent with the county's State-approved MPP **and** has been verified by a FWC review (or FWS review if project is exempt from State permitting) **or** the number of slips is below the MPP threshold N
- Project has not been reviewed by the FWC or FWS **or** has been reviewed by the FWC or FWS **and** determined that the project is not consistent with the county's State-approved MPP *May affect*
- L. Project is located in one of the following counties: CHARLOTTE, DESOTO⁷, FLAGLER, GLADES, HENDRY, HILLSBOROUGH, LEVY, MANATEE, MONROE⁷, PASCO⁷, PINELLAS M
- Project is located in one of the following counties: BAY, DIXIE, ESCAMBIA, FRANKLIN, GILCHRIST, GULF, HERNANDO, JEFFERSON, LAFAYETTE, MONROE (south of Craig Key), NASSAU, OKALOOSA, OKEECHOBEE, PUTNAM, SANTA ROSA, ST. JOHNS, SUWANNEE, TAYLOR, WAKULLA, WALTON N
- M. The number of slips does not exceed the residential dock density threshold (see Glossary) N
- The number of slips exceeds the residential dock density threshold (see Glossary) *May affect*
- N. Project impacts to submerged aquatic vegetation⁸, emergent vegetation or mangrove will have beneficial, insignificant, discountable⁹ or no effects on the manatee¹⁰ O
- Project impacts to submerged aquatic vegetation⁸, emergent vegetation or mangrove may adversely affect the manatee¹⁰ *May affect*
- O. Project proponent **elects** to follow standard manatee conditions for in-water work¹¹ and requirements, as appropriate for the proposed activity, prescribed on the maps⁴ P
- Project proponent **does not elect** to follow standard manatee conditions for in-water work¹¹ and appropriate requirements prescribed on the maps⁴ *May affect*
- P. If project is for a new or expanding⁵ multi-slip facility and is located in a county with a State-approved MPP in place **or** in Bay, Dixie, Escambia, Franklin, Gilchrist, Gulf, Hernando, Jefferson, Lafayette, Monroe (south of Craig Key), Nassau, Okaloosa, Okeechobee, Putnam, St. Johns, Santa Rosa, Suwannee, Taylor, Wakulla or Walton County, the determination of "*May affect, not likely to adversely affect*" is appropriate¹² and no further consultation with the Service is necessary.
- If project is for a new or expanding⁵ multi-slip facility and is located in Charlotte, Desoto, Flagler, Glades, Hendry, Hillsborough, Levy, Manatee, Monroe (north of Craig Key), Pasco, or Pinellas County, further consultation with the Service is necessary for "*May affect, not likely to adversely affect*" determinations.
- If project is for repair or rehabilitation of a multi-slip facility and is located in an Important Manatee Area, further consultation with the Service is necessary for "*May affect, not likely to adversely affect*" determinations. If project is for repair or rehabilitation of a multi-slip facility and: (1) is **not** located in an Important Manatee Area; (2) the number of slips is not increased; (3) the number of existing slips is not in question; and (4) the improvements to the existing watercraft access structures do not allow increased watercraft usage, the determination of "*May affect, not likely to adversely affect*" is appropriate¹² and no further consultation with the Service is necessary.
- If project is a residential dock facility, shoreline stabilization, or dredging, the determination of "*May affect, not likely to adversely affect*" is appropriate¹² and no further consultation with the Service is necessary. **Note:** For residential dock facilities located in a Warm Water Aggregation Area or in a No Entry area, seasonal restrictions may apply. See footnote 4 below for maps showing restrictions.
- If project is other than repair or rehabilitation of a multi-slip facility, a new⁵ multi-slip facility, residential dock facility, shoreline stabilization, or dredging, and does not provide new⁵ access for watercraft or

improve an existing access to allow increased watercraft usage, the determination of “*May affect, not likely to adversely affect*” is appropriate¹² and no further consultation with the Service is necessary.

¹ On the St. Mary’s River, this key is only applicable to those areas that are within the geographical limits of the State of Florida.

² All culverts 8 inches to 8 feet in diameter must be grated to prevent manatee entrapment. To effectively prevent manatee access, grates must be permanently fixed, spaced a maximum of 8 inches apart (may be less for culverts smaller than 16 inches in diameter) and may be installed diagonally, horizontally or vertically. For new culverts, grates must be attached prior to installation of the culverts. Culverts less than 8 inches or greater than 8 feet in diameter are exempt from this requirement. If new culverts and/or the maintenance or modification of existing culverts are grated as described above, the determination of “*May affect, not likely to adversely affect*” is appropriate¹¹ and no further consultation with the Service is necessary.

³ If the project proponent agrees to follow the standard manatee conditions for in-water work as well as any special conditions appropriate for the proposed activity, further consultation with the Service is necessary for “*May affect, not likely to adversely affect*” determinations. These special conditions may include, but are not limited to, the use of dedicated observers (see Glossary for definition of dedicated observers), dredging during specific months (warm weather months vs cold weather months), dredging during daylight hours only, adjusting the number of dredging days, does not preclude or discourage manatee egress/ingress with turbidity curtains or other barriers that span the width of the waterway, etc.

⁴ Areas of Inadequate Protection (AIPs), Important Manatee Areas (IMAs), Warm Water Aggregation Areas (WWAAs) and No Entry Areas are identified on these maps and defined in the Glossary for the purposes of this key. These maps can be viewed on the [Corps’ web page](#). If projects are located in a No Entry Area, special permits may be required from FWC in order to access these areas (please refer to Chapter 68C-22 F.A.C. for boundaries; maps are also available at [FWC’s web page](#)).

⁵ New access for watercraft is the addition or improvement of structures such as, but not limited to, docks or piers, marinas, boat ramps and associated trailer parking spaces, boat lifts, pilings, floats, floating docks, floating vessel platforms, (maintenance dredging, residential boat lifts, pilings, floating docks, and floating vessel platforms installed in existing slips are not considered new access), boat slips, dry storage, mooring buoys, new dredging, etc., that facilitates the addition of watercraft to, and/or increases watercraft usage in, waters accessible to manatees. The repair or rehabilitation of any type of currently serviceable watercraft access structure is not considered new access provided all of the following are met: (1) the number of slips is not increased; (2) the number of existing slips is not in question; and (3) the improvements to the existing watercraft access structures do not result in increased watercraft usage.

⁶ Projects proposed within the St. Johns River portion of Lake, Marion, and Seminole counties and contiguous with Volusia County shall be evaluated using the Volusia County MPP.

⁷ For projects proposed within the following areas: the Peace River in DeSoto County; all areas north of Craig Key in Monroe County, and the Anclote and Pithlachascotee Rivers in Pasco County, proceed to Couplet M. For all other locations in DeSoto, Monroe (south of Craig Key) and Pasco Counties, proceed to couplet N.

⁸ Where the presence of the referenced vegetation is confirmed within the area affected by docks and other piling-supported minor structures and the reviewer has concluded that the impacts to SAV, marsh or mangroves would not adversely affect the manatee or its critical habitat, proceed to couplet O.

Where the presence of the referenced vegetation is confirmed within the area affected by docks and other piling-supported minor structures and the reviewer has concluded that the impacts to SAV, marsh or mangroves would adversely affect the manatee or its critical habitat, the applicant can elect to avoid/minimize impacts to that vegetation. In that instance, where impacts are unavoidable and the applicant elects to abide by or employ construction techniques that exceed the criteria in the following documents, the reviewer should conclude that the impacts to SAV, marsh or mangroves would not adversely affect the manatee or its critical habitat and proceed to couplet O.

- “Construction Guidelines in Florida for Minor Piling-Supported Structures Constructed in or over Submerged Aquatic Vegetation (SAV), Marsh or Mangrove Habitat,” prepared jointly by the U.S. Army Corps of Engineers and the National Marine Fisheries Service (August 2001) [refer to the [Corps’ web page](#)], and
- “Key for Construction Conditions for Docks or Other Minor Structures Constructed in or over Johnson’s seagrass (*Halophila johnsonii*),” prepared jointly by the National Marine Fisheries Service and U.S. Army Corps of Engineers (October 2002), for those projects within the known range of Johnson’s seagrass occurrence (Sebastian Inlet to central Biscayne Bay in the lagoon systems on the east coast of Florida) [refer to the [Corps’ web page](#)].

Where the presence of the referenced vegetation is confirmed within the area affected by docks and other piling-supported minor structures and the reviewer has concluded that the impacts to SAV, marsh or mangroves would adversely affect the manatee or its critical habitat, and the applicant does not elect to follow the above Guidelines, the Corps will need to request formal consultation on the manatee with the Service as *May affect*.

For activities other than docks and other piling-supported minor structures proposed in SAV, marsh, or mangroves (e.g., new dredging, placement of riprap, bulkheads, etc.), if the reviewer determines the impacts to the SAV, marsh or mangroves will not adversely affect the manatee or its critical habitat, proceed to couplet O, otherwise the Corps will need to request formal consultation on the manatee with the Service as *May affect*.

⁹ See Glossary, under “is not likely to adversely affect.”

¹⁰ Federal reviewers, when making your effects determination, consider effects to manatee designated critical habitat pursuant to section 7(a)(2) of the Endangered Species Act. State reviewers, when making your effects determination, consider effects to manatee habitat within the entire State of Florida, pursuant to Chapter 370.12(2)(b) Florida Statutes.

¹¹ See the [Corps' web page](#) for manatee construction conditions. At this time, manatee construction precautions c and f are not required in the following Florida counties: Bay, Escambia, Franklin, Gilchrist, Gulf, Jefferson, Lafayette, Okaloosa, Santa Rosa, Suwannee, and Walton.

¹² By letter dated April 25, 2013, the Corps received the Service's concurrence with “*May affect, not likely to adversely affect*” determinations made pursuant to this key for the following activities: (1) selected non-watercraft access projects; (2) watercraft-access projects that are residential dock facilities, excluding those located in the Braden River AIP; (3) launching facilities solely for kayaks and canoes, and (4) new or expanding multi-slip facilities located in Bay, Dixie, Escambia, Franklin, Gilchrist, Gulf, Hernando, Jefferson, Lafayette, Monroe (south of Craig Key), Nassau, Okaloosa, Okeechobee, Santa Rosa, Suwannee, Taylor, Wakulla or Walton County.

Additionally, in the same letter dated April 25, 2013, the Corps received the Service's concurrence for “*May affect, not likely to adversely affect*” determinations specifically made pursuant to Couplet G of the key for the repair or rehabilitation of currently serviceable multi-slip watercraft access structures provided all of the following are met: (1) the project is not located in an IMA, (2) the number of slips is not increased; (3) the number of existing slips is not in question; and (4) the improvements to the existing watercraft access structures do not allow increased watercraft usage. Upon receipt of such a programmatic concurrence, no further consultation with the Service for these projects is required.

GLOSSARY

Areas of inadequate protection (AIP) – Areas within counties as shown on the maps where the Service has determined that measures intended to protect manatees from the reasonable certainty of watercraft-related take are inadequate. Inadequate protection may be the result of the absence of manatee or other watercraft speed zones, insufficiency of existing speed zones, deficient speed zone signage, or the absence or insufficiency of speed zone enforcement.

Boat slip – A space on land or in or over the water, other than on residential land, that is intended and/or actively used to hold a stationary watercraft or its trailer, and for which intention and/or use is confirmed by legal authorization or other documentary evidence. Examples of boat slips include, but are not limited to, docks or piers, marinas, boat ramps and associated trailer parking spaces, boat lifts, floats, floating docks, pilings, boat davits, dry storage, etc.

Critical habitat – For listed species, this consists of: (1) the specific areas within the geographical area occupied by the species, at the time it is listed in accordance with the provisions of section 4 of the Endangered Species Act (ESA), on which are found those physical or biological features (constituent elements) (a) essential to the conservation of the species and (b) which may require special management considerations or protection; and (2) specific areas outside the geographical area occupied by the species at the time it is listed in accordance with the provisions of section 4 of the ESA, upon a determination by the Secretary that such areas are essential for the conservation of the species. Designated critical habitats are described in 50 CFR 17 and 50 CFR 226.

Currently serviceable – Currently, serviceable means usable as is or with some maintenance, but not so degraded as to essentially require reconstruction.

Direct effects – The direct or immediate effects of the project on the species or its habitat.

Dredging – For the purposes of this key, the term dredging refers to all in-water work associated with dredging operations, including mobilization and demobilization activities that occur in water or require vessels.

Emergent vegetation – Rooted emergent vascular macrophytes such as, but not limited to, cordgrass (*Spartina alterniflora* and *S. patens*), needle rush (*Juncus roemerianus*), swamp sawgrass (*Cladium mariscoides*), saltwort (*Batis maritima*), saltgrass (*Distichlis spicata*), and glasswort (*Salicornia virginica*) found in coastal salt marsh-related habitats (tidal marsh, salt marsh, brackish marsh, coastal marsh, coastal wetlands, tidal wetlands).

Formal consultation – A process between the Services and a Federal agency or applicant that: (1) determines whether a proposed Federal action is likely to jeopardize the continued existence of listed species or destroy or adversely modify designated critical habitat; (2) begins with a Federal agency's written request and submittal of a complete initiation package; and (3) concludes with the issuance of a biological opinion and incidental take statement by either of the Services. If a proposed Federal action may affect a listed species or designated critical habitat, formal consultation is required (except when the Services concur, in writing, that a proposed

action “is not likely to adversely affect” listed species or designated critical habitat). [50 CFR 402.02, 50 CFR 402.14]

Important manatee areas (IMA) – Areas within certain counties where increased densities of manatees occur due to the proximity of warm water discharges, freshwater discharges, natural springs and other habitat features that are attractive to manatees. These areas are heavily utilized for feeding, transiting, mating, calving, nursing or resting as indicated by aerial survey data, mortality data and telemetry data. Some of these areas may be federally-designated sanctuaries or state-designated “seasonal no entry” zones. Maps depicting important manatee areas and any accompanying text may contain a reference to these areas and their special requirements. Projects proposed within these areas must address their special requirements.

Indirect effects – Those effects that are caused by or will result from the proposed action and are later in time, but are still reasonably certain to occur. Examples of indirect effects include, but are not limited to, changes in water flow, water temperature, water quality (*e.g.*, salinity, pH, turbidity, nutrients, chemistry), prop dredging of seagrasses, and manatee watercraft injury and mortality. Indirect effects also include watercraft access developments in waters not currently accessible to manatees, but watercraft access can, is, or may be planned to waters accessible to manatees by the addition of a boat lift or the removal of a dike or plug.

Informal consultation – A process that includes all discussions and correspondence between the Services and a Federal agency or designated non-Federal representative, prior to formal consultation, to determine whether a proposed Federal action may affect listed species or critical habitat. This process allows the Federal agency to utilize the Services’ expertise to evaluate the agency’s assessment of potential effects or to suggest possible modifications to the proposed action which could avoid potentially adverse effects. If a proposed Federal action may affect a listed species or designated critical habitat, formal consultation is required (except when the Services concur, in writing, that a proposed action “is not likely to adversely affect” listed species or designated critical habitat). [50 CFR 402.02, 50 CFR 402.13]

In-water activity – Any type of activity used to construct/repair/replace any type of in-water structure or fill; the act of dredging.

In-water structures – watercraft access structures – Docks or piers, marinas, boat ramps, boat slips, boat lifts, floats, floating docks, pilings (depending on use), boat davits, etc.

In-water structures – other than watercraft access structures – Bulkheads, seawalls, riprap, groins, boardwalks, pilings (depending on use), etc.

Is likely to adversely affect – The appropriate finding in a biological assessment (or conclusion during informal consultation) if any adverse effect to listed species may occur as a direct or indirect result of the proposed action or its interrelated or interdependent actions and the effect is not: discountable, insignificant, or beneficial (see definition of “is not likely to adversely affect”). An “is likely to adversely affect” determination requires the initiation of formal consultation under section 7 of the ESA.

Is not likely to adversely affect – The appropriate conclusion when effects on listed species are expected to be discountable, insignificant, or completely beneficial. **Discountable effects** are those extremely unlikely to occur. **Insignificant effects** relate to the size of the impact and should never reach the scale where take occurs. **Beneficial effects** are contemporaneous positive effects without any adverse effects to the species. Based on best judgment, a person would not (1) be able to meaningfully measure, detect, or evaluate insignificant effects or (2) expect discountable effects to occur.

Manatee Protection Plan (MPP) – A manatee protection plan (MPP) is a comprehensive planning document that addresses the long-term protection of the Florida manatee through law enforcement, education, boat facility siting, and habitat protection initiatives. Although MPPs are primarily developed by the counties, the plans are the product of extensive coordination and cooperation between the local governments, the FWC, the Service, and other interested parties.

Manatee Protection Plan thresholds – The smallest size of a multi-slip facility addressed under the purview of a Manatee Protection Plan (MPP). For most MPPs, this threshold is five slips or more. For Brevard, Clay, Citrus, and Volusia County MPPs, this threshold is three slips or more.

Mangroves – Rooted emergent trees along a shoreline that, for the purposes of this key, include red mangrove (*Rhizophora mangle*), black mangrove (*Avicennia germinans*) and white mangrove (*Laguncularia racemosa*).

May affect – The appropriate conclusion when a proposed action may pose any effects on listed species or designated critical habitat. When the Federal agency proposing the action determines that a “may affect” situation exists, then they must either request the Services to initiate formal consultation or seek written concurrence from the Services that the action “is not likely to adversely affect” listed species. For the purpose of this key, all “may affect” determinations equate to “likely to adversely affect” and Corps Project Managers should request the Service to initiate formal consultation on the manatee or designated critical habitat. **No effect** – the appropriate conclusion when the action agency determines its proposed action will not affect a listed species or designated critical habitat.

Multi-slip facility – Multi-slip facilities include commercial marinas, private multi-family docks, boat ramps and associated trailer parking spaces, dry storage facilities and any other similar structures or activities that provide access to the water for multiple (five slips or more, except in Brevard, Clay, Citrus, and Volusia counties where it is three slips or more) watercraft. In some instances, the Corps and the Service may elect to review multiple residential dock facilities as a multi-slip facility.

New access for watercraft – New dredging and the addition, expansion or improvement of structures such as, but not limited to, docks or piers, marinas, boat ramps and associated trailer parking spaces, boat lifts, pilings, floats, floating docks, floating vessel platforms, (residential boat lifts, pilings, floats, and floating vessel platforms installed in existing slips are not considered new access), boat slips, dry storage, mooring buoys, etc., that facilitates the addition of watercraft to, and/or increases watercraft usage in, waters accessible to manatees.

Observers – During dredging and other in-water operations within manatee accessible waters, the standard manatee construction conditions require all on-site project personnel to watch for manatees to ensure that those standard manatee construction conditions are met. Within important manatee areas (IMA) and under special circumstances, heightened observation is needed. **Dedicated Observers** are those having some prior experience in manatee observation, are dedicated only for this task, and must be someone other than the dredge and equipment operators/mechanics. **Approved Observers** are dedicated observers who also must be approved by the Service (if Federal permits are involved) and the FWC (if state permits are involved), prior to work commencement. Approved observers typically have significant and often project-specific observational experience. Documentation on prior experience must be submitted to these agencies for approval and must be submitted a minimum of 30 days prior to work commencement. When dedicated or approved observers are required, observers must be on site during all in-water activities, and be equipped with polarized sunglasses to aid in manatee observation. For prolonged in-water operations, multiple observers may be needed to perform observation in shifts to reduce fatigue (recommended shift length is no longer than six hours). Additional information concerning observer approval can be found at [FWC's web page](#).

Residential boat lift – A boat lift installed on a residential dock facility.

Residential dock density ratio threshold – The residential dock density ratio threshold is used in the evaluation of multi-slip projects in some counties without a State-approved Manatee Protection Plan and is consistent with 1 boat slip per 100 linear feet of shoreline (1:100) owned by the applicant.

Residential dock facility – A residential dock facility means a private residential dock which is used for private, recreational or leisure purposes for single-family or multi-family residences designed to moor no more than four vessels (except in Brevard, Clay, Citrus, and Volusia counties which allow only two vessels). This also includes normal appurtenances such as residential boat lifts, boat shelters with open sides, stairways, walkways, mooring pilings, dolphins, etc. In some instances, the Corps and the Service may elect to review multiple residential dock facilities as a multi-slip facility.

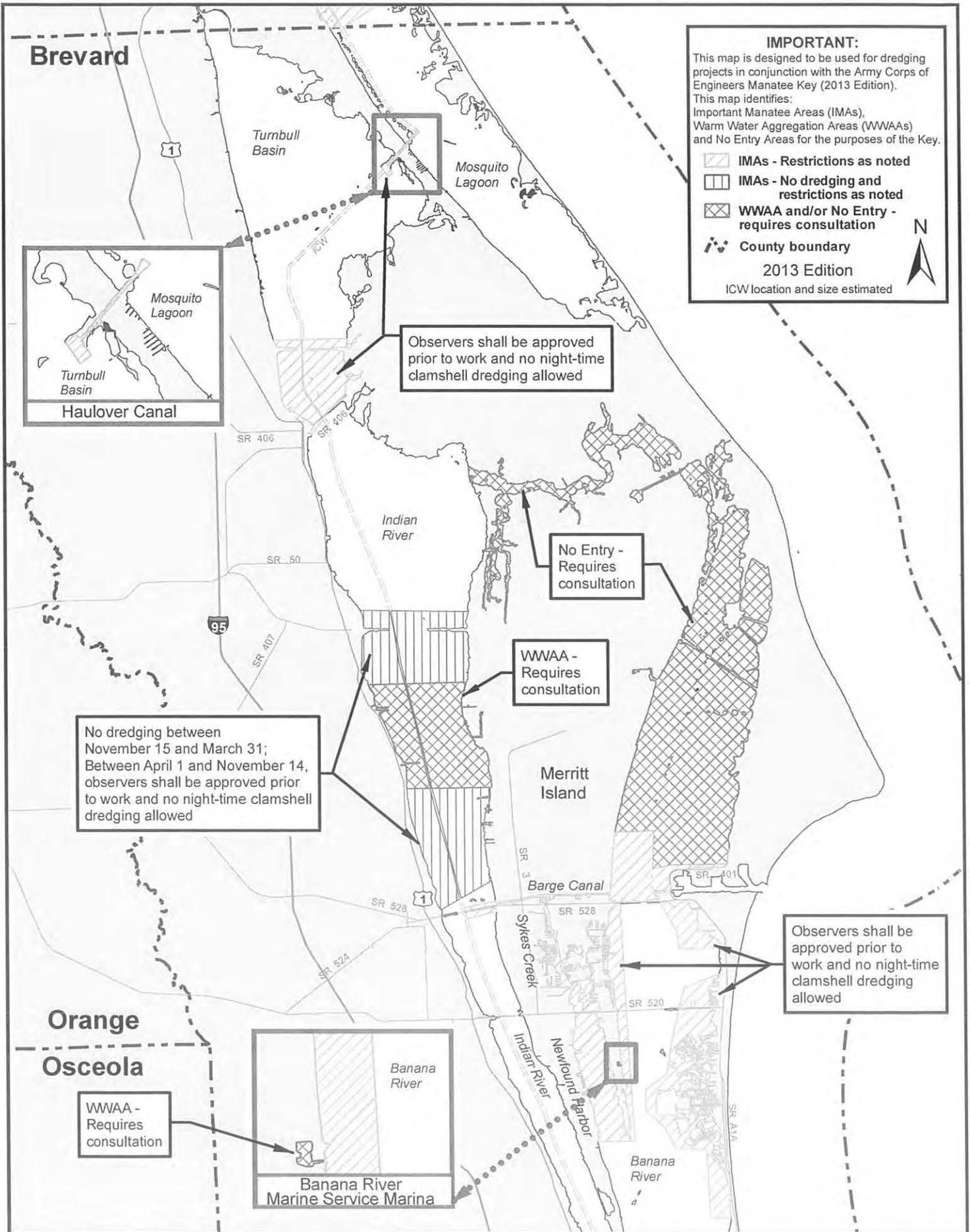
Submerged aquatic vegetation (SAV) – Rooted, submerged, aquatic plants such as, but not limited to, shoal grass (*Halodule wrightii*), paddle grass (*Halophila decipiens*), star grass (*Halophila engelmannii*), Johnson's seagrass (*Halophila johnsonii*), sago pondweed (*Potamogeton pectinatus*), clasping-leaved pondweed (*Potamogeton perfoliatus*), widgeon grass (*Ruppia maritima*), manatee grass (*Syringodium filiforme*), turtle grass (*Thalassia testudinum*), tapegrass (*Vallisneria americana*), and horned pondweed (*Zannichellia palustris*).

Warm Water Aggregation Areas (WWAAs) and No Entry Areas – Areas within certain counties where increased densities of manatees occur due to the proximity of artificial or natural warm water discharges or springs and are considered necessary for survival. Some of these areas may be federally-designated manatee sanctuaries or state-designated seasonal “no entry” manatee protection zones. Projects proposed within these areas may require consultation in order to offset expected adverse impacts. In addition, special permits may be required from the FWC in order to access these areas.

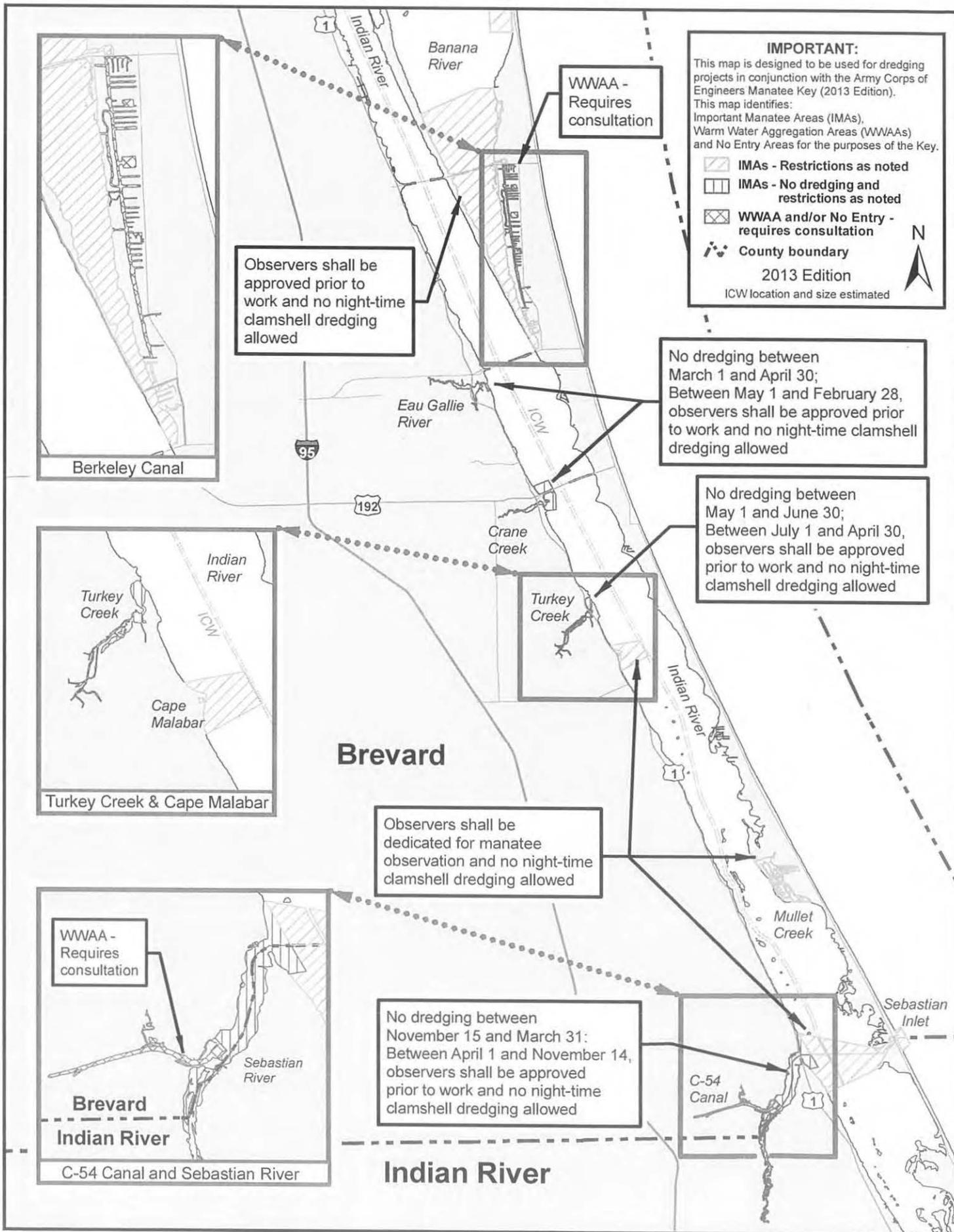
Watercraft access structures – Docks or piers, marinas, boat ramps and associated trailer parking spaces, boat slips, boat lifts, floats, floating docks, pilings, boat davits, dry storage, etc.

Waters accessible to manatees – Although most waters of the State of Florida are accessible to the manatee, there are some areas such as landlocked lakes that are not. There are also some weirs, salinity control structures and locks that may preclude manatees from accessing water bodies. If there is any question about accessibility, contact the Service or the FWC.

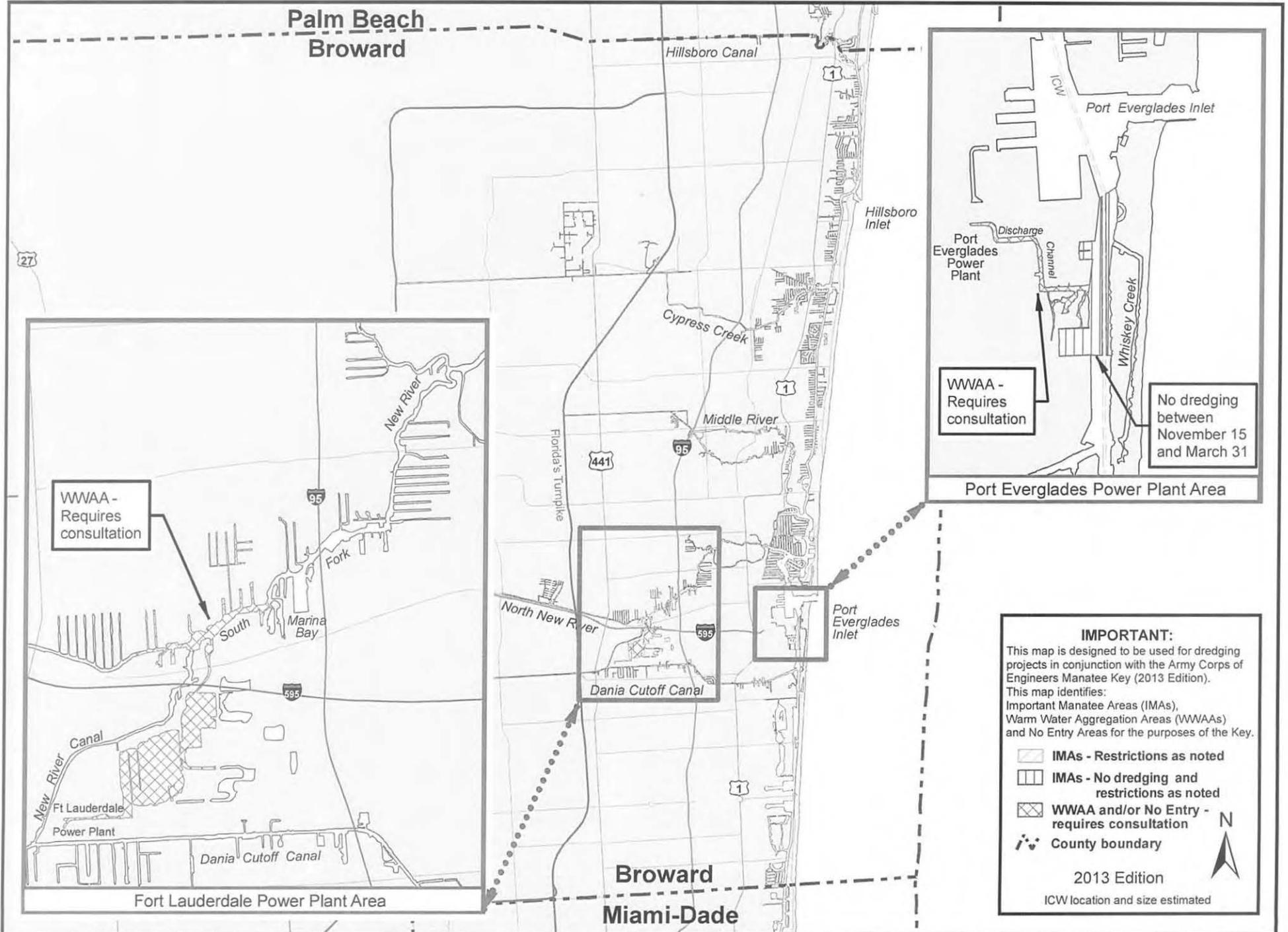
Brevard County - North



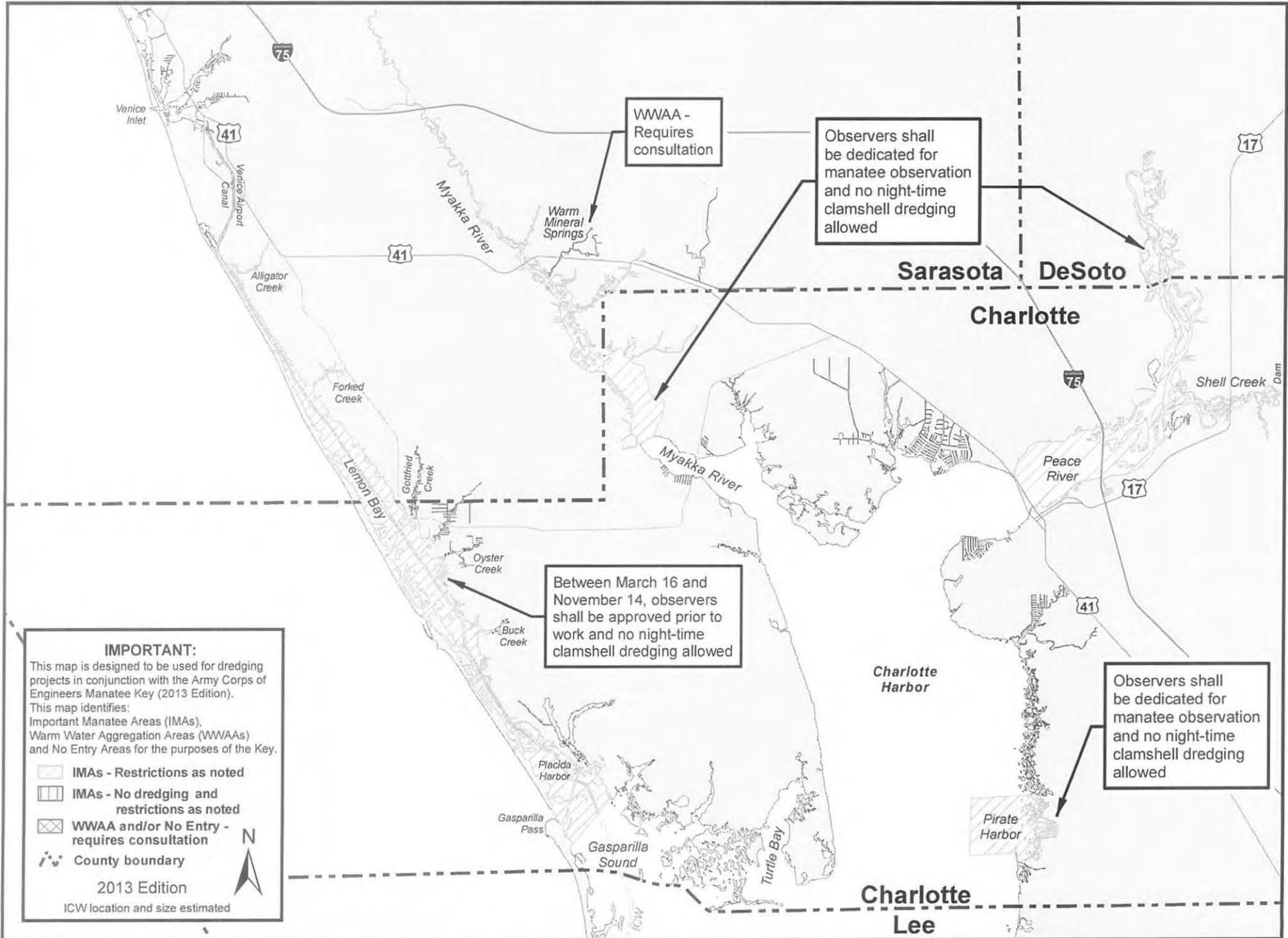
Brevard County - South



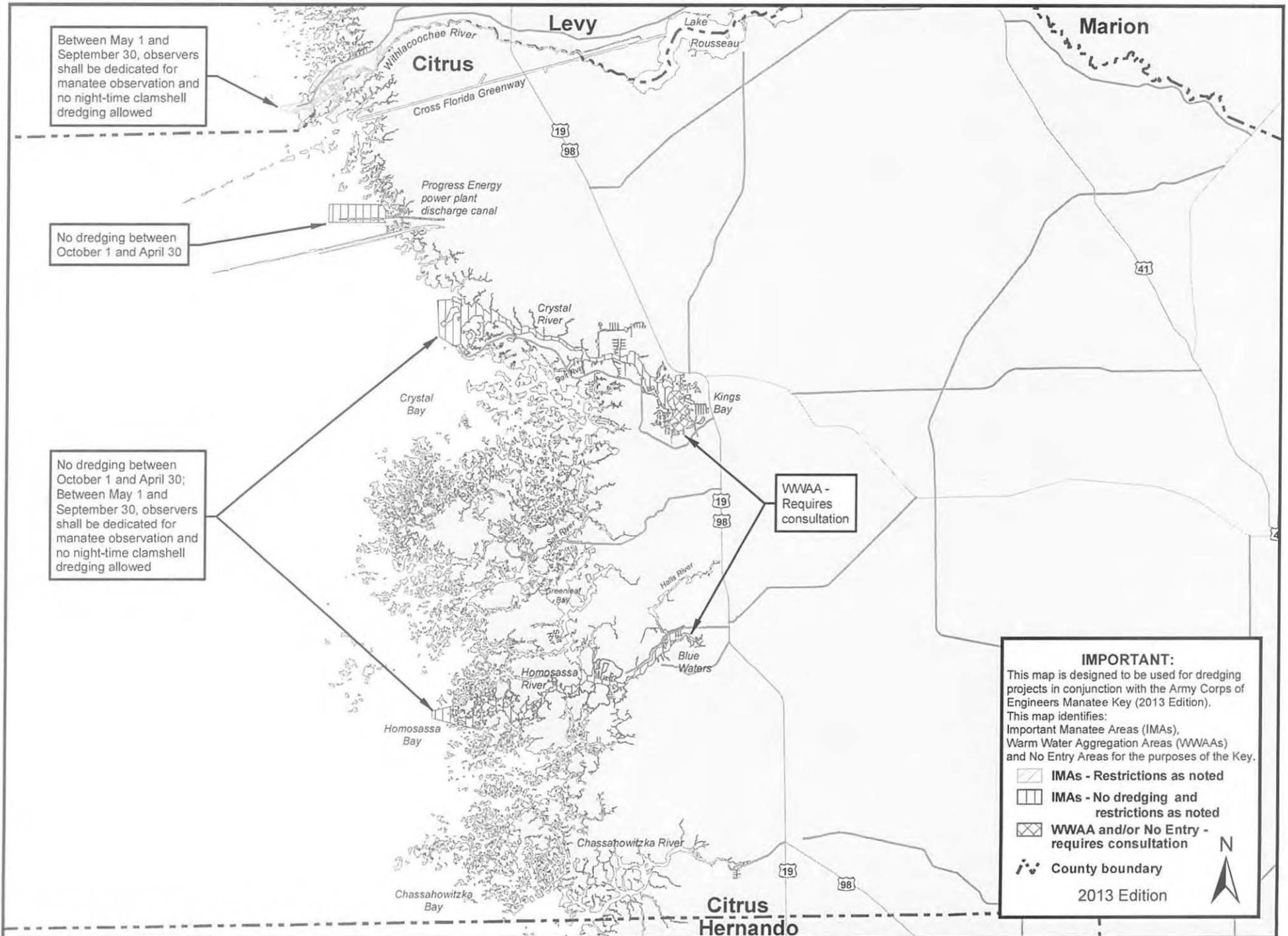
Broward County



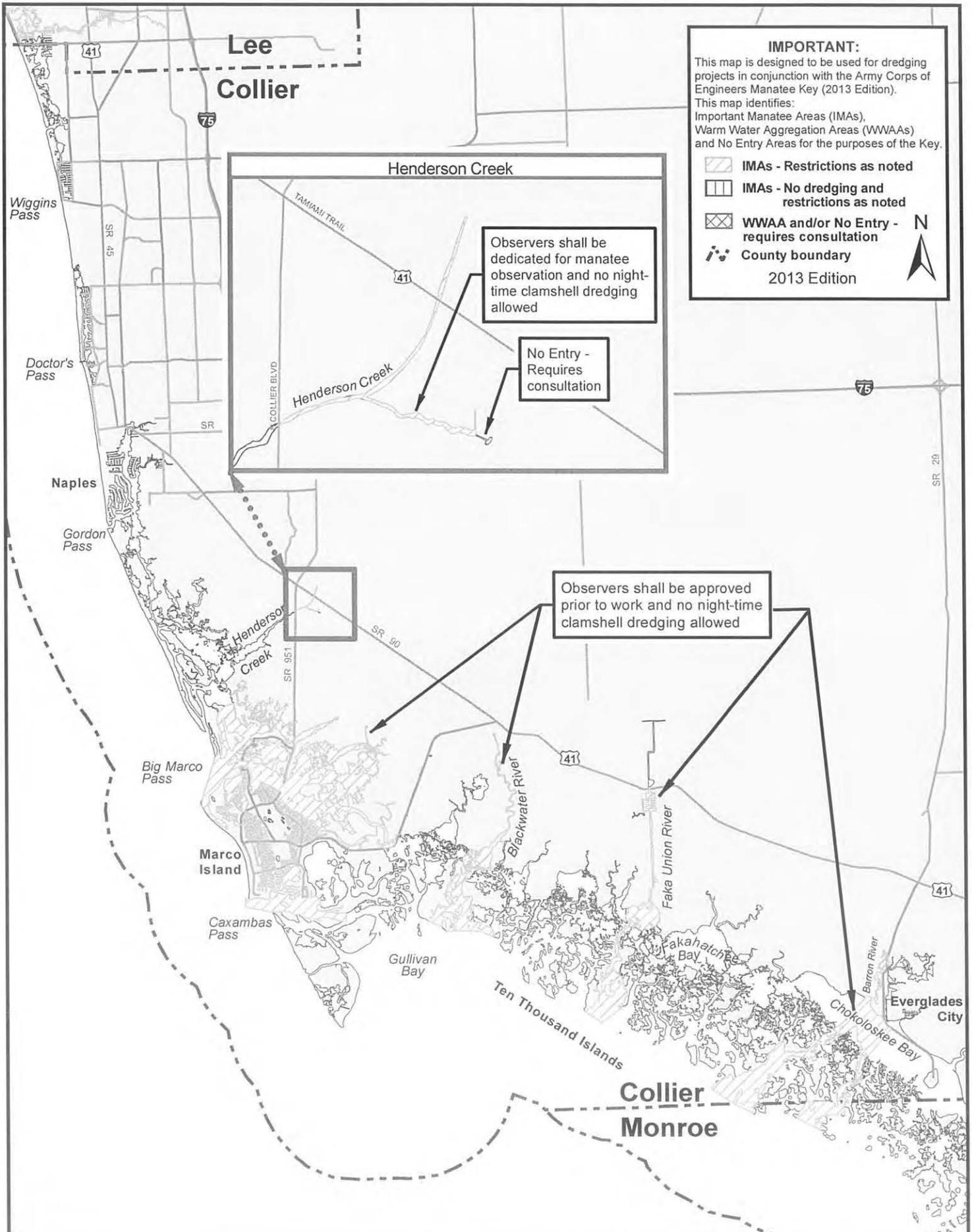
Charlotte, DeSoto, and Southern Sarasota Counties



Citrus and Levy Counties



Collier and Monroe Counties





Maps accompanying the Army Corps of Engineers Manatee Key 2013 Edition

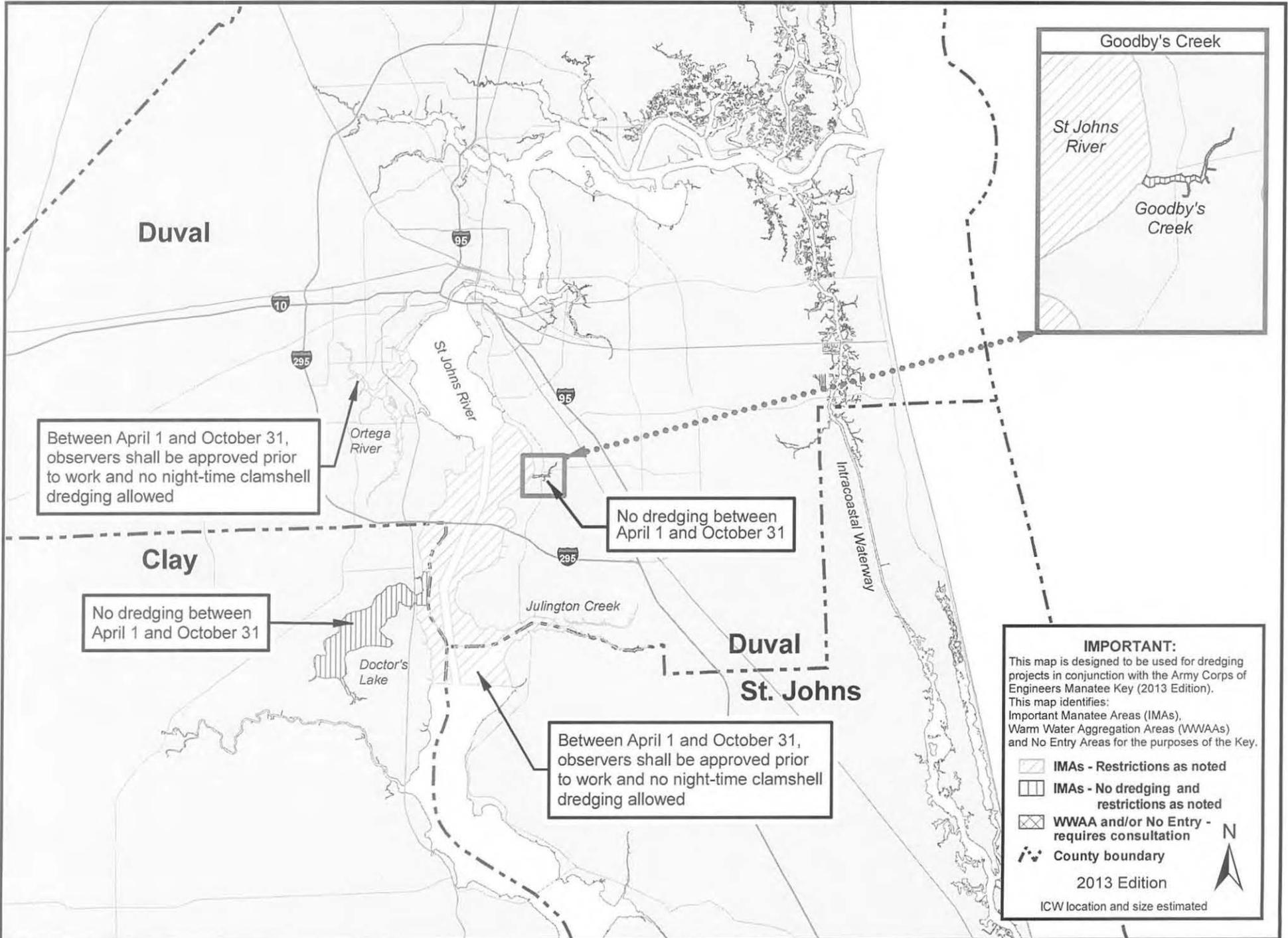
- Brevard - North
- Brevard - South
- Broward
- Charlotte, DeSoto and Southern Sarasota
- Citrus & Levy
- Collier & Monroe
- Duval, Clay & St. Johns
- Flagler
- Glades*
- Hendry*
- Hernando
- Hillsborough
- Indian River
- Lee
- Manatee
- Manatee (AIP)
- Martin
- Miami-Dade North
- Miami-Dade South
- Nassau*
- Okeechobee*
- Palm Beach

Panhandle*
(Bay, Dixie, Escambia, Franklin,
Gulf, Jefferson, Okaloosa, Santa
Rosa, Taylor, Walton, Wakulla)

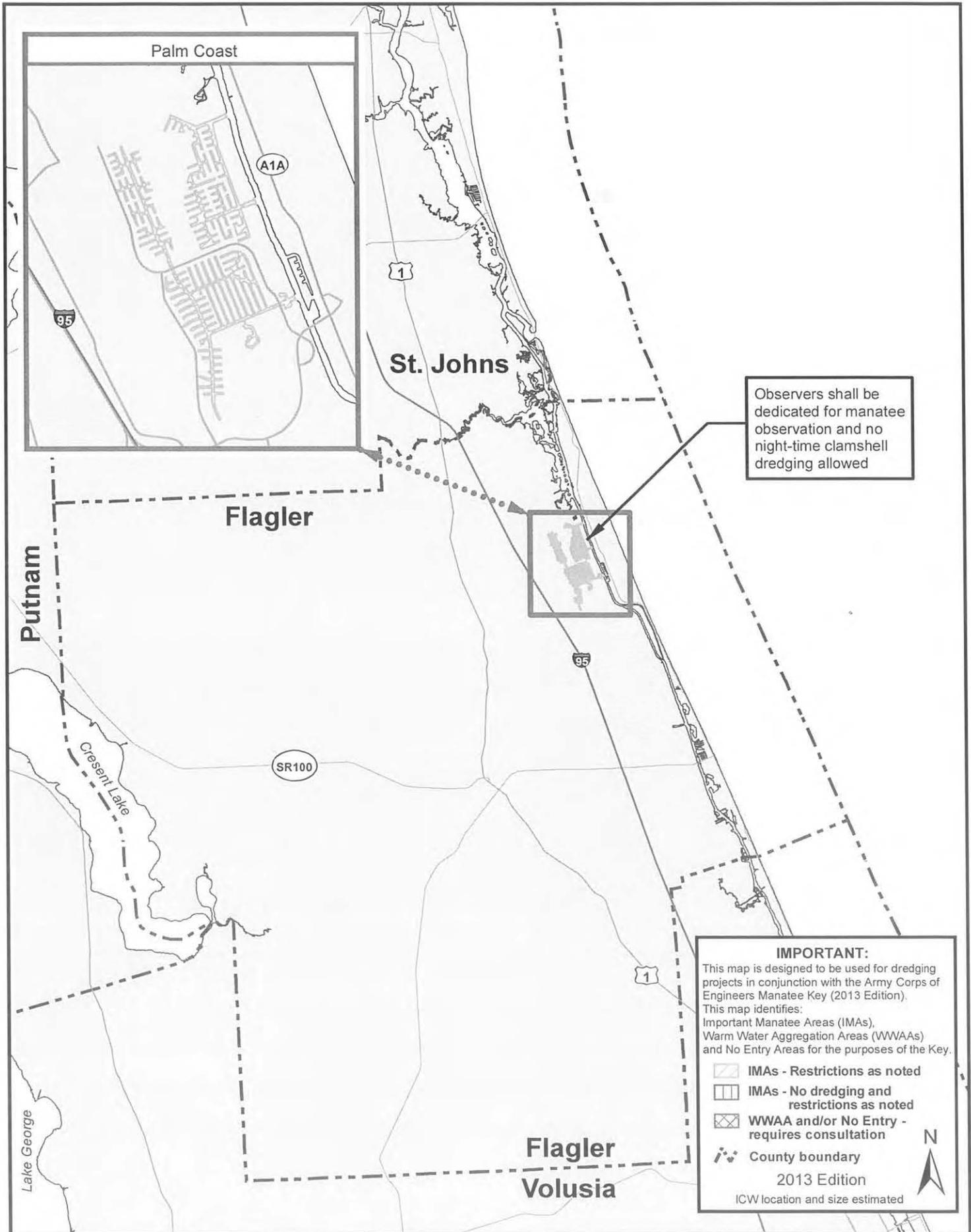
- Pinellas & Pasco
- Putnam
- Sarasota
- Seminole*
- St. Lucie
- Volusia Coastal
- Volusia, Lake and Marion

* The counties marked currently have no
Important Manatee Areas (IMAs),
Warm Water Aggregation Areas (WWAAs)
or Areas of Inadequate Protection (AIPs).

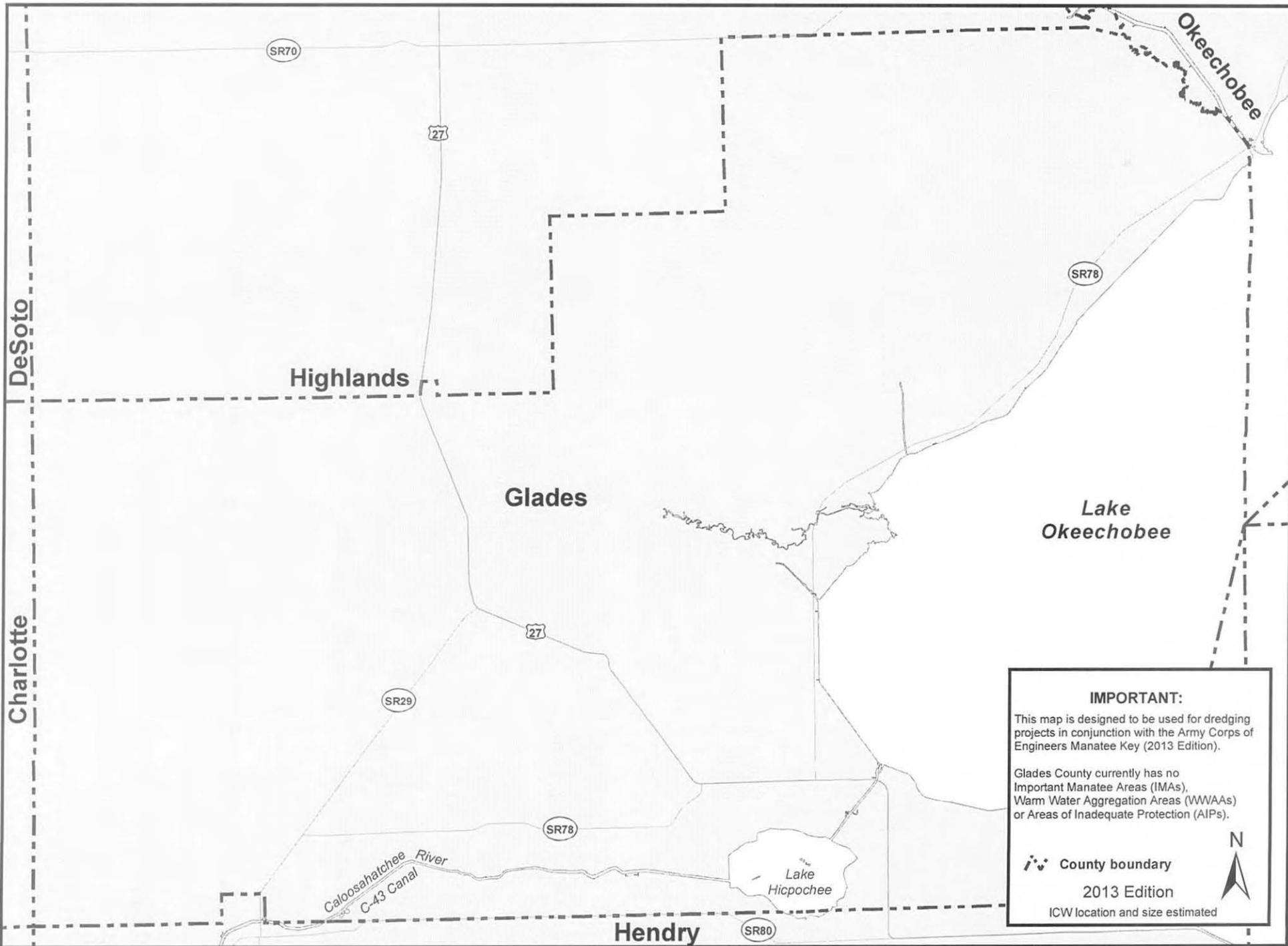
Duval, Clay and St Johns Counties



Flagler County



Glades County



IMPORTANT:

This map is designed to be used for dredging projects in conjunction with the Army Corps of Engineers Manatee Key (2013 Edition).

Glades County currently has no Important Manatee Areas (IMAs), Warm Water Aggregation Areas (WWAAs) or Areas of Inadequate Protection (AIPs).

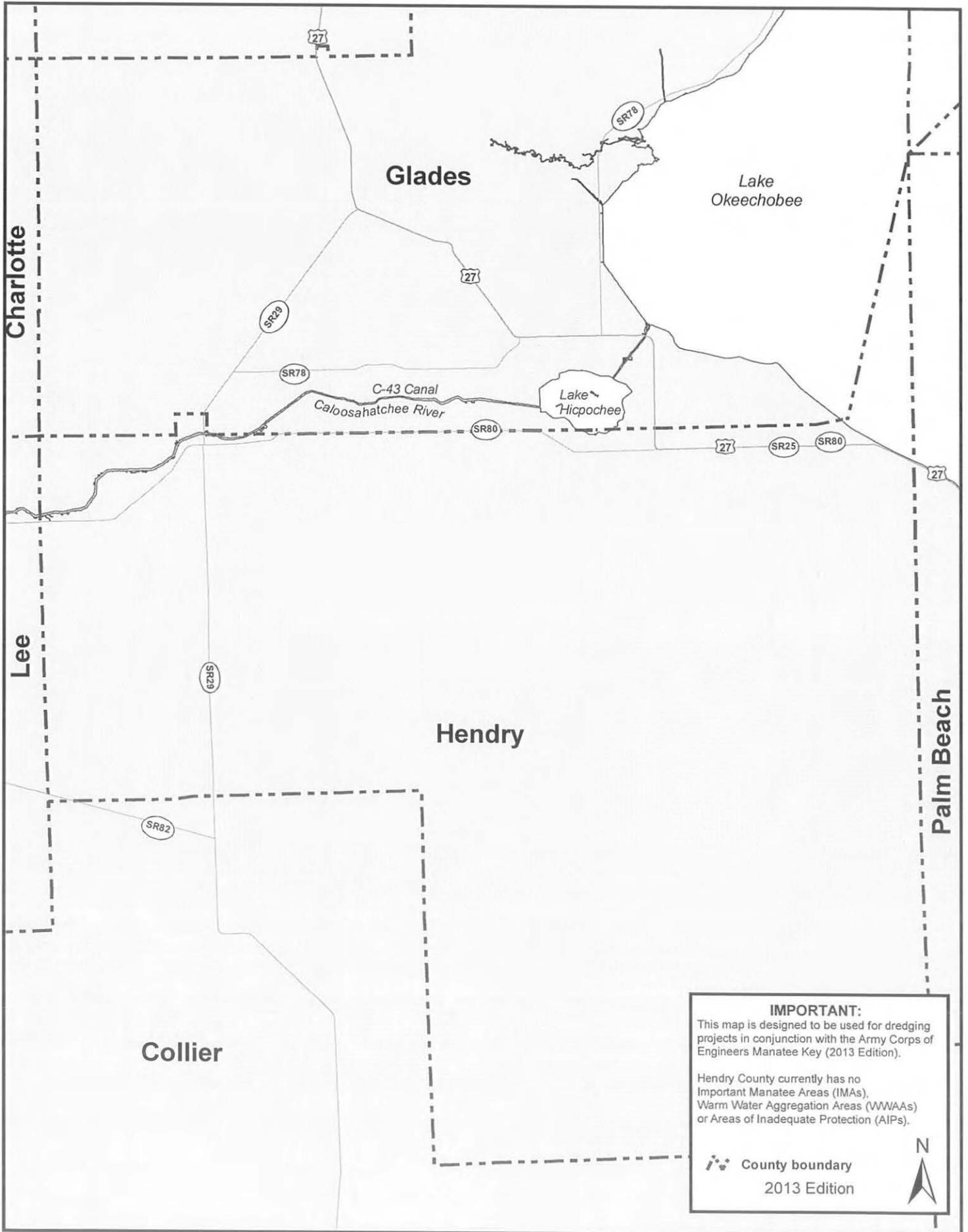
 County boundary

2013 Edition

ICW location and size estimated



Hendry County



IMPORTANT:

This map is designed to be used for dredging projects in conjunction with the Army Corps of Engineers Manatee Key (2013 Edition).

Hendry County currently has no Important Manatee Areas (IMAs), Warm Water Aggregation Areas (WWAAs) or Areas of Inadequate Protection (AIPs).

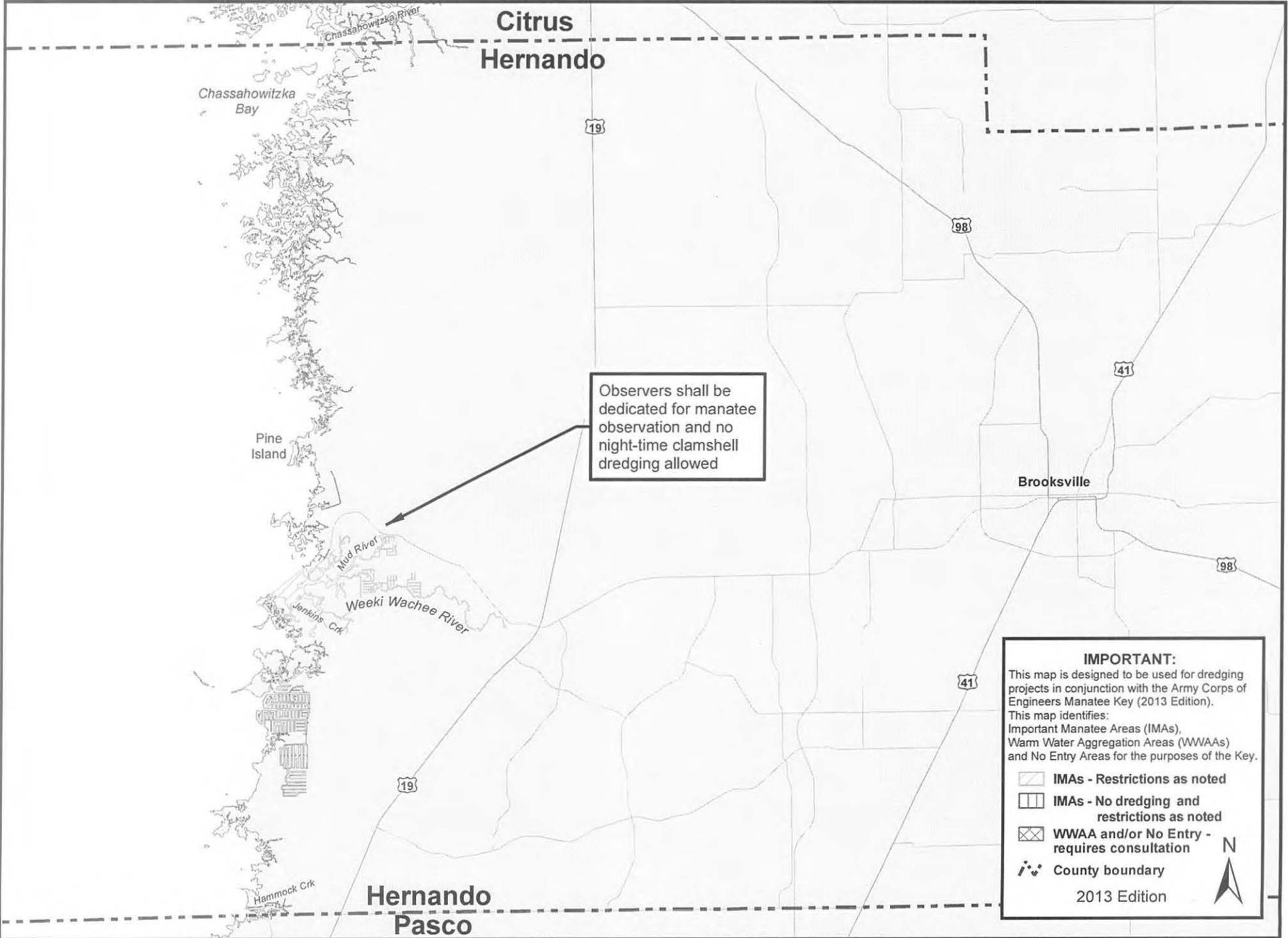


County boundary

2013 Edition



Hernando County



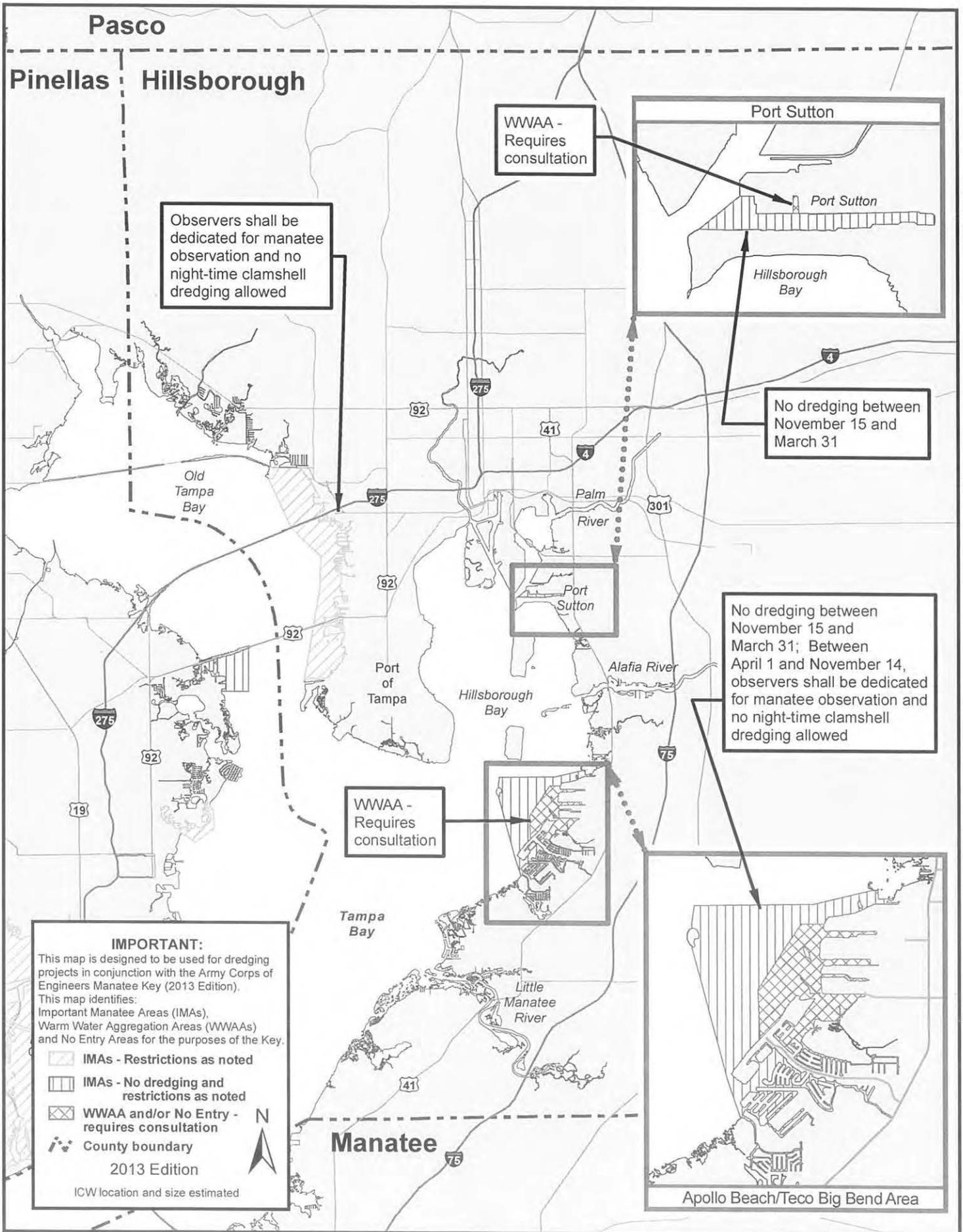
Observers shall be dedicated for manatee observation and no night-time clamshell dredging allowed

IMPORTANT:
This map is designed to be used for dredging projects in conjunction with the Army Corps of Engineers Manatee Key (2013 Edition). This map identifies: Important Manatee Areas (IMAs), Warm Water Aggregation Areas (WWAAs) and No Entry Areas for the purposes of the Key.

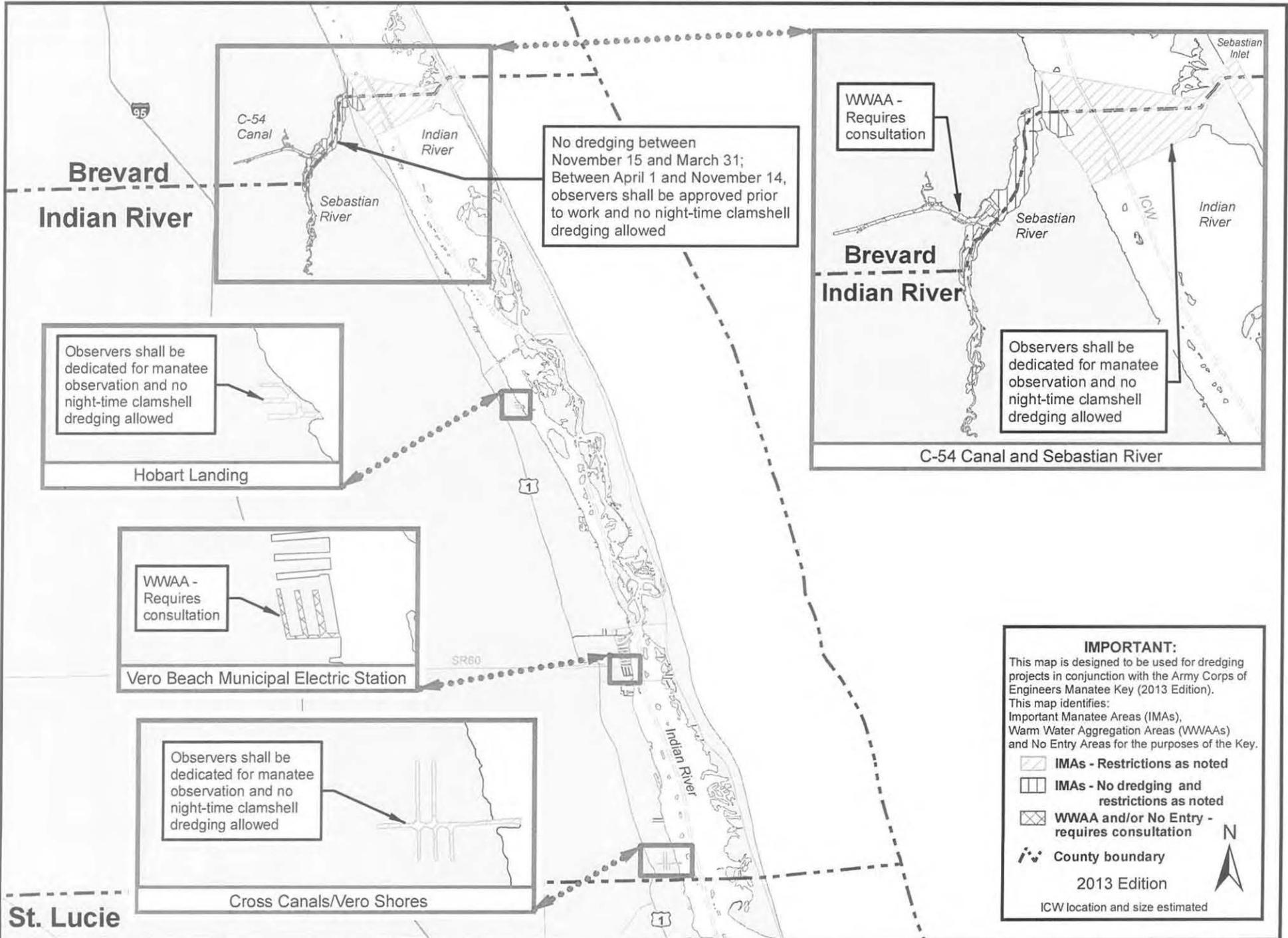
- IMAs - Restrictions as noted
- IMAs - No dredging and restrictions as noted
- WWAA and/or No Entry - requires consultation
- County boundary

2013 Edition

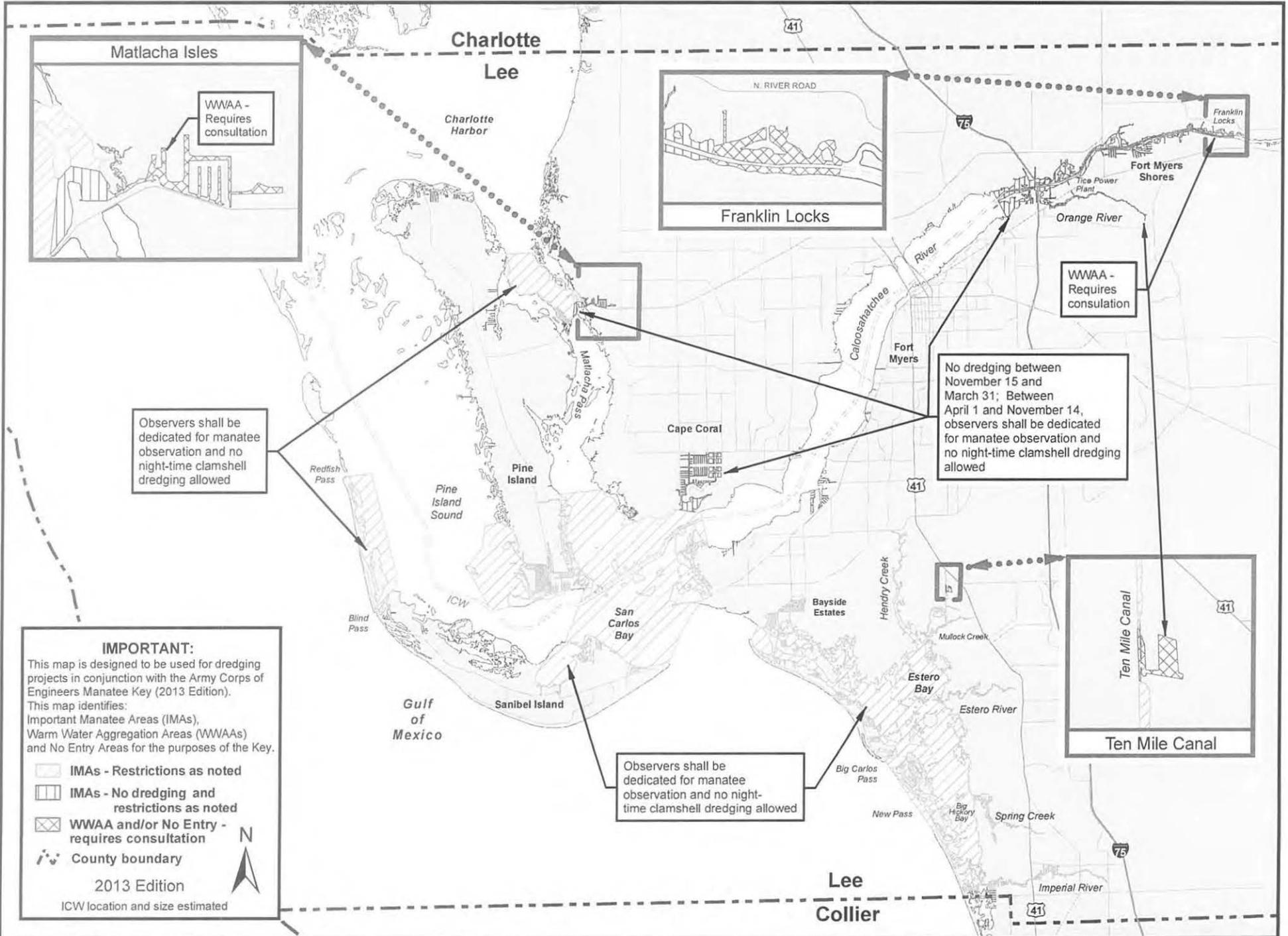
Hillsborough County



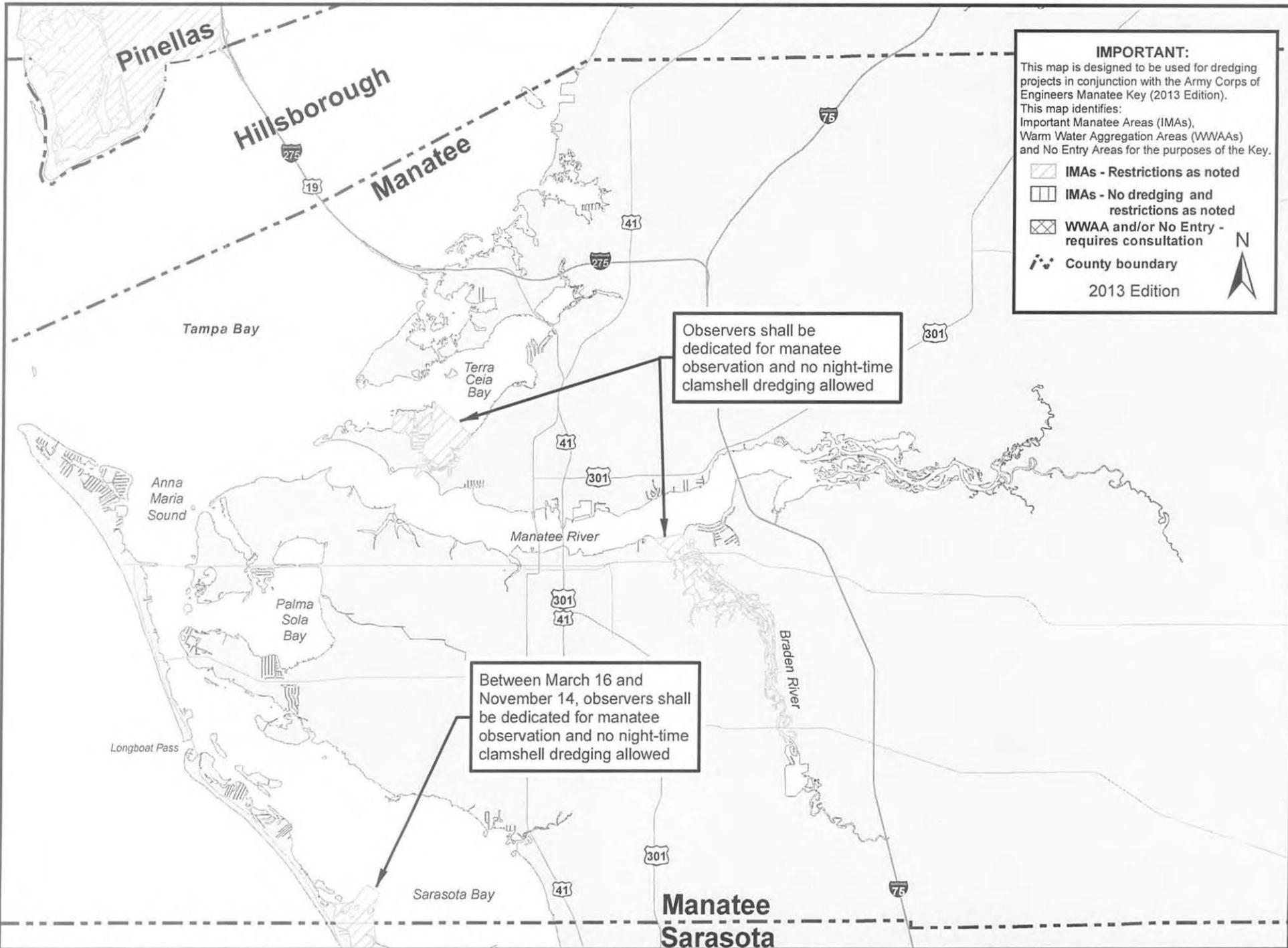
Indian River County



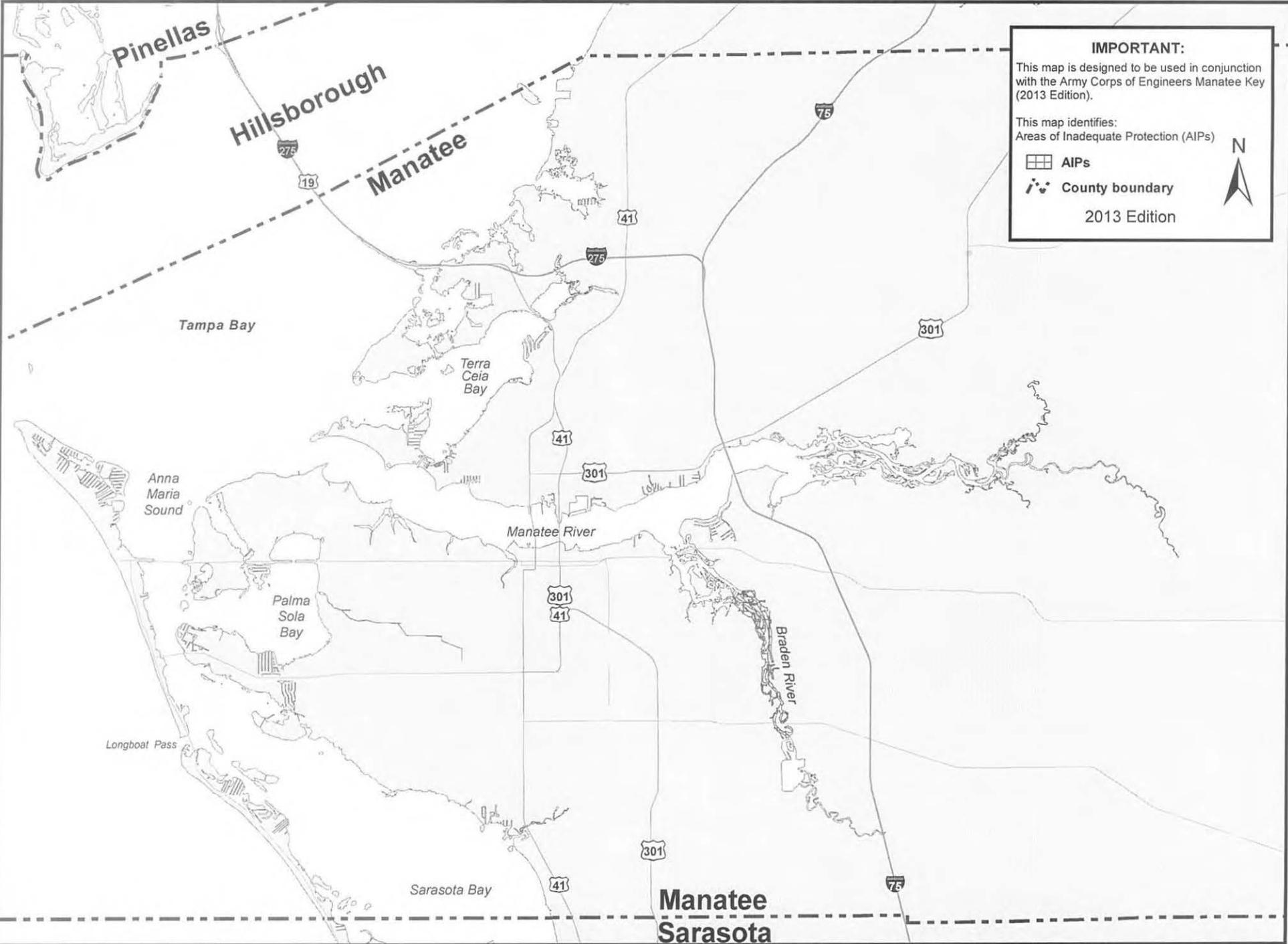
Lee County



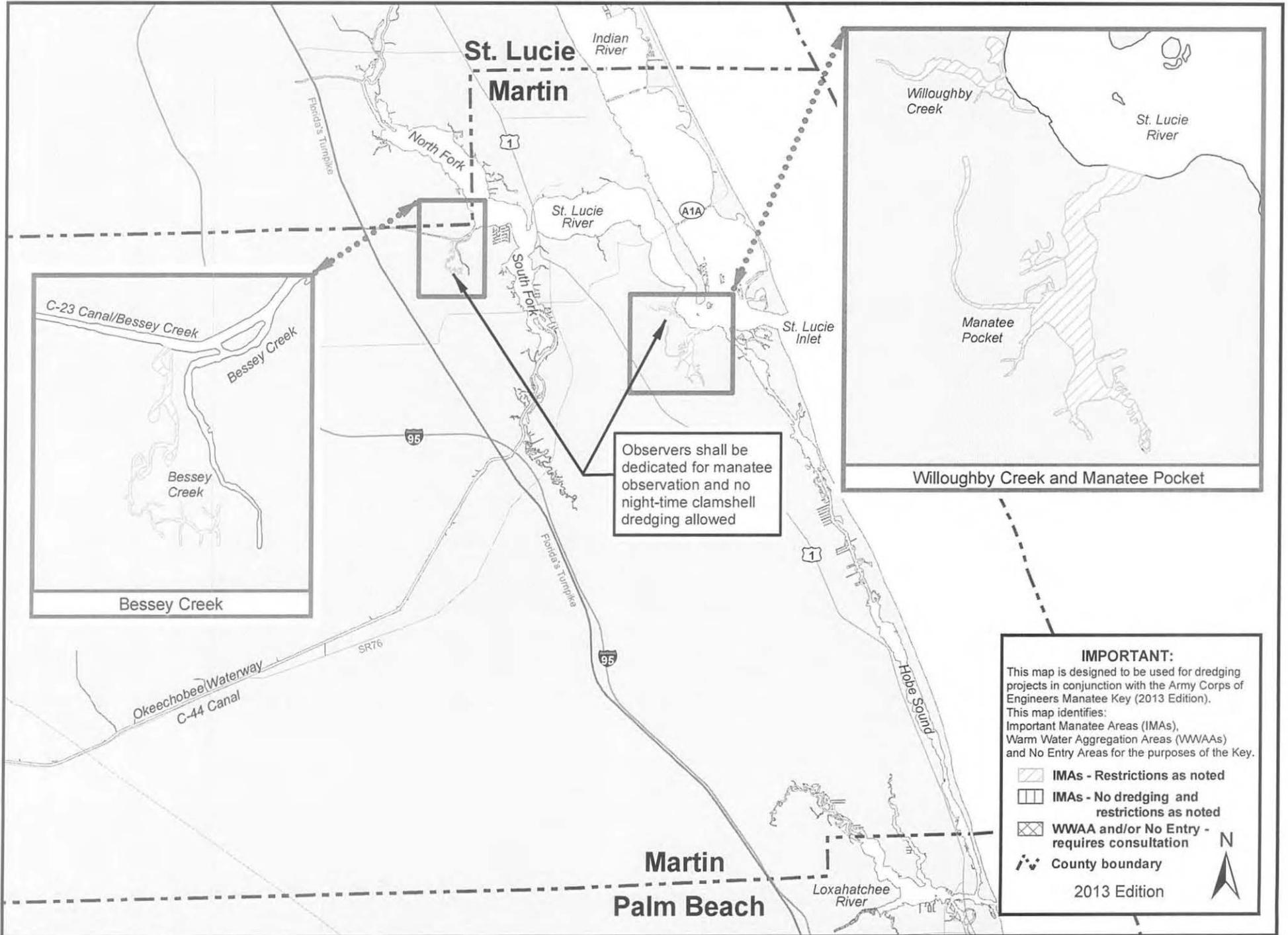
Manatee County



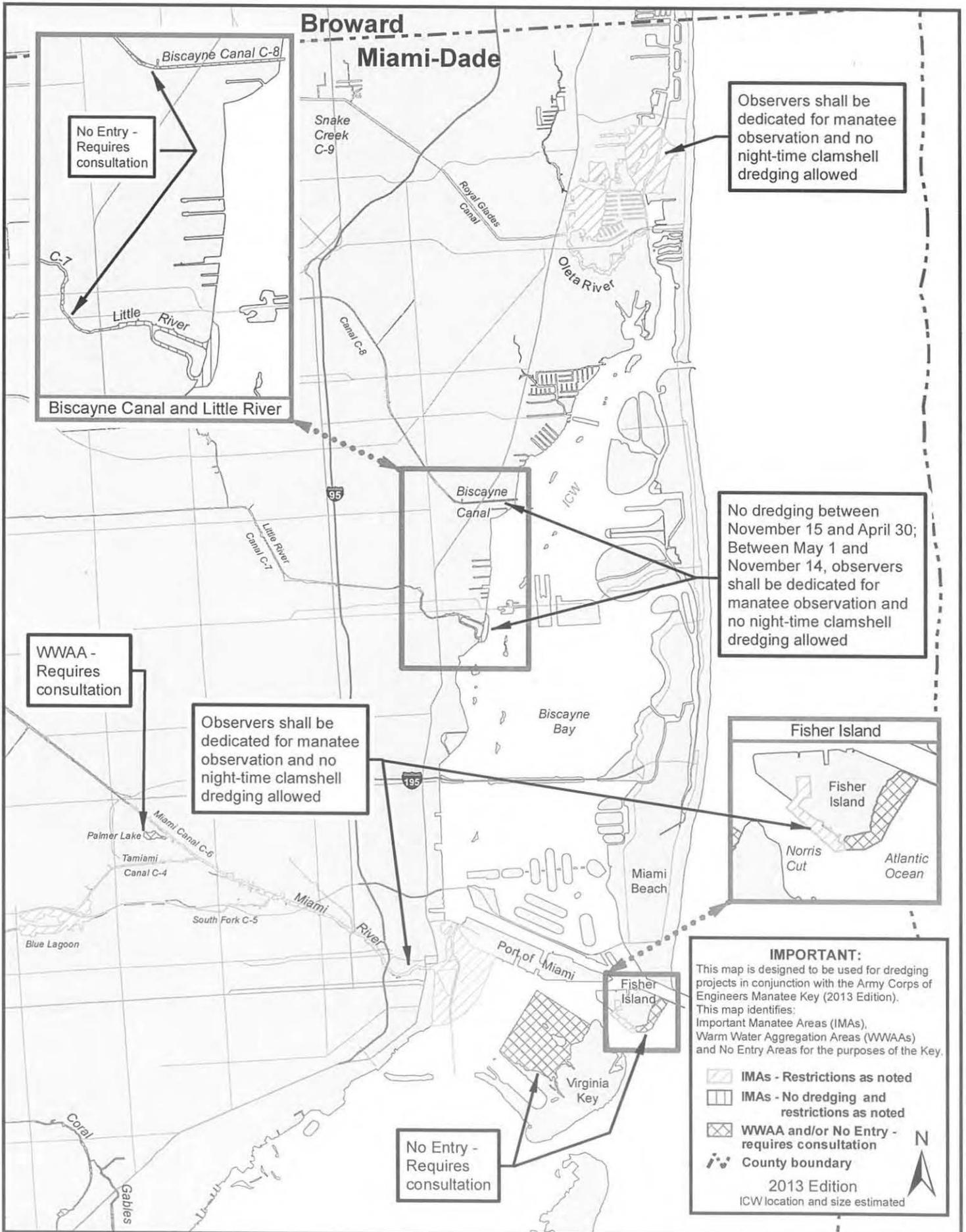
Manatee County (AIP)



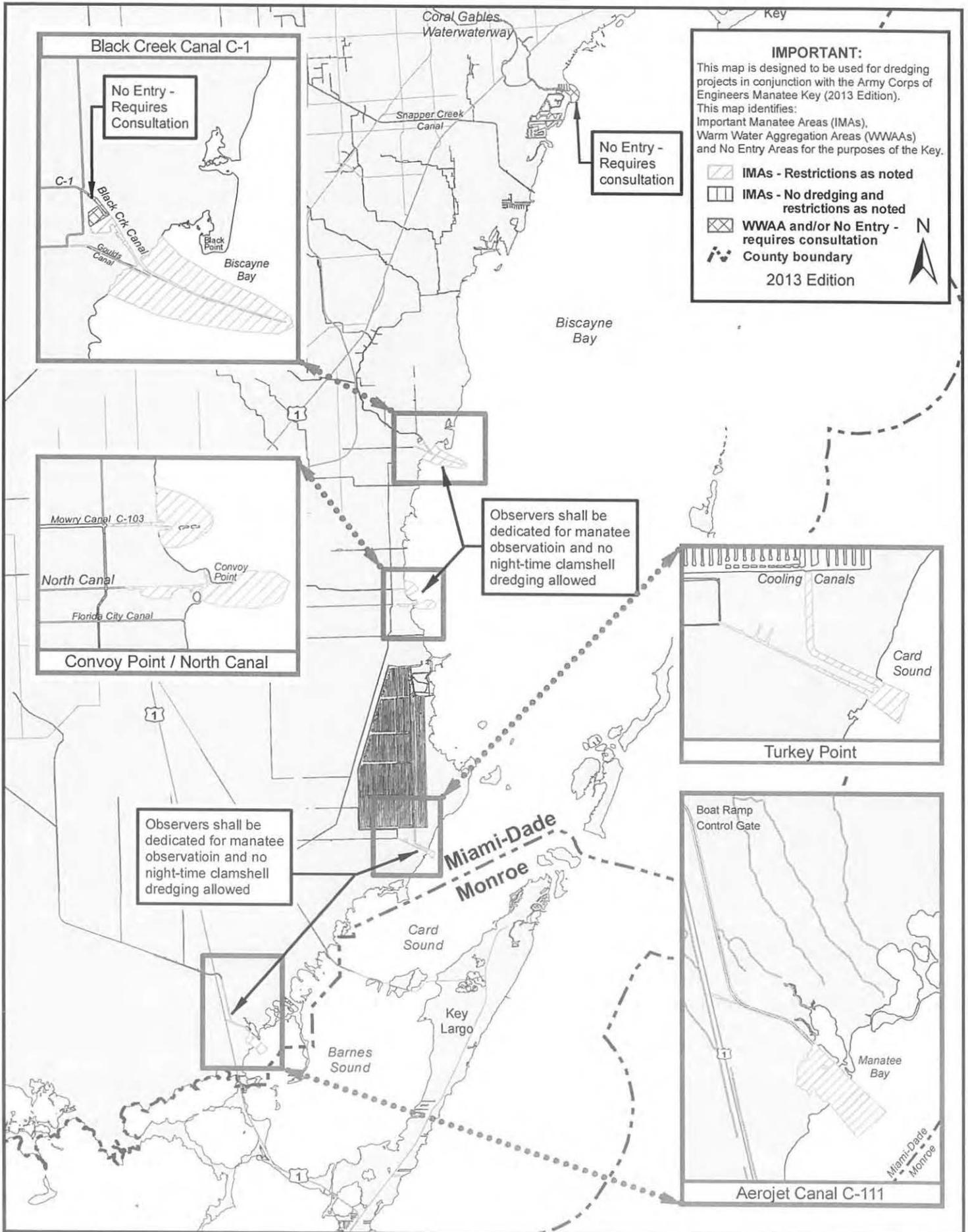
Martin County



Miami-Dade County - North



Miami-Dade County - South



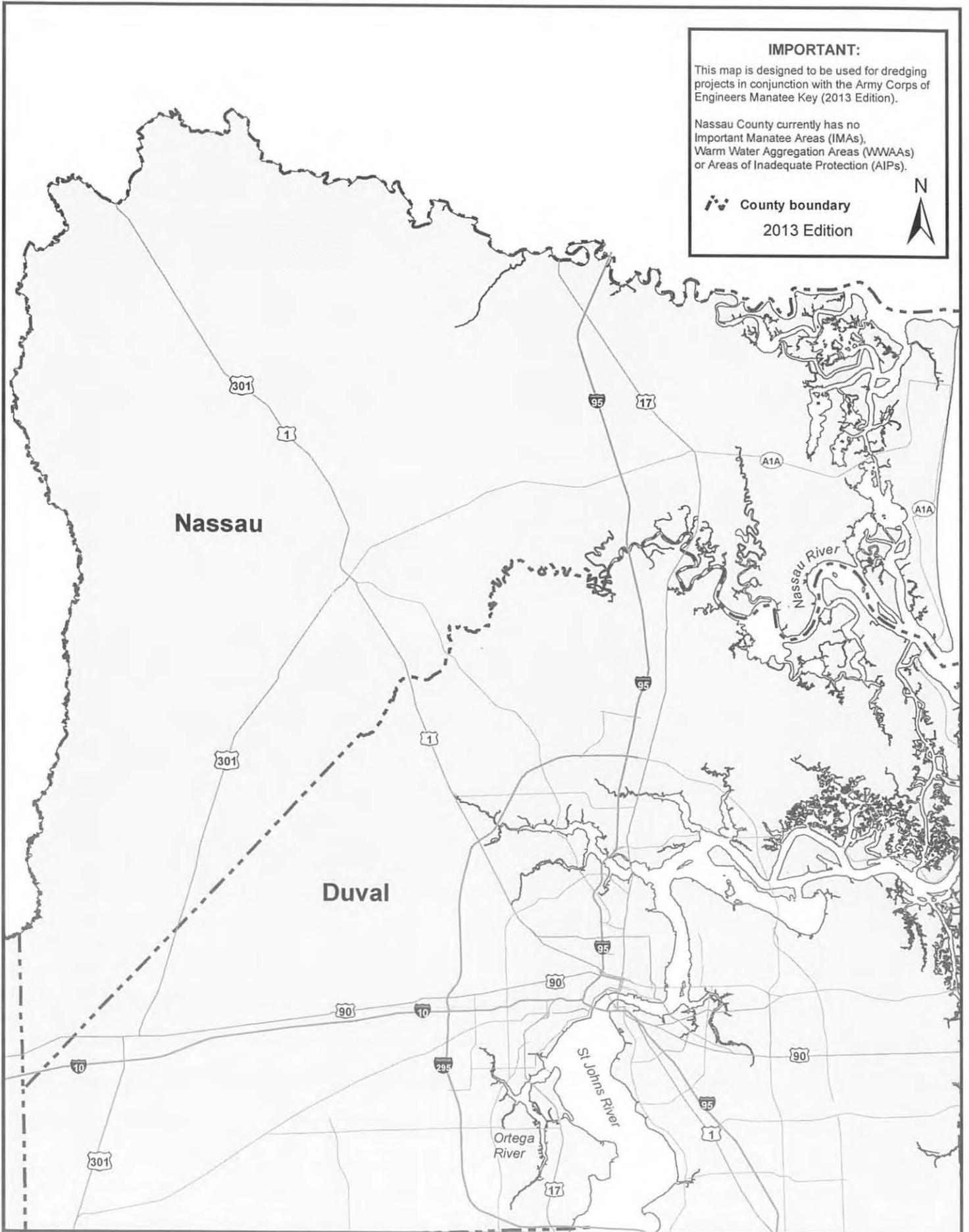
Nassau County

IMPORTANT:

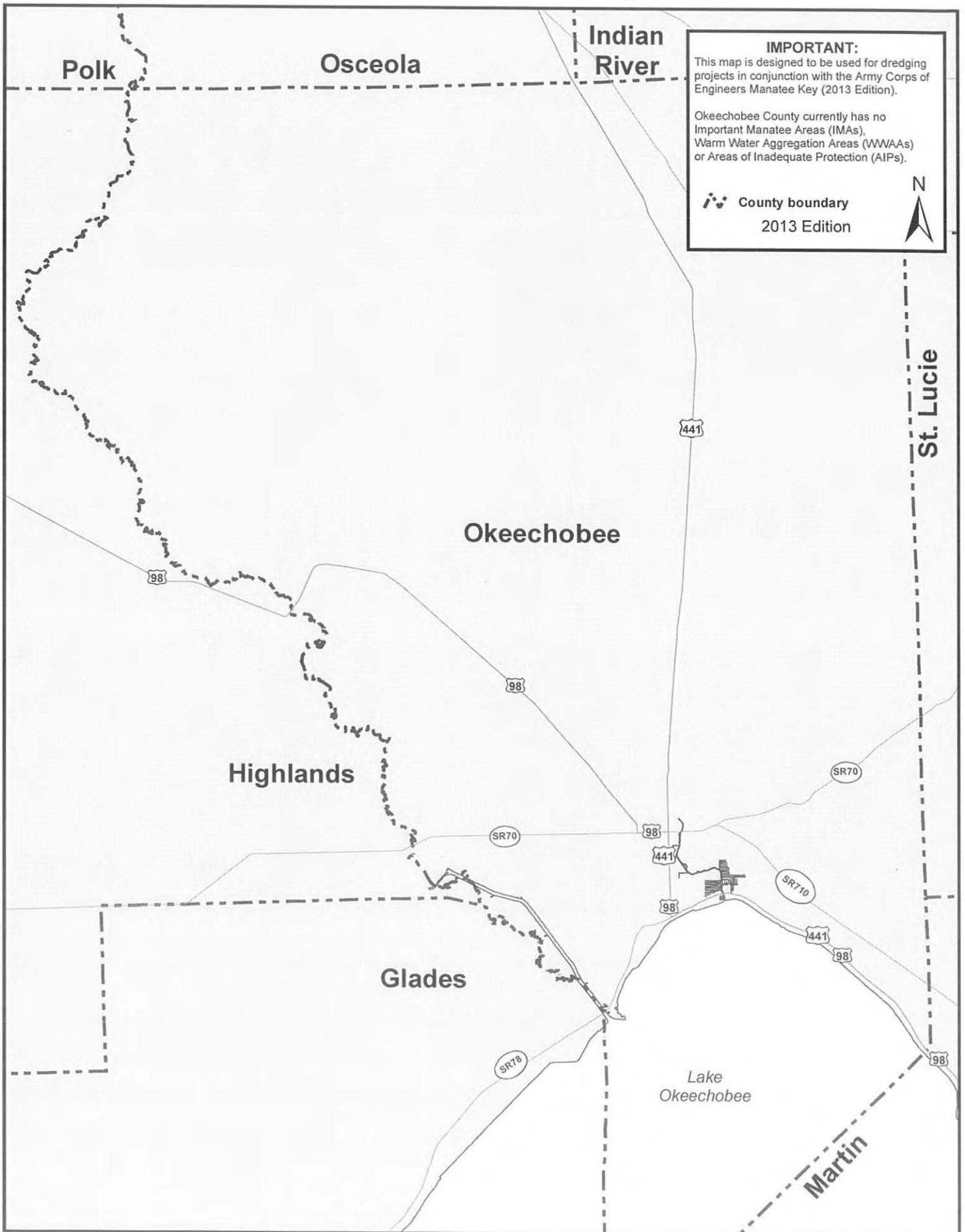
This map is designed to be used for dredging projects in conjunction with the Army Corps of Engineers Manatee Key (2013 Edition).

Nassau County currently has no Important Manatee Areas (IMAs), Warm Water Aggregation Areas (WWAAs) or Areas of Inadequate Protection (AIPs).

 County boundary
2013 Edition



Okeechobee County



Polk

Osceola

Indian River

IMPORTANT:

This map is designed to be used for dredging projects in conjunction with the Army Corps of Engineers Manatee Key (2013 Edition).

Okeechobee County currently has no Important Manatee Areas (IMAs), Warm Water Aggregation Areas (WWAAs) or Areas of Inadequate Protection (AIPs).



County boundary

2013 Edition



St. Lucie

Okeechobee

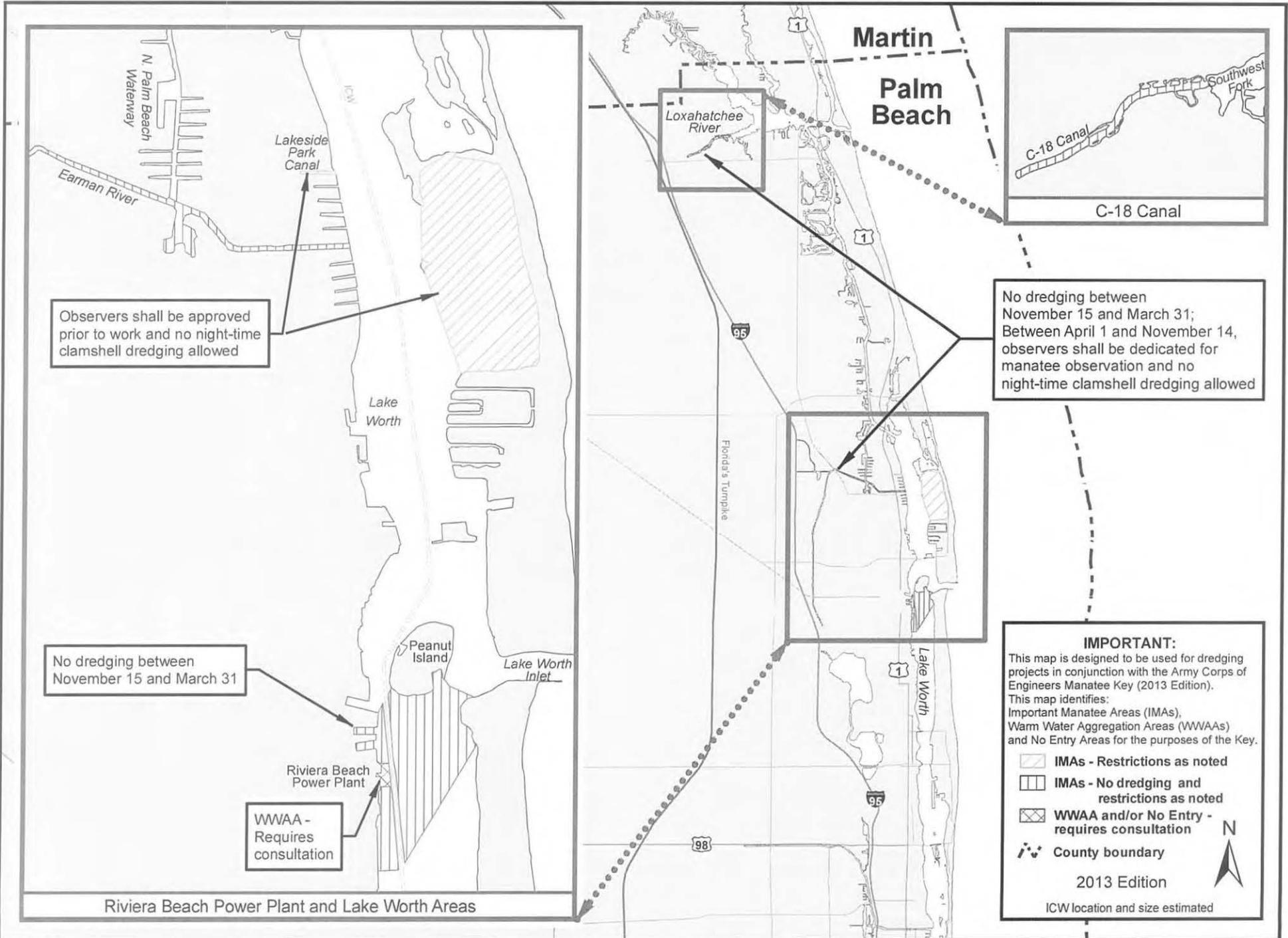
Highlands

Glades

Lake Okeechobee

Martin

Palm Beach County



Florida Panhandle



IMPORTANT:

This map is designed to be used for dredging projects in conjunction with the Army Corps of Engineers Manatee Key (2013 Edition).

The counties listed below have no Important Manatee Areas (IMAs), Warm Water Aggregation Areas (WWAAs) or Areas of Inadequate Protection (AIPs).

- Bay
- Dixie
- Escambia
- Franklin
- Gulf
- Jefferson
- Okaloosa
- Santa Rosa
- Taylor
- Walton
- Wakulla

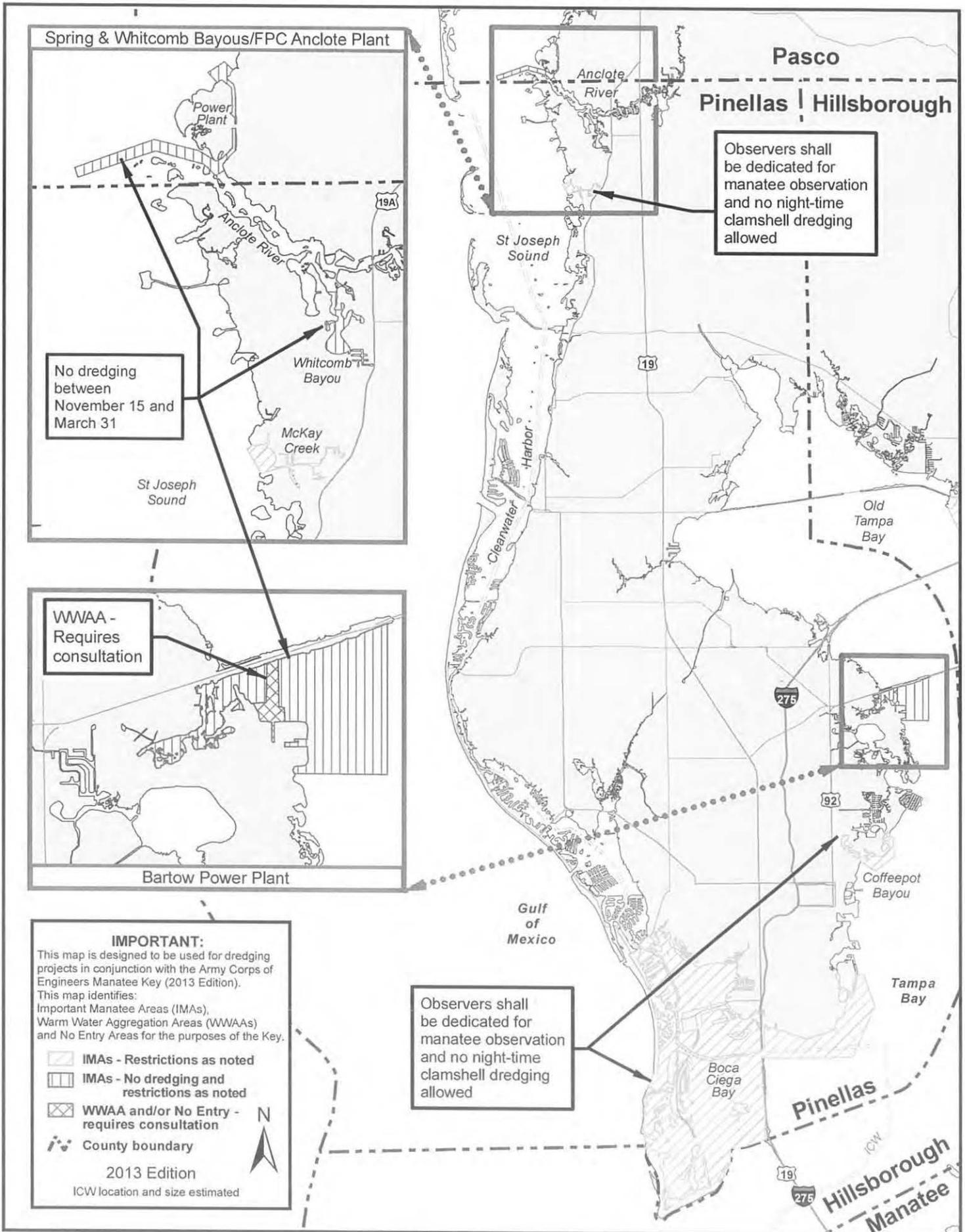
 County boundary



2013 Edition

ICW location and size estimated

Pinellas and Pasco Counties



Putnam County

IMPORTANT:

This map is designed to be used for dredging projects in conjunction with the Army Corps of Engineers Manatee Key (2013 Edition). This map identifies: Important Manatee Areas (IMAs), Warm Water Aggregation Areas (WWAAs) and No Entry Areas for the purposes of the Key.

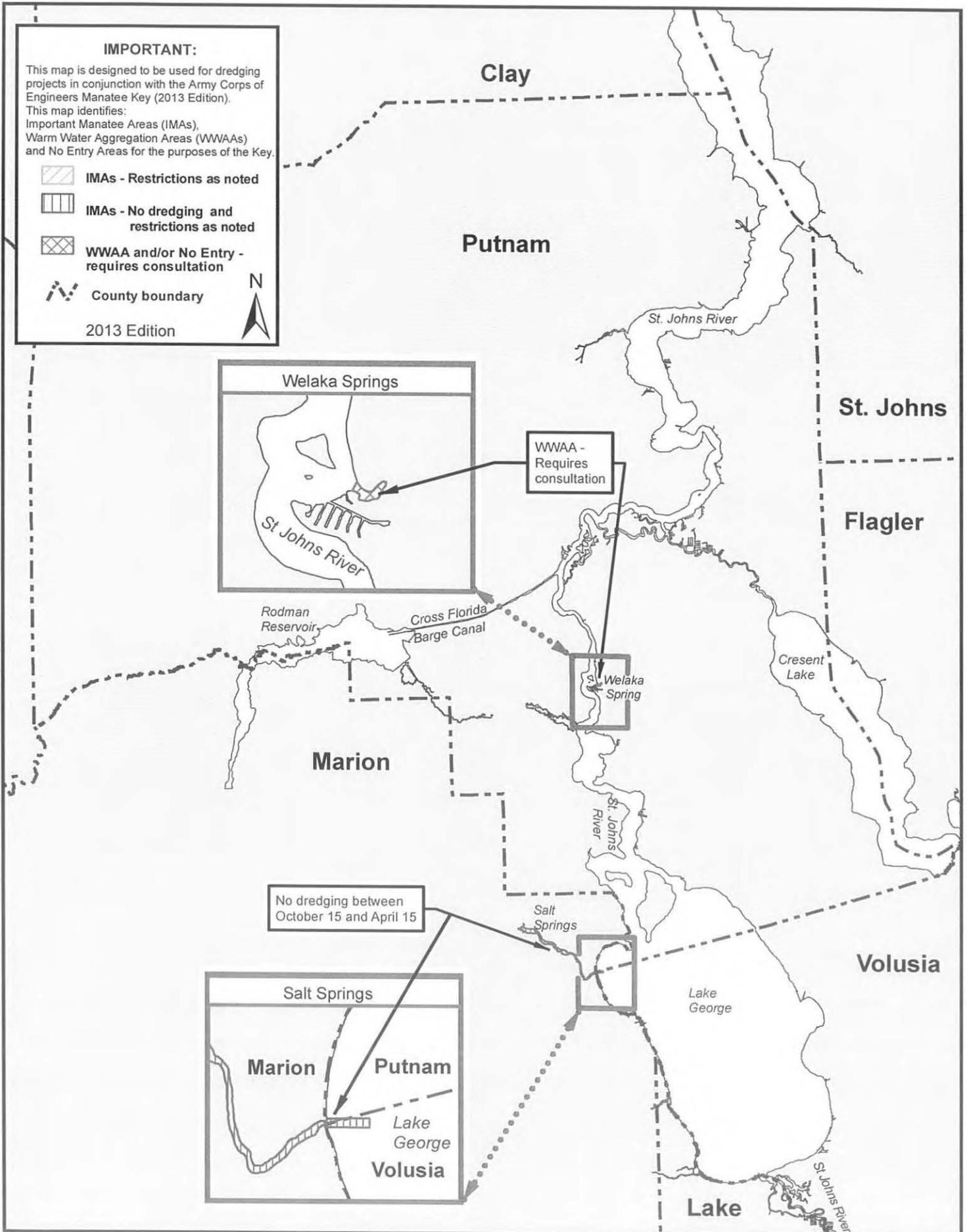
 IMAs - Restrictions as noted

 IMAs - No dredging and restrictions as noted

 WWAAs and/or No Entry - requires consultation

 County boundary

2013 Edition



Putnam County

IMPORTANT:

This map is designed to be used for dredging projects in conjunction with the Army Corps of Engineers Manatee Key (2013 Edition). This map identifies:

 IMAs - Restrictions as noted

 IMAs - No dredging and restrictions as noted

 WWAAs and/or No Entry - requires consultation

 County boundary

2013 Edition



Clay

Putnam

St. Johns

Flagler

Welaka Springs

WWAA - Requires consultation

St. Johns River

Rodman Reservoir

Cross Florida Barge Canal

St. Welaka Spring

Crescent Lake

Marion

No dredging between October 15 and April 15

Salt Springs

Salt Springs

Marion

Putnam

Lake George

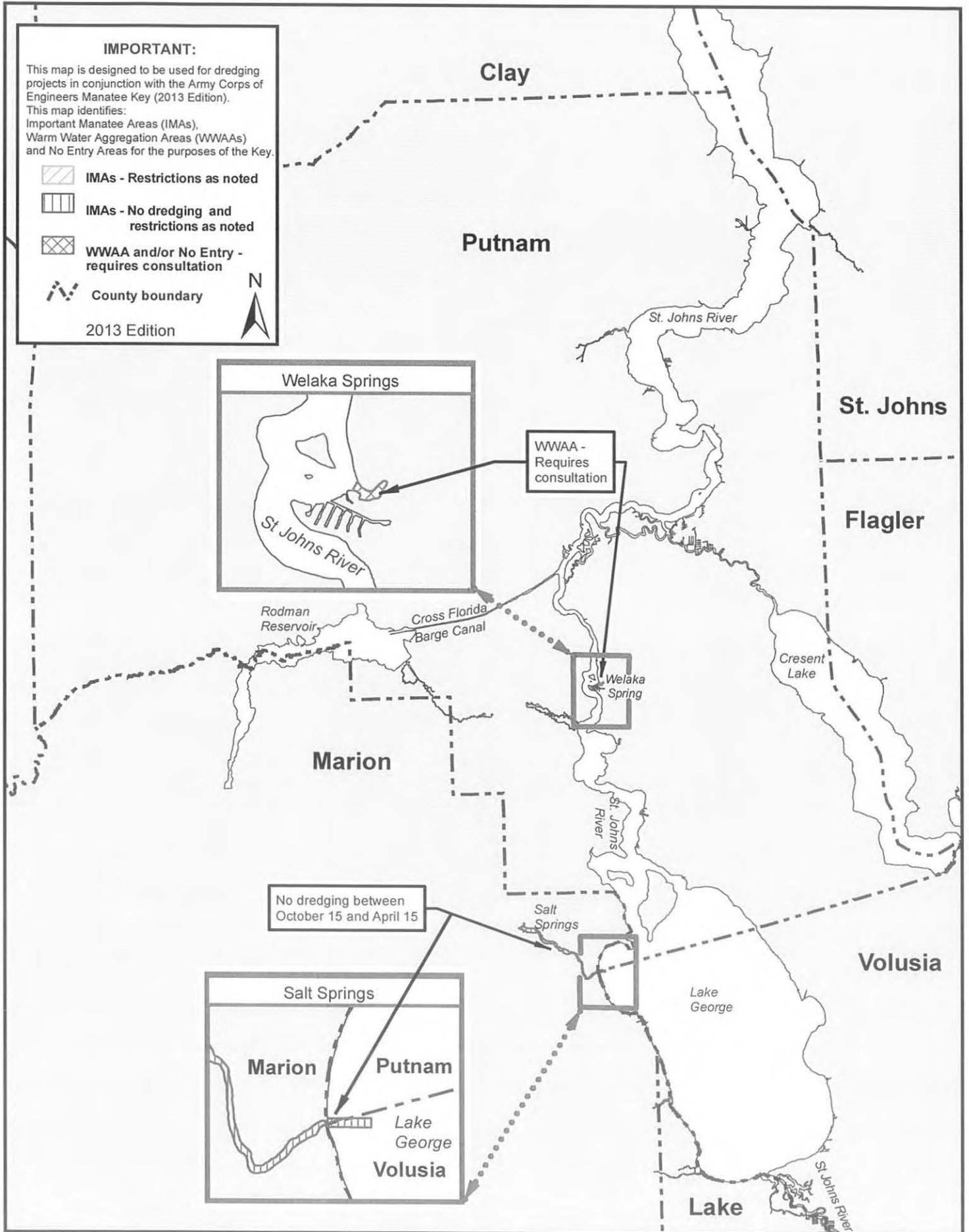
Volusia

Volusia

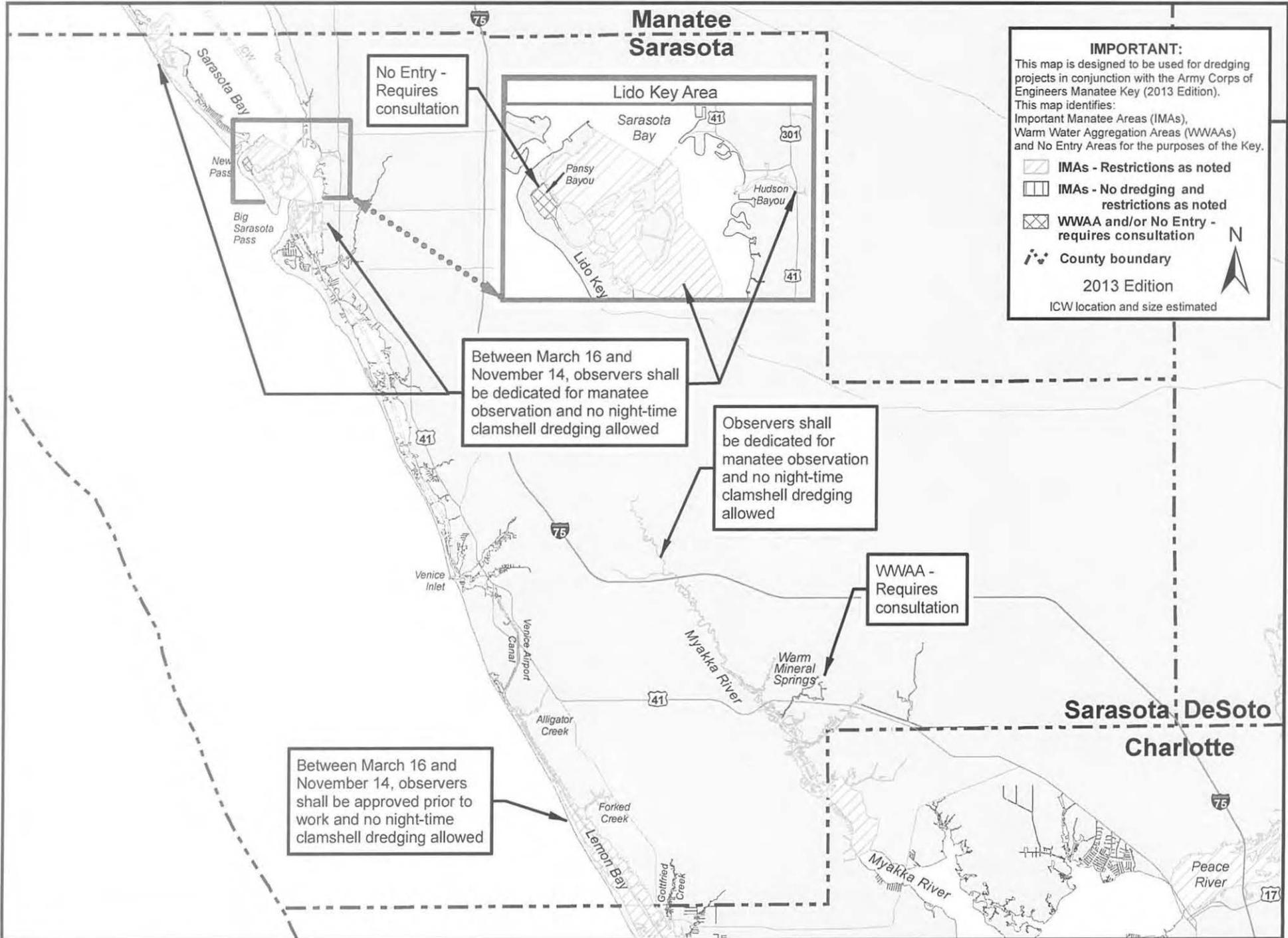
Lake George

Lake

St. Johns River



Sarasota County



IMPORTANT:
 This map is designed to be used for dredging projects in conjunction with the Army Corps of Engineers Manatee Key (2013 Edition). This map identifies: Important Manatee Areas (IMAs), Warm Water Aggregation Areas (WVAAs) and No Entry Areas for the purposes of the Key.

-  IMAs - Restrictions as noted
-  IMAs - No dredging and restrictions as noted
-  WWAA and/or No Entry - requires consultation
-  County boundary

2013 Edition
 ICW location and size estimated

No Entry - Requires consultation

Between March 16 and November 14, observers shall be dedicated for manatee observation and no night-time clamshell dredging allowed

Observers shall be dedicated for manatee observation and no night-time clamshell dredging allowed

WWAA - Requires consultation

Between March 16 and November 14, observers shall be approved prior to work and no night-time clamshell dredging allowed

Manatee Sarasota

Lido Key Area

Sarasota, DeSoto Charlotte

Sarasota Bay

Sarasota Bay

Myakka River

Myakka River

Lennon Bay

Peace River

New Pass

Big Sarasota Pass

Pansy Bayou

Hudson Bayou

Venice Inlet

Venice Canal

Alligator Creek

Forked Creek

Gottfried Creek

Warm Mineral Springs

17

75

41

301

41

41

75

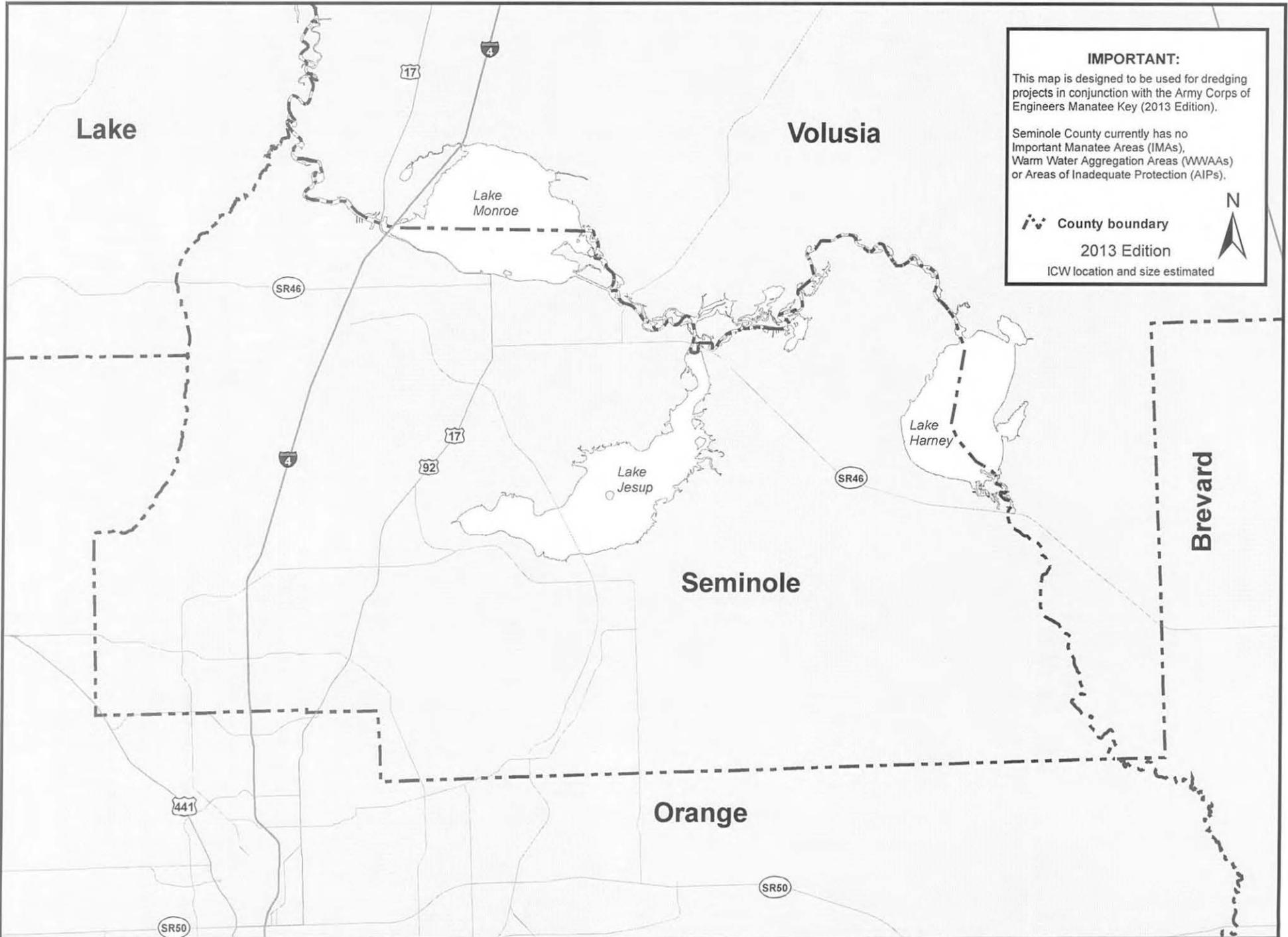
41

75

17



Seminole County



IMPORTANT:

This map is designed to be used for dredging projects in conjunction with the Army Corps of Engineers Manatee Key (2013 Edition).

Seminole County currently has no Important Manatee Areas (IMAs), Warm Water Aggregation Areas (WWAAs) or Areas of Inadequate Protection (AIPs).

 County boundary

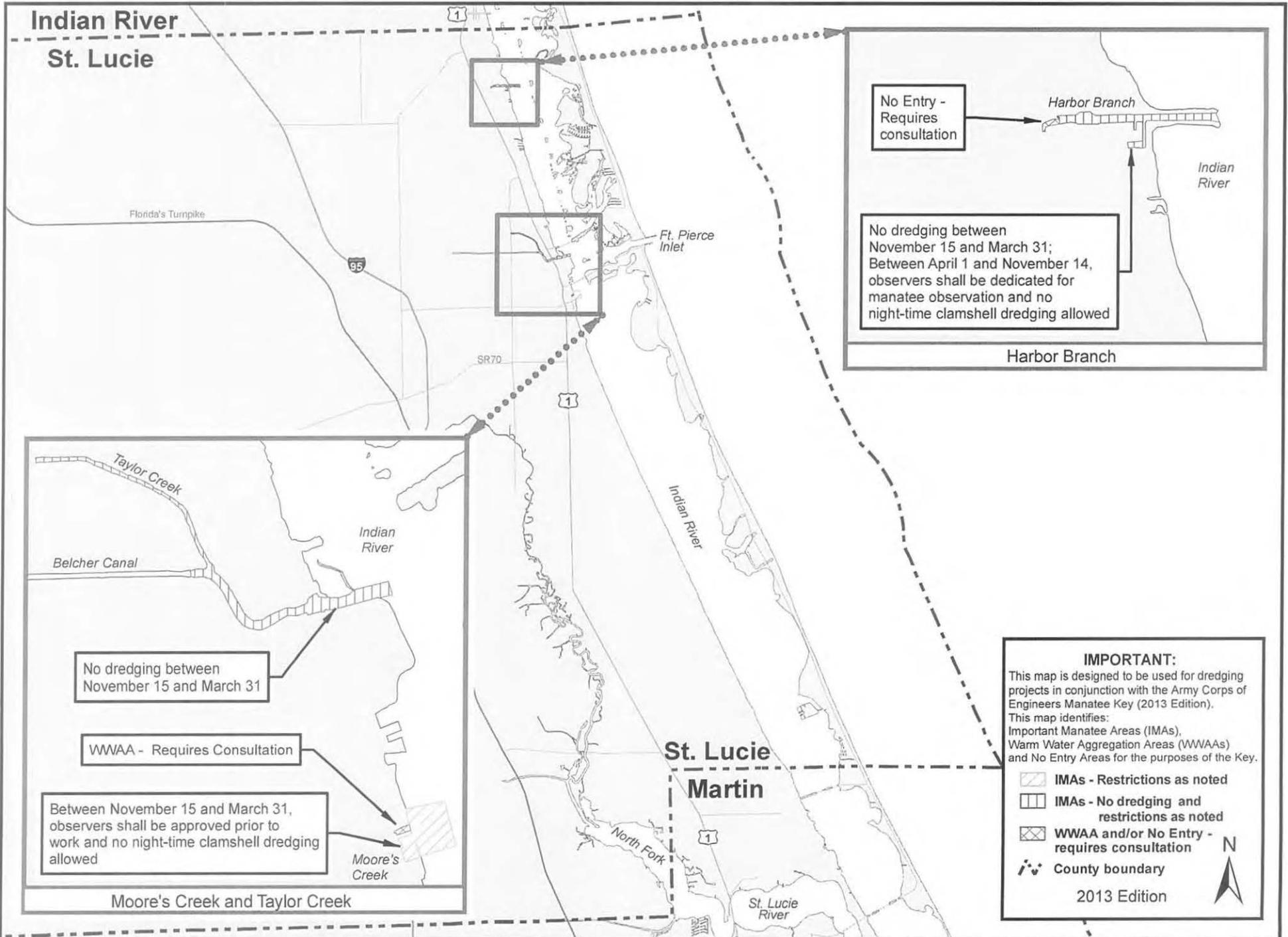
2013 Edition

ICW location and size estimated

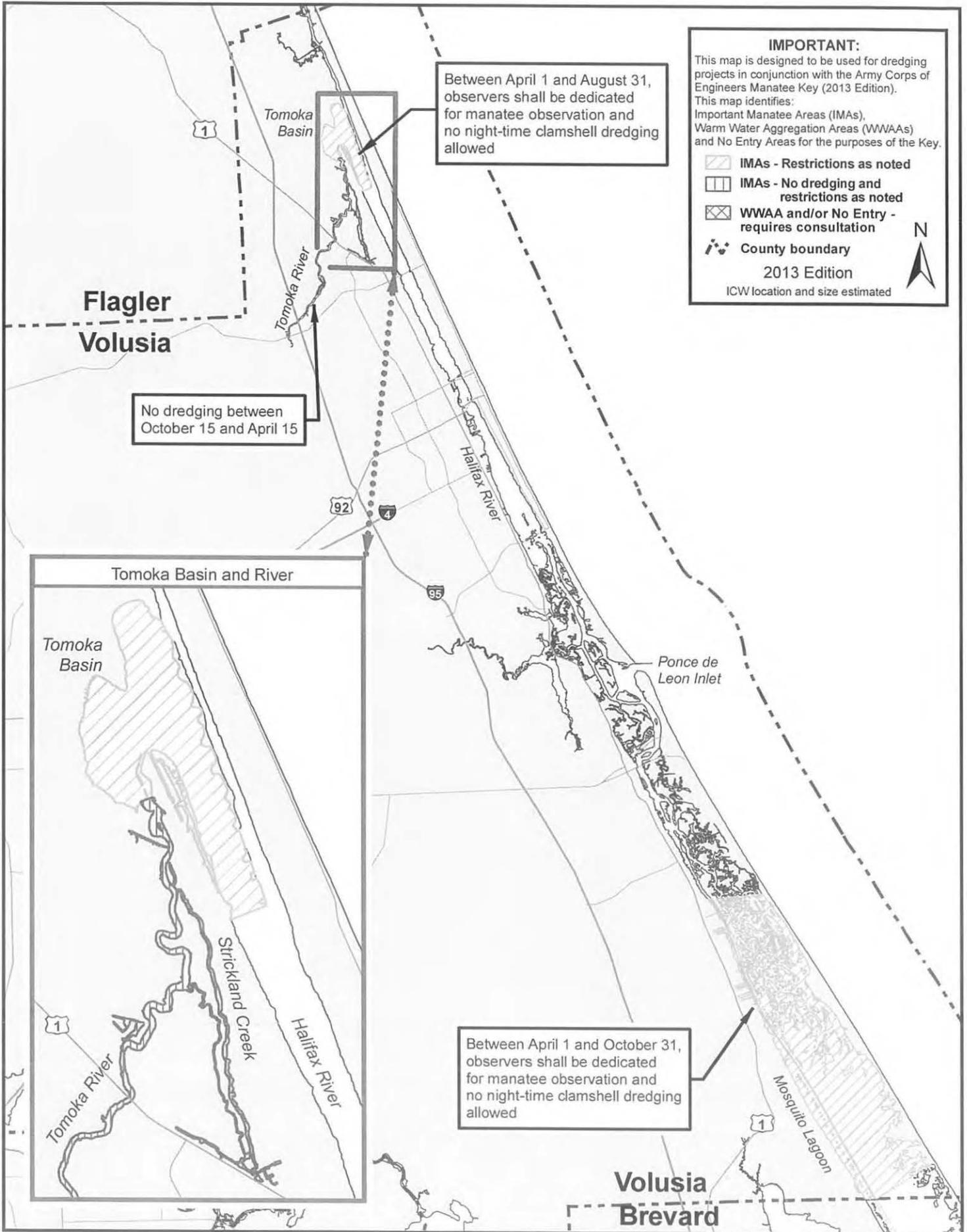


Brevard

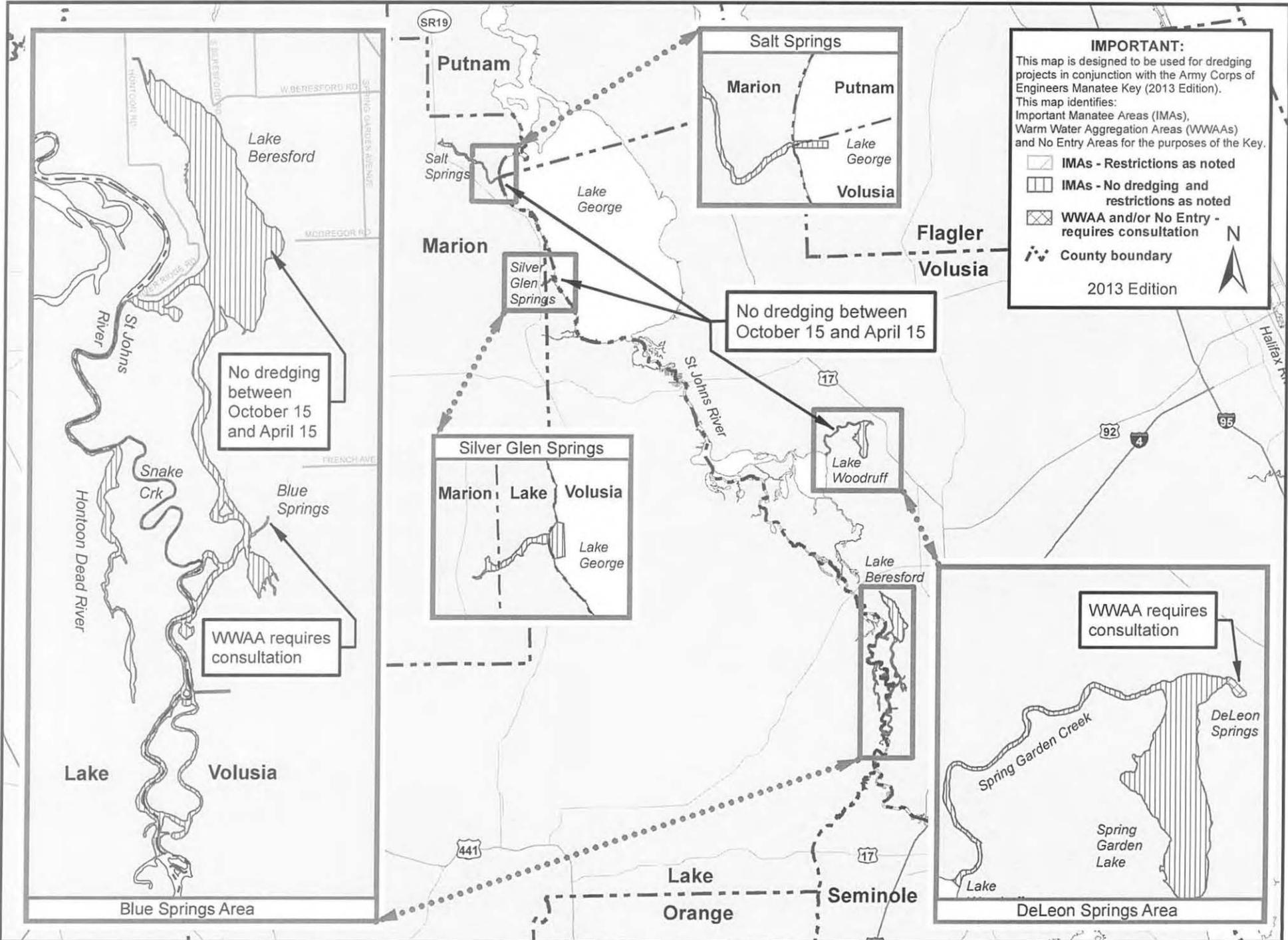
St. Lucie County



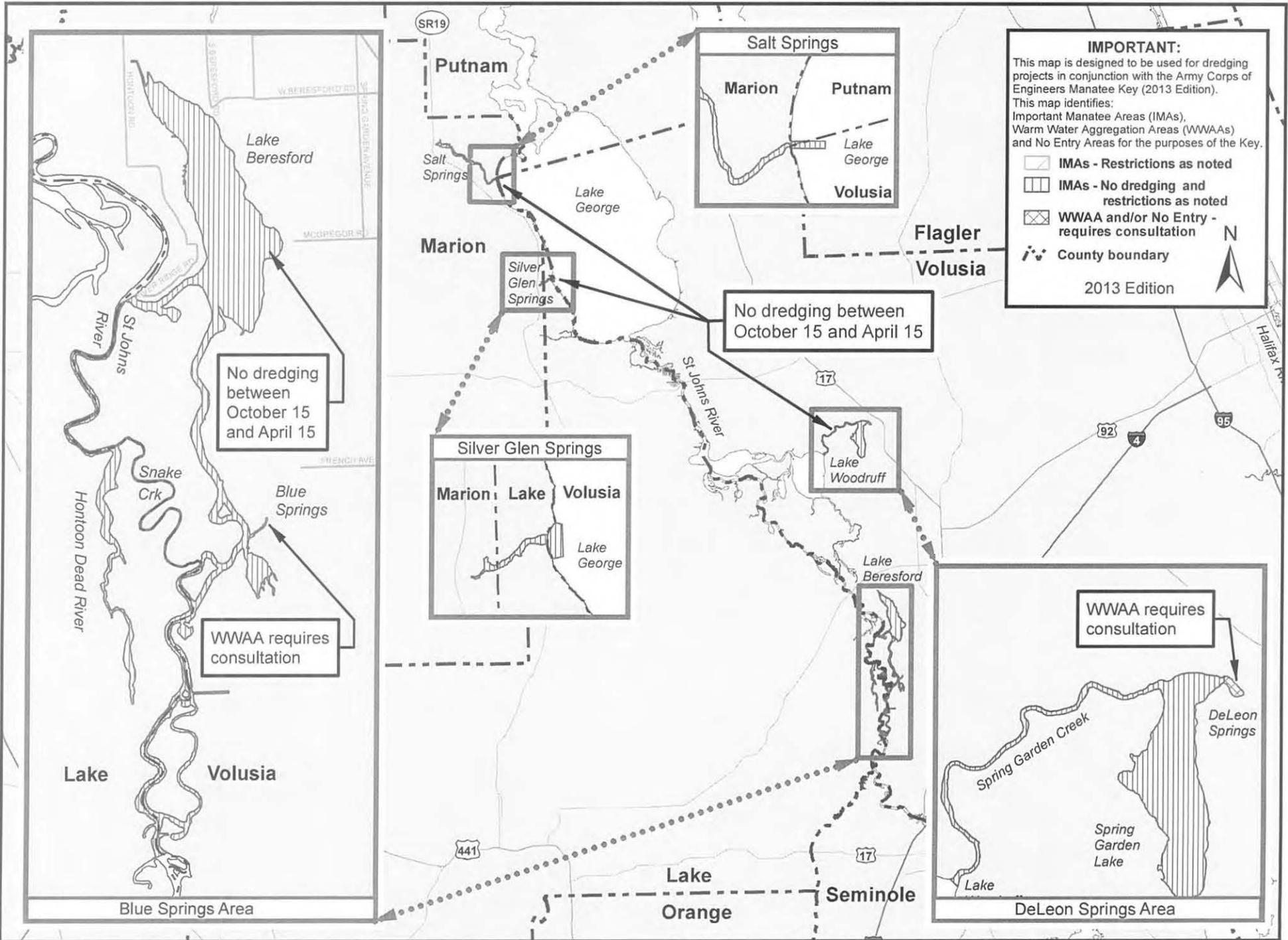
Volusia County - Coastal



Volusia, Lake and Marion Counties



Volusia, Lake and Marion Counties





U.S. FISH & WILDLIFE SERVICE
CARIBBEAN ECOLOGICAL SERVICES FIELD OFFICE
JANUARY 2012

TECHNICAL ASSISTANCE TO EVALUATE EFFECTS ON ANTILLEAN MANATEES

The Service considers shallow coastal areas, bays, estuaries, river mouths and mangrove lagoon ecosystems as important for the conservation of the Antillean manatee because these areas contain all the natural elements preferred by manatees: abundant sea grass relatively calm waters, sheltered spots, and freshwater sources, as well as a relatively low number of boats within the bay. Actions proposed for these areas should be carefully examined, to ensure that elements required by this species are not compromised.

To evaluate the potential effect of proposed action on manatees, we need the applicants to address the following issues:

1. Type and amount of watercraft associated to the project
2. Amount of boat facilities (e.g. ramps, piers, dry-stacks, buoys, among others)
3. Amount of habitat to be affected (e.g. acres of sea grasses and/or mangroves)
4. Provisions / restrictions to be taken to prevent collisions with manatees (e.g. delineation of an entrance channel, marking buoys, navigation aids, among others).
5. Outreach efforts to be implemented concerning boat operation. One of the main components of a successful operation of facilities that implement mechanisms to safeguard threatened and endangered species is a comprehensive outreach program that clearly indicates to the public 1) the actions that the facility is undertaking to protect such species (including assurances on the implementation of protection measures), and 2) the activities that the public should take to minimize or prevent impacts to sensitive species and their habitats. Guidelines for safe operation of watercrafts should be included as part of the outreach/education component of the proposed project (example attached below).
6. Any other site-specific conservation measure applicable for the project.

EXAMPLE OF CONSERVATION MEASURES FOR IN-WATER PROJECTS (INCLUDING DREDGING ACTIVITIES)

The following manatee conservation measures are recommended:

1. The contractor instructs all personnel associated with construction of the facility of the presence of manatees and the need to avoid collisions with manatees.
2. All construction personnel will be advised that there are civil and criminal penalties for harming, harassing, or killing manatees, which are protected under the Endangered Species Act of 1973 and the Marine Mammal Protection Act of 1972. The permit holder and/or contractor will be held responsible for any manatee harmed, harassed, or killed as a result of construction of the project.

3. The project work area shall be surveyed for the presence of manatees at least one hour before any dredging starts and prior to the installation of the silt fence. If manatees are found before any in-water project activity starts, the contractor shall wait for the manatee to leave the area by itself and be at least 100 feet from the project in-water area. Manatees must not be herded or harassed into leaving the area.
4. Siltation barriers will be made of material in which manatee 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.
5. All vessels associated with the project construction will operate at "no-wake/idle" speed at all times while in water within manatee areas and vessels will follow routes of deep water whenever possible.
6. If manatees are seen within 100 yards (300 feet) of the in-water work area, all appropriate precautions shall be implemented to ensure protection of the manatees. These precautions shall include operating all equipment in such a manner that moving equipment does not come any closer than 50 to 100 feet of any manatee. If a manatee is within 50 feet of in-water work, all in-water activities must shut down, until manatee moves on its own at least 100 feet away from the in-water work area. Manatees must not be herded or harassed into leaving the area.
7. Any collision with and/or injury to a manatee shall be reported immediately to the Department of Natural and Environmental Resources Law Enforcement (787-724-5700) and the USFWS Caribbean Ecological Services Field Office (787-851-7297).
8. The contractor shall keep a log detailing sightings, collisions, or injury to manatees, which have occurred during the contract period. Following project completion, a report summarizing the above incidents and sightings will be submitted to the U.S. Fish and Wildlife Service, Caribbean Ecological Services Field Office, P.O. Box 491, Boquerón, Puerto Rico 00622.
9. The permit holder and/or contractor shall install and maintain temporary and permanent manatee signs as recommended by the following guidelines:
 - a. Signs must be placed in a prominent location for maximum visibility. Areas that are recommended include: dock walkways, dock master offices, near restrooms or other high patron foot traffic areas.
 - b. Signs must be replaced when faded, damaged or outdated.
 - c. If the facility is large or has multiple docks with separate walkways that are a considerable distance apart, multiple signs should be installed.
 - d. These signs must not face the water, must never be attached to pilings or navigational markers in the water. Some exceptions to signs facing the water exist for temporary signs during in-water work.
 - e. For durability, all signs should be fiberglass, PVC or metal with rounded corners (hand-sanded to remove all sharp edges and burrs), constructed of 0.08 Gauge 5052-H38 Aluminum with an Alodine 1200 conversion coating and Engineer Grade Type I reflective sheeting. Signs constructed to other specifications may not provide durability acceptable to the consumer.
 - f. Signs other than depicted may be considered, but should be approved by USFWS.

PRECAUCIÓN: HÁBITAT DE MANATÍ
CAUTION: MANATEE HABITAT

Toda embarcación
VELOCIDAD MÁXIMA 5MPH
All project vessels **IDLE SPEED/NO WAKE**

Si observa un manatí a 50 pies o menos del área de trabajo,
toda actividad en el agua debe

DETENERSE

When a manatee is within 50 feet of work all in-water activities must **SHUT DOWN**

Informe cualquier accidente con un manatí.
Report any collision with or injury to a manatee.

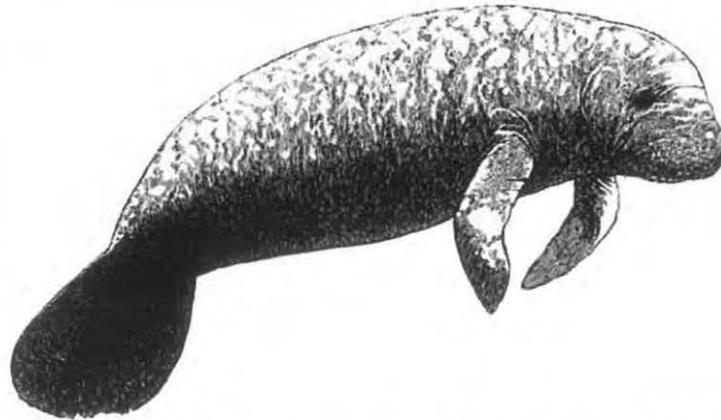


Vigilantes DRNA
(787)724-5700

This **temporary** bilingual sign is required as part of the standard manatee construction conditions and is intended to be placed near dredge, tugboat and work boat operators. Minimum size should be at least 8½" inches tall by 11" inches wide, and besides the above recommendation, the sign may be in laminated paper. This sign shall be installed or distributed prior to the initiation of construction. Temporary signs will be removed by the permit holder upon completion of construction.

To obtain a ready to print copy of this sign, please contact the USFWS Caribbean Ecological Services Field Office at 787-851-7297 ext. 220 or by email at jan_zegarra@fws.gov

PRECAUCIÓN
Manatíes en el Área
Caution: Watch for Manatees



VELOCIDAD MÁXIMA 5MPH
IDLE SPEED/NO WAKE

Informe cualquier accidente con un manatí.

Vigilantes DRNA
(787) 724-5700

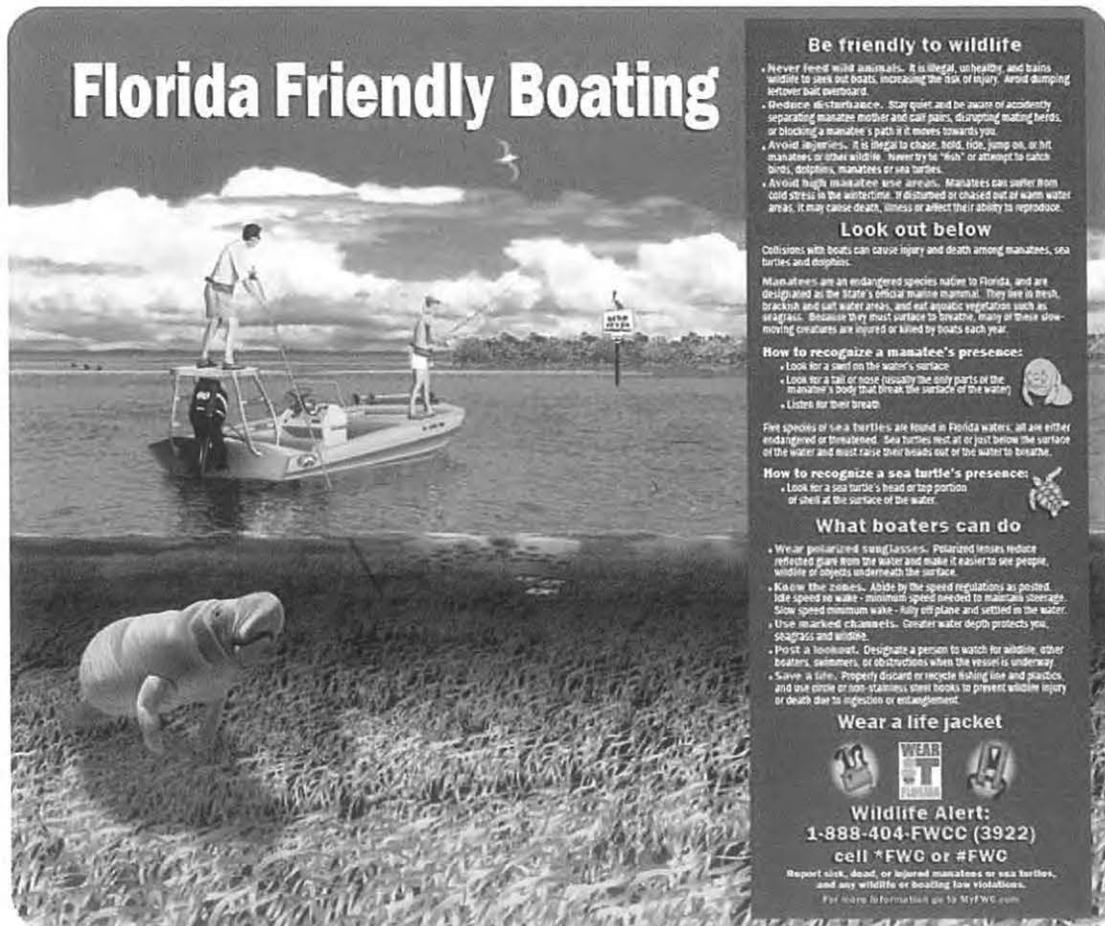
Report collisions, sick, dead or injured manatees.

This **permanent** bilingual sign is required as part of the standard manatee construction conditions and is intended to be placed within docking and launching facilities. Minimum size should be at least 30" inches tall by 24" inches wide with rounded corners. This sign shall be installed prior, during or after project construction. This permanent sign may not be required for coastal projects that **do not** have docking and/or launching facilities.

To obtain a ready to print copy of this sign, please contact the USFWS Caribbean Ecological Services Field Office at 787-851-7297 ext. 220 or by email at jan_zegarra@fws.gov

10. A permanent bilingual manatee educational sign should be installed and maintained prior to mooring occupancy at a prominent location to increase the awareness of boaters using the facility of boats to these animals. The numbers of educational signs that may be installed will depend on the docking facility design. One manatee educational sign is recommended at each boat ramp or travel lift (if applicable). Manatee educational signs remain the responsibility of the owner(s) and the Service recommends the signs be maintained for the life of the docking facility in a manner acceptable to the Corps of Engineers.

EXAMPLE MANATEE EDUCATIONAL SIGN



Florida Friendly Boating

Be friendly to wildlife

- Never feed wild animals. It is illegal, unhealthy, and harms wildlife to seek out boats, increasing the risk of injury. Avoid dumping leftover bait overboard.
- Reduce disturbance. Stay quiet and be aware of accidentally separating manatee mother and calf pairs, disrupting mating herds, or blocking a manatee's path if it moves towards you.
- Avoid spearfishing. It is illegal to chase, hold, touch, pump on, or hit manatees or other wildlife. Never try to "fish" or attempt to catch birds, dolphins, manatees or sea turtles.
- Avoid high manatee-free areas. Manatees can suffer from cold stress in the winter. If disturbed or chased out of warm water areas, it may cause death, illness or affect their ability to reproduce.

Look out below

Collisions with boats can cause injury and death among manatees, sea turtles and dolphins.

Manatees are an endangered species native to Florida, and are designated as the state's official marine mammal. They live in fresh, brackish and salt water areas, and eat aquatic vegetation such as seagrass. Because of their habit of surfacing to breathe, many of these slow-moving creatures are injured or killed by boats each year.

How to recognize a manatee's presence:

- Look for a swell on the water's surface.
- Look for a tail or nose (usually the only parts of the manatee's body that break the surface of the water).
- Listen for their breath.

Five species of sea turtles are found in Florida waters. All are either endangered or threatened. Sea turtles rest at or just below the surface of the water and must raise their heads out of the water to breathe.

How to recognize a sea turtle's presence:

- Look for a sea turtle's head or top portion of shell at the surface of the water.

What boaters can do

- Wear polarized sunglasses. Polarized lenses reduce reflected glare from the water and make it easier to see people, wildlife or objects underneath the surface.
- Know the zones. Abide by the speed regulations as posted. Use speed minimum wake - minimum speed needed to maintain clearance. Slow speed minimum wake - fully astern and settled in the water. Use marked channels. Greater water depth protects you, passengers and wildlife.
- Post a lookout. Designate a person to watch for wildlife, other boaters, swimmers, or obstructions when the vessel is underway.
- Save a life. Properly discard or recycle fishing line and plastics, and use proper or non-stainless steel hooks to prevent wildlife injury or death due to ingestion or entanglement.

Wear a life jacket

Wildlife Alert:
1-888-404-FWCC (3922)
cell *FWC or #FWC

Report sick, dead, or injured manatees or sea turtles, and any wildlife or boating law violations.
For more information go to MyFWC.com

This permanent educational sign should have a minimum size of at least 30" inches tall by 36" inches wide with rounded corners.

11. A notarized verification letter stating that permanent signs have been installed at designated locations shall be forwarded to the Corps of Engineers, Antilles Regulatory Section, as soon as they are installed. Signs and pilings remain the responsibility of the owner(s) and are to be maintained for the life of the docking and launching facility in a manner acceptable to the Corps of Engineers.
12. Signs other than depicted above may be considered, but should be approved by USFWS. Signs shall have at least the following minimal recommend information:
 - a. Temporary bilingual signs:

PRECAUCIÓN
MANATÍES EN EL ÁREA
Mantenga velocidad de 5 mph dentro del área de construcción
Informe cualquier incidente con un manatí
Vigilantes DRNA 787-724-5700

CAUTION
MANATEES IN THE AREA
Maintain idle speed/no wake (5 mph) within construction site
Report any collisions with or injury to a manatee

- b. Permanent bilingual signs:

PRECAUCIÓN
MANATÍES EN EL ÁREA
Velocidad máxima 5 mph
Informe cualquier incidente con un manatí
Vigilantes DRNA 787-724-5700

CAUTION
MANATEES IN THE AREA
Idle speed/No wake (5 mph) zone
Report collisions, sick, dead or injured manatees

- c. Permanent bilingual educational sign and some of the of the recommended information it should include:

**GUÍA PARA LA PROTECCIÓN Y CONSERVACIÓN DEL MANATÍ
(MANATEE PROTECTION AND CONSERVATION GUIDELINES)**

1. Utilice gafas polarizadas mientras navega. Éstas ayudan a detectar mejor al manatí, las áreas llanas y cualquier obstáculo en el mar. *(Use polarized sunglasses while navigating. These help to detect any manatee, shallow waters and any other obstacle in the wáter.)*
2. Si usted ve un manatí en la trayectoria de su embarcación, reduzca la velocidad a 5 mph y conduzca la embarcación fuera del paso del manatí o espere a que el manatí salga del área poniendo su embarcación en neutro. *(If you see a manatee within the*

path of your vessel, reduce the velocity to 5 mph and turn your vessel away from the manatee's path or wait until the manatee has moved from the area by putting your vessel in neutral.)

3. Luego de asegurarse de que el manatí esté fuera de la trayectoria de su embarcación, continúe navegando despacio (no más de 5 mph) hasta que su embarcación se encuentre a no menos de 50 pies (15 metros) del manatí. *(After you are certain that the manatee is well outside of the path of your vessel, resume navigation slowly (not more than 5 mph) until your vessel is not less than 50 feet (15 meters) away from the manatee.)*
4. Obedezca las zonas con límites de velocidad y reduzca la velocidad en aguas llanas menores a 10 pies de profundidad en particular cerca de la costa, en las desembocaduras de ríos, en praderas de hierbas marinas y manglares. *(Obey regulatory speed zones and reduce velocity in shallow waters less than 10 feet, particularly close to the coast, in river mouths, in sea grass beds and mangroves.)*
5. Si observa un manatí mientras usted está en el agua, obsérvelo pasivamente, no lo persiga, acose o lo toque. *(If you observe a manatee while in the water, passively observe it, do not follow it, nor harass or touch.)*
6. No tire basura al agua. El manatí puede ingerirla o enredarse en ella, lo cual podría causarle heridas o la muerte. *(Do not throw trash in the water. Manatees may ingest or entangle on trash, which may injure or kill it.)*
7. Nunca alimente o le ofrezca agua a un manatí. Es ilegal y los malacostumbra a acercarse a lugares donde pueden ser lastimados. *(Never feed or give water to a manatee. It is illegal and will wrongly habituate them to approach areas where they can be injured.)*

Informe accidentes con un manatí inmediatamente. Si encuentra un bebé manatí solo, en peligro, herido o muerto, llame al Cuerpo de Vigilantes del Departamento de Recursos Naturales y Ambientales al 787-724-5700 o al Programa de Rescate de Mamíferos Marinos al 787-833-2025, 787-538-4684 ó 787-645-5593. *(Inform any accident with a manatee immediately. If you find a baby manatee alone, in danger, injured or dead, call the Department of Natural and Environmental Resources Law Enforcement of at 787-724-5700 or the Marine Mammal Rescue Program at 787-833-2025, 787-538-4684 or 787-645-5593.)*

Herir o matar un manatí puede conllevar multas de más de \$50,000 y/o no menos de dos años de cárcel. ¡EVÍTESE ESE RIESGO!
(Harming or killing a manatee could carry fines of more than \$50,000 and/or not less than two years in prison. AVOID THIS RISK!)

GRACIAS POR AYUDAR A SALVAR LOS MANATÍES
THANKS FOR HELPING SAVE THE MANATEES



United States Department of the Interior

U. S. FISH AND WILDLIFE SERVICE

7915 BAYMEADOWS WAY, SUITE 200
JACKSONVILLE, FLORIDA 32256-7517

IN REPLY REFER TO:

August 13, 2013

Colonel Alan M. Dodd, District Engineer
Department of the Army
Jacksonville District Corps of Engineers
P.O. Box 4970
Jacksonville, Florida 32232-0019
(Attn: Mr. David S. Hobbie)

RE: Update Addendum to USFWS Concurrence Letter to U.S. Army Corps of Engineers
Regarding Use of the Attached Eastern Indigo Snake Programmatic Effect Determination Key

Dear Colonel Dodd:

This letter is to amend the January 25, 2010, letter to the U.S. Army Corps of Engineers regarding the use of the attached eastern indigo snake programmatic effect determination key (key). It supersedes the update addendum issued January 5, 2012.

We have evaluated the original programmatic concurrence and find it suitable and appropriate to extend its use to the remainder of Florida covered by the Panama City Ecological Services Office.

On Page 2

The following replaces the last paragraph above the signatures:

“Thank you for your continued cooperation in the effort to conserve fish and wildlife resources. Any questions or comments should be directed to Annie Dziergowski (North Florida ESO) at 904-731-3089, Harold Mitchell (Panama City ESO) at 850-769-0552, or Victoria Foster (South Florida ESO) at 772-469-4269.”

On Page 3

The following replaces both paragraphs under “Scope of the key”:

“This key should be used only in the review of permit applications for effects determinations for the eastern indigo snake within the State of Florida, and not for other listed species or for aquatic resources such as Essential Fish Habitat (EFH).”

On Page 4

The following replaces the first paragraph under Conservation Measures:

“The Service routinely concurs with the Corps’ “not likely to adversely affect” (NLAA) determination for individual project effects to the eastern indigo snake when assurances are given that

our *Standard Protection Measures for the Eastern Indigo Snake* (Service 2013) located at: <http://www.fws.gov/northflorida/IndigoSnakes/indigo-snakes.htm> will be used during project site preparation and project construction. There is no designated critical habitat for the eastern indigo snake.”

On Page 4 and Page 5 (Couplet D)

The following replaces D. under Conservation Measures:

D. The project will impact less than 25 acres of xeric habitat (scrub, sandhill, or scrubby flatwoods) or less than 25 active and inactive gopher tortoise burrows.....go to E

The project will impact more than 25 acres of xeric habitat (scrub, sandhill, or scrubby flatwoods) or more than 25 active and inactive gopher tortoise burrows and consultation with the Service is requested²..... "may affect"

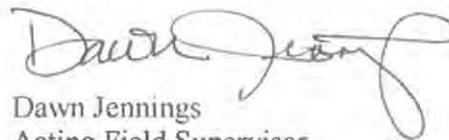
On Page 5

The following replaces footnote #3:

“³If excavating potentially occupied burrows, active or inactive, individuals must first obtain state authorization via a FWC Authorized Gopher Tortoise Agent permit. The excavation method selected should also minimize the potential for injury of an indigo snake. Applicants should follow the excavation guidance provided within the most current Gopher Tortoise Permitting Guidelines found at <http://myfwc.com/gophertortoise> .”

Thank you for making these amendments concerning the Eastern Indigo Snake Key. If you have any questions, please contact Jodie Smithem of my staff at the address on the letterhead, by email at jodie_smithem@fws.gov, or by calling (904)731-3134.

Sincerely,



Dawn Jennings
Acting Field Supervisor

cc:

Panama City Ecological Services Field Office, Panama City, FL
South Florida Ecological Services Field Office, Vero Beach, FL



United States Department of the Interior



FISH AND WILDLIFE SERVICE
South Florida Ecological Services Office
1339 20th Street
Vero Beach, Florida 32960

January 25, 2010

David S. Hobbie
Chief, Regulatory Division
U.S. Army Corps of Engineers
Post Office Box 4970
Jacksonville, Florida 32232-0019

Service Federal Activity Code: 41420-2009-FA-0642

Service Consultation Code: 41420-2009-I-0467
41910-2010-I-0045

Subject: North and South Florida
Ecological Services Field Offices
Programmatic Concurrence for Use
of Original Eastern Indigo Snake
Key(s) Until Further Notice

Dear Mr. Hobbie:

The U.S. Fish and Wildlife Service's (Service) South and North Florida Ecological Services Field Offices (FO), through consultation with the U.S. Army Corps of Engineers Jacksonville District (Corps), propose revision to both Programmatic concurrence letters/keys for the federally threatened Eastern Indigo Snake (*Drymarchon corais couperi*), (indigo snake), and now provide one key for both FO's. The original programmatic key was issued by the South Florida FO on November 9, 2007. The North Florida FO issued a revised version of the original key on September 18, 2008. Both keys were similar in content, but reflected differences in geographic work areas between the two Field Offices. The enclosed key satisfies each office's responsibilities under the Endangered Species Act of 1973, as amended (Act) (87 Stat. 884; 16 U.S.C.1531 *et seq.*).

Footnote number 3 in the original keys indicated "A member of the excavation team should be authorized for Incidental Take during excavation through either a section 10(a)(1)(A) permit issued by the Service or an incidental take permit issued by the Florida Fish and Wildlife Conservation Commission (FWC)." We have removed this reference to a Service issued Section 10(a)(1)(A) permit, as one is not necessary for this activity. We also referenced the FWC's revised April 2009 Gopher Tortoise Permitting Guidelines with a link to their website for updated excavation guidance, and have provided a website link to our Standard Protection Measures. All other conditions and criteria apply.

We believe the implementation of the attached key achieves our mutual goal for all users to make consistent effect determinations regarding this species. The use of this key for review of projects



located in all referenced counties in our respective geographic work areas leads the Service to concur with the Corps' determination of "may affect, not likely to adversely affect" (MANLAA) for the Eastern indigo snake. The biological rationale for the determinations is contained within the referenced documents and is submitted in accordance with section 7 of the Act.

Should circumstances change or new information become available regarding the eastern indigo snake or implementation of the key, the determinations may be reconsidered as deemed necessary.

Thank you for your continued cooperation in the effort to conserve fish and wildlife resources. Any questions or comments should be directed to either Allen Webb (Vero Beach) at 772-562-3909, extension 246, or Jay Herrington (Jacksonville) at 904-731-3326.

Sincerely,



Paul Souza
Field Supervisor
South Florida Ecological Services Office



David L. Hankla
Field Supervisor
North Florida Ecological Services Office

Enclosure

cc: electronic only
FWC, Tallahassee, Florida (Dr. Elsa Haubold)
Service, Jacksonville, Florida (Jay Herrington)
Service, Vero Beach, Florida (Sandra Sneckenberger)

Eastern Indigo Snake Programmatic Effect Determination Key

Scope of the key

This key should be used only in the review of permit applications for effects determinations within the North and South Florida Ecological Services Field Offices Geographic Areas of Responsibility (GAR), and not for other listed species or for aquatic resources such as Essential Fish Habitat (EFH). Counties within the **North** Florida GAR include Alachua, Baker, Bradford, Brevard, Citrus, Clay, Columbia, Dixie, Duval, Flagler, Gilchrist, Hamilton, Hernando, Hillsborough, Lafayette, Lake, Levy, Madison, Manatee, Marion, Nassau, Orange, Pasco, Pinellas, Putnam, St. Johns, Seminole, Sumter, Suwannee, Taylor, Union, and Volusia.

Counties in the **South** Florida GAR include Broward, Charlotte, Collier, De Soto, Glades, Hardee, Hendry, Highlands, Lee, Indian River, Martin, Miami-Dade, Monroe, Okeechobee, Osceola, Palm Beach, Polk, Sarasota, St. Lucie.

Habitat

Over most of its range, the eastern indigo snake frequents several habitat types, including pine flatwoods, scrubby flatwoods, high pine, dry prairie, tropical hardwood hammocks, edges of freshwater marshes, agricultural fields, coastal dunes, and human-altered habitats (Service 1999). Eastern indigo snakes appear to need a mosaic of habitats to complete their life cycle. Wherever the eastern indigo snake occurs in xeric habitats, it is closely associated with the gopher tortoise (*Gopherus polyphemus*), the burrows of which provide shelter from winter cold and summer desiccation (Speake et al. 1978; Layne and Steiner 1996). Interspersion of tortoise-inhabited uplands and wetlands improves habitat quality for this species (Landers and Speake 1980; Auffenberg and Franz 1982).

In south Florida, agricultural sites, such as sugar cane fields, created in former wetland areas are occupied by eastern indigo snakes (Enge pers. comm. 2007). Formerly, indigo snakes would have only occupied higher elevation sites within the wetlands. The introduction of agriculture and its associated canal systems has resulted in an increase in rodents and other species of snakes that are prey for eastern indigo snakes. The result is that indigos occur at higher densities in these areas than they did historically.

Even though thermal stress may not be a limiting factor throughout the year in south Florida, indigo snakes still seek and use underground refugia. On the sandy central ridge of central Florida, eastern indigos use gopher tortoise burrows more (62 percent) than other underground refugia (Layne and Steiner 1996). Other underground refugia used include armadillo (*Dasypus novemcinctus*) burrows near citrus groves, cotton rat (*Sigmodon hispidus*) burrows, and land crab (*Cardisoma gualanhum*) burrows in coastal areas (Service 2006). Natural ground holes, hollows at the base of trees or shrubs, ground litter, trash piles, and crevices of rock-lined ditch walls are also used (Layne and Steiner 1996). These refugia are used most frequently where tortoise burrows are not available, principally in low-lying areas off the central and coastal ridges. In extreme south Florida (the Everglades and Florida Keys), indigo snakes are found in tropical

hardwood hammocks, pine rocklands, freshwater marshes, abandoned agricultural land, coastal prairie, mangrove swamps, and human-altered habitats (Steiner et al. 1983). It is suspected that they prefer hammocks and pine forests, because most observations occur in these habitats disproportionately to their presence in the landscape (Steiner et al. 1983). Hammocks may be important breeding areas as juveniles are typically found there. The eastern indigo snake is a snake-eater so the presence of other snake species may be a good indicator of habitat quality.

Conservation Measures

The Service routinely concurs with the Corps' "not likely to adversely affect" (NLAA) determination for individual project effects to the eastern indigo snake when assurances are given that our *Standard Protection Measures for the Eastern Indigo Snake* (Service 2004) located at: <http://www.fws.gov/northflorida/IndigoSnakes/indigo-snakes> will be used during project site preparation and project construction. There is no designated critical habitat for the eastern indigo snake.

In an effort to reduce correspondence in effect determinations and responses, the Service is providing an Eastern Indigo Snake Effect Determination Key, similar in utility to the West Indian Manatee Effect Determination Key and the Wood Stork Effect Determination Keys presently being utilized by the Corps. If the use of this key results in a Corps' determination of "no effect" for a particular project, the Service supports this determination. If the use of this Key results in a determination of NLAA, the Service concurs with this determination and no additional correspondence will be necessary¹. This key is subject to revisitation as the Corps and Service deem necessary.

- A. Project is not located in open water or salt marsh.....go to B
 Project is located solely in open water or salt marsh..... "no effect"
- B. Permit will be conditioned for use of the Service's *Standard Protection Measures For The Eastern Indigo Snake* during site preparation and project construction.....go to C
 Permit will not be conditioned as above for the eastern indigo snake, or it is not known whether an applicant intends to use these measures and consultation with the Service is requested² "may affect"
- C. There are gopher tortoise burrows, holes, cavities, or other refugia where a snake could be buried or trapped and injured during project activitiesgo to D
 There are no gopher tortoise burrows, holes, cavities, or other refugia where a snake could be buried or trapped and injured during project activities "NLAA"
- D. The project will impact less than 25 acres of xeric habitat supporting less than 25 active and inactive gopher tortoise burrows.....go to E

The project will impact more than 25 acres of xeric habitat or more than 25 active and inactive gopher tortoise burrows and consultation with the Service is requested²..... “may affect”

- E. Any permit will be conditioned such that all gopher tortoise burrows, active or inactive, will be evacuated prior to site manipulation in the vicinity of the burrow³. If an indigo snake is encountered, the snake must be allowed to vacate the area prior to additional site manipulation in the vicinity. Any permit will also be conditioned such that holes, cavities, and snake refugia other than gopher tortoise burrows will be inspected each morning before planned site manipulation of a particular area, and, if occupied by an indigo snake, no work will commence until the snake has vacated the vicinity of proposed work..... “NLAA”

Permit will not be conditioned as outlined above and consultation with the Service is requested² ”may affect”

¹With an outcome of “no effect” or “NLAA” as outlined in this key, the requirements of section 7 of the Act are fulfilled for the eastern indigo snake and no further action is required.

²Consultation may be concluded informally or formally depending on project impacts.

³ If burrow excavation is utilized, it should be performed by experienced personnel. The method used should minimize the potential for injury of an indigo snake. Applicants should follow the excavation guidance provided within the Florida Fish and Wildlife Conservation Commission’s revised April 2009 Gopher Tortoise Permitting Guidelines located at http://myfwc.com/License/Permits_ProtectedWildlife.htm#gophertortoise. A member of the excavation team should be authorized for Incidental Take during excavation through an incidental take permit issued by the Florida Fish and Wildlife Conservation Commission.



United States Department of the Interior



FISH AND WILDLIFE SERVICE
South Florida Ecological Services Office
1339 20th Street
Vero Beach, Florida 32960

May 18, 2010

Donnie Kinard
Chief, Regulatory Division
Jacksonville District Corps of Engineers
Post Office Box 4970
Jacksonville, Florida 32232-0019

Service Federal Activity Code: 41420-2007-FA-1494
Service Consultation Code: 41420-2007-I-0964
Subject: South Florida Programmatic
Concurrence
Species: Wood Stork

Dear Mr. Kinard:

This letter addresses minor errors identified in our January 25, 2010, wood stork key and as such, supplants the previous key. The key criteria and wood stork biomass foraging assessment methodology have not been affected by these minor revisions.

The Fish and Wildlife Service's (Service) South Florida Ecological Services Office (SFESO) and the U.S. Army Corps of Engineers Jacksonville District (Corps) have been working together to streamline the consultation process for federally listed species associated with the Corps' wetland permitting program. The Service provided letters to the Corps dated March 23, 2007, and October 18, 2007, in response to a request for a multi-county programmatic concurrence with a criteria-based determination of "may affect, not likely to adversely affect" (NLAA) for the threatened eastern indigo snake (*Drymarchon corais couperi*) and the endangered wood stork (*Mycteria americana*) for projects involving freshwater wetland impacts within specified Florida counties. In our letters, we provided effect determination keys for these two federally listed species, with specific criteria for the Service to concur with a determination of NLAA.

The Service has revisited these keys recently and believes new information provides cause to revise these keys. Specifically, the new information relates to foraging efficiencies and prey base assessments for the wood stork and permitting requirements for the eastern indigo snake. This letter addresses the wood stork key and is submitted in accordance with section 7 of the Endangered Species Act of 1973, as amended (Act) (87 Stat. 884; 16 U.S.C. 1531 *et seq.*). The eastern indigo snake key will be provided in a separate letter.

Wood stork

Habitat

The wood stork is primarily associated with freshwater and estuarine habitats that are used for nesting, roosting, and foraging. Wood storks typically construct their nests in medium to tall



trees that occur in stands located either in swamps or on islands surrounded by relatively broad expanses of open water (Ogden 1991, 1996; Rodgers et al. 1996). Successful colonies are those that have limited human disturbance and low exposure to land-based predators. Nesting colonies protected from land-based predators are characterized as those surrounded by large expanses of open water or where the nest trees are inundated at the onset of nesting and remain inundated throughout most of the breeding cycle. These colonies have water depths between 0.9 and 1.5 meters (3 and 5 feet) during the breeding season.

Successful nesting generally involves combinations of average or above-average rainfall during the summer rainy season and an absence of unusually rainy or cold weather during the winter-spring breeding season (Kahl 1964; Rodgers et al. 1987). This pattern produces widespread and prolonged flooding of summer marshes, which maximize production of freshwater fishes, followed by steady drying that concentrate fish during the season when storks nest (Kahl 1964). Successful nesting colonies are those that have a large number of foraging sites. To maintain a wide range of foraging sites, a variety of wetland types should be present, with both short and long hydroperiods. The Service (1999) describes a short hydroperiod as a 1 to 5-month wet/dry cycle, and a long hydroperiod as greater than 5 months. During the wet season, wood storks generally feed in the shallow water of the short-hydroperiod wetlands and in coastal habitats during low tide. During the dry season, foraging shifts to longer hydroperiod interior wetlands as they progressively dry-down (though usually retaining some surface water throughout the dry season).

Wood storks occur in a wide variety of wetland habitats. Typical foraging sites for the wood stork include freshwater marshes and stock ponds, shallow, seasonally flooded roadside and agricultural ditches, narrow tidal creeks and shallow tidal pools, managed impoundments, and depressions in cypress heads and swamp sloughs. Because of their specialized feeding behavior, wood storks forage most effectively in shallow-water areas with highly concentrated prey. Through tactolocation, or grope feeding, wood storks in south Florida feed almost exclusively on fish between 2 and 25 centimeters [cm] (1 and 10 inches) in length (Ogden et al. 1976). Good foraging conditions are characterized by water that is relatively calm, uncluttered by dense thickets of aquatic vegetation, and having a water depth between 5 and 38 cm (5 and 15 inches) deep, although wood storks may forage in other wetlands. Ideally, preferred foraging wetlands would include a mosaic of emergent and shallow open-water areas. The emergent component provides nursery habitat for small fish, frogs, and other aquatic prey and the shallow, open-water areas provide sites for concentration of the prey during seasonal dry-down of the wetland.

Conservation Measures

The Service routinely concurs with the Corps' "may affect, not likely to adversely affect" determination for individual project effects to the wood stork when project effects are insignificant due to scope or location, or if assurances are given that wetland impacts have been avoided, minimized, and adequately compensated such that there is no net loss in foraging potential. We utilize our *Habitat Management Guidelines for the Wood Stork in the Southeast Region* (Service 1990) (Enclosure 1) (HMG) in project evaluation. The HMG is currently under review and once final will replace the enclosed HMG. There is no designated critical habitat for the wood stork.

The SFESO recognizes a 29.9 kilometer [km] (18.6-mile) core foraging area (CFA) around all known wood stork colonies in south Florida. Enclosure 2 (to be updated as necessary) provides locations of colonies and their CFAs in south Florida that have been documented as active within the last 10 years. The Service believes loss of suitable wetlands within these CFAs may reduce foraging opportunities for the wood stork. To minimize adverse effects to the wood stork, we recommend compensation be provided for impacts to foraging habitat. The compensation should consider wetland type, location, function, and value (hydrology, vegetation, prey utilization) to ensure that wetland functions lost due to the project are adequately offset. Wetlands offered as compensation should be of the same hydroperiod and located within the CFAs of the affected wood stork colonies. The Service may accept, under special circumstances, wetland compensation located outside the CFAs of the affected wood stork nesting colonies. On occasion, wetland credits purchased from a "Service Approved" mitigation bank located outside the CFAs could be acceptable to the Service, depending on location of impacted wetlands relative to the permitted service area of the bank, and whether or not the bank has wetlands having the same hydroperiod as the impacted wetland.

In an effort to reduce correspondence in effect determinations and responses, the Service is providing the Wood Stork Effect Determination Key below. If the use of this key results in a Corps determination of "no effect" for a particular project, the Service supports this determination. If the use of this Key results in a determination of NLAA, the Service concurs with this determination¹. This Key is subject to revisitation as the Corps and Service deem necessary.

The Key is as follows:

- A. Project within 0.76 km (0.47 mile)² of an active colony site³ "may affect"⁴
 - Project impacts Suitable Foraging Habitat (SFH)⁵ at a location greater than 0.76 km (0.47 mile) from a colony site..... "go to B"

¹ With an outcome of "no effect" or "NLAA" as outlined in this key, and the project has less than 20.2 hectares (50 acres) of wetland impacts, the requirements of section 7 of the Act are fulfilled for the wood stork and no further action is required. For projects with greater than 20.2 hectares (50 acres) of wetland impacts, written concurrence of NLAA from the Service is necessary.

² Within the secondary zone (the average distance from the border of a colony to the limits of the secondary zone is 0.76 km (2,500 feet, or 0.47 mi).

³ An active colony is defined as a colony that is currently being used for nesting by wood storks or has historically over the last 10 years been used for nesting by wood storks.

⁴ Consultation may be concluded informally or formally depending on project impacts.

⁵ Suitable foraging habitat (SFH) includes wetlands that typically have shallow-open water areas that are relatively calm and have a permanent or seasonal water depth between 5 to 38 cm (2 to 15 inches) deep. Other shallow non-wetland water bodies are also SFH. SFH supports and concentrates, or is capable of supporting and concentrating small fish, frogs, and other aquatic prey. Examples of SFH include, but are not limited to freshwater marshes, small ponds, shallow, seasonally flooded roadside or agricultural ditches, seasonally flooded pastures, narrow tidal creeks or shallow tidal pools, managed impoundments, and depressions in cypress heads and swamp sloughs.

- Project does not affect SFH..... “no effect”.
- B. Project impact to SFH is less than 0.20 hectare (one-half acre)⁶NLAA¹”
 - Project impact to SFH is greater in scope than 0.20 hectare (one-half acre).....go to C
- C. Project impacts to SFH not within the CFA (29.9 km, 18.6 miles) of a colony sitego to D
 - Project impacts to SFH within the CFA of a colony sitego to E
- D. Project impacts to SFH have been avoided and minimized to the extent practicable; compensation (Service approved mitigation bank or as provided in accordance with Mitigation Rule 33 CFR Part 332) for unavoidable impacts is proposed in accordance with the CWA section 404(b)(1) guidelines; and habitat compensation replaces the foraging value matching the hydroperiod⁷ of the wetlands affected and provides foraging value similar to, or higher than, that of impacted wetlands. See Enclosure 3 for a detailed discussion of the hydroperiod foraging values, an example, and further guidance⁸ NLAA¹”
 - Project not as above..... “may affect”
- E. Project provides SFH compensation in accordance with the CWA section 404(b)(1) guidelines and is not contrary to the HMG; habitat compensation is within the appropriate CFA or within the service area of a Service-approved mitigation bank; and habitat compensation replaces foraging value, consisting of wetland enhancement or restoration matching the hydroperiod⁷ of the wetlands affected, and provides foraging value similar

⁶ On an individual basis, SFH impacts to wetlands less than 0.20 hectare (one-half acre) generally will not have a measurable effect on wood storks, although we request that the Corps require mitigation for these losses when appropriate. Wood storks are a wide ranging species, and individually, habitat change from impacts to SFH less than one-half acre are not likely to adversely affect wood storks. However, collectively they may have an effect and therefore regular monitoring and reporting of these effects are important.

⁷ Several researchers (Flemming et al. 1994; Ceilley and Bortone 2000) believe that the short hydroperiod wetlands provide a more important pre-nesting foraging food source and a greater early nestling survivor value for wood storks than the foraging base (grams of fish per square meter) than long hydroperiod wetlands provide. Although the short hydroperiod wetlands may provide less fish, these prey bases historically were more extensive and met the foraging needs of the pre-nesting storks and the early-age nestlings. Nest productivity may suffer as a result of the loss of short hydroperiod wetlands. We believe that most wetland fill and excavation impacts permitted in south Florida are in short hydroperiod wetlands. Therefore, we believe that it is especially important that impacts to these short hydroperiod wetlands within CFAs are avoided, minimized, and compensated for by enhancement/restoration of short hydroperiod wetlands.

⁸ For this Key, the Service requires an analysis of foraging prey base losses and enhancements from the proposed action as shown in the examples in Enclosure 3 for projects with greater than 2.02 hectares (5 acres) of wetland impacts. For projects with less than 2.02 hectares (5 acres) of wetland impacts, an individual foraging prey base analysis is not necessary although type for type wetland compensation is still a requirement of the Key.

to, or higher than, that of impacted wetlands. See Enclosure 3 for a detailed discussion of the hydroperiod foraging values, an example, and further guidance⁸ "NLAA"¹"

Project does not satisfy these elements "may affect"⁴"

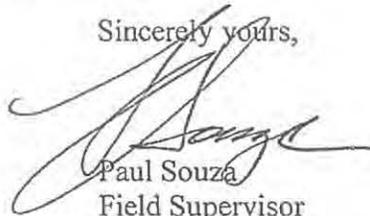
This Key does not apply to Comprehensive Everglades Restoration Plan projects, as they will require project-specific consultations with the Service.

Monitoring and Reporting Effects

For the Service to monitor cumulative effects, it is important for the Corps to monitor the number of permits and provide information to the Service regarding the number of permits issued where the effect determination was: "may affect, not likely to adversely affect." We request that the Corps send us an annual summary consisting of: project dates, Corps identification numbers, project acreages, project wetland acreages, and project locations in latitude and longitude in decimal degrees.

Thank you for your cooperation and effort in protecting federally listed species. If you have any questions, please contact Allen Webb at extension 246.

Sincerely yours,



Paul Souza
Field Supervisor
South Florida Ecological Services Office

Enclosures

- cc: w/enclosures (electronic only)
- Corps, Jacksonville, Florida (Stu Santos)
- EPA, West Palm Beach, Florida (Richard Harvey)
- FWC, Vero Beach, Florida (Joe Walsh)
- Service, Jacksonville, Florida (Billy Brooks)

LITERATURE CITED

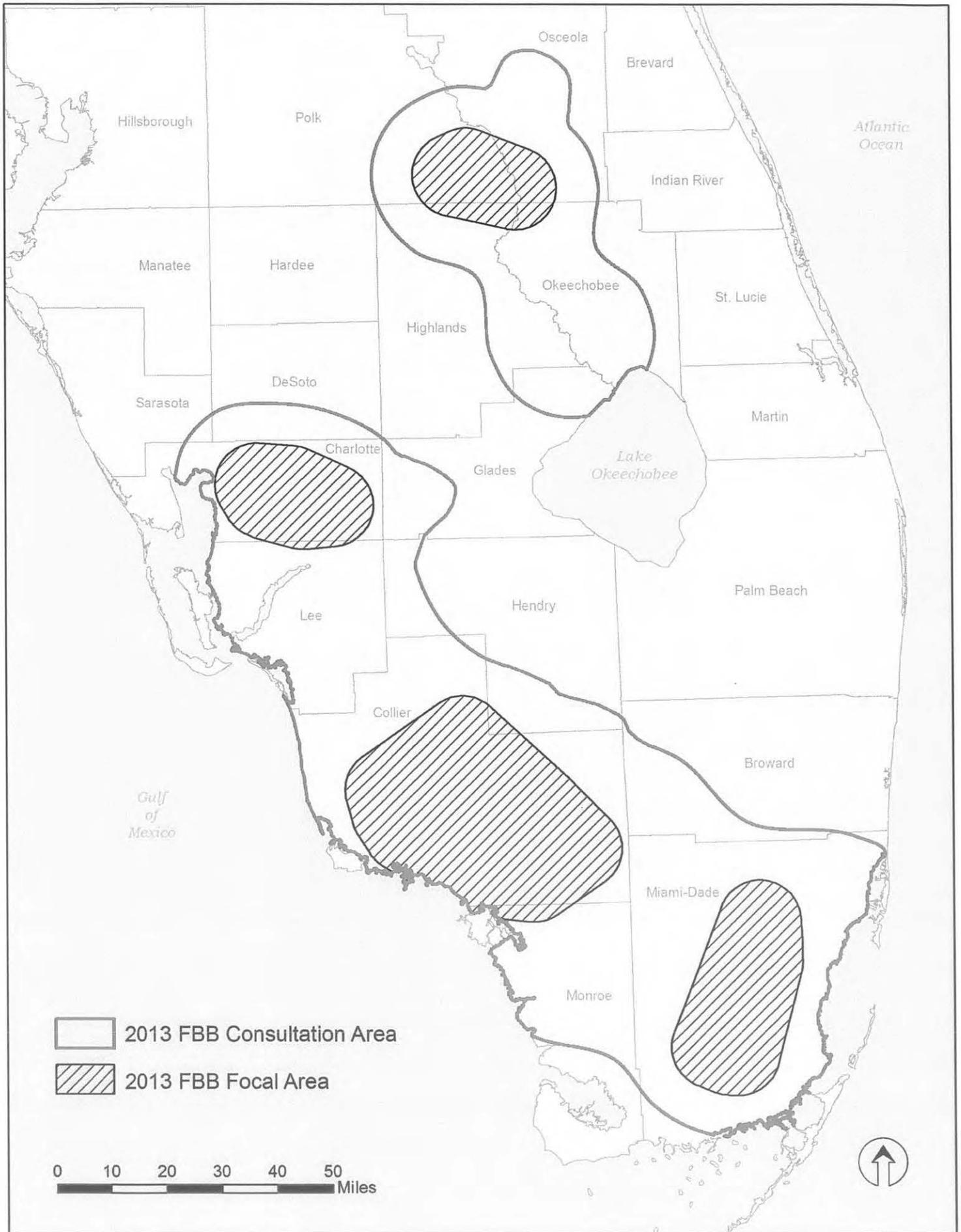
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Please use the following guidelines for making effect determinations for the endangered Florida bonneted bat (FBB) within the FBB consultation area.

- 1. Projects that fall within the hatched “FBB Focal Areas”**May Affect**
- 2. Projects outside of the hatched “FBB Focal Areas”, but within the overall “FBB Consultation Area”:
 - a. If the project site is less than 5 acres* **and does not include** potential roost sites (*e.g.*, large cavity trees or trees with hollows, snags, abandoned buildings, bridges and overpasses).....**MANLAA**
 - b. If the project site is less than 5 acres* **and includes** potential roost sites (*e.g.*, large cavity trees or trees with hollows, snags, abandoned buildings, bridges and overpasses).....**May Affect**
 - c. If the project site is 5 acres or greater and **includes** more than 1 acre (alone or combined) of the following FBB habitat types: upland or wetland forest; upland or wetland shrub; open freshwater wetlands; or open water (*e.g.*, lakes, ponds, canals, streams, rivers).....**May Affect**
 - d. If the project site is 5 acres or greater and **does not include** more than 1 acre (alone or combined) of FBB habitat types (upland or wetland forest; upland or wetland shrub; open freshwater wetlands; or open water) **and does not include** potential roost sites (*e.g.*, large cavity trees or trees with hollows, snags, abandoned buildings, bridges and overpasses).....**MANLAA**
 - e. If the project site is 5 acres or greater and **does not include** more than 1 acre (alone or combined) of FBB habitat types (upland or wetland forest; upland or wetland shrub; open freshwater wetlands; or open water) but **does include** potential roost sites (*e.g.*, large cavity trees or trees with hollows, snags, abandoned buildings, bridges and overpasses).....**May Affect**

*In eastern Miami-Dade County, there are known occurrences of FBB within highly urbanized landscapes. For projects in urban Miami-Dade County that include natural or semi-natural habitat, please verify with the Service whether Florida bonneted bats are known to be present in the area.

2013 Florida Bonneted Bat (FBB) Consultation Area and Focal Area



CONSERVATION MEASURES FOR THE PUERTO RICAN BOA - USFWS

General Information:

The Endangered Puerto Rican boa (*Epicrates inornatus*) is an endemic species and it is the largest snake that inhabits the Puerto Rico Island Shelf. The color and pattern of the Puerto Rican boa is highly variable. The species color can range from tan to dark brown with irregular diffuse marking on the dorsum but some individuals lack marking and are uniformly dark. Juveniles have reddish brown ground color with numerous pronounced markings. The Puerto Rican boa can be found in the habitat range from the sea level to about 400 m of elevation. The boa tolerates a wide variety of habitat types ranging from wet montane to subtropical dry forest and can be found from virgin forest to areas that exhibit various degrees of human disturbance like roadside or out buildings. Boas are more active at night, remaining less active concealed or basking in the sun during the day. The U.S. Fish and Wildlife Service (Federal Register October 13, 1970) listed the Puerto Rican boa (*Epicrates inornatus*) as endangered in 1970 and it is protected by the Endangered Species Act of 1973, as amended. Any person that injures, captures, or kills a Puerto Rican boa is subject to penalties under federal law of up to \$100,000, one year in prison or a combination of both.

Recommendations:

The U.S. Fish and Wildlife Service (hereafter the Service) has developed recommendations to avoid or minimize impacts on the boa during a project development in an area where the boa may occur. The recommendations are the following:

1. Prior to any earth movements or vegetation clearing, the boundaries of the project area, the buffer areas and areas to be protected should be clearly marked in the project plan and in the field.
2. A pre-construction meeting should be conducted to inform supervisors and employees about the conservation of protected species, as well as penalties for harassing or harming such species.
3. Prior to any use of machinery on areas where the boa may occur, the vegetation should be cleared by hand to provide time to the boa, if present, to be detected or move away from the area. All personnel involved in site clearing must be informed of the potential presence of the snake, and the importance of protecting the snakes.
4. Before activities commence each workday during the vegetation clearing phase, the experienced personal in identifying and searching for boas should survey the areas to be cleared that day, to ensure that no boas are present or affected within the work area. If boas are found within the working area, activities should stop at the area where the boas are found until the boas move out of the area on their own. Activities at other work sites, where no boas have been found after surveying the area, may continue. If relocation of the species is necessary, any relocated boas should be transferred by authorized personnel of the Department of Natural and Environmental Resources (DNER) to appropriate

habitat close to the project site. Any findings should be reported to the Service and to the DNER Ranger office so they can further assist you in developing sound conservation measures and specific recommendations to avoid, minimize and/or compensate for any impacts to this species.

5. Strict measures should be established to minimize boa casualties by motor vehicles or other equipment. Before operating or moving equipment and vehicles in staging areas near potential boa habitats (within 25 meters of potential boa habitat), these should be thoroughly inspected to ensure that no boas are lodged in the standing equipment or vehicles. If boas are found within vehicles or equipment, authorized personnel of DNER must be notified immediately for proper handling and relocation. Any relocated boas should be transferred to appropriate habitat close to the project site.

INDEX

—A—

AESTHETIC RESOURCES, 14
Affected Environment, 12
AFFECTED ENVIRONMENT, 12
AGENCY COORDINATION, 30
Air Quality, 25
AIR QUALITY, 14
Alternative, 6, 12
Alternatives, 6, 12, 16, 23
ALTERNATIVES, 6
APPROVAL RECOMMENDATION, 6

—B—

Birds, 26

—C—

COASTAL BARRIER RESOURCES, 26
COMMENTS RECEIVED, 30
COORDINATION, 25
CUMULATIVE IMPACTS, 23

—D—

DECISIONS TO BE MADE, 4

—E—

EA, 6, 30
ENDANGERED, 24
Environmental Assessment, 24
Environmental Effects, iv
ENVIRONMENTAL EFFECTS, 16
ENVIRONMENTAL JUSTICE, 27
ESSENTIAL FISH HABITAT, 13
ESSENTIAL FISH HABITAT assessment, 19

—F—

FEDERAL, 26
FEDERAL LAWS STATE STATUTES PERMITS,
LICENSES, AND ENTITLEMENTS, 5
Fish, 26
FISH AND WILDLIFE, 25
FISH AND WILDLIFE RESOURCES, 13, 18
Flood Plain, 27

—G—

GENERAL ENVIRONMENTAL EFFECTS, 16
GENERAL ENVIRONMENTAL SETTING, 12

—H—

HISTORIC PROPERTIES, 21, 25

—I—

INDIRECT EFFECTS, 24
INVASIVE SPECIES, 15
IRREVERSIBLE AND IRRETRIEVABLE
COMMITMENT OF RESOURCES, 23

—L—

LIST OF PREPARERS, 29
LIST OF REVIEWERS, 29
LOCAL SHORT-TERM USES AND
MAINTENANCE/ENHANCEMENT OF LONG-
TERM PRODUCTIVITY, 24

—M—

Miccosukee Tribe of Indians of Florida, 15

—N—

NATIONAL ENVIRONMENTAL POLICY ACT, 24
NOISE, 14

—P—

PROJECT AUTHORITY, 2
PROJECT LOCATION, 3
PROJECT PURPOSE AND NEED, 2
PUBLIC INVOLVEMENT, 30

—R—

RECREATION, 26
RECREATION RESOURCES, 14
RELATED ENVIRONMENTAL DOCUMENTS, 4
Resources, 12, 23, 26

—S—

SCOPING AND ISSUES, 4

Section 404, 25
Seminole Tribe of Florida, 15
SFWMD PERMIT MODIFICATION, 49
SOCIO-ECONOMIC, 22
Summary, iv
Summary of Effects, 9
SUMMARY OF ENVIRONMENTAL EFFECTS, 9

—T—

THREATENED AND ENDANGERED SPECIES, 17

—U—

U.S. Fish and Wildlife Service, 25
UNAVOIDABLE ADVERSE ENVIRONMENTAL
EFFECTS, 23
Unique Farmland, 25

—V—

VEGETATION, 12, 16

—W—

Wetlands, 27