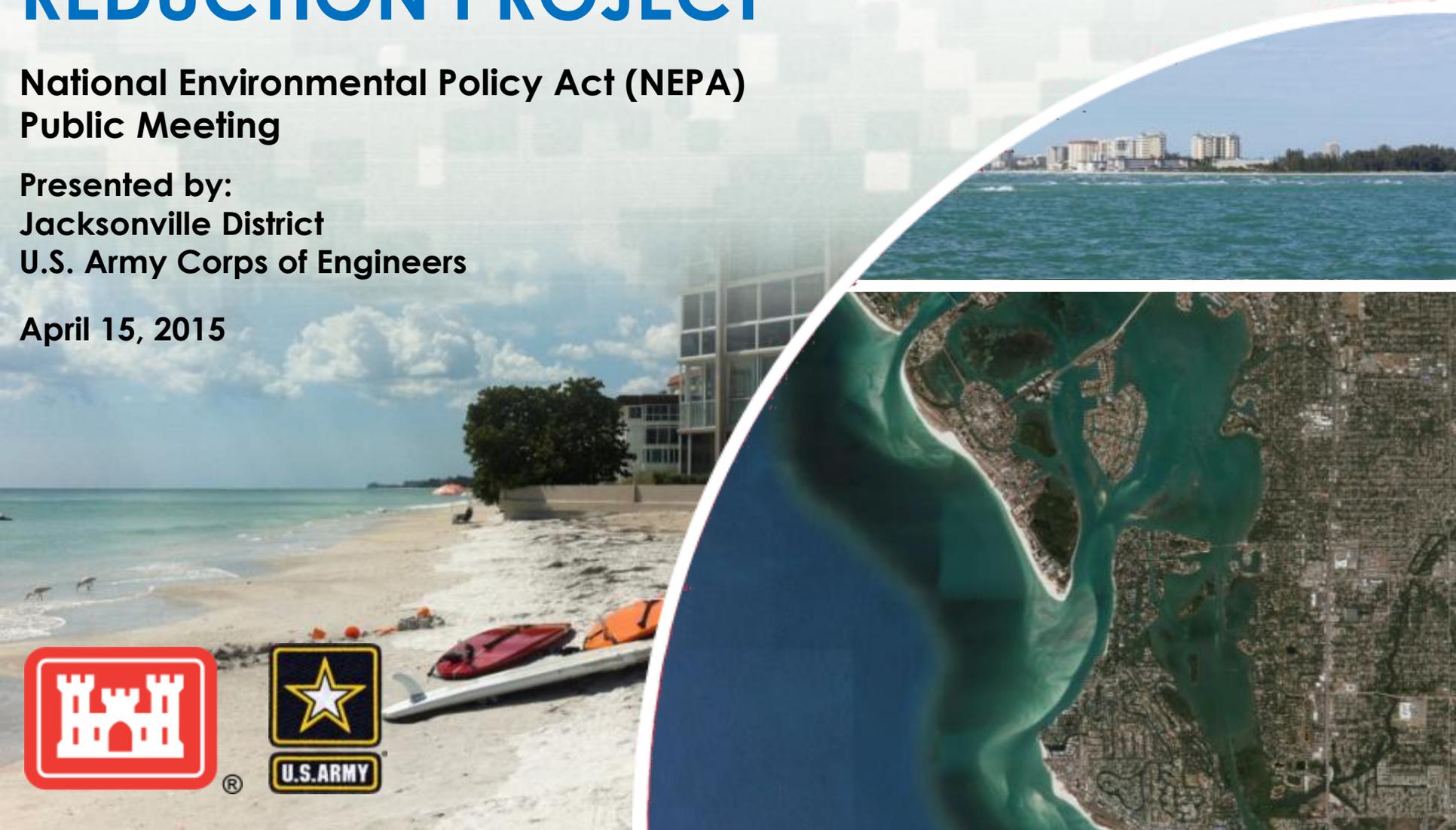


# LIDO KEY, CITY OF SARASOTA, FLORIDA HURRICANE AND STORM DAMAGE REDUCTION PROJECT

National Environmental Policy Act (NEPA)  
Public Meeting

Presented by:  
Jacksonville District  
U.S. Army Corps of Engineers

April 15, 2015



-  PROJECT (PLACEMENT AREA AND GROINS)
-  ALTERNATIVE SAND SOURCE CONFIGURATIONS
-  FINAL ARRAY OF ALTERNATIVE SAND SOURCE CONFIGURATIONS



# LIDO KEY HSDR PROJECT

## PURPOSE OF THE MEETING

### NATIONAL ENVIRONMENTAL POLICY ACT (NEPA) PUBLIC MEETING

- Existing project authorized in 1999
- Feasibility Study finalized in 2004
- Detailed investigations before and after feasibility study indicate offshore sand sources are not compatible with Lido Key beaches
- Draft NEPA analysis addresses changes in sand source only; placement area and groins unchanged

### HOW YOU CAN HELP:

- Review the Draft EA at the USACE, Jacksonville District website
- Provide comments on any concerns not addressed in the report

U.S. ARMY ENGINEER DIVISION, SOUTH ATLANTIC CORPS OF ENGINEERS  
 JACKSONVILLE DISTRICT  
 LOCATION: Sarasota, Florida

SUBJECT: Lido Key Shore Protection Project Public Meeting  
 DATE: April 15, 2015

NAME AND TITLE (PLEASE PRINT) \_\_\_\_\_  
 BUSINESS OR ORGANIZATION YOU REPRESENT \_\_\_\_\_  
 MAILING ADDRESS \_\_\_\_\_  
 CITY, STATE, ZIP CODE \_\_\_\_\_  
 EMAIL ADDRESS \_\_\_\_\_

Do you wish to make a statement?  YES  NO

Do you wish to have your name included on the mailing list for future information?  YES  NO

Where did you hear about the meeting?  YES  NO

Are you representing one of the above groups as their spokesperson?  YES  NO

REPRESENTING (check one):  
 TRIBAL  
 CONGRESSIONAL  
 FEDERAL AGENCY  
 STATE AGENCY  
 LOCAL AGENCY  
 ENVIRONMENTAL  
 AGRICULTURE  
 GROUP  
 SELF  
 MEDIA

THIS INFORMATION IS RELEASABLE UNDER THE FREEDOM OF INFORMATION ACT.  
 CES&P FORM 935, OCT 86

# PRESENTATION OUTLINE

- Project Overview and History
- Alternative Sand Sources
- Regional Sediment Management and the Coastal Modeling System (CMS)
- Summary of NEPA Analysis
- Next Steps



Erosion at Lido Key



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# LIDO KEY HURRICANE AND STORM DAMAGE REDUCTION PROJECT TIMELINE

## RECENT HISTORY

**1999**

WRDA  
Authorizes  
Project  
pending  
Feasibility  
Study

**2004**

ASA (CW)  
approves  
Feasibility  
Study

**2008-10**

Initial offshore  
sediment sources  
(#5, 6 & 7)  
inadequate in  
volume and  
incompatible  
  
Additional offshore  
sediment source  
investigation

**2010**

County Inlet  
Management  
Study  
presented  
to Board  
of County  
Commissioners

**2013**

Information  
sessions re:  
Big Sarasota Pass  
as sediment  
source

**2015**

NEPA  
update &  
initiation of  
FDEP permit  
process

**2007**

Project  
Engineering  
and Design  
Phase initiated

**2012**

Corps looks at  
feasibility of  
Big Sarasota Pass  
as a borrow area



# HISTORY OF THE LIDO KEY/BIG SARASOTA PASS/SIESTA KEY SYSTEM

## PRE-1920

**Cerol Islands:  
Natural Barrier  
Island System**  
sand moves  
freely through  
system

**Intertidal  
zone:**  
westward  
currents

## 1920s



### **Cerol Islands Filled**

creating Lido Key  
Water/landscape  
(geomorphology )  
changes affect  
currents & sediment  
movement

**Beach  
created:**  
southward  
currents

## 1950s

**System Inherited:**

**South Lido Key**  
erodes

**Big Sarasota Pass**  
channel shifts  
southward

**Northern Interior  
Siesta Key**  
erodes due to force  
of shifting channel

**Siesta Key  
north beaches**  
erodes due to  
shifting channel  
(sand attachment  
moves south)

**Middle Siesta Key**  
accretes

## 1993

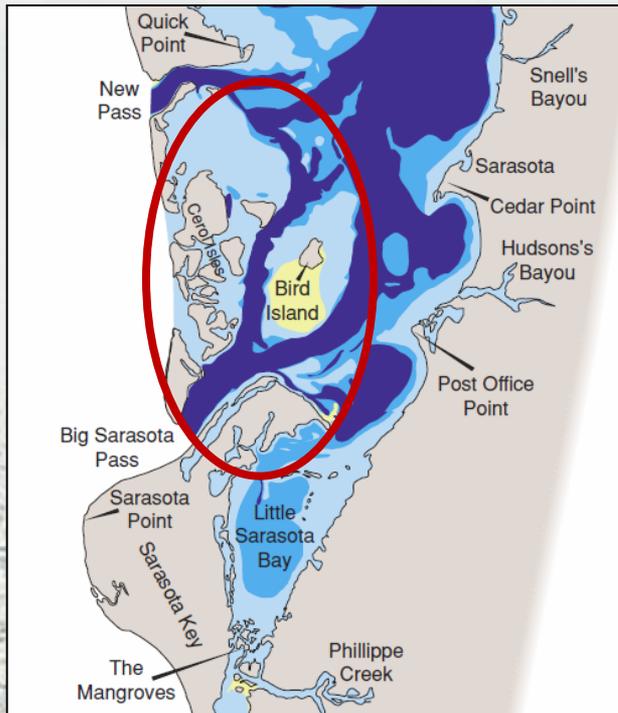
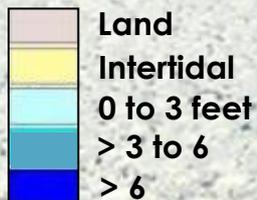
**Manatee &  
Sarasota County  
Beaches**  
nourished  
(Local & Federal  
efforts)



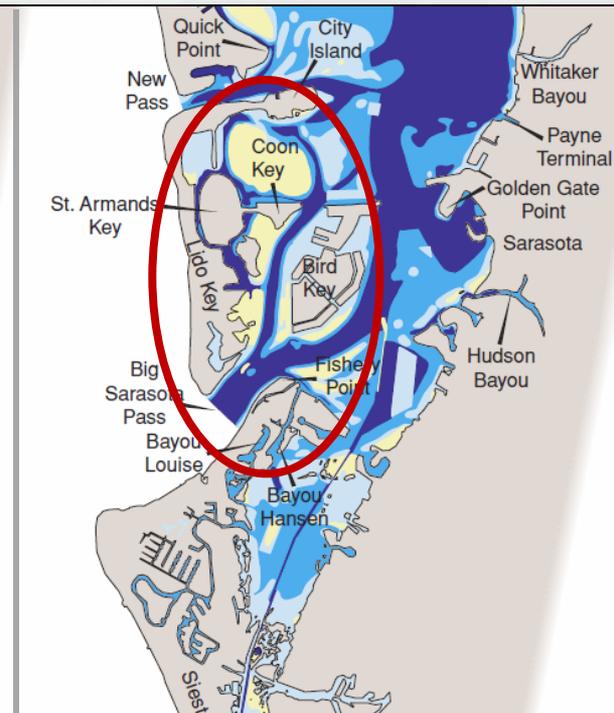
# TODAY: NO LONGER A NATURAL SYSTEM

- 1920s modifications to system continue to transport vast quantities of sediment to the Big Sarasota Pass Ebb Shoal and Channel
- Northern interior Siesta Key Shoreline remains armored to withstand constant pressure of channel
- Siesta Key north beaches continue to erode (sand attachment point has moved southward)
- Middle Siesta Key beaches continue to accrete
- Lido Key continues to erode (historical rate of nourishment ~ 60,000 cubic yards per year)
- Offshore sediment sources are exhausted

PRE-1920s

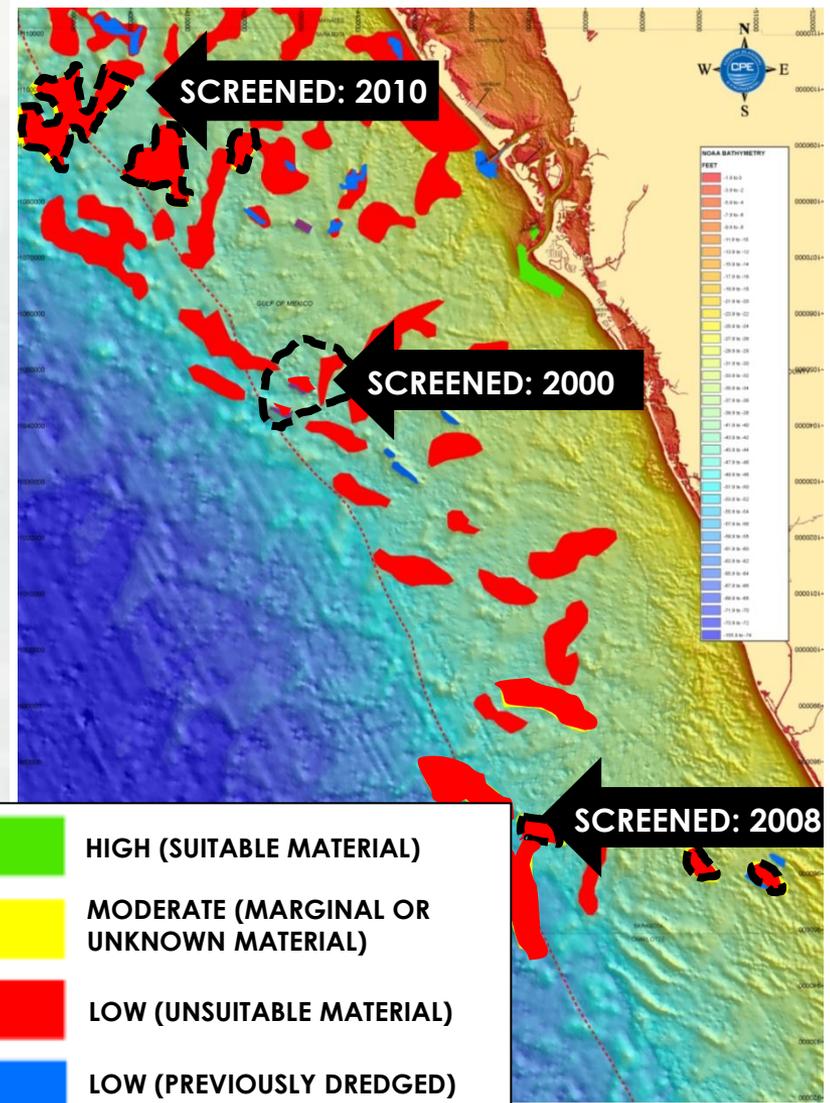


TODAY



# SCARCE SAND RESOURCES

- There is no cost-effective sediment offshore that is also geologically compatible
- Extensive offshore sand search unsuccessful
  - ▶ Florida Department of Environmental Protection (FDEP) Sand Rule for color, grain size, shell content, silt content, etc.
  - ▶ Thickness of deposit and horizontal buffers around hardbottom resources and cultural resources
- Sediment sources identified in the Inlet Management Study and Feasibility Study includes Big Sarasota Pass ebb shoal



Sediment Source Data by CB&I  
(updated by USACE 2014)



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# THE ANALYSIS: REGIONAL SEDIMENT MANAGEMENT COASTAL MODELING SYSTEM (CMS)

1 HOW DOES THE SYSTEM WORK?  
HOW DOES SEDIMENT MOVE?



- Pre-Cerol Islands infill
- Existing conditions/  
post-Cerol Islands infill
- Historical volume of  
ebb shoal

2 EVALUATE 10 ALTERNATIVE  
SEDIMENT SOURCE  
CONFIGURATIONS  
BASED ON 2010 INLET  
MANAGEMENT STUDY



- Run alternatives through model
- Eliminate alternatives with  
adverse effects on ebb shoal  
function, waves, and navigation

3 EVALUATE REMAINING  
2 ALTERNATIVE SEDIMENT  
SOURCE CONFIGURATIONS  
WITH THE NO ACTION  
SCENARIO



- Run alternatives through model  
with 2013 bathymetry
- Ensure no adverse impacts
- Scrutinize sediment transport  
pathways
- Develop sediment budget  
from model results

# EXISTING VS. NEW GROINS

-  FORMER GROIN DESIGN
-  NEW GROIN DESIGN
-  BEACH TEMPLATE



# NATIONAL ENVIRONMENTAL POLICY ACT (NEPA)

- Federal agencies must prepare an analysis of their actions to assess the affect of the action on the **human environment**.
- Based on the **significance of the identified impacts**, either an Environmental Assessment (EA) or an Environmental Impact Statement (EIS) is prepared.
- NEPA regulations\* define **significance** based on two criteria: **Context** and **Intensity**.
- The **Context** is the affected environment in which an action would occur (e.g., society as a whole, a particular region, or specific affected interests).

\* Adopted by the President's Council on Environmental Quality (CEQ)



# ENVIRONMENTAL OVERVIEW

## TEMPORARY IMPACTS



Increased turbidity at borrow site & shoreline

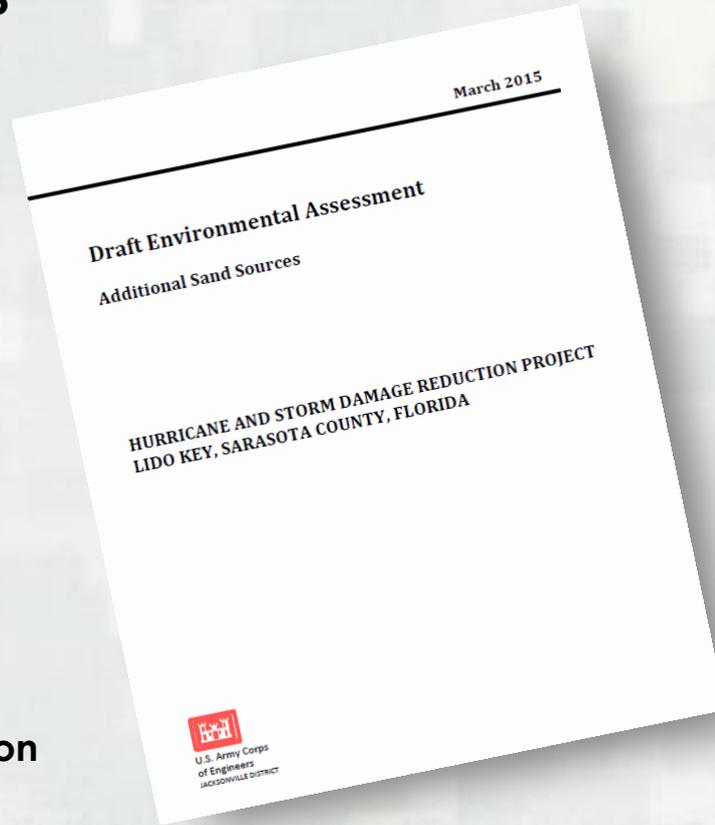
## POTENTIAL IMPACTS



Submerged aquatic vegetation near the borrow areas



Manatees or Sea Turtles using the borrow area



## BENEFITS



Increased Sea Turtle nesting habitat



Increased foraging, roosting, and nesting habitat for shorebirds



Recreation

- PROJECT (PLACEMENT AREA AND GROINS)
- ALTERNATIVE SAND SOURCE CONFIGURATIONS
- FINAL ARRAY OF ALTERNATIVE SAND SOURCE CONFIGURATIONS



## NEPA ANALYSIS SUMMARY

### Preferred Alternative:

- Provides storm damage reduction for Lido Key
- Provides a renewable sediment resource in a sediment scarce region
- Relieves erosion pressure on the northern interior shoreline of Siesta Key (proposed dredging of the Big Sarasota Pass ebb shoal)
- Does not impact the Big Sarasota Pass navigation channel
- Does not interrupt the current sediment pathways

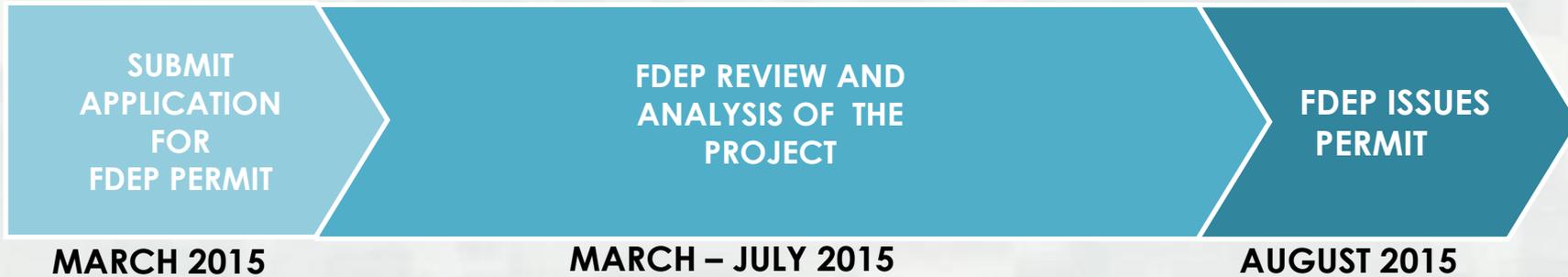


# NEXT STEPS

## ENVIRONMENTAL DOCUMENT



## FDEP PERMIT



### PROJECT CONTACT:

Millan Mora, Project Manager  
U.S. Army Corps of Engineers,  
Jacksonville District  
904-232-1454  
millan.a.mora@usace.army.mil

### ENVIRONMENTAL CONTACT:

Aubree Hershoin, Project Ecologist  
U.S. Army Corps of Engineers,  
Jacksonville District  
904-232-2136  
aubree.g.hershoin@usace.army.mil



# QUESTIONS?

Two Minute Timer

End

The Draft Environmental Assessment is available for review at:

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



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# QUESTIONS?

Two Minute Timer

End

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