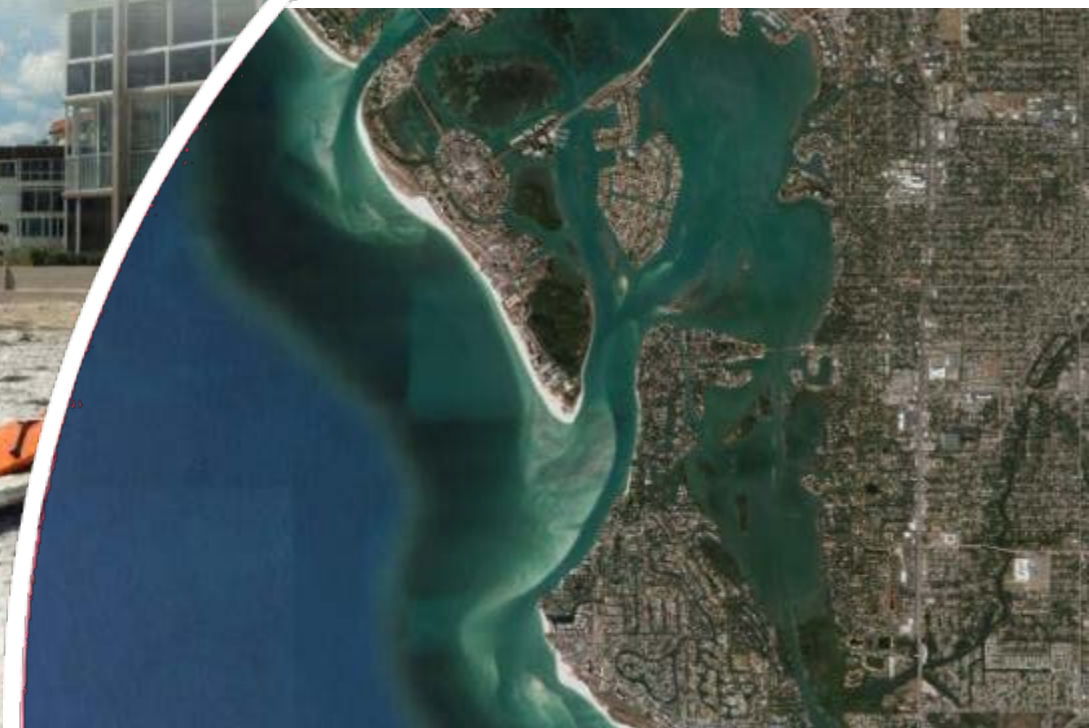
LIDO KEY, CITY OF SARASOTA, FLORIDA HURRICANE AND STORM DAMAGE REDUCTION PROJECT

National Environmental Policy Act (NEPA)
Public Meeting

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

April 15, 2015



LIDO KEY HSDR PROJECT

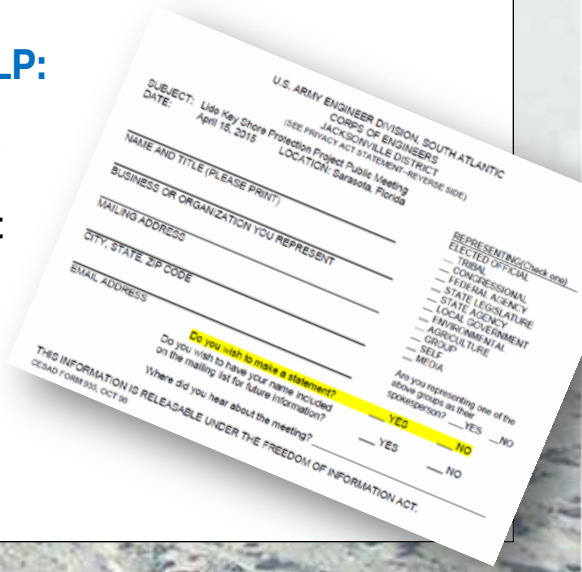
PURPOSE OF THE MEETING

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
(SEE PRIVACY ACT STATEMENT-REVERSE SIDE)
SUBJECT: Lido Key Shore Protection Project Public Meeting
DATE: April 15, 2015
LOCATION: Sarasota, Florida
NAME AND TITLE (PLEASE PRINT)
BUSINESS OR ORGANIZATION YOU REPRESENT
MAILING ADDRESS
CITY, STATE, ZIP CODE
EMAIL ADDRESS
REPRESENTING (Check one)
ELECTED OFFICIAL
TRIBAL
CONGRESSIONAL
FEDERAL AGENCY
STATE LEGISLATURE
STATE AGENCY
LOCAL AGENCY
ENVIRONMENTAL
AGRICULTURE
GROUP
SELF
MEDIA
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?
Are you representing one of the above groups as their spokesperson? YES NO
THIS INFORMATION IS RELEASABLE UNDER THE FREEDOM OF INFORMATION ACT.
CESAD Forms 550, OCT 96

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

LIDO KEY HURRICANE AND STORM DAMAGE REDUCTION PROJECT TIMELINE

RECENT HISTORY

1999
WRDA Authorizes Project pending Feasibility Study

2004
ASA (CW) approves Feasibility Study

2007
Project Engineering and Design Phase initiated

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

2012
Corps looks at feasibility of Big Sarasota Pass as a borrow area

2013
Information sessions re: Big Sarasota Pass as sediment source

2015
NEPA update & initiation of FDEP permit process

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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

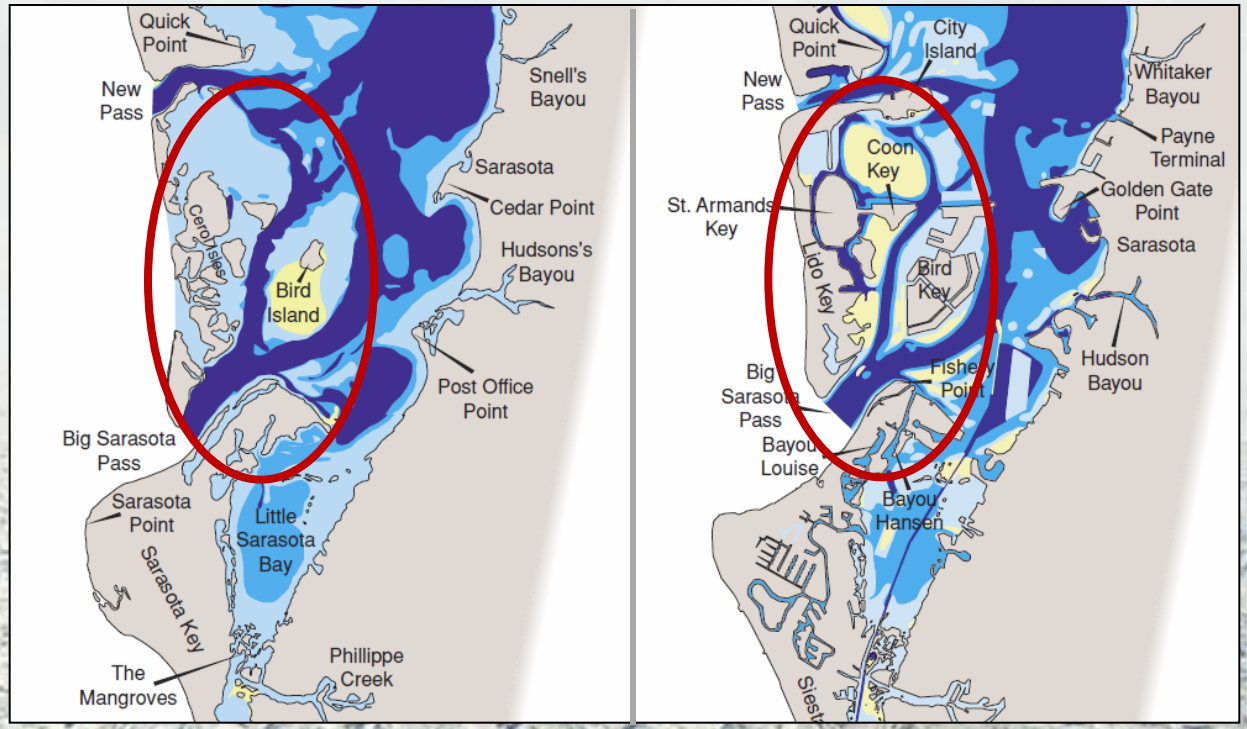
1993

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

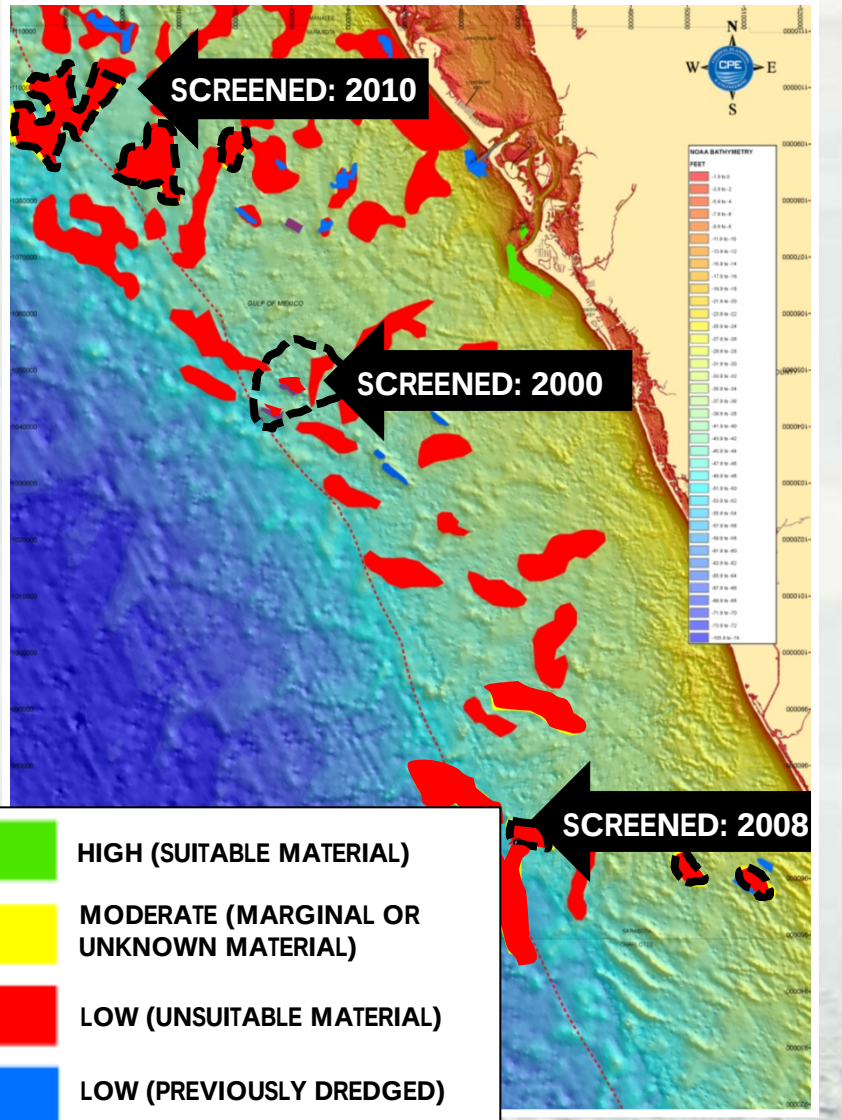
PRE-1920s



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)

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

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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).

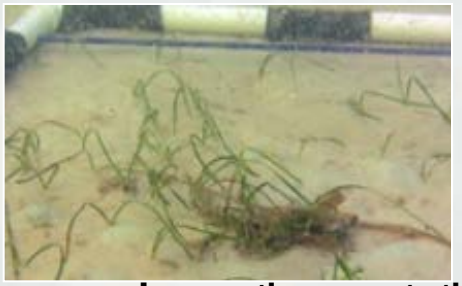
*** Adopted by the President's Council on Environmental Quality (CEQ)**

ENVIRONMENTAL OVERVIEW

TEMPORARY IMPACTS

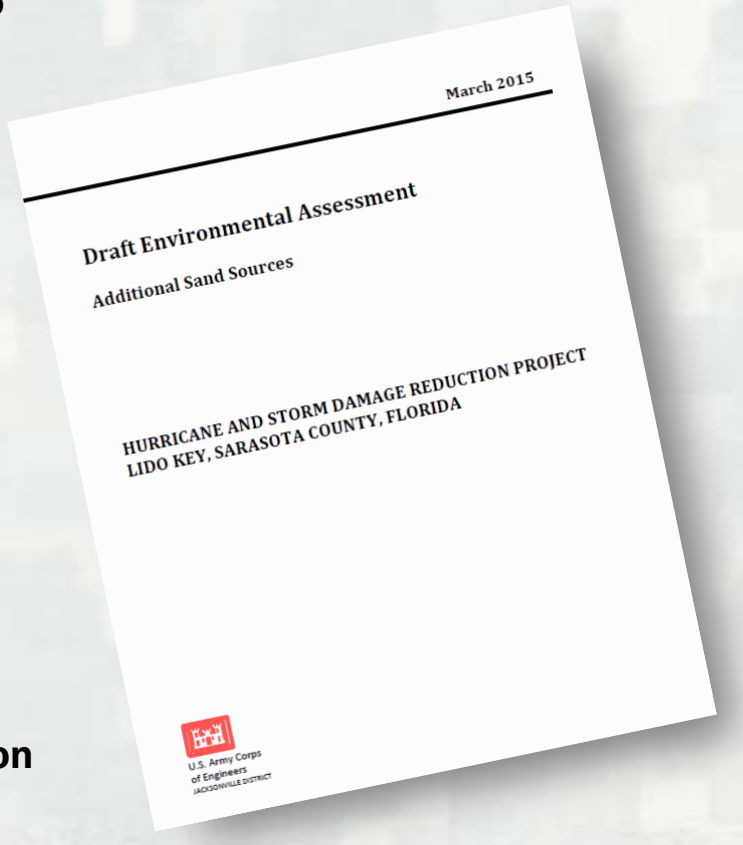
Increased turbidity at borrow site & shoreline

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

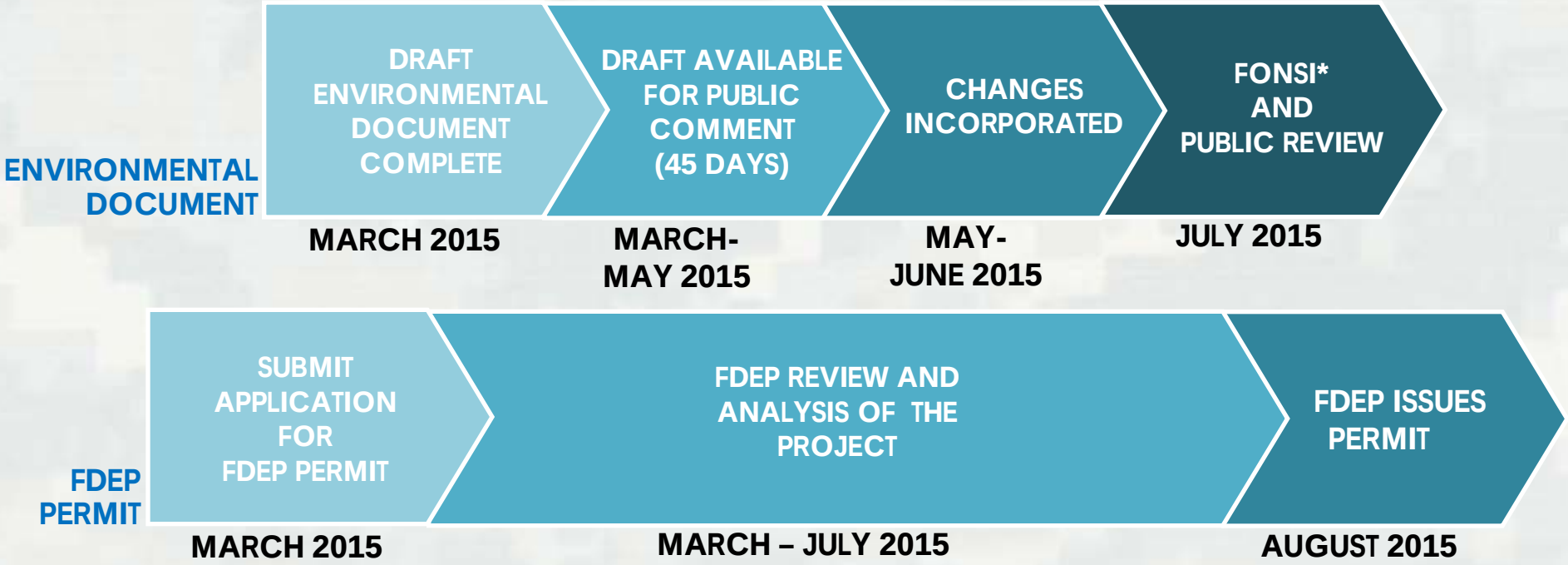
Recreation

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



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