ALTERNATIVE SAND SOURCE INVESTIGATION

DADE COUNTY, FLORIDA BEACH EROSION CONTROL & HURRICANE PROTECTION PROJECT

MEETING AGENDA

Draft Environmental Assessment

- Poster Session: 6:30 – 6:45
- Presentation 6:45 – 7:15
- Comments 7:15 – 7:30
- Poster Session 7:30 – 7:45

ALTERNATIVE SAND SOURCE INVESTIGATION

DADE COUNTY, FLORIDA BEACH EROSION CONTROL AND HURRICANE PROTECTION PROJECT

Draft Environmental Assessment

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

U.S.ARMY

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

BOEM
BUREAU OF OCEAN ENERGY MANAGEMENT

MIAMI-DADE COUNTY

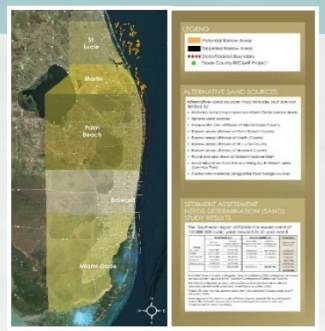
PURPOSE OF PRESENTATION

DADE COUNTY BEACH EROSION CONTROL AND HURRICANE PROTECTION (BEC&HP) PROJECT

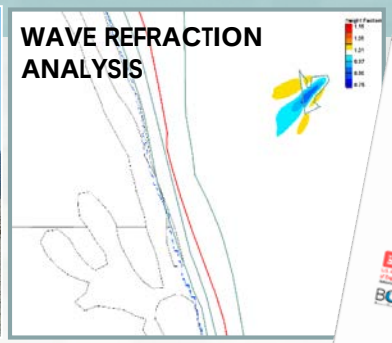
Discuss the process and results, including the environmental assessment (EA), to identify alternative sand sources for the remaining period of federal participation

- **Main Segment: 10 years**
- **Sunny Isles Segment: 23 years**

2011-2013: REGIONAL SAND STUDY



2013-2015: DADE COUNTY-SPECIFIC SAND SOURCE INVESTIGATIONS & EAA



WHAT IS DIFFERENT?

- **Same project design & construction template**
- **Different array of sand sources**

DADE COUNTY BEC&HP PROJECT SAND NEED

- Sand sources offshore of Miami-Dade County are nearly depleted
- A small volume of "renewable" sand sources remain viable in the vicinity of Miami-Dade County
- Approximately 3.6 million cubic yards of sand will be needed for beach placement for the remaining period of federal participation:
  - 10 years: original project (Baker's Haulover to Government Cut and Haulover Beach Park)
  - 23 years remain for the Sunny Isles Segment

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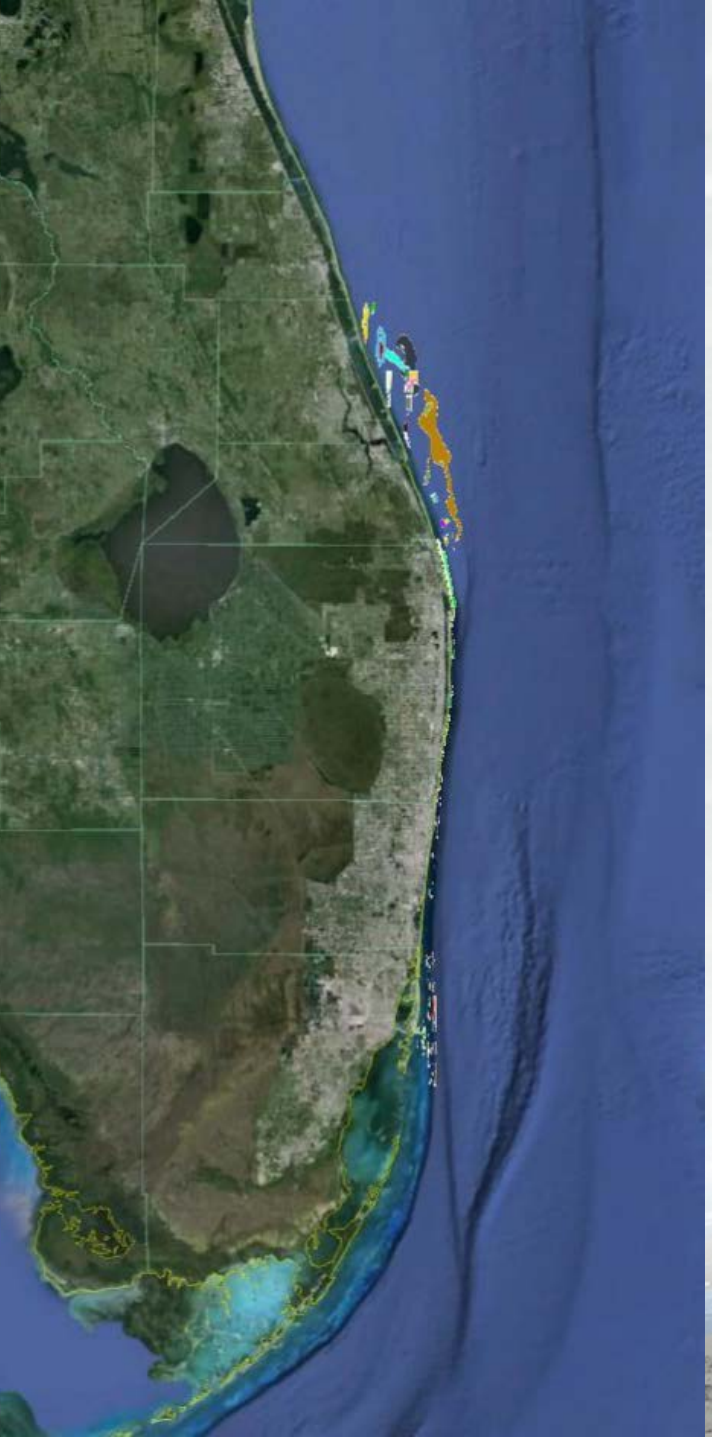

Southeast Florida Offshore Sand Sources

- Generally located in less than 70 feet of water
- In the vicinity of environmental resources such as reefs

SAND SEARCH HISTORY

1986 — WRDA'86 Section 935 Limiting acquisition of Non-Domestic Sand Sources

1987 — Dade Design Memorandum – Investigates Aragonite

1996 - 98 — USACE Workshops Seek Industry Input; Proposed Test Beach Using Bahamian Sand

1999 — Energy & Appropriations Bill (H8842) Limits acquisition of Foreign Sources of Sand

2000 — Deep Water Explorations of Miami-Dade County

2001 — Dade Evaluation Report outlines all potential sources

2002 — Solicitation for Test Beach Using Upland Sources (cancelled – funding constraints)

2005 - 2006 — Borrow Areas Offshore of Other Counties in the Region Researched for Use in Miami-Dade County

2007 — Draft Letter Report Recommending Non-Domestic Sand for Miami-Dade County beaches; ASA* Recommends 3-Tiered Approach

2009 — Southeast Atlantic RSM Identifies Small Domestic Sand Surplus – Recommends Non-Domestic Sand Source

2011 — Updated Cost Estimates Indicate St. Lucie & Palm Beach Counties to be More Economical Sources of Sand Than Bahamas

2012 — Contract E: Uses Last 300,000 cy Sand Offshore and at Lummus Park

2013 — Contract G: 300,000 cy Sand From Baker's Haulover Ebb Shoal

* Assistant Secretary of the Army

SEDIMENT ASSESSMENT AND NEEDS DETERMINATION (SAND) STUDY

- **Initiated: December 2011 Completed: June 2013**
- **Extensive coordination/collaboration between Florida Department of Environmental Protection (FDEP), the five southeast Florida counties, the Corps, & the Bureau of Ocean Energy Management (BOEM)**
- **Each county determined their own 50-year sand need for federal & non-federal projects**
- **All needs assessments were peer reviewed & contingencies applied**
- **Geological investigations identified sand sources meeting FDEP criteria; contingencies were applied to reach a final volume available**
- **FDEP funded an independent technical review of the volume reports**

The Florida Department of Environment (FDEP) Sand Rule And Sediment Quality is directed by Florida Administrative Code (F.A.C.) 62B-41.007j, also known as the "Sand Rule.'" The Sand Rule is designed to protect the environmental functions of Florida's beaches and includes parameters regulating:

- **Grain Size**
- **Sediment Sorting**
- **Sand Color (Munsell Value)**
- **Shell Content**
- **Silt Content**
- **Beach Rocks**
- **Debris**

Sediment color is especially important to sea turtles and other species that use the beach as habitat.

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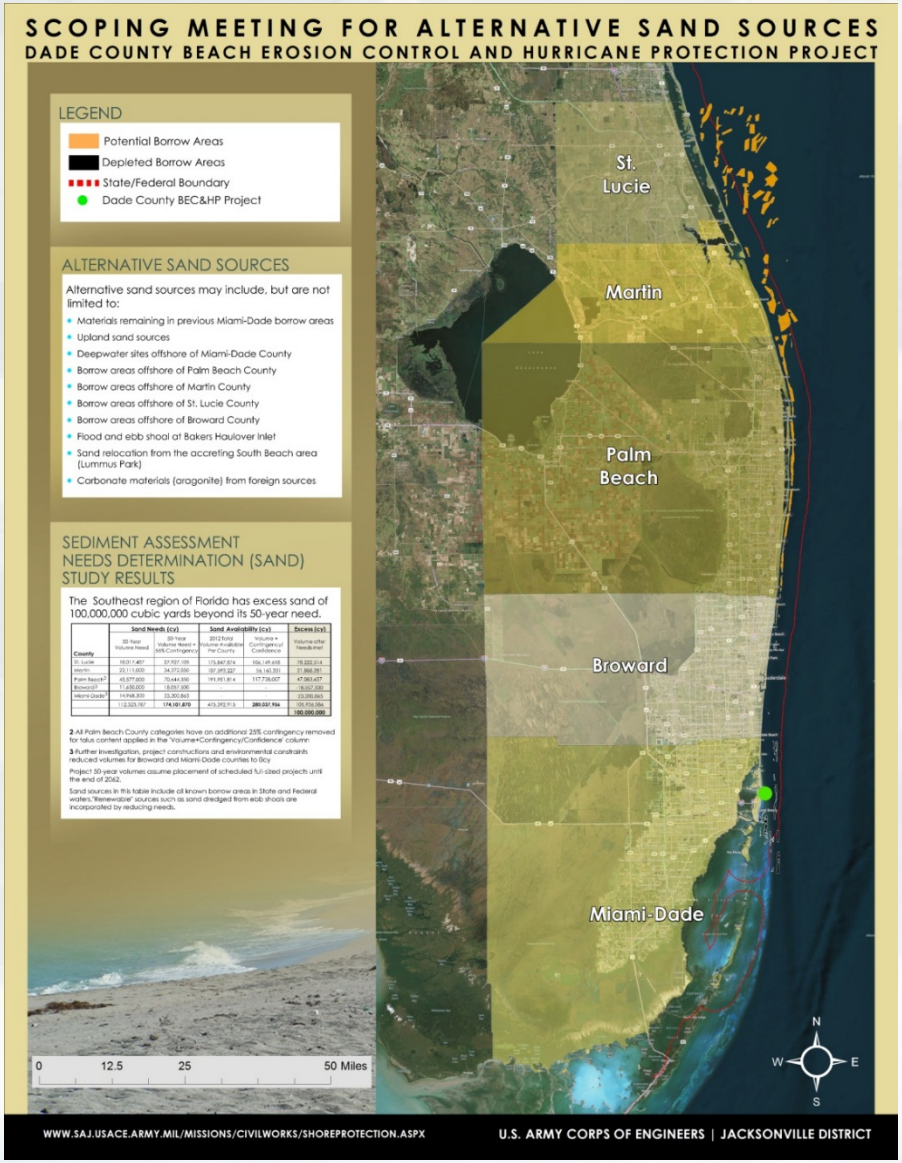
DEPARTMENT OF ENVIRONMENTAL PROTECTION FLORIDA

BOEM Bureau of Ocean Energy Management

SAND STUDY RESULTS

- **The report is available at:**
  www.saj.usace.army.mil/Missions/CivilWorks/ShoreProtection.aspx

County	Sand Needs (cy)		Sand Availability (cy)		Excess (cy)
	50-Year Volume Need	50-Year Volume Need + 55% Contingency	2012 Total Volume Available Per County	Volume + Contingency/ Confidence	Volume after Needs met
St. Lucie	18,017,487	27,927,105	175,847,874	106,149,618	78,222,514
Martin	22,111,000	34,272,050	107,593,227	56,160,331	21,888,281
Palm Beach	45,577,000	70,644,350	191,951,814	117,728,007	47,083,657
Broward	11,650,000	18,057,500	-	-	-18,057,500
Miami-Dade	14,968,300	23,200,865	-	-	-23,200,865
TOTAL	112,323,787	174,101,870	475,392,915	280,037,956	105,936,086
					100,000,000



SAND STUDY RESULTS

Southeast region of Florida has excess sand of 100,000,000 cubic yards beyond its 50-year need

ALTERNATIVE SAND SOURCES CONSIDERED FOR THE DADE BEC&HP PROJECT

Alternative sand sources may include, but are not limited to:

- Material remaining in previous Miami-Dade County borrow areas
- Upland sand sources
- Deepwater sites offshore of Miami-Dade County
- Borrow areas offshore of Palm Beach County
- Borrow areas offshore of Martin County
- Borrow areas offshore of St. Lucie County
- Borrow areas offshore of Broward County
- Flood and ebb shoal at Bakers Haulover Inlet
- Sand relocation from the accreting South Beach area (Lummus Park)
- Carbonate materials (aragonite) from foreign sources

WHY WE CAN'T USE NON-DOMESTIC SAND SOURCES

Section 935 of WRDA '86: **"*Notwithstanding any other provision of law, in any case in which the use of fill material for beach erosion and beach nourishment is authorized as a purpose of an authorized water resource project, the Secretary is authorized to acquire by purchase, exchange, or otherwise from non-domestic sources and utilize such material for such purposes if such materials are not available from domestic sources for environmental or economic reasons.*"**

Conferee Report on the FY 99 Energy and Water Appropriations Bill (H8842): **"*The conferees direct that none of the funds provided for the Dade County, Florida project be used for acquisition of foreign source materials for the project unless the Secretary of the Army provides written certification to the Committees on Appropriations that domestic sources of material are not available.*"**

DADE COUNTY
BEC&HP PROJECT
SAND SOURCE SCREENING CRITERIA

APPLYING SCREENING CRITERIA

DADE COUNTY BEC&HP PROJECT

- Grain size
- Color compatibility
- Federal authority to acquire sand source
- Identified for use by another county in regional SAND Study
- Significant investment/existing permit by other project?
- Volume meeting Florida Department of Environment Sand Rule
- Existing core borings
- Completed seismic survey of area
- Volume meeting Dade grain size specifications
- Volume meeting Dade color specifications
- Volume meeting Dade sand specifications
- Production rate
- State versus federal waters
- Environmental resource conflicts
- Cultural resource conflicts
- Impact on other beaches
- Distance from project

DADE-SPECIFIC SEDIMENT NEEDS

GRAIN SIZE	MAXIMUM SILT CONTENT	MUNSELL VALUE
0.30 to 0.55 mm	5% Passing #230 Sieve	6 to 8

SAND SOURCE RESULTS DADE COUNTY BEC&HP PROJECT

EXISTING DADE ACCRETION SOURCES

1. Baker's Haulover Ebb Shoal
2. Lummus Park (South Beach)

UPLAND SOURCES

3. Ortona Sand Mine
4. Witherspoon Sand Mine
5. Atlantic Civil, Inc. (ACI)

OFFSHORE SOURCES

6. Offshore Martin County
7. Offshore St. Lucie County

SAND SOURCE RESULTS DADE COUNTY BEC&HP PROJECT

	EXISTING DADE ACCRETION SOURCES		UPLAND SOURCES			OFFSHORE SOURCES (Federal Waters)	
MAP REFERENCE	**1**	**2**	**3**	**4**	**5**	**6**	**7**
SOURCE	**BAKER'S HAULOVER EBB SHOAL**	**LUMMUS PARK (SOUTH BEACH)**	**ORTONA**	**WITHERSPOON**	**ACI**	**MARTIN COUNTY**	**ST. LUCIE COUNTY**
VOLUME (cubic yards)	30,000 Annually (no less than 10 years between events)	50,000*Annually (no less than 5 years between events)	adequate	adequate	adequate	600,000	4,600,000
DISTANCE FROM PROJECT SITE	4.5 miles south of northern project limit	Southern 1.5 miles of project	120 miles	120 miles	35 miles	80 miles	120 miles
TRANSPORT	Dredge & pipeline	Dredge & pipeline	Truck haul	Truck haul	Truck haul	Dredge & pipeline	Dredge & pipeline

The National Environmental Policy Act (NEPA)

requires a federal agency to disclose its actions and evaluate the effects of those actions on the environment

NEPA

NATIONAL ENVIRONMENTAL POLICY ACT OF 1969

- Applies to all Federal actions
- Does not manage or protect one or more specific resources (unlike Endangered Species Act, Clean Water Act, Clean Air Act, etc.)
- Federal agencies CONSIDER & document the environmental impacts of their proposed actions as part of an agency's OVERALL planning & decision making
- Action agencies cooperate with federal, state & local governments, & other concerned public and private organizations & citizens during planning

For shore protection projects using federal sand sources, the Bureau of Ocean Energy Management (BOEM) serves as a cooperating agency under NEPA to negotiate and issue leases for the sand

NEPA

NATIONAL ENVIRONMENTAL POLICY ACT OF 1969

- **"Tiering" from previous NEPA documents:**

  CEQ regulations: "§1502.20 – Agencies are encouraged to tier their environmental impact statements to eliminate repetitive discussions of the same issues and to focus on the actual issues ripe for decision at each level of environmental review."

  (Refer to Section 1.4 of the current Environmental assessment)

- **Test for Significance (40 CFR 1508.27)**

1. Beneficial and Adverse effects *
2. Public Health and Safety
3. Uniqueness of Area
4. Controversy *
5. Uncertain, Unique, or Unknown Risks
6. Precedent for Future Actions
7. Cumulative Impact *
8. Scientific, Cultural, or Historic Resources
9. Endangered or Threatened Species *
10. Threaten Violation of Federal Environmental Law

* Most common issues in USACE projects

AFTER SCOPING, WE HEARD…

Comments* regarding potential impacts on:

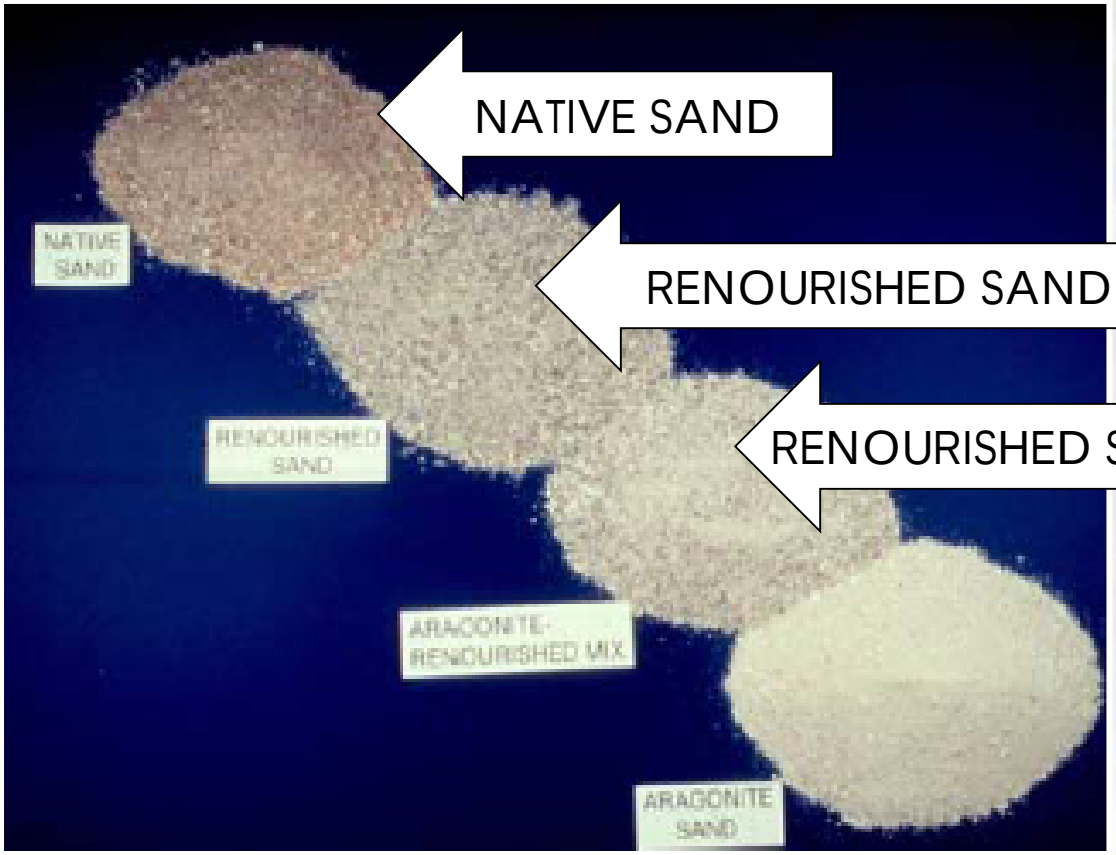
- **Function & value of sand sources as benthic habitat resources**
- **Pipelines & hardbottom habitat**
- **Corals listed under the Endangered Species Act (ESA) & designated critical habitat at pipelines**
- **Corridors and pumpout locations**
- **Essential Fish Habitat**
- **Impacts & benefits of the project on sea turtle nesting & foraging habitat**
- **Impact of current conditions on future public recreational use**
- **Adjacent shorelines from sand sources in Federal waters**

*Comments received from the Bureau of Ocean Energy Management (BOEM) (as cooperating agency), resource agencies & public

PROJECT BENEFITS
DADE COUNTY BEC&HP PROJECT

- Storm damage reduction reducing federal tax dollars needed to recover from storms.
- Protection of vegetation & dunes
- Nesting & foraging habitat for sea turtles & shorebirds
- Protection for culturally & historically significant resources
- Continued income from tourist revenue
- Recreation

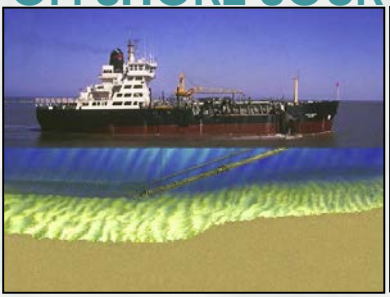
SAND COLOR VARIATION
DADE COUNTY BEC&HP PROJECT

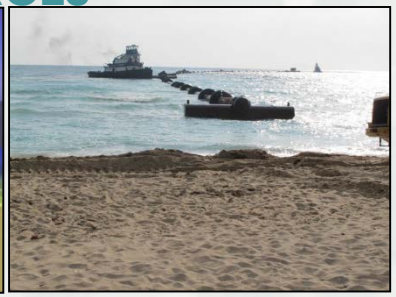


ENVIRONMENTAL CONSIDERATIONS

SAND SOURCE ALTERNATIVES

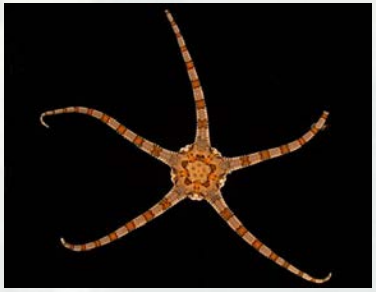
OFFSHORE SOURCES





Dredging, Pipeline & Pumping Activity

Corals, Hardbottom &EFH



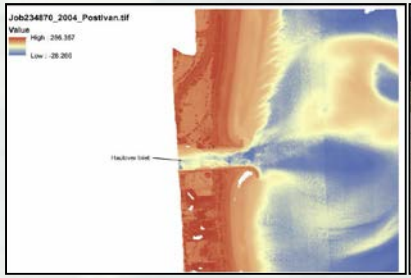
Benthic Habitat

Sea Turtles

UPLAND SOURCES

Transport & Multiple Deliveries of Sand to Project Site

EXISTING DADE SOURCES

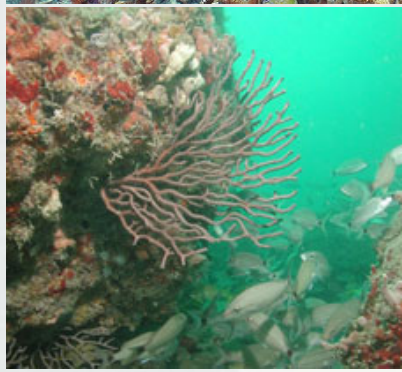


Temporary effects on Baker's Haulover Ebb Shoal & recreation at Lummus Park

ENVIRONMENTAL RESOURCE	PREFERRED ALTERNATIVE
Coastal Environment	Temporary impact to Bakers Haulover Inlet Ebb Shoal and Lummus Park beach if they
Sediments	impact from protection of the shoreline, dunes, and beachfront structures.
Vegetation/Dune Communities	No adverse impacts anticipated with compatible sand material placement on the be
Sea Turtles	No adverse impact anticipated. Benefits would occur from protection of dunes and ve
Listed Corals	Potential minor adverse impact on turtle nesting from beach placement. Long-term ber
Least Tern	Potential lethal and sub-lethal effects from vessel strikes or dredge entrainment.
Hardbottom	Corals may be adversely impacted due to pipeline deployment\retrieval. Pre-constructi
West Indian Manatee	placement activity to determine effects of that particular pipeline placement. Relocatio
Wildlife other than T&E Species	authorized by NMFS in nourishment specific biological opinions &/or SARBO.
Benthic Habitat	No adverse impact anticipated
Essential Fish Habitat	Temporary impacts from pipeline deployment/retrieval. Approximately 100 sq meters of pip
Adjacent Shorelines (OCS Sand Sources)	corridor, for each usage. Minimized due to use of stands to elevate a majority of the pipe
Coastal Barrier Resources	impact will have compensatory mitigation. No long-term adverse impact anticipated.
HTRW	No adverse impact anticipated with standard protection measures during dredging.
Air Quality	Temporary impact to infaunal communities on the existing beach, as well as within sand soun
Noise	infauna associated with the existing beach will also be temporarily impacted. Following cons
Socioeconomics	expected to stabilize within 6-12 months. Potential lethal and sub-lethal effects to fish from ve
Environmental Justice	Removal of approx 600,000 cy from M4-R105 and 3.05mcy from SL10-T41 over the remaining lif
Aesthetics	changes in wave configuration going over the shoal; recovery of benthic infauna within 18 mo
Recreation and Safety	Minor, temporary adverse impacts to water column during dredging and beach placement. N
Cultural Resources	benthic species due to displacement during dredging. Temporary impacts to hardbottom fro
	No long-term adverse impact anticipated.
	Based on the modeling results for sand mining operations there will be no effect on the shoreline
	in OCS waters.
	No impact.
	No adverse impact anticipated.
	Direct adverse impacts would be small, localized, temporary increases in concentrations of nitrog
	VOCs, and PM mostly associated with the dredge plant and dump trucks used to transport sand.
	Minor, temporary impacts on the beach during dredging and beach placement.
	Additional minor underwater noise impacts from dredging and equipment movement.
	Continued income from tourist revenue
	No impact.
	Minor, temporary adverse impacts during beach placement of sand.
	Minor, temporary adverse impact during beach placement of sand. Temporary impact to recreation
	excavation activities. Long term benefit from increased size of recreational beach.
	No impact, per SHPO letter

Table 11, Summary of Direct & Indirect Impacts page 53

AVOIDANCE, MINIMIZATION, MONITORING & MITIGATION



AVOID/MINIMIZE

- Standard Manatee, Sea Turtle, Smalltooth Sawfish Protection Protocols
- Relocation of threatened corals & large stony corals from pipeline corridor
- Marking of pipeline corridors by divers
- Use of pipeline “lifters” on hardbottom & reef areas
- Shorebirds & Sea Turtles: daily monitoring during the nesting seasons (plus buffers, markers & construction corridors, if necessary)

MONITORING

- Monitoring of the hardbottom edge offshore of the placement area
- Swimming the pipeline at least 2x per week to check for leakage
- Turbidity monitoring (waters around the dredging & placement sites)

COMPENSATORY MITIGATION

(for unavoidable impacts related to pipeline corridors/operational boxes)

- Miami-Dade County proposed a two-fold approach for compensatory mitigation: artificial reefs and/or outplanting of nursery corals

PREFERRED ALTERNATIVE

- Renourishment scenario where all 7 sources will potentially be used
- Offshore sources will be used for large renourishments
- Upland sources/truck haul will be used for small renourishments
- Two Miami-Dade sources (Baker's Haulover and Lummus Park accretional areas) will be used when sand is available

ANTICIPATED PROJECT SCHEDULE

MILESTONE	INITIATE	COMPLETE
NEPA SCOPING LETTER		July 22, 2013
NEPA SCOPING	July 22, 2013	September 17, 2013
PUBLIC REVIEW OF DRAFT NEPA DOCUMENT	July 31, 2015	October 2, 2015
INCORPORATION OF PUBLIC COMMENTS	October 2, 2015	October 30, 2015
NEPA DECISION DOCUMENT SIGNED		November 27, 2015
AWARD CONTRACT (MIAMI BEACH)		May 2016

Comments are needed by

October 2, 2015

E-mail:

DadeCountyBECComments@usace.army.mil

Mail:

701 San Marco Blvd
Jacksonville, Florida 32207
Attention: Terri Jordan-Sellers

2 Minute Timer

End