



MARTIN

PALM BEACH

BROWARD

_ _ _ _ _ _ _ _ _ _ _ _ _

PROJECT AREA 2



MIAMI-DADE

5 ACI SAND MINES 5 miles from project area Adequate quantities of Dade beach quality material



ORTONA & WITHERSPOON SAND MINES 120 miles from project area Adequate quantities of Dade beach quality material

LEGEND:

Potential SAND Study Sources # Dade County BEC-HPP Sand Source Alternatives

NOT TO SCALE

OVERVIEW

ST. LUCIE COUNTY OFFSHORE SOURCE 120 miles from project area ~4,600,000 cubic yards Dade County beach quality material

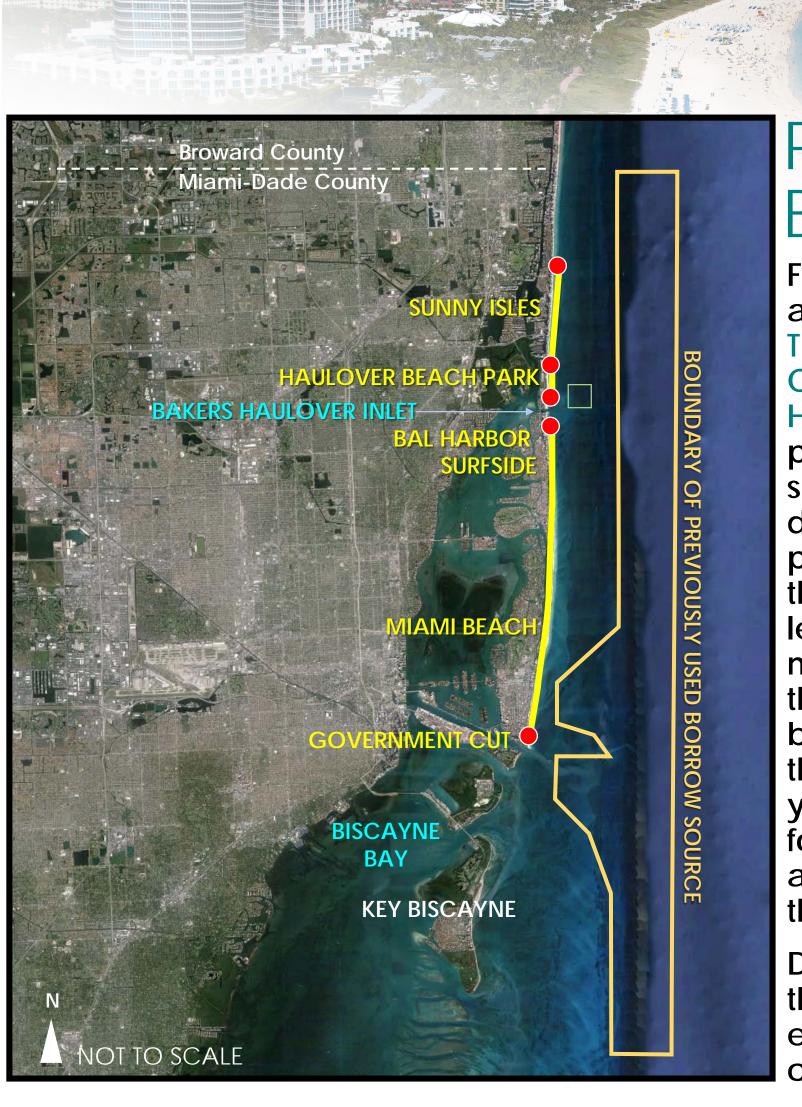
ARTIN COUNTY OFFSHORE SOURCE 80 miles from project area ~600,000 cubic vards Dade

County beach quality material

BAKER'S HAULOVER EBB SHOAL ~30,000 cubic yards

accretes annually LUMMUS PARK **ACCRETION AREA**

~50,000 cubic yards accretes annually



DADE COUNTY BEC-HPP REMAINING PERIOD OF FEDERAL PARTICIPATION **MAIN SEGMENT:**

- 9.3 miles from Government Cut to Baker's Haulover & 1.2 miles of Haulover Beach Park Authorized: 1968 Initial Construction: 1975
- Remaining Period of Federal Participation: 2015-2025
- **SUNNY ISLES:**
- 2.5 miles OF Sunny Isles Beach Authorized: 1986 Initial Construction: 1988
- Remaining Period of Federal Participation: 2015-2038

DADE COUNTY BEC-HPP PROJECTED FUTURE RENOURISHMENT NEEDS

DATE	SEGMENT	CUBIC YARDS				
SUNNY ISLES						
2016	Sunny Isles	547,330				
2026	Sunny Isles	500,000				
2036	Sunny Isles	100,000				
		1,147,330				
Main Segment						
2016	Hot Spots	556,730				
2017	Surfside	560,460				
2019	Haulover	90,000				
2019	Bal Harbor	330,000				
2019	Non-Hot Spots	606,100				
2021	Hot Spots	200,000				
2022	Surfside	135,000				
		2,478,290				

TOTAL 3,625,620

ANTICIPATED UPCOMING CONSTRUCTION SCHEDULE					
DATE					
February 2016					
March-April 2016					
May 2016					

OUNTY BEACH EROSION CONTROL & HURRICANE PROTECTION PROJECT IDENTIFICATION OF ALTERNATIVE SAND SOURCES FOR THE REMAINING PERIOD OF FEDERAL PARTICIPATION

U.S. ARMY CORPS OF ENGINEERS, JACKSONVILLE DISTRICT

For Additional Information, Contact: Jason Harrah, Project Manager

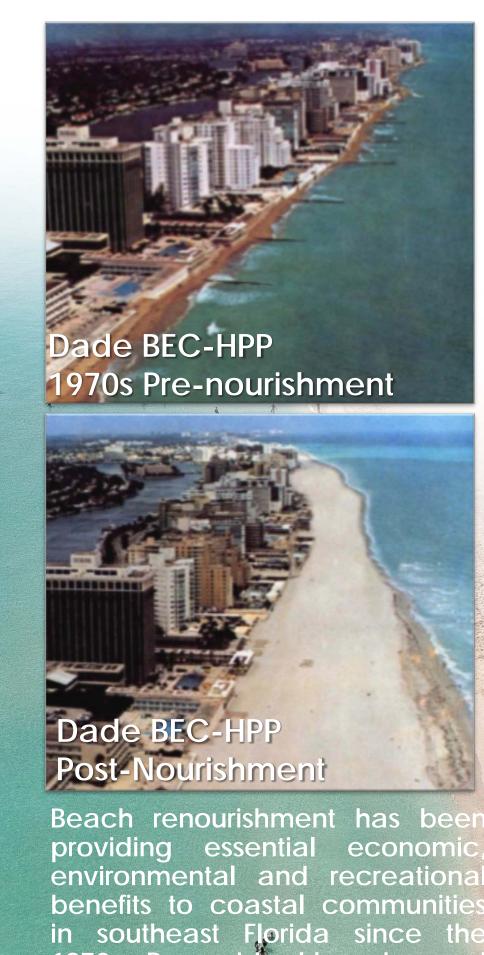


PROJECT BACKGROUND

Federal beach nourishment projects are authorized for generally 50-year periods. Dade County Beach Erosion The **Control/Hurricane Protection Project (BEC-**HPP) is over halfway through its authorized period of participation and its traditional sand sources have been substantially depleted at this time. Collaborative, proactive efforts over the past 20+ years at the federal, state, local and private sector levels have sought beach compatible material for the project while ensuring that the needs of all regional beaches have been considered. Recent efforts indicate there is in excess of 100,000,000 cubic yards of beach quality material available for the non-federal and federallyauthorized beaches of southeast Florida through 2062.

Dade County beach renourishment needs through its period of participation is estimated to be approximately 3,625,620 cubic yards.





1970s. Renourished beaches a dunes serve as a vital bu between coastal infrastructu and the destructive forces ocean waves and surge during storm events

SAND SOURCE INVESTIGATIONS

2011 – 2013 SOUTHEAST FLORIDA SEDIMENT **ASSESSMENT & NEEDS DETERMINATION STUDY**

The regional investigation, known as the "SAND Study" involved extensive coordination and collaboration between the Florida Department of Environmental Protection (FDEP), the five southeast Florida counties, the U.S. Army Corps of Engineers, and the Bureau of Ocean Energy Management (BOEM) to determine regional sand needs through 2062:

- All needs assessments were peer reviewed.
- FDEP funded an independent technical review of the study.

100,000,000 cubic yards beyond its 50-year need.

	Sand Needs (cy)			Sand Availability (cy)		
County	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 ²	45,577,000	70,644,350	191,951,814	117,728,007	47,083,657	
Broward ³	11,650,000	18,057,500	-	-	-18,057,500	
Miami-Dade ³	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	

2: All Palm Beach County categories have an additional 25% contingency removed talus content applied in the "Volume Contingency/Confidence" column. 3: Further investigation, project constructions & environmental constraints reduced volumes for Broward and Miami-Dade counties to0 cubic yards.

Project 50-year volumes assume placement of scheduled full-sized projects until the end of 2062. Sand sources in the table include known borrow areas in state and federal waters. Renewable sources such as sand dredged from ebb shoals are incorporated by reducing needs.

2015 DADE COUNTY BEC-HPP LIMITED REEVALUATION REPORT AND ENVIRONMENTAL ASSESSMENT

These studies evaluated sand sources that would meet specific Dade BEC-HPP sand criteria and needs that would be both cost effective and environmentally sound. RESULTS

	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

PREFERRED USE OF SAND SOURCES

- Offshore sources will be used for large renourishments
- when sand is available

Each county determined their own 50-year sand need for federal & non-federal projects.

Geological investigations identified sand sources meeting FDEP criteria (contingencies were applied to reach a final volume available)

The results of the study indicated that the Southeast region of Florida has excess sand of

Renourishment scenario where all 7 sources will potentially be used

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