

Dredging and Environmental Issues at Port Everglades

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Development challenges from 1925



#1 Seaport for Exports in Florida

- \$12.1 billion (CY2017)

#1 Refrigerated Cargo Port in Florida

- 140,583 TEUs (FY2018)

#1 Seaport in Florida by Revenue

- \$167.9 million (FY2018)

#2 Container Port in Florida

- 1,108,465 TEUs (FY2018)
- 1,987 ship calls

#2 Petroleum Port in Florida

- 572 ship calls
- 123.4 million barrels (FY2018)

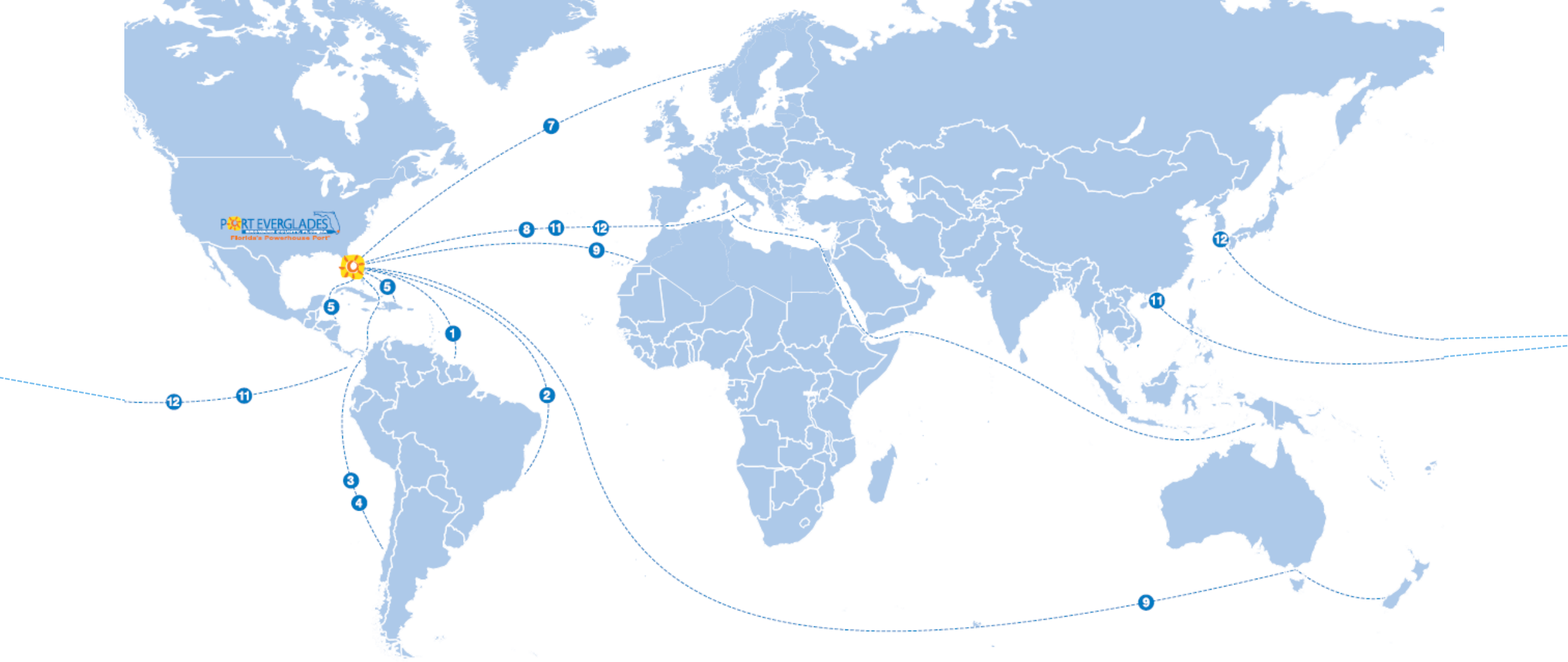
#3 Cruise Port in the World

- 858 ship calls
- 3.8 million passengers (FY2018)

#4 Foreign-Trade Zone in the U.S.

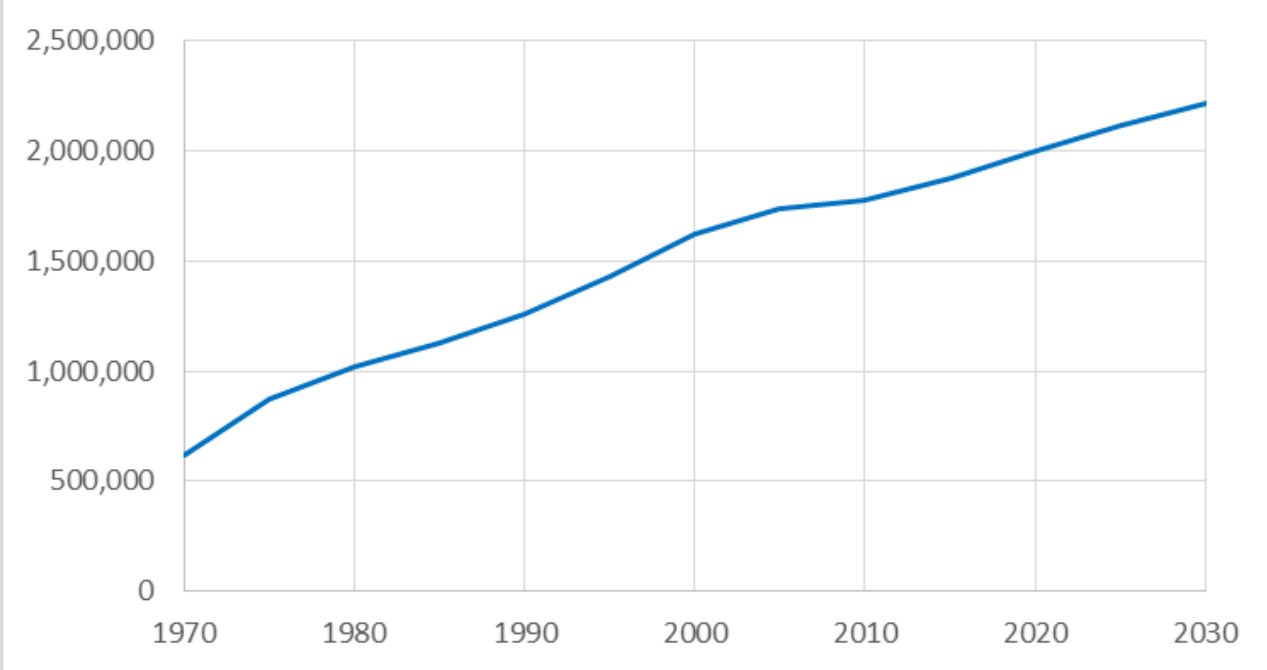
\$6.1 billion total activity (CY 2017)





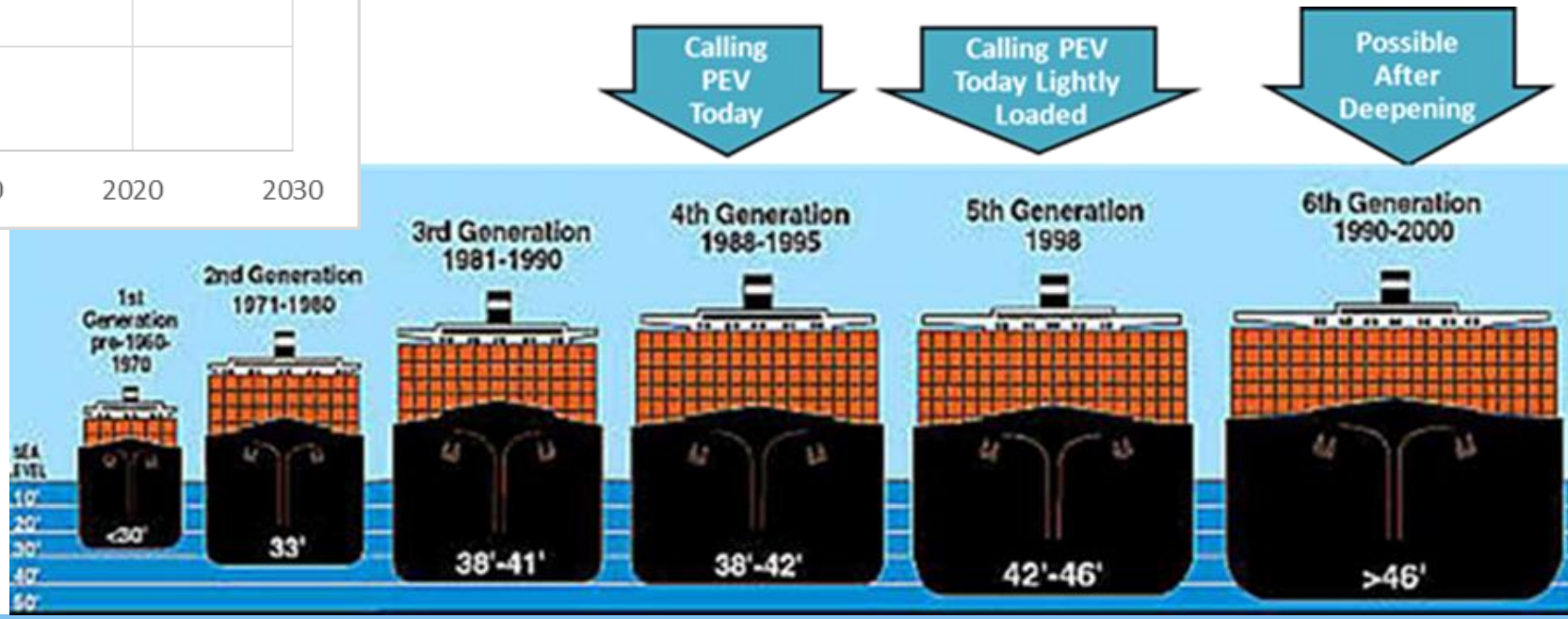
How We Connect - Internationally

150 Ports ▪ 70 Countries ▪ 21 Ocean Carriers



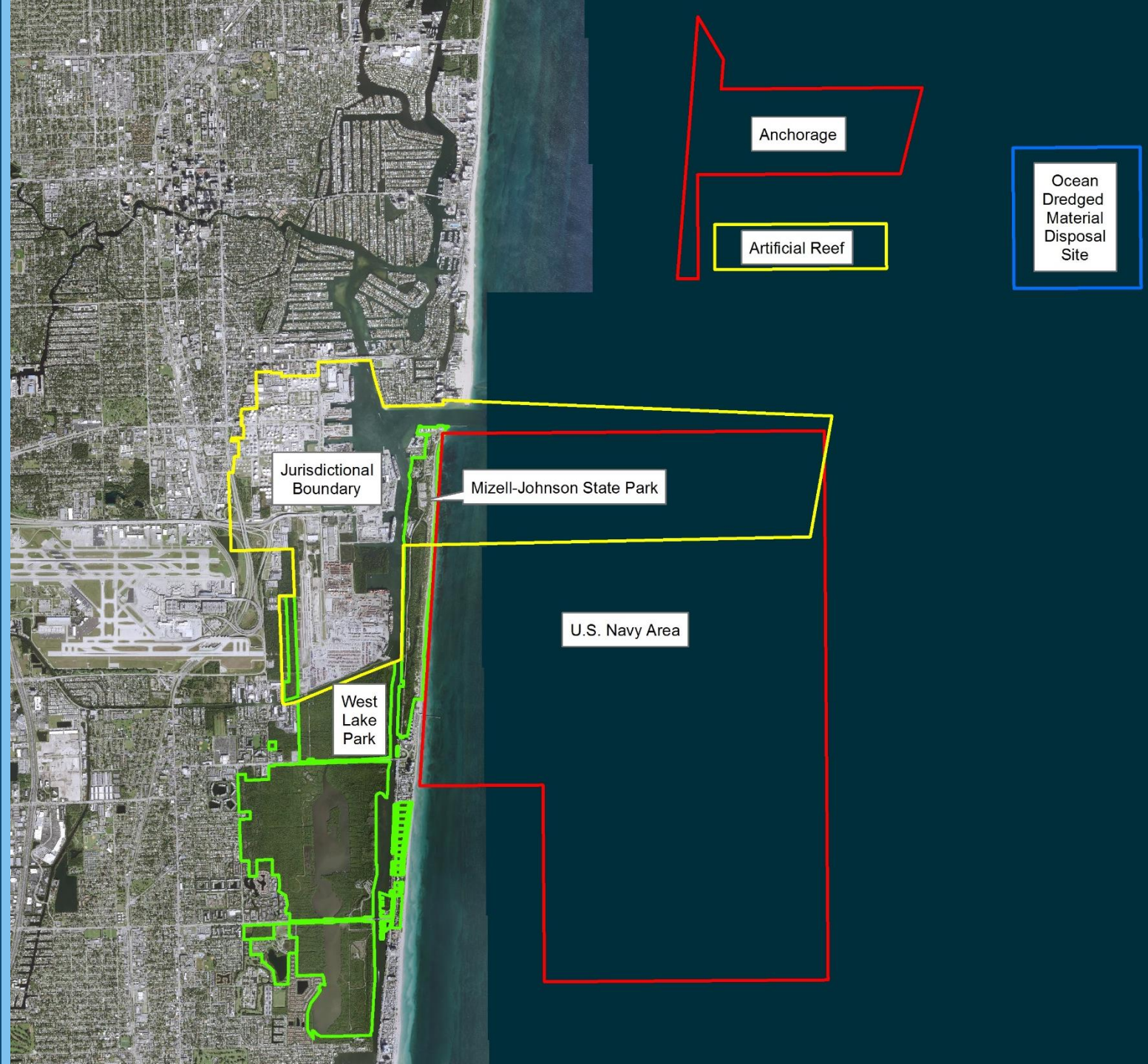
Broward County Population

Source: Broward County Planning and Development Management Division



Geographic Orientation

- Jurisdictional Boundary
- Port Everglades Artificial Reef
- Anchorage
- ODMDS
- US Navy Area
- Mizell-Johnson State Park
- West Lake Park



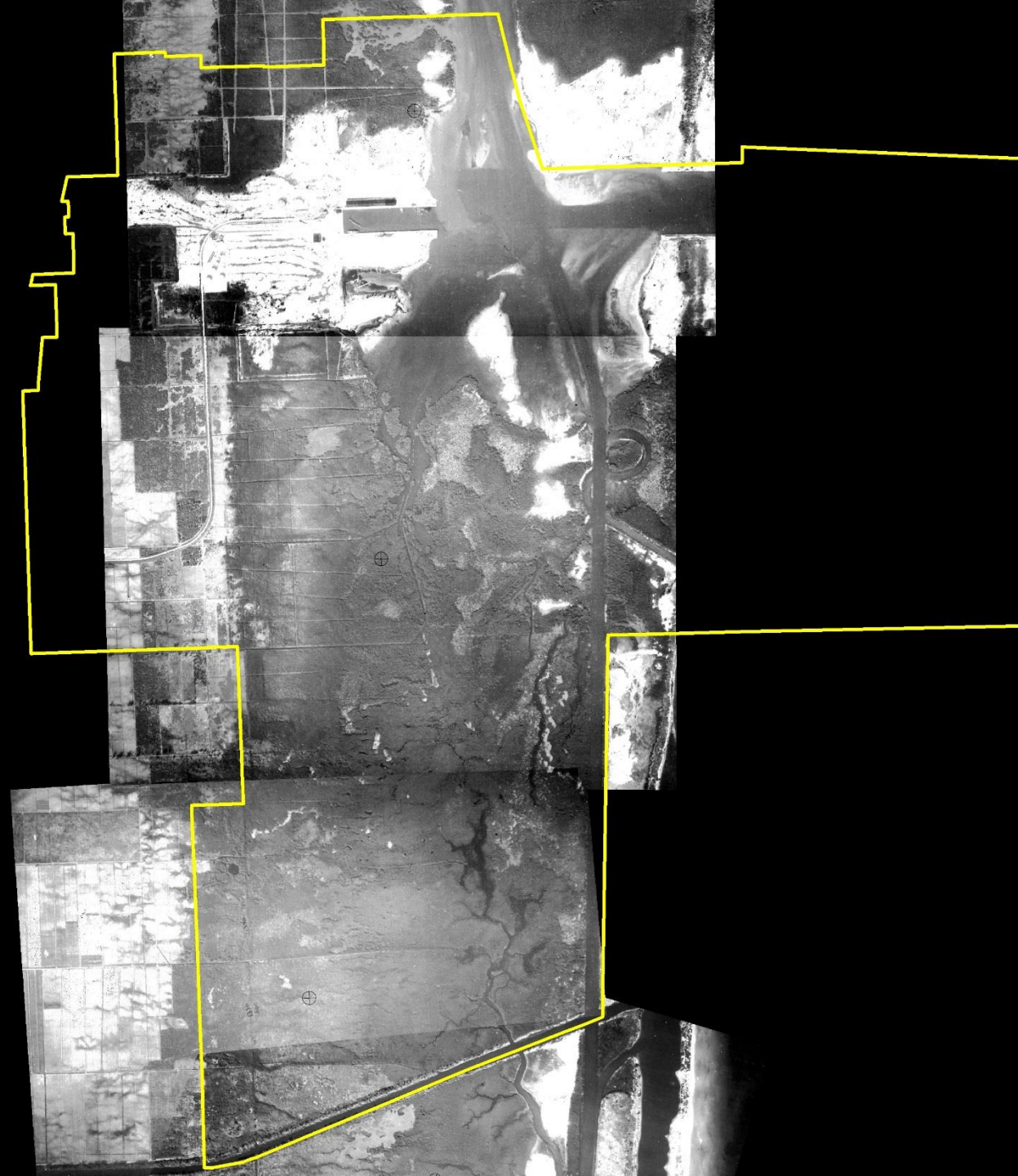


Officially Opened **1928**
Used dynamite to open channel.

Initial Design

1933 Aerial

- Bay Mabel Harbor
- 7,300' Channel
- 1,200' x 300' Slip 1
- 2 Bulkheads
- 2 Jetties & Breakwaters
- 1 Turning Basin
- 35' Initial Depth
- Rivers and Harbors Act of 1930



First 20 Years

1947 Aerial

- Channel Enlarged
- North & South Turning Basin Extensions
- Completion of Slip 2
- Constructing Slip 3
- Maintained Dredging



Second 20 Years

1968 Aerial

- Deepened Channel to 37' Inner & 40' Outer
- Completed Midport & Tracor Drydock Basin
- North & South Turning Basin Extensions
- No Mitigation Required
- Environmental Laws
 - NEPA 1970
 - CWA 1972
 - ESA 1973



Third 20 Years

1988 Aerial

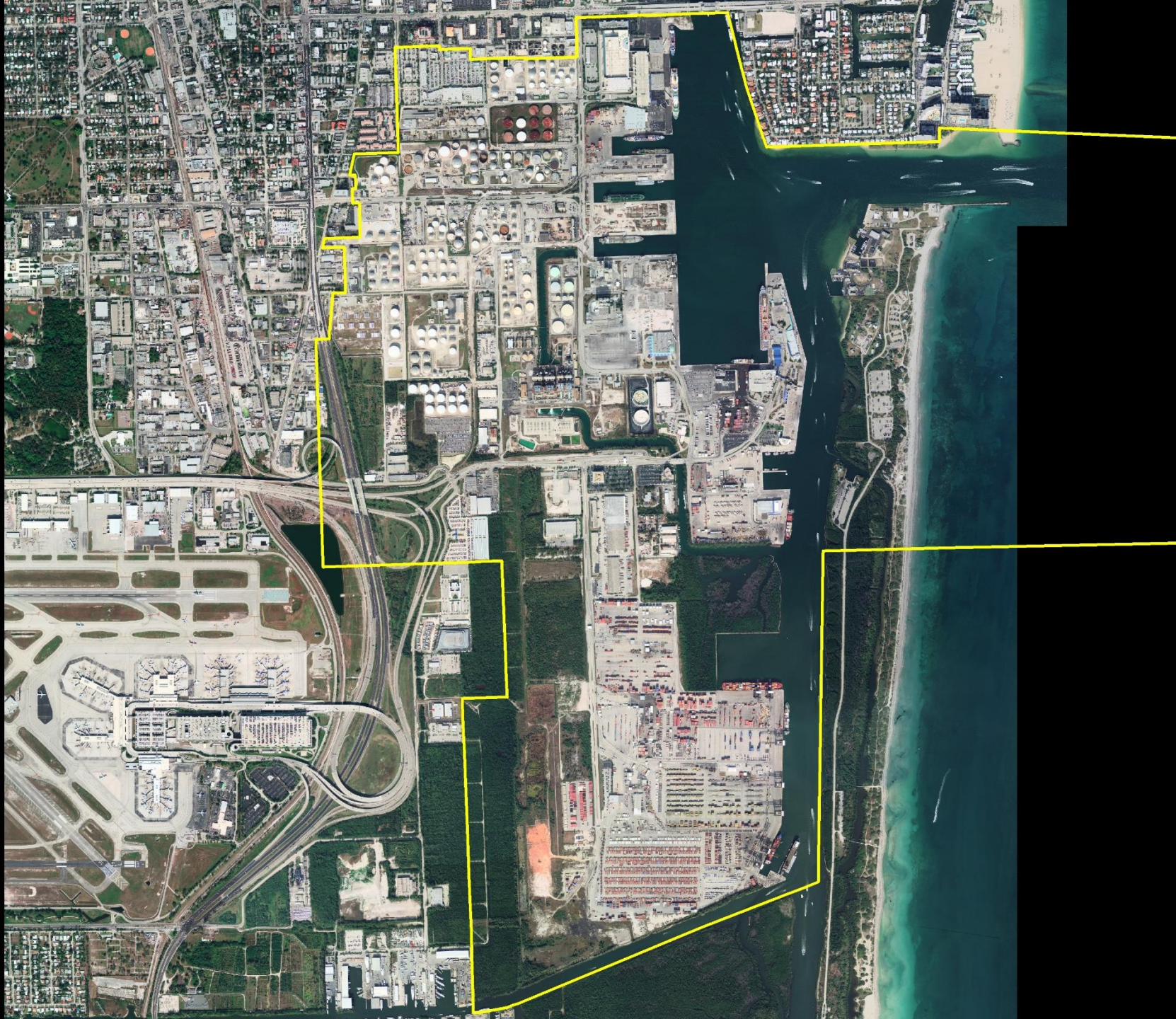
- Deepened Channel to 42' Inner & 45' Outer
- Widened Channel to 450' Inner & 500' Outer
- Deepened Turning Basin and Channels to 36'
- Constructing Southport
- Environmental Permitting and Mitigation Required
- Master Plan 1988-2000



Fourth 20 Years

2008 Aerial

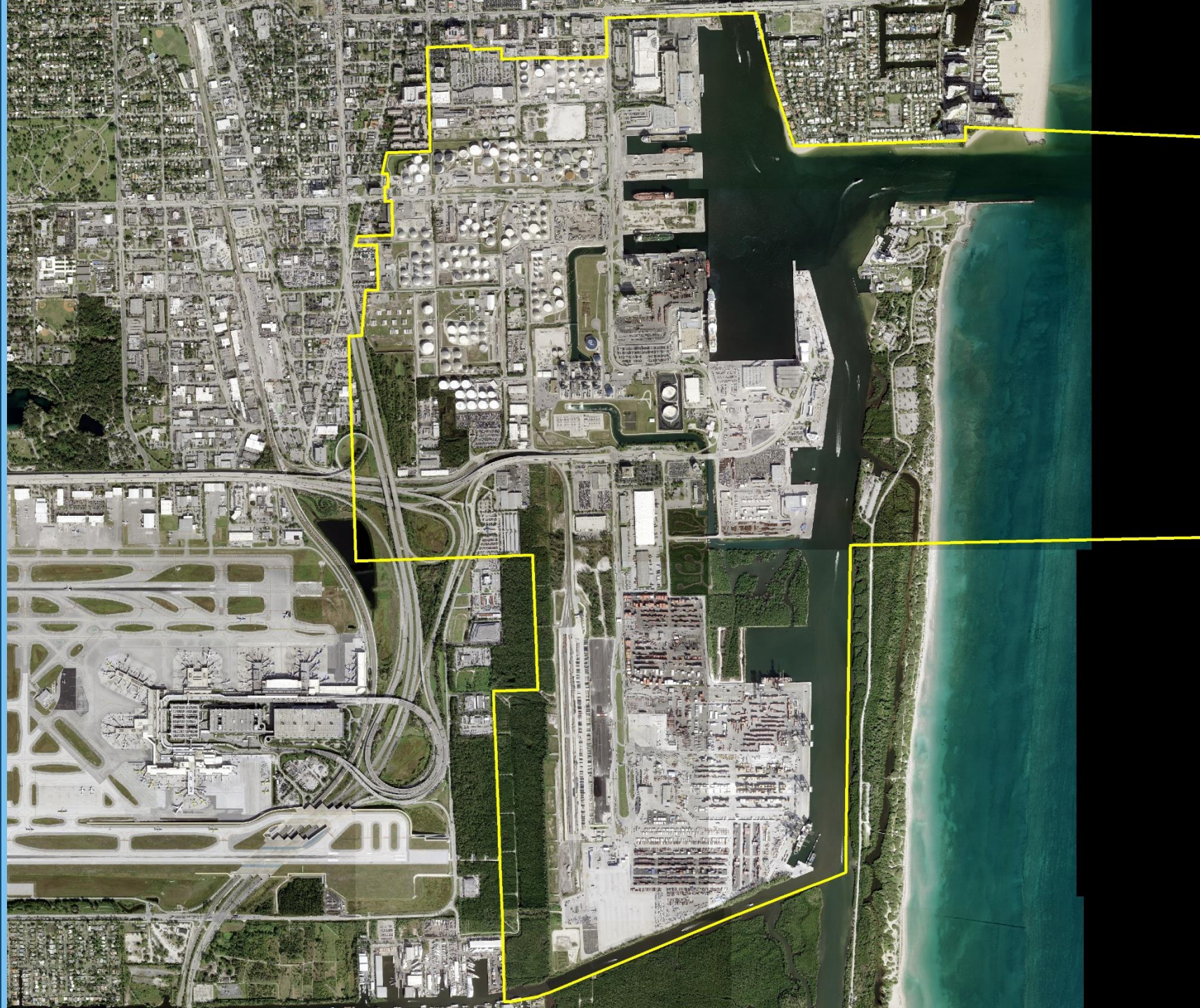
- Master Plan Updates
- Southport Turning Notch Completed
- Maintenance Dredging
- Mitigation Construction
- USACE Navigation Improvements Project Commenced in 1998



Next 10 Years

2018 Aerial

- Master Plan Update
- Southport Built-Out
- Southport Turning Notch Extension
- Mangrove Mitigation and Construction
- USACE Navigation Improvements Project Coordination/Studies



Original Southport Mitigation

- Donated 35 acres (1972).
- Created 23-acre wetland.
- 160,000 red mangroves.
- 6,500 native upland plants.
- 7,300' shoreline protection.
- Designed/constructed 1,100 square-foot FDEP Environmental Education Facility and 700' boardwalk.
- FMNP classroom



Southport Turning Notch Extension

- Lengthening 1500' from 900' to 2400'.
- Add 5 new berths.
- Upfront mangrove mitigation.
- Artificial reef creation and coral relocation.



2018



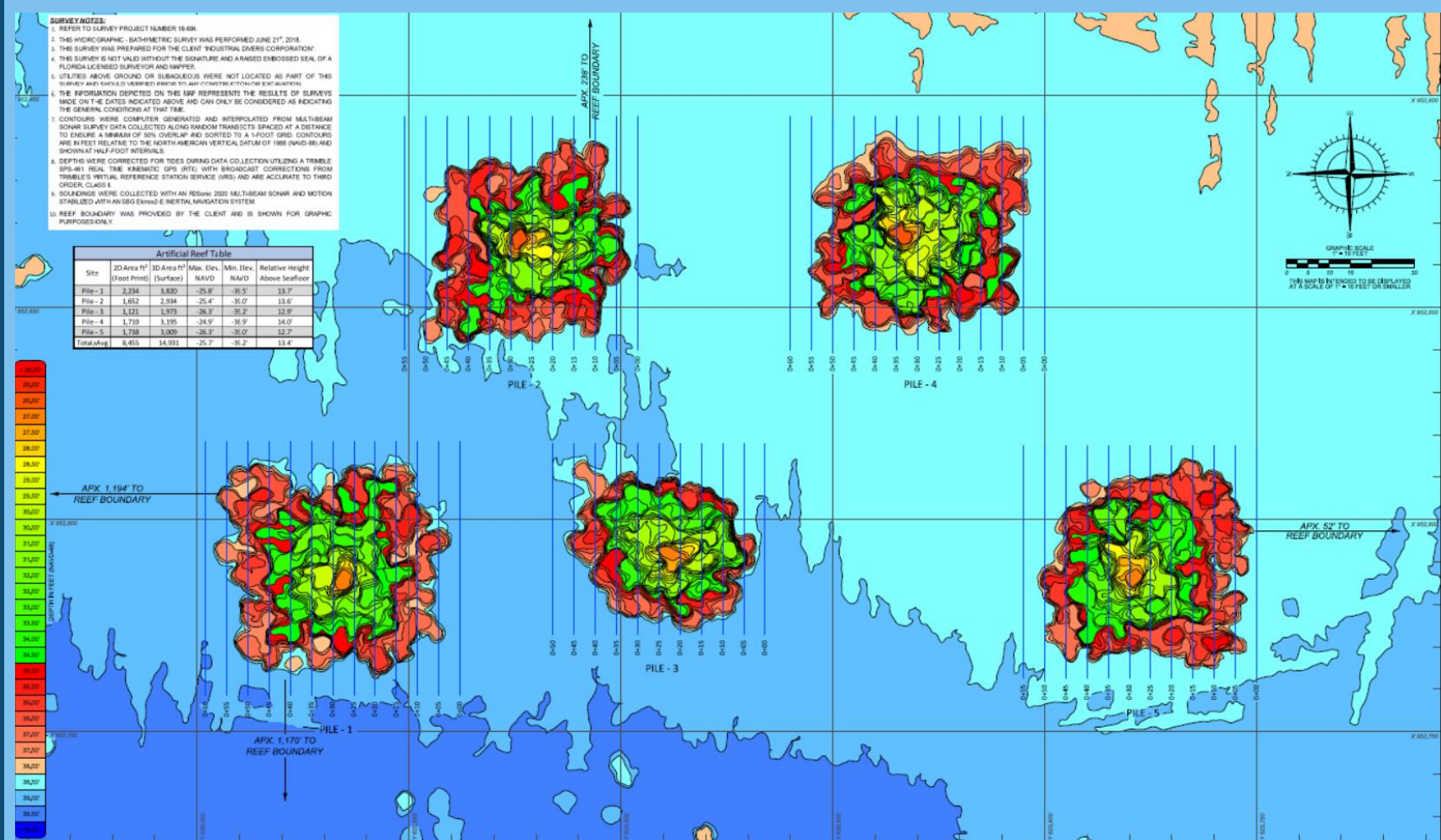
2022

Midport Upland Enhancement

- 16.5-acre wetland enhancement replaced 8.7-acres in conservation.
- Planted 70,000 mangroves.
- Manatee nursery deepening.
- Manatee access channels.
- *IHS Maritime and Trade Magazine's* "Dredging and Port Construction Innovation Award"
- Transferred with 44.5 acres (61 total) to FDEP 2017.



Southport Turning Notch Extension Mitigation Reef



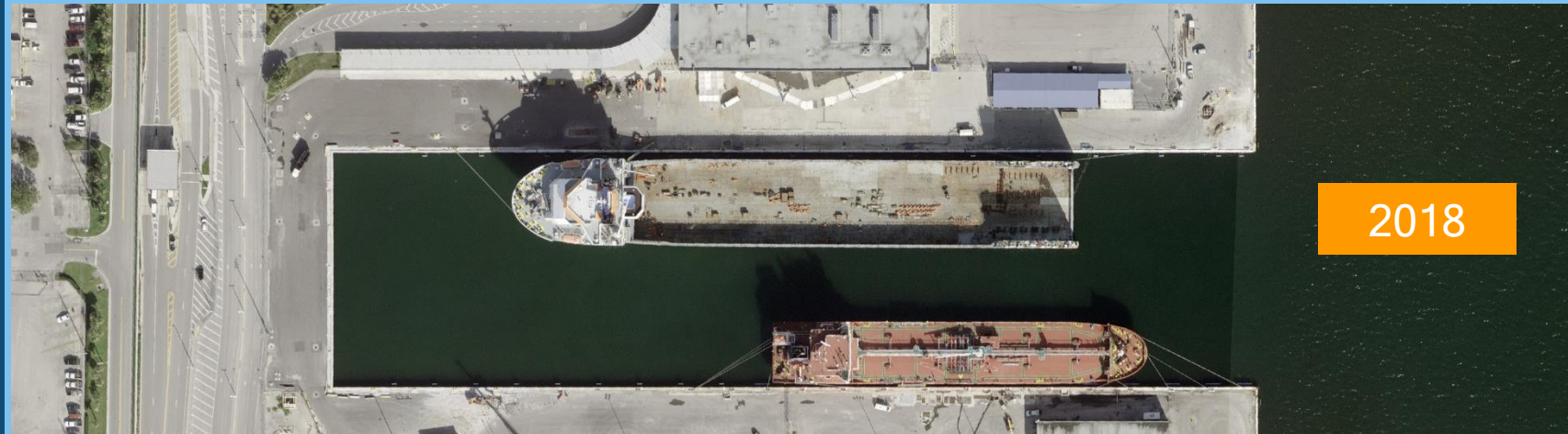
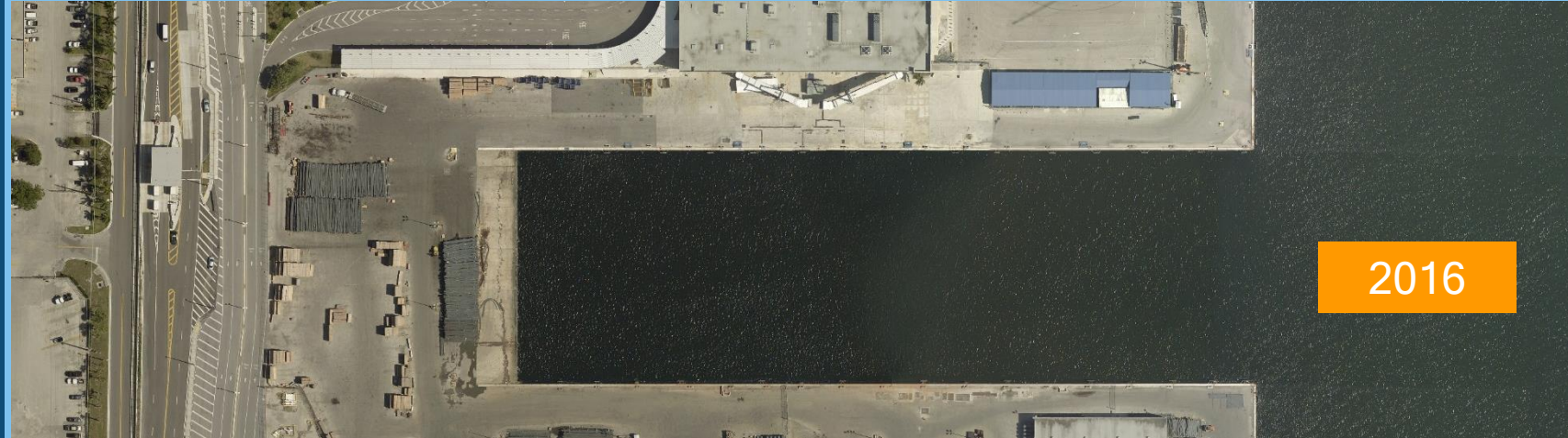
- Approximately 35' deep.
- Located ~1 mile east of Dania Beach Boulevard.
- Adjacent to "Mount Dania."
- Five 50' diameter x 12' tall piles of boulders >3' diameter.
- 814/9,000 corals relocated.
- Parrotfish predation cages.
- 1000 corals voluntarily salvaged for science.



Slip 2 Extension

2017

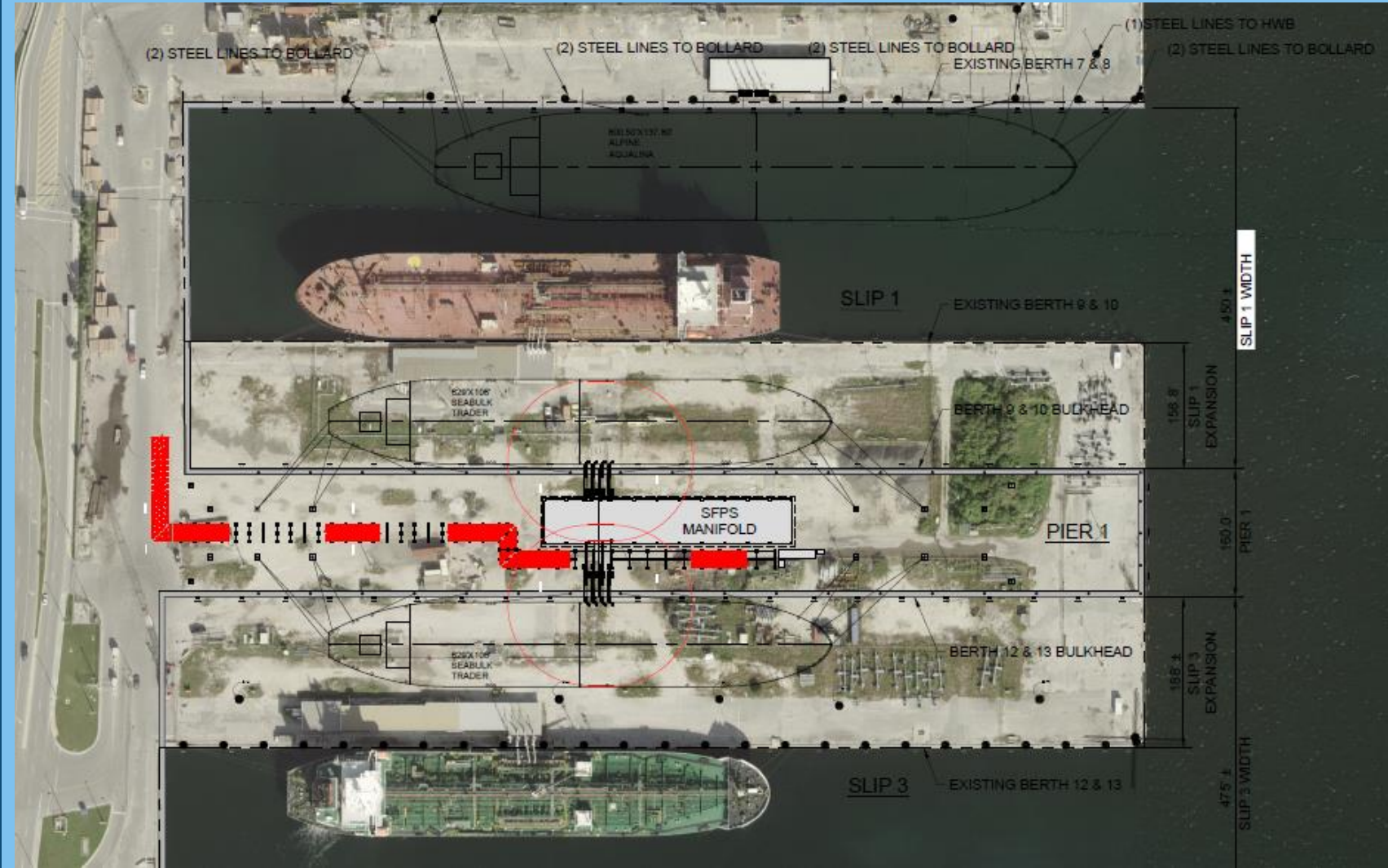
- Constructed 1940's.
- Lengthened 296' to 525'.
- Dredged to -44' MLW.
- Relocating 30 corals growing on seawall to offshore artificial reef.
- Rescued and relocated 7 additional corals.



Slip 1 Expansion

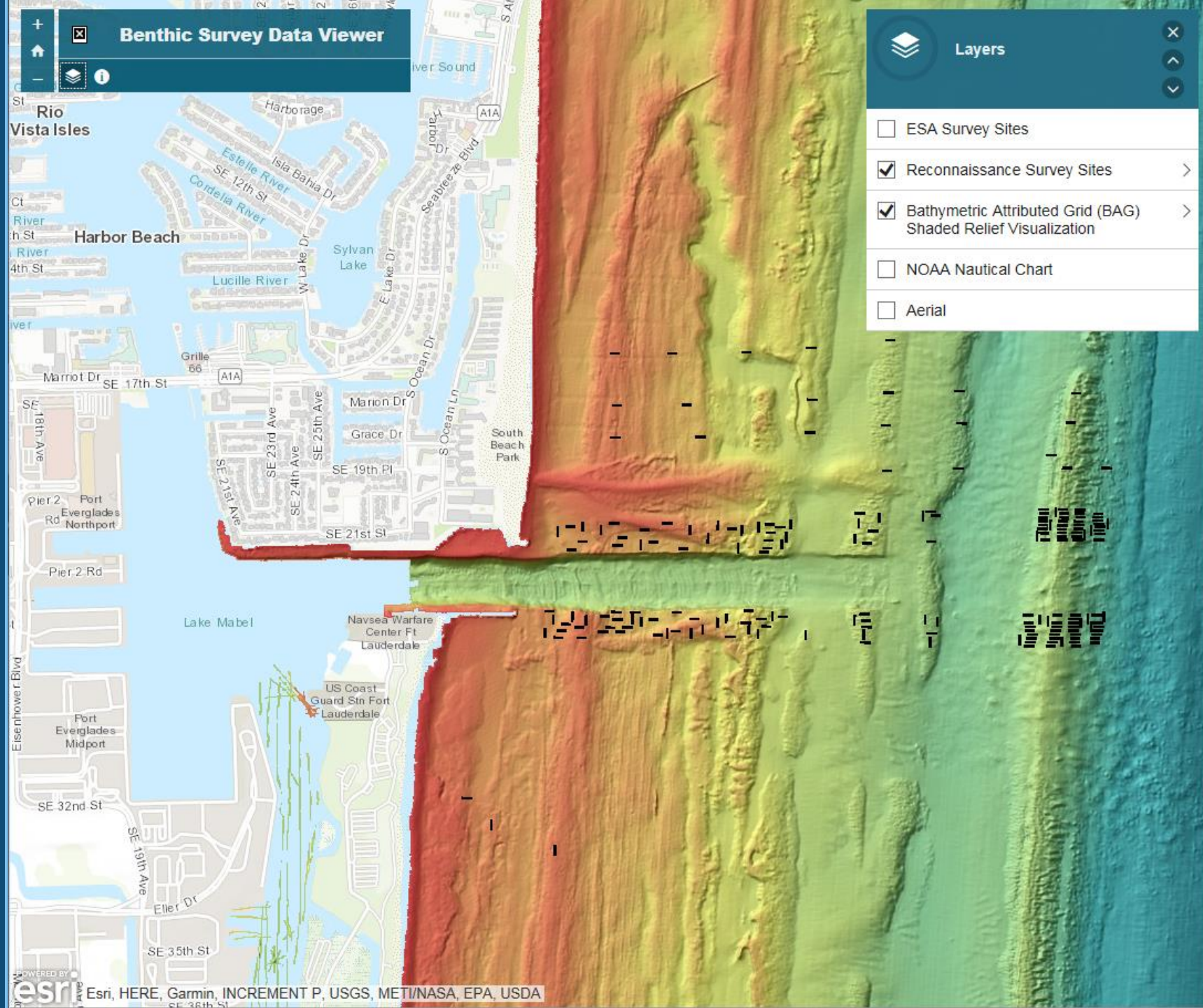
2018

- Constructed 1920's.
- Widening from 300' to 450'
- Dredging to -42' MLLW.
- Permit applications to be submitted in early 2019.
- Anticipate coral relocations.



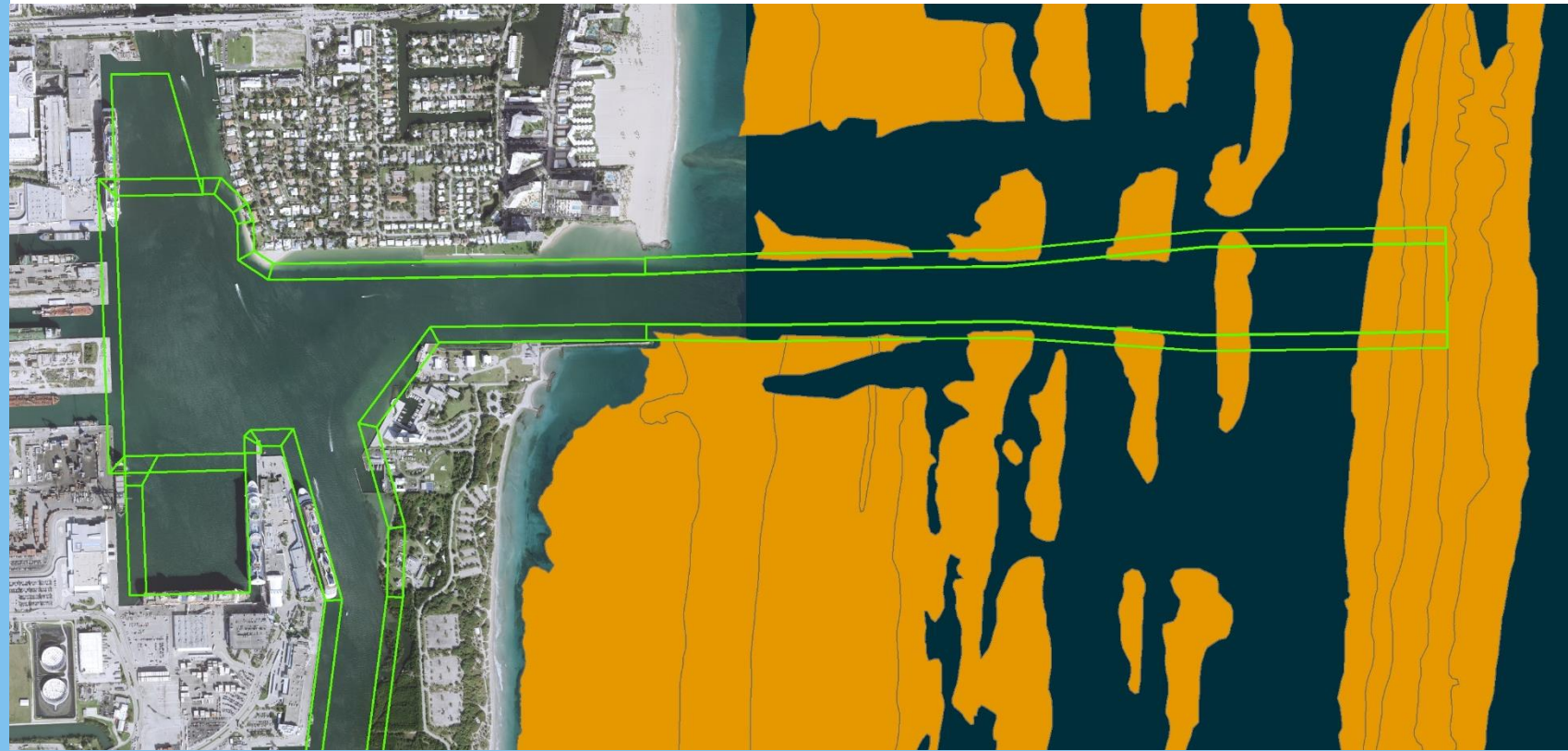
Natural Resource Surveys

- Mangrove Forest
- ESA Listed Corals
- Seagrass Beds and Benthic Communities
- Interactive Website



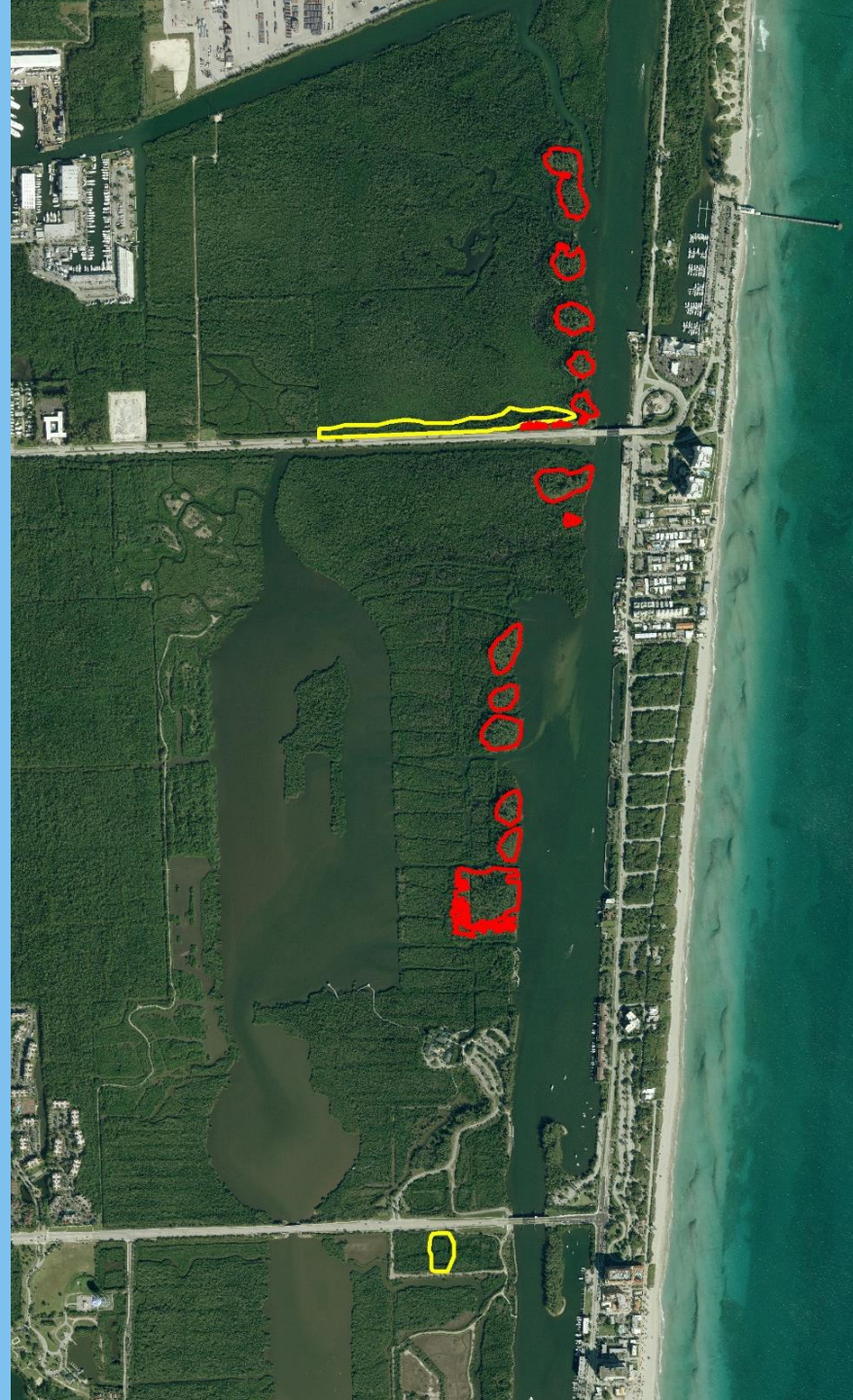
Coral Reef Restoration

- Current plan from EIS.
- 103,000 new nursery-raised corals will be outplanted on 18 acres of existing reef.
- Relocation existing corals in the project area to another 5 acres of existing reef.



West Lake Natural Area Restoration

- Broward County Park
- USACE Navigation Improvements Project
- Joint-Project with FLL Runway Extension
- 168 acres of flushing, mangrove and seagrass.
- Purchased wetland parcels for conservation.
- More improvements scheduled (Segment 4).





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