

# Pinellas County's Beach Management Program and History

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# Outline

- Program
  - People
  - History
  - Storms
  - 2018 Project



# Pinellas County Coastal Management

## How it Began

- 1970-2003: Employed by Pinellas County
- 1970: Began career as a Surveyor (\$1.98/hour)
- 1971: Promoted to Engineering Inspector II
- 1985: Served on the Governor's Beach Restoration Task Force
- 1986: Helped develop new legislation on beach programs  
Established Pinellas County Coastal Mgmt. Program  
First County Coastal Mgmt. Coordinator
- Directed funding to 13 USF geology graduate students
- 2003: Received 2002 USF Geology Outstanding Alumni Award



## A TRIBUTE TO JIM TERRY

*EDITOR'S NOTE: Every once in a while the career of one of the County's premier employees is so full of extraordinary accomplishments and recognitions that it rates a special nod of thanks and appreciation. Such is the case of recent retiree (February 2003) Jim Terry from Public Works.*



*. . . . Jim Terry is pictured with his wife, Mary Kim, and son, James, proudly displaying his award.*



C-343-SEPT. 2<sup>ND</sup> 1926  
SANDWICH STUDIO  
TARPON SPRINGS FLA



# Pinellas County Coastal Management Program Engineers-Scientists-Managers

## **Coastal Management Coordinators**

- Jim Terry – Program Founder (1986-2003)
- Nicole Elko Payne (2002-2009)
- John Bishop – (2013 – Present)

## **Key Consultants, University, & Agency Staff**

- Doug Mann, CPE, APTIM (1987 – Present)
  - 3 groins including Upham Beach, 3+ nourishments, many permits
- Tom Pierro CPE, APTIM (2001 – Present)
  - Upham Rock T-groin design & permitting (2009-Present)
- Ping Wang USF Geology Dept. (2003-Present)
- Jackie Keiser, Laurel Reichold, Andy Cummings, USACE
- Catherine Florko, FDEP

# PROJECT HISTORY



North Redington Beach – May 05, 1988



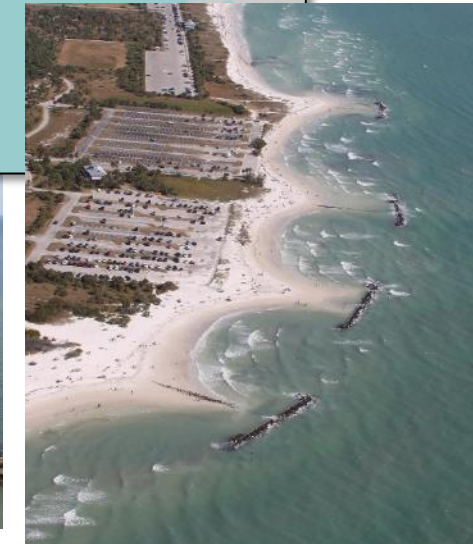
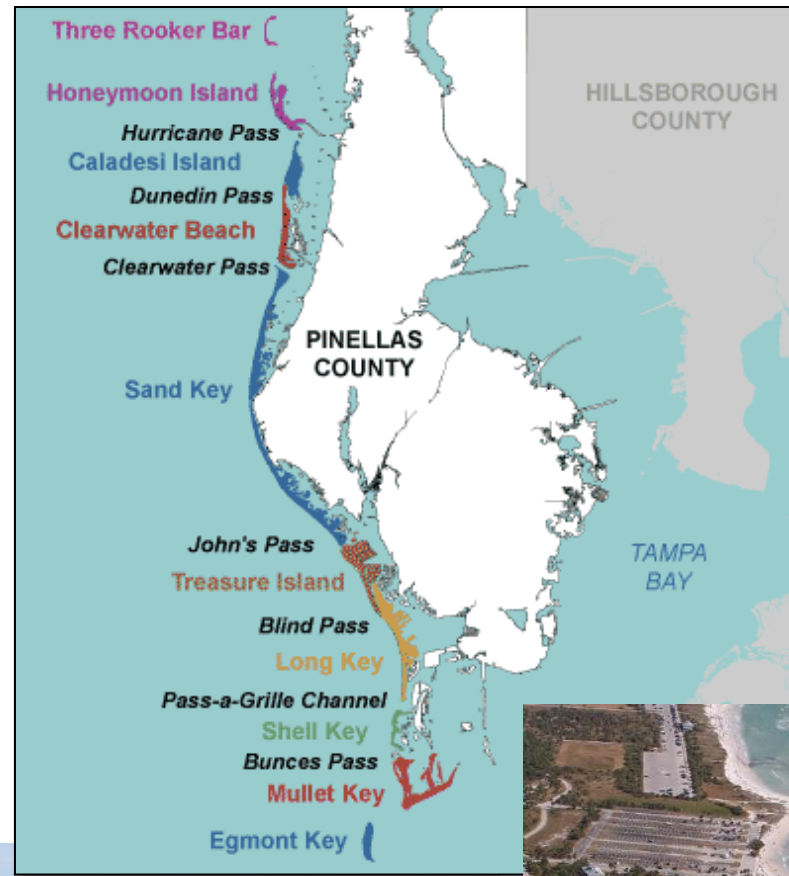
# Pinellas County

- 35 miles of beach
- 21.4 miles critically eroded
- 12 miles are restored regularly
- 12 coastal municipalities
- 11 have ongoing beach projects managed.



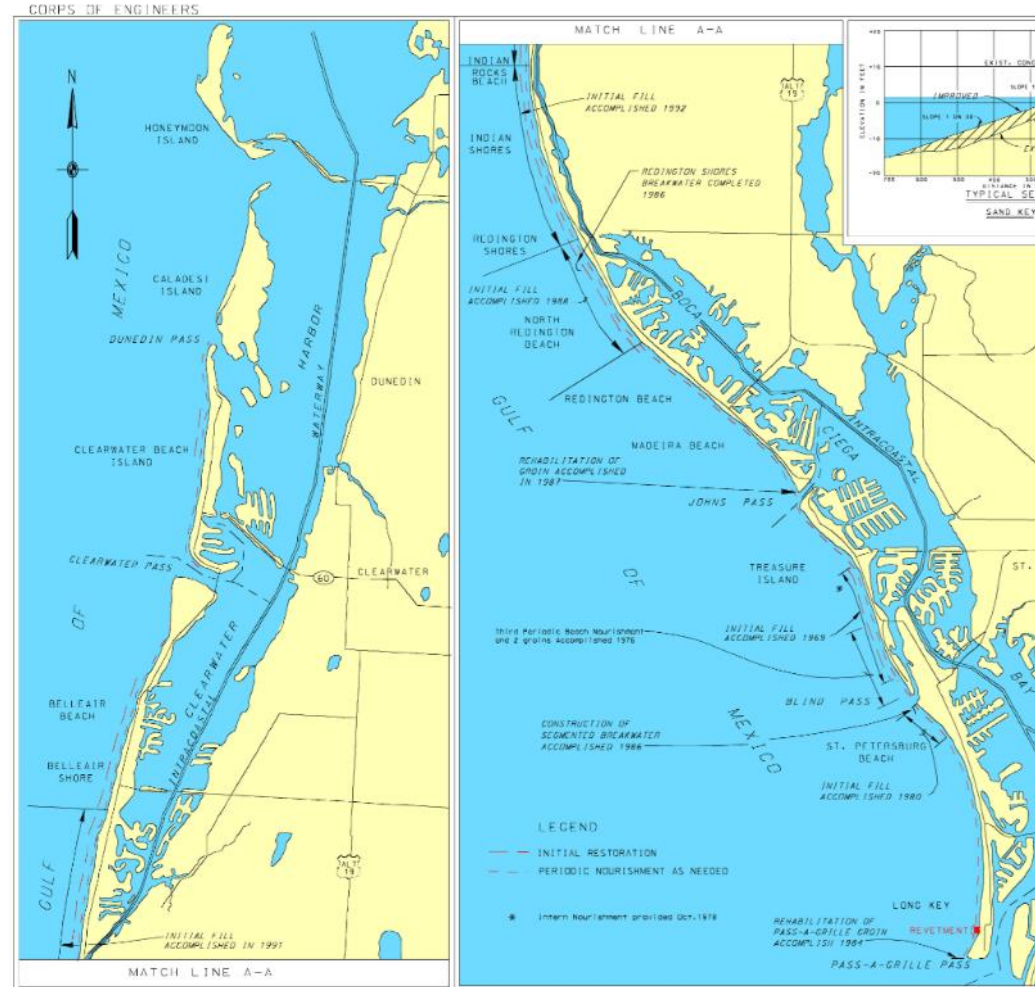
# Project Areas

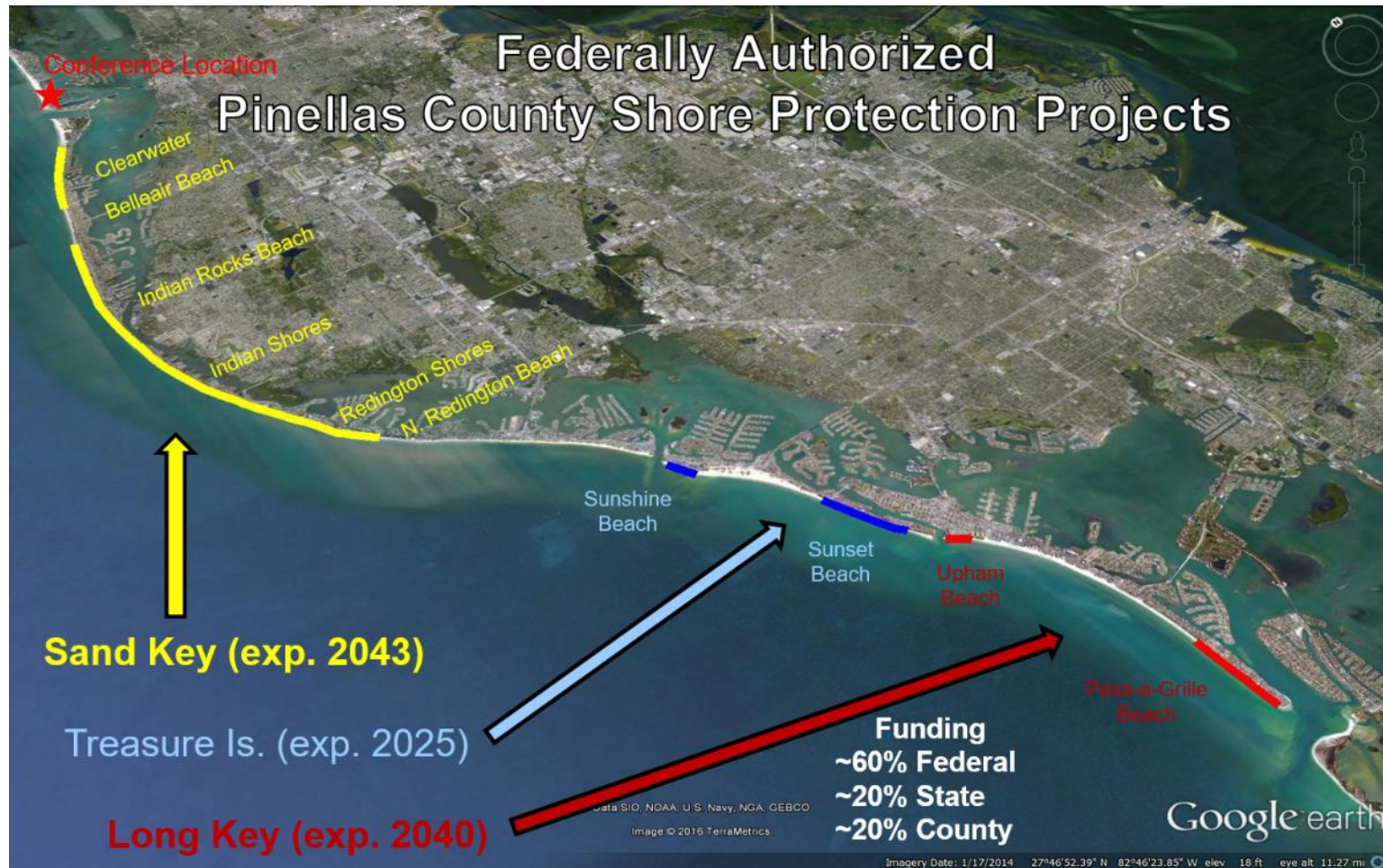
- Non-Federal Projects
  - Honeymoon Island
    - 4 T-Groins
    - Nourishment
  - Upham Beach
    - 4 T-Groins
- Federally Authorized Segments
  - Sand Key
  - Treasure Island
  - Long Key



# Federal Authorization

- Authorized
  - 1966
- Initial Construction
  - 1969 Treasure Island
  - 1980 Long Key
  - 1993 Sand Key
- Clearwater Beach to Pass-a-Grille

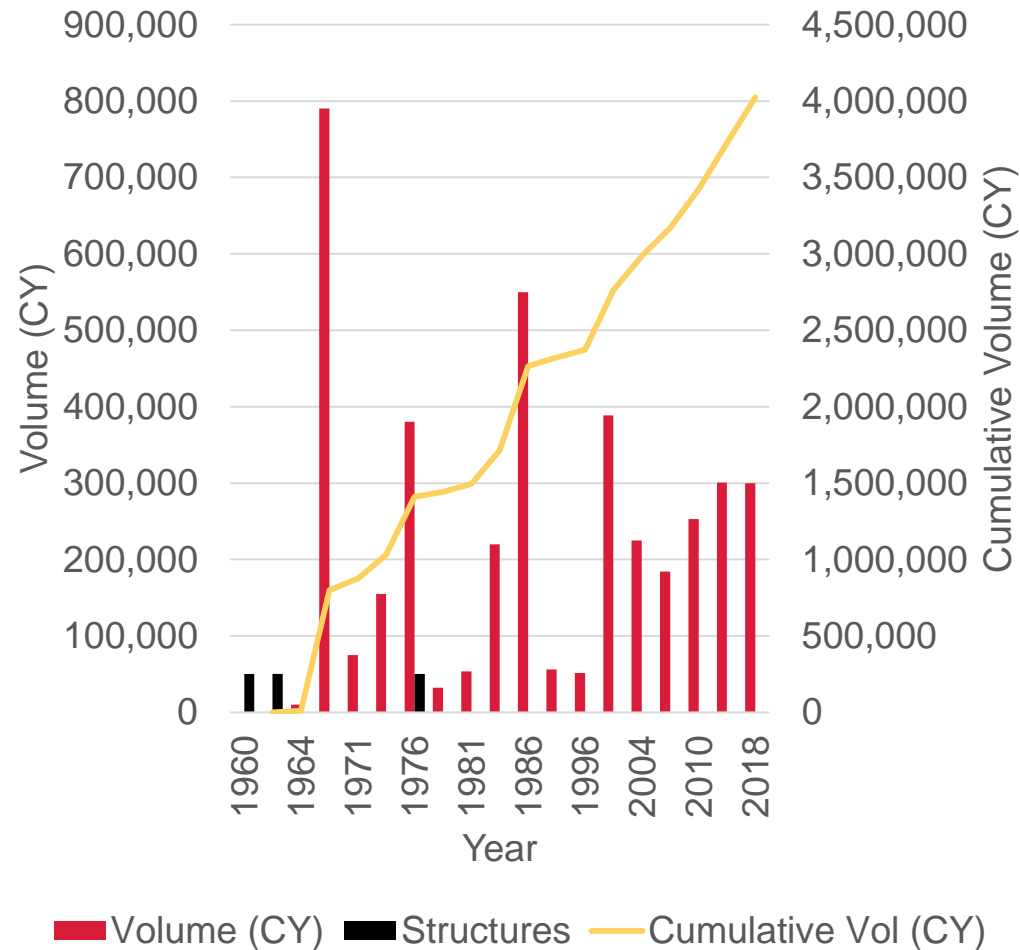




# PROJECT OVERVIEW

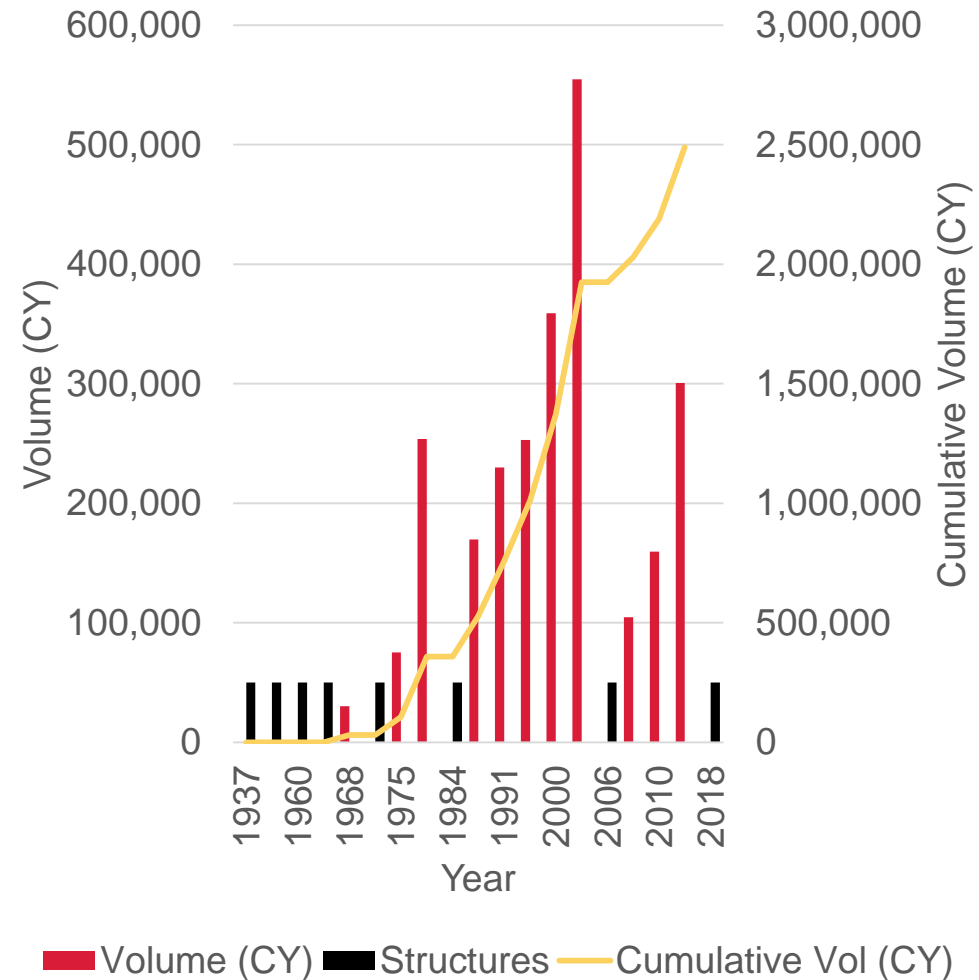
# Treasure Island Nourishments

- 4.1 ft (NAVD) berm elevation
- Constructed berm width 55-60 ft from ECL
- Initial construction 1969
- 14 nourishments



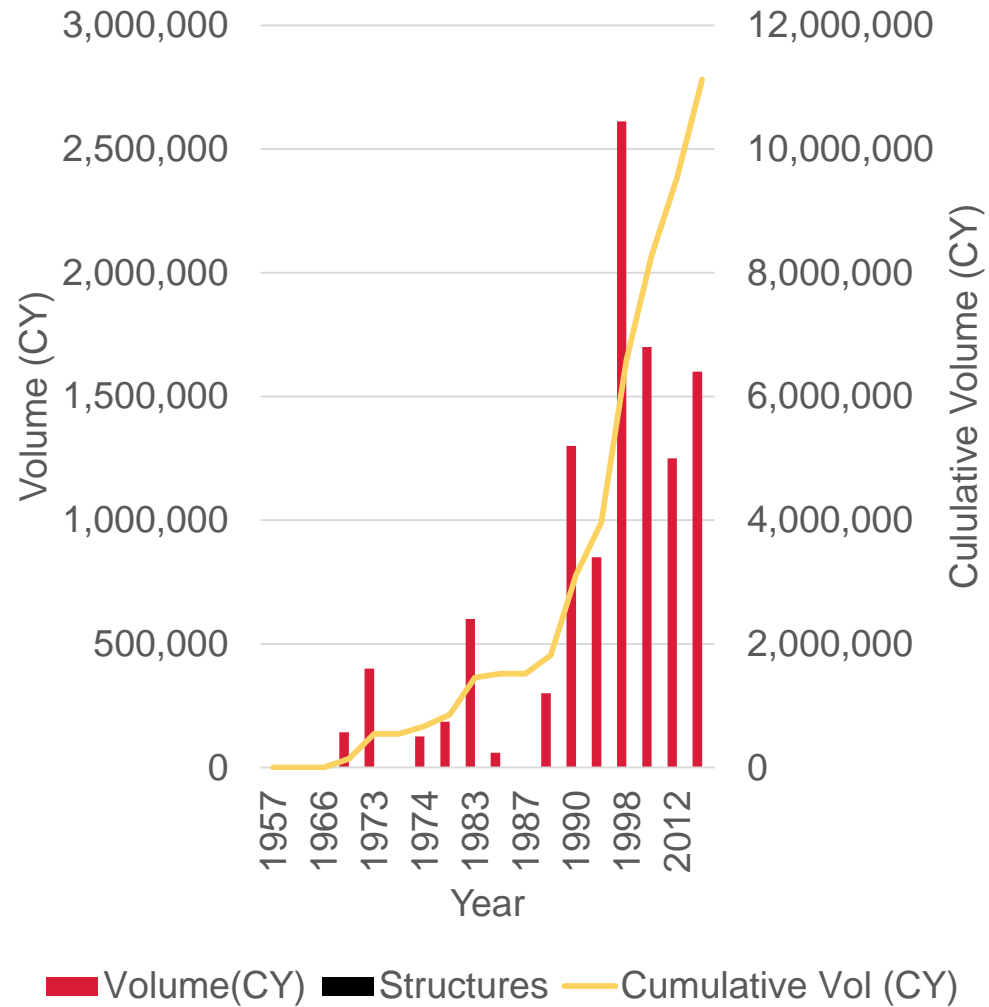
# Long Key Nourishments

- 4.1 ft (NAVD) berm elevation
- Constructed berm width 80-85 ft
- Initial construction 1980
- 8 nourishments



# Sand Key Nourishments

- 4.1 ft - 4.8 ft (NAVD) berm elevation
- Constructed berm width ~60-185 ft
- Initial construction 1988-1992
- 5 nourishments



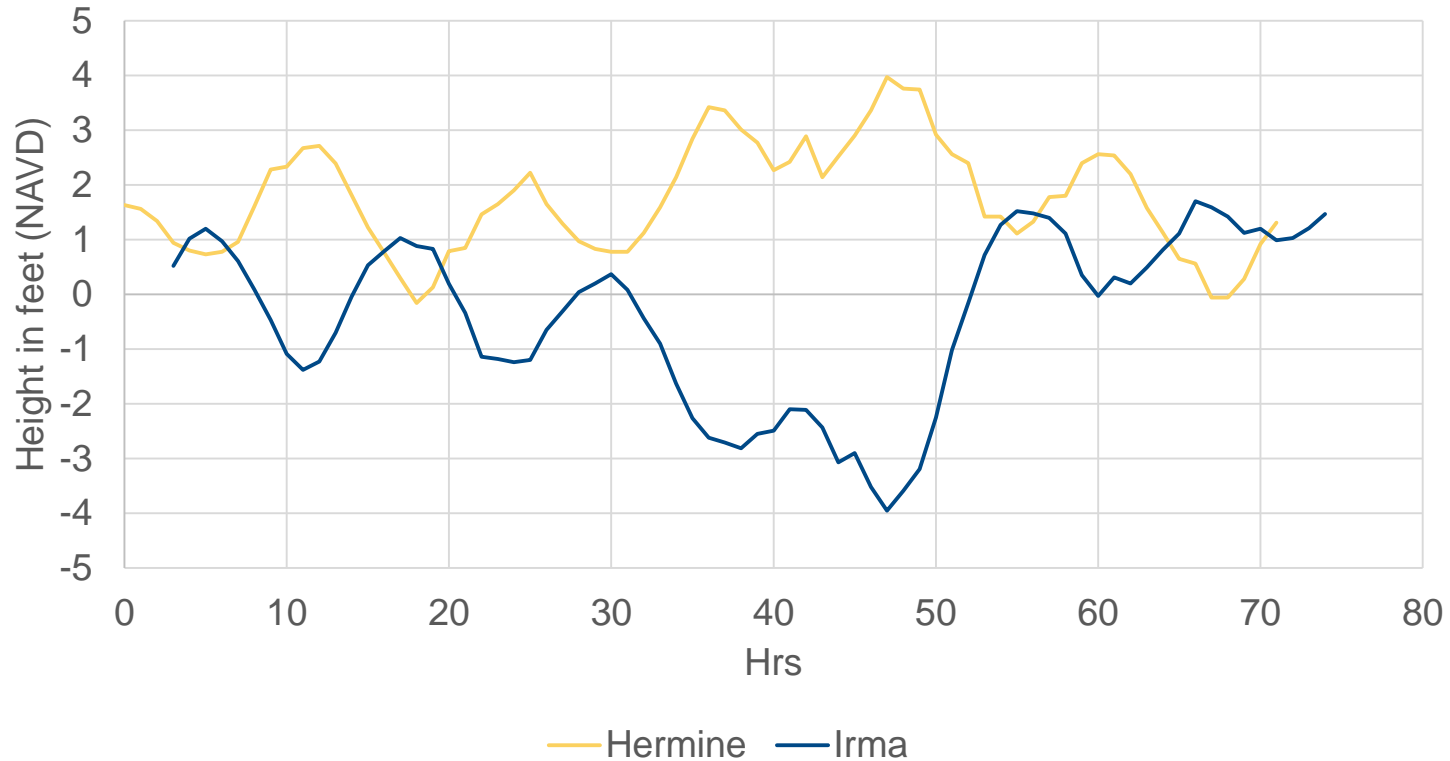
# Egmont Shoal Borrow Area

- Size ~1 square mile
- ~12 Million CY
- ~4000 ft from Ft DeSoto (Mullet Key)
- ~8 Miles to Upham
- ~25 miles to Clearwater





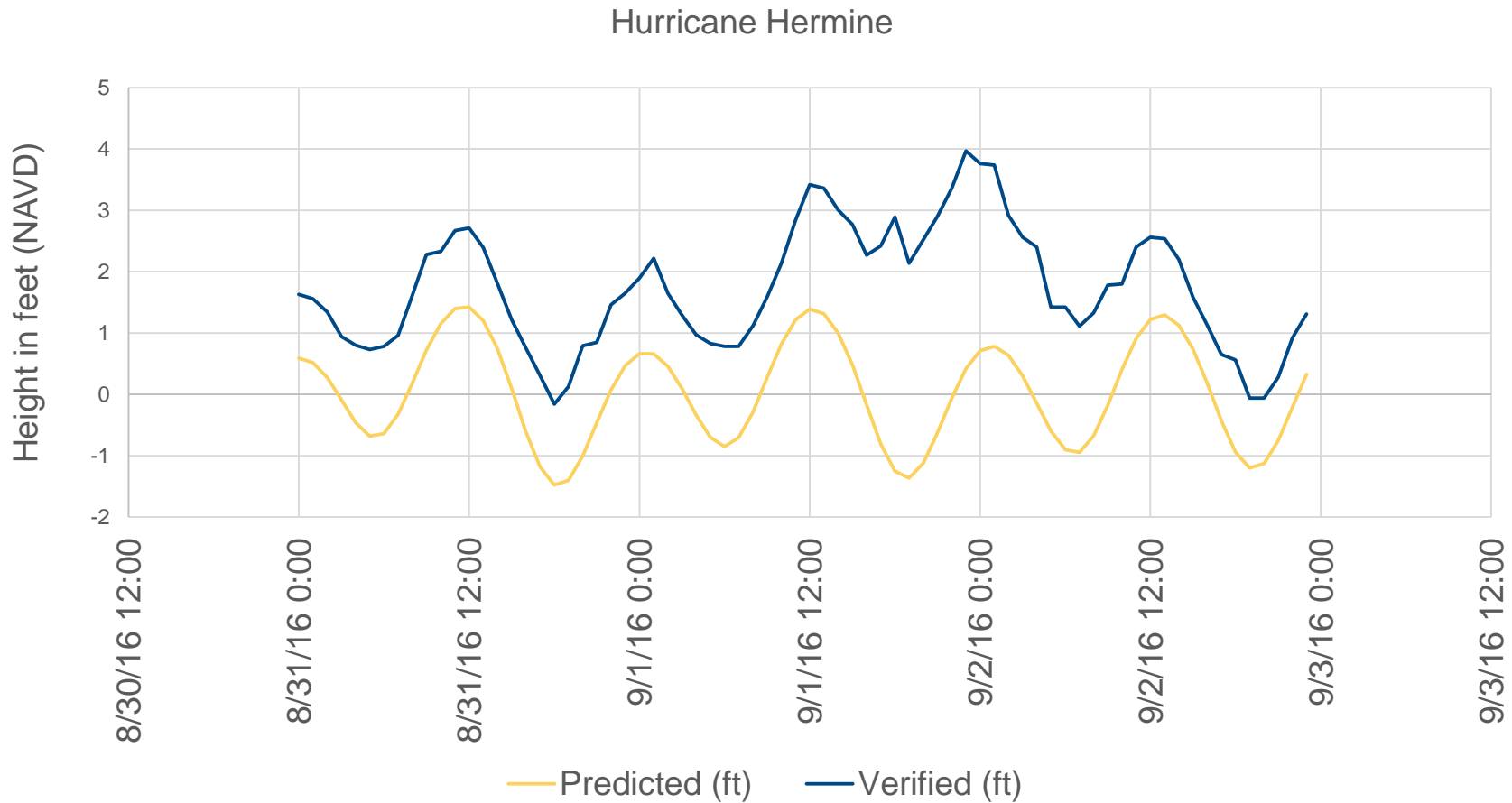
Verified Hourly Heights



Hurricanes Hermine and Irma

# A TALE OF TWO STORMS

# Hurricane Hermine



# Hermine Before

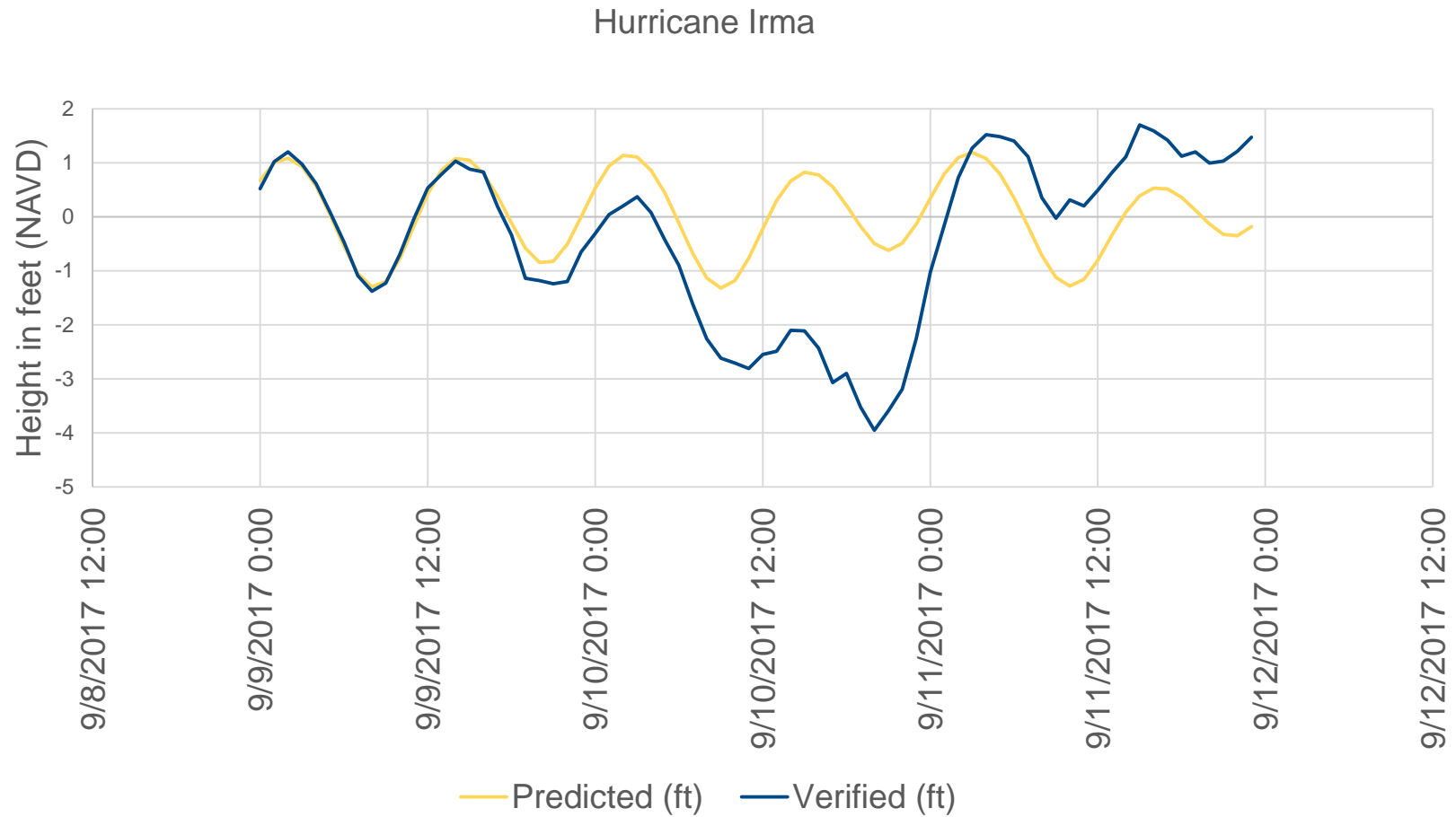
Date & Time: Tue Aug 30 13:46:18 EDT 2016  
Position: +027.93865° / -082.83982°  
Altitude: 13ft  
Datum: WGS-84  
Azimuth/Bearing: 209° S29W 3716mils (True)  
Elevation Angle: -00.0°  
Horizon Angle: +00.0°  
Zoom: 1X



# Hermine After



# Hurricane Irma



# Irma Before



Redington Shores R-98

# Irma After

Date & Time: Wed Sep 13 12:45:12 EDT 2017

Position: +027.83885° / -082.83915°

Altitude: 6ft

Datum: WGS-84

Azimuth/Bearing: 160° S20E 2844mils (True)

Elevation Angle: +00.1°

Horizon Angle: -00.1°

Zoom: 1X



Redington Shores R-98



Sand Key, Treasure Island

# 2018 NOURISHMENT



# Estimated Project Cost Breakdown

- FCCE for Sand Key
  - Hermine \$12.2 Million
  - Irma \$9.7 Million
- USACE
  - \$14.2 Million (SK)
  - \$3.8 Million (TI)
- County
  - \$4.2 Million (SK)
  - \$1.4 Million (TI)
- State
  - \$4.2 (SK)
  - \$1.4 (TI)
- Total
  - \$51.5



# Sunset Beach R-141A Before

- Constructed
  - 2018
- Project design
  - 4.1 ft berm
  - ~300,000 CY
- Started
  - April 24, 2018
- Completion
  - June 9, 2018



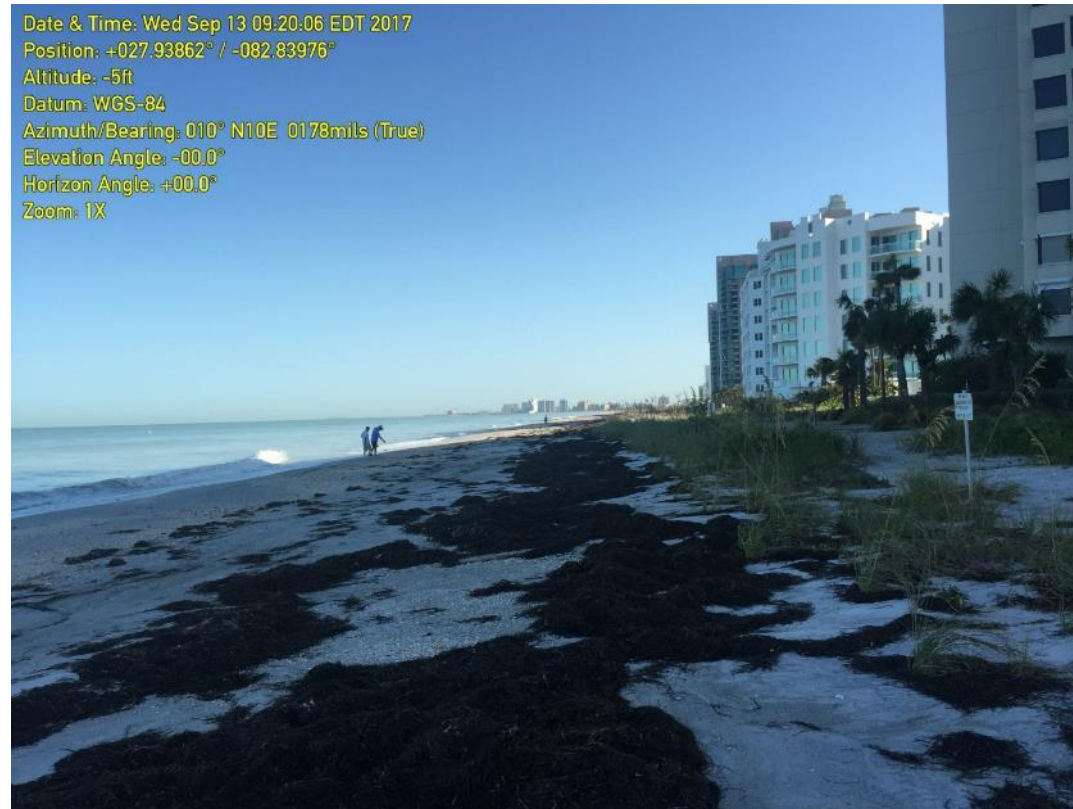
# Sunset Beach R-141A After

- Constructed
  - 2018
- Project design
  - 4.1 ft berm
  - ~300,000 CY
- Started
  - April 24, 2018
- Completion
  - June 9, 2018



# Sand Key South Segment R60A Before

- On going
  - 2018
- Project design
  - 4.1 ft berm
  - 1.3 M CY
- Started
  - July 27, 2018
- Completion
  - ~October 15, 2018



# Sand Key South Segment R60A Before

- On going
  - 2018
- Project design
  - 4.1 ft berm
  - 1.3 M CY
- Started
  - July 27, 2018
- Completion
  - ~October 15, 2018



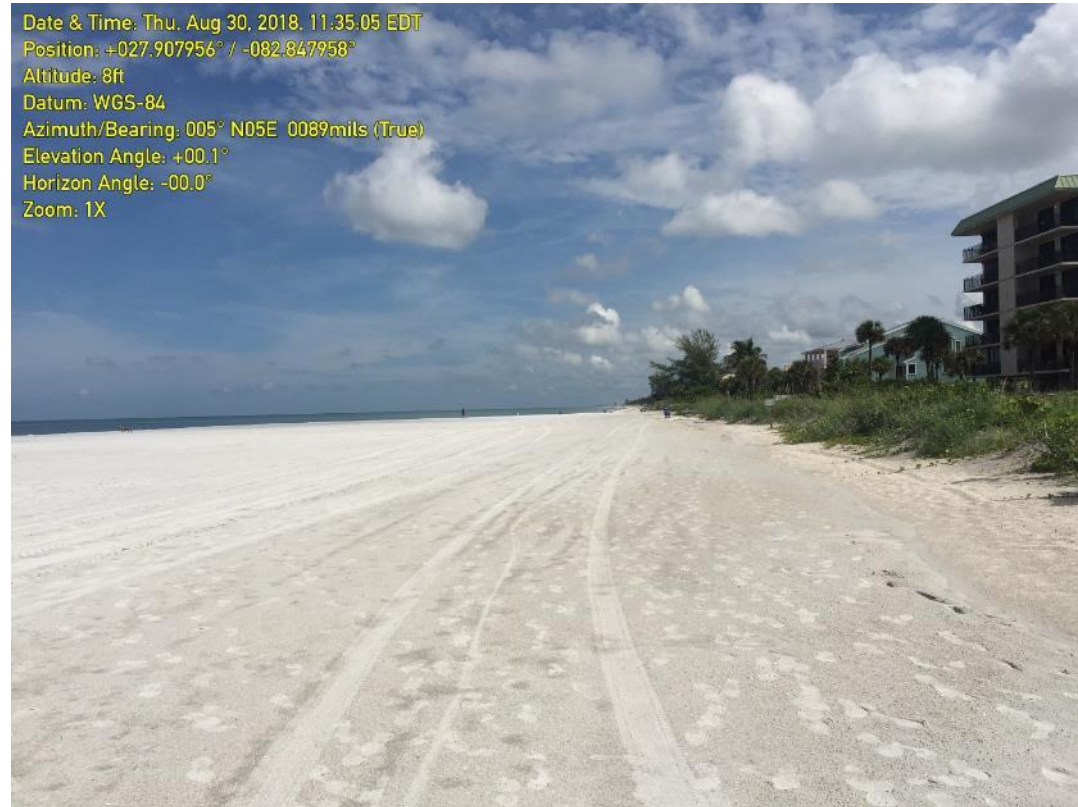
# Sand Key South Segment R72A Before

- On going
  - 2018
- Project design
  - 4.8 ft berm
  - 1.3 M CY
- Started
  - July 27, 2018
- Completion
  - ~October 15, 2018



# Sand Key South Segment R72A Before

- On going
  - 2018
- Project design
  - 4.8 ft berm
  - 1.3 M CY
- Started
  - July 27, 2018
- Completion
  - ~October 15, 2018



# 2018 Nourishment Location





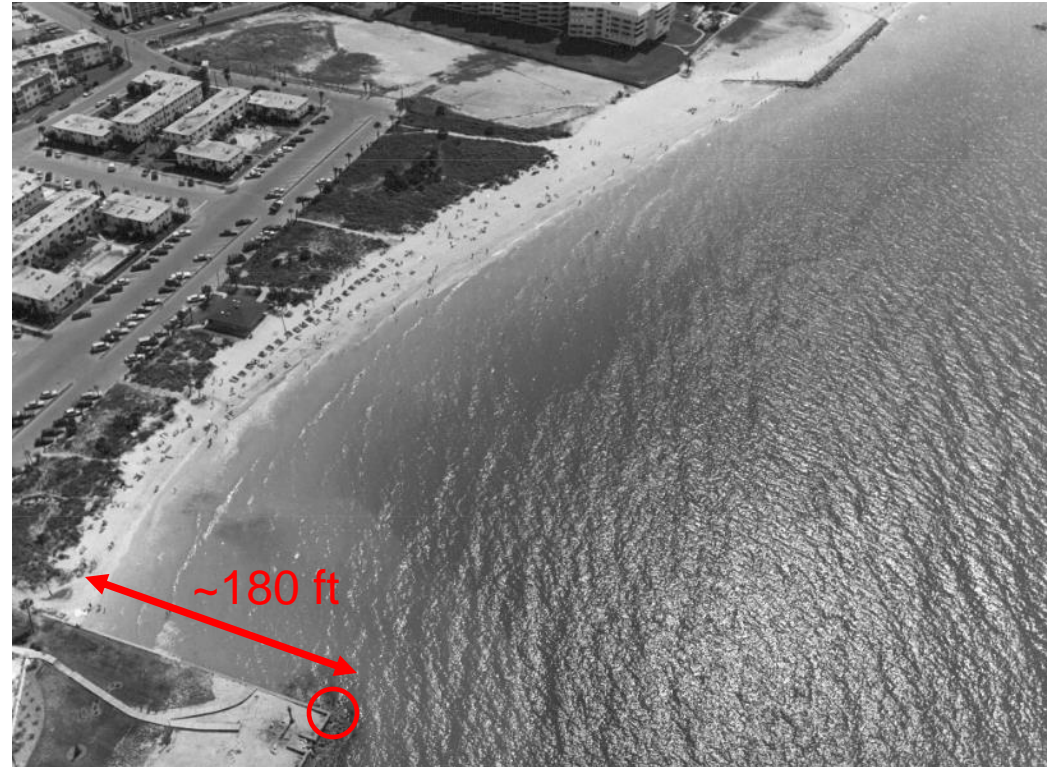


2004 Pre-Nourishment and Groin Construction

# UPHAM BEACH

# Upham March 29, 1989

- Nourished
  - 1980
  - 1986
- 1997-98 El Nino Winter
  - Erosion 1.4 ft/day\*



\* Elko, N. & Mann, D. (Spring 2007) Implementation of Geotextile T-Groins in Pinellas County, Florida. *Shore & Beach*, Vol. 75, No.2: pp 2

# Upham Pre-Construction

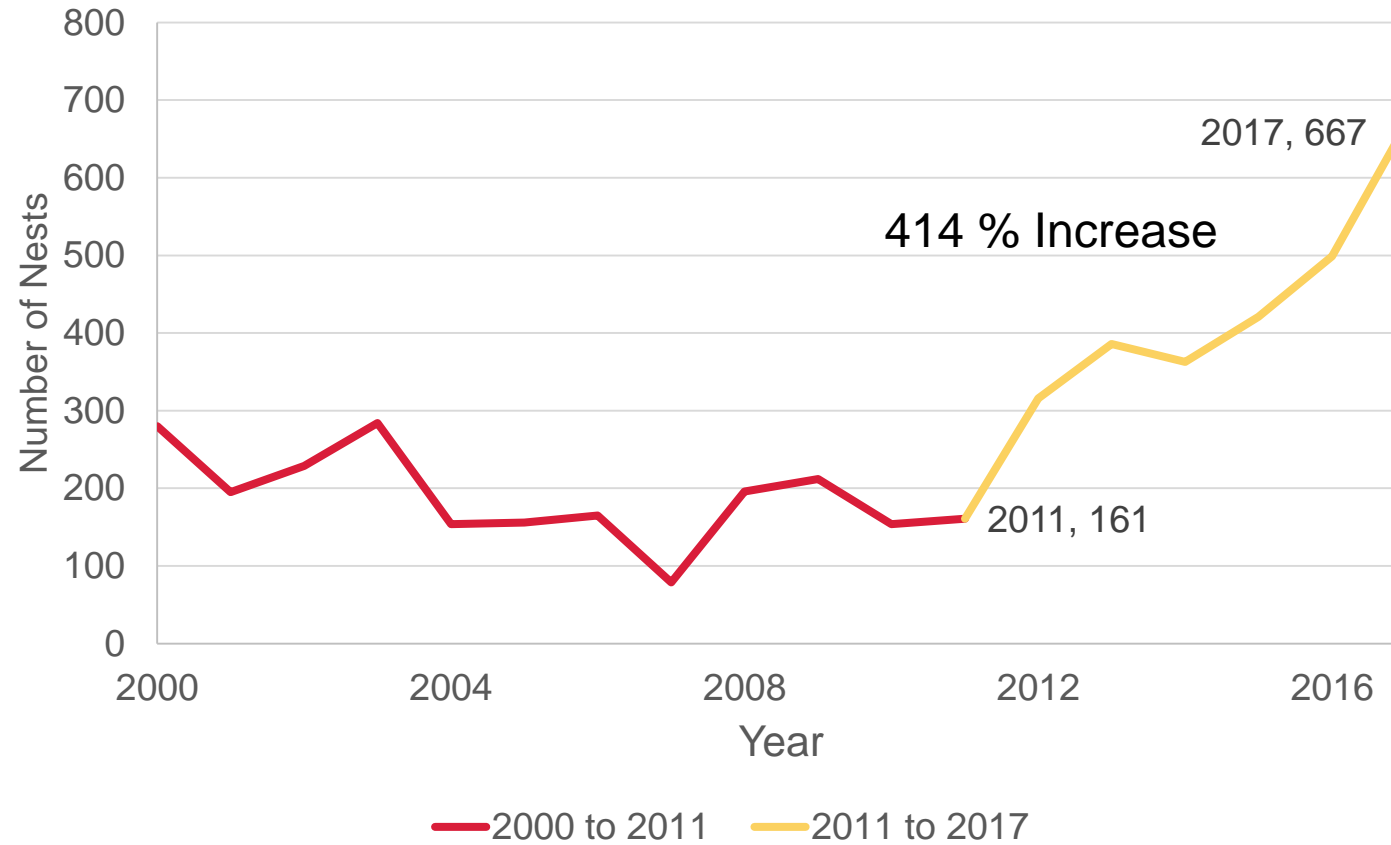
- Final permit
  - Submitted 1999
  - Issued 2003
- Field test
  - 5 temporary geotextile groins
- Project complete
  - 2006
- Bags repaired/removed
  - 2008, 2012, 2013, 2014



# Upham Post-Construction

- Permit
  - Submitted 2011
  - Issued 2012
- Constructed
  - 4 Permanent rock groins
- Substantial completion
  - 08/31/2018
- Armor stone
  - Head stone 18,195 tons
  - Stem stone 6,503 tons

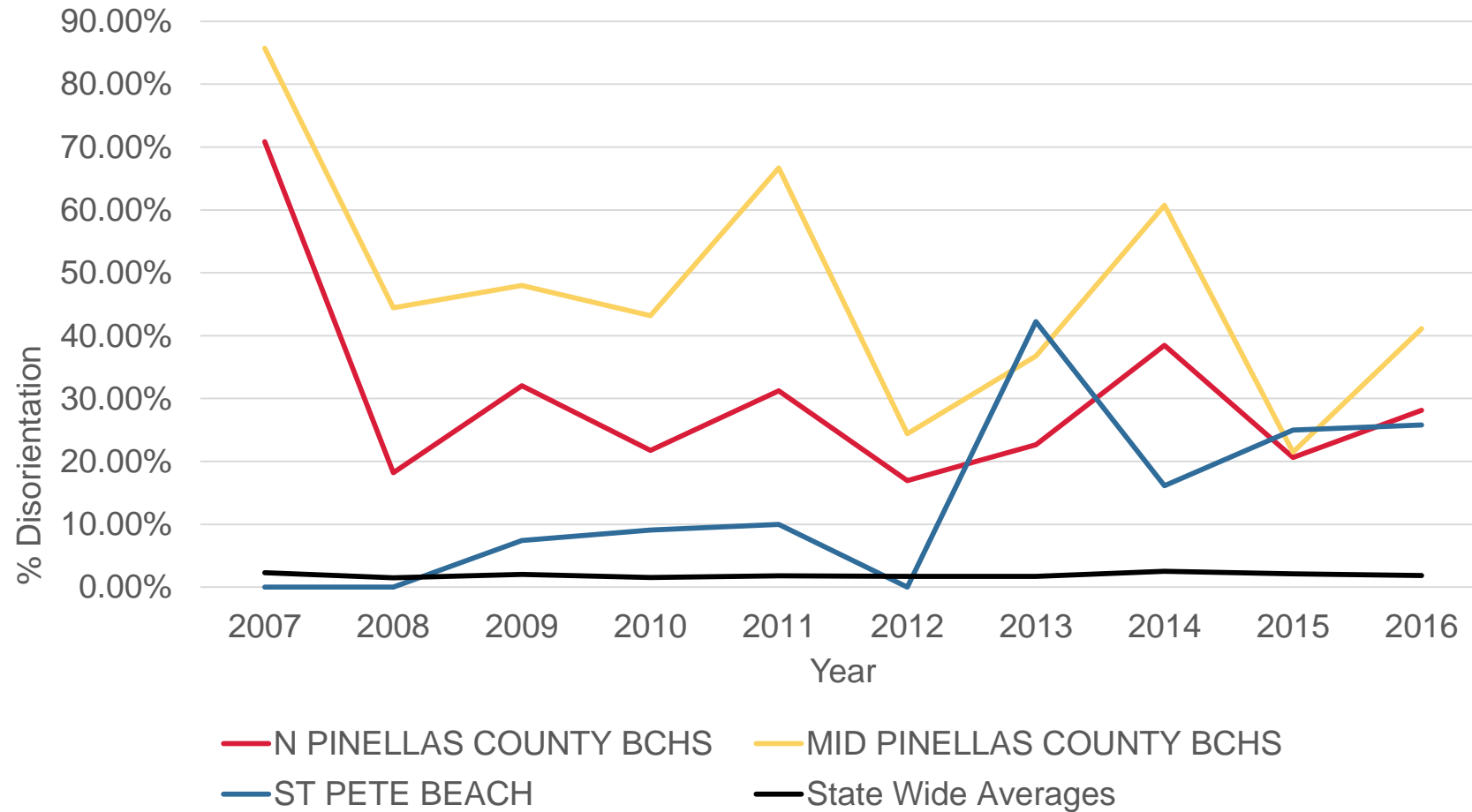





New Initiatives

# SEA TURTLE NESTING

# Sea Turtle Disorientation




# Sea Turtle Outreach



**PROTECT SEA TURTLES**

**After dark: close curtains, turn off outside lights, and remove obstacles such as toys and chairs from the beach.**

**During Nesting Season May 1 - Oct. 31**



### There's more you can do to help:

For thousands of years, sea turtles have laid their eggs on our beaches—in darkness. Reflected moonlight and starlight guided them safely back to their home. It's an instinct that has helped them survive. You can help them survive today's modern beach. It is crucial that occupants and managers of beachfront properties minimize the use of lighting that can be seen from the beach. Bright lights attract turtles inland where they often die of dehydration or are run over by motor vehicles. Property owners are required to shield, redirect and lower the intensity of indoor and outdoor lighting and use wildlife-friendly amber or red LED bulbs. Turn off all decorative and unnecessary lighting during sea turtle nesting season, May 1 to Oct. 31.

Visit [www.pinellascounty.org/seaturtles](http://www.pinellascounty.org/seaturtles) for more information.

For turtle-friendly beach lighting information, visit [www.myfwc.com/wildlifehabitats/managed/sea-turtles/lighting](http://www.myfwc.com/wildlifehabitats/managed/sea-turtles/lighting) or [www.myfwc.com/seaturtle](http://www.myfwc.com/seaturtle)

Adult turtles may not attempt to nest on a brightly-lit beach, or with many obstacles in their path.

Do not approach, disturb, shine a flashlight, or use flash photography on sea turtles.

Keep your curtains closed and use light-blocking window treatments.

Remove obstacles such as chairs, umbrellas, tents or boats on the beach at night which obstruct a sea turtle wanting to nest, she may go back to the water without nesting.

Fill in holes and collapse sand castles which may obstruct a sea turtle's path to and from the water.

Do not enter areas roped off for the protection of sea turtles or nesting birds.

Where permitted, minimize campfire use. Campfires will distract the turtles for miles or lure them into the fire.

Keep lighting low to the ground, shielded from the beach, and use low wattage, amber LED bulbs.



# Questions?

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