

# BAY COUNTY'S SUCCESSFUL BEACH MANAGEMENT PROGRAM, PANAMA CITY BEACH, FLORIDA

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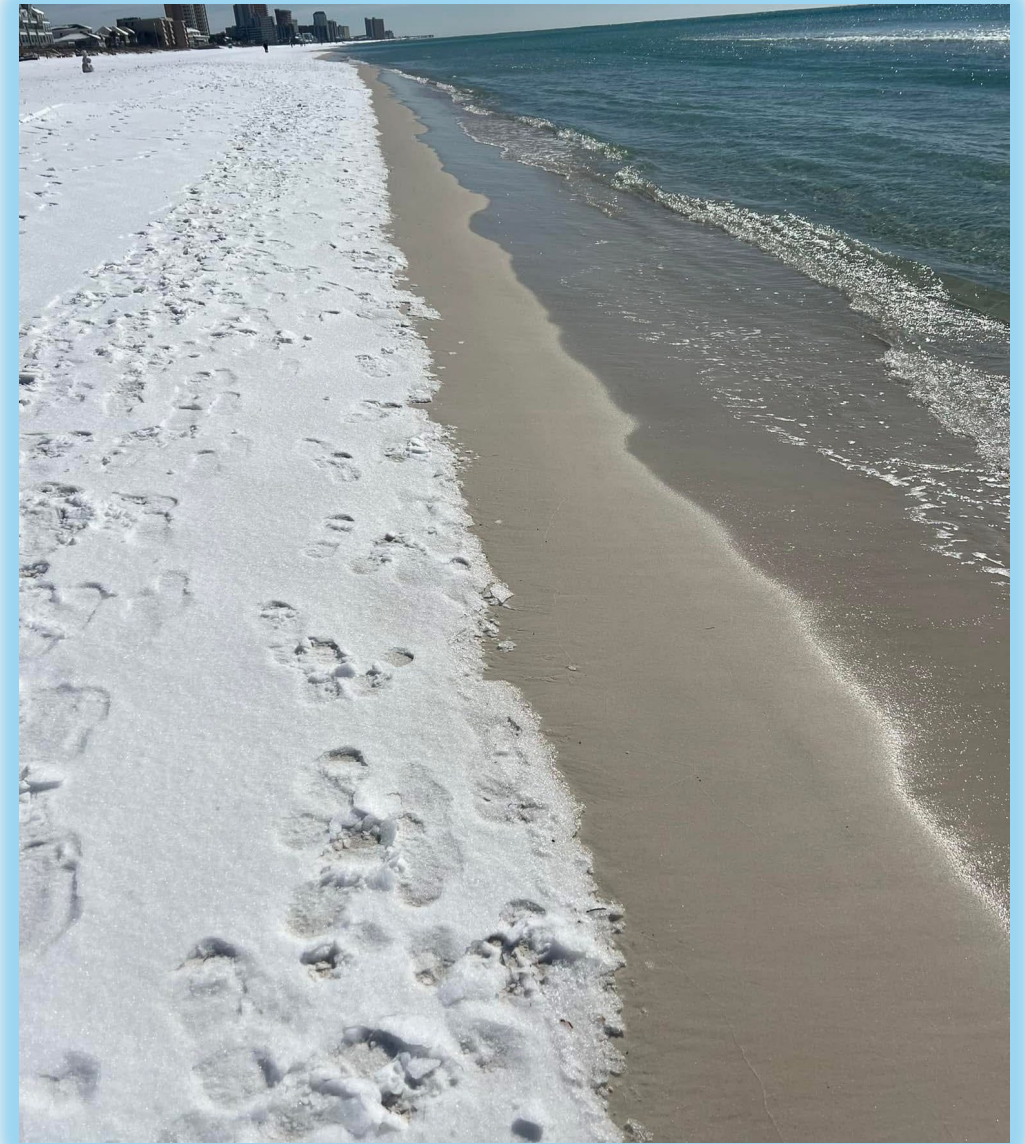
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**FSBPA 38<sup>th</sup> Annual National Conference on Beach Preservation Technology**  
**February 2025, Panama City Beach, Florida**

# OUTLINE

- Bay County Beaches Setting
- Bay County Beach Management Project History
  - Panama City Beaches Beach Erosion Control and Storm Damage Reduction Project
  - Carillon Beach/Pinnacle Port federal project addition
  - St. Andrews State Park initial restoration
  - Mexico Beach initial restoration
- Program Administration
- Current Challenges
- Monitoring and Performance Metrics





# BAY COUNTY





# PANAMA CITY BEACHES AND ST. ANDREWS STATE PARK





# PANAMA CITY BEACH NOW

2023: 20 million visitor days and \$3.09 BILLION in spending





# PANAMA CITY BEACHES PRE-INITIAL RESTORATION (MID 90S)





# PANAMA CITY BEACH FEDERAL PROJECT HISTORY

- 1976/79 – Initial Feasibility Study
- 1986 - Section 501(a) of WRDA 1986 authorized the Panama City Beaches, Florida Beach Erosion Control and Storm Damage Reduction Project for 50 years
- 1995 - Hurricane Opal
- 1996 - USACE approved Final GRR
- 1996 - Section 318 of WRDA 1996, Public Law 104-303 authorized the project as a Section 206 federal reimbursable project
- 1998/1999 - Massive initial restoration placed nearly 10 million cy of sand on the 17.5-mile project area (16.5-mile federal)

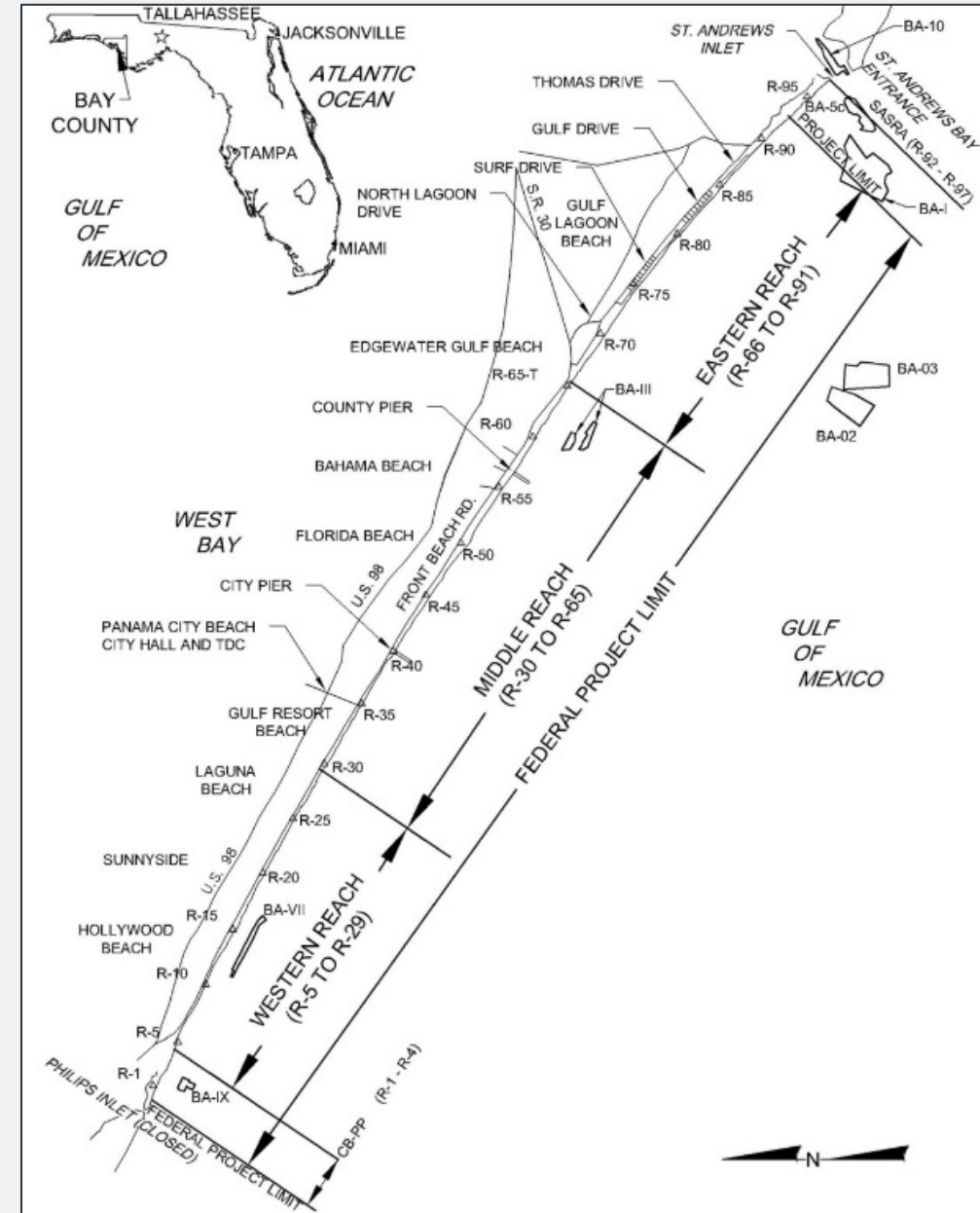
# WEST END – PINNACLE PORT





# PROJECT HISTORY

Construction Date	Location	Placed Volume (cy)	Administrator	Contractor
1998/1999	R-4 to R-91 (16.5 mi)	9,100,000	TDC	GLDD
2005/2006	R-1 to R-91 (17.5 mi)	3,300,000	USACE/TDC	Weeks Marine
2011	R-1 to R-29 R-85 to R-92 (8 mi)	1,370,000	USACE	GLDD
2017	R-OC to R-3 R-34 to R-40 R-52 to R-57 R-87 to R-91 (4 mi)	950,000	TDC	Weeks Marine
2021/2022	R-1 to R-41 R-62 to R-91 (13.7 mi)	2,300,000	USACE	GLDD



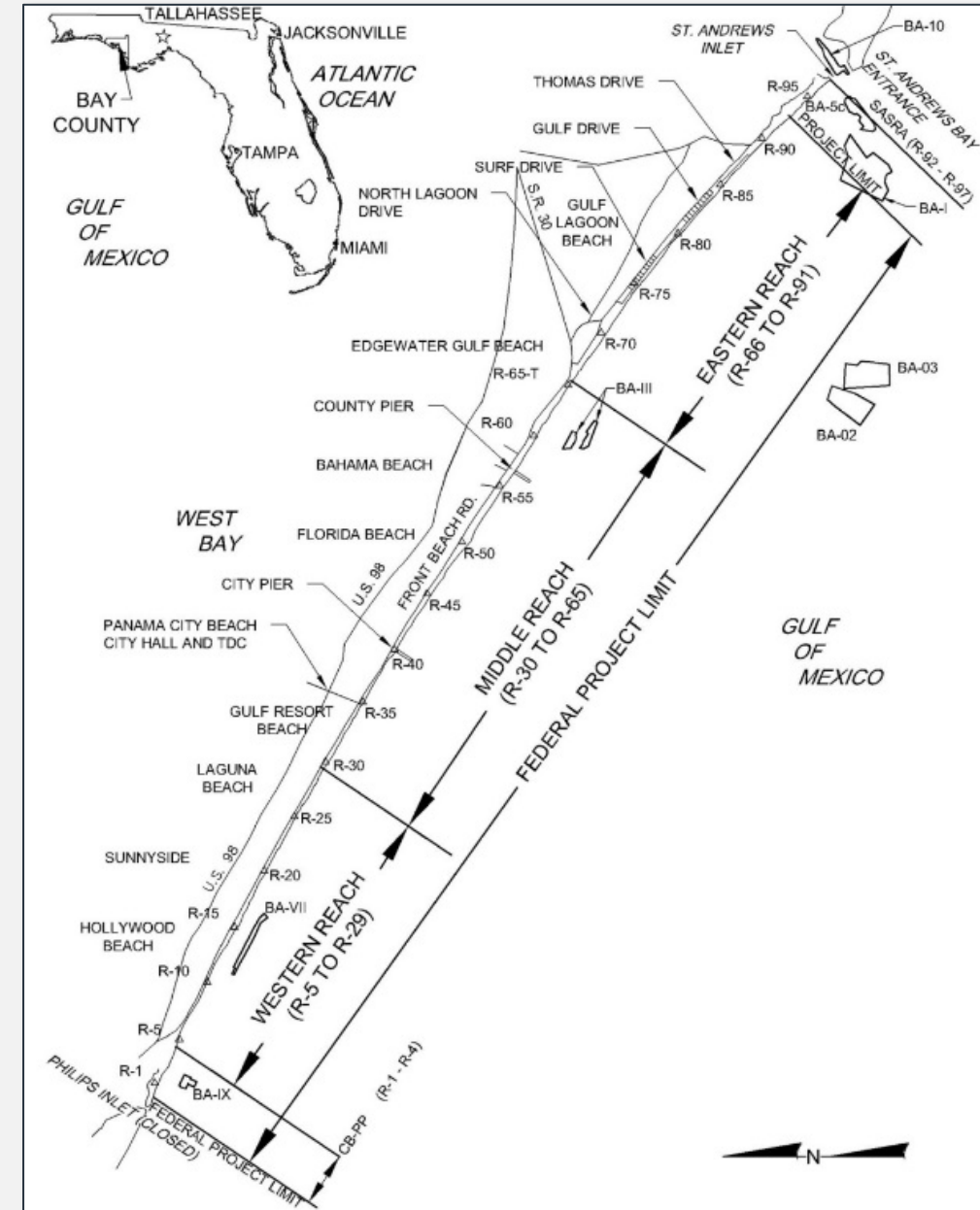
# 2017 AND FIRST USE OF THE EXTRACTOR





# PROJECT HISTORY

Construction Date	Location	Placed Volume (cy)	Administrator	Contractor
1998/1999	R-4 to R-91 (16.5 mi)	9,100,000	TDC	GLDD
2005/2006	R-1 to R-91 (17.5 mi)	3,300,000	USACE/TDC	Weeks Marine
2011	R-1 to R-29 R-85 to R-92 (8 mi)	1,370,000	USACE	GLDD
2017	R-OC to R-3 R-34 to R-40 R-52 to R-57 R-87 to R-91 (4 mi)	950,000	TDC	Weeks Marine
2021/2022	R-1 to R-41 R-62 to R-91 (13.7 mi)	2,300,000	USACE	GLDD



# ST. ANDREWS STATE PARK



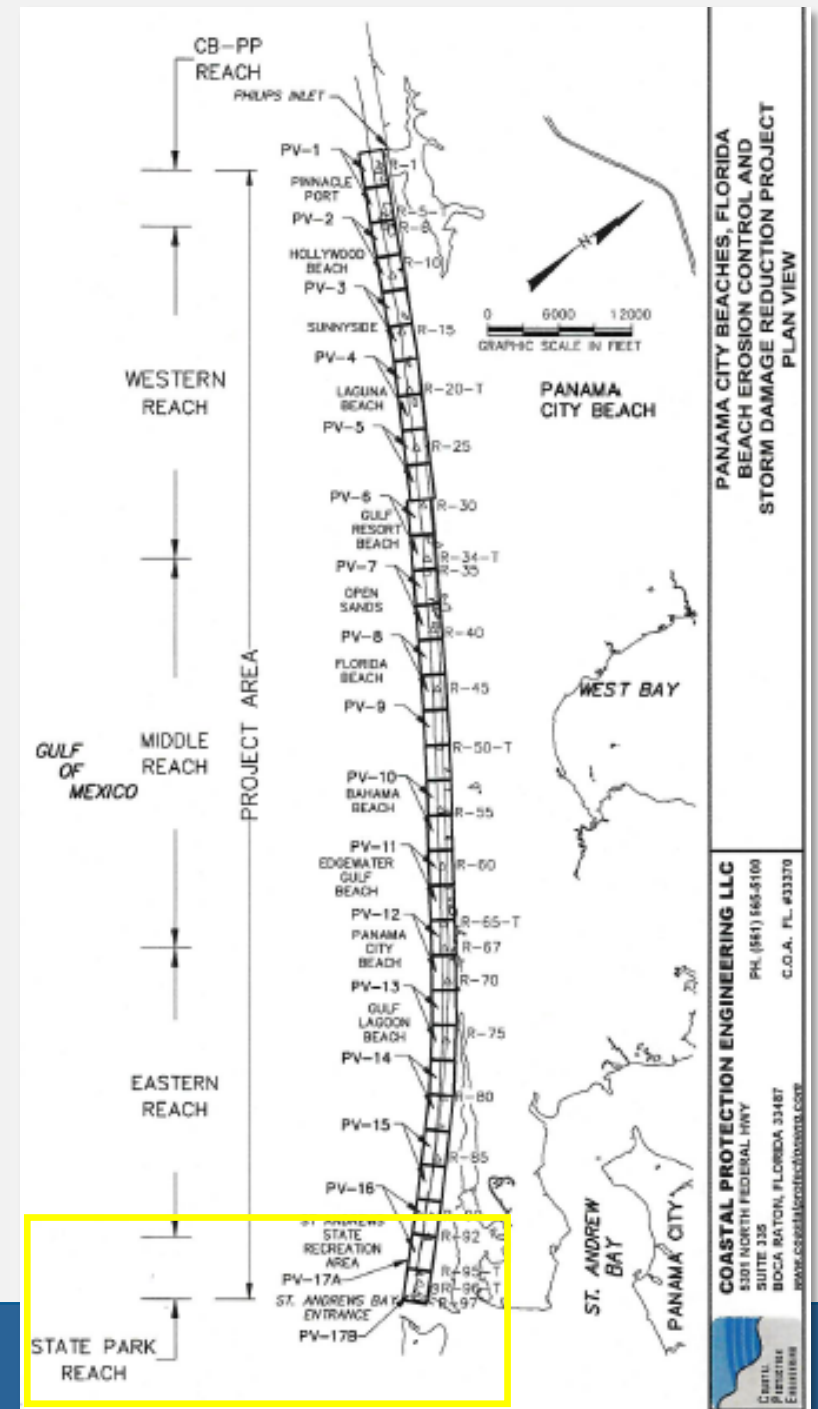


# 2021-22 PANAMA CITY BEACHES RENOURISHMENT



# PROJECT HISTORY

Construction Date	Location	Placed Volume (cy)	Administrator	Contractor
1998/1999	R-4 to R-91 (16.5 mi)	9,100,000	TDC	GLDD
2005/2006	R-1 to R-91 (17.5 mi)	3,300,000	USACE/TDC	Weeks Marine
2011	R-1 to R-29 R-85 to R-92	1,370,000	USACE	GLDD
2017	R-OC to R-3 R-34 to R-40 R-52 to R-57 R-87 to R-91	950,000	TDC	Weeks Marine
2021/2022	R-1 to R-41 R-62 to R-91	2,300,000	USACE	GLDD
2023	R-92 to R-97 (1.1 mi)	800,422	USACE/TDC	Weeks Marine



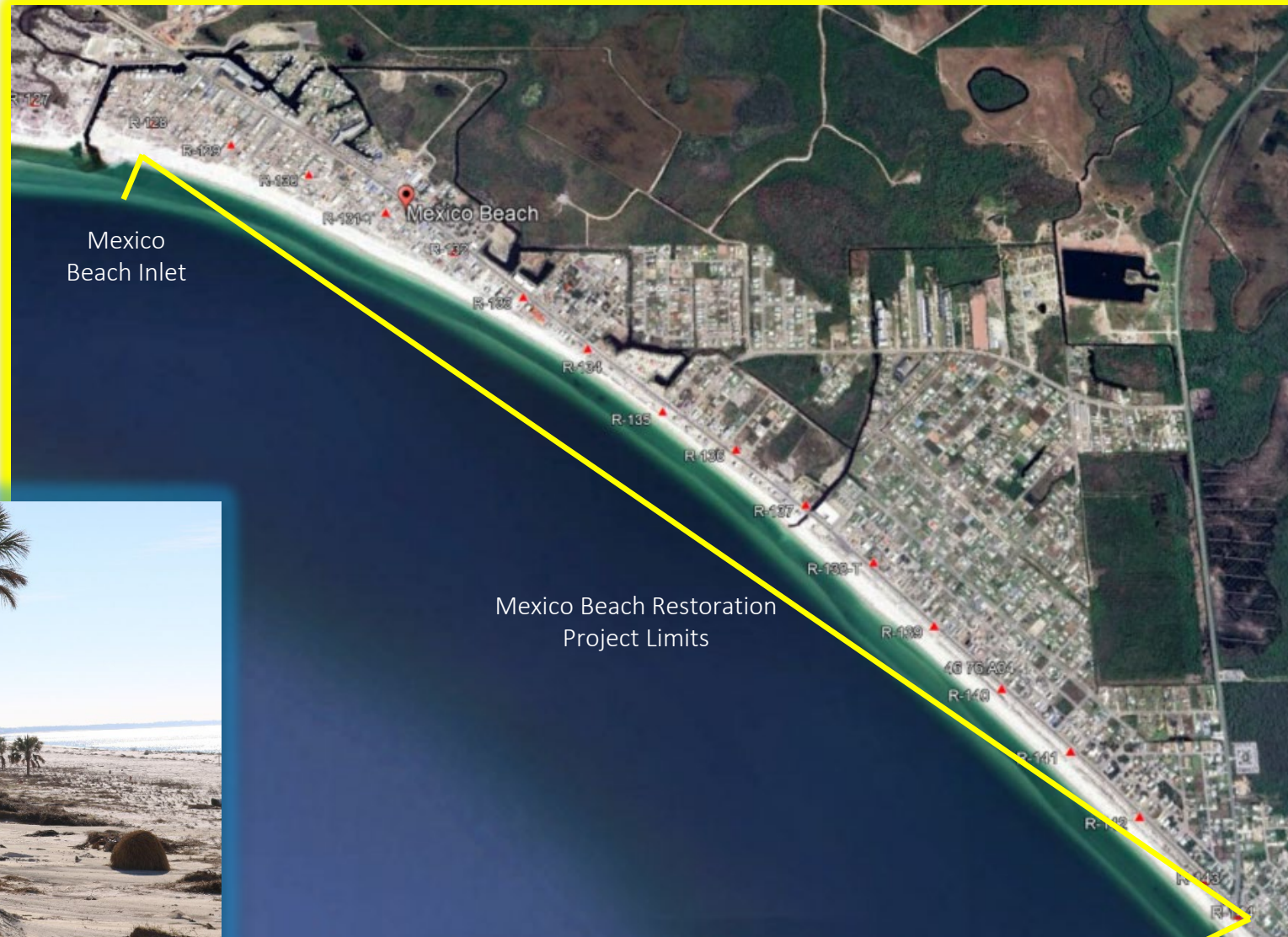


# 2023 ST. ANDREWS STATE PARK NOURISHMENT





# MEXICO BEACH RESTORATION PROJECT





# BEACH MANAGEMENT PROGRAM

- Program is managed by the Bay County Tourist Development Council on behalf of Bay County
- 9-member Bay County TDC Board of Directors
- Two step process to approve/execute beach renourishment related items and contracts: Bay County TDC, Bay County Board of County Commissioners (BOCC)
- Coastal manager and two Bay County master services coastal engineering contracts – CPE and MRD
- Local share is paid for with the “third cent” bed tax

# THE LOCAL SHARE: THE THIRD CENT BED TAX

- Ordinance No. 97-01 established the “third cent” bed tax
- “proceeds.....shall be used exclusively for construction and maintenance of a beach nourishment program....”
- Upon recommendation by the Bay County TDC, BOCC passed and adopted in January 1997 with effective date of March 1997
- Panama City Beaches underwent major changes in early to mid-2000s
- Third cent VALUE per year
  - 2004: \$1.7 MILLION
  - 2017: \$4.2 MILLION
  - 2025: **\$7.0 MILLION**





# WHY IS THIS PROGRAM SUCCESSFUL

- Secure, healthy local funding source – the “third cent”
- Coastal management team in place
- Borrow areas investigated early on
- State and federal permits “on the shelf”
- Historically maximized federal authorizations, participation, and funding, as well as state funding
- Can respond rapidly to storm-impacts
- Forward-thinking Board of Directors and County Commission that have advanced the program across Bay County’s shoreline over the last 20 years

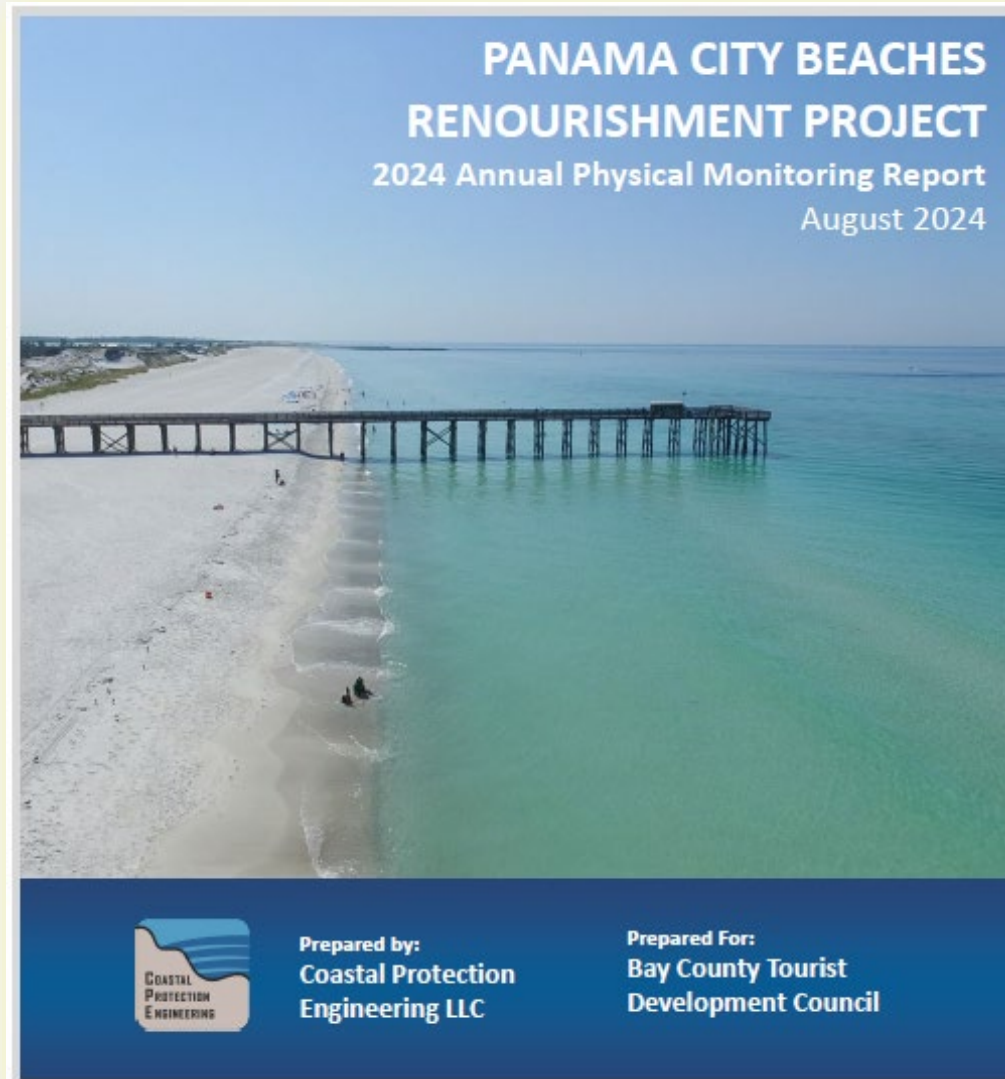
# WHAT ARE THE CURRENT CHALLENGES

- SHELL, shell, shell
- Running a reverse truck haul with shell in conjunction with regular dredge and sand placement
- Federal permitting process timeline





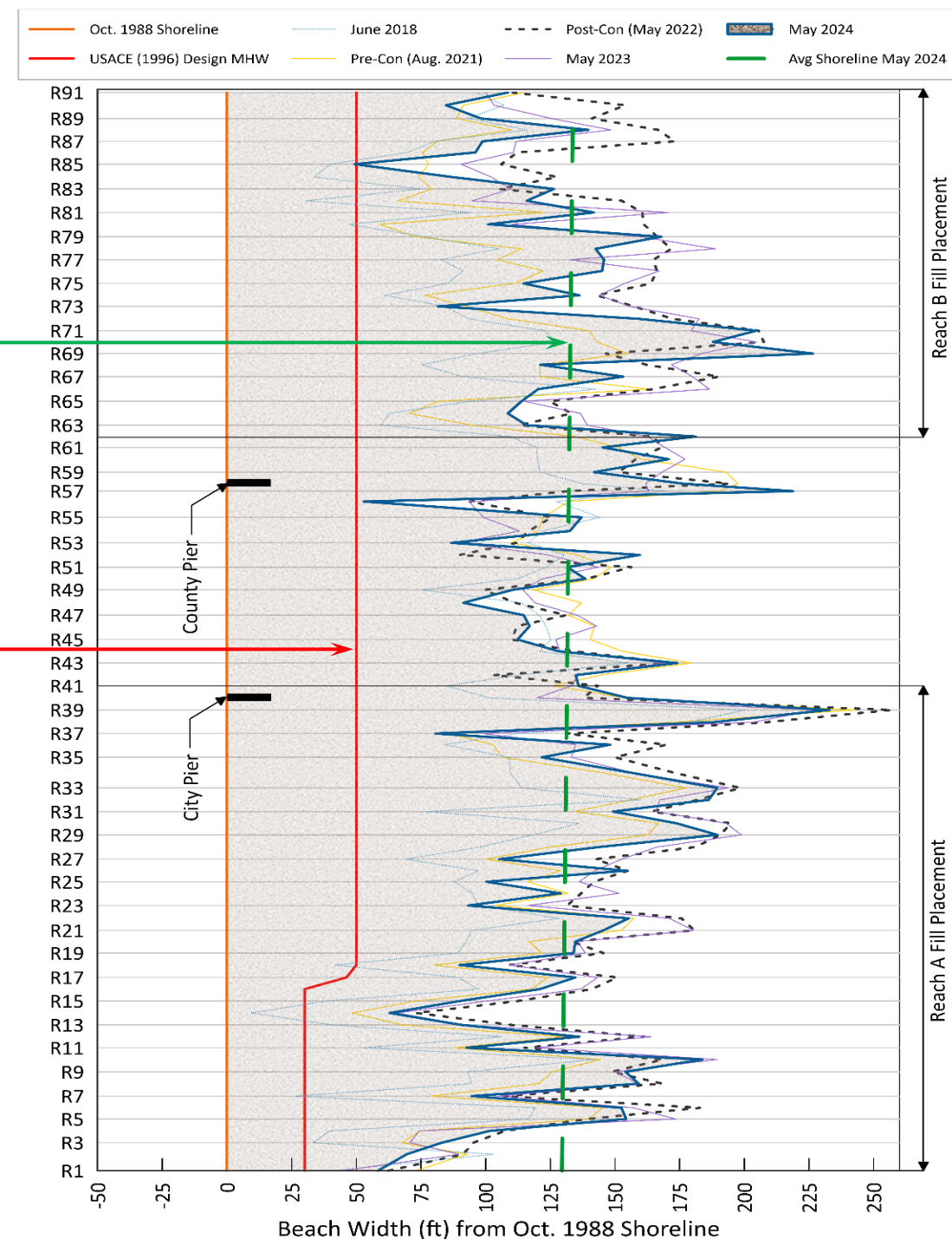
# COMPREHENSIVE MONITORING PROGRAM



- Annual monitoring surveys since 1997
- 100 profiles in Panama City Beach
- Walton County (4) and Shell Island (33)
- Over 25 miles of shoreline
- Physical monitoring reports
- Individual project tracking
- Long-term project performance

# PROJECT PERFORMANCE

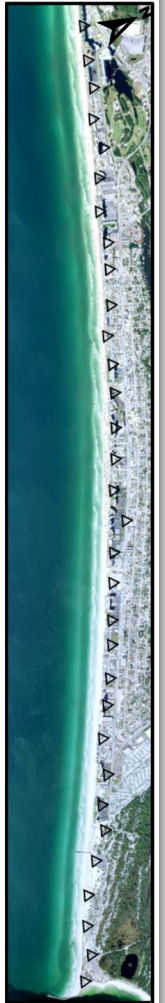
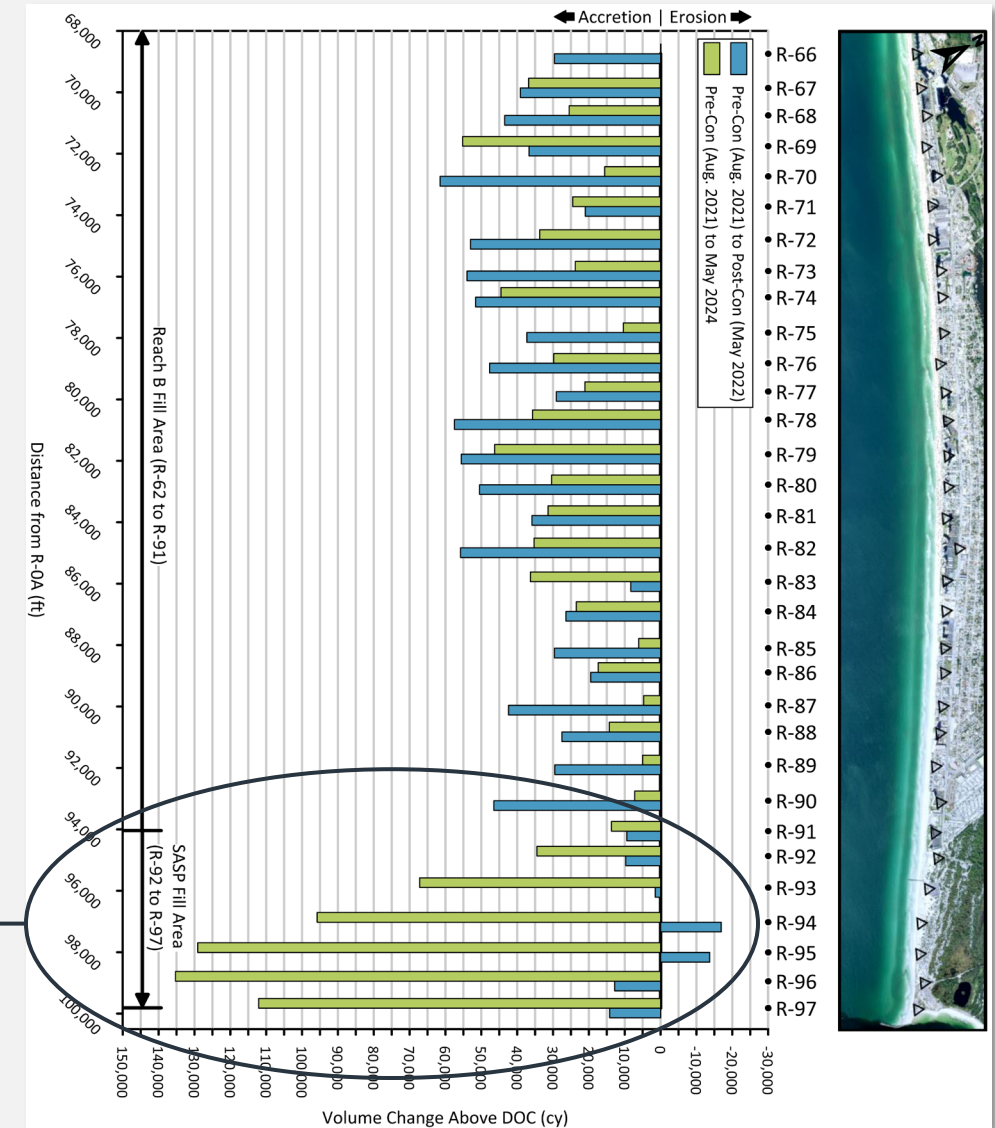
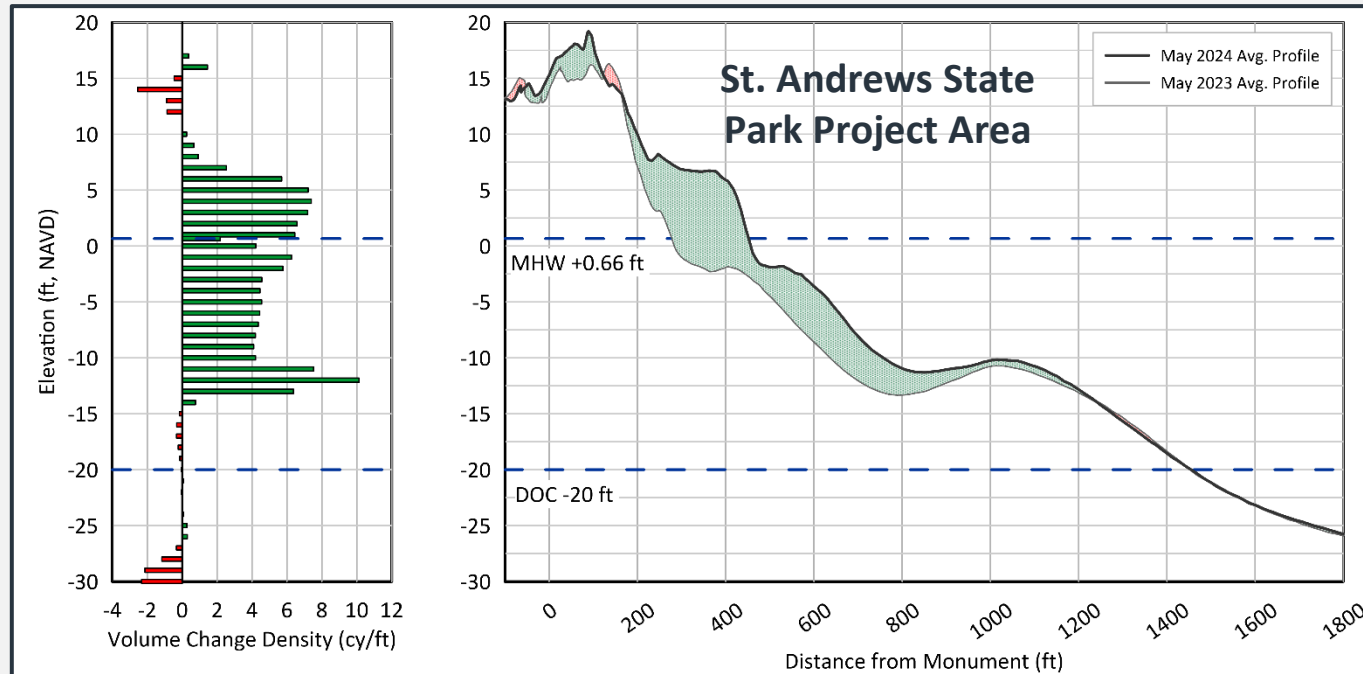
- **How much wider is the beach?**
  - Average shoreline position
  - 130 ft wider than 1988 condition
- **Has the design been compromised?**
  - Federally authorized design
  - 50/30 ft translated width
  - Hotspot monitoring and trends
- **When will we need to renourish?**
  - Future erosion projections
  - Advanced fill remaining
  - Time until renourishment





# VOLUME TRACKING

- Annual changes and multi-year trends
- Alongshore and cross-shore processes
- Individual and average profile analyses



# METRICS OF A SUCCESSFUL PROGRAM

- **Total volume placed (1998-2023):**
  - 17,800,000 cubic yards of sand over 25 years
  - 960,000 cy of fill per mile of beach (180 cy/lf)
  - 700,000 cubic yards per year (2-3 times loss rate)
- **Total volume remaining (May 2024):**
  - 10.4 million cubic yards compared to 1997 condition
  - 61% of the sand remains within the project area
- **Mature programs still require maintenance:**
  - Infusing sand to supplement/maintain project (TDC projects, St. Andrews State Park)
  - Storm response remains critical







**Thank you!**

**Thanks!**

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