



# **Flagler County's Coastal Erosion and Management**

Executive Summary

February 5, 2025



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## **Introduction:**

Flagler County, Florida, has experienced gradual coastal erosion for decades, exacerbated by Hurricane Matthew in 2016. This event highlighted the urgent need for a comprehensive beach management plan, which was previously delayed due to the slow pace of erosion and limited perceived threats.

## **Background (Reasons for the Delayed Beach Management Plan):**

- Pre-Matthew Erosion:
  - Gradual erosion due to natural processes (waves, tides, storms).
  - Limited immediate threats to infrastructure.
  - Focus on other priorities, limited resources for coastal management.
- Hurricane Matthew's Impact:
  - Severe dune erosion and infrastructure damage.
  - Exacerbated by subsequent storms (Irma, Dorian, Nicole).
  - 8.1 miles of critically eroded coastline persist.
- Mitigation Efforts:
  - Beach and dune restoration projects (sand replenishment, dune planting).
  - Seawall and revetment construction in some areas.
  - Collaboration with state and federal agencies for funding and expertise.

## **Coastal Storm Risk Management:**

- CSRМ Assessment:
  - Evaluates storm risks (hurricanes, surges, sea-level rise).
  - Identifies vulnerable areas and recommends mitigation strategies.
  - Collaborates with the U.S. Army Corps of Engineers (USACE).
- Beach Management Study:
  - Analyzes erosion rates, sediment movement, and dune health.

- Provides data for developing effective beach management strategies.
- Beach Management Plan:
  - Integrates findings from studies and community input.
  - Outlines strategies for beach nourishment, dune restoration, and shoreline protection.
  - Focuses on restoring and maintaining a healthy beach and dune system.
  - Passed by the Board of County Commissioners in October 2023.

## **The Importance of Beach Nourishment: Benefits and Value**

Beach nourishment is a vital coastal management strategy that involves adding sand to eroding beaches to restore their width, protect infrastructure, and maintain ecological balance. It is particularly important for areas like Flagler County, where erosion poses significant risks to both the environment and the local economy.

### **Benefits of Beach Nourishment:**

- Shoreline Protection: Reduces storm surge impact, minimizes infrastructure damage.
- Environmental Benefits: Habitat restoration, coastal ecosystem stability.
- Economic Value: Supports tourism, preserves property values.
- Climate Change Resilience: Adapts to sea-level rise and increased storm intensity.
- Community Well-Being: Public access, recreation, and quality of life.

### **Value of Beach Nourishment in Flagler County:**

- Supports tourism-dependent economy.
- Protects critical infrastructure (State Road A1A).
- Enhances quality of life and community identity.

### Community-Wide Benefits:

- Storm surge protection for properties inland.
- Recreational value for residents (outdoor activities, community events).
- Economic benefits (tourism, property values, reduced insurance).

### Potential Financial Impact of Loss of Revenue:

- Decline in property values and tourism revenue.
- Reduced tax revenue (property, sales, TDT).
  - **Impact on Taxable Property Values:**
    - According to information obtained from the Flagler County Property Appraiser's Office, Flagler County's gross taxable property value is approximately \$16.478 billion, with about \$4 billion coming from property on the barrier island of which approximately \$2.9 billion is from the unincorporated area.
    - If Flagler County were to experience a reduction in property values due to the potential loss of properties on the barrier island, this would decrease property tax revenues, which are essential for funding local services such as education, infrastructure, and public safety. To compensate for reduced revenues, the county might need to increase property tax rates or cut public services, both of which could adversely affect residents' quality of life.

Entity	Taxable Value	Millage Rate	25% Reduction	50% Reduction
Flagler School Board	\$4,057,906,827	5.3650	\$5,442,667	\$10,885,335
Flagler County	\$4,057,906,827	8.2343	\$8,353,505	\$16,707,011
Flagler Beach	\$1,012,847,415	5.4500	\$1,380,004	\$2,760,009
Beverly Beach	\$119,348,157	1.0800	\$32,224	\$64,448
Marineland	\$10,019,108	10.000	\$25,048	\$50,095

- **Impact on Tourism-Related Revenues:**
  - Tourism is a vital component of Flagler County's economy. In 2024, the county welcomed approximately 948,600 visitors, resulting in \$617.7 million in direct spending. This spending supported **\$890.9 million in economic impact** in the Flagler County, 11,490 direct tourism jobs, supporting \$266.67 in wages and salaries, and

generated \$4.32 million in Tourist Development Tax (TDT) revenue. Visitors to Flagler County saved residents \$443 in taxes per household in 2024.

- A decline in tourism would lead to reduced business income, job losses, and decreased sales tax and TDT revenues. This reduction could hinder the county's ability to fund tourism promotion and maintain attractions, creating a negative feedback loop that further diminishes tourism appeal.

- Strain on county budget, potential service cuts and tax increases.

## The Value of Coastal Living and the Role of Public Investment in Beach Management

Living in a coastal community such as Flagler County offers unparalleled benefits: stunning natural beauty, vibrant recreational opportunities, and a strong connection to the environment. These attributes contribute to a high quality of life and attract residents, visitors, and businesses, making coastal communities vital economic and cultural hubs.

However, preserving these benefits requires proactive investment in beach and dune systems. Public funding for initial reconstruction following storms, as well as ongoing monitoring, maintenance, and renourishment, is essential to protect coastal areas from erosion, storm surges, and flooding. These investments ensure the safety of residents, the protection of inland properties and infrastructure, and the long-term stability of local economies reliant on tourism and recreation.

Supporting beach and dune management is not just about safeguarding our coastlines; it's about securing a resilient, thriving, and beautiful future for everyone who calls Flagler County home. Public investment is a commitment to the people, the environment, and the enduring vibrancy of these cherished places.

## Initial Estimated Construction Cost

Segment	Initial Cost	Distribution of Initial Cost		
		USACE/FEMA	State	Local
Reach 1 (Federal)	\$22,700,000	\$16,000,000	\$6,700,000	
Reach 1 (Non-Federal)	\$4,300,000		\$4,300,000	
Remaining Work within Reach 2, 3 and 4	\$93,125,000	\$9,743,750	\$40,940,625	\$42,440,625
<b>Total</b>	<b>\$120,125,000</b>	<b>\$25,743,750</b>	<b>\$51,940,625</b>	<b>\$42,440,625</b>

Estimates based on Beach Management Implementation Plan by Olsen Associates

The first phase of the beach management plan implementation is the initial construction cost for the entire 18 miles of Flagler County coastline. Based on the planning assumptions and estimates, the total estimated cost is close to \$120M for the entire coastline. The initial shortfall for this work was \$42.4 million, however in FY25 Flagler County set aside \$5 million, and submitted grant applications to FDEP for \$15 million. This leaves a remaining shortfall balance of \$22.4 million, which will be needed within the next three years. Flagler County is developing a funding plan to ensure the money is available when needed.

### Estimated Ongoing Nourishment Cost

All Segments	Future Event Cost	Distribution of Nourishment Cost		
		USACE/FEMA	State	Local
Entire Coastline	\$97,107,600	\$13,056,450	\$11,921,490	\$72,129,660

Estimates based on Beach Management Implementation Plan by Olsen Associates

All Segments	Equivalent Annual Cost (EAC) (\$/year)			
	Nourishment Cost	Distribution of Nourishment Cost		
		USACE/FEMA	State	Local
Entire Coastline	\$16,184,600	\$2,176,075	\$1,986,915	\$12,021,610

Estimates based on Beach Management Implementation Plan by Olsen Associates

Following the initial construction of the beach and dune, it is anticipated that ongoing future nourishment will be needed. These costs are for planning values only, based on 6-year project intervals. All values are subject to change following detailed engineering and permitting. Based on the planning assumptions and estimates, the total cost (every 6 years) is approximately \$97.1 million, which equates to an annual cost of \$16.1 million for the entire coastline. A funding strategy has not been developed for the estimated ongoing nourishment for the entire coastline.

Over the past couple years, Flagler County has evaluated several funding options which included the potential implementation of a Municipal Service Benefit Unit (MSBU) within the unincorporated area of Flagler County on the barrier island to assist with the required local funding within this area. A decision on funding will need to be completed to address the incorporated areas, or for consideration a holistic approach to the entire coastline.

### Potential Funding Strategies

Beach management is essential to preserving our natural coastal resources, supporting economic development, and maintaining quality of life for residents and visitors. To achieve these objectives, we recognize the importance of leveraging various public funding options to sustain and enhance our beaches.



Available funding mechanisms may include:

1. **Local Government Revenues:** Property taxes, sales taxes, and tourist development taxes can provide critical resources for beach nourishment, erosion control, and public access improvements.
2. **State and Federal Grants:** Matching grants and direct funding from programs such as FEMA and FDEP can help address large-scale projects, disaster recovery, and ongoing maintenance needs.
3. **Special Assessments and Districts:** The establishment of special taxing districts or assessments for property owners directly benefiting from beach management can ensure equitable funding for targeted improvements (such as MSBU or MSTU).
4. **User Fees and Permits:** Parking fees, or beach access permits, can generate revenue to directly support beach-related projects while promoting responsible use of coastal spaces.

#### **Dynamics of Beach Nourishment:**

- Raises nearshore seabed, reducing wave energy.
- Offshore sand migration and equilibration.
- Creates a more stable and resilient beach profile.

#### **County Efforts and Lessons Learned:**

- Development of a comprehensive Beach Management Plan.
- Regular beach nourishment in critical areas.
- Focus on building long-term coastal resilience.

#### **Conclusion:**

Flagler County's proactive approach to coastal management demonstrates a commitment to protecting its coastline. By integrating scientific research, community engagement, and strategic implementation, the county is working to preserve its natural resources, safeguard infrastructure, and enhance the quality of life for residents and visitors.