



**US Army Corps
of Engineers**®
Norfolk District



MONROE COUNTY
FLORIDA

FLORIDA KEYS COASTAL STORM RISK MANAGEMENT FEASIBILITY STUDY

Rachel Haug
Senior Planner and Study Lead
Norfolk District
U.S. Army Corps of Engineers



PURPOSE OF PRESENTATION

An aerial photograph of a tropical island with a long bridge extending from the foreground. The water is a vibrant turquoise color, and there are several small boats visible. The island has some buildings and vegetation. The sky is a clear, deep blue.

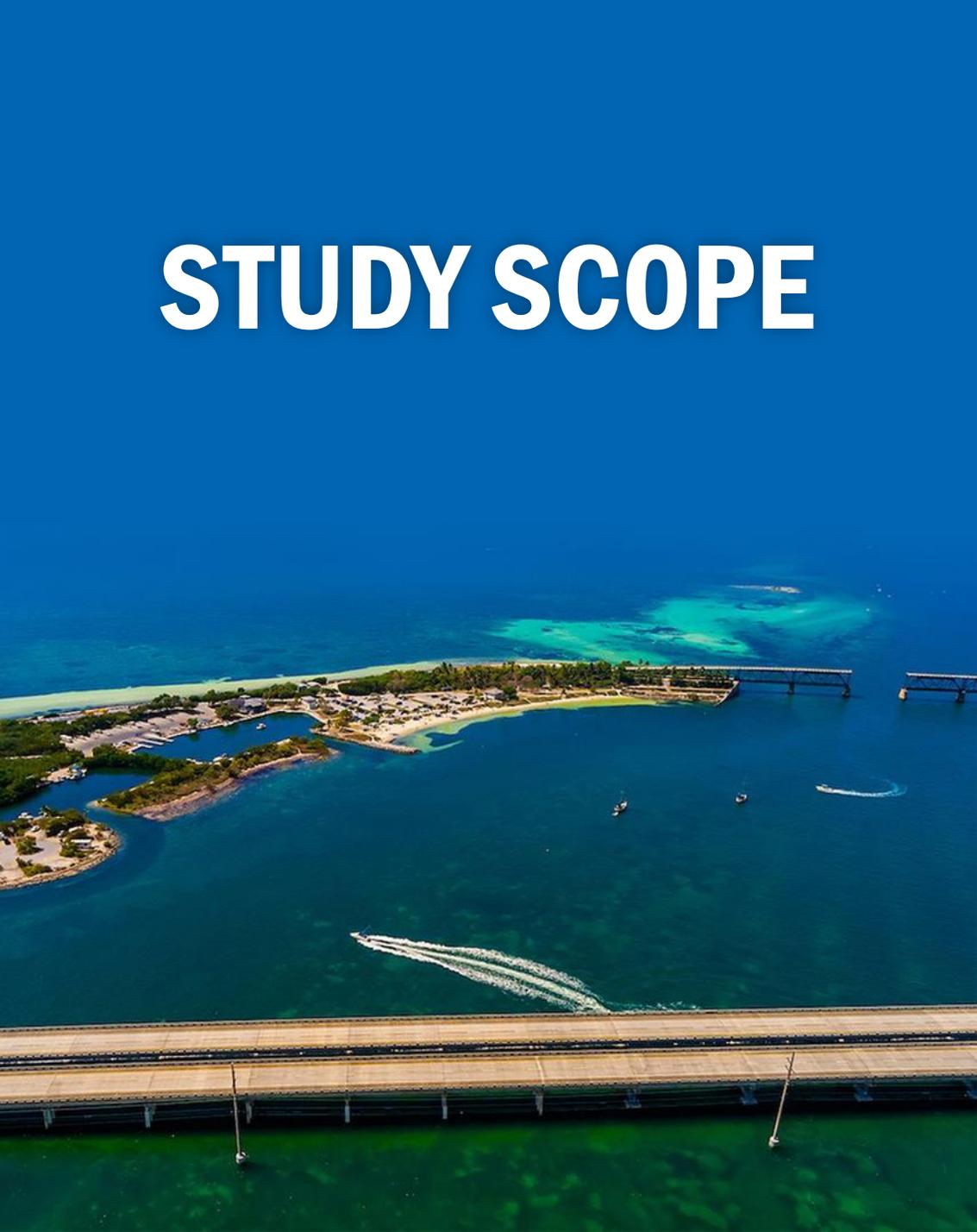
- Review details of the Recommended Plan
- Discuss letter of support and financial self-certification
- Review path forward to end of study

STUDY PURPOSE

The Florida Keys Coastal Storm Risk Management Study is investigating solutions that will improve resiliency by reducing damage and risk from impacts of coastal storms taking into account sea level rise.



STUDY SCOPE

An aerial photograph of a tropical island, likely in the Florida Keys. The island is small and rectangular, with a sandy beach and some buildings. A long bridge extends from the island across the water. The water is a vibrant turquoise color, and there are several small boats visible. The sky is a clear, deep blue.

- The Florida Keys Coastal Storm Risk Management Study will be completed in 3 years and for \$3 million
- The feasibility study is 100% federally funded
- The study area includes the entire Florida Keys including all municipalities.
- The study will recommend a project to be constructed
- A Feasibility Report documents the Recommended Plan and includes an Environmental Impact Statement

3 Year SMART Feasibility Study Process: Florida Keys CSRM



RECOMMENDED PLAN



The Recommended Plan Includes:

- U.S. 1 shoreline stabilization (revetment) in 6 areas
- Nonstructural measures for residential and non-residential structures at risk:
 - Elevation of residential properties
 - Floodproofing of commercial properties
- Floodproofing critical infrastructure at risk

Estimated Project Costs and Benefits*:

- Total Estimated Project Cost (65/35 cost share):
~\$2,552,000,000
 - 65% federal funding of project = \$1,658,792,000
 - 35% non-federal funding of project = \$893,196,000
- Total Average Annual Benefit: ~\$137,402,000
- BCR is 1.8

* These numbers WILL continue to evolve as agency technical review is completed and the cost estimate is certified. Final costs and benefits will be documented in the final report that is released for public review this spring

NONSTRUCTURAL MEASURES INCLUDED IN RECOMMENDED PLAN

Reduce storm damage to structures identified at risk by implementing one of the following measures based on structure type and risk:

- ❑ Elevation of residential structures
 - 4,697 structures



- ❑ Floodproofing of commercial properties and critical infrastructure
 - 1,130 commercial structures
 - 48 critical infrastructure buildings





NONSTRUCTURAL MEASURES IN RECOMMENDED PLAN

Location	Elevation	Floodproofing	Critical Infrastructure Floodproofing	Total NS
City of Key Colony Beach	30	7	2	39
City of Key West	2,028	400	7	2,435
City of Layton	31	15	1	47
City of Marathon	562	230	14	806
Unincorporated Monroe County	1,838	395	15	2,248
Village of Islamorada	208	83	9	300
Grand Total	4,697	1,130	48	5,875

NONSTRUCTURAL COST DISTRIBUTION



Location	Elevation	Floodproofing	Critical Infrastructure Floodproofing	Total NS
City of Key Colony Beach	\$13,411,009	\$2,569,186	\$798,708	\$16,778,903
City of Key West	\$906,584,219	\$146,810,619	\$2,795,479	\$1,056,190,317
City of Layton	\$13,858,043	\$5,505,398	\$399,354	\$19,762,795
City of Marathon	\$251,232,905	\$84,416,106	\$5,590,958	\$341,239,969
Unincorporated Monroe County	\$821,647,828	\$144,975,487	\$5,990,313	\$972,613,627
Village of Islamorada	\$92,982,997	\$30,463,204	\$3,594,188	\$127,040,388
Grand Total	\$2,099,717,000	\$414,740,000	\$19,169,000	\$2,533,626,000

NEXT STEPS

Date	Task
17 February 2021	USACE brief Monroe BOCC
February-April 2021	Internal USACE technical review of Final Feasibility Report and Integrated Environmental Impact Statement (EIS)
Late April 2021	Release Final Feasibility Report and Integrated EIS for public and agency review
September 2021	Chief of Engineer's Report and study complete
Beyond 2021	Congressional authorization for construction Potential project appropriations Cost sharing agreements with non-federal sponsor(s) for construction



NON-FEDERAL RESPONSIBILITIES AND COST SHARING AGREEMENTS

- Letter of support and financial self cert
 - Required by late March / early April
- FY23 budget request will be submitted for the US 1 Revetments and Critical Infrastructure
 - Design agreement will be signed if FY23 budget request is appropriated
 - This agreement commits the County for cost share of first design element only, not construction
 - Pbud announced Feb 2022, appropriations bill signed Oct 2022, design agreement executed in Oct 2022, design commences for 12 - 18 months.
- Project Partnership Agreement
 - A PPA will be signed following a construction new start designation from Congress. This agreement will include all project elements and will include financial commitment to construction of the project.
 - Could occur as early as FY24 but would be requested each following year not received.
- The County may seek funding for the 35% share from other agencies and / or local tax dollars. PPA will only include USACE and Monroe County

QUESTIONS, COMMENTS & DISCUSSION



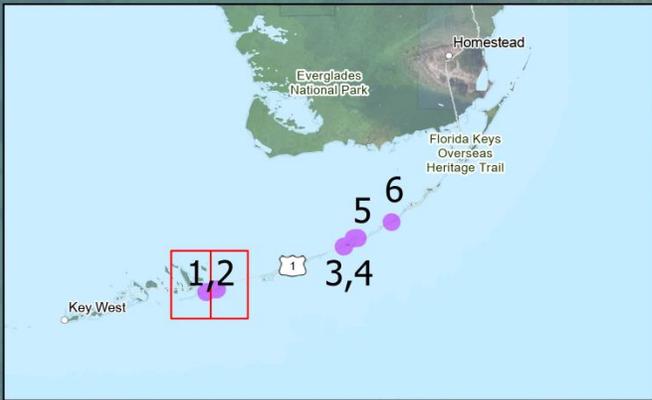
Backup Slides



An aerial photograph of a coastal area. In the foreground, a long, straight road or bridge spans across a body of water. The water is a deep blue-green color. In the middle ground, there is a small island or peninsula with some buildings and trees. The background shows more of the coastline and the ocean under a clear blue sky.

U.S. ROUTE 1 STRUCTURAL MEASURES INCLUDED IN RECOMMENDED PLAN

- Address 6 segments of U.S. Route 1 identified as vulnerable to coastal storm damage due to erosion/wave energy
- Shoreline stabilization revetment is designed to reduce erosion and wave impacts on the roadway to reduce the likelihood of road washout during a storm event



Shoreline Stabilization Along Route 1

Monroe County, FL

● Mile Marker

■ USACE Shoreline Stabilization Along Route 1





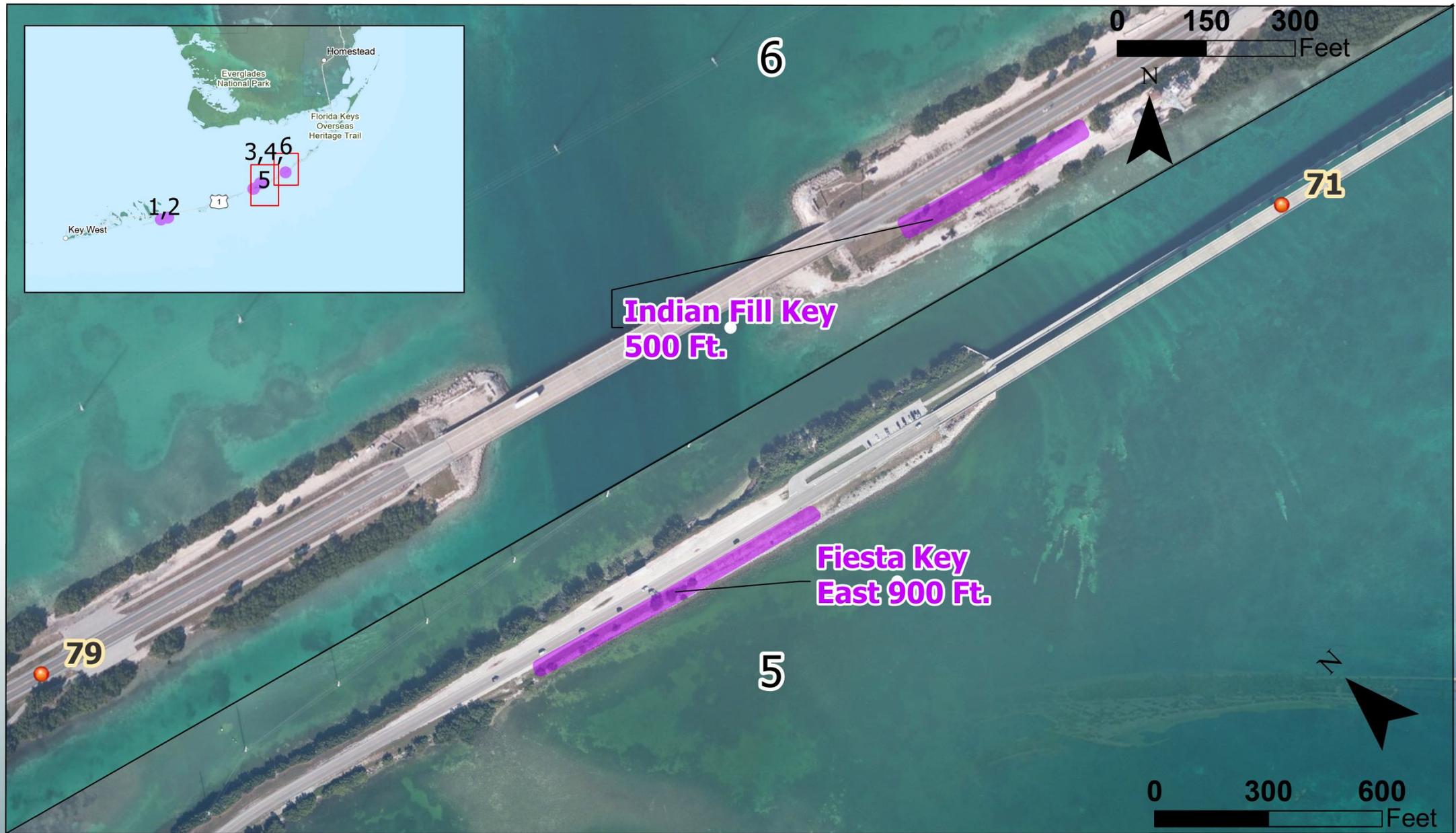
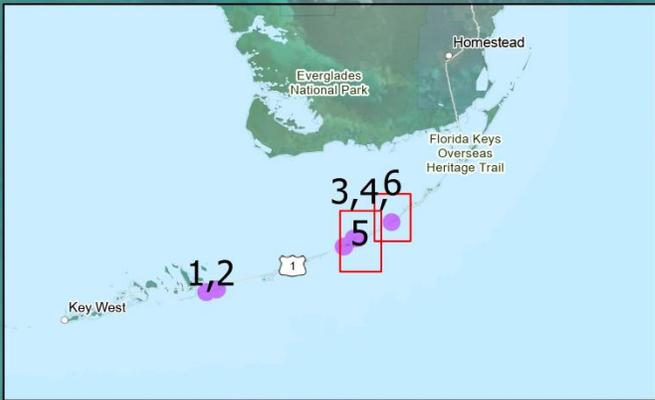
Shoreline Stabilization Along Route 1

Monroe County, FL

● Mile Marker

■ USACE Shoreline Stabilization Along Route 1





Shoreline Stabilization Along Route 1

Monroe County, FL

● Mile Marker

■ USACE Shoreline Stabilization Along Route 1

