Beach, Inlet Shoreline, and Dune Nourishment and Restoration Actions in Florida

Draft Programmatic Environmental Assessment

April 2025

FEMA

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Executive Summary

Background

The Federal Emergency Management Agency (FEMA) is proposing to implement programmatic support of beach, inlet shoreline, and dune nourishment actions through the streamlined evaluation and assessment of actions subject to the National Environmental Policy Act of 1969 (NEPA; 42 United States Code [U.S.C.] §§ 4321 et seq.). FEMA is required during decision making to evaluate and consider the environmental consequences of its federal actions, in accordance with NEPA; the Department of Homeland Security (DHS) Directive 023-01, Revision 01 and DHS Instruction 023-01-001-01, Revision 01; and FEMA Directive 108-1 and FEMA Instruction 108-1-1. This Programmatic Environmental Assessment (PEA) evaluates the potential impacts associated with beach and inlet shoreline nourishment and restoration (or renourishment) actions, dune restoration and establishment actions, and sand borrow area expansion or development in the State of Florida (Proposed Action).

Of Florida's 67 counties, 35 are coastal counties that comprise the 825 miles of Florida's coastline. Florida is susceptible to hurricanes and tropical storms that generate large waves and storm surge that erode the beach, inlet shorelines, and dune systems. A post-storm reshaped coastal landscape exposes people and property to further risk from future storm events and adversely impacts beach-related tourism, a major source of revenue in Florida. Beach and inlet shoreline nourishment and restoration offer a cost-effective way to restore and maintain eroded beaches and inlet shorelines.

This PEA facilitates a streamlined approach to NEPA compliance for a range of pre- and post-disaster actions to protect Florida's beaches, inlet shorelines, and dunes.

Purpose and Need

The purpose of the Proposed Action is to support coastal resiliency in Florida through beach, inlet shoreline, and dune nourishment and restoration actions. The Proposed Action would provide a streamlined approach to compliance requirements of these actions and prioritize efficiency in delivering FEMA's mission to help people before, during, and after disasters. FEMA's grant programs support its mission and further resilience priorities by promoting cost-effective mitigation measures that reduce the risk of loss of life, property, and buffer against the economic instability caused by major disasters. The Proposed Action is needed to strengthen Florida's response to severe coastal storms and erosion, and reduce the potential for loss of life and property.

Proposed Action and Alternatives

This PEA evaluates the Proposed Action Alternative, which includes six (6) categories of actions that could be implemented alone or in combination to meet the purpose and need of the Proposed Action: 1) beach or inlet shoreline nourishment, 2) beach or inlet shoreline restoration (or renourishment), 3) dune restoration actions, 4) dune establishment, 5) sand borrow area expansion, and 6) sand borrow development. These actions represent the most common federally funded

coastal nourishment or restoration actions in Florida and could potentially occur within any of Florida's 35 coastal counties. Any single, future project evaluated under this PEA would need to remain under 2.1 million cubic yards of sand placement or displacement, which accounts for the upper limit of projected sand needs for federally sponsored projects in Florida, as discussed further in **Section 2.2**.

This PEA also evaluates the No Action Alternative as a comparative baseline against the Proposed Action Alternative. Under the No Action Alternative, the Proposed Action would not occur and FEMA's grant programs would not support actions under the collective six categories without conducting a higher level of NEPA review for each project. The No Action Alternative reflects the *status quo* and serves as a benchmark against which effects of the Proposed Action can be evaluated.

Agency, Tribal, and Public Involvement

Interagency and intergovernmental coordination is a federally mandated process for informing and coordinating with other governmental agencies regarding federal proposed actions. FEMA invited the federal, state, and local agencies with jurisdiction or special expertise over the Proposed Action to review the Draft PEA, in addition to Tribal Nations either in, or with interests in, the state of Florida. Agency and Tribal contact lists are provided in **Appendix A** and **Appendix B**. FEMA published a Notice of Availability to the Federal Emergency Management website and the FEMA NEPA Repository inviting the public and interested persons to submit comments. The Draft PEA and Draft FONSI will be available for review and comment during a 30-day public comment period. Any substantive comments received during public review will be reviewed and addressed in the Final PEA.

Summary of Environmental Consequences

FEMA considered the baseline conditions of the natural and human environment in which the Proposed Action could occur to evaluate the potential environmental consequences. The PEA focuses on resources and conditions potentially subject to effects from the Proposed Action, including Land Use, Geology and Soils, Air Quality, Water Resources, Biological Resources, Cultural Resources, Socioeconomics, and Hazardous and Toxic Materials and Waste. A summary of potential impacts to these resources as a result of the No Action Alternative and Proposed Action Alternative is presented in this section.

Land Use: Under the No Action Alternative, adverse impacts to land use and coastal communities from severe storms would persist under the *status quo*. The No Action Alternative would further exacerbate these impacts by requiring more time and resources to approve nourishment and restoration projects, thereby resulting in *long-term, adverse impacts* that could reach significant thresholds.

Under the Proposed Action Alternative, nourishment and restoration projects would enhance the current land use of individual project sites and surrounding areas by restoring beach and dune systems, and protecting inland land uses and coastal resources from erosion and storm surge. Projects under the Proposed Action would help stabilize the beach and dune system, minimize

erosion, and protect upland property from storm damage. Therefore, the Proposed Action would have *no short-term adverse impacts* to land use and *long-term, moderate beneficial impacts* to coastal land uses.

Noise: Under the No Action Alternative, noise impacts from ongoing and future nourishment and restoration projects would continue under the *status quo*. As the No Action Alternative would not change current noise conditions, there would be *no impact*.

Under the Proposed Action Alternative, construction activities would result in a temporary increase in noise levels within the vicinity of each project site. However, each project would be designed to adhere to local noise ordinances, ensuring that construction activities are conducted in a manner that minimizes disruption to the surrounding community. Therefore, the Proposed Action would have *short-term, minor adverse impacts* from noise.

Visual Resources and Aesthetics: Under the No Action Alternative, ongoing erosion may degrade coastal viewscapes and diminish the aesthetic value of coastal communities. The No Action Alternative would further exacerbate these impacts by requiring more time and resources to approve nourishment and restoration projects. Therefore, the No Action Alternative would result in *long-term, adverse impacts* that could reach significant thresholds for visual resources and aesthetics.

Under the Proposed Action Alternative, short-term disruptions would occur to the aesthetic environment due to the presence of construction equipment and staging areas at project sites. However, these impacts would be temporary, and beach and dune nourishment and restoration actions would be limited to the area affected to minimize visual impacts. Inland borrow sites could also be visually intrusive, especially if they involve substantial excavation and disturbance of the visual landscape. FEMA would ensure proper management and restoration of these borrow sites to minimize visual impacts and ensure project activities are as harmonious with the visual landscape as feasible. In addition, in the long term, the Proposed Action serves to provide aesthetic benefits by repairing degraded beaches and eroded shorelines. Therefore, the Proposed Action would have *short-term, minor adverse impacts* and *long-term beneficial impacts* on visual resources and aesthetics.

Geology and Soils: Under the No Action Alternative, adverse impacts to geologic resources and soils from continued coastal erosion would persist under the *status quo*. The No Action Alternative would further exacerbate these impacts by requiring more time and resources to approve nourishment and restoration projects, thereby resulting in *long-term, adverse impacts* that could reach significant thresholds.

Under the Proposed Action Alternative, sand borrow expansion and establishment activities would require excavation, as well as soil disturbance and removal. However, bedrock is not anticipated to be encountered and there should be no geologic or seismic hazards near any of the project sites. Impacts to soils would also occur from the addition of sediment to beaches and dunes during nourishment and restoration activities. Over time, however, restoration of beaches and dunes would help stabilize the beach and reduce erosion, benefiting soil health and preserving the beach and

nearby structures. Therefore, the Proposed Action is expected to have *no impacts* on geology; and *short-term, minor impacts* and *long-term, beneficial impacts* on soils.

Air Quality: Under the No Action Alternative, adverse impacts to air quality from ongoing or future coastal nourishment or restoration activities would persist under the *status quo* from pollutant emissions. The No Action Alternative would have no potential to change an area's air quality attainment status, regardless of the magnitude and intensity of the action.

Under the Proposed Action Alternative, short-term emissions would occur from construction equipment needed for sand placement activities, beach or dune shaping, and borrow area expansion or establishment. Exhaust emissions are anticipated from truck transport as well. Therefore, the Proposed Action would have *short-term, minor adverse impacts* to the existing air quality environment.

Water Resources: Under the No Action Alternative, adverse impacts to water resources from continued coastal erosion and storm surges would persist under the *status quo*. The No Action Alternative would further exacerbate these impacts by requiring more time and resources to approve nourishment and restoration projects, thereby resulting in *long-term, adverse impacts* that could reach significant thresholds.

Under the Proposed Action Alternative, pumping sand ashore via submerged pipelines would increase sedimentation and turbidity at beach nourishment and restoration sites. Therefore, the Proposed Action is anticipated to have *short-term, minor to moderate adverse impacts* on surface waters. FEMA anticipates that the Proposed Action would have *short-term, minor adverse impacts* on groundwater from construction activities that may alter the natural flow and recharge patterns of the underlying groundwater systems. The Proposed Action also has the potential to cause *short-term, minor to moderate adverse impacts* to wetlands due to the potential for increased turbidity at the project sites from pumping sand ashore via submerged pipelines. *Short-term, minor adverse impacts* on coastal resources are anticipated as well from increased turbidity near offshore borrow sites. In the long-term, the Proposed Action may also have *long-term, minor to moderate beneficial impacts* on surface waters, groundwater, floodplains, wetlands, and coastal resources from increased resilience against storm surge and by stabilizing the shoreline and reducing the rate of erosion and sedimentation.

Biological Resources: Under the No Action Alternative, adverse impacts to biological resources from continued coastal erosion and habitat disturbance would persist under the *status quo*. The No Action Alternative would further exacerbate these impacts by requiring more time and resources to approve nourishment and restoration projects, thereby resulting in *long-term, adverse impacts* that could reach significant thresholds.

Under the Proposed Action Alternative, inland and offshore activities would disturb terrestrial and aquatic habitats from the use of heavy construction equipment and sand displacement. As a result, the Proposed Action would cause *short-term, minor to moderate adverse impacts* on vegetation and wildlife, including special status species. In the long term, the Proposed Action would address

coastal degradation and erosion, thereby contributing towards efforts to increase terrestrial habitat availability and restore, enhance, and protect coastal habitat. There would be *long-term, beneficial impacts* to biological resources.

Cultural Resources: Under the No Action Alternative, adverse impacts to cultural resources from continued coastal erosion and storm surges would persist under the *status quo*. The No Action Alternative would further exacerbate these impacts by requiring more time and resources to approve nourishment and restoration projects, thereby resulting in *long-term, adverse impacts* that could reach significant thresholds.

Under the Proposed Action Alternative, coastal nourishment and restoration projects could result in the temporary disturbance of viewsheds or landscapes associated with identified cultural resources due to visibility of construction crew, vehicles, and equipment, as well as increased noise. In the long term, the Proposed Action would help offset coastal erosion, thus protecting nearby historic properties and archeological resources. In addition, FEMA would follow the standard Section 106 review process and coordinate with the State Historic Preservation Office to avoid, minimize, or mitigate potential adverse impacts to historic properties on a project-specific basis. The Proposed Action is anticipated to result in *short-term, minor impacts* and *long-term beneficial impacts* to cultural resources.

Traffic and Transportation: Under the No Action Alternative, ongoing coastal erosion heightened by past and future severe coastal storms could result in damage to infrastructure and roads, which could then result in traffic delays due to more frequent and extensive repairs, as well as increased vulnerability to further storm events. The No Action Alternative would further exacerbate these impacts by requiring more time and resources to approve nourishment and restoration projects, resulting in *long-term, adverse impacts* that could reach significant thresholds.

Under the Proposed Action Alternative, construction activities that would occur under the Proposed Action may result in temporary disruptions to local roadway traffic and transportation, particularly in and surrounding coastal communities. Impacts on vessel traffic and navigation from the presence of dredging vessels and barges would also occur during offshore dredging activities. These impacts would be short-term, and grant recipients would work closely with local authorities to obtain the required approvals and ensure impacts are managed and minimized to the extent practicable. In the long term, the Proposed Action would stabilize infrastructure and protect upland roadways from storm damage. Therefore, the Proposed Action would have *short-term, minor adverse* and *long-term, beneficial impacts* on traffic and transportation.

Socioeconomics: Under the No Action Alternative, adverse impacts to socioeconomic conditions from continued coastal erosion and deterioration would persist under the *status quo*. The No Action Alternative would further exacerbate these impacts by requiring more time and resources to approve nourishment and restoration projects, thereby resulting in *long-term, adverse impacts* that could reach significant thresholds.

Under the Proposed Action Alternative, coastal nourishment and restoration projects would likely source local labor, and any tax revenues associated with construction expenditures would benefit local economic conditions. Temporary beach closures would be required, although the impact on tourism and the local economy would be negligible. In the long term, the quality of beaches, promenades, and other coastal areas for public recreation would be improved, which would result in increased tourism and public recreation, as well as employment opportunities in industries relating to tourism. Therefore, the Proposed Action would result in *short- and long-term beneficial impacts* on socioeconomic conditions.

Human Health and Safety: Under the No Action Alternative, continued destruction from severe coastal storms could pose significant risks to human health and safety. Without the Proposed Action, efforts to address these threats would not be as quick or effective; therefore, the No Action Alternative would result in *long-term, adverse impacts* that could reach significant thresholds.

Under the Proposed Action Alternative, segments of beaches that are actively being renourished or restored would be closed off to the public and would not be re-opened until all construction activities are completed. Therefore, FEMA does not anticipate disproportionate health risks to children or impacts to the public. Minor adverse effects to workers could occur based on the inherent risks associated with an active construction site. In the long-term, the Proposed Action has the potential for beneficial impacts on human health and safety realized through a range of actions meant to reduce the potential for loss of life, protect infrastructure, and lessen the severity of impacts from coastal storms. Therefore, the Proposed Action would have *short-term, minor impacts* and *long-term beneficial impacts* on human health and safety.

Hazardous and Toxic Materials and Waste: Under the No Action Alternative, any use, storage, or generation of hazardous and toxic materials and waste (HTMW) resulting from current and future nourishment and restoration projects would continue under the *status quo*. Therefore, there would be *no impacts* to HTMW under the No Action Alternative.

Under the Proposed Action Alternative, the operation of heavy equipment and vehicles for nourishment and restoration projects would create the potential for discharge, spill, and contamination. All hazardous materials or waste discovered, generated, or used would be handled, contained, and disposed of in accordance with applicable local, state, and federal regulations. FEMA would coordinate with project proponents and authorizing agencies, such as the U.S. Army Corps of Engineers or Bureau of Ocean Energy Management, to conduct site-specific magnetometer surveys prior to inland and offshore sand borrow activities to identify military munitions and explosives of concern (MEC) or unexploded ordnance (UXO). In addition, any proposed activities would be conducted at a safe distance from any contaminated site on the Superfund National Priorities List. Overall, the Proposed Action would have *short-term, minor adverse impacts* from accidental HTMW spills or releases, and *no impacts* on MEC, UXO, or contaminated sites.

Conclusions

The findings of this PEA indicate that no significant adverse effects would result from implementation of the Proposed Action, assuming adherence to Best Management Practices. Therefore, no additional mitigation measures are warranted, and an Environmental Impact Statement will not be required. This PEA also provides the criteria for determining whether a proposed project may be covered under the evaluation of this PEA or if a tiered, site-specific EA is required.

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Figures and Tables

List of Acronyms and Abbreviations

µg/m3	Micrograms per Cubic Meter
ACHP	Advisory Council on Historic Preservation
AIRFA	American Indian Religious Freedom Act
ASBPA	American Shore and Beach Preservation Association
BCC	Birds of Conservation Concern
BGEPA	Bald and Golden Eagle Protection Act of 1940
BIPP	Beaches, Inlets and Ports Program
BMP	Best Management Practice
BO	Biological Opinion
BOEM	Bureau of Ocean Energy Management
CAA	Clean Air Act of 1970
CBRA	Coastal Barrier Resources Act of 1982
CBRS	Coastal Barrier Resources System
CCCL	Coastal Construction Control Line
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act of 1980
CFR	Code of Federal Regulations
CO	Carbon Monoxide
CWA	Clean Water Act of 1972
CZMA	Coastal Zone Management Act of 1972
CZMP	Coastal Zone Management Plan
DHS	Department of Homeland Security
EA	Environmental Assessment
EFH	Essential Fish Habitat

EIS	Environmental Impact Statement
EO	Executive Order
ERP	Environmental Resource Permitting
ESA	Endangered Species Act of 1973
FAS	Floridian Aquifer System
FCD	Federal Consistency Determination
FCMP	Florida Coastal Management Program
FDEM	Florida Division of Emergency Management
FDEP	Florida Department of Environmental Protection
FEMA	Federal Emergency Management Agency
FONSI	Finding of No Significant Impact
FPPA	Farmland Protection Policy Act of 1981
FRA	Fiscal Responsibility Act of 2023
Fla. Stat.	Florida Statutes
FWC	Florida Fish and Wildlife Conservation Commission
HTMW	Hazardous and Toxic Materials and Waste
JAXBO	Jacksonville District Programmatic Biological Opinion
JCP	Joint Coastal Permit
MBTA	Migratory Bird Treaty Act of 1918
MCY	Million Cubic Yards
MEC	Munitions and Explosives of Concern
MHWM	Mean High-Water Mark
MMPA	Marine Mammal Protection Act of 1972
MSA	Magnuson-Stevens Fishery Conservation and Management Act of 1976

NAAQS	National Ambient Air Quality Standards
NAGPRA	Native American Graves Protection and Repatriation Act
NEPA	National Environmental Policy Act of 1969
NHPA	National Historic Preservation Act of 1966
NMFS	National Marine Fisheries Service
NMS	National Marine Sanctuaries
NO2	Nitrogen Dioxide
NOA	Notice of Availability
NOAA	National Oceanic and Atmospheric Administration
NPDES	National Pollutant Discharge Elimination System
NPL	Superfund National Priorities List
NPS	National Park Service
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NWP	Nationwide Permit
O3	Ozone
OPA	Otherwise Protected Areas
PA	Programmatic Agreement
Pb	Lead
P.L.	Public Law
PEA	Programmatic Environmental Assessment
PM	Particulate Matter
PM2.5	Particulate Matter Less Than 2.5 Micrometers in Diameter
PM10	Particulate Matter Less Than Ten Micrometers in Diameter

PPA	Prototype Programmatic Agreement
ppb	Parts per Billion
ppm	Parts per Million
RCRA	Resource Conservation and Recovery Act of 1976
REC	Record of Environmental Consideration
RGP	Regional General Permit
RHA	Rivers and Harbors Act of 1899
SARBO	South Atlantic Regional Biological Opinion
SHPO	State Historic Preservation Officer
SO2	Sulfur Dioxide
SPBO	Statewide Programmatic Biological Opinion
SPCCP	Spill Prevention, Control, and Countermeasure Plan
Stafford Act	Robert T. Stafford Disaster Relief and Emergency Act of 1988
T&E	Threatened and Endangered
THPO	Tribal Historic Preservation Officer
TMDL	Total Maximum Daily Load
TOY	Time-Of-Year
UFR	Unified Federal Review
U.S.C.	United States Code
USACE	U.S. Army Corps of Engineers
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
UXO	Unexploded Ordnance

WOTUS	Waters of the United States

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1. Purpose and Need of the Proposed Action

1.1. Introduction

The Federal Emergency Management Agency (FEMA) proposes to streamline the evaluation and assessment of actions subject to the National Environmental Policy Act of 1969 (NEPA; 42 United States Code [U.S.C.] § 4321 et seq.), as amended, through the issuance of this Programmatic Environmental Assessment (PEA). This PEA evaluates FEMA's programmatic support of beach and inlet shoreline nourishment actions, beach and inlet shoreline restoration (or renourishment) actions, dune restoration and establishment actions, and sand borrow area expansion or development in the State of Florida (Proposed Action). Properly functioning beaches, shorelines, and dunes can address disaster risk by defending against erosion, storm surge flooding, and supporting economic stability (USEPA, 2025a).

FEMA has prepared this PEA to analyze, at a programmatic level, the potential impacts associated with the Proposed Action in accordance with NEPA, as amended by the Fiscal Responsibility Act of 2023 (FRA), Public Law (P.L.) 118-5; the Department of Homeland Security (DHS) Directive 023-01, Revision 01, *Implementation of the National Environmental Policy Act*; and DHS Instruction 023-01-001-01, Revision 01, *Implementation of the National Environmental Policy A*ct. FEMA policies applicable to the preparation of this PEA include FEMA Directive 108-1, *Environmental Planning and Historic Preservation Responsibilities and Program Requirements*, and FEMA Instruction 108-1-1, *Implementation of the Environmental Planning and Historic Preservation Responsibilities and Program Requirements*.[1] For this PEA, "FEMA" refers to FEMA Region 4, in the State of Florida.

1.2. Use of this Programmatic Environmental Assessment

In accordance with NEPA (42 U.S.C. § 4336e), a programmatic environmental document, such as a PEA, is used to analyze all or some of the environmental effects of a policy, program, plan, or group of related actions. A PEA is used to assess potential impacts for which subsequent action would be implemented, thereby eliminating the need for repetitive discussions that would otherwise result from multiple, standalone, Environmental Assessments (EAs). An agency relying on a PEA for individual project assessment must determine the depth of analysis needed for a tiered decision.

FEMA determines the depth of environmental review for all FEMA-funded projects through the completion of Record of Environmental Consideration (REC). For this PEA, if a future project is consistent with the scope and impacts described herein, then FEMA will prepare a REC, which

[1] Consistent with E.O. 14154, CEQ has rescinded the NEPA regulations, effective April 11, 2025, and is working with Federal agencies to revise or establish their own NEPA implementing procedures. Per CEQ guidance provided in *Implementation of the National Environmental Policy Act* (February 19, 2025), while revisions are ongoing, agencies should continue to follow their existing practices and procedures implementing NEPA and can voluntary rely on the regulation in 40 CFR 1500-1508 in completing ongoing NEPA reviews.

includes a site-specific evaluation of each applicable law, regulation, and Executive Order (EO). However, if a future project is determined to: (1) create impacts not described in this PEA; (2) creates impacts greater in magnitude, extent, or duration than the thresholds described in this PEA; or (3) requires mitigation measures to keep adverse impacts below significant adverse levels, then FEMA will also prepare a tiered, site-specific EA or Environmental Impact Statement (EIS), in some instances, in addition to the REC. Specific thresholds used to determine if impacts created by a future project will be documented under a site-specific REC alone, or if a tiered, site-specific EA or EIS will also be prepared, are provided in **Section 3.11** and **Table 7**.

In accordance with the NEPA (42 U.S.C. § 4336b), programmatic environmental documents, like a PEA, are valid for five years without additional review, provided there are no substantial new circumstances or information about the significance of adverse effects that bear on the analysis. FEMA may also rely on programmatic environmental documents beyond the five-year limit if FEMA reevaluates the analysis and underlying assumptions.

Additionally, the Sandy Recovery Improvement Act of 2016 amended FEMA's statutory authority under the Robert T. Stafford Disaster Relief and Emergency Act of 1988 (Stafford Act), through the addition of Section 429 Unified Federal Review (UFR) (42 U.S.C. § 5189g). The UFR process establishes a unified review process that includes the use of mechanisms, such as a PEA, to expeditiously address environmental and historic preservation compliance requirements, as appropriate, consistent with applicable law. This PEA facilitates a streamlined approach to NEPA compliance for a range of post-disaster actions that restore Florida's beaches, inlet shorelines, and dunes, regardless of FEMA grant program.

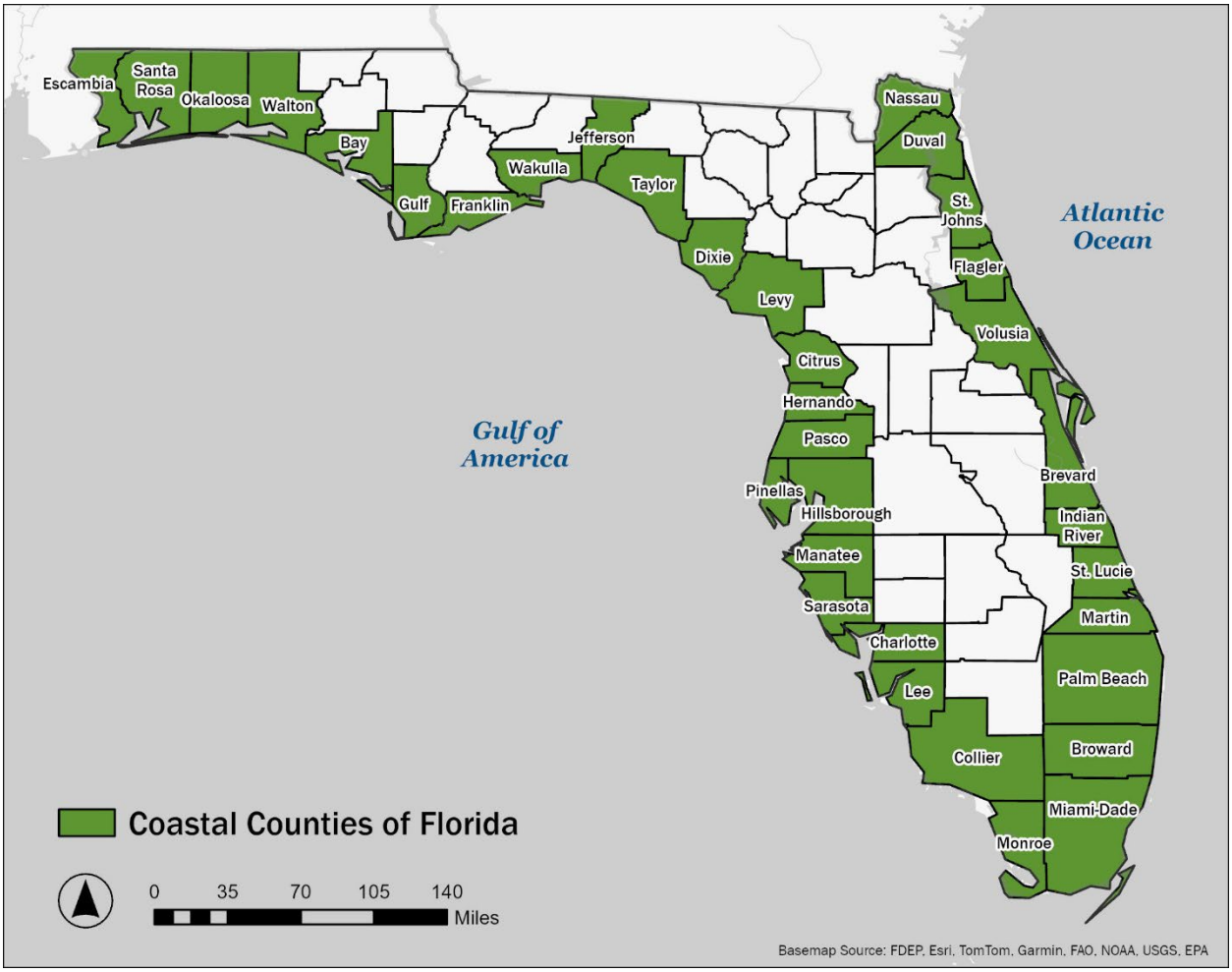
1.3. Background

Of Florida's 67 counties, 35 are coastal counties that comprise the 825 miles of Florida's coastline (**Figure 1**). During the five-year period from 2020 through 2024, Florida was impacted by eleven (11) hurricanes and five (5) tropical storms (NOAA, 2023; NOAA, 2024a). These and other non-tropical winter storms generate large waves and storm surge that erode the beach, inlet shorelines, and dune systems. In the most severe cases, storm-induced waves can exceed the height of dune systems and deposit sand inland in a process known as overwash (USGS, 2020). Large layers of overwash can inundate the first floors of homes and businesses, cover roads, fill ponds, and cover coastal vegetation. A post-storm reshaped coastal landscape exposes people and property to further risk from future storm events and adversely impacts beach-related tourism, a major source of revenue in Florida. By one recent estimate, beach-related tourism in Florida generated $23.3 billion annually in tax revenues, accounting for 63% of the 2023 total tourism tax revenue, $36.9 billion (Houston, 2024).

The post-disaster restoration of Florida's natural coastal infrastructure serves as the first line of protection against future storm surge and supports Florida's beach-related tourism economy. Pursuant to sections 161.101 and 161.161, *Florida Statutes* (Fla. Stat.) (2024), the Florida Department of Environmental Protection (FDEP), Office of Resilience and Coastal Protection maintains an annual inventory of critically eroded beaches and inlet shorelines. According to a 2024

FDEP report, *Critically Eroded Beaches in Florida*, 34 of Florida's 35 coastal counties include critically eroded beaches or inlet shorelines (FDEP, 2024a). FDEP makes a distinction between critically eroded beaches and critically eroded inlet shorelines. An "inlet shoreline" refers to the natural or constructed shoreline around a tidal inlet, which is a narrow body of water connecting a lagoon, bay, or estuary to the ocean.

Figure 1: Coastal Counties of Florida



Beach nourishment, beach renourishment, and beach restoration offer a cost-effective way to restore and maintain eroded beaches and inlet shorelines. The terms “beach nourishment,” “beach restoration,” and “beach renourishment” are often used interchangeably. Beach nourishment is defined in section 161.021(3) Fla. Stat. (2024) as the “maintenance of a restored beach by the replacement of sand.” Beach restoration is defined in section 161.021(4) Fla. Stat. (2024) as “the placement of sand on an eroded beach for the purposes of restoring it as a recreational beach and providing storm protection for upland properties.” The term “beach renourishment” is another term for beach restoration but is not explicitly defined in the Florida Statutes.

The American Shore and Beach Preservation Association (ASBPA) maintains a national database to provide information on U.S. nourishment projects. According to the ASBPA National Beach Nourishment Database, Florida has completed 811 nourishment events from 1935 to 2024 and expended approximately $16.8 billion during that 90-year period (ASBPA, 2025). Beach, shoreline, and dune nourishment and restoration actions can preserve the infrastructure of coastal communities and enhance their resilience to future storm-related disasters. For example, in 1995, Category 3 Hurricane Opal made landfall approximately 80 miles from Panama City Beach. According

to FDEP's *Hurricane Michael Post-Storm Beach Conditions and Coastal Impact Report*, Hurricane Opal "caused damage to 471 buildings and numerous seawalls along Panama City Beach (FDEP, 2019)." In 1999, a multi-year beach renourishment project called the Panama City Beach Shore Protection Project was initiated. In 2018, Category 5 Hurricane Michael made landfall approximately 20 miles from Panama City Beach. The FDEP reported in the *Hurricane Michael Post-Storm Beach Conditions and Coastal Impact Report* that the Panama City Beach Shore Protection Project "adequately protected all beach fronting development and infrastructure along Panama City Beach (FDEP, 2019)." Beach nourishment and restoration actions are cost-effective mitigation measures that reduce the risk of loss of life, property, and buffer against the economic instability caused by major storms.

1.4. Purpose and Need

FEMA's mission is to help people before, during, and after disasters. FEMA's grant programs support its mission and further resilience priorities by promoting cost-effective mitigation measures that reduce the risk of loss of life, property, and buffer against the economic instability caused by major disasters. Florida's beaches, inlet shorelines, and dune systems provide effective mitigation against destructive wave action and support Florida's beach-related tourism economy. However, hurricanes and coastal storms move huge volumes of sediment and erode these resources, reducing their capacity to mitigate for future storm events.

The purpose of the Proposed Action is to support coastal resiliency in Florida through beach, inlet shoreline, and dune nourishment, renourishment, and restoration actions. The Proposed Action would provide a streamlined approach to compliance requirements of these actions and prioritize efficiency in delivering FEMA's mission. The Proposed Action is needed to strengthen Florida's response to severe coastal storms and erosion and reduce the potential for loss of life and property. The actions evaluated in this PEA support FEMA's proactive posture by ensuring the risk-reduction and economic stability functions that beach, dunes, and inlet shorelines provide remain effective.

1.5. Agency, Tribal, and Public Engagement

1.5.1. AGENCY COORDINATION AND CONSULTATION

Interagency and intergovernmental coordination is a federally mandated process for informing and coordinating with other governmental agencies regarding federal proposed actions. This coordination also fulfills requirements under EO 12372, Intergovernmental Review of Federal Programs (amended by EO 12416, and supplemented by EO 13132), which requires federal agencies to coordinate with state and local officials and consider their views in implementing a federal proposal, such as federal financial assistance or direct federal development.

FEMA invited federal, state, and local agencies with jurisdiction or special expertise over the Proposed Action to review the draft PEA. A list of agencies contacted, and a record of agency coordination and public involvement is provided in **Appendix A**. State agency coordination was facilitated through the Florida State Clearinghouse.

1.5.2. AGENCY PROGRAMMATIC ENVIRONMENTAL DOCUMENTS

FEMA is able to utilize several programmatic documents that support compliance with Section 7 of the Endangered Species Act of 1973 (ESA). These programmatic documents function congruently with this PEA to support and streamline FEMA's compliance responsibilities under the ESA. FEMA will utilize these programmatic documents when consulting with the U.S. Fish and Wildlife Services (USFWS) and the National Oceanic and Atmospheric Administration (NOAA) National Marine Fisheries Service (NMFS), in accordance with Section 7 of the ESA. Consultation with NMFS under the Magnuson-Stevens Fishery Conservation and Management Act of 1976 (MSA), and with NMFS and USFWS under the Marine Mammals Protection Act will be conducted, as needed, on a project-specific basis.

The following programmatic documents support FEMA's compliance responsibilities under Section 7 of the ESA:

- Regional Biological Opinion on Hopper Dredging of Navigation Channels and Borrow Areas in the Gulf of Mexico, effective November 19, 2003, Revision 1 (select sections) effective June 24, 2005, and Revision 2 (select sections) effective January 9, 2007
- Programmatic Piping Plover Biological Opinion for Shore Protection Activities in the Geographical Region of North and South Florida Ecological Services Field Offices, effective May 22, 2013
- Programmatic Biological Opinion on 10 Categories of Minor In-Water Activities Occurring in Florida in the U.S. Caribbean - U.S. Army Corps of Engineers (USACE) Jacksonville District (JAXBO), effective November 20, 2017
- Shore Protection Activities along the Coast of Florida Statewide Programmatic Biological Opinion, effective February 27, 2015
- 2020 South Atlantic Regional Biological Opinion for Dredging and Material Placement Activities in the Southeast United States (2020 SARBO), effective March 27, 2020, revised July 30, 2020

1.5.3. TRIBAL NATION CONSULTATION

Tribal Nations were invited to participate as Sovereign Nations in accordance with Section 106 of the National Historic Preservation Act of 1966 (NHPA). The DHS Directive 071-04, DHS Instruction 071-04-001, FEMA Policy 101-002-02, and FEMA Instruction 101-002-02-01 require government-to-government notification and consultation to ensure meaningful and timely input by tribal officials for federal actions that may have tribal implications.

FEMA has developed a Prototype Programmatic Agreement (PPA)[2] in coordination with the Advisory Council on Historic Preservation (ACHP), to create a framework for FEMA in developing agreements

[2] FEMA PPA, September 10, 2014

to improve and expedite Section 106 compliance for disaster recovery activities. The ACHP's Chairman approved the FEMA PPA on December 17, 2013, in accordance with 36 Code of Federal Regulations (CFR) Part 800.14(b)(4). FEMA regions routinely negotiate renewals of such agreements prior to expiration. The following Programmatic Agreement (PA) is active for Florida pursuant to 36 CFR § 800.14(b)(4).

- Programmatic Agreement Among FEMA, the Florida State Historic Preservation Office, the Florida Division of Emergency Management (FDEM), and Alabama Coushatta Tribe of Texas, Choctaw Nation of Oklahoma, Mississippi Band of Choctaw Indians; and the ACHP, executed on September 10, 2014, Amendment 4 12-Month Extension Agreement that expires on September 10, 2025.

FEMA has invited Tribal Nations in Florida to review the Draft PEA and Draft Finding of No Significant Impact (FONSI). A summary of correspondence with Tribal Nations is provided in **Appendix B**.

1.5.4. PUBLIC INVOLVEMENT

FEMA published a Notice of Availability (NOA) for this Draft PEA and FONSI to the FDEM website at: insert weblink, and the FEMA NEPA Repository at: https://www.fema.gov/emergency-managers/practitioners/environmental-historic/nepa-repository. The Draft PEA and Draft FONSI will be available for review and comment during a 30-day public comment period. Any substantive comments received during public review will be reviewed and addressed in the Final PEA. Interested persons may submit comments responsive to the NOA electronically by emailing FEMA Region 4 at: FEMA-R4EHP-FLORIDA fema-r4ehp-florida@fema.dhs.gov. Comments must include "FEMA Beach FL PEA" in the subject line of the email. Comments will be publicly disclosed in the Final FONSI and/or Final PEA, without change.

2. Description of the Proposed Action and Alternatives

2.1. Introduction

This PEA presents an evaluation of the No Action Alternative and Proposed Action Alternative, which are described in **Section 2.3**. The Proposed Action includes the six (6) actions that could be implemented alone or in combination to meet the purpose and need. The nourishment and restoration actions evaluated in this PEA are similar in effects but may differ in scope or duration. **Section 2.4** presents best management practices (BMPs) associated with the Proposed Action.

Actions evaluated in this PEA do not include those that are determined, through the completion of a REC, to already be statutorily or categorically excluded from NEPA review under the Stafford Act or DHS Instruction 023-01 Rev 01. Such actions generally include, but are not limited to the following:

- Federal assistance for emergency actions, including the construction of emergency sand berms prior to or, directly after, a Presidentially declared disaster to protect against additional damage (statutory exemption Category B)
- Federal assistance for actions including the placement of sand, for the purposes of restoration to pre-disaster conditions only and may include dune grass plantings (categorical exclusion N12); and
- Federal assistance for actions completed within the coastal high hazard area, excluding coastal barrier resources system (CBRS) units, and impacting less than 0.5 acre (categorical exclusion N5).

2.2. Proposed Action

The six (6) actions collectively evaluated as the Proposed Action in this PEA include beach or inlet shoreline nourishment actions, beach or inlet shoreline restoration (or renourishment) actions, dune restoration, dune establishment, sand borrow area expansion, and sand borrow area development. These actions represent the most common federally funded coastal nourishment or restoration actions encountered in Florida. During the preparation of this PEA, FEMA reviewed similar nourishment and restoration actions, completed in Florida, that have received federal assistance (see **Appendix E** for a table of reviewed restoration actions). The resulting review revealed a lack of significant impacts to the human environment for the categories of actions evaluated in this PEA, within a given spatial range. Other variations of these actions, not explicitly described in this PEA, may be considered by FEMA's grant recipients and subrecipients, if those actions demonstrate a firm alignment with the stated purpose, need, and thresholds described in this PEA, as determined by FEMA.

The six (6) actions summarized below could potentially occur within any of Florida's 35 coastal counties and in combination if one or more action is deemed necessary by the primary permitting agencies, namely the Bureau of Ocean Energy Management (BOEM), USACE, and/or FDEP. The

spatial limit of the actions collectively evaluated as the Proposed Action is based on existing FEMA, BOEM, or USACE NEPA evaluations and the USACE-established, 50-year sand need projections for Florida as determined in the 2020 Sand Availability and Needs Determination (SAND) study (USACE, 2020). **Appendix E** includes a table of the SAND study's sand need projections for Florida. Any single, future project evaluated under this PEA would need to remain under 2.1 million cubic yards (MCY) of sand placement or displacement, which is roughly enough sand to fill more than 642 Olympic swimming pools. This limit accounts for the upper limit of projected sand needs for federally sponsored projects in Florida.

1. **Beach or Inlet Shoreline Nourishment** are activities that restore beyond pre-disaster conditions, while maintaining the USACE-established engineered design template, and utilizing an existing permitted sand borrow area.

   Engineered beaches, inlet shorelines, and dune systems are based on USACE engineering calculations and are designed to provide protection from flood and wave damage caused by storms. These engineering calculations establish the beach's engineered template, a predetermined design plan for beach construction and maintenance that specifies the dimensions, sediment volume, and placement area needed to achieve the engineered design profile. The engineered design profile refers to the cross-sectional shape of the beach, including the appropriate width and slope of the beach and the size and location of dunes, where necessary, to protect the shoreline. This restoration action may include the placement of sand beyond pre-disaster conditions that would remain within the USACE-established engineered template and profile for the beach or inlet shoreline.

   Sand for this restoration action would be obtained from an existing offshore or upland borrow area selected based on factors such as sand compatibility, cost, and available transportation and extraction methods. A "borrow area" refers to a designated location where sand is excavated for use in nourishment and restoration projects. Offshore borrow areas may be located in harbors, navigation channels, or other locations offshore, while upland borrow areas are located on land away from the shoreline. Sand is typically dredged from underwater sediment deposits or sand from dry land is delivered via truck. A dredge is a machine designed to remove sediment from the seafloor or channel bed. The primary types of dredges are hydraulic dredges and mechanical dredges (USACE, n.d.). Hydraulic dredges work by suctioning sediment and water from the seafloor or channel bed. The two main types of hydraulic dredge are hopper dredges and cutterhead pipeline dredges. Hopper dredges are large vessels equipped with a suction pipe that drags along the seabed to collect sand in 2 to 5-foot thicknesses along relatively straight and adjacent runs along the seafloor or channel bed (USACE, 2015). Sand is then stored aboard the vessel in hoppers. Once the hoppers are full, the vessel deposits the sand at the beach nourishment site using a pump-out positioned approximately 0.5 mile from the shore where the sand is pumped via pipeline to the beach. Cutterhead pipeline dredges use a rotating cutter head to break up compacted sand before suctioning it through a pipeline. Unlike hopper dredges, these dredges operate continuously and pump sand directly to the beach nourishment site. Mechanical dredges remove material by scooping it from the seafloor or channel bed and

placing it onto a waiting barge that transports the sediment to a location where it can be pumped to the beach nourishment site.

When an upland borrow area is utilized, sand is mechanically excavated and loaded onto trucks that transport and dump the sand at the beach nourishment site.

When dredging is used to source sand, pipelines are laid along the beach to allow sand to be pumped ashore using a submerged pipeline from the hopper vessel or borrow area to the beach nourishment site. Pipelines connecting the vessel to the shore are rafted, floated into place, and flooded and submerged to the seafloor (USACE, 2015). The placement and relocation of pipelines may involve the use of tugboats and a barged pipeline hauler or crane. Pipelines on shore are utilized for the duration of the beach nourishment project but may be relocated depending on the size of a beach nourishment site. At a beach nourishment site, bulldozers, loaders, and excavators are used to distribute and shape the pumped or delivered sand. Other support equipment, such as portable lighting, generators, or welding tools may also be present at the site for the duration of the project.

2. Beach or Inlet Shoreline Restoration/Renourishment are activities that expand a prior USACE-established engineered template, regardless of sand borrow source.

   Beach or inlet shoreline restoration/renourishment could be used for beaches or inlet shorelines where additional sand placement is needed beyond a return to pre-disaster conditions and the USACE-established engineered template, or for beaches or inlets not previously nourished or maintained. A USACE engineered template would be developed for beaches not previously nourished or maintained. Sand for this restoration action would be transported to the beach restoration/renourishment site using the same mechanisms as described above for Beach Nourishment; however, the source of the sand may include new borrow areas not previously permitted.

3. Dune Restoration are activities that restore or expand dunes to or beyond pre-disaster USACE-designed dune profiles.

   This restoration action could be utilized to restore dune systems to, or beyond, their pre-disaster profiles through protective sand fencing or placement of additional sand, as applicable. Dune systems act as a barrier between the ocean and inland areas, absorbing wave energy during storms. The effectiveness of a dune system in protecting against storms depends on its size (height, length, and width) relative to anticipated wave size and storm surge. The design of a restored dune is based on the required level of protection, predicted wave energy, storm surge, and site conditions like beach width and nearby sensitive areas.

   Sand fencing protects coastal areas by helping to build up dunes and reduce wind erosion. Sand fences (also called wind fences) are barriers made of permeable fabric or evenly spaced wooden slats that allow wind to pass through but reduce its speed, causing sediment to deposit along the fence. Wind fences are placed perpendicular to the prevailing wind and are typically three to four feet high. Fence posts are buried several feet into the sediment to withstand erosion and waves.

Installing multiple rows of fences spaced 20 to 40 feet apart maximizes sediment capture efficiency (USEPA, 2021).

When dunes are restored, sand is typically placed on the seaward side of an existing dune that has been eroded to enhance the dune's ability to protect infrastructure on the landward side. Under this restoration action, sand may be placed to restore or expand the dune beyond the USACE-designed dune profile. Sand fence installation and the placement of any additional sand to restore or expand dunes would occur above the mean high-water mark (MHWM). Sand needed for this action could be sourced from an existing or new borrow source using the same mechanisms previously described for Beach Nourishment. The same types of construction and support equipment used for beach nourishment and beach restoration/renourishment would be used to shape dune profiles.

4. Dune Establishment are activities that establish a new USACE-designed dune system in coastal areas not previously supported by dunes.

   Dune establishment is a shoreline protection option where a new mound of compatible sediment (i.e., sediment of a similar size, shape, color, and texture) is built along the back of a beach or inlet shoreline seaward of the upland assets to be protected. USACE would design a dune profile based on the existing beach and dune slope, the width of the dry beach, and the grain size of the dune sediments. The same types of construction and support equipment used for beach nourishment, beach restoration/renourishment, and dune restoration would be used to establish new dunes. Sand needed for this action could be sourced from an existing or new borrow source.

5. Sand Borrow Expansion are activities that expand an existing offshore or upland borrow area to support eligible nourishment or restoration project(s).

   This action would include expanding the boundary of an existing permitted offshore or upland borrow area. The borrow area would be dredged or excavated using the same mechanisms described above for Beach Nourishment; however, permitting would be required for dredging or mining a deeper and/or wider area than under previous borrow operations.

6. Sand Borrow Establishment are activities that establish a new, offshore or upland borrow area to support eligible nourishment or restoration project(s).

   This action would establish new offshore or upland borrow areas in combination with other actions evaluated in this PEA to support responsible planning and design of beach nourishment and restoration projects. These new borrow areas would be dredged or mined using the same mechanisms described above for Beach Nourishment; however, new permits would be required to establish the new borrow area.

2.3. Alternatives Considered

NEPA regulations require all reasonable alternatives to be explored and objectively evaluated. For the purpose of this analysis, an alternative is considered "reasonable" if it would meet the Proposed Action's purpose and need and is technically and economically feasible. "Unreasonable" alternatives

that would not meet the Proposed Action's purpose and need and/or are not technically and economically feasible were dismissed from further consideration in this PEA.

2.3.1. NO ACTION ALTERNATIVE

Under the No Action Alternative, the Proposed Action would not occur and FEMA's grant programs would not support beach, inlet shoreline, and dune nourishment, renourishment, and restoration actions without conducting a higher level of NEPA review for each project. FEMA's grant programs would continue to support coastal nourishment or restoration actions, but any proposed coastal nourishment or restoration actions not eligible to be statutorily or categorically excluded would require project-specific higher level of NEPA review (i.e., completion of an EA or Environmental Impact Statement). Reviews for actions that are statutorily or categorically excluded from NEPA review under the Stafford Act or DHS Instruction 023-01 Rev 01, such as the construction of emergency sand berms and actions, including the placement of sand for the purposes of restoration to pre-disaster conditions, would continue to be documented through the completion of a REC.

A lack of a streamlined approach to environmental and historic preservation regulatory reviews for beach projects does not align with FEMA's resilience priorities. This may unintentionally increase the risk of noncompliance for grant recipients who proceed with time-critical projects before completing NEPA reviews, potentially jeopardizing their funding. If projects do not move forward on time due to the procedural administration of a NEPA decision, infrastructure may remain inadequately protected during the hurricane season.

The No Action Alternative would not satisfy the purpose of or need for the Proposed Action; however, this alternative was retained to provide a comparative baseline against the Proposed Action. The No Action Alternative reflects the *status quo* and serves as a benchmark against which effects of the Proposed Action can be evaluated.

2.3.2. PROPOSED ACTION ALTERNATIVE

Under the Proposed Action Alternative, FEMA's grant programs would support programmatic implementation of the six categories of coastal nourishment and restoration projects that involve less than 2.1 MCY of sand placement or displacement. FEMA's grant recipients and subrecipients would be able to document these projects using either a site-specific REC or a tiered, site-specific EA or EIS, as appropriate. This approach would allow FEMA to efficiently meet environmental and historic preservation compliance requirements for each project, as appropriate and consistent with applicable law. Actions that are statutorily or categorically excluded from NEPA review under the Stafford Act or DHS Instruction 023-01 Rev 01, such as the construction of emergency sand berms, would continue to be documented through the completion of a REC. Therefore, the Proposed Action Alternative meets the purpose and need for the Proposed Action.

2.4. Best Management Practices

This section presents the Best Management Practices (BMPs) that are incorporated into the Proposed Action. The BMPs identified in this PEA are inherently part of the Proposed Action and are not additional mitigation measures. BMPs differ from mitigation measures, which are project-specific measures that are specifically proposed to avoid, minimize, rectify, reduce, or compensate for project-specific impacts of the Proposed Action. BMPs are existing measures required by law, regulation, or policies that are ongoing and regularly occurring practices that FEMA would adopt to reduce the environmental impacts of implementing the Proposed Action to the extent practicable. Table 1 includes a list of BMPs applicable to the Proposed Action for each evaluated resource.

Table 1. Best Management Practices included in Proposed Action

Resource	Best Management Practices
Land Use	▪ Consult with USFWS for any project located within a CBRS unit. ▪ Obtain a Joint Coastal Permit (JCP) for all projects that extend seaward of the MHWM, extend into sovereign submerged lands, and affect the distribution of sand along the beach.
Noise	▪ Adhere to local noise ordinances and schedule work during designated hours, typically avoiding early morning, late evenings, and nighttime periods ▪ Implement standard noise reduction BMPs, like the use of mufflers on construction equipment and vehicles.
Visual Resources and Aesthetics	▪ Limit construction activities to the area affected. ▪ Use sediment that matches the existing beach in size, shape, color, and texture.
Geology and Soils	▪ Implement sediment controls prior to conducting land-disturbing activities and maintain them throughout construction. ▪ Use sediment that matches the existing beach in size, shape, color, and texture. ▪ Obtain a National Pollutant Discharge Elimination System (NPDES) permit from the FDEP for individual projects that require greater than one acre of disturbance, as necessary.
Air Quality	▪ Apply water or use stabilization measures on areas of bare soil to minimize fugitive dust or wind-blown soil. ▪ Cover dump trucks carrying materials that could become airborne. ▪ Maintain construction equipment in accordance with manufacturers' specifications and U.S. Environmental Protection Agency (USEPA) regulations for non-road engines to reduce exhaust emissions. ▪ Limit idling of construction equipment.

Resource	Best Management Practices
Water Resources	▪ Perform routine inspections of equipment and maintain spill containment and clean-up materials on-site to prevent releases to nearby surface waters and groundwater. ▪ Adhere to spill response plans during operation. ▪ Obtain a NPDES permit from the FDEP for projects involving more than 1 acre of ground disturbance. ▪ Obtain a State Environmental Resource Permit (ERP) from the FDEP for projects involving dredging. ▪ Consult with USACE for each project and obtain Clean Water Act of 1972 (CWA) Section 404 and Rivers and Harbors Act of 1899 (RHA) Section 10 permits, as necessary. ▪ Consult with BOEM on potential permitting requirements for projects involving borrow areas located within the outer continental shelf. ▪ Coordinate with the Florida State Clearinghouse to obtain Federal Consistency Determinations (FCDs) for individual projects, as necessary.
Biological Resources	▪ Implement standard BMPs to avoid or mitigate potential impacts to vegetation and wildlife, including implementing sand fencing, turbidity curtains, wildlife buffers, restricting beach access to existing access corridors, adhering to time-of-year (TOY) and seasonal restrictions, as applicable, and implementing additional measures required by USFWS on a project-specific basis. ▪ Implement conservation measures in accordance with Programmatic Biological Opinions (BOs), as applicable. ▪ Adhere to standard in-water work conditions for species protection (see **Appendix F**). ▪ Conduct project-specific Section 7 consultation with the NMFS and the USFWS. ▪ Adhere to recommendations or requirements provided by the USFWS or NOAA during Section 7 consultation or other federal and state agency consultations.

Resource	Best Management Practices
Cultural Resources	▪ Conduct project-specific Section 106 consultation with the State Historic Preservation Officer (SHPO) and Tribal Nations, and adhere to recommendations provided. ▪ Adhere to required conditions negotiated in a PA for actions impacting cultural resources, beyond BMPs. ▪ Conduct pre-construction site-specific surveys in support of individual project approvals (e.g., underwater and terrestrial archaeological survey, historic structures documentation, photographic surveys). ▪ In the event of archaeological discovery, cease work immediately and report findings to the SHPO and/or the Tribal Historic Preservation Officer (THPO), as appropriate.
Traffic and Transportation	▪ Coordinate with applicable roadway and port authorities and obtain approvals to ensure that any potential disruptions to normal roadway or vessel traffic would be managed and mitigated to the extent practicable.
Socioeconomics	▪ Maintain proactive communication with potentially affected communities by providing periodic project updates during project implementation.
Human Health and Safety	▪ Coordinate with FDEP for beach closures and obtain appropriate permits. ▪ Develop and implement Health and Safety Plans (HASPs) on a project-specific basis.
Hazardous and Toxic Materials and Waste (HTMW)	▪ Develop and implement a spill prevention, control, and countermeasure plan (SPCCP) to address inadvertent releases. ▪ Maintain spill containment and clean-up materials on-site. ▪ Perform regular inspections and maintenance of construction equipment and vehicles. ▪ Conduct screenings of Munitions and Explosives of Concern (MEC) and Unexploded Ordnance (UXO) by appropriately trained and certified UXO Technician to determine potential encounter of MEC.

3. Affected Environment and Environmental Consequences

This section describes the natural and human environment that exists within the area of interest and the potential impacts (environmental consequences) associated with implementing the Proposed Action. The specific criteria for evaluating the potential environmental impacts of the Proposed Action Alternative and No Action Alternative are described in the following sections. In accordance with the NEPA statute, impacts should be reasonably foreseeable. The significance of an action is also measured in terms of its context and intensity. The context and intensity of potential environmental impacts are described in terms of their duration, magnitude, and whether they are adverse or beneficial, as summarized as follows:

- **Short-term or Long-term.** In general, short-term impacts are those that would occur only for a limited, finite time with respect to a particular activity of each alternative. Long-term impacts are those that are more likely to be persistent and chronic throughout the life of the Proposed Action or would last years after an impact-producing activity occurred.

- **Reasonably foreseeable**. Effects or impacts from the proposed action or alternatives that are reasonably foreseeable and have a reasonably close relationship to the proposed action or alternatives, including those effects that occur at the same time and/or place as the proposed action or alternatives and may include effects that occur later in time or farther removed in distance from the proposed action or alternatives.

- **Less-than-significant (negligible, minor, moderate).** These relative terms are used to characterize the magnitude or intensity of an impact. Negligible impacts would generally be non-detectable, but if detected, would have slight and localized effects. A minor impact would be slight, but detectable. A moderate impact would be readily apparent, measurable, and would have localized or regional impacts.

- **Significant.** This relative term describes changes to the resource that would be readily measurable and would be those that have a context and intensity that meets the thresholds for significance. These impacts warrant heightened attention and mitigation measures to offset adverse effects would be required to reduce impacts, although long-term changes to the resource would still be expected.

- **Adverse or beneficial.** An adverse impact would cause unfavorable or undesirable outcomes on the human-made or natural environment. A beneficial impact would cause positive outcomes on the human-made or natural environment.

3.1. Resources Eliminated from Detailed Analysis

In compliance with NEPA, this environmental analysis focuses on resources and conditions potentially subject to effects from the Proposed Action. FEMA identified and eliminated from detailed study resources that are not anticipated to have issues or result in notable impacts. Resources retained for detailed analysis are discussed in subsequent sections in this chapter.

After a detailed consideration of natural and social resources that make up the environmental setting of the Proposed Action, FEMA dismissed from further analysis the consideration of utilities. The Proposed Action would not affect public utilities, such as electrical, water, gas, and telecommunications lines. Construction contractors would coordinate appropriately with utility providers to avoid or minimize local service disruptions during temporary construction activities. No long-term changes to local supply and demand of utilities are anticipated.

3.2. Land Use

Land use refers to the modification or management of natural landscapes to meet human needs. In developed and urbanized areas, land uses often include residential, commercial, industrial, utilities and transportation, recreation, open space, and mixes of these basic types. Other uses, such as mining, agriculture, forestry, and specially protected areas (e.g., monuments, parks, preserves, etc.), are typically found on the fringes of or outside of urbanized areas. Plans and policies direct the allocation and management of land resources to serve various needs and interests, while ordinances and regulations set specific limitations on uses. Changes in land use can have broad environmental and socioeconomic implications, affecting ecosystems, water resources, transportation infrastructure, and community development. Analyzing land use involves determining whether a proposed action aligns with existing zoning regulations, land management plans, and regional development goals, while also identifying potential conflicts with current land uses.

3.2.1. AFFECTED ENVIRONMENT

The 825 miles of sandy coastline are one of Florida's most valuable natural landscapes. These beaches are not only vital for tourism, which generates billions of dollars annually, but they also play a crucial role in protecting inland areas from storm surges and erosion. The FDEP is committed to allocating resources to enhance Florida's coastal resilience and oversees various programs to manage and preserve these coastal areas, ensuring sustainable use and development (FDEP, 2025c). The Florida Resilient Coastlines Program is managed by the FDEP's Office of Resilience and Coastal Protection. This program provides funding and technical assistance to coastal communities in Florida and promotes a coordinated approach to sea level rise planning among state, regional, and local agencies (FDEP, 2024b).

The FDEP Beaches Programs is also situated within the Office of Resilience and Coastal Protection and is responsible for protecting, restoring, and managing Florida's coastal systems. The Beaches Program issues coastal construction permits for any construction or activity seaward of the Coastal Construction Control Line (CCCL). The CCCL Program protects coastal resources from improperly located and designed structures and activities and ensures that construction activities do not

destabilize the beach and dune system, cause erosion, or expose upland property to storm damage (FDEP, 2025c). Section 161.053(1)(a) Fla. Stat. (2024) establishes the General Permit Line, which defines the seaward limit where General Permits can be issued for certain construction activities. This provision allows for a streamlined permitting process for activities that are located farther landward of the active beach and dune system but still seaward of the CCCL. This permit facilitates the approval of minor construction projects that have minimal environmental impacts while ensuring compliance with state regulations. A list of relevant statutes, regulations, and Executive Orders relied on for the evaluation of resources areas described in this PEA can be found in **Appendix D**.

The Beaches, Inlets and Ports Program (BIPP) is another program administered by the FDEP's Office of Resilience and Coastal Protection. The BIPP is responsible for processing JCP applications for activities like beach restoration, construction of erosion control structures, and dredging of navigation channels. The BIPP has also developed *The Strategic Beach Management Plan* to address critical erosion areas along the Florida coastline, outlining strategies for beach restoration, nourishment, and inlet management (FDEP, 2023a).

3.2.2. ENVIRONMENTAL CONSEQUENCES

Impacts to land use would be significant if the Proposed Action would be inconsistent or non-compliant with applicable land use plans or policies, lead to permanent incompatible alterations of the characteristics of specific properties, or be incompatible with adjacent or nearby land uses.

Alternative 1: No Action

Under the No Action Alternative, FEMA would not programmatically implement the six nourishment and restoration categories, as proposed, and any proposed coastal nourishment or restoration request not currently eligible to be statutorily or categorically excluded would require a higher level of NEPA review. The No Action Alternative would perpetuate the vulnerability of Florida's coastal resources as FEMA would not be able to efficiently respond to the detrimental effects of weather-related disasters through streamlined approvals and reviews. While adverse impacts to land use and coastal communities would persist under the *status quo*, the No Action Alternative would further exacerbate the impacts by requiring more time and resources to approve nourishment and restoration projects that could instead be quickly approved. Therefore, the No Action Alternative would result in *long-term, adverse impacts* to land use that could reach significant thresholds.

Alternative 2: Proposed Action

Projects under the Proposed Action would align with existing land uses and would not result in a change to surrounding land uses in the short- or long-term. Projects would enhance the current land use of the project sites and surrounding areas by restoring beach and dune systems and protecting inland land uses and coastal resources from erosion, storm surge, and sea level rise. Any projects involving the expansion or establishment of upland sand borrow sites would be implemented in a manner consistent with surrounding or planned land uses, to the extent practicable. If inconsistencies arise, the project could be rendered consistent through a construction permit and/or zoning variance issued by the local land use agency.

FEMA would prepare a tiered, site-specific NEPA analysis for any project requiring more than 2.1 MCY of sand placement or displacement, or for any project located within a CBRS unit. Projects within a CBRS unit would also require consultation with USFWS based on the exceptions outlined in the Coastal Barrier Resources Act of 1982 (CBRA) and associated regulations. The CBRA and other requirements regarding coastal resources regulations are discussed more in depth in **Section 3.5**.

A JCP would likely be required for all beach renourishment projects, as they would meet all the criteria: extending seaward of the MHWM, extending into sovereign submerged lands, and affecting the distribution of sand along the beach (FDEP, 2025c). Projects under the Proposed Action would likely not require CCCL permits, as they would not involve construction activities that could destabilize the beach and dune system, cause erosion, or expose upland property to storm damage. Projects under the Proposed Action would, in fact, help stabilize the beach and dune system, minimize erosion, and protect upland property from storm damage. Therefore, the Proposed Action would have *no short-term impacts* to land use and *long-term, moderate beneficial impacts* to coastal land uses.

3.3. Noise

Noise is generally defined as unwanted sound. Human response to noise can vary according to the type and characteristics of the noise source, distance between the noise source and receptor, and time of day. The Noise Control Act of 1972 (42 U.S.C. 4901-4918) is a federal regulation aimed at reducing noise pollution to protect public health and welfare. However, the primary responsibility for noise control lies with state and local governments, which typically have noise ordinances to regulate sound levels and mitigate noise pollution. These noise ordinances often establish permissible noise levels, time restrictions for certain activities, and guidelines for different zones.

3.3.1. AFFECTED ENVIRONMENT

Noise conditions near potential project sites under the Proposed Action vary depending on the location and surrounding activities. Coastal areas typically experience ambient noise from natural sources like waves, wind, and wildlife, but conditions are generally quiet. Urbanized beaches may have higher noise levels from human activities like tourism, traffic, and recreational activities. In Florida, noise regulations are primarily managed at the local level by city and county governments. Many areas enforce quiet hours starting at 10 p.m. and ending at 7 a.m., during which noise levels must be substantially reduced. Residential areas often have decibel (dB) limits around 55 dB during the day and 50 dB at night, aiming to minimize disturbances from construction activities, dogs and pets, and other disruptive sources during specific hours. Local authorities generally use sound level meters to assess noise complaints and ensure compliance with ordinances. Noise ordinances will sometimes allow exceptions, like for construction activities, which can often be permitted from 7 a.m. to 6 p.m. on weekdays. However, these guidelines are generalizations, and each ordinance may vary.

3.3.2. ENVIRONMENTAL CONSEQUENCES

A noise impact would be significant if it violates applicable noise regulations, causes unsafe noise conditions for nearby receptors, or substantially affects normal operations of noise-sensitive receptors after construction is complete.

Alternative 1: No Action

Under the No Action Alternative, FEMA would not implement the six nourishment and restoration categories, as proposed, and any proposed coastal nourishment or restoration request not currently eligible to be statutorily or categorically excluded would require a higher level of NEPA review. Construction activities from these projects would continue to result in temporary increases in noise levels within the vicinity of each project site. However, it is expected that project proponents would adhere to local noise ordinances and implement noise reduction BMPs to minimize impacts. As the No Action Alternative would not change current conditions, there would be *no impact* to the noise environment under the *status quo*.

Alternative 2: Proposed Action

Construction activities associated with the Proposed Action would result in a temporary increase in noise levels within the vicinity of each project site. However, each project would be designed to adhere to local noise ordinances, ensuring that construction activities are conducted in a manner that minimizes disruption to the surrounding community. By scheduling work during designated hours, typically avoiding early morning, late evenings, and nighttime periods, these projects would substantially reduce noise impacts. Additionally, noise reduction BMPs, like the use of mufflers on construction equipment and vehicles, would further minimize noise impacts from construction activities. Therefore, the Proposed Action would have *short-term, minor adverse impacts* from noise. FEMA would prepare a tiered, site-specific NEPA analysis for any project that would result in noise impacts on sensitive receptors that cannot be mitigated to minor or moderate levels through BMPs, permit conditions, or regulatory agency coordination.

3.4. Visual Resources and Aesthetics

Visual resources refer to the elements of the natural and built environment that contribute to the aesthetic quality of a landscape. These elements can include landforms, vegetation, waterbodies, and human-made structures, which together shape the visual character of an area. In this context, aesthetics encompasses sensory perception and the value individuals or communities place on the visual environment. This can include scenic views, the visual harmony between natural and man-made elements, and the overall beauty or distinctiveness of an area. While visual quality is somewhat subjective, certain features can often make an area less appealing. Evaluating visual resources involves assessing whether a proposed action harmonizes with the existing landscape, architectural styles, and scenic views, while also identifying potential disruptions to the visual environment.

3.4.1. AFFECTED ENVIRONMENT

The visual resources of Florida's coastal counties are characterized by their natural beauty and recreational value. These coastal areas feature sandy beaches, dunes, and native vegetation that contribute to their scenic appeal. The visual quality of Florida beaches is influenced by the presence of clean, white sand, clear waters, and the natural landscape, which includes both flora and fauna. These areas attract millions of tourists annually, contributing to the local economy and providing recreational opportunities for residents and visitors. Sandy shores and waters offer scenic views, while dunes enhance the beauty of the coastline. However, ongoing erosion and storm damage have begun to degrade these coastal landscapes, which has negatively impacted the aesthetic value of the coastline.

3.4.2. ENVIRONMENTAL CONSEQUENCES

A visual resources impact would be significant if it introduces discordant elements or removes important (i.e., visually appealing) elements in a previously cohesive and valued viewscape.

Alternative 1: No Action

Under the No Action Alternative, FEMA would not implement the six nourishment and restoration categories, as proposed, and any proposed coastal nourishment or restoration request not currently eligible to be statutorily or categorically excluded would require a higher level of NEPA review. The lack of a streamlined approach would perpetuate the vulnerability of Florida's shoreline as FEMA would not be able to efficiently respond to the detrimental effects of severe coastal storms. Depending on project location, ongoing erosion may degrade coastal viewscapes and diminish the aesthetic value of coastal communities. The No Action Alternative would further exacerbate these impacts by requiring more time and resources to approve nourishment and restoration projects. Therefore, the No Action Alternative would result in *long-term, adverse impacts* that could reach significant thresholds for visual resources and aesthetics.

Alternative 2: Proposed Action

Implementation of the Proposed Action would result in short-term disruptions to the aesthetic environment due to the presence of construction equipment and staging areas at project sites. However, these impacts would be temporary, and beach and dune nourishment and restoration actions would be limited to the area affected to minimize visual impacts. Offshore borrow sites are often submerged and not visible from the shore, minimizing their impact on visual resources. Inland borrow sites, however, can be more visually intrusive, especially if they involve substantial excavation and disturbance of the visual landscape. The visual impact of these sites would depend on their location, size, and the extent of the disturbance. However, FEMA would ensure proper management and restoration of these borrow sites to minimize visual impacts and ensure project activities are as harmonious with the visual landscape as feasible. In the long term, the Proposed Action serves to provide aesthetic benefits by repairing degraded beaches and eroded shorelines. Additionally, FEMA would use sediment that matches the existing beach in size, shape, color, and texture to maintain sediment uniformity and the visual harmony of the beach. Therefore, the Proposed Action would

have *short-term, minor adverse impacts* and *long-term beneficial impacts* on visual resources and aesthetics. Section 3.7, Cultural Resources, addresses aesthetic and visual considerations from a historic viewshed perspective. FEMA would prepare a tiered, site-specific NEPA analysis for any project that would result in visual impacts that cannot be mitigated to minor or moderate levels through BMPs, permit conditions, or regulatory agency coordination.

3.5. Geology and Soils

Geology refers to surface and subsurface materials and processes, as well as their seismic tendencies and stability. Soils are typically described in terms of their type, physical characteristics, and types of land use. Hydric soils are defined as soils that have formed under conditions of saturation, flooding, or ponding long enough to develop anaerobic (low oxygen) conditions. Under natural conditions, these soils are able to support growth and regeneration of vegetation that has adapted to grow in saturated and anaerobic conditions. Presence of hydric soils is one of the criteria used to identify and delineate wetlands (USGS, 2021a).

The Agriculture and Food Act of 1981 (P.L. 97-98) contains the Farmland Protection Policy Act of 1981 (FPPA) (7 U.S.C. § 4201). The FPPA is intended to minimize the impact federal programs have on the unnecessary and irreversible conversion of farmland to nonagricultural uses. In accordance with the FPPA, farmland includes prime farmland, unique farmland, and land of statewide or local importance. Prime farmland is defined as land that is available for and has a combination of physical and chemical characteristics that are best suited for producing food, feed, forage, fiber, and oilseed crops (USDA, 2015).

3.5.1. AFFECTED ENVIRONMENT

Florida's geology is characterized by its unique origins and diverse formations. The state was once submerged under a warm, shallow ocean, resulting in extensive limestone deposits. Over millions of years, quartz sand and clays were transported from the Appalachian Mountains, contributing to the state's geological diversity. Florida's geologic strata are divided into formations, each with distinct compositions such as clays, sands, shell beds, limestone, dolostone, and quartz sands. These formations, ranging from the Miocene to the Pleistocene epochs, are found throughout the state, from the Panhandle to South Florida. The Florida Geological Survey provides detailed information on these formations, highlighting their importance in understanding the state's geological history (FDEP, 2024c). The U.S. Geological Survey (USGS) 2023 update of the Seismic Hazard Map shows that the southern part of Florida is at extremely low risk of seismic hazard (i.e., hazard level 1 out of 7), while the northern part of the state is at low risk of seismic hazard (i.e., hazard level 2 out of 7) (USGS, 2024). The USGS Seismic Hazard Map can be found in Appendix E.

Soils in Florida's coastal areas, particularly beaches, are predominantly composed of sandy materials, which are highly permeable and prone to erosion. These sandy soils are formed from the weathering of quartz and other minerals, transported by wind and water over time. Coastal soils often lack the organic matter and nutrients found in inland soils, making them less fertile. However, they play a critical role in supporting coastal ecosystems, providing habitat for certain plant and

animal species. The dynamic nature of these soils, influenced by tides, storms, and human activities, requires careful management to prevent erosion and maintain the stability of coastal environments. A general soils map of Florida can be found in **Appendix E** (Carlisle, 2019).

Projects identified under the Proposed Action would occur in coastal areas. Prime farmland is generally characterized by its high-quality soil and suitability for agriculture and is not commonly found in coastal zones, which are primarily composed of sandy soils and subject to erosion and saltwater intrusion (the encroachment of saline water into freshwater aquifers). These areas are not usually considered ideal for agriculture use and would not qualify as prime or unique farmland. Therefore, consultation with the Natural Resources Conservation Service (NRCS) is not required for FPPA compliance, and this resource is dismissed from analysis.

Similarly, project sites under the Proposed Action are not likely to contain hydric soils, as these soils are typically found in wetlands and are characterized by frequent saturation with water. Sandy beaches are generally well-drained and do not retain water long enough to develop the characteristics of hydric soils.

In Florida, the National Pollutant Discharge Elimination System (NPDES) permits play a crucial role in regulating activities that may impact soil quality. These permits ensure that construction and industrial activities implement BMPs to prevent soil erosion and sedimentation, which can degrade soil health and structure. The FDEP oversees the NPDES program, enforcing measures to maintain soil integrity and prevent contamination from pollutants. The NPDES program and permitting requirements are discussed further in **Section 3.5**.

3.5.2. ENVIRONMENTAL CONSEQUENCES

Impacts to geology and soils would be significant if the Proposed Action would expose people or structures to major geological hazards or substantially increase potential occurrences of erosion or sedimentation.

Alternative 1: No Action

Under the No Action Alternative, FEMA would not programmatically implement the six nourishment and restoration categories, as proposed, and any proposed coastal nourishment or restoration request not currently eligible to be statutorily or categorically excluded would require a higher level of NEPA review. The No Action Alternative would perpetuate the vulnerability of Florida's coastal resources as FEMA would not be able to efficiently respond to the detrimental effects of weather related disasters through streamlined approvals and reviews. While adverse impacts to soils would persist under the *status quo*, the No Action Alternative would further exacerbate the impacts by requiring more time and resources to approve nourishment and restoration projects that could instead be quickly approved. Therefore, the No Action Alternative would result in *long-term, adverse impacts* that could reach significant thresholds for soils. The No Action Alternative would have *no impact* on geology, as geological resources in the existing environment would continue in their current state and would not be affected by the implementation of coastal nourishment or restoration projects.

Alternative 2: Proposed Action

Under the Proposed Action, sand borrow expansion and establishment activities would require excavation, as well as soil disturbance and removal. However, bedrock is not anticipated to be encountered and there should be no geologic hazards near any of the project sites. Seismic events are not expected to interfere with project activities, nor would restoration activities under the proposed projects exacerbate the local risk of a seismic event occurring. Therefore, the Proposed Action is expected to have *no impacts* on geology.

Excavation and dredging activities under the Proposed Action would disturb the soil structure and composition at the sand borrow pit sites. Impacts to soils would also occur from the addition of sediment to beaches and dunes during nourishment and restoration activities. However, FEMA would use sediment that matches the existing beach in size, shape, color, and texture and complies with the requirements outlined in Section 62B-41.007, Florida Administrative Code (2017). FEMA would also coordinate with grant recipients and subrecipients to ensure NPDES permits are obtained from the FDEP for individual projects, as necessary. The NPDES program and permitting requirements are discussed further in **Section 3.5**. Therefore, projects under the Proposed Action would have *short-term, minor to moderate adverse impacts* to soils during construction activities. However, over time, renourishment and restoration of beaches and dunes would help stabilize the beach and reduce erosion from weather-related disasters, benefiting soil health and preserving the beach and nearby structures. Therefore, the Proposed Action would have *long-term beneficial impacts* on soils. FEMA would prepare a tiered, site-specific NEPA analysis for any project requiring more than 2.1 MCY of sand placement or displacement, or any project with potential effects to geological or soil resources that exceed short-term, moderate effects and cannot be mitigated through regulatory permit conditions and resource agency consultation.

3.6. Air Quality

3.6.1. AFFECTED ENVIRONMENT

Under the Clean Air Act of 1970 (CAA) and its amendments, the USEPA identifies air pollutants that cause or contribute to the endangerment of human health and or environmental welfare and defines air quality “criteria” that guide the establishment of air quality standards to regulate these pollutants (42 U.S.C. Sections 7408 - 7409). To date, the USEPA has established such criteria for six air pollutants: Carbon Monoxide (CO), lead (Pb), nitrogen dioxide (NO2), Ozone (O3), particulate matter less than 2.5 micrometers in diameter (PM2.5), particulate matter less than ten micrometers in diameter (PM10), and sulfur dioxide (SO2). As a result, the USEPA created National Ambient Air Quality Standards (NAAQS) meant to safeguard public health (i.e., primary NAAQS) and environmental welfare (i.e., secondary NAAQS). Current NAAQS are presented in **Table 2.**

Table 2. National Ambient Air Quality Standards

Pollutant	Averaging Time	Level	Form
Carbon Monoxide (CO)	8-hour (primary)	9 ppm	Not to be exceeded more than once per year
CO	1-hour (primary)	35 ppm	Not to be exceeded more than once per year
Lead (Pb)	Rolling 3-month average (primary and secondary)	0.15 µg/m3	Not to be exceeded
Nitrogen Dioxide (NO2)	1-hour (primary)	100 ppb	98th percentile of 1-hour daily maximum concentrations, 3-year average
NO2	Annual (primary and secondary)	53 ppb	Annual mean
Ozone (O3)	8-hour (primary and secondary)	0.070 ppm	Annual fourth-highest daily maximum 8-hour concentration, 3-year average
Particulate Matter (PM)	PM2.5 Annual (primary)	9.0 µg/m3	Annual mean, 3-year average
PM	PM2.5 Annual (secondary)	15 µg/m3	Annual mean, 3-year average
PM	PM2.5 24-hour (primary and secondary)	35 µg/m3	98th percentile, 3-year average
PM	PM10 24-hour (primary and secondary)	150 µg/m3	Not to be exceeded more than once per year, 3-year average
Sulfur Dioxide (SO2)	1-hour (primary)	75 ppb	99th percentile of 1-hour daily maximum concentrations, 3-year average
SO2	3-hour (secondary)	0.5 ppm	Not to be exceeded more than once per year

Notes: ppb = parts per billion, ppm = parts per million, µg/m3 = micrograms per cubic meter of air
Source: (USEPA, 2024a)

USEPA and state and/or local air quality control agencies monitor and evaluate outdoor air quality for compliance with the NAAQS. Areas where monitored outdoor air concentrations are within an applicable NAAQS are considered in attainment of that NAAQS. If sufficient ambient air monitoring data is not available to decide NAAQS compliance, the area is instead deemed attainment/unclassifiable. Areas where monitored outdoor air concentrations exceed the NAAQS are designated by the USEPA as nonattainment areas. Nonattainment designations for some pollutants (e.g., O3) can be further classified based on the severity of the NAAQS exceedances. Lastly, areas

that have historically exceeded the NAAQS, but have since instituted controls and programs that have successfully remedied these exceedances, are known as maintenance areas.

FDEP operates various programs, including ambient air monitoring and air quality permitting, to carry out its regulatory duties under state and federal law in Florida. None of Florida's counties are currently in nonattainment of any NAAQS. Of Florida's coastal counties, Hillsborough and Nassau counties have historically exceeded one or more of the current NAAQS but now meet all current NAAQS. Parts of Hillsborough County are currently considered in maintenance for the 2008 Pb NAAQS and the 2010 SO2 NAAQS. Nassau County is currently considered in maintenance for the 2010 SO2 NAAQS. All other Florida coastal counties are in attainment/unclassifiable for all current NAAQS (USEPA, 2025b).

Clean Air Act Conformity

The General Conformity Rule (40 CFR Part 51, Subpart W) mandates that federal actions abide by requirements contained in approved State Implementation Plans (i.e., air quality control plans) in or affecting NAAQS in nonattainment or maintenance areas, except when the action is exempt because the total increase in emissions is insignificant, or *de minimis*. If annual emissions resulting from a federal action are below applicable *de minimis* rates, the emissions are assumed not to contribute to new or existing violations of the NAAQS, and no further analysis is required under the General Conformity Rule. Individual projects implemented under the Proposed Action in either Hillsborough County or Nassau County would be subject to General Conformity Rule considerations. The *de minimis* thresholds in Hillsborough County are 100 tons per year of SO2 and 25 tons per year of Pb. The *de minimis* threshold in Nassau County is 100 tons per year of SO2 (40 CFR 93.153(b)(2)). The General Conformity would not apply to projects occurring in any of Florida's other coastal counties.

3.6.2. ENVIRONMENTAL CONSEQUENCES

The threshold level for a significant impact to air quality is defined as a violation of an ambient air quality standard or regulatory threshold.

Alternative 1: No Action

Under the No Action Alternative, FEMA would not programmatically implement the six nourishment and restoration categories, as proposed. Any ongoing or future coastal nourishment or restoration activities would result in pollutant emissions, of which the scale and magnitude would reflect the scale and magnitude of the activity. Short- and long-term emissions would impact only the local ambient air quality in the vicinity of each project. Impacts to air quality overall from coastal nourishment or restoration activities would continue to be less-than significant under the No Action Alternative. However, the No Action Alternative would have no potential to change an area's NAAQS attainment status, regardless of the location or the magnitude and intensity of the action, and therefore, would have *no impact* to air quality under the *status quo*.

Alternative 2: Proposed Action

Criteria Pollutants: Each of the six individual actions included in the Proposed Action would have *short-term, less-than-significant adverse impacts* to the existing air quality environment in the vicinity of the Proposed Action Area during action implementation. The Proposed Action would result in short-term emissions from any one or more of the following, depending on the action or project implemented: exhaust emissions from construction equipment used for sand placement, beach or dune shaping, or borrow area expansion or establishment; exhaust emissions from trucks used to transport sand and/or vegetation planting materials; exhaust emissions from dredge operation; and exhaust emissions from worker commute vehicles. Construction equipment would be certified in accordance with USEPA regulations for non-road engines (40 CFR Parts 89 and 1039). No open burning would occur. Sand placement, grading, and beach or dune shaping activities, and borrow site establishment or expansion would generate PM (e.g., windblown dust) from vehicles and equipment traveling on unpaved or unvegetated surfaces.

BMPs would be implemented during action implementation to reduce potential impacts on air quality, including having no visible emissions such as dust or wind-blown soil. These control measures could include applying water or using other stabilization measures on unpaved roads, areas of bare soil, or soil piles and covering dump trucks that transport materials that could become airborne. Additionally, contractors would be required to maintain all equipment in accordance with manufacturers' specifications and USEPA regulations for non-road engines to reduce exhaust emissions. Therefore, each of the six individual categories under the Proposed Action would have *short-term, minor adverse impacts* to the existing air quality environment in the vicinity of the Proposed Action Area.

General Conformity: As previously discussed, any actions implemented under the Proposed Action outside of Hillsborough and Nassau Counties would not be subject to General Conformity regulations, while actions implemented in Hillsborough County would be subjected to *de minimis* thresholds for SO2 and Pb, and actions implemented in Nassau County would be subject to the *de minimis* threshold for SO2.

Under the CAA, the production and sale of leaded gasoline was banned in 1996; therefore, any gasoline burned in construction vehicles or gasoline-burning equipment would not emit Pb. Negligible quantities of Pb may be present in some modern diesel fuels that would be burned in trucks transporting sand, most construction equipment, and dredge vessels. As of 2014, USEPA's diesel standards require that all non-road and marine engines and equipment must use ultra-low sulfur diesel, with a maximum sulfur concentration of 15 parts per million (with some exceptions for older marine engines). In the United States, the maximum allowable sulfur concentration for gasoline is 10 parts per million on an annual average basis. Therefore, Pb and SO2 emissions from mobile sources, including on-road vehicles, non-road equipment, and marine vessels, would fall well below applicable *de minimis* thresholds for either pollutant, for every action implemented under the Proposed Action, in both Hillsborough and Nassau Counties. Therefore, the General Conformity Rule does not apply, and no further analysis is warranted.

Tiered Environmental Assessment Conditions: Only actions implemented under the Proposed Action in Hillsborough and Nassau Counties would be subject to any regulatory emissions thresholds (i.e., *de minimis* rates for Pb and SO2 in Hillsborough County and for SO2 in Nassau County). Significant emissions of these pollutants are typically associated with point sources including certain industrial and manufacturing processes, which are not included in the Proposed Action. Due to the absence of Pb in gasoline, negligible potential Pb content in diesel fuel, and minor concentrations of sulfur in gasoline and diesel fuel, no actions implemented under the Proposed Action would approach these thresholds and would have no potential to change an area's NAAQS attainment status, regardless of the magnitude and intensity of the action. Therefore, air quality considerations would not require a tiered NEPA analysis to be performed for any action implemented under the Proposed Action.

3.7. Water Resources

Water resources analyzed in this PEA include surface water (including stormwater and wild and scenic rivers), groundwater, floodplains, wetlands, and coastal resources. Surface water consists of lakes, rivers, streams, and bays. Stormwater is rainwater or melted snow that runs off surfaces and into surface waters or wetlands, rather than infiltrating into the ground. Groundwater can be defined as subsurface water resources that are interlaid in layers of rock and soil and recharged by surface water infiltration. The Clean Water Act of 1972 (CWA; 33 U.S.C. § 1251 et seq.), as amended, regulates the discharge of pollutants into water with shared jurisdiction between the USEPA and the USACE. The RHA (33 U.S.C. § 401 et seq.) authorizes USACE and the U.S. Coast Guard to regulate activities occurring within navigable waters. The Wild and Scenic Rivers Act (P.L. 90-542, 16 U.S.C. § 1271 et seq.), protects waterways with extraordinary natural, cultural, and recreational qualities.

Floodplains are any land area subject to flooding (44 CFR § 9.4). An area subject to a 1% annual chance flood is known as the 1% annual chance floodplain (also known as the 100-year floodplain or base floodplain). An area subject to a 0.2% annual chance flood is known as the 0.2% annual chance floodplain (also known as the 500-year floodplain). Wetlands are areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and under normal conditions do support, a prevalence of vegetation typically adapted for life in saturated soil conditions (USACE, 1987). The Coastal Zone Management Act of 1972 (CZMA; P.L. 92-583, 16 U.S.C. §§ 1451-1466), as amended, enables states to implement federally approved coastal programs to protect coastal areas. The CBRA (P.L. 97-348, 16 U.S.C. §§ 3501-3510), as amended, prevents development in areas designated as CBRS using federal funding.

3.7.1. AFFECTED ENVIRONMENT

Surface Water: The coastal counties of Florida are characterized by a diverse array of surface waters, including lakes, rivers, streams, and bays. The region features numerous freshwater lakes and rivers, like the St. Johns River and Lake Okeechobee, which are critical resources for both ecological functions and human use. Florida has approximately 25,949 miles of river, of which 49.2 miles are designated as wild and scenic. Part of the Loxahatchee River in Palm Beach and Martin counties has been classified as a Wild and Scenic River due to outstandingly remarkable ecology, recreation, and wildlife (NPS, 2025). However, the section of the Loxahatchee River that has been designated wild

and scenic is located more than 3.5 miles from the coast, far from any potential project site. Florida's aquatic preserves protect the state's diverse coastal and inland waters. These preserves, including Mosquito Lagoon, in Brevard and Volusia counties, and Biscayne Bay, in Miami-Dade County, help maintain water quality, support aquatic life, and provide recreation opportunities (FDEP, 2025a).

Water quality in Florida faces challenges from various sources, particularly in coastal areas. Water quality is affected by point and nonpoint source pollution from agricultural and stormwater runoff and wastewater discharge. Increased urbanization has led to increased impervious surfaces, which results in higher stormwater runoff, contaminating waterbodies with nutrients, sediments, and chemicals. Florida has implemented stringent stormwater management regulations to minimize the harmful consequences of stormwater runoff. The USEPA has delegated authority to the FDEP to issue NPDES permits in Florida, which regulates the discharge of stormwater to surface waters or to a Municipal Separate Storm Sewer Systems from construction activities that involve more than one acre of ground disturbance. Construction projects that require a NPDES stormwater permit must also implement a stormwater pollution prevention plan (FDEP, 2022). Florida's Environmental Resource Permitting (ERP) program also requires the treatment of stormwater to reduce pollutant loads. The State Water Resource Implementation Rule mandates that stormwater treatment systems remove 80 percent of pollutants that cause or contribute to water quality violations (FDEP, 2024d).

Impaired waters are waters that fail to meet water quality standards due to pollution and environmental stressors. Common issues include nutrient pollution, which can lead to harmful algal blooms, and contamination from urban runoff and agricultural activities. The FDEP regularly evaluates Florida's rivers, streams, lakes, springs, and estuaries against publicly adopted water quality standards, using data from various sources, including its own monitoring program (FDEP, 2024e). Under section 303(d) of the CWA, Florida maintains a list of impaired waters that do not meet their water quality standards. The FDEP then establishes a Total Maximum Daily Load (TMDL) for these impairments, which represents the maximum amount of a pollutant a waterbody can receive while still meeting water quality standards. Since TMDLs target specific impairments, a single waterbody may have multiple TMDLs to manage different pollutants (FDEP, 2024f).

In addition to managing stormwater permitting and water quality programs, the FDEP also regulates most alterations to land surfaces through the ERP program. Following a federal court ruling in 2024, the FDEP no longer has the authority to issue Section 404 permits under the CWA. These permits, which regulate the discharge of dredged or fill material into Waters of the U.S. (WOTUS), are now issued by the USACE until further notice or until any new regulatory changes are implemented (FDEP, 2024g). The ERP program continues to be administered by the FDEP, regulating the management and storage of surface waters. ERP permits are required for many activities, including dredging and filling, dam construction, and the construction of stormwater management systems that discharge into surface waters (FDEP, 2022). Under Section 10 of the RHA of 1899, projects involving excavation, dredging, or deposition of material in navigable WOTUS require authorization from the USACE. Section 10 of the RHA overlaps with Section 404 of the CWA in some activities involving wetlands. Permits for activities regulated under both are processed simultaneously by USACE.

Groundwater: In Florida, the majority of freshwater is sourced from underground aquifers. These aquifers consist of multiple layers or porous rock, like limestone or sandstone, which store and transmit water. Cities, towns, businesses, and agricultural operations draw much of their water supplies from these aquifers (South Florida Water Management District, 2025). The Floridian Aquifer System (FAS) is a principle artesian and highly productive aquifer in the southeastern U.S., spanning approximately 100,000 square miles, including all of Florida and parts of Georgia, Alabama, Mississippi, and South Carolina. The FAS is the primary source of drinking water for almost ten million people. It also supports industrial and agricultural activities, which account for nearly 50 percent of all its water withdrawals (USGS, 2021b).

In south Florida, there are three primary aquifer systems: the FAS, the Surficial Aquifer System, and the Intermediate Aquifer System. The Surficial Aquifer System is extensive and shallow, with depths ranging from 100 to 300 feet underground. It is separated from the FAS by a confining layer of soil and supplies the majority of public freshwater southwest of Lake Okeechobee and along the Atlantic coast in St. Lucie, Martin, Palm Beach, Broward, and Miami-Dade counties (South Florida Water Management District, 2025). Some coastal counties in Florida rely heavily on groundwater from sole-source aquifers, like the Biscayne and Volusia-Floridan Aquifers (USEPA, 2025c). Unmanaged urban stormwater causes various consequences to Florida's groundwater. The compaction of soil and increase in impervious surfaces from urbanization, in addition to alteration of floodplains and wetlands has reduced the amount of rainwater that infiltrates the soil and limits the recharge of aquifers. Pollutants from human activities have also degraded groundwater quality (FDEP, 2024d). Saltwater intrusion also poses a threat to drinking water supplies and estuaries in coastal regions of Florida; saltwater can infiltrate freshwater aquifers due to factors like excessive groundwater pumping, sea level rise, and storm surges.

Floodplains and Wetlands: Floodplains and wetlands each play an integral role in water management and ecosystem health. They exhibit both aquatic and terrestrial characteristics, resulting from the hydrological connection between floodplain or wetland and surface water. Floodplains and wetlands share similar and mutually dependent natural functions, like stormwater storage, groundwater recharge, soil development, water quality improvement, nutrient regulation, and habitat support. Coastal floodplains and marine and estuarine wetlands in Florida are facing threats like alteration, degradation, sea level rise, and extreme weather events. During floods, sediment, pollution, nutrients, and debris within floodplains can be transported to coastal areas, potentially decreasing water quality, increasing turbulence, and blocking rivers, wetlands, and other waterbodies. Additionally, coastal development can alter and destroy coastal floodplains and wetlands, reducing their ability to absorb floodwaters, filter pollutants, and provide wildlife habitat.

FEMA anticipates that some projects identified under this PEA will be located in or near coastal floodplains and marine or estuarine wetlands. Federal actions with potential impacts on floodplains and wetlands are regulated under the CWA, EO 11988, EO 11990, and state and local government regulations. EO 11988, *Floodplain Management*, applies to federal actions that take place in floodplains, while EO 11990, *Protection of Wetland*s, applies to federal actions that take place in or adjacent to wetlands. These EOs prevent federal agencies from funding activities that directly or indirectly contribute to the alteration or development of floodplains or wetlands if there are

practicable alternatives. FEMA uses an 8-step decision-making process to evaluate potential impacts on, and mitigate impacts to, wetlands and floodplains. Similar to NEPA, the 8-step process requires a review of alternatives prior to making funding decisions. FEMA's regulations on implementing the 8-step decision-making process are outlined in 44 CFR Part 9.

Coastal Resources: Coastal resources in Florida are managed under the CZMA and CBRA. These resources include sandy beaches, dune systems, coral reefs, mangroves, salt marshes, seagrass beds, and estuarine environments. Florida is the only state in the continental U.S. with extensive shallow coral reef formations near its coasts, which provide important habitat for many species, including those important for commercial and recreational fishing. Florida's coral reef extends approximately 350 miles from Dry Tortugas National Park to the St. Lucie Inlet in Martin County (FDEP, 2024h). Florida also has an estimated 600,000 acres of mangrove forests that play a vital role in maintaining the overall health of the state's southern coastal zone. Mangroves act as natural barriers against storm surges, hurricanes, and erosion, helping to stabilize shorelines and reduce the impact of waves and storms. In addition to providing essential coastal protection, mangroves also help filter pollutants and trap sediments in coastal waters, improving water quality and protecting other coastal resources, like coral reefs and seagrass beds (FDEP, 2024i). While seagrasses are found throughout the coastal areas of Florida, they are most prevalent in Florida Bay (Monroe County) and from Tarpon Springs (Pinellas County) northward to Apalachee bay (Taylor, Jefferson, Wakulla, and Franklin counties) in the Gulf of America. Florida's 2.2 million acres of seagrasses play a substantial role in trapping sediments and particles, helping to maintain water quality, stabilizing the seabed, and providing shelter and food for marine life (FDEP, 2025b).

Coastal resources face ongoing stress from human activities like coastal development, dredging, and dams. These threats are also often exacerbated by natural forces, like storms and tides. Recreational overuse and coastal development can physically damage important coastal resources. The CZMA is administered by states with shorelines in coastal zones requiring those states to have a Coastal Zone Management Plan (CZMP) to manage coastal development. State CZMPs are approved by NOAA, and projects located within designated coastal zones must be assessed to ensure alignment with state CZMPs. In Florida, there are 35 counties in the coastal zone (see **Figure 1**), and federal consistency reviews are managed by the Florida State Clearinghouse, which is administered by FDEP's Office of Intergovernmental Programs (FDEP, 2024j).

The CBRA aims to discourage development in high-risk areas to minimize loss of human life and protect coastal barriers. The CBRA designated two types of CBRS: System Units and Otherwise Protected Areas (OPAs). System Units refer to areas that were largely undeveloped at the time of their designation, while OPAs are usually lands managed by a qualified organization for purposes such as wildlife refuge, sanctuary, recreational or natural resource conservation purposes. The USFWS maintains the online CBRS Mapper, which shows the locations and boundaries of System Units and OPAs. Federal disaster relief funds cannot be used for projects that promote development within CBRS, with some exceptions for emergency actions and certain restoration projects. However, Section 6 of CBRA (16 U.S.C. § 3505(a)(6)) includes some exceptions for certain actions in System Units if those actions are also consistent with the three purposes of the CBRA. Exceptions are permitted for emergency actions essential to the saving of lives and the protection of property and

the public health and safety. OPAs are only restricted from receiving federal flood insurance. Florida has 137 CBRS in 33 counties, including 70 System Units and 67 OPAs. FEMA's regulations require regional-level consultation with the USFWS before approving any permanent restoration actions on or connected to a System Unit. In certain cases, FEMA's application of CBRA under 44 CFR Part 206 may be stricter than that of the USFWS.

3.7.2. ENVIRONMENTAL CONSEQUENCES

A water resources impact would be significant if it would substantially reduce water availability or interfere with the water supply to existing users, create or contribute to the overdraft of groundwater basins, substantially adversely affect surface or groundwater quality, degrade unique hydrological characteristics, or violate established water resources laws or regulations.

Alternative 1: No Action

Under the No Action Alternative, FEMA would not programmatically implement the six nourishment and restoration categories, as proposed, and any proposed coastal nourishment or restoration request not currently eligible to be statutorily or categorically excluded would require a higher level of NEPA review. The No Action Alternative would perpetuate the vulnerability of Florida's coastal resources as FEMA would not be able to efficiently respond to the detrimental effects of weather-related disasters through streamlined approvals and reviews. While adverse impacts to water resources would persist under the *status quo*, the No Action Alternative would further exacerbate the impacts by requiring more time and resources to approve nourishment and restoration projects that could instead be quickly approved. Therefore, the No Action Alternative would result in *long-term, adverse impacts* that could reach significant thresholds for water resources.

Alternative 2: Proposed Action

Surface Water: Pumping sand ashore via submerged pipelines would increase sedimentation and turbidity at the beach nourishment and restoration sites, which could affect surface waters. Beach and dune nourishment and restoration actions would not impact wild and scenic rivers, as the wild and scenic section of the Loxahatchee River is over 3.5 miles from the coast. While the locations of sand borrow activities are unknown, FEMA would not dredge wild or scenic rivers to expand or establish sand borrow pits. Additionally, while dredging has the potential to impact impaired surface waters through increased sediment load, pollutant mobilization, and altered flow patterns, FEMA would ensure that projects under this PEA obtain all necessary permits from the FDEP and USACE, comply with all applicable federal and state water quality regulations, and adhere to any existing management plans and TMDLs for nearby impaired surface waters. As discussed in **Section 3.3**, FEMA would coordinate with recipients and subrecipients to ensure obtain an NPDES permit from the FDEP for all projects involving more than one acre of ground disturbance. FEMA would also coordinate with recipients and subrecipients to ensure all ERP permits from the FDEP and CWA Section 404 permits or RHA Section 10 permits from USACE are obtained, as necessary. Projects occurring below MHWM would require USACE permitting, including beach nourishment or dredging from offshore borrow areas. New and expanded offshore borrow areas would also require

coordination with BOEM if the borrow area is within the outer continental shelf. Therefore, the Proposed Action is anticipated to have *short-term, minor to moderate adverse impacts* on surface waters from beach and inlet shoreline restoration (or renourishment) actions, dune restoration and establishment actions, and sand borrow area expansion or development projects. However, these impacts would be temporary, and the beach nourishment activities would ultimately have *long-term, beneficial impacts* on surface waters surrounding the beach nourishment sites by stabilizing the shoreline and reducing the rate of erosion and sedimentation. FEMA would prepare a tiered, site-specific EA or EIS if impacts from a project cannot be mitigated to less-than-significant levels and cannot be resolved through the permitting process or agency consultation.

Groundwater: Construction activities required for beach and inlet shoreline restoration (or renourishment) actions, dune restoration and establishment actions, and sand borrow area expansion or development may alter the natural flow and recharge patterns of the underlying groundwater systems. The local water table levels may fluctuate but ultimately would not impact the availability of fresh groundwater resources. Additionally, the use of heavy machinery during these projects introduces the potential for HTMW contamination, as further discussed in **Section 3.9**. FEMA anticipates that the Proposed Action would have *short-term, minor adverse impacts* on groundwater. The Proposed Action may also have *long-term, moderate beneficial impacts* on groundwater, from increased resilience against saltwater intrusion, which threatens aquifers due to storm surges and sea level rise.

Floodplains and Wetlands: As previously noted, the operation of heavy machinery also poses a risk of HTMW contamination. However, accident and spill prevention plans, the implementation of BMPs, and adherence to all permit requirements would minimize adverse impacts from each individual project. FEMA would apply the 8-step decision-making process and publish public notices, as required, to consider site-specific impacts of each project. Due to the potential for increased turbidity at the project sites from pumping sand ashore via submerged pipelines, the Proposed Action has the potential to cause *short-term*, *minor to moderate adverse impacts* wetlands. FEMA would coordinate with recipients and subrecipients to ensure all permits from the FDEP and CWA Section 404 permits or RHA Section 10 permits from USACE are obtained, as necessary. While activities implemented under the Proposed Action would occur in floodplains, these activities serve to mitigate coastal flooding resulting from weather-related disasters in the long term. New or restored dunes would be permanent fixtures within floodplains; however, these systems act as protective barriers to prevent flooding and storm damage. Beach nourishment and restoration projects help protect people and property in floodplains by alleviating the effects of storm events and coastal erosion, decreasing flooding, and limiting how far ashore a storm surge can travel. Any temporary disturbance to floodplains from construction activities associated with the Proposed Action would be avoided or minimized through the 8-step decision making process. Therefore, FEMA anticipates *long-term, minor to moderate beneficial impacts* to floodplains and wetlands from the Proposed Action and the associated increase resilience against storm surge. FEMA would prepare a tiered, site-specific EA or EIS if impacts from a project cannot be mitigated to less-than-significant levels and cannot be resolved through the permitting process or agency consultation.

Coastal Resources: Pumping sand ashore via submerged pipelines for beach nourishment and restoration projects would cause increased turbidity that could affect coral reefs, mangroves, and seagrass beds. However, these impacts would be temporary, and in the long-term, these projects would help stabilize the shoreline, reduce erosion, and increase resilience against storm surge and sea level rise. FEMA would coordinate with recipients and subrecipients to ensure all permits from FDEP to ensure compliance with Florida's Coral Reef Protection Act and prevent or address any damage to coral reefs. This PEA has been shared with the Florida State Clearinghouse for review under the Florida Coastal Management Program (FCMP). Recipients and subrecipients would also consult with the Florida State Clearinghouse for each project under this PEA to obtain a FCD and ensure compliance with the FCMP. FEMA would consult with USFWS for projects that are located within a CBRS to ensure consistency with the CBRA. Therefore, the Proposed Action would result in *short-term, minor adverse impacts* and *long-term beneficial impacts* on coastal resources. FEMA would prepare a tiered, site-specific NEPA analysis for any project that is not consistent with FCMP or CBRA and does not receive concurrence from applicable agencies.

3.8. Biological Resources

Biological resources addressed in this PEA consist of terrestrial and aquatic vegetation, wildlife, and special status species, including designated critical habitat. Vegetation is the assemblage of flora species that are present in an area, and includes invasive species and noxious weeds, which are non-native plant species that have the potential to cause ecological or economic harm. EO 13112 mandates that federal agencies take steps to prevent the introduction and spread of invasive species when carrying out actions. Wildlife refers to the undomesticated animal species that live in an area. Special status species include terrestrial and aquatic federally and state-listed threatened, endangered, and proposed plant and wildlife species, migratory birds, bald and golden eagles, marine mammals, and species with designated Essential Fish Habitat (EFH) or that reside in National Marine Sanctuaries (NMS). Special status species are protected under the federal Endangered Species Act of 1973 (ESA; 16 U.S.C. § 1531 et seq.), the Migratory Bird Treaty Act of 1918 (MBTA; 16 U.S.C. § 703-712), the Bald and Golden Eagle Protection Act of 1940 (BGEPA; 16 U.S.C. § 668-668d), the Marine Mammal Protection Act of 1972 (MMPA; 16 U.S.C. § 1361 et seq.), the Magnuson-Stevens Fishery Conservation and Management Act of 1976 (MSA; 16 U.S.C. § 1801 et seq.), and under other applicable state laws or regulations. Critical habitat refers to specific geographic areas essential to the conservation of a listed species and that receives special protection under the ESA.

3.8.1. AFFECTED ENVIRONMENT

Vegetation: Florida's coastlines are primarily dominated by beach and dune vegetation; including grasses, herbaceous plants, and upland species of shrubs and trees. Vegetation with extensive root systems help hold beach dune sediments in place, thereby controlling erosion. Species of common grasses occurring in the frontal zone of beach dunes include seaoats (*Uniola paniculata*), saltgrass (*Distichlis spicata*), seashore dropseed (*Sporobolus virginicus*), and saltmeadow cordgrass (*Spartina patens*). Species of common herbaceous plants include searocket (*Cakile spp.*), railroad vine (*Ipomoea pes-caprae*), seapurslane (*Sesuvium portulacastrum*), and beach sunflower (*Helianthus*

debilis). Species of common shrubs occurring in the backdune zone include waxmyrtle (*Morella cerifera*), sea grape (*Coccoloba uvifera*), and saw palmetto (*Serenoa repens*). In the forest zone, certain tree species are known to occur, such as pines (*Pinus spp*.) and sand live oaks (*Quercus geminata*) (Williams, 2007). Some invasive plant species are also known to occur along beaches in Florida. Some examples include beach vitex (*Vitex rotundifolia*), beach naupaka (*Scaevola taccada*), and Chinese tallow (*Sapium sebiferum*) (FISC, 2023).

Offshore aquatic vegetation includes seagrass meadows, saltmarshes, mangroves, and other salt-tolerant plants. Turtlegrass (*Thalassia testudinum*), manatee grass (*Syringodium filiforme*), and shoal grass (*Halodule wrightii*) are the most common seagrasses in Florida, providing food and habitat for many species. Salt marshes are composed of a variety of plants including rushes, sedges and grasses. Mangrove forests usually consist of four types of salt-tolerant trees: red, black, and white mangroves, and buttonwood (*Rhizophora mangle*, *Avicennia germinans*, *Laguncularia racemosa*, and *Conocarpus erectus*, respectively). Mangroves are a crucial part of Florida's coastal ecosystem, providing nesting sites for shore birds and shelter for juvenile fish, crustaceans and shellfish (FWC, 2025).

Wildlife: Florida's coastlines support thousands of species of wildlife (birds, mammals, fish, reptiles, amphibians, and invertebrates), including both resident species and migratory species. Shorebirds such as piping plovers (*Charadrius melodus*), roseate terns (*Sterna dougallii dougallii*), red knots (*Calidris canutus rufa*), black skimmers (*Rynchops niger*), and American oystercatchers (*Haematopus palliates*) rest, nest, or feed along Florida's coastline. Species of marine mammals, corals, and fish rely on nearshore areas for protection and suitable spawning habitat. Five species of sea turtles, all of which are federally listed, nest on Florida's beaches, and various rays, skates and sharks feed across sandy seafloors. Numerous species of crabs, clams, scallops, sand dollars, starfish, worms, insects and microorganisms are known to occur along Florida's coastlines and beaches. Common mammals occurring along Florida's beaches, or immediately offshore, could include the federally listed Florida manatee (*Trichechus manatus latirostris*), numerous species of dolphins, the Florida black bear (*Ursus americanus floridanus*), and several subspecies of beach mice (*Peromyscus polionotus*). Florida's coastlines also support a wide variety of terrestrial, freshwater, and marine reptiles, including turtles, lizards, snakes, and skinks, as well as amphibians such as toads and frogs.

Special Status Species: The ESA establishes a federal mandate to conserve, protect, and restore federally listed threatened and endangered (T&E) plants and animals and their habitats. In accordance with Section 7 of the ESA, FEMA, in coordination with USFWS and/or the NOAA NMFS, must ensure that any federal action authorized, funded, or carried out by the agency does not jeopardize the continued existence of federally listed T&E species or result in an adverse modification of designated critical habitat of federally listed species. According to the USFWS Environmental Conservation Online System, there are approximately 136 federally listed T&E species in Florida; 44 of which have either proposed or final critical habitat in the state (USFWS, n.d.[a]). The Florida Fish and Wildlife Conservation Commission (FWC) has identified 147 species as being either threatened, endangered, or state species of special concern (FWC, 2022). T&E species are present in the coastal and offshore habitats of Florida.

The MBTA, as amended, protects over 800 migratory birds from capture, pursuit, hunting, or removal from natural habitat. Migratory birds are species that nest in the U.S. and Canada during the summer and then migrate to and from the tropical regions of Mexico, Central and South America, and the Caribbean for the non-breeding season. Florida serves as a vital stopover, wintering ground, and breeding habitat within the Atlantic Flyway for millions of migratory birds, including shorebirds and waterfowl (USFWS, n.d.[b]). The MBTA makes it unlawful to take, possess, buy, sell, purchase, or barter any migratory bird species, including feathers or other parts, nests, eggs, or products, without prior authorization by the USFWS. Disturbances that cause nest abandonment and/or loss of reproductive effort (e.g., killing or abandoning eggs or young) may also be considered "take." EO 13186, *Responsibilities of Federal Agencies to Protect Migratory Birds*, was issued in 2001 to ensure that federal agencies take certain actions to further implement the MBTA.

The BGEPA, as amended, prohibits taking or harming bald and golden eagles, their eggs, nests (both active and inactive), or young without a permit. Any actions that are likely to cause injury to an eagle, decrease its productivity, or cause nest abandonment are prohibited under the BGEPA. Additional guidance from USFWS, such as the National Bald Eagle Management Guidelines (USFWS, 2007), identifies measures to protect eagles and their nests, such as use-specific buffers around nests. Bald eagles (*Haliaeetus leucocephalus*) are known to occur across most of North America, while golden eagles (*Aquila chrysaetos*) typically occur only in the western half of North America. Approximately 1,500 breeding pairs of bald eagles are located in Florida (Wildlife Informer, 2021). The Audubon Center for Birds of Prey currently monitors existing bald eagle nests in the state of Florida, with many occurring in coastal areas (Audubon, 2024).

In addition to protections for birds provided by the above stated laws, the USFWS identifies birds of conservation concern (BCC), which are migratory and non-migratory bird species not already listed under the ESA that represent the highest avian conservation priorities. A total of 269 species of birds were listed in the BCC 2021 report, and USFWS recommends this list be consulted in accordance with migratory bird regulations in order to protect these species from proposed actions (USFWS, 2021).

Marine mammals are those that are reliant on the ocean; some may be fully aquatic, and others may spend most of their time in the water but still use land or ice for certain activities. Under the MMPA, it is illegal to "take" (i.e., hunt, harass, capture, or kill) marine mammals and import or export marine mammals and their parts or products without a permit except under specific circumstances. The NMFS and the USFWS are jointly responsible for implementing the MMPA, and coordination with these agencies is required for actions that could result in a "take." The USFWS has jurisdiction over manatees, dugongs, sea otters, walruses, and polar bears, while the NMFS has jurisdiction over whales, dolphins, porpoises, seals, and sea lions. Some marine mammals are protected under both the MMPA and the ESA. (NOAA Fisheries, 2022). Marine mammals such as whales, dolphins, and manatees are all known to occur off the coast of Florida.

EFH is defined as "those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity" (NOAA, 2020). The MSA governs and promotes sustainable fisheries management and regulates EFH. The MSA requires federal agencies to consult with NOAA

Fisheries when their activities, including permits and licenses they issue, may adversely affect EFH and respond to recommendations for protecting and conserving EFH. According to the NOAA Fisheries data inventory, there are at least 139 unique species for which EFH has been designated offshore Florida (NOAA, 2024b).

The National Marine Sanctuaries Act (NMSA; 16 U.S.C. § 1431 et seq.) authorizes the Secretary of Commerce to designate and protect areas of the marine environment with special national significance due to their conservation, recreational, ecological, historical, scientific, cultural, archeological, educational or esthetic qualities as national marine sanctuaries. The Florida Keys are designated as a National Marine Sanctuary (NMS) (NOAA, n.d.).

3.8.2. ENVIRONMENTAL CONSEQUENCES

A significant adverse effect to biological resources would occur if proposed activities resulted in substantial permanent loss or degradation of terrestrial or aquatic habitat; result in unpermitted "take" of listed species; or violate regulations concerning special status species.

Alternative 1: No Action

Under the No Action Alternative, FEMA would not implement the six nourishment and restoration categories, as proposed, and any proposed coastal nourishment or restoration request not currently eligible to be statutorily or categorically excluded would require a higher level of NEPA review. The No Action Alternative would perpetuate the vulnerability of Florida's coastal habitats as FEMA would not be able to efficiently respond to the detrimental effects of weather-related disasters on wildlife habitat due to delays in approvals and reviews. While adverse impacts to biological resources would persist under the *status quo*, the No Action Alternative would further exacerbate the impacts by requiring more time and resources to approve nourishment and restoration projects that could instead be quickly approved. Therefore, the No Action Alternative would result in *long-term, adverse impacts* that could reach significant thresholds for biological resources.

Alternative 2: Proposed Action

Vegetation: Terrestrial construction activities, such as the operation of vehicles and equipment, could involve work in upland borrow areas, existing beach dunes, or areas for the establishment of new dune systems. Such activities could result in the minor temporary removal of terrestrial vegetation. Beach access for heavy equipment would be carefully planned to avoid major removals of existing vegetation; creation of ruts; destabilization of banks, beaches, or other landforms. Any areas of vegetation removal would be revegetated following construction. Secondary effects associated with disturbances to vegetation could include increased potential for the introduction and establishment of invasive herbaceous or shrub species within the shoreline community. However, to prevent the spread of invasive species, all heavy equipment would be inspected and thoroughly cleaned to remove any rhizomes and seeds prior to arrival to project sites, thereby minimizing potential dispersion of invasive species. Dune restoration efforts would involve the replanting of native terrestrial vegetation, while dune establishment would involve planting new populations of

native vegetative species (CZM, 2018). Both actions would result in the long-term growth or repopulation of beach dune vegetation populations. Over time, increased vegetation would help stabilize the beach and reduce erosion, thereby preserving coastal habitats. Standard BMPs, including the use of sand fencing and other sediment control measures would be utilized for any sand placement activities to reduce adverse impacts. Effects on terrestrial vegetation will be analyzed further on a project-specific basis. Therefore, the Proposed Action would likely have *short-term, minor adverse impacts* and *long-term, beneficial impacts* on terrestrial vegetation.

The establishment or expansion of offshore sand borrow areas could result in the removal of aquatic vegetation. Potential offshore sand borrow activities could also result in increased turbidity and sedimentation, which would reduce water quality and light penetration and thereby temporarily inhibit photosynthesis in nearby aquatic plants. The Proposed Action would not permanently reduce water quality or inhibit the growth of aquatic vegetation populations. Standard BMPs, including the use of turbidity curtains and other sediment control measures, would be implemented for any sand borrow activities to reduce adverse impacts. Effects on aquatic vegetation will be analyzed further on a project-specific basis. Therefore, the Proposed Action would likely cause *short-term, minor to moderate adverse impacts* on aquatic vegetation.

Wildlife: Both inland borrow activities and sand placement on beaches have the potential to disturb terrestrial wildlife due to temporary instances of increased noise and physical encroachment by construction crews, equipment, and vehicles. Highly mobile terrestrial wildlife species, such as birds, would likely relocate to other nearby suitable habitat and avoid areas in which construction activities are occurring, returning once disruption ends. Standard BMPs would be implemented to avoid or mitigate potential impacts to the greatest extent practicable to less mobile or immobile terrestrial wildlife, including implementing wildlife buffers, restricting beach access to existing access corridors, and additional measures required by USFWS on a project-specific basis. Long-term benefits following implementation of the Proposed Action would include reduced erosion, habitat improvement, and reduced human-wildlife interactions due to an increase in recreational space for the general public. Therefore, the Proposed Action would likely have *short-term, minor adverse impacts* and *long-term, beneficial impacts* on terrestrial wildlife.

The Proposed Action has the potential to disturb offshore wildlife due to temporary instances of increased noise and physical encroachment from offshore borrow pits. Noise produced from dredging vessels and other equipment is not anticipated to exceed thresholds that could impact the behavior or survival of aquatic wildlife. Areas of increased turbidity would likely be avoided by most aquatic wildlife, and therefore not impact them. These impacts would be temporary, limited to the duration of sand borrow and placement activities, and would not permanently change the quality of the ecosystem or result in habitat modifications for aquatic species. Standard BMPs would be implemented to avoid or mitigate potential impacts to aquatic wildlife to the greatest extent practicable, including implementing vessel strike avoidance measures and additional measures required by USFWS or the NMFS on a project-specific basis (FWC, 2011; NMFS, 2006; NOAA Fisheries, 2008; USFWS, n.d.[c]). Therefore, the Proposed Action would likely have *short-term, minor to moderate adverse impacts* and *no long-term impacts* on aquatic wildlife.

Special Status Species: FEMA can utilize several Programmatic BOs in accordance with Section 7 of the ESA that may be applicable to projects tiered from this PEA. To streamline FEMA's responsibilities under the ESA, FEMA may be able to utilize these programmatic documents when consulting on a project-specific basis with the USFWS and the NOAA NMFS after receiving concurrence from the district office(s). A summary of the five (5) Programmatic BOs and their applicable coverage to the Proposed Action is provided as follows.

- The 2003 Regional BO on Hopper Dredging of Navigation Channels and Borrow Areas in the Gulf of Mexico evaluates the potential impacts of maintenance dredging, sand mining, and beach nourishment activities on federally listed sea turtles (green [*Chelonia mydas*], leatherback [*Dermochelys coriacea*], hawksbill [Eretmochelys imbricata], loggerhead [*Caretta caretta*], and Kemp's ridley [*Lepidochelys kempii*]), the gulf sturgeon (*Acipenser oxyrinchus desotoi*), and their respective critical habitats. This BO concluded that these activities may affect and would likely adversely affect sea turtles, gulf sturgeon, and their critical habitats; however, they would not alter the positive population trajectories of these species. Conservation measures identified in this BO include implementing TOY restrictions and seasonal dredging windows, requiring observers, using deflector dragheads and turtle excluder devices, sea turtle monitoring, relocation trawling, maintaining habitat protection buffers, and employing minimal impact dredging methods. Minimal impact dredging methods aim to reduce environmental disruption during sediment removal, and include techniques like suction dredging, hydraulic dredging, and hydro-raking (NMFS, 2003).

- The 2013 Programmatic Piping Plover BO for Shore Protection Activities in North and South Florida assesses dredging and sand placement activities that may affect the federally listed piping plover (*Charadrius melodus*). This BO determined the proposed activities *may affect, but would not likely adversely affect* the piping plover in areas not identified as designated critical habitat. Conservation measures identified in this BO include TOY restrictions, establishing buffer zones and avoidance areas, coordinating with the USFWS to develop ways to restore or enhance habitat, considering alternative locations for placement of dredged materials to avoid the piping plover, and avoiding critical habitat (USFWS, 2013).

- The 2015 Shore Protection Activities along the Coast of Florida Statewide Programmatic BO (SPBO) addresses sand placement from Dredged Material Management Areas, offshore borrow sites, and other compatible sand sources; beach disposal of dredged materials; and maintenance dredging. The species covered under the SPBO include sea turtles (loggerhead, green, leatherback, hawksbill, and Kemp's ridley), beach mice (Southeastern [*Peromyscus polionotus niveiventris*], Anastasia Island [*Peromyscus polionotus phasma*], Choctawhatchee [*Peromyscus polionotus allophrys*], St. Andrews [*Peromyscus polionotus peninsularis*], and Perdido Key [*Peromyscus polionotus trissyllepsis*]), the Florida manatee (*Trichechus manatus latirostris*), the roseate tern (*Sterna dougallii*), and plant species like beach jacquemontia (*Jacquemontia reclinata*) and Garber's spurge (*Chamaesyce garberi*). The SPBO also discusses critical habitat for the loggerhead sea turtle, and the Choctawhatchee, St. Andrews, and Perdido Key beach mice. The SPBO determined that these activities *may*

affect, but would not likely adversely affect the Florida manatee, roseate tern, beach jacquemontia, and Garber's spurge. The activities *may affect and would likely adversely affect* the species of beach mice; however, they would not jeopardize their continued existence or adversely modify critical habitat. The SPBO also concluded that the activities *may affect and would likely adversely affect* the species of sea turtles, but would not jeopardize the continued existence, nor modify any loggerhead critical habitat. The SPBO noted that the principal effect of sand placement on sea turtle reproduction is a reduction in nesting success, and this reduction is most often limited to the first year following project construction. Some of the conservation measures outlined in the SPBO include using sand types suitable for sea turtle nesting and beach mouse burrowing, mimicking natural dune profiles, TOY restrictions, pre-construction coordination among relevant agencies, conducting surveys for nesting sea turtles if work occurs outside restricted periods, removing beach debris before sand placement, installing animal-proof trash bins, minimizing nighttime lighting, and restoring beach access corridors after construction. The USFWS must be notified of any impact on protected species or critical habitats (USFWS, 2015).

- The 2017 Jacksonville District Programmatic BO (JAXBO) for Florida and the U.S. Caribbean covers a range of activities such as shoreline stabilization, dredging (maintenance, minor, and muck dredging), scientific survey devices, aquatic habitat enhancement, and marine debris removal. The species evaluated under the JAXBO include sea turtles (green, leatherback, hawksbill, loggerhead, and Kemp's ridley), smalltooth sawfish (*Pristis pectinata*), Nassau grouper (*Epinephelus striatus*), scalloped hammerhead shark (*Sphyrna lewini*), Johnson's seagrass (*Halophila johnsonii*), multiple sturgeon species (Gulf, shortnose [*Acipenser brevirostrum*], and Atlantic [*Acipenser oxyrinchus*]), various coral species (elkhorn [*Acropora palmata*], staghorn [*Acropora cervicornis*], boulder star [*Orbicella franksi*], mountainous star [*Orbicella faveolata*], lobed star [*Orbicella annularis*], rough cactus [*Mycetophyllia ferox*], and pillar [*Dendrogyra cylindrus*]), and several whale species (North Atlantic right [*Eubalaena glacialis*], sei [*Balaenoptera borealis*], blue [*Balaenoptera musculus*], fin [*Balaenoptera physalus*], and sperm [*Physeter macrocephalus*]), as well as their respective designated critical habitats. The JAXBO concluded that the above-stated activities *may affect and would likely adversely affect* Johnson's seagrass and critical habitat for Johnson's seagrass, smalltooth sawfish, and Gulf sturgeon; however, they would not jeopardize their continued existence or adversely modify critical habitat. These activities would either *not effect or may affect*, but would *not likely adversely affect* all other species listed. Conservation recommendations under the JAXBO include public outreach and education, providing funding for research efforts, and conducting or supporting surveys (NMFS, 2017).

- The 2020 South Atlantic Regional BO (SARBO) covers dredging (maintenance, sand mining, restoration, and muck dredging), dredged material placement (beach nourishment, nearshore, upland, and disposal in ocean dredged material disposal sites), transportation of dredged materials, geological and geophysical surveys, and species monitoring. The species analyzed under the SARBO include sea turtles (green, hawksbill, Kemp's ridley, leatherback,

and loggerhead), Atlantic and shortnose sturgeon, Nassau grouper, giant manta ray (*Mobula birostris*), scalloped hammerhead shark, smalltooth sawfish, oceanic whitetip shark (*Carcharhinus longimanus*), multiple whale species (blue, fin, North Atlantic right, sei, and sperm), various corals (boulder star, elkhorn, lobed star, mountainous star, pillar, rough cactus, staghorn, and Johnson's seagrass). The SARBO also covers critical habitat for the green, hawksbill, leatherback, and loggerhead sea turtles; Atlantic sturgeon; North Atlantic right whale; elkhorn and staghorn corals; and Johnson's seagrass. The SARBO concluded that the activities *may affect, but would not likely adversely affect* the hawksbill sea turtle, Nassau grouper, scalloped hammerhead shark, all listed whale species, pillar coral, and rough cactus coral; however, they *may affect and would likely adversely affect* all other listed species, but would not likely jeopardize their continued existence or result in adverse effects to designated critical habitats. Some of the conservation measures outlined in the SARBO include implementing measures to minimize and avoid interactions with protected species, authorizing relocation trawling in reasonable circumstances to reduce lethal take from hopper dredging, relocating federally-listed corals to minimize impacts, ensuring all handling of protected species is conducted by NMFS-approved observers, educating project personnel on conservation requirements, collecting data, monitoring species, and developing minimal impact dredging methods (NMFS, 2020).

The Proposed Action *may affect* T&E species and habitats due to increased noise, turbidity and sedimentation, human disturbance, and habitat alteration both inland and offshore during nourishment, restoration, and sand placement activities. FEMA would conduct project-specific Section 7 consultation with the NMFS and USFWS to confirm applicability of the above-referenced Programmatic BOs. As applicable, FEMA would implement appropriate conservation measures and BMPs, and follow permit requirements to avoid or minimize impacts. For any proposed activities with the potential to impact T&E species or critical habitat that have not been specifically authorized under the above-referenced Programmatic BOs, FEMA would conduct project-specific Section 7 consultation with the NMFS and USFWS, as appropriate. FEMA would prepare a tiered, site-specific NEPA analysis if a project would result in effects to T&E species that require formal USFWS or NMFS consultation and result in a "May Affect, Likely to Adversely Affect" determination, if a project is not fully authorized under a Programmatic BO, and if a project would result in the loss or adverse modification of designated critical habitat for listed species. Overall, the Proposed Action would have *short-term, minor to moderate adverse impacts* on T&E species.

Furthermore, the Proposed Action would include temporary instances of increased noise, human disturbance, and habitat alteration from inland sand borrow activities and placement on beaches, which could impact migratory birds and eagles. Such species are mobile and would likely relocate to other nearby suitable habitat and avoid areas in which construction activities are occurring, returning once disruption ends. Standard BMPs would be implemented to avoid or mitigate potential impacts to the greatest extent practicable to any nesting shorebirds or eagles, including implementing wildlife buffers, restricting beach access to existing access corridors, and any additional measures required by USFWS. Coordination with USFWS under the MBTA and BGEPA would be conducted as needed on a project-specific basis. FEMA would prepare a tiered, site-specific NEPA analysis if a project is

determined to likely result in the "take" of protected species under the MBTA and BGEPA. The Proposed Action would have *short-term, minor adverse impacts* on migratory birds and eagles.

The Proposed Action *may affect* marine mammals due to temporary instances of increased noise, turbidity, and human disturbance from offshore sand borrow activities and placement on beaches. Noise produced from dredging vessels and other equipment is not anticipated to exceed thresholds that could impact the behavior or survival of marine mammals. Areas of increased turbidity would likely be avoided by marine mammals, and therefore not impact them. These impacts would be temporary, limited to the duration of sand borrow and placement activities, and would not permanently change the quality of the ecosystem or result in habitat modifications for aquatic species. Standard BMPs would be implemented to avoid or mitigate potential impacts to aquatic wildlife to the greatest extent practicable, including implementing vessel strike avoidance measures and any additional measures required by USFWS or the NMFS on a project-specific basis (FWC, 2011; NOAA Fisheries, 2008; USFWS, n.d.[c]).Coordination with NMFS and USFWS under the MMPA would be conducted as needed on a project-specific basis. FEMA would prepare a tiered, site-specific NEPA analysis if a project is determined to likely result in the "take" of protected species under the MMPA. The Proposed Action would have *short-term, minor to moderate adverse impacts* on marine mammals.

Similarly, temporary increases in noise, turbidity, and human disturbance from offshore sand borrow activities and inland sand placement could affect EFH or NMS. Construction activities at borrow sites could result in changes to foraging and spawning habitat and loss of prey. However, these impacts would only last as long as the duration of construction activities. EFH and NMS would be expected to recover afterward. In addition, FEMA would coordinate with NMFS under the MSA for any individual projects identified to have EFH in the action area. Therefore, the Proposed Action would have *short-term, minor to moderate adverse impacts* on EFH. FEMA would prepare a tiered, site-specific NEPA analysis if a project would result in the loss or adverse modification of designated EFH. Similarly, any projects tiered from this PEA that would occur in an NMS would require a tiered EA and FEMA would coordinate with the NOAA Office of National Marine Sanctuaries in compliance with the NMSA. The Proposed Action would have *short-term, minor to moderate adverse impacts* on NMS.

Ongoing threats to Florida's special status species and habitat include rising water temperatures, relative sea level rise, high-tide flooding, coastal erosion, higher storm surge, and heavier precipitation events. Extreme weather events such as hurricanes, tropical storms, heat waves, and droughts are also increasing in frequency and intensity, resulting in impacts not only to humans, but the natural environment as well (NMFS, 2020). These threats have the potential to impact the abundance, geographic distribution, migration patterns, susceptibility to disease and contaminants, timing of seasonal activities, and the behavior of both terrestrial and marine species. There would be *long-term, beneficial impacts* to special status species following implementation of the Proposed Action resulting from an increased capacity to address the resulting damage from storm-related events (e.g., coastal degradation and erosion), thereby contributing towards efforts to increase terrestrial habitat availability and restore and enhance coastal habitat.

3.9. Cultural Resources

Cultural resources is a broad term that generally includes prehistoric and historic sites, structures, districts, buildings, objects, artifacts, landscapes, or any other physical evidence of human activity considered important to a culture, subculture, or community for scientific, traditional, religious, or other reasons. These are typically grouped into two categories: aboveground and archaeological resources.

3.9.1. AFFECTED ENVIRONMENT

The National Historic Preservation Act of 1966 (NHPA; 54 U.S.C. § 300101 et seq.) is the primary law covering preservation of cultural resources. Specifically, the NHPA defines historic properties as prehistoric or historic districts, sites, buildings, structures, or objects, that are eligible for or listed in the National Register of Historic Places (NRHP) based on fulfillment of one or more significance criteria established by the National Park Service (NPS). The NPS maintains an online National Register Database which allows users to research whether a known historic property is present within a certain area (exceptions include sensitive archaeological site locations). Sites that have not been evaluated at the time of the Proposed Action may be considered potentially eligible for inclusion in the NRHP and, as such, are afforded the same regulatory consideration as nominated properties. Section 106 of the NHPA requires federal agencies to consider the impacts that the Proposed Action could have on historic properties and to consult with interested parties, such as the SHPO, THPO, and the ACHP, in order to avoid, minimize, or mitigate potential adverse effects. Currently, there are 1,918 NRHP sites listed in the state of Florida, of which 1,366 are located in Florida's 35 coastal counties (NPS, 2024). Additionally, the NMSA authorizes the Secretary of Commerce to designate and protect areas of the marine environment with special national significance due to their conservation, recreational, ecological, historical, scientific, cultural, archeological, educational or esthetic qualities as national marine sanctuaries. The Florida Keys are designated as a NMS.

Due to the statewide nature of the Proposed Action, tribal resources have the potential to be present at any number of individual project sites. Tribal and indigenous resources may be prehistoric, historic, or contemporary and may include sacred sites as defined in EO 13007, Indian Sacred Sites. Tribal resources are protected under the Native American Graves Protection and Repatriation Act (NAGPRA) and the American Indian Religious Freedom Act (AIRFA) on federal lands. NAGPRA directs federal agencies to provide written summaries, initiate tribal consultation, and either repatriate or dispose through other measures any discovered Native American human remains or funerary objects from federal lands or utilizing federal funds to Federally Recognized Tribes. AIRFA directs federal agencies to protect tribal rights of religious freedom, including access to and use of sites and sacred objects on federal lands. The Archaeological Resources Protection Act (ARPA) was signed into law in 1979. ARPA, as amended, provides tools to protect archaeological resources on public and Native American lands. These tools include (but are not limited to): permitting for archaeological investigations on federal or public lands; identification of prohibited activities, enforcement, and criminal prosecution for violations; prohibition of the sale, purchase, or transport of any

archaeological resource or artifact; and prohibition of public disclosure of any information about archaeological resources (including location).

While tribal consultation is included under Section 106 of the NHPA, EO 13175 further specifies that federal agencies must consult with Federally Recognized Tribal Nations during decision-making processes that have the potential to impact tribal communities. There are 13 Federally Recognized Tribes either in, or with interests in, the state of Florida (HUD, 2025).

- Absentee Shawnee Tribe of Oklahoma
- Alabama-Coushatta Tribe of Texas
- Alabama-Quassarte Tribal Town of the Creek Nation
- Choctaw Nation of Oklahoma
- Jena Band of Choctaw Indians
- Miccosukee Tribe of Indians of Florida
- Mississippi Band of Choctaw Indians
- Muscogee (Creek) Nation
- Poarch Band of Creek Indians
- Seminole Tribe of Florida
- Seminole Nation of Oklahoma
- Shawnee Tribe
- Thlopthlocco Tribal Town

3.9.2. ENVIRONMENTAL CONSEQUENCES

A significant adverse impact on cultural resources would occur if the integrity of a historic property is diminished such that it would no longer be eligible for listing in the NRHP; if historic viewsheds would be substantially altered; or if significant tribal resources are permanently compromised.

Alternative 1: No Action

Under the No Action Alternative, FEMA would not implement the six nourishment and restoration categories, as proposed, and any proposed coastal nourishment or restoration request not currently eligible to be statutorily or categorically excluded would require a higher level of NEPA review. The lack of a streamlined approach would perpetuate the vulnerability of Florida's shoreline as FEMA would not be able to efficiently respond to the detrimental effects of severe coastal storms. Depending on project location, ongoing erosion may cause damage to historic structures or lead to the permanent loss of archeological resources. The No Action Alternative would further exacerbate these impacts by requiring more time and resources to approve nourishment and restoration projects. Therefore, the No Action Alternative would result in *long-term, adverse impacts* that could reach significant thresholds for cultural resources.

Alternative 2: Proposed Action

The implementation of proposed coastal nourishment and restoration projects tiered from this PEA could result in the temporary disturbance of viewsheds or landscapes associated with identified cultural resources due to visibility of construction crew, vehicles, and equipment, as well as increased noise. These impacts would be temporary, lasting only for the duration of construction activities. In the long term, the Proposed Action would help alleviate the effects of storm surges and storm-related disasters, thus preserving nearby historic properties and archeological resources.

On a project-specific basis, FEMA would determine if a project tiered from this PEA has the potential to affect cultural resources, and if it meets the allowances outlined in the PA executed on September 10, 2014. For a given project, FEMA would identify if culturally significant sites or historic properties exist within the areas of potential effects both on land and offshore, and if they would be impacted. FEMA would conduct site-specific surveys in support of individual project approvals (e.g., underwater and terrestrial archaeological surveys, historic structures documentation, photographic surveys). FEMA would follow the standard Section 106 review process and coordinate with the SHPO/THPO to avoid, minimize, or mitigate potential adverse impacts to historic properties on a project-specific basis. FEMA would prepare a tiered, site-specific NEPA analysis if a project results in FEMA making an "Adverse Effect" determination with concurrence from SHPO/THPO requiring resolution through avoidance, minimization, and/or mitigation measures. FEMA may require a memorandum of agreement (MOA) with SHPO, THPO, and/or the ACHP to mitigate adverse impacts to historic resources. If the Section 106 process results in an MOA or other agreement needed to resolve adverse effects and that agreement is required under NEPA to reduce the level of impacts to below significance, then a tiered SEA will likely be required. Additionally, any projects tiered from this PEA that would occur in an NMS would require a tiered EA and FEMA would coordinate with the NOAA Office of National Marine Sanctuaries in compliance with the NMSA.

Due to the ground-disturbing nature of the Proposed Action both inland and offshore, there is a possibility that archeological resources or tribal artifacts could be uncovered during the implementation of individual projects. In these cases, work would cease immediately, and the discovery would be reported to the SHPO/THPO, as appropriate. Overall, the Proposed Action is anticipated to result in *short-term, minor adverse impacts* and *long-term beneficial impacts* to cultural resources.

FEMA invited cultural resource stakeholders and Federally Recognized Tribes, in accordance with EO 13175, to review the Draft PEA on [DATE]. [PLACEHOLDER FOR AGENCY/TRIBAL COMMENTS]. A record of correspondence is included in **Appendix B**. FEMA will continue to engage cultural resource stakeholders and Tribal Nations on a project-specific basis.

3.10. Traffic and Transportation

Transportation is the movement of people and goods from one location to another. It is accomplished by a variety of modes, such as road, rail, air, water, and in some cases pipeline, and there are different systems within those modes. Traffic is related to the congestion and the system

being able to handle traffic flow during peak volumes. Transportation modes and related traffic discussed in this section include roadway movement and water navigation.

3.10.1. AFFECTED ENVIRONMENT

Projects tiered from this PEA may be located in urban, suburban, rural, or remote areas of Florida. The roadways that serve access to potential project sites may vary widely. There are 27 designated scenic highways in Florida, 15 of which run along the coastlines. The Florida Scenic Highways Program (FSHP) is maintained by the Florida Department of Transportation (FDOT) and the U.S. Department of Transportation (DOT) Federal Highway Administration (FHWA) (FSHP, 2025). Interstate highways such as I-95 and I-75 also have segments that run near the coast which could be impacted by potential changes in traffic patterns. U.S. Route 1 runs along the entire east coast of Florida.

Additionally, there are 15 deepwater ports located in Florida. They handle a wide range of cargo, including bulk commodities, containerized goods, and cruise ships. Industries served by these ports include tourism, agriculture, automotive, manufacturing and distribution, energy, space and aerospace, and construction and building materials (America 1 Logistics, 2025). USACE maintains 51 federal navigation channels. These include the Atlantic Intracoastal Waterway, the Gulf Intracoastal Waterway, as well as smaller channels like Tampa Harbor, Miami Harbor, and Canaveral Harbor (FDEP, 2023b).

3.10.2. ENVIRONMENTAL CONSEQUENCES

A significant adverse impact to traffic and transportation would occur if traffic patterns, volume, or other conditions would be permanently altered in a way that would be notable or harmful for communities or residents; or if there were substantial impacts or damage to existing transportation facilities or assets.

Alternative 1: No Action

Under the No Action Alternative, FEMA would not implement the six nourishment and restoration categories, as proposed, and any proposed coastal nourishment or restoration request not currently eligible to be statutorily or categorically excluded would require a higher level of NEPA review. The lack of a streamlined approach would perpetuate the vulnerability of Florida's coastal infrastructure and roads as FEMA would not be able to efficiently respond to the detrimental effects of severe coastal storms. Depending on project location, ongoing coastal erosion heightened by past and future severe coastal storms could result in damage to infrastructure and roads, which could then result in traffic delays due to more frequent and extensive repairs, as well as increased vulnerability to further storm events. The No Action Alternative would further exacerbate these impacts by requiring more time and resources to approve nourishment and restoration projects. Therefore, the No Action Alternative would result in *long-term, adverse impacts* that could reach significant thresholds for traffic and transportation.

Alternative 2: Proposed Action

Construction activities that would occur under the Proposed Action may result in temporary disruptions to local roadway traffic and transportation, particularly in and surrounding coastal communities. The movement of construction vehicles and equipment, and establishment of laydown and staging areas could increase local traffic and congestion, and affect parking availability. These impacts would be short-term, and grant recipients would work closely with local authorities to obtain the required approvals to ensure that any road closures or changes to traffic patterns would be managed and mitigated to the extent practicable. Similarly, impacts on vessel traffic and navigation from the presence of dredging vessels and barges would also be minor and temporary, lasting only for the duration of offshore dredging activities. Work would be coordinated with applicable port authorities and grant recipients would obtain approvals to ensure that any potential disruptions to normal vessel traffic would be managed and mitigated to the extent practicable. Contractors would adhere to BMPs and all roadway and offshore traffic and transportation conditions would be restored following completion of approved projects. Therefore, the Proposed Action would have *short-term, minor adverse impacts* on traffic and transportation.

In the long term, the Proposed Action would stabilize infrastructure and protect roadways from storm damage. Established dunes and fortified beaches would help to protect transportation networks from storm surges and erosion. Therefore, the Proposed Action would have *long-term, beneficial* impacts. FEMA would prepare a tiered, site-specific NEPA analysis for any project that would result in traffic and transportation impacts that cannot be minimized to minor or moderate levels through BMPs, permit conditions, or regulatory agency coordination.

3.11. Socioeconomics

Socioeconomics refers to the basic attributes and resources associated with the human environment, particularly the demographic and economic characteristics of an area and its population. Economic activity typically encompasses employment, personal income, and industrial or commercial growth. Changes in these socioeconomic indicators typically result in changes to additional indicators, such as housing availability and the provision of public services. Socioeconomic data at local, county, regional, and state levels enable characterization of baseline local conditions in the context of regional and state trends. The U.S. Census Bureau's American Community Survey provides a variety of demographic data, including population numbers, employment, labor characteristics, income, race, and ethnicity.

3.11.1. AFFECTED ENVIRONMENT

Population trends over the last 10 years are presented in **Table 3**. Both Florida and the wider U.S. are included for comparative purposes. According to data from the U.S. Census Bureau, the population in Florida has increased more than twice the rate of the U.S. as a whole. Possible reasons for Florida's rapid population growth could include a growing labor market, no state income tax, a warmer climate, and increased domestic and international migration (Mekouar, 2023).

Table 3. Population Change from 2013-2023

Location	2013 Population	2023 Population	Percent Change (%)
Florida	19,091,156	21,928,881	14.9%
United States	311,536,594	332,387,540	6.7%

Source: (U.S. Census Bureau, 2013; 2023a)

Labor force and employment estimates in Florida and the U.S. are presented in **Table 4**. In 2023, unemployment between Florida and the U.S. was similar (4.8 and 5.2 percent, respectively). In 2023 the largest industry sectors in both Florida and the U.S. at large were educational services, healthcare, and social assistance. Noticeably, however, the percentage of the Florida civilian labor force working in industries relating to tourism (e.g., retail, entertainment, recreation, food service, and accommodation) was approximately 3.5 percent higher than the U.S., according to the U.S. Census Bureau (U.S. Census Bureau, 2023b).

In 2023, approximately 10 percent of Florida's state revenue came from tourism (Visit Florida, 2024a). Visitor spending supported approximately 2.1 million jobs in the state. Recent data indicate that 142.9 million visitors traveled to Florida in 2024, an increase of 1.6% from 2023 (Visit Florida, 2024b). Undoubtedly, a large portion of Florida's tourism industry benefits from its beaches and coastal areas. Both visitors and residents benefit from the recreational areas and amenities that Florida's coastlines provide (e.g., boating, fishing, diving, etc.). Florida's beaches and near shore coastal waters draw more than 33 million tourists to Florida each year, contributing more than $56 billion and more than 900,000 jobs (FDEP, 2016; FDEP, 2025c). Florida's beaches, inlet shorelines, and dune systems provide infrastructure stability for many industries in Florida, such as beach-related tourism, recreational and commercial fishing, commercial shipping, and coastal construction.

Table 4. 2023 Labor Force and Employment Estimates

Location	Total Number in Civilian Labor Force	Number of Civilian Labor Force Employed	Unemployment Rate (%)	Median Household Income	Largest Industry Sector
Florida	10,725,531	10,209,399	4.8%	$71,711	Educational services, and health care and social assistance
United States	168,567,852	159,808,535	5.2%	$78,538	Educational services, and health care and social assistance

Source: (U.S. Census Bureau, 2023b)

3.11.2. ENVIRONMENTAL CONSEQUENCES

A socioeconomic impact would be significant if there were substantial changes to employment, population, or housing availability; or if there were changes to economic conditions, such as to Florida's coastal tourism industry, in a way that would be notable or harmful for coastal communities or residents.

Alternative 1: No Action

Under the No Action Alternative, FEMA would not programmatically implement the six nourishment and restoration actions. As a result, any proposed coastal nourishment or restoration project that is not currently eligible for a statutory or categorical exclusion would require a more extensive NEPA review. This alternative would prolong the vulnerability of Florida's coastal communities as FEMA would be unable to efficiently address the harmful socioeconomic impacts of weather-related disasters through expedited approvals and reviews. The benefits that coastal areas provide to Florida's economy would be reduced over time as coastal erosion would continue to deteriorate the quality of beaches, promenades, and other coastal areas for public recreation. The deterioration of Florida's beaches would also reduce physical protections offered to coastal infrastructure, thereby negatively impacting coastal communities. Therefore, the No Action Alternative would result in *long-term, adverse impacts* that could reach significant thresholds for socioeconomics.

Alternative 2: Proposed Action

Proposed coastal nourishment and restoration activities would likely be completed by local labor which would temporarily increase employment opportunities, personal incomes, and material purchases in the nearby communities. The use of non-local contractors, if applicable, would also result in economic benefits to local communities associated with expenditures on lodging, food, and retail. Tax revenues associated with construction expenditures would also benefit local economic conditions. Beach closures would likely occur for the duration of sand placement activities, though this adverse impact on tourism and the local economy would be negligible as the closures would be temporary. In the long term, the quality of beaches, promenades, and other coastal areas for public recreation would be improved, which would result in increased tourism and public recreation, as well as employment opportunities in industries relating to tourism, thereby increasing economic benefits to local communities and the state of Florida. Additionally, the proposed beach and dune restoration activities would protect infrastructure and communities from intense coastal storms and other natural disasters.

The Proposed Action is not anticipated to affect housing availability, nor would it result in the displacement of residents. Additionally, the availability or quality of public services, such as schools and hospitals, would not be impacted. FEMA would prepare a tiered, site-specific NEPA analysis if a project would result in economic changes that would be harmful to coastal communities or residents, including substantial changes to employment, population, or housing availability. Overall, implementation of the Proposed Action would provide *short- and long-term, beneficial impacts* to socioeconomic conditions.

3.12. Human Health and Safety

Human health and safety includes occupational hazards to workers, as well as the exposure of the public to conditions creating the risk of immediate injury or long-term health hazards. The Occupational Safety and Health Act (29 USC §651 et seq.) and Executive Order 13045, *Protection of Children from Environmental Health Risks and Safety Risks*, are the are the primary federal regulatory drivers related to the evaluation of human health and safety considered in this PEA. Congress passed the Occupational Safety and Health Act to ensure worker and workplace safety. The Act also created the National Institute for Occupational Safety and Health as the research institution for the Occupational Safety and Health Administration (OSHA). OSHA is a division of the United States Department of Labor that oversees the administration of the Act and enforces worker health and safety standards.

EO 13045 requires that each federal agency make it a high priority to identify and assess environmental health risks and safety risks that may disproportionately affect children and ensure that its policies, programs, activities, and standards address disproportionate risks to children that result from environmental health risks or safety risks. Section 2-203 of the EO defines environmental health risks and safety risks as, "risks to health or to safety that are attributable to products or substances that the child is likely to come in contact with or ingest (such as the air we breathe, the food we eat, the water we drink or use for recreation, the soil we live on, and the products we use or are exposed to)."

3.12.1. AFFECTED ENVIRONMENT

According to 2023 census data, children under 18 made up 19.6 percent of Florida's population of nearly 22 million people. Children, as well as families with children, are a common presence on or near public beaches. While Florida beaches are generally open to the public, public access to the shoreline is usually maintained and managed through designated areas. Many public access points and parking lots have specific hours and closures. Some areas have curfews or temporary closures to protect wildlife or ensure public safety, particularly during nesting seasons, construction activities, or unsafe water quality or conditions. The FDEP CCCL Program regulates structures and activities that can cause beach erosion, destabilize dunes, damage upland properties or interfere with public access (FDEP, 2025c).

Health and safety risks are also present during tropical storms and hurricanes. Storm events generate large waves and surges that not only impact the natural and built environments along the coast, but also the health and safety of coastal communities and individuals. Weather-related disasters may result in injuries and fatalities. In 2022, Hurricane Ian caused 156 fatalities, 66 of which were considered deaths directly caused by the storm (National Hurricane Center, 2022).

3.12.2. ENVIRONMENTAL CONSEQUENCES

A significant adverse health and safety impact would occur if sand borrow or placement activities would put the health and safety of the public at risk, including the potential for injury or fatality due

to accidents or intentionally destructive acts, or violate applicable federal and/or state safety regulations.

Alternative 1: No Action

Under the No Action Alternative, FEMA would not implement the six nourishment and restoration categories, as proposed, and any proposed coastal nourishment or restoration request not currently eligible to be statutorily or categorically excluded would require a higher level of NEPA review. Continued destruction from severe coastal storms could pose significant risks to human health and safety. Without the Proposed Action, efforts to address these threats would not be as quick or as effective. Benefits such as critical protections to life and property would not be realized and would leave coastal communities more vulnerable to health and safety risks. Overall, the No Action Alternative would result in *long-term, adverse impacts* that could reach significant thresholds.

Alternative 2: Proposed Action

The Proposed Action is not anticipated to adversely affect public health and safety, including the health and safety of children, per EO 13045. Segments of beaches that are actively being renourished or restored would be closed off to the public and would not be re-opened until all construction activities are completed. FEMA does not anticipate disproportionate health risks to children through actions evaluated in this PEA. In the short-term, the Proposed Action has the potential to cause minor adverse effects to workers based on the inherent risks associated with an active construction site. The short-term adverse impacts are anticipated to be mitigated through the adherence to BMPs and project-specific Health and Safety Plans (HASPs). A typical HASP would include a listing of potential hazards that may be encountered at a project site, the minimization and mitigation measures to avoid the identified hazards, and emergency response services, procedures, and evacuation procedures to ensure a safe working environment. Workers would receive required training and personal protective equipment, as appropriate. In the long-term, the Proposed Action has the potential for beneficial impacts on human health and safety realized through a range of actions meant to reduce the potential for loss of life, protect infrastructure, and lessen the severity of severe coastal storms. In addition, no disruptions to public health and safety services (e.g., police, fire, medical emergency response) are anticipated. Therefore, the Proposed Action would have *short-term, minor impacts* and *long-term beneficial impacts* on human health and safety.

FEMA would prepare a tiered, site-specific NEPA analysis for any project that would result in a risk to human health and safety that could not be mitigated or minimized through BMPs, permit conditions, or regulatory agency coordination.

3.13. Hazardous and Toxic Materials and Waste

HTMW are generally defined as materials or substances that pose a risk to human health or the environment because of their physical, chemical, or infectious characteristics; quantity; concentration; or improper management (i.e., storage, disposal, treatment, or transport). Hazardous substances are identified by the Occupational Safety and Health Administration through federal laws

and regulations. As defined in 40 CFR § 261.3 and not otherwise excluded by 40 CFR § 261.4, hazardous wastes are generally discarded solids or liquids that exhibit hazardous characteristics (i.e., ignitable, corrosive, reactive, or toxic) or those specifically identified within 40 CFR Part 261. Petroleum products are specifically exempted from 40 CFR Part 302 but are considered to be hazardous substances in NEPA analyses due to their physical characteristics and ability to impair natural resources. Non-hazardous solid waste is waste that is not hazardous in nature and typically includes items such as office and domestic waste, and recyclable materials (e.g., aluminum cans, paper, cardboard, glass, and plastic bottles) (USEPA, 2024b).

3.13.1. AFFECTED ENVIRONMENT

The Resource Conservation and Recovery Act of 1976 (RCRA; 42 U.S.C. §§ 6901 et seq.) is the primary U.S. federal law governing the disposal of solid and hazardous waste, aiming to protect human health and the environment from waste hazards. The RCRA gives the USEPA the authority to control hazardous waste from cradle to grave. This includes the generation, transportation, treatment, storage, and disposal of hazardous waste (USEPA, 2024c)

The Comprehensive Environmental Response, Compensation and Liability Act (CERCLA; 42 U.S.C. §§ 9601 et seq) was enacted in 1980. CERCLA is informally called Superfund. It allows the USEPA to clean up contaminated sites. It also forces the parties responsible for the contamination to either perform cleanups or reimburse the government for USEPA-led cleanup work. When there is no viable responsible party, Superfund gives the USEPA the funds and authority to clean up contaminated sites. The USEPA currently maintains a Superfund National Priorities List (NPL). Currently there are 52 active NPL sites in the state of Florida, 40 of which are located in coastal counties (USEPA, 2024d).

The USEPA and the Department of Defense work together to address contamination left by military munitions and explosives of concern (MEC). MEC are unexploded ordnance (UXO) and other hazardous munitions materials left behind from military live-fire training or testing, open burning and open detonation, and munitions treatment, destruction and burial activities (USEPA, 2024e).

3.13.2. ENVIRONMENTAL CONSEQUENCES

A significant adverse HTMW impact would occur if proposed activities resulted in an exceedance of regulatory thresholds of the total amount of HTMW or solid waste generated; permanently increase the risk of contamination; or create a new or substantial human or environmental health risk (e.g., soil or groundwater contamination).

Alternative 1: No Action

Under the No Action Alternative, FEMA would not implement the six nourishment and restoration categories, as proposed, and any proposed coastal nourishment or restoration request not currently eligible to be statutorily or categorically excluded would require a higher level of NEPA review. In the meantime, severe storm events could cause releases of contaminants or other hazards, resulting in both a longer and more extensive cleanup effort. Protections offered by the Proposed Action could

help minimize the impacts to HTMW from storm surge and flooding. Any use, storage, or generation of HTMW resulting from these projects would continue under the *status quo*. Therefore, the No Action Alternative would result in *long-term, adverse impacts* that could reach significant thresholds.

Alternative 2: Proposed Action

Under the Proposed Action, the operation of heavy equipment and vehicles for offshore and inland nourishment and restoration projects tiered from this PEA, including watercraft, would create the potential for discharge, spill, and contamination of commonly used products, such as diesel fuel, gasoline, oil, antifreeze, and lubricants. All hazardous materials or waste discovered, generated, or used during sand excavation or placement would be handled, contained, and disposed of in accordance with applicable local, state, and federal regulations to avoid the release of HTMW into the environment. FEMA would coordinate with recipients and subrecipients to ensure they develop and implement a SPCCP to address inadvertent releases. The potential for an accidental spill or leak from vessels would be negligible as the vessels would be undergoing normal operation and would be refueled, as needed, in accordance with standard protocols at marine refueling stations. The potential for marine HTMW releases would be further minimized through applicable regulations and BMPs, including requiring vessels to be equipped with spill containment and spill response kits, having a Vessel Response Plan consistent with 33 CFR Part 155, and controlling the discharge of operational wastes. Therefore, the Proposed Action would have the potential for *short-term, minor adverse impacts* from accidental HTMW spills or releases.

Severe storms have the potential to cause releases of contaminants or other hazards, resulting in both a longer and more extensive cleanup effort. In the long term, protections offered by the Proposed Action would help minimize the impacts to HTMW from severe storm events. Therefore, the Proposed Action would have the potential for *long-term, beneficial impacts* on HTMW.

FEMA would prepare a tiered, site-specific NEPA analysis if a project would result in a net increase in the amount of HTMW to be handled, stored, used, or disposed of, resulting in unacceptable risk, exceedance of available waste disposal capacity, or probable regulatory violation(s). This would include scenarios where materials would be stored at an unacceptable separation distance from public facilities, or if human health and public safety would be elevated to unacceptable levels or result in unsafe site conditions.

Regarding potential impacts to MEC or UXO, FEMA would coordinate with project proponents and authorizing agencies, such as the US Army Corps of Engineers or Bureau of Ocean Energy Management, to conduct site-specific magnetometer surveys prior to inland and offshore sand borrow activities. In areas where dredge material would be both sourced and placed and accessible to the public, MEC and UXO would be screened for on land by an appropriately trained and certified UXO Technician. The UXO technicians will determine the type of MEC (if encountered) and follow an approved MEC work plan. A MEC re-assessment may be required. All site workers that are involved with soil disturbance will follow the 3Rs of explosive safety education: Recognize, Retreat, and Report (DENIX, 2022). Overall, there would be *no impacts* from MEC or UXO from the implementation of the Proposed Action.

In addition, there would be *no impacts* to NPL sites as any beach nourishment or restoration activities occurring under the Proposed Action would be conducted at a safe distance from any existing NPL site.

3.14. Environmental Trends and Reasonably Foreseeable Actions

An assessment of environmental trends and reasonably foreseeable actions takes into consideration the potential effects that future projects may have on the natural and human environment. These potential effects are considered in conjunction with effects resulting from the Proposed Action to identify any additive impacts or future trends that could influence potential impacts from implementation of the Proposed Action. Future impacts would be considered significant if they rise to the level of significance as defined by the resource-specific thresholds of significance as discussed throughout Section 3.

Reasonably foreseeable actions that could occur in the coastal counties of Florida include projects that are already statutorily or categorically excluded from NEPA review under the Stafford Act or DHS Instruction 023-01 Rev 01. These may include emergency actions, such as the construction of emergency sand berms, placement of sand for purposes of restoration to pre-disaster conditions, and actions conducted in coastal high hazard areas. In addition, the State of Florida, local governments, and private entities could also pursue activities in or around the 35 coastal counties, including maintenance dredging, coastal development, and commercial and recreational fishing, boating, and shipping.

These actions would contribute to onshore and offshore impacts within the Proposed Action area. New berms, sand placement activities, and coastal development would disturb inland environments due to the use of construction equipment and movement of large quantities of sand and sediment. Reasonably foreseeable actions would affect offshore environments due to temporary increases in sedimentation and turbidity from maintenance dredging, and increased noise and human disturbance (e.g., vessel activity) from fishing, boating, and shipping activities.

The Proposed Action, when taken into consideration with these reasonably foreseeable actions, would result in *short-term, negligible adverse impacts* on the resources evaluated within this PEA. Potential impacts could include ground disturbance, erosion and sedimentation, discharges to surface water, increased turbidity, disruptions to aquatic and terrestrial habitat, and temporary displacement of wildlife, including special status species. The incremental contributions of the Proposed Action would be negligible due to the limited duration and frequency of individual projects and the reasonably foreseeable actions. Construction activities would be temporary, and impacts would primarily remain localized to specific project sites. In addition, all appropriate permits and authorizations would be obtained.

Over time, the Proposed Action, in conjunction with reasonably foreseeable actions, would result in *long-term, beneficial impacts* on the surrounding natural and human environment by stabilizing coastal habitats, strengthening Florida's shoreline against coastal erosion and storm surges, and preserving coastal communities and infrastructure.

3.15. Summary of Impacts and Thresholds for Tiered Analysis

This section presents a summary of the anticipated impacts of the Proposed Action as described throughout Section 3. A list of the expected environmental impacts, broken out by resource area and alternative, is provided in Table 5. In addition, Table 6 establishes the criteria for determining whether a proposed project may be covered under the FONSI for this PEA or if a tiered, site-specific NEPA analysis is required. Appendix F identifies common information needed by FEMA to complete a review of a proposed future project and determine compliance requirements.

If a future project is consistent with the scope and impacts described in this PEA, then FEMA will prepare a REC, which includes a site-specific evaluation of each applicable law, regulation, and EO. However, if a future project is determined to: (1) create impacts not described in this PEA; (2) creates impacts greater in magnitude, extent, or duration than the thresholds described in this PEA; or (3) requires mitigation measures to keep adverse impacts below significant adverse levels, then FEMA will also prepare a tiered, site-specific EA, or EIS in some instances, in addition to the REC. A tiered, site-specific NEPA analysis would be prepared, focusing solely on the resources where the additional evaluation is needed. Other information contained within this PEA that would still be applicable to the tiered analysis would be incorporated by reference.

Table 5. Summary of Impacts from the Proposed Action

Resource	Alternative 1: No Action	Alternative 2: Proposed Action
Land Use	▪ Long-term, adverse impacts that could reach significant thresholds	▪ No short-term impacts, and long-term, moderate beneficial impacts on land use
Noise	▪ No impacts	▪ Short-term, minor adverse impacts on noise
Visual Resources and Aesthetics	▪ Long-term, adverse impacts that could reach significant thresholds	▪ Short-term, minor adverse impacts on visual resources and aesthetics ▪ Long-term, beneficial impacts on visual resources and aesthetics
Geology and Soils	▪ Long-term, adverse impacts that could reach significant thresholds	▪ No impact on geology ▪ Short-term, minor adverse impacts on soils ▪ Long-term, beneficial impacts on soils
Air Quality	▪ No impacts	▪ Short-term, minor adverse impacts on air quality
Water Resources	▪ Long-term, adverse impacts that could reach significant thresholds	▪ Short-term, minor to moderate adverse impacts on surface waters and wetlands ▪ Short-term, minor adverse impacts on groundwater and coastal resources ▪ Long-term beneficial impacts on surface waters, groundwater, floodplains, wetlands, and coastal resources

Resource	Alternative 1: No Action	Alternative 2: Proposed Action
Biological Resources	▪ Long-term, adverse impacts that could reach significant thresholds	▪ Short-term, minor adverse impacts on terrestrial vegetation and wildlife ▪ Short-term, minor to moderate adverse impacts aquatic vegetation and wildlife ▪ Short-term, minor to moderate adverse impacts on T&E species, marine mammals, EFH, and NMS ▪ Short-term, minor adverse impacts on migratory birds and eagles ▪ Long-term, beneficial impacts on terrestrial and aquatic wildlife and vegetation and special status species
Cultural Resources	▪ Long-term, adverse impacts that could reach significant thresholds	▪ Short-term, minor adverse impacts on cultural resources ▪ Long-term, beneficial impacts on cultural resources
Traffic and Transportation	▪ Long-term, adverse impacts that could reach significant thresholds	▪ Short-term, minor adverse impacts on roadway and vessel transportation and traffic ▪ Long-term, beneficial impacts on roadway transportation and traffic
Socioeconomics	▪ Long-term, adverse impacts that could reach significant thresholds	▪ Short- and long-term, beneficial impacts on socioeconomic conditions
Human Health and Safety	▪ Long-term, adverse impacts that could reach significant thresholds	▪ Short-term, minor impacts on human health and safety ▪ Long-term beneficial impacts on human health and safety
HTMW	▪ Long-term, adverse impacts that could reach significant thresholds	▪ Short-term, minor adverse impacts from accidental HTMW spills or releases ▪ Long-term beneficial impacts on HTMW ▪ No impacts on MEC, UXO, or NPL sites

Table 6. Thresholds for Preparing a Tiered, Site-Specific Environmental Assessment or Environmental Impact Statement

Resource	Impacts covered by FONSI and documented through a REC	Impacts assessed through a tiered, site-specific EA or EIS
Land Use	The Proposed Action would have *no, negligible, or minor impacts* to land use and would be consistent with surrounding or planned land uses, or if inconsistent, can be rendered consistent through a construction permit and/or zoning variance issued by the local land use agency. AND The Proposed Action would be consistent with respective state CZMPs and receives a consistency determination, where applicable. AND The Proposed Action is within a CBRS unit and FEMA receives concurrence from USFWS that it is consistent with CBRA.	The Proposed Action would require more than 2.1 MCY of sand placement or displacement. OR The Proposed Action would be incompatible with surrounding land uses and would lead to a change in the surrounding land uses in the short- and long-term. OR The Proposed Action would not be consistent with respective state CZMPs and require additional review and coordination under the FCMP. OR The Proposed Action is within a CBRS unit and USFWS does not concur that it is consistent with the CBRA.
Noise	The Proposed Action would have *no, negligible, or minor impacts* from noise.	The Proposed Action would result in noise impacts on sensitive receptors that cannot be mitigated to minor or moderate levels through BMPs, permit conditions, or regulatory agency coordination.
Visual Resources and Aesthetics	The Proposed Action would have *no, negligible, or minor impacts* on visual resources and aesthetics.	The Proposed Action would result in visual impacts that cannot be mitigated to minor or moderate levels through BMPs, permit conditions, or regulatory agency coordination.
Geology and Soils	The Proposed Action would have *no, negligible, or minor impacts* to geology, soils, and seismicity. Projects proposed in areas	The Proposed Action would require more than 2.1 MCY of sand placement or displacement.

Resource	Impacts covered by FONSI and documented through a REC	Impacts assessed through a tiered, site-specific EA or EIS
	characterized by susceptibility to seismic, volcanic, tsunamis, landslide or mudslide activity, structural instability, excessive erodibility, or steep slopes would be implemented in accordance with design standards, engineering controls, regulatory permit conditions, and appropriate seismic considerations.	OR The proposed action would result in effects to geological or soil resources that exceed short-term effects and cannot be mitigated to a minor or moderate impact through regulatory permit conditions and/or resource agency consultation.
Air Quality	For maintenance areas, the Proposed Action results in emissions that would be less than *de minimis* thresholds for maintenance NAAQS, as defined in **Section 3.4.1**. OR For attainment areas, the Proposed Action results in emissions that would not cause air quality in that area to go out of attainment for any attainment NAAQS.	None. The Proposed Action does not have the potential to cause impacts to air quality that would require a tiered, site-specific EA or EIS.
Water Resources	The Proposed Action would have *no, negligible, or minor impacts* to water quality based on ground disturbance that are mitigated by regulatory permit conditions and resource agency consultation. AND The Proposed Action complies with all applicable permit conditions, notifications, and reporting requirements for a NPDES permit and Individual, Nationwide, or Regional General Permits issued under Section 404 of the CWA and Section 10 of the RHA, and any other applicable state-issued permits.	The Proposed Action would adversely affect water quality and impacts cannot be mitigated to less-than-significant levels through the permitting process or agency consultation. OR The Proposed Action would adversely affect a wild or scenic river or sole source aquifer and cannot be mitigated through agency consultation. OR The Proposed Action is located in or would adversely affect jurisdictional wetlands and WOUS under the CWA, and impacts cannot be mitigated

Resource	Impacts covered by FONSI and documented through a REC	Impacts assessed through a tiered, site-specific EA or EIS
	AND The Proposed Action does not adversely affect a wild or scenic river or sole source aquifer.	to less-than-significant levels through the permitting process or agency consultation.
Floodplains	Proposed Action is located in a floodplain and a project-specific 8-step process has been completed. Minimization requirements can be applied to minimize flood risk to the Proposed Action.	If the 8-step process is unable to satisfactorily resolve a Proposed Action in accordance with 44 CFR Part 9, the project would likely be non-compliant and ineligible for FEMA funding.
Wetlands	Proposed Action is not located in a wetland. OR If located in or impacting wetlands, FEMA completes the 8-step decision-making process in accordance with 44 CFR Part 9. OR Proposed Action may adversely affect jurisdictional wetlands under the CWA but would be covered under an Individual, NWP, or RGP issued by the USACE or a delegated state regulatory authority.	If the 8-step process is unable to satisfactorily resolve a Proposed Action in accordance with 44 CFR Part 9, the project would likely be non-compliant and ineligible for FEMA funding. OR The Proposed Action would adversely affect wetlands and impacts cannot be mitigated to less-than-significant levels through the permitting process or agency consultation.
Coastal Resources	The Proposed Action would be consistent with respective state CZMPs and receives a consistency determination, where applicable. OR The Proposed Action is within a CBRS unit and FEMA receives concurrence from USFWS that it is consistent with CBRA.	The Proposed Action would not be consistent with respective state CZMPs and require additional review and coordination under the FCMP. OR The Proposed Action is within a CBRS unit and USFWS does not concur that it is consistent with the CBRA.

Resource	Impacts covered by FONSI and documented through a REC	Impacts assessed through a tiered, site-specific EA or EIS
Biological Resources	The Proposed Action would have no effect on threatened or endangered species or critical habitat for those species. OR The Proposed Action results in effects to listed species or critical habitat that are mitigated through informal consultation with USFWS or NMFS. FEMA can make a "May Affect, Not Likely to Adversely Affect" determination along with concurrence from USFWS or NMFS. OR The Proposed Action results in effects to listed species or critical habitat that are authorized under Programmatic BOs, as confirmed through consultation with USFWS or NMFS. AND If applicable, the Proposed Action includes mitigation measures to reduce the level of effects to species and habitats protected by the MBTA, BGEPA, MMPA, and MSA. AND The Proposed Action avoids the "take" of species protected by the MBTA, BGEPA, and MMPA. AND The Proposed Action follows applicable implementing regulations, EO 13751, and BMPs to discourage the spread of invasive species.	The Proposed Action results in effects to listed species that requires formal USFWS or NMFS consultation and/or results in a "May Affect, Likely to Adversely Affect" determination, and is not covered under a Programmatic BO. OR The Proposed Action results in the loss or adverse modification of designated critical habitat for listed species. OR The Proposed Action is determined to likely result in the "take" of protected species under the MBTA and the BGEPA. OR The Proposed Action is determined to likely result in the "take" of marine mammals under the MMPA. OR The Proposed Action would result in the loss or adverse modification of EFH. OR The Proposed Action would not comply with applicable permit conditions regarding the spread of invasive species.

Resource	Impacts covered by FONSI and documented through a REC	Impacts assessed through a tiered, site-specific EA or EIS
Cultural Resources	The Proposed Action results in FEMA making a determination of "No Potential to Affect Historic Properties," or with concurrence from SHPO/THPO, "No Historic Properties Affected" or "No Adverse Effect" to historic properties. OR The Proposed Action meets Programmatic Allowance(s) in accordance with the PA executed on September 10, 2014.	The Proposed Action results in FEMA making an "Adverse Effect" determination with concurrence from SHPO/THPO requiring resolution through avoidance, minimization, and/or mitigation measures.
Traffic and Transportation	The Proposed Action would not result in permanent alterations to traffic patterns, volume, or other conditions in a way that would be notable or harmful for communities or residents. AND The Proposed Action would not cause permanent impacts or substantial temporary impacts or damage to existing transportation facilities, infrastructure, or assets.	The Proposed Action would result in traffic and transportation impacts that cannot be mitigated to minor or moderate levels through BMPs, permit conditions, or regulatory agency coordination.
Socioeconomics	The Proposed Action would not result in changes to economic conditions in a way that would be notable or harmful for coastal communities or residents, including substantial changes to employment, tourism, population, or housing availability.	The Proposed Action would result in economic changes that would be harmful to coastal communities or residents, including substantial changes to employment, tourism, population, or housing availability.
Human Health and Safety	The Proposed Action would not put the health and safety of the public at risk or violate applicable federal and/or state safety regulations.	The Proposed Action would result in a risk to human health and safety that could not be mitigated or minimized through BMPs, permit conditions, or regulatory agency coordination.

Resource	Impacts covered by FONSI and documented through a REC	Impacts assessed through a tiered, site-specific EA or EIS
HTMW	The Proposed Action does not result in regulatory violations related to the handling, storage, use or disposal of hazardous materials, or in unsafe site conditions for workers or the public. Hazardous or toxic materials and/or wastes could be safely and adequately managed in accordance with all applicable regulations and policies, with limited exposures or risks to human health.	The Proposed Action would result in a net increase in the amount of hazardous or toxic materials and/or wastes to be handled, stored, used, or disposed of, resulting in unacceptable risk, exceedance of available waste disposal capacity, or probable regulatory violation(s). Such materials would be stored at an unacceptable separation distance from public facilities. Human health and public safety would be elevated to unacceptable levels or result in unsafe site conditions.

4. Conclusions

This PEA evaluates the potential environmental effects of FEMA's Proposed Action to support beach and inlet shoreline nourishment actions, beach and inlet shoreline restoration (or renourishment) actions, dune restoration and establishment actions, and sand borrow area expansion or development in the State of Florida. Implementation of the Proposed Action is necessary to ensure that FEMA is able to strengthen Florida's coasts against severe storms and erosion, and reduce the potential for loss of life and property. The findings of this PEA indicate that no significant adverse effects would result from implementation of the Proposed Action, assuming adherence to the BMPs specified in Section 2.4. Therefore, no additional mitigation measures are warranted, and an Environmental Impact Statement will not be generated for this Proposed Action.

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Kerry Addica	FEMA, Region 4	Historic Preservation Specialist
Aisha Bryant	FEMA, Region 4	Environmental Protection Specialist
Tara Boyd	AECOM	Environmental Planner
Allison Carr	AECOM	Environmental Planner
Evan Dodd	AECOM	Environmental Planner
Carrie Kyzar	AECOM	Senior Environmental Planner
Sam Hartsfield	AECOM	Environmental Planner
Jen Warf	AECOM	Project Manager
Charlene Wu	AECOM	Deputy Project Manager

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Appendix A: Agency Coordination

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Appendix B: Tribal Consultation

Placeholder for Tribal contact list, copies of correspondence with Tribal Nations, and Tribal consultation table

Table B-1. Record of Tribal Outreach

Tribal Nation	Consultation Initiated	Summary of Response	Date of Response
Absentee Shawnee Tribe of Oklahoma	Date of consultation letter	Brief summary of response from the Tribal Nation	Date of response letter
Alabama-Coushatta Tribe of Texas	Date of consultation letter	Brief summary of response from the Tribal Nation	Date of response letter
Alabama-Quassarte Tribal Town of the Creek Nation			
Choctaw Nation of Oklahoma			
Jena Band of Choctaw Indians			
Miccosukee Tribe of Indians of Florida			
Mississippi Band of Choctaw Indians			
Muscogee (Creek) Nation			
Poarch Band of Creek Indians			
Seminole Tribe of Florida			

Tribal Nation	Consultation Initiated	Summary of Response	Date of Response
Seminole Nation of Oklahoma			
Shawnee Tribe			
Thlopthlocco Tribal Town			

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Appendix C: Summary of Public Engagement

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Appendix D: Applicable Statutes and Regulations

This appendix contains relevant statutes, regulations, and Executive Orders relied on for the evaluation of resources areas described in this PEA.

Table D-1: Applicable Laws, Regulations and Executive Orders relating to this PEA

Resource	Guidance/Regulation	Description
Land Use	Section 161.053(19) of the Florida Statutes	Establishes the General Permit Line, which defines the seaward limit where General Permits can be issued for certain construction activities.
Land Use	FDEP's Office of Resilience and Coastal Protection, Joint Coastal Permit	Processes Joint Coastal Permit applications for activities like beach restoration, construction of erosion control structures, and dredging of navigation channels.
Noise	Noise Control Act of 1972 (42 U.S.C. 4901-4918)	Establishes a national policy to promote an environment free from noise that jeopardizes health and welfare.
Geology and Soils	Farmland Protection Policy Act (7 U.S.C. § 4201)	Designates prime farmland, unique farmland, and farmland of statewide or local importance to minimize the impact federal programs have on the unnecessary conversion of farmland to nonagricultural uses.
Air Quality	Clean Air Act (42 U.S.C. §§ 7401-7661)	Regulates air emissions from area, stationary, and mobile sources. Authorized the USEPA to establish NAAQS to protect public health and the environment.
Air Quality	General Conformity Rule (40 CFR Parts 51 and 93)	Ensures that emissions of air pollutants from planned, federally funded activities do not affect a state's ability to meet or maintain the NAAQS.
Air Quality	State Implementation Plan (40 CFR Parts 51 and 52)	Requires each state to submit a State Implementation Plan that supports the implementation, maintenance, and enforcement of air quality standards.
Water Resources	Environmental Resource Permitting (ERP) Program (Chapter 62-330, Florida Administrative Code)	Establishes statewide thresholds, criteria and conditions for the processing and issuance of ERP permits by DEP, Water Management Districts and delegated local programs.

Resource	Guidance/Regulation	Description
Water Resources	Clean Water Act (33 U.S.C. § 1251 et seq.)	Establishes requirements for regulating discharges of pollutants into surface waters and developing surface water quality standards. ▪ Section 404: regulates impacts to jurisdictional wetlands and streams. Establishes a program to regulate the discharge of dredged or fill material into wetlands. Authorizes USACE to develop Nationwide Permits (NWPs) for activities with minimal adverse effects on wetlands. ▪ Section 401: requires that dischargers to waters of the U.S. obtain state water quality certifications to ensure compliance with state water quality standards. ▪ Section 303(d): establishes water quality standards and requires states to maintain a list of impaired waters and develop total maximum daily loads. Sections 402 and 319: establishes the NPDES program to regulate the discharge of point and nonpoint sources.
Water Resources	Rivers and Harbors Act (33 U.S.C. § 401 et seq.)	Authorizes USACE to regulate activities occurring withing navigable waters.
Water Resources	Safe Drinking Water Act (42 U.S.C. § 300f et seq.)	Authorizes the USEPA to designate aquifers for special protection under the sole source aquifer program if the aquifer is the only or principal source of drinking water for an area and if its contamination would create a significant hazard to public health.
Water Resources	Wild and Scenic Rivers Act (P.L. 90-542, 16 U.S.C. § 1271 et seq.)	Establishes the National Wild and Scenic Rivers System that designates and protects waterways with extraordinary natural, cultural, and recreational qualities.
Water Resources	Coastal Zone Management Act (P.L. 92-583, 16 U.S.C. §§ 1451-1466)	Authorizes states to implement federally approved coastal programs to protect coastal areas. Requires federal project proponents to submit a Federal Consistency Determination that demonstrates the proposed action's consistency with the state's enforceable policies.
Water Resources	Definition of Waters of the United States (33 CFR Part 328 and 40 CFR Part 120)	Provides a revised definition of "waters of the U.S." for the purposes of implementing requirements under the CWA and determining the jurisdictional status of waterbodies.

Resource	Guidance/Regulation	Description
Water Resources	EO 11988, Floodplain Management	Directs federal agencies to avoid to the extent possible the long- and short-term adverse impacts associated with the occupancy and modification of floodplains and to avoid direct or indirect support of floodplain development.
Water Resources	EO 11990, Protection of Wetlands	Requires federal agencies to avoid funding activities that directly or indirectly support occupancy, modification, or development of wetlands, whenever there are practicable alternatives.
Water Resources	Floodplain Management and Protection of Wetlands (44 CFR Part 9)	Establishes policy for FEMA to implement and enforce EO 11988 and EO 11990. Requires completion of the 8-step decision-making process if the project is located in a floodplain or wetland or has the potential to affect or be affected by a floodplain or wetland.
Water Resources	Florida Coral Reef Protection Act, Section 403.93325 of the Florida Statutes	Protects coral reefs by prohibiting activities that damage reefs and authorizing the FDEP to enforce penalties and seek compensation for reef damages.
Biological Resources	Endangered Species Act (16 U.S.C. § 1531 et seq.)	Provides for the conservation of threatened and endangered plants and animals and the habitats in which they are found. Prohibits jeopardizing the recovery of listed species or adversely modifying critical habitat.
Biological Resources	Migratory Bird Treaty Act (16 U.S.C. §§ 703-712)	Prohibits taking, possessing, importing, exporting, transporting, selling, purchasing, bartering, or offering for sale, purchase, or barter, any migratory bird or their parts, feathers, nests, or eggs.
Biological Resources	Bald and Golden Eagle Protection Act (16 U.S.C. §§ 668-668d)	Prohibits the “take” of bald and golden eagles, including their parts, nests, or eggs.
	Marine Mammal Protection Act (16 U.S.C. § 1361 et seq.)	Prohibits the “take” of marine mammals, including harassment, hunting, capturing, collecting, or killing, in U.S. waters and by U.S. citizens on the high seas.
Biological Resources	Magnuson-Stevens Fishery Conservation and Management Act (16 U.S.C. § 1801 et seq.)	Promotes the conservation and management of fishery resources off the U.S. coast, including the protection of EFH.
Biological Resources	EO 13112, Invasive Species	Requires federal agencies, to the extent practicable, to prevent the introduction of invasive species and provide for their control, and to minimize the impacts that invasive species cause.

Resource	Guidance/Regulation	Description
Biological Resources	National Marine Sanctuaries Act (16 U.S.C. § 1431 et seq.)	Designates and protects areas of the marine environment with special national significance due to their conservation, recreational, ecological, historical, scientific, cultural, archeological, educational or esthetic qualities as national marine sanctuaries.
Cultural Resources	National Historic Preservation Act (54 U.S.C. § 300101 et seq.)	Establishes federal policy on preserving historic properties. Section 106 requires federal agencies to consider the potential effects of tis actions upon cultural resources prior to engaging in an undertaking.
Cultural Resources	Archaeological and Historic Preservation Act (54 U.S.C. §§ 312501-312508)	Directs federal agencies to provide for the preservation of significant scientific, prehistoric, historic, and archaeological materials that might be lost or destroyed during the project.
Cultural Resources	Archaeological Resources Protection Act (16 U.S.C. §§ 470aa-470mm)	Governs the excavation of archaeological sites on federal and tribal lands and prohibits the removal or excavation of archaeological resources.
Cultural Resources	Native American Graves Protection and Repatriation Act (25 U.S.C. §§ 3001-3013)	Directs federal agencies to give ownership and control of Native American human remains, funerary objects, sacred objects, and objects of cultural patrimony that are excavated or discovered on federal land to federally recognized Tribal Nations.
Cultural Resources	National Register of Historic Places (36 CFR Part 60)	Establishes the procedural requirements for listing properties on the National Register.
Socioeconomics	Title VI section of the Civil Rights Act of 1964	Under the Title VI section of the Civil Rights Act of 1964, any agency receiving federal money cannot discriminate on the basis of race, color or national origin. Recipients who receive grant funds from FEMA may not use those funds in ways that would have an unjustified, unequal impact on the basis of color, national origin, gender, disability or age.
Human Health and Safety	Occupational Safety and Health Act (29 USC §651 et seq.)	Establishes OSHA, which sets and enforces workplace safety standards, and requires employers to maintain a workplace free from hazards that could cause death or serious harm and gives workers the right to a safe work environment.
Human Health and Safety	EO 13045, Protection of Children from Environmental Health Risks and Safety Risks	Requires federal agencies to identify and assess environmental health and safety risks that may disproportionately affect children and ensure that these risks are addressed to the greatest extent permitted by law.

Resource	Guidance/Regulation	Description
Hazardous and Toxic Materials and Waste	Resource Conservation and Recovery Act (42 U.S.C. § 6901 et seq.)	Establishes procedures and requirements for compliance by facilities that use, accumulate, transport, treat, store, or dispose of hazardous waste or substances. Also addresses the management of non-hazardous municipal and industrial solid waste.
Hazardous and Toxic Materials and Waste	Toxic Substances Control Act (15 U.S.C. § 2601 et seq.)	Regulates the use, management, and disposal of asbestos-containing material, lead-based paint, and polychlorinated biphenyls that are often found in buildings constructed prior to 1978.
Hazardous and Toxic Materials and Waste	Comprehensive Environmental Response, Compensation, and Liability Act (42 U.S.C. § 9601 et seq.)	Provides broad federal authority to respond directly to releases or threatened releases of hazardous substances that may endanger public health or the environment and allows the USEPA to clean up sites or compel responsible parties to perform cleanups. Also known as “Superfund.”
Hazardous and Toxic Materials and Waste	Identification and Listing of Hazardous Waste (40 CFR Part 261)	Identifies and defines hazardous wastes. Identifies specific substances that are considered hazardous and establishes a set of criteria to determine if unlisted wastes are hazardous. Establishes regulations for managing hazardous wastes.

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Appendix E: Resource Reports

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Appendix F: Compliance Review Requirements

This appendix identifies common information FEMA EHP reviewers will need to complete a review of an eligible future project and required conditions for ESA compliance. Additional information may be requested, depending on the scope of the project. The following table includes the most common information needed to complete an environmental compliance review of an eligible project.

Resource	Associated Compliance Review Information
General	▪ Proposed project location information, including GPS coordinates in decimal degrees, for project "start" and "end" points ▪ Approximate total, in linear feet, of impacted area to be nourished or restored ▪ GPS coordinates in decimal degree format for each lifeguard station being repaired ▪ Approximate amount of sand displaced during the declared event, in cubic yards or tons, and amount of sand anticipated to be restored as a result of the proposed project ▪ Location (GPS coordinates) and dimensions of any borrow areas utilized ▪ Approximate start and end dates of proposed activities ▪ If the work is yet to be completed, confirmation of the status or re-nourishment percentage work completed ▪ Clarification regarding whether the beach re-nourishment project will be stand-alone or interim renourishment ▪ The source of sand to be utilized for the re-nourishment project (upland, dredged, etc.) ▪ Sand source and beach compatibility analysis with dune slope ration and escarpment height and length explicitly addressed ▪ Method of sand delivery to the beach. If piped in, whether the pipe is floating or resting on the ocean floor and location of the pipe. ▪ Specify if upland sand or offshore borrow will be used ▪ If the project will consist of only the replacement of sand lost due to the disaster (standalone), or will the project be incorporated into the next scheduled renourishment and involve the placement of non-disaster related sand (comprehensive).

Resource	Associated Compliance Review Information
Land Use	▪ Any permits and documentation required by the FDEP for coastal land use compliance such as a Joint Coastal Permit, Coastal General Permit Line, or CCCL Permit ▪ Whether the project will occur above or below the annual high tide line and landward or seaward of the CCCL ▪ Project location in relation to any known CBRA Zones using https://www.fws.gov/CBRA/Maps/Mapper.html ▪ Start and stop FDEP Coastal Range Monument Numbers (R-monuments or V-monuments)
Water Resources	▪ USACE permitting, including any prior USACE permitting/consultation documents for the re-nourishment, and a project specific reference number
Biological Resources	▪ Adherence to recommendations or requirements provided by the USFWS or NOAA during Section 7 consultation or other federal and state agency consultations ▪ List of potentially affected threatened or endangered species ▪ Standard Manatee conditions for in-water work (see attached) ▪ Sea Turtle and Smalltooth Sawfish Construction Conditions (see attached) ▪ Vessel strike avoidance measures (see attached) ▪ Description of avoidance and minimization measures that would be implemented to avoid/minimize impacts to threatened and endangered species in the area. ▪ Sea turtle nest monitoring dates and details, if applicable ▪ Copies of consultation and correspondence with USFWS and NMFS regarding special status species, including T&E species, marine mammals, migratory birds, bald and golden eagles, and EFH
Cultural Resources	▪ Adherence to recommendations or requirements provided by SHPO and THPOs during Section 106 consultation or other federal and state agency consultations. ▪ Copies of consultation and correspondence with SHPO and THPO

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Appendix G: Executive Summary Spanish

Resumen Ejecutivo

Trasfondo

La Agencia Federal para el Manejo de Emergencias (FEMA, por sus siglas en inglés) propone implementar un programa de apoyo programático a las medidas de regeneración de playas, ensenadas costeras y dunas a través de la evaluación y valoración simplificadas de las medidas sujetas a la Ley Nacional de Política Pública Ambiental de 1969 los Estados Unidos (NEPA por sus siglas en inglés, art. 4321 y siguientes del Código de los Estados Unidos [U.S.C.]). Durante la toma de decisiones se requiere que FEMA evalúe y considere las consecuencias ambientales de sus acciones federales, de acuerdo con la NEPA; la Directiva 023-01 del Departamento de Seguridad Nacional (DHS, por sus siglas en inglés), Revisión 01 y la Instrucción DHS 023-01-001-01, Revisión 01; y la Directiva 108-1 de FEMA y la Instrucción 108-1-1 de FEMA. Esta Evaluación Ambiental Programática (PEA, por sus siglas en inglés) evalúa los posibles impactos asociados con las medidas de regeneración y restauración (o reacondicionamiento) de las playas y ensenadas costeras, las medidas de restauración y establecimiento de dunas y la ampliación o el desarrollo de zonas de extracción de arena en el Estado de Florida (Acción Propuesta).

De los 67 condados de Florida, 35 son condados costeros que comprenden las 825 millas de la costa de Florida. Florida es susceptible a huracanes y tormentas tropicales que generan grandes olas y marejadas ciclónicas que erosionan la playa, las ensenadas costeras y los sistemas de dunas. Un paisaje costero transformado después de la tormenta expone a las personas y las propiedades a un mayor riesgo de futuros eventos de tormentas e impacta negativamente el turismo relacionado con la playa, una importante fuente de ingresos en Florida. La regeneración y restauración de las playas y de las ensenadas costeras ofrecen una manera rentable de restaurar y mantener las playas las y ensenadas costeras erosionadas.

Este PEA facilita un enfoque simplificado para el cumplimiento de la NEPA para una variedad de acciones previas y posteriores al desastre para proteger las playas, ensenadas costeras y las dunas de Florida.

Propósito y necesidad

El propósito de la Acción Propuesta es apoyar la resiliencia costera en Florida a través de medidas de regeneración y restauración de playas, ensenadas costeras y dunas. La Acción Propuesta proporcionaría un enfoque simplificado de los requerimientos de cumplimiento de estas acciones y priorizaría la eficiencia en el cumplimiento de la misión de FEMA de ayudar a las personas antes, durante y después de los desastres. Los programas de subvenciones de FEMA apoyan su misión y mayores prioridades de resiliencia mediante la promoción de medidas de mitigación rentables que reducen el riesgo de pérdida de vidas, propiedades y amortiguan contra la inestabilidad económica causada por desastres importantes. La Acción Propuesta es necesaria para fortalecer la respuesta de Florida a las tormentas costeras severas y la erosión, y reducir el potencial de pérdida de vidas y propiedades.

Acción propuesta y alternativas

Esta PEA evalúa la Alternativa de Acción Propuesta, la cual incluye seis (6) categorías de acciones que podrían implementarse solas o en combinación para satisfacer el propósito y necesidad de la Acción Propuesta: 1) regeneración de playas o ensenadas costeras, 2) restauración (o reacondicionamiento) de playas o ensenadas costeras, 3) acciones de restauración de dunas, 4) establecimiento de dunas, 5) ampliación de área de extracción de arena, y 6) desarrollo de la extracción de arena. Estas acciones representan las acciones de regeneración o restauración costera financiadas por el gobierno federal más comunes en Florida y podrían ocurrir potencialmente dentro de cualquiera de los 35 condados costeros de Florida. Cualquier proyecto único y futuro evaluado bajo esta PEA necesitaría permanecer por debajo de 2.1 millones de yardas cúbicas de colocación o desplazamiento de arena, lo que representa el límite superior de las necesidades proyectadas de arena para proyectos patrocinados por el gobierno federal en Florida, como se analiza más adelante en la Sección 2.2.

Este PEA también evalúa la Alternativa de No Acción como línea de base comparativa frente a la Alternativa de Acción Propuesta. Bajo la Alternativa de No Acción, la Acción Propuesta no ocurriría y los programas de subvenciones de FEMA no apoyarían acciones bajo las seis categorías colectivas sin realizar un mayor nivel de revisión de la NEPA para cada proyecto. La Alternativa de No Acción refleja el *statu quo* y sirve como punto de referencia contra el cual se pueden evaluar los efectos de la Acción Propuesta.

Participación pública, tribal y de agencia

La coordinación interinstitucional e intergubernamental es un proceso con mandato federal para informar y coordinar con otras agencias gubernamentales sobre las acciones federales propuestas. FEMA invitó a las agencias federales, estatales y locales con jurisdicción o experiencia especial sobre la Acción Propuesta a revisar el Proyecto de PEA, además de las Naciones Tribales, ya sea en, o con intereses en el estado de Florida. Las listas de contactos tribales y de agencias se proporcionan en el Apéndice A y el Apéndice B. FEMA publicó un Aviso de Disponibilidad en el sitio web de la Administración Federal de Emergencias y en el Repositorio NEPA de FEMA invitando al público y a las personas interesadas a presentar comentarios. El Borrador PEA y el Proyecto FONSI estarán disponibles para su revisión y comentario durante un periodo de 30 días para comentarios públicos. Cualquier comentario relevante recibido durante la revisión pública será revisado y abordado en la PEA Final.

Resumen de consecuencias ambientales

FEMA consideró las condiciones básicas del entorno natural y humano en las que podría ocurrir la Acción Propuesta para evaluar las posibles consecuencias ambientales. El PEA se enfoca en recursos y condiciones potencialmente sujetos a efectos de la Acción Propuesta, incluyendo Uso de suelo, Geología y suelos, Calidad del aire, Recursos de agua, Recursos biológicos, Recursos culturales, Socioeconomía, y Materiales y residuos peligrosos y tóxicos. En esta sección se presenta un resumen de los impactos potenciales a estos recursos como resultado de la Alternativa de No Acción y la Alternativa de Acción Propuesta.

Uso del suelo: Bajo la Alternativa de No Acción, los impactos adversos para el uso del suelo y las comunidades costeras por tormentas severas persistirían bajo el *statu quo*. La Alternativa de No Acción empeoraría aún más estos impactos al requerir más tiempo y recursos para aprobar proyectos de regeneración y restauración, lo que resultaría en *impactos adversos a largo plazo* que podrían alcanzar umbrales significativos.

Bajo la Acción Propuesta, los proyectos alternativos de regeneración y restauración mejorarían el uso actual de los terrenos de los sitios de proyectos individuales y las áreas circundantes mediante la restauración de los sistemas de playas y dunas, y la protección de los usos de los terrenos en la zona interior de la costa y los recursos costeros de la erosión y la marejada ciclónica. Los proyectos bajo la Acción Propuesta ayudarían a estabilizar el sistema de playas y dunas, minimizar la erosión y proteger las propiedades situadas en las zonas altas, de los daños causados por las tormentas. Por lo tanto, la Acción Propuesta *no tendría impactos adversos a corto plazo* para el uso del terreno e *impactos beneficiosos moderados a largo plazo para los* usos de los terrenos en la zona costera.

Ruido: Bajo la Alternativa de No Acción, los impactos de ruido de los proyectos de regeneración y restauración en curso y de los proyectos futuros continuarían bajo el *statu quo*. Como la Alternativa de No Acción no cambiaría las condiciones actuales de ruido, *no habría impacto*.

Bajo la Alternativa de Acción Propuesta, las actividades de construcción se traducirían en un aumento temporal de los niveles de ruido dentro de las inmediaciones de cada sitio del proyecto. No obstante, cada proyecto estaría diseñado para cumplir con las ordenanzas locales sobre ruido, asegurando que las actividades de construcción se lleven a cabo de manera que se minimice la interrupción de la comunidad circundante. Por lo tanto, la Acción Propuesta tendría *impactos adversos menores a corto plazo* por el ruido.

Recursos visuales y estética: Bajo la Alternativa Sin Acción, la erosión continua puede degradar los paisajes costeros y disminuir el valor estético de las comunidades costeras. La Alternativa de No Acción empeoraría aún más estos impactos al requerir más tiempo y recursos para aprobar proyectos de regeneración y restauración. Por lo tanto, la Alternativa de No Acción resultaría en *impactos adversos a largo plazo* que podrían alcanzar umbrales significativos para los recursos visuales y la estética.

Bajo la Alternativa de Acción Propuesta, se producirían alteraciones a corto plazo en el entorno estético debido a la presencia de equipos de construcción y a las zonas de movilización del proyecto. No obstante, estos impactos serían provisionales, y las acciones de regeneración y restauración de playas y dunas se limitarían al área afectada para minimizar los impactos visuales. Los sitios de extracción tierra adentro también podrían ser visualmente intrusivos, especialmente si implican excavaciones sustanciales y perturbaciones del paisaje visual. FEMA aseguraría la administración y restauración adecuadas de estos sitios de extracción para minimizar los impactos visuales y garantizar que las actividades del proyecto sean lo más armoniosas posible con el paisaje visual. Además, a largo plazo, la Acción Propuesta sirve para brindar beneficios estéticos mediante la reparación de playas degradadas y litorales erosionados. Por lo tanto, la Acción Propuesta tendría

impactos adversos menores a corto plazo e impactos beneficiosos a largo plazo sobre los recursos visuales y la estética.

Geología y suelos: Bajo la Alternativa de No Acción, los impactos adversos a los recursos geológicos y suelos por la continua erosión costera persistirían bajo el *statu quo*. La Alternativa de No Acción empeoraría aún más estos impactos al requerir más tiempo y recursos para aprobar proyectos de regeneración y restauración, lo que resultaría en *impactos adversos a largo plazo* que podrían alcanzar umbrales significativos.

Bajo la Alternativa de Acción Propuesta, las actividades de expansión y establecimiento de extracción de arena requerirían excavación, así como perturbación y remoción del suelo. Sin embargo, no se prevé que se encuentre roca madre y no debe haber riesgos geológicos o sísmicos cerca de ninguno de los sitios del proyecto. También se producirían impactos a los suelos por la adición de sedimentos a playas y dunas durante las actividades de regeneración y restauración. Con el tiempo, sin embargo, la restauración de playas y dunas ayudaría a estabilizar la playa y reducir la erosión, beneficiando las condiciones del terreno y preservando la playa y las estructuras cercanas. Por lo tanto, se espera que la Acción Propuesta *no tenga ningún impacto* en la geología; y que tenga impactos menores *a corto plazo, e impactos beneficiosos a largo plazo en los* suelos.

Calidad del aire: Bajo la Alternativa de No Acción, los impactos adversos a la calidad del aire de las actividades de regeneración o restauración costeras en curso o futuras persistirían bajo el *statu quo* por las emisiones contaminantes. La Alternativa de No Acción no tendría potencial para cambiar el estado de logro de calidad del aire de una zona, independientemente de la magnitud e intensidad de la acción.

Bajo la Alternativa de Acción Propuesta, las emisiones a corto plazo se producirían a partir de equipos de construcción necesarios para actividades de colocación de arena, conformación de playas o dunas, y la ampliación o establecimiento del área de extracción. También se anticipan emisiones de gases de escape procedentes del transporte por camión. Por lo tanto, la Acción Propuesta tendría *impactos adversos menores a corto plazo* para el entorno existente de calidad del aire.

Recursos de agua: Bajo la Alternativa de No Acción, los impactos adversos a los recursos de agua por la continua erosión costera y las marejadas tormentosas persistirían bajo el *statu quo*. La Alternativa de No Acción empeoraría aún más estos impactos al requerir más tiempo y recursos para aprobar proyectos de regeneración y restauración, lo que resultaría en *impactos adversos a largo plazo* que podrían alcanzar umbrales significativos.

Bajo la Alternativa de Acción Propuesta, el bombeo de arena a tierra a través de ductos sumergidos aumentaría la sedimentación y turbidez en los sitios de regeneración y restauración de playas. Por lo anterior, se prevé que la Acción Propuesta tenga *impactos adversos a corto plazo, menores a moderados* en las aguas superficiales. FEMA anticipa que la Acción Propuesta tendría *impactos adversos menores a corto plazo* en las aguas subterráneas por actividades de construcción que podrían alterar los patrones naturales de flujo y recarga de los sistemas subterráneos subyacentes.

La Acción Propuesta también tiene el potencial de causar *impactos adversos a corto plazo, menores a moderados a* los humedales debido al potencial de aumento de turbidez en los sitios del proyecto por el bombeo de arena a tierra a través de ductos sumergidos. También se prevén *impactos adversos menores a corto plazo* en los recursos costeros por el aumento de la turbidez cerca de los sitios de extracción en alta mar. A largo plazo, la Acción Propuesta también puede tener *impactos beneficiosos a largo plazo, menores a moderado*s, en las aguas superficiales, las aguas subterráneas, los valles de inundación, los humedales y los recursos costeros debido a una mayor resiliencia frente a las marejadas ciclónicas y por la estabilización de la costa y la reducción de la tasa de erosión y sedimentación.

Recursos biológicos: Bajo la Alternativa de No Acción, los impactos adversos a los recursos biológicos por la continua erosión costera y la perturbación del hábitat persistirían bajo el *statu quo*. La Alternativa de No Acción empeoraría aún más estos impactos al requerir más tiempo y recursos para aprobar proyectos de regeneración y restauración, lo que resultaría en *impactos adversos a largo plazo* que podrían alcanzar umbrales significativos.

Bajo la Alternativa de Acción Propuesta, las actividades terrestres y de mar adentro perturbarían los hábitats terrestres y acuáticos por el uso de equipo pesado de construcción y el desplazamiento de arena. En consecuencia, la Acción Propuesta causaría *impactos adversos a corto plazo, menores a moderados* en la vegetación y la vida silvestre, incluidas las especies de estatus especial. A largo plazo, la Acción Propuesta abordaría la degradación y erosión costera, contribuyendo así a los esfuerzos para aumentar la disponibilidad de hábitat terrestre y restaurar, mejorar y proteger el hábitat costero. Habría *impactos beneficiosos a largo plazo para los* recursos biológicos.

Recursos culturales: Bajo la Alternativa de No Acción, los impactos adversos a los recursos culturales por la continua erosión costera y las marejadas ciclónicas persistirían bajo el *statu quo*. La Alternativa de No Acción empeoraría aún más estos impactos al requerir más tiempo y recursos para aprobar proyectos de regeneración y restauración, lo que resultaría en *impactos adversos a largo plazo* que podrían alcanzar umbrales significativos.

Dentro de la Alternativa de Acción Propuesta, los proyectos de regeneración y restauración costera podrían provocar una perturbación temporal de las vistas o paisajes asociados a los recursos culturales identificados debido a la visibilidad del personal de construcción, vehículos y equipos, así como un aumento del ruido. A largo plazo, la Acción Propuesta ayudaría a compensar la erosión costera, protegiendo así propiedades históricas cercanas y recursos arqueológicos. Además, FEMA seguiría el proceso de revisión estándar de la Sección 106 y coordinaría junto con la Oficina Estatal de Conservación Histórica para evitar, minimizar o mitigar los posibles impactos adversos a las propiedades históricas sobre una base específica del proyecto. Se prevé que la Acción Propuesta se traducirá en *impactos menores a corto plazo e impactos beneficiosos* a largo plazo para los recursos culturales.

Tráfico y transporte: Bajo la Alternativa de No Acción, la continua erosión costera acentuada por tormentas costeras severas pasadas y futuras podría resultar en daños a la infraestructura y las carreteras, lo que podría resultar en retrasos en el tráfico debido a reparaciones más frecuentes y

extensas, así como una mayor vulnerabilidad a nuevos eventos de tormenta. La Alternativa de No Acción empeoraría aún más estos impactos al requerir más tiempo y recursos para aprobar proyectos de regeneración y restauración, lo que resultaría en *impactos adversos a largo plazo* que podrían alcanzar umbrales significativos.

Bajo la Alternativa de Acción Propuesta, las actividades de construcción que se producirían bajo la Acción Propuesta pueden resultar en interrupciones temporales en el tráfico y transporte en las carreteras locales, particularmente en las comunidades costeras y aledañas. Los impactos en el tráfico de embarcaciones y la navegación por la presencia de embarcaciones de dragado y barcazas también se producirían durante las actividades de dragado en alta mar. Estos impactos serían a corto plazo, y los beneficiarios de las subvenciones trabajarían en estrecha colaboración con las autoridades locales para obtener las aprobaciones requeridas y garantizar que los impactos se gestionen y minimicen en la medida de lo posible. A largo plazo, la Acción Propuesta estabilizaría la infraestructura y protegería las carreteras de las zonas altas de los daños causados por las tormentas. Por lo tanto, la Acción Propuesta tendría *impactos adversos de corto plazo, menores, adversos y de largo plazo, beneficiosos* sobre el tráfico y el transporte.

Socioeconomía: Bajo la Alternativa de No Acción, los impactos adversos a las condiciones socioeconómicas por la continua erosión costera y el deterioro persistirían bajo el *statu quo*. La Alternativa de No Acción empeoraría aún más estos impactos al requerir más tiempo y recursos para aprobar proyectos de regeneración y restauración, lo que resultaría en *impactos adversos a largo plazo* que podrían alcanzar umbrales significativos.

Bajo la Alternativa de Acción Propuesta, los proyectos costeros de regeneración y restauración probablemente generarían mano de obra local, y cualquier ingreso fiscal asociado con los gastos de construcción beneficiaría las condiciones económicas locales. Se requerirían cierres temporales de playas, aunque el impacto en el turismo y la economía local sería insignificante. A largo plazo, se mejoraría la calidad de las playas, paseos marítimos, y otras zonas costeras para la recreación pública, lo que se traduciría en un aumento del turismo y recreación pública, así como oportunidades de empleo en industrias relacionadas con el turismo. Por lo tanto, la Acción Propuesta resultaría en *impactos beneficiosos a corto y largo plazo* sobre las condiciones socioeconómicas.

Salud y seguridad humanas: Bajo la Alternativa de No Acción, la destrucción continua por tormentas costeras severas podría plantear riesgos significativos para la salud y la seguridad humana. Sin la Acción Propuesta, los esfuerzos para hacer frente a estas amenazas no serían tan rápidos ni efectivos; por lo tanto, la Alternativa de No Acción tendría como resultado *impactos adversos a largo plazo* que podrían alcanzar umbrales significativos.

Bajo la Alternativa de Acción Propuesta, los segmentos de playas que se están regenerando o restaurando activamente serían cerrados al público y no reabrirían hasta que se concluyan todas las actividades de construcción. Por lo tanto, FEMA no anticipa riesgos desproporcionados para la salud de los niños ni impactos para el público. Podrían ocurrir efectos adversos menores para los trabajadores con base en los riesgos inherentes asociados a un sitio de construcción activo. A largo

plazo, la Acción Propuesta tiene el potencial de impactos beneficiosos en la salud y la seguridad humanas realizados a través de una serie de acciones destinadas a reducir el potencial de pérdida de vidas, proteger la infraestructura y disminuir la gravedad de los impactos de las tormentas costeras. Por lo tanto, la Acción Propuesta tendría impactos *a corto plazo, menores e impactos beneficiosos a largo plazo* en la salud y seguridad humanas.

Materiales y residuos peligrosos y tóxicos: Bajo la Alternativa de No Acción, cualquier uso, almacenamiento o generación de materiales y desechos peligrosos y tóxicos (HTMW, por sus siglas en inglés) que resulten de los proyectos actuales y futuros de regeneración y restauración continuaría bajo el *statu quo*. Por lo tanto, *no habría impactos* a HTMW bajo la Alternativa de No Acción.

Bajo la Alternativa de Acción Propuesta, la operación de equipo pesado y vehículos para proyectos de regeneración y restauración crearía el potencial de descarga, derrame y contaminación. Todos los materiales o desechos peligrosos descubiertos, generados o utilizados serían manejados, contenidos y eliminados de acuerdo con las regulaciones locales, estatales y federales aplicables. FEMA coordinaría con los proponentes del proyecto y las agencias autorizadoras, como el Cuerpo de Ingenieros del Ejército de los Estados Unidos o la Oficina de Administración de Energía Oceánica, para llevar a cabo estudios de magnetómetros específicos del sitio antes de realizar actividades de extracción de arena tierra adentro y en alta mar para identificar municiones militares y explosivos de interés (MEC, por sus siglas en inglés) o municiones sin detonar (UXO, por sus siglas en inglés). Además, cualquier actividad propuesta se llevaría a cabo a una distancia segura de cualquier sitio contaminado que aparezca en la Lista de Prioridades Nacionales del Superfondo. En general, la Acción Propuesta tendría *impactos adversos menores a corto plazo* por derrames o liberaciones accidentales de HTMW, y *ningún impacto* en MEC, UXO o sitios contaminados.

Conclusiones

Los hallazgos de esta PEA indican que no se derivarían efectos adversos significativos de la implementación de la Acción Propuesta, asumiendo el cumplimiento con las Mejores Prácticas de Manejo. Por lo tanto, no se justificarán medidas de mitigación adicionales y no se requerirá una Declaración de Impacto Ambiental. Este PEA también proporciona los criterios para determinar si un proyecto propuesto puede ser cubierto bajo la evaluación de este PEA o si se requiere un EA escalonado y específico del sitio.