

Enhance Coastal Resilience Through Beach and Dune Restoration

Escambia County, Florida

RESTORE Council Proposal Document

General Information

Title:

Enhance Coastal Resilience Through Beach and Dune Restoration, Escambia County

Project Abstract:

This proposal will complete compliance and planning requirements to extend county beach nourishment activities onto Gulf Islands National Seashore (GUIS); hereafter referred to as the Park, as well as plant native vegetation to stabilize dunes. Extending these beach nourishment efforts onto federal land will enhance infrastructure protection and combat coastal erosion exacerbated by reduced sediment supply and rising sea levels. While this proposal does not directly request funding for sediment placement, it will fund the essential compliance and planning requirements needed for this important work. This proposed effort also includes planting vegetation to stabilize dunes, utilizing materials propagated from existing plants within the Park. This effort is projected to span five years, encompassing two years for planning and compliance, followed by three years of planting and monitoring. Enhancing barrier island resilience through this effort will not only improve habitat but also support local communities by safeguarding critical evacuation routes and promoting tourism in the area, particularly following recent hurricane impacts.

FPL Category: Cat1: Planning/ Cat1: Implementation

Activity Type: Project

Program: N/A

Co-sponsoring Agency(ies): N/A

Is this a construction project?:

No

RESTORE Act Priority Criteria:

(IV) Projects that restore long-term resilience of the natural resources, ecosystems, fisheries, marine and wildlife habitats, beaches, and coastal wetlands most impacted by the Deepwater Horizon oil spill.

Priority Criteria Justification:

This effort will complete the planning and compliance necessary to allow for neighboring beach nourishment projects onto NPS lands, providing restoration and long-term resilience benefits to the Gulf Coast Region. This effort will not fund placement of sediment but will provide the

environmental compliance necessary for these activities from neighboring communities. Replenishing sediment lost to erosion from hurricanes, other storms, and elevated sea rise will provide wider beaches and higher elevation to reduce continued erosion as the areas receive a reduced natural sediment load caused by coastal interruptions in sediment supply. Stable beaches will provide enhanced shorebird foraging area and successful sea turtle nesting areas. Additionally, dune restoration through planting of native vegetation in and adjacent to sediment placement areas will enhance long-term resilience by stabilizing disturbed habitats and facilitating the natural development of island stabilizing dunes.

Project Duration (in years): 5

Goals

Primary Comprehensive Plan Goal:

Restore and Conserve Habitat

Primary Comprehensive Plan Objective:

Restore and Enhance Natural Processes and Shorelines

Secondary Comprehensive Plan Objectives:

Protect and Restore Living Coastal and Marine Resources

Secondary Comprehensive Plan Goals:

Replenish and Protect Living Coastal and Marine Resources

PF Restoration Technique(s):

Create, restore, and enhance coastal wetlands, islands, shorelines and headlands: Sediment placement

Protect and conserve coastal, estuarine, and riparian habitats: Habitat management and stewardship

Location

Location:

Project activities will be adjacent to the communities of Navarre Beach and Pensacola Beach, Escambia County, FL. Planned sediment placement projects and dune restoration will be extended west of each location within the boundaries of GUIS through completion of required planning and environmental compliance.

HUC8 Watershed(s):

South Atlantic-Gulf Region(Choctawhatchee-Escambia) - Florida Panhandle Coastal(Pensacola Bay)

State(s):

Florida

County/Parish(es):

FL - Escambia

FL - Santa Rosa

Congressional District(s):

FL - 1

Narrative

Introduction and Overview:

The objective of this proposal is to complete compliance and planning to allow for neighboring beach nourishment projects to extend onto federal owned property, and to plant dune stabilizing native vegetation for multiple beneficial purposes. Beach nourishment projects are being planned for the public beaches adjacent to GUIS: Navarre Beach and Pensacola Beach. Project managers have approached GUIS with the request to taper their beach nourishment project templates onto adjacent GUIS beaches for approximately one mile at each location for increased protection of infrastructure close to the Park's boundary. Extending these projects will also benefit GUIS by providing sediment to areas where reduced sediment supply and elevated sea level rise are leading to higher rates of coastal erosion. Sediment placement has been shown to be effective in increasing resilience in local coastal areas (Brutsché , K et. al., 2015). Preparation of an Environmental Assessment (EA) to evaluate benefits and analyze potential environmental impacts of beach nourishment actions extended into the Park will lead to better overall results. This proposal does not request funding for placement of sediment, only for the planning and compliance required to allow adjacent projects to extend into the Park.

Past successful projects specific to the Park and panhandle region of Florida include those related to restoration following previous hurricane events, public beach sediment placement, and native plantings for stabilization. The most recent cooperative project within the Park was an emergency sediment placement following Hurricane Sally to fill breached areas at Perdido Key, FL. Native revegetation efforts are currently underway in cooperation with the Florida Wildlife Conservation Commission and University of Florida. Other relevant research includes current, unpublished work by the USGS addressing sediment transport and deficiencies in sediment supply to Park lands mitigating erosion and elevated risk to natural systems and infrastructure. Monitoring data/reports from previous sediment placements adjacent to the Park (Escambia and Santa Rosa Counties) should show in the EA's impact analysis how previous sediment placements have provided benefit to limited areas of the Park, which we hope to expand through this proposal. By partnering with the neighboring counties, the Park will benefit from the analysis of environmental impacts through the EA leading to approval for expanding the county-funded projects into the Park.

To facilitate natural development of island stabilizing dunes, the proposed effort will include planting native vegetation to capture and hold sediment. Plant materials for dune restoration will be collected from existing native plants in the Park with an adequate amount propagated to provide necessary stabilization and dune development at key locations. This effort will include extensive planning and monitoring requirements. It is estimated that initial planning and collection of native plant materials will take approximately two years to implement with three years of planting and monitoring post-sediment placement for a total of five years. Native planting will primarily occur in dune and fore-dune areas adjacent to planned sediment placement templates. To reiterate, sediment placement will be completed outside of this proposed effort.

The proposed extension of neighboring nourishment projects onto GUIS property and planting of native vegetation will provide additional barrier island resilience and improved habitat. The areas under consideration have been impacted by hurricanes, most recently Hurricane Sally, and have been slow to recover. Hwy 399, adjacent to Navarre Beach, is an evacuation route for the communities of Navarre and Pensacola Beaches. If one of the bridges were to be closed or damaged, the route through GUIS is the local resident's only means of leaving the island with their vehicle. Enhancing resilience in this area is important to the Park and neighboring communities to protect the road. Fort Pickens Road, adjacent to Pensacola Beach, is the

access route to GUIS. The Fort Pickens area is important to the local community as a visitor destination and benefit to the local economy. Enhancing resilience in this area to protect the road and other infrastructure will not only benefit island stability and natural habitat but also tourism.

Proposed Methods :

The Park will undertake compliance and planning to permit sediment placement following NPS beach nourishment guidance (Hart K and Others, 2023). Partners will be responsible for required pre- and post-placement measurements and monitoring to ensure standards are achieved. Required topological and bathymetric monitoring will be completed by partners and resultant data will be publicly available. Native vegetation will be installed by GUIS staff. Vegetation will be monitored by running standard vegetation monitoring transects through the restored areas. These transects will track survivorship of plantings and changes in percent of vegetative cover. Non-native invasive plant species will be controlled through Park-based programs. The success of plantings in restoring dunes will be tracked in cooperation with the NPS Gulf Coast Inventory and Monitoring Network which conducts topological surveys on a routine basis within the Park and can assist with plant monitoring protocols. Planting locations will be determined through the planning process and will be dependent on final template for sediment placement in coordination with the county project planners.

The EA and planning process will be the mode of specifying implementation based on all available guidance documents and policies. The NPS Beach Renourishment Handbook (Dallas et al, 2012) and Coastal Adaptation Strategies Handbook (Beavers et al, 2016) will be referenced as well as adherence to applicable elements of the USACE Nationwide Permit.

Related to sediment placement, annual bathymetric and topographic surveys are standard components of a required USACE permit. LiDAR and transect surveys are conducted by contracted services, and additional transect surveys are conducted by the NPS Inventory & Monitoring Program every two years (National Park Service. 2009). Dune stabilization through native plant establishment will be planned either by contract or cooperative agreement with coastal subject matter experts yet to be determined. The Park has previously worked with The University of Florida for determination of planting blocks, seed collection, propagation, planting, and monitoring.

A data-driven Monitoring and Adaptive Management Plan will be created to specify monitoring parameters with indicators to guide follow up actions and determine success and possible inclusion of some general measures that are fairly standard for this type of action. This will include a data management plan that will be integrated into the NPS Inventory and Monitoring Network's long term data set for the Park.

Environmental Benefits:

Direct benefits from this effort include stabilization through use of native vegetation plantings and increased resilience to storms for critical coastal areas. Areas targeted for native plantings have been significantly impacted by storm damage and interrupted sediment supply. Connecting vegetation habitat allows for native wildlife, such as beach mice, to maintain travel corridors as well as access to expanded food sources.

Expansion of beach area provides for increased nesting habitat for both shorebirds and marine turtles. Due to explosive growth in coastal development in recent decades, primary nesting areas have been negatively impacted. The Gulf Islands National Seashore partners with state and federal agencies to monitor and protect some of the more productive remaining habitat for

nesting in the region. Dune enhancement and beach restoration will provide needed conditions for multiple imperiled species.

The NPS is well-experienced in Dune Renourishment and Beach Replenishment projects including: 1) involvement in the Panhandle Dune Restoration Program, 2) Perdido Key Beneficial Use of Dredge Material Project - recently completed and now monitoring, 3) 22 million cubic yard sediment placement at Ship Island, MS as part of the Mississippi Coastal Improvement Program, and 4) partner in developing the Pensacola Pass Inlet Management Plan.

Metrics:

Metric Title: PRM013 : Restoration planning/design/permitting - # environmental compliance documents completed

Target: 2

Narrative: Completed planning and compliance will allow Park to permit expansion of county projects to occur at two locations. Each location will extend one mile into the Park for a total of two project miles. One EA will be completed to accompany permitting of partner sediment placement projects, and one programmatic CE will be reviewed and modified if needed for native plantings.

Metric Title: HR013 : Wetland restoration - Acres restored

Target: 85

Narrative: Native vegetation planted adjacent to areas where sediment is projected to be placed will cover approximately 85 acres. Vegetation will have the immediate effect of providing food sources and cover for species such as beach mice. Plantings will also trap moving sand and initiate stabilizing dunes that have been impacted from storms and lack of sediment supply.

Risk and Uncertainties:

The proposed effort will increase resilience and improve habitat. However, the areas under consideration are in a highly dynamic coastal system. Vegetation requires time to establish, and timing of planting will provide for best results, but a major storm action in the first growing year could be devastating to success.

Given the highly dynamic coastal system addressed in this proposal, considerable risks exist. This proposal is itself a mitigation plan for past and ongoing environmental impacts from reduced sediment transport and storms. The Park is in a continual cycle of restoration-impact-restoration. So, the mitigation plan to follow impacts to this effort will be to work with coastal partners to continue the cycle. The EA compliance will enable the Park to initiate restoration efforts with partner assistance in areas that the Park has not previously been able to due to lack of planning and compliance.

Park-specific data and previous analysis will be used to assess the potential long-term challenges of the proposed action. Gulf Islands National Seashore Coastal Hazards & Climate Change Asset Vulnerability Assessment Protocol (Peek, 2015), Coastal Vulnerability Assessment of Gulf Islands National Seashore (GUIS) to Sea Level Rise (Pendleton, 2004), and Gulf Islands National Seashore climate futures summary (Climate Change Response Program, 2024) are primary sources of information.

Monitoring and Adaptive Management:

This proposal will complete compliance and planning to permit sediment placement by neighboring county partners to continue onto federal lands. Partners will be responsible for required pre- and post-placement measurements and monitoring. Required topological and bathymetric monitoring will be completed by partners and resultant data will be publicly available.

Native vegetation planting will be the responsibility of Gulf Islands National Seashore. Success of planted vegetation will be monitored by running standard vegetation monitoring transects through the restored areas to track survivorship of plantings and changes in percent of vegetative cover. Non-native invasive plant species will be controlled through Park-based programs. The success of plantings in restoring dunes will be tracked in cooperation with the NPS Gulf Coast Inventory and Monitoring Network which conducts topological surveys on a routine basis within the Park.

A final sediment placement template will be needed for "beach restored", or erosional loss related to reduced sediment transport recovered. For plantings, an 80% survivorship is commonly desired as a standard and percent cover will be identified using LIDAR surveys.

Data Management:

All data, maps, and project related reports will be filed at the Park and provided upon request.

Collaboration:

Extending the actions onto NPS lands will enhance both resilience of county owned lands and NPS resources and infrastructure. There are also multiple studies currently in action, planned, or proposed to monitor sediment budget for these areas that will provide additional data for planning, analysis, and monitoring.

Public Engagement, Outreach, and Education:

Public engagement is a requirement of the NPS NEPA process. Public meetings will be conducted with stakeholder during development of project alternatives and final plan provided for public comment. Park interpretive staff educate the public on coastal dynamics and the importance of vegetated dunes on an ongoing basis as part of the environmental protection education component of Park operations.

Leveraging:

Funds: \$500,000.00

Type: Leveraging

Status: Proposed

Source Type: Local Funder (e.g., city, county, parish)

Description: The preferred alternative selected during completion of compliance and planning will define actions. The two neighboring Counties (Escambia and Santa Rosa) plan to invest substantial funds to implement the chosen alternative. However, the amounts are unknown until final project design. The number provided here is just an estimate.

Environmental Compliance:

Both activities proposed in this effort are considered Category 1 "planning" and/or "implementation" activities. The first activity will be to complete planning and EA compliance for our partner's beach restoration actions. NPS has specific requirements for all federal actions,

and GUIS staff includes a full time Environmental Protection Specialist that coordinates all project actions. We consult with all appropriate regulatory agencies and stakeholders on a frequent basis and are confident, having completed recent beneficial use of dredge material sediment placement projects, that we will be able to successfully compete planning and EA compliance in a timely manner.

The second proposed activity will be to plant native vegetation in selected locations within the Park. We do not consider the planting activities proposed to cause significant environmental impacts to the Park. The planting activity may be covered by Park or DOI categorical exclusions. For example, NEPA and NHPA compliance requirements for the native planting components of this proposed effort are covered by a Park programmatic categorical exclusion (GUIS Dune Restoration Plantings 2023-2028) and also by the "Existing Department of Interior Categorical Exclusions" (43 CFR Part 46). However, aspects of the native planting components may be additionally reviewed as part of the EA process, which could include potential extraordinary circumstances such as listed species, cultural sites, and artifacts.

Bibliography(All references listed below that were published prior to 2025 may reference the Gulf of Mexico. This nomenclature has been retained to maintain the integrity of the referenced material. The Council recognizes the name change Gulf of America):

Beavers R, Babson A, Schupp C (ed). 2016. Coastal Adaptation Strategies Handbook. 134009. National Park Service. Washington, DC.

Brutsché, Katherine & Wang, Ping & Rosati, Julie & Pollock, Cheryl. (2015). Engineering With Nature: Nearshore Berm Placements at Fort Myers Beach and Perdido Key, Florida, USA. 10.1142/9789814689977_0138.

Climate Change Response Program. 2024. Gulf Islands National Seashore climate futures summary. National Park Service. Fort Collins, CO.

Dallas, K. L., J. Eshleman, and R. Beavers. 2012. National Park Service beach nourishment guidance. Natural Resource Technical Report NPS/NRSS/GRD/NRTR—2012/581. National Park Service, Fort Collins, Colorado.) and Coastal Adaptation Strategies Handbook (Beavers R, Babson A, Schupp C (ed). 2016. Coastal Adaptation Strategies Handbook. 134009. National Park Service. Washington, DC

Hart K and Others. 2023. National Park Service beach nourishment guidance (second edition). Natural Resource Report. NPS/NRSS/GRD/NRR—2023/2515. National Park Service. Fort Collins, Colorado. <https://doi.org/10.36967/2299256>

National Park Service. 2009. Monitoring Coastal Geomorphology and Landforms.

Peek, K.; B. Tormey; H. Thompson; R. Young; S. Norton; R. Scavo; M. Koslow; B. Binns. September 2015. Gulf Islands National Seashore Coastal Hazards & Climate Change Asset Vulnerability Assessment Protocol. NPS 635/154054. National Park Service, Washington DC.

Pendleton, E.A., Hammer-Klose,E.S., Thieler, E.R., Williams, S.J. , 2004, Coastal Vulnerability Assessment of Gulf Islands National Seashore (GUIS) to Sea Level Rise, U.S. Geological Survey Open-File Report 03-108, 18 p. <http://pubs.usgs.gov/of/2003/of03-108/>.

Budget

Project Budget Narrative:

Approximately \$230,000 of the project budget will be required for environmental compliance and planning. Propagating sufficient native plants utilizing material collected within the Park will utilize \$400,000. Establishing native plant plots, monitoring, and adaptively replanting areas required for success will utilize \$270,000.

The overall budget for this project is \$900,000.

Total FPL Project/Program Budget Request:

\$ 900,000.00

Estimated Percent Monitoring and Adaptive Management: 25 %

Estimated Percent Planning: 25 %

Estimated Percent Implementation: 40 %

Estimated Percent Project Management: N/A

Estimated Percent Data Management: N/A

Estimated Percent Contingency: 10 %

Is the Project Scalable?:

Yes

If yes, provide a short description regarding scalability.:.

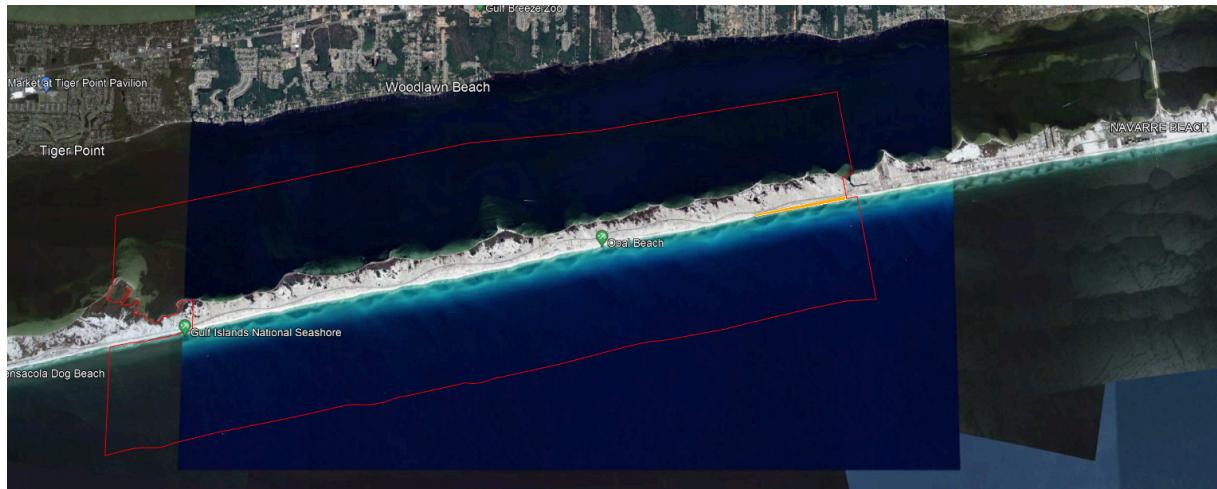
Project could be scaled down to only accomplish the planning and compliance components to allow for future sediment placement. Conversely, project could be scaled down to only accomplish dune restoration through native vegetation planting.

Environmental

Environmental Requirement	Has the Requirement Been Addressed?	Compliance Notes (e.g., title and date of document, permit number, weblink etc.)
National Environmental Policy Act	No	To be completed as part of the project
Endangered Species Act	No	To be completed as part of the project
National Historic Preservation Act	No	To be completed as part of the project
Magnuson-Stevens Act	No	To be completed as part of the project
Fish and Wildlife Conservation Act	No	To be completed as part of the project
Coastal Zone Management Act	No	To be completed as part of the project
Coastal Barrier Resources Act	No	To be completed as part of the project
Farmland Protection Policy Act	No	To be completed as part of the project
Clean Water Act (Section 404)	No	To be completed as part of the project
River and Harbors Act (Section 10)	No	To be completed as part of the project
Marine Protection, Research and Sanctuaries Act	No	To be completed as part of the project
Marine Mammal Protection Act	No	To be completed as part of the project
National Marine Sanctuaries Act	No	To be completed as part of the project
Migratory Bird Treaty Act	No	To be completed as part of the project

Bald and Golden Eagle Protection Act	No	To be completed as part of the project
Clean Air Act	No	To be completed as part of the project
Other Applicable Environmental Compliance Laws or Regulations	N/A	Note not provided.

Maps, Charts, Figures



Caption : Proposed Sediment Placement and Dunes Restoration Project Area – Navarre Beach Extension



Caption : Proposed Sediment Placement and Dunes Restoration Project Area – Pensacola Beach Extension

Other Uploads

Main Uploads_0:

Revised Proposal_NPS_FPL4_Beach and Dune Restoration Proposal_011725.docx

Caption : N/A

GIS Data_3:

GUIS_RESTORE_GIS_Template.gdb.zip

Caption : N/A

Council Staff Review:**Enhance Coastal Resilience Through Beach and Dune Restoration,
Escambia County**

Note: All comments indicated below were addressed in the proposal provided above.

FPL Internal Staff Review

Project/Program	Enhance Coastal Resilience Through Beach and Dune Restoration, Escambia County		
Primary Reviewer	Amy Newbold	Sponsor	DOI
EC Reviewer	John Ettinger	Co-Sponsor	NA
1. Is/Are the selected Priority Criteria supported by information in the proposal?			Yes
Notes			
2. Does the proposal meet the RESTORE Act geographic eligibility requirement?			Yes
Notes			
3. Are the Comprehensive Plan primary goal and primary objective supported by information in the proposal?			Yes
Notes			
4. Planning Framework: If the proposal is designed to align with the Planning Framework, does the proposal support the selected priority approaches, priority techniques, and/or geographic area?			Yes
Notes			
5. Does the proposal align with the applicable RESTORE Council definition of project or program?			Yes
Notes	Project		
6. Does the budget narrative adequately describe the costs associated with the proposed activity?			Yes

Notes		
7. Have three external BAS reviews been completed and has the proposal sponsor provided their response?		More information needed
Notes	Please see the external BAS review comments, and external reviews summary attached with these review comments.	
8. Have appropriate metrics been proposed to support all primary and secondary goals?		Yes
Notes		
9. Environmental compliance: If FPL Category 1 has been selected for the implementation component of the project or program, does the proposal include environmental compliance documentation that fully supports the selection of Category 1?		No
Notes	The 2026 FPL proposal indicates that implementation funds (for planting) are Cat 1, yet also indicates that environmental compliance is yet to be completed. Therefore, the implementation component should be listed as Category 2 unless DOI can provide documentation of compliance with all applicable environmental laws (e.g., NEPA, ESA, NHPA) or the budget for this activity should be revised accordingly to show the sub-amounts in FPL Category 1 and Category 2, with corresponding edits to the narrative and environmental compliance section. Note: Restore Council staff worked with the state to resolve these comments.	

Summary of Best Available Science Review: Enhance Coastal Resilience Through Beach and Dune Restoration, Escambia County

The review of the DOI - NPS Dune Restoration proposal highlighted several strengths and weaknesses across various aspects. While the proposal is generally aligned with the Gulf Coast region, it lacks sufficient peer-reviewed sources to justify the proposed methods and monitoring protocols. Some reviewers indicated that the justification for the methods and their adaptability to the Gulf Coast is unclear, and more peer-reviewed literature should have been cited, especially for dune restoration and planting success. Although the environmental benefits, such as habitat creation and erosion prevention, are outlined, some reviewers noted the absence of detailed metrics and methods, particularly for plant survival and vegetative cover monitoring. Concerns were raised about the lack of discussion on sea level rise, storm frequency, and other long-term environmental risks, with one reviewer criticizing the proposal for not adequately addressing these factors. In addition, the proposal's lack of detail regarding past successes or failures of similar efforts and the insufficient description of adaptive management strategies were pointed out. Some reviewers called for more information on how the monitoring data would be used and how alternative actions would be handled in case of unforeseen issues, such as low plant survival or negative impacts from storms. Additionally, the need for clarification regarding the project's implementation details, including whether work will be done in-house or contracted out, and a clearer map of the project location, was noted. Overall, the proposal was seen as relevant and generally aligned with the objectives of the RESTORE Act but would benefit from more specific, detailed information on methods, monitoring, and risk management.

Summary of DOI's Response to BAS Comments:

In response to BAS comments, DOI revised the proposal to outline several plans and updates to address feedback on sediment placement, dune stabilization, and monitoring. Sediment placement will include annual bathymetric and topographic surveys, conducted via contracted services and supported by the NPS Inventory & Monitoring Program. The restoration process will rely on collaboration with coastal experts, including the University of Florida, for seed collection, planting, and monitoring. Citations for previous successful projects, such as the Panhandle Dune Restoration Program, will be added to bolster the literature supporting the proposal. The proposal also commits to adding publicly available literature and references to local and regional restoration efforts, including USGS research on sediment transport and coastal vulnerability assessments related to sea level rise. Plans for monitoring and adaptive management will be further developed, with monitoring parameters integrated into the NPS Inventory & Monitoring Network. The proposal also highlights the Park's experience in similar projects, such as the Panhandle Dune Restoration and the Perdido Key Beneficial Use of Dredge Material Project. The final planting locations will be determined during the planning phase, and methods will be based on established best practices, including the NPS Beach Renourishment Handbook. The proposal acknowledges the risks posed by sea level rise and intends to incorporate relevant documents and data from NOAA and USGS to address these

concerns. Metrics for success, including plant survivorship and vegetative cover, will be defined, with a standard of 80% plant survivorship. The proposal also outlines plans for continued collaboration with coastal partners to mitigate environmental impacts and address the dynamic nature of the coastal system.

Best Available Science Review Forms:

Enhance Coastal Resilience Through Beach and Dune Restoration, Escambia County



SCIENCE EVALUATION

Bucket 2: Comprehensive Plan Component

Proposal Title: Enhance Coastal Resilience Through Beach and Dune Restoration, Escambia County

Location (If Applicable): Project activities will be adjacent to the communities of Navarre Beach and Pensacola Beach, Escambia County, FL. Planned sediment placement projects and dune restoration would be extended west of each location within the boundaries of Gulf Islands National Seashore through completion of required planning and environmental compliance.

Council Member Bureau or Agency: U.S. Department of the Interior

Type of Funding Requested: Planning / Implementation

Reviewed by: In State

Date of Review: 10/1/2024

Best Available Science:

These 4 factors/elements help frame the reviewer's answers to A, B and C found in next section:

Question 1.

Have the proposal objectives, including proposed methods, been justified using peer reviewed and/or publicly available information?

Need more information

Comments:

Peer reviewed information has been cited to justify the proposed objectives but little peer reviewed information is provided to justify methods. Specifically, the literature that addresses methods to monitor success of plantings is not cited. Sources could be cited as these objectives and methods are common in peer reviewed literature. The objectives and proposed methods are standard practices to provide for coastal resilience and habitat for at risk coastal species. This information is commonly available to the public.

Question 2.

If information supporting the proposal does not directly pertain to the Gulf Coast region, are the proposal's methods reasonably supported and adaptable to that geographic area?

Yes

Comments:

This proposal directly pertains to the Gulf Coast region.

Question 3.

Are the literature sources used to support the proposal accurately and completely cited? Are the literature sources represented in a fair and unbiased manner?

Yes

Comments:

Literature sources are accurately and completely cited. The literature sources represent an unbiased view. Again, additional sources could have been cited but additional sources would be in agreement with the sources cited and much of the information is common practice.

Question 4.

Does the proposal evaluate uncertainties and risks in achieving its objectives over time? (e.g., is there an uncertainty or risk in the near-and/or long-term that the project/program will be obsolete or not function as planned?)

Yes

Comments:

Additional risk pertain to future tropical storm activity and this risk has been identified. The only addition risk obtusely identified would be any objections to the project presented during the compliance phase.

Based on the answers to the previous 4 questions, and giving deference to the sponsor to provide within reason the use of best available science, the following three questions can be answered:

Question A	
Has the applicant provided reasonable justification that the proposal is based on science that uses peer-reviewed and publicly available data?	Yes

Comments:	
A minimal amount of peer-reviewed and publicly available information has been identified.	

Question B	
Has the applicant provided reasonable justification that the proposal is based on science that maximizes the quality, objectivity, and integrity of information (including, as applicable, statistical information)?	Yes

Comments:	
The justification provided identifies the most current science and reliable information.	

Question C	
Has the applicant provided reasonable justification that the proposal is based on science that clearly documents and communicates risks and uncertainties in the scientific basis for such projects/programs?	Yes

Comments:	
The risk identified in the proposal are commonly documented and communicated in the scientific literature.	

Science Context Evaluation:

Question A	
Has the project/program sponsor or project partners demonstrated experience in implementing a project/program similar to the one being proposed?	Yes

Comments:	
The sponsor and project partners have considerable experience in implementing this type of project. However, I don't see this stated implicitly in the proposal.	

Question B

Does the project/program have clearly defined goals and objectives?	Yes
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Comments:

The overall goal and objective is clearly defined and this project is similar to other projects undertaken in this region.

Question C

Has the proposal provided a clear description of the methods proposed, and appropriate justification for why the method is being selected (e.g., scientifically sound; cost-effectiveness)?	Yes
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Comments:

Methods are appropriate. Additional details should be outlined when the protocol for the actual dune restoration plantings. Because the National Park Service (National Seashore) is responsible for the planting and this type of project is commonly implemented by the agency, I believe these details will be adequately considered by the National Park Service (NPS). National Seashore (NPS) is experienced in the planning and compliance activities that make up a large part of this project.

Question D

Does the project/program identify the likely environmental benefits of the proposed activity? Where applicable, does the application discuss those benefits in reference to one or more underlying environmental stressors identified by best available science and/or regional plans?	Yes
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Comments:

The proposal does a good job of identifying the environmental benefits including development of island stabilizing dunes, providing habitats for multiple at risk coastal species and protection of infrastructure. Several environmental stressors are identified including sea level rise, sediment deficiencies and human infrastructure development.

Question E

Does the project/program have measures of success (i.e., metrics) that align with the primary Comprehensive Plan goal(s)/objectives? (Captures the statistical information requirement as defined by RESTORE Act)	Yes
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Comments:

This project has outlined the measures of success for the dune planting although literature where these measures are outlined was not identified. I assume the measure of success for the compliance and planning would be the issuance of permits.

Question F	
Does the proposal discuss the project/program's vulnerability to potential long-term environmental risks (i.e., climate, pollution, changing land use)? (Captures risk measures as defined under best available science by the RESTORE Act)	Yes
Comments:	
The proposal discusses long term environment risk which includes sea level rise and increased, intense tropical storm activity.	

Question G	
Does the project/program consider other applicable short-term implementation risks and scientific uncertainties? Such risks may include the potential for unanticipated adverse environmental and/or socio-economic impacts from project implementation. Is there a mitigation plan in place to address these risks? Any relevant scientific uncertainties and/or data gaps should also be discussed. (Captures risk measures as defined under best available science by the RESTORE Act)	Need more information
Comments:	
The proposal does not provide alternative actions if proposed plans are not agreed on by all concerned groups i.e. shorebirds and sea turtle biologist e.	

Question H	
Does the project/program consider recent and/or relevant information in discussing the elements above?	Yes
Comments:	
The project considers current information.	

Question I	
Has the project/program evaluated past successes and failures of similar efforts? (Captures the communication of risks and uncertainties in the scientific basis for such projects as defined by the RESTORE Act)	No

Comments:

The project does not include information on past successes and failure of similar efforts. This information is available but not included.

Question J

Has the project/program identified a monitoring and data management strategy that will support project measures of success (i.e., metrics). If so, is the appropriate best available science justification provided? If applicable, how is adaptive management informed by the performance criteria? (Captures statistical information requirement a defined by the RESTORE Act)

Need more information

Comments:

The monitoring strategy for the project is outlined but how the information will be used is not outlined sufficiently.

Please summarize any additional information needed below:

The project meets the goals of the Restore Act. The proposal could have been expanded to include more details on some of the methods for monitoring and indicators of success that would be used to determine the success of the project. Additional available refereed articles or manuals should be referenced.



SCIENCE EVALUATION

Bucket 2: Comprehensive Plan Component

Proposal Title: Enhance Coastal Resilience Through Beach and Dune Restoration, Escambia County

Location (If Applicable): Project activities will be adjacent to the communities of Navarre Beach and Pensacola Beach, Escambia County, FL. Planned sediment placement projects and dune restoration would be extended west of each location within the boundaries of Gulf Islands National Seashore through completion of required planning and environmental compliance.

Council Member Bureau or Agency: U.S. Department of the Interior

Type of Funding Requested: Planning / Implementation

Reviewed by: In Gulf

Date of Review: 9/20/2024

Best Available Science:

These 4 factors/elements help frame the reviewer's answers to A, B and C found in next section:

Question 1.

Have the proposal objectives, including proposed methods, been justified using peer reviewed and/or publicly available information?

Yes

Comments:

This is a planning and compliance proposal, so full peer review is limited. This proposal is well supported by identification of an environmental assessment in the planning process which will provide and support a more robust inclusion of peer reviewed and/or publicly available information and methodologies. This proposal is further supported by the use of municipal information and planning, given that it is an extension of work already in process by those municipalities.

Question 2.

If information supporting the proposal does not directly pertain to the Gulf Coast region, are the proposal's methods reasonably supported and adaptable to that geographic area?

Yes

Comments:

This proposal directly pertains to the Gulf Coast region. The actions and methods proposed are reasonable and relevant to this geography.

Question 3.

Are the literature sources used to support the proposal accurately and completely cited? Are the literature sources represented in a fair and unbiased manner?

Yes

Comments:

There are some strange constructs for citations in the text (e.g. stating "and Others" vs. the standard et. Al), but the references are relevant and included, and will only be expanded as compliance documents are completed in the first 2 years. The expanded literature sources will be helpful.

Question 4.

Does the proposal evaluate uncertainties and risks in achieving its objectives over time? (e.g., is there an uncertainty or risk in the near-and/or long-term that the project/program will be obsolete or not function as planned?)

Yes

Comments:

The uncertainties of storm and climate impact are identified. Storms are not evaluated as these are unforeseen and unplanned events of varying magnitude and intensity. Climate impacts are addressed through native planting actions to secure sediment.

Based on the answers to the previous 4 questions, and giving deference to the sponsor to provide within reason the use of best available science, the following three questions can be answered:

Question A	
Has the applicant provided reasonable justification that the proposal is based on science that uses peer-reviewed and publicly available data?	Need more information
Comments:	
The proposal refers to, but does not cite, municipal planning underway. The environmental assessment and compliance for work on federal lands should fill this gap in existing information as that is developed in the first 2 years.	

Question B	
Has the applicant provided reasonable justification that the proposal is based on science that maximizes the quality, objectivity, and integrity of information (including, as applicable, statistical information)?	Need more information
Comments:	
The applicant does a good job of linking the local and federal actions for broader impact. Additional information mined through the planning and compliance aspects in the first 2 years will further strengthen the justification.	

Question C	
Has the applicant provided reasonable justification that the proposal is based on science that clearly documents and communicates risks and uncertainties in the scientific basis for such projects/programs?	Need more information
Comments:	
The applicant repeatedly mentioned risk aspects associated with storms and climate change. One item that wasn't clear was what funding source was being used for sediment placement and if these were fully secured. The mention was that this project was not asking for those funds and they would come through the local partners.	

Science Context Evaluation:

Question A	
Has the project/program sponsor or project partners demonstrated experience in implementing a project/program similar to the one being proposed?	Yes
Comments:	

This was evident through the NPS Inventory and Monitoring Network referenced as part of data management and associated ongoing surveys for invasive species. The proposal also references recent similar beneficial use of dredge sediment projects the applicant has completed, including associated compliance and planning components.

Question B

Does the project/program have clearly defined goals and objectives?	Yes
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Comments:

The project identifies two straightforward goals: (1) planning and compliance for sediment placement on federal lands, and (2) native propagation, planting, and monitoring of dune species to stabilize the sediment.

Question C

Has the proposal provided a clear description of the methods proposed, and appropriate justification for why the method is being selected (e.g., scientifically sound; cost-effectiveness)?	Yes
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Comments:

The proposal identifies native plant propagation and installation as the primary action component. Plant material will be gathered from within the existing area, thus limiting issues with potential contamination by alternate species and genotypes/phenotypes. It does not describe the detail of seeds, cuttings, etc., nor where the propagation will occur. The cost effectiveness and budget items seem appropriate, but it was unclear whether all work would occur in-house or if some would be contracted out.

Question D

Does the project/program identify the likely environmental benefits of the proposed activity? Where applicable, does the application discuss those benefits in reference to one or more underlying environmental stressors identified by best available science and/or regional plans?	Yes
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Comments:

The underlying stressors, especially sediment supply and storm-related impacts, are more experiential than formal references. The formal references may be more present once the compliance documents are completed, including sediment budgets which are referenced and should help inform long-term strategies. Environmental benefits for both the beach/dune system with planting, for wildlife, including the beach mouse, and for people through resilience and infrastructure protection are well identified.

Question E

Does the project/program have measures of success (i.e., metrics) that align with the primary Comprehensive Plan goal(s)/objectives?	Yes
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(Captures the statistical information requirement as defined by RESTORE Act)	
Comments:	
<p>The project will evaluate the native planting success using plant survival and percent vegetative cover. These are standard, consistent, and acceptable methods for this work. Invasive species will also be tracked and managed.</p> <p>Metrics identified include land acquisition at 85 acres. I was confused if this was the proposed additional area boosted by the sediment placement. Since there is no land actually being acquired, but rather, it is being created/restored, is that a better metric for this effort? Beach area restored?</p> <p>I would think there would be a Metric for the planted area, specifically for acres restored as well.</p>	

Question F	
Does the proposal discuss the project/program's vulnerability to potential long-term environmental risks (i.e., climate, pollution, changing land use)? (Captures risk measures as defined under best available science by the RESTORE Act)	Yes
Comments:	
<p>The proposal highlights how this project will add resilience for emergency and evacuation routes for residents, as well as boosting environmental resilience of the habitats supported and enhanced through the project itself. The proposal also highlights the issue of timing of plant establishment and potential storm impacts which could limit the project's success. Those are impossible to control.</p>	

Question G	
Does the project/program consider other applicable short-term implementation risks and scientific uncertainties? Such risks may include the potential for unanticipated adverse environmental and/or socio-economic impacts from project implementation. Is there a mitigation plan in place to address these risks? Any relevant scientific uncertainties and/or data gaps should also be discussed. (Captures risk measures as defined under best available science by the RESTORE Act)	Need more information
Comments:	
<p>Sediment supply limitations are discussed and sediment budgets are identified as being developed. The proposed native plantings will help address this by stabilizing the new sediment being added. The addition of actions for low plant survival or % vegetative cover, such as additional plantings (i.e. storm impacts) or some protection method (i.e. herbivore impacts), would be helpful. Adaptively replanting was briefly mentioned in the project budget, but not described in the proposal.</p>	

Question H	
Does the project/program consider recent and/or relevant information in discussing the elements above?	Yes
Comments:	
Impacts from Hurricane Sally to the area are referenced with discussion on how this project will aid in alleviating some of the impacts incurred.	

Question I	
Has the project/program evaluated past successes and failures of similar efforts? (Captures the communication of risks and uncertainties in the scientific basis for such projects as defined by the RESTORE Act)	Yes
Comments:	
Reference to their existing NPA Inventory and Monitoring Network implies past experience with these methods and they state ongoing routine surveys for long-term tracking which helps with sustainability of the project. They also mention past beneficial dredge projects where a similar approach was successful.	

Question J	
Has the project/program identified a monitoring and data management strategy that will support project measures of success (i.e., metrics). If so, is the appropriate best available science justification provided? If applicable, how is adaptive management informed by the performance criteria? (Captures statistical information requirement a defined by the RESTORE Act)	Yes
Comments:	
The proposal includes monitoring up to three years post installation of the native plants. This will help define success. Partners will also be helping with data collection relative to bathymetry, etc. for sediment placement and the proposal states that data collected for both will be publicly available, but the location of the public data was not identified..	

Please summarize any additional information needed below:

The public engagement component has the potential through those education efforts to amplify impacts by educating and influencing private landowners on nature-based strategies to protect their own habitat and lands. In the budget narrative, is the compliance/planning, propagation, planting, and monitoring all occurring in-house, or will it be contracted out? Some additional detail would be helpful. The two location maps provided were extremely blurry and there was no overall location map to show the area relative to the FL panhandle. This assumes reviewer familiarity with the area, which is not always the case.



Proposal Title: Enhance Coastal Resilience Through Beach and Dune Restoration, Escambia County

Location (If Applicable): Project activities will be adjacent to the communities of Navarre Beach and Pensacola Beach, Escambia County, FL. Planned sediment placement projects and dune restoration would be extended west of each location within the boundaries of Gulf Islands National Seashore through completion of required planning and environmental compliance.

Council Member Bureau or Agency: U.S. Department of the Interior

Type of Funding Requested: Planning / Implementation

Reviewed by: Out of Gulf

Date of Review: 6 October 2024

Best Available Science:

These 4 factors/elements help frame the reviewer's answers to A, B and C found in next section:

Question 1.

Have the proposal objectives, including proposed methods, been justified using peer reviewed and/or publicly available information?

No

Comments:

Proposed methods and justification are not adequately described. Area in which plantings will be performed is not identified. There is no discussion of monitoring protocols to be used, nor how plants will be propagated, or by whom.

Question 2.

If information supporting the proposal does not directly pertain to the Gulf Coast region, are the proposal's methods reasonably supported and adaptable to that geographic area?	Need more information
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Comments:

Information supporting the proposed methods are not sufficient to determine the appropriateness of the techniques to be used.

Question 3.

Are the literature sources used to support the proposal accurately and completely cited? Are the literature sources represented in a fair and unbiased manner?	No
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Comments:

There are only two citations in this proposal – far fewer than should be present to justify a \$900K budget. Proposed methods and justification are from a paper looking at nearshore submerged berms and are not applicable to this study area.

Question 4.

Does the proposal evaluate uncertainties and risks in achieving its objectives over time? (e.g., is there an uncertainty or risk in the near-and/or long-term that the project/program will be obsolete or not function as planned?)	Yes
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Comments:

Proponents suggest plantings may not survive, particular if a storm is experienced in the first year of the planting cycle. But they propose adaptive management of plantings, so should be prepared to replant should such occur. This is necessary for this project to succeed.

Based on the answers to the previous 4 questions, and giving deference to the sponsor to provide within reason the use of best available science, the following three questions can be answered:

Question A	
Has the applicant provided reasonable justification that the proposal is based on science that uses peer-reviewed and publicly available data?	No
Comments:	
There is a mountain of literature on dune building and beach restoration available. None of it is cited here, only a paper about nearshore berms, as described above. Further, if this literature had been cited, it would show that allowing the proposed project to occur would only move areas of erosion and island thinning from the boundary between the private and Park lands where it is a joint problem, into the middle of the Park, basically exporting the whole problem to the federal government, while garnering all the benefits to the private property owners.	

Question B	
Has the applicant provided reasonable justification that the proposal is based on science that maximizes the quality, objectivity, and integrity of information (including, as applicable, statistical information)?	No
Comments:	
There was no discussion of how any data would be treated, statistically or otherwise, to assess success in plantings or in dune building.	

Question C	
Has the applicant provided reasonable justification that the proposal is based on science that clearly documents and communicates risks and uncertainties in the scientific basis for such projects/programs?	No
Comments:	
This is not addressed, although it should be.	

Science Context Evaluation:

Question A	
Has the project/program sponsor or project partners demonstrated experience in implementing a project/program similar to the one being proposed?	Yes
Comments:	
Only along the privately owned property. Not on NPS lands.	

Question B		
Does the project/program have clearly defined goals and objectives?	Need more information	
Comments:		
There is inadequate information provided as to where the vegetated planting sill occur.		

Question C		
Has the proposal provided a clear description of the methods proposed, and appropriate justification for why the method is being selected (e.g., scientifically sound; cost-effectiveness)?	No	
Comments:		
Absolutely not. This proposal has no description of methods at all, and whoever wrote it should be referred to the NPS beach renourishment handbook, where methods are laid out. There are errors in it as well, showing that this is a reuse of a template for another site.		

Question D		
Does the project/program identify the likely environmental benefits of the proposed activity? Where applicable, does the application discuss those benefits in reference to one or more underlying environmental stressors identified by best available science and/or regional plans?	Yes	
Comments:		
It describes the benefits of planting vegetation to stabilize dunes and create habitat, but in the most rudimentary way. It also mentions creating wider beaches by trapping sand, and nesting habitat for birds and turtles: these are all statements that any member of the public could espouse.		

Question E		
Does the project/program have measures of success (i.e., metrics) that align with the primary Comprehensive Plan goal(s)/objectives? (Captures the statistical information requirement as defined by RESTORE Act)	No	
Comments:		
This proposal has basic quantitative metrics for success: survivorship of plantings and % vegetative cover. Also, topography and bathymetric changes, but these metrics are not described in the text.		

Question F		
Does the proposal discuss the project/program's vulnerability to potential long-term environmental risks (i.e., climate, pollution,	No	

changing land use)? (Captures risk measures as defined under best available science by the RESTORE Act)	
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Comments:

Most concerning is that this project does not address any risk associated with sea level rise. Much data is available, and has a direct impact on erosion, planting success and long-term barrier island viability.

Question G

Does the project/program consider other applicable short-term implementation risks and scientific uncertainties? Such risks may include the potential for unanticipated adverse environmental and/or socio-economic impacts from project implementation. Is there a mitigation plan in place to address these risks? Any relevant scientific uncertainties and/or data gaps should also be discussed. (Captures risk measures as defined under best available science by the RESTORE Act)

No

Comments:

NO – only lack of planting success.

Question H

Does the project/program consider recent and/or relevant information in discussing the elements above?

No

Comments:

Ignoring sea level rise and increased storm strength (and potentially frequency) is a severe oversight in use of the best available science.

Question I

Has the project/program evaluated past successes and failures of similar efforts? (Captures the communication of risks and uncertainties in the scientific basis for such projects as defined by the RESTORE Act)

No

Comments:

Question J

Has the project/program identified a monitoring and data management strategy that will support project measures of success (i.e., metrics). If so, is the appropriate best available science justification provided? If applicable, how is adaptive management

No

informed by the performance criteria? (Captures statistical information requirement a defined by the RESTORE Act)

Comments:

There is a decided lack of any of these considerations.

Please summarize any additional information needed below: