

Draft Amendment to the Final Restoration Plan and Environmental Assessment

M/T Skaubay and M/V Berge Banker Oil Spill Natural Resource Damage Assessment Galveston, Texas

July 2018 Draft Amendment to the August 2003 Final
Restoration Plan and Environmental Assessment

Prepared by:

U.S. National Park Service
U.S. Fish and Wildlife Service
Texas Parks and Wildlife Department
Texas Commission on Environmental Quality
Texas General Land Office



Contents

1	Preamble	4
2	Introduction	6
3	Background	7
4	Injuries to Natural Resources and Recreational Use	7
5	Selected Restoration Projects – 2003 Final RP/EA.....	8
6	Proposed Restoration Alternatives and Evaluation of Alternatives– 2018 Draft Amendment to the 2003 Restoration Plan.....	10
6.1	Lost and Diminished Recreational Use Projects – Mustang Island State Park.....	11
6.1.1	Alternative 1: Dune Walkover at the Primary Dune Restoration Site	11
6.1.2	Alternative 2: Boardwalk and Pavilion at Fish Pass	13
6.1.3	Alternative 3: Kayak Launch, Restroom, and Parking Improvements at Fish Pass	15
6.1.4	Alternative 4: Security Improvements at Corpus Christi Pass and Fish Pass South.....	17
6.1.5	Alternative 5: Security Improvements at Fish Pass North	19
6.1.6	Alternative 6: Interpretive Sign at South Jetty of Fish Pass	21
6.1.7	Alternative 7: Road Repair at Corpus Christi Pass	23
6.1.8	Alternative 8: Bollard and Cable Fencing for Pedestrian Safety at Day Use Area	25
6.1.9	Alternative 9: Equipment Rental at Mustang Island State Park	27
6.1.10	Alternative 10: Trail/Boardwalk System from Corpus Christi Pass Road Parking Area to South Access Point	29
6.1.11	Alternative 11: Trail/Boardwalk System from South Access Point to Kate's Hole.....	31
6.1.12	Alternative 12: Extension of Trail/Boardwalk System from Kate's Hole to North Access Point	33
6.1.13	Alternative 13: Interpretive Pavilion and Marsh Boardwalk (Proposed but not selected in 2003 Final RP/EA).....	35
6.2	Dune and Vegetation Restoration Projects	37
6.2.1	Alternative 14: Bollard & Cable Fencing for Dune Protection at Corpus Christi Pass.....	37
6.2.2	Alternative 15: Bollard and Cable Fencing for Dune Protection on Hwy 361.....	39
6.2.3	Alternative 16: Bollard and Cable Fencing for Dune Protection at Fish Pass North	41
6.2.4	Alternative 17: Bollard and Cable Fencing for Dune Protection at Fish Pass South	43
6.2.5	Alternative 18: Bollard and Cable Fencing for Dune Protection at Fish Pass End	45
6.2.6	Alternative 19: Bollard and Cable Fencing for Dune Protection at Oil and Gas Road	47

6.2.7	Alternative 20: Removal and Restoration of Corpus Christi Pass Road and Well Pad.....	49
6.3	No-Action Alternative	51
7	Proposed Preferred Alternatives	51
8	Project Monitoring	53
9	Compliance with the National Environmental Policy Act (NEPA)	53
APPENDIX A: Federally-listed threatened and endangered species potentially occurring in the project area (MISP).....		55
APPENDIX B: Project Evaluation Criteria Table		57

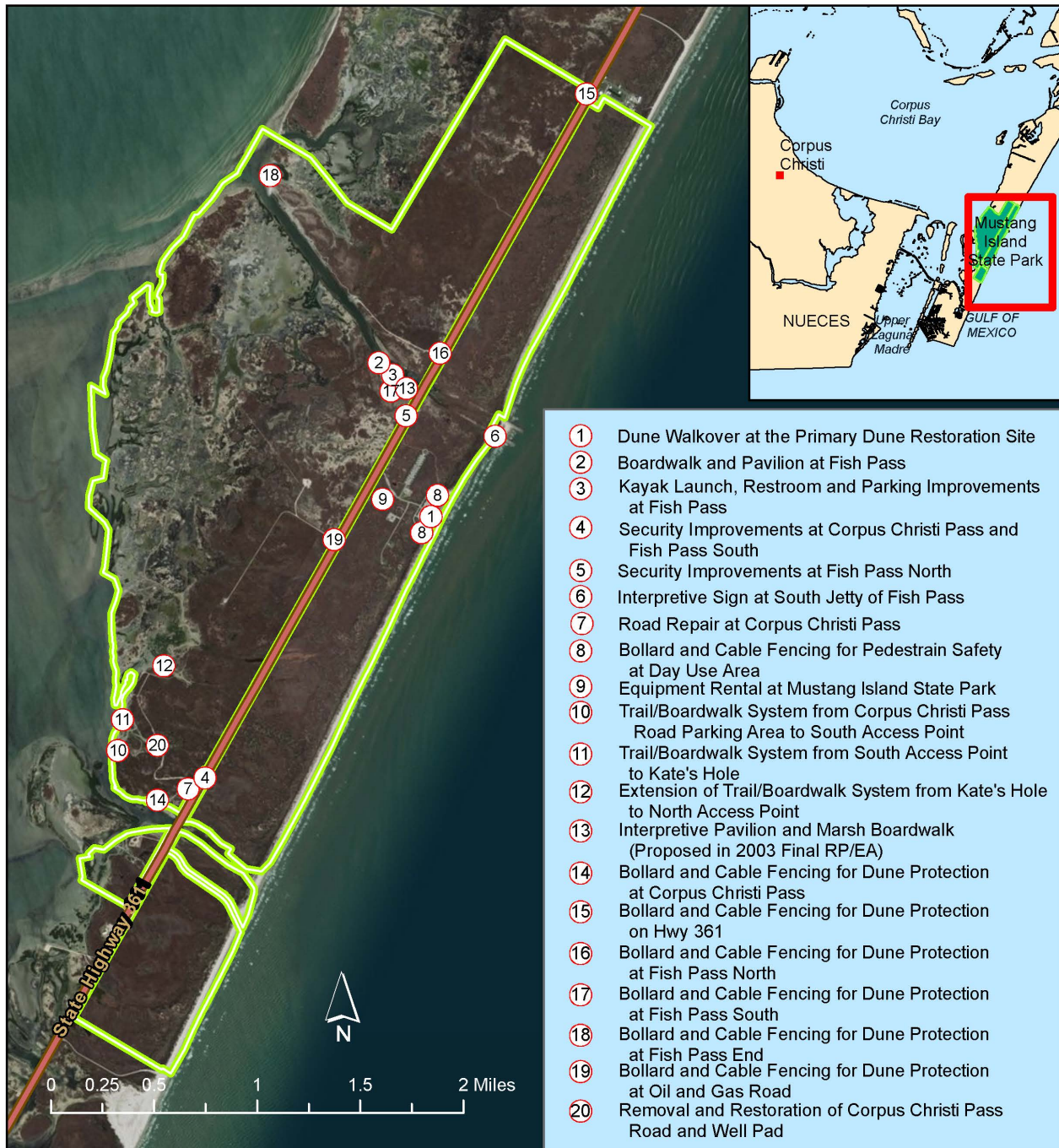
1 Preamble

This Draft Amendment to the 2003 Restoration Plan/Environmental Assessment (RP/EA) for the M/T Skaubay and M/V Berge Banker Oil Spill Natural Resource Damage Assessment (NRDA) has been developed to propose new restoration alternatives that are preferred for implementation by the state and federal Trustees for natural resources. These alternatives are necessary as there were restoration funds recovered that were not allocated to specific projects in the 2003 Final RP/EA, some selected projects were implemented under budget, and some restoration priorities changed as a result of the development of a Master Plan for Mustang Island State Park (MISP), a project approved in the 2003 Final RP/EA. The Trustees are now proposing the following projects to utilize the remainder of the NRDA funds:

- Dune Walkover at the Primary Dune Restoration Site
- Boardwalk and Pavilion at Fish Pass
- Kayak Launch, Restroom, and Parking Improvements at Fish Pass
- Security Improvements at Corpus Christi Pass and Fish Pass South
- Security Improvements at Fish Pass North
- Interpretive Sign at South Jetty of Fish Pass
- Road Repair at Corpus Christi Pass
- Bollard and Cable Fencing for Pedestrian Safety at Day Use Area
- Equipment Rental at Mustang Island State Park
- Bollard and Cable Fencing for Dune Protection at Corpus Christi Pass
- Bollard and Cable Fencing for Dune Protection on Hwy 361
- Bollard and Cable Fencing for Dune Protection at Fish Pass (North)
- Bollard and Cable Fencing for Dune Protection at Fish Pass (South)
- Bollard and Cable Fencing for Dune Protection at Fish Pass End
- Bollard and Cable Fencing for Dune Protection at Oil and Gas Road
- Removal and Restoration of Corpus Christi Pass Road and Well Pad

The purpose of this Draft Amendment is to present information to the public regarding these changes to the restoration alternatives proposed in 2003. This Draft Amendment is available to the public for a 30-day comment period, beginning on the publication date of the public notice in the *Texas Register* announcing availability of the document for public review. Notice was also placed in the Corpus Christi Caller Times. The Trustees invite the public to review this document and submit comments to the following address:

Kathryn Burger
Assessment Biologist
Texas Parks and Wildlife Department
4200 Smith School Road
Austin, Texas 78744



MUSTANG ISLAND RESTORATION, RECREATION AND SAFETY IMPROVEMENTS



Map produced by TPWD IT-GIS Team May 2018
 No claims are made to the accuracy of the data or to the suitability of the data to a particular use.
 Projection: NAD 1983 Texas Centric Mapping System Albers
 M:\MustangIsland\mxd\OverAll

2 Introduction

On November 18, 1999 the United States National Park Service (NPS) and United States Fish and Wildlife Service (USFWS), on behalf of the United States Department of the Interior (DOI), and the Texas Parks and Wildlife Department (TPWD), Texas Commission on Environmental Quality (TCEQ), and Texas General Land Office (GLO), on behalf of the State of Texas, collectively referred to as the “Trustees,” entered into a Consent Decree that resolved their natural resource damage claims with the Responsible Parties (RP), Bulk Transport LTD of Bermuda and SPT Marine, Inc., for the collision that caused the M/T Skaubay and M/V Berge Banker oil spill off the coast of Galveston, Texas (the “Spill”). The Consent Decree provided \$1,568,077 to the Trustees for the design, implementation, permitting, monitoring, and oversight of restoration projects to compensate the public for the loss of natural resources and their services.

The Trustees entered this settlement as compensation for injuries to natural resources and services due to the release of oil and subsequent injury to birds, dune habitat, and recreational use. This settlement also compensated for costs due to oil spill response efforts and the natural resource damage assessment. The Trustees are required to use settlement funds to compensate for those injuries by restoring natural resources and/or services provided by the resources injured by the Spill. Before NRDA settlement funds may be used for these activities, the Oil Pollution Act (OPA), 33 USC §§ 2701 *et seq.*, requires the Trustees develop and adopt a Restoration Plan, and provide the public with the opportunity to review and comment on proposed compensatory actions.

The Trustees published and sought public comment on a Draft RP/EA in 2003. A Notice of Availability of the Draft Plan was published in the *Federal Register* and the *Corpus Christi Caller-Times*. The Trustees received no comments on the Draft RP/EA within the 30-day comment period. The Final RP/EA was published in August 2003. The 2003 Final RP/EA proposed a number of restoration projects and selected seven for implementation:

- the Mustang Island Acquisition/Preservation project,
- the Dune Restoration/Preservation (Gulf Side) project,
- the Restroom/Shower Facility project,
- the Beach Pavilion at Fish Pass project,
- the Master Plan for Mustang Island project,
- the Shade Shelters and Picnic Tables project, and
- the Auditorium and First Aid Station Expansion project.

However, due to a change in restoration priorities primarily resulting from the preparation of a Master Plan for Mustang Island, several of these projects were not implemented or only partially implemented. The Trustees also did not allocate all of the restoration funds to specific projects. In addition, the Dune Restoration/Preservation (Gulf Side) project selected in the Final RP/EA is being completed under budget, providing cost savings that could be used to implement additional restoration projects. As a result, the Trustees are proposing a suite of additional preferred alternatives, which are presented in more detail below.

3 Background

On February 5, 1995, two tankers, the M/V Berge Banker and the M/T Skaubay, collided in the Galveston Lightering Area of the Gulf of Mexico while preparing to transfer crude oil (the Spill). The collision caused the Berge Banker to discharge approximately 845 barrels of Bunker C oil into the water. The oil traveled more than 150 miles before it was subsequently deposited as tar balls and mats on the beaches of Matagorda Peninsula, Mustang Island, and Padre Island.

Pursuant to the OPA NRDA Regulations, 15 CFR Part 990, the Trustees conducted a NRDA to evaluate the extent of damage, and to determine the need for and scale of restoration actions required to compensate the public for injuries to natural resources and ecological services. The Trustees' evaluation of injuries utilized information gathered during response activities as well as data collected specifically for injury assessment. Based on this evaluation, the Trustees concluded that the Spill adversely affected natural resources and recreational use along beaches from Matagorda to South Padre Island, including Padre Island National Seashore (PINS) and MISP. These impacts affected several natural resources, including avian resources, sand dunes, and public recreational use of beach.

The Trustees settled their natural resource damages claim with the responsible parties for the Spill on November 18, 1999 and entered into a Memorandum of Agreement (MOA) effective March 3, 2000. This MOA provides a framework for coordination among the Trustees in using settlement funds to implement restoration actions. The MOA specified that settlement funds be allocated to projects in two ecological categories (Bird Restoration and Enhancement; Dune and Vegetation Restoration) and one human-use category (Lost and Diminished Recreational Use). A Draft RP/EA with proposed restoration alternatives was prepared by the Trustees and available to public comment for 30 days beginning June 16, 2003. No comments were received, and recommended projects identified in the Draft RP/EA were selected for implementation in the Final RP/EA published in August 2003.

4 Injuries to Natural Resources and Recreational Use

The Spill primarily impacted Matagorda, Mustang, and Padre Islands of the Texas Coast. Padre Island National Seashore encompasses the northern portion of Padre Island and extends 70 miles from southeast Corpus Christi to the Port Mansfield Channel. Padre Island is the longest remaining continuous section of undeveloped barrier island in the world and has more than 65 miles of Gulf beach. Mustang Island State Park on Mustang Island has 5 miles of beach. Matagorda Island National Wildlife Refuge and State Natural Area are located on 56,688 acres of offshore barrier island and bayside marshes north of MISP.

Natural features on and near the impacted areas include beaches, vegetated dunes and barrier flats, active dunes and blowouts, tidal flats, storm-washover areas, marshes, marine grassflats, and bay-margin sands and shoals. Habitat types affected by the Spill include open-water habitat, sandy beaches, vegetated sand dunes, and washover areas. In addition, the affected area of the Spill is habitat for bird species, invertebrates, numerous resident fish species, and several listed threatened and endangered (T&E) species. See Appendix A for more detail on T&E species that occur in the proposed project area.

PINS, Matagorda Island Natural Wildlife Refuge (NWR), and Aransas NWR are federally owned lands impacted by the Spill, and MISP and Matagorda Island State Park were state-owned lands also impacted by the Spill. These managed areas were established to protect natural and cultural resources in perpetuity. Visitors to these areas contribute substantially to the local economy year-round. Additionally, recreation and tourism to MISP and PINS were adversely impacted during oil spill response actions when these areas were closed to the public.

More information about the specific resources affected by the Spill is detailed in the 2003 Final RP/EA, herein incorporated by reference.

5 Selected Restoration Projects – 2003 Final RP/EA

A goal of restoration is to make the environment and public whole for injuries to natural resources and services resulting from an oil spill. This goal is achieved by returning injured resources to their baseline conditions and by compensating for any interim losses that occur during the period of recovery. The Trustees for the M/V Berge Banker and the M/T Skaubay Oil Spill determined that local bird populations and other biological resources were significantly affected by the Spill, as were sand dunes and other geological resources. Settlement funds were applied to two ecological categories (Bird Restoration and Enhancement; Dune and Vegetation Restoration) and one human-use category (Lost and Diminished Recreational Use). To identify potential projects, the Trustees undertook a project scoping process. Notice to the public was issued in the *Corpus Christi Caller-Times* on September 5, 2002, and the Trustees prepared a Public Scoping document that described injuries associated with the Spill and summarized the potential restoration projects. That document was presented to the public on September 10, 2002 and used as a tool to solicit input from both the public and other interested parties who could provide additional expertise and perspective to the planning process. Based on all the input received, the Trustees evaluated and selected restoration projects for the 2003 Final RP/EA (see Table 1).

A total of \$1,568,077 was allocated to restoration in the 2003 Final RP/EA. Further detail on each of the projects originally selected for implementation, including detailed project descriptions, can be found in the 2003 Final RP/EA. The Mustang Island Acquisition/Preservation-Francine Cohn Nature Preserve project has been completed as originally proposed in the Final RP/EA. In addition, the Master Plan for Mustang Island Infrastructure and the Shade Shelters and Picnic Tables projects were also implemented. The Dune Restoration and Preservation (Gulf Side) project is currently in progress and is being implemented under budget. The other projects originally selected in the Final RP/EA were not implemented. Funds left over from these restoration categories need to be re-allocated to new restoration projects. A total of \$1,133,202 is currently available for restoration projects within the Dune and Vegetation and Lost and Diminished Use of State Parks Restoration Categories. Table 1 provides information on project funds that were originally allocated and are now currently available.

Table 1. Summary of Settlement Allocations, Project Cost Estimates, and Leftover Funds for Projects Selected in the 2003 Final RP/EA.

Restoration Category	Total Funds Available by Restoration Category	Projects Selected in the 2003 Final RP/EA	Estimated Project Cost	Project Implemented?	Expended Funds	Remaining/available funds
Bird Restoration and Enhancement	\$122,082	Mustang Island Acquisition/Preservation-Francine Cohn Nature Preserve	\$122,082	Yes	\$122,082	\$0
Dune and Vegetation Restoration	\$115,000	Dune Restoration and Preservation (Gulf Side)	\$115,000	In Progress	\$41,695	\$73,305
Lost and Diminished Recreational Use of State Parks	\$890,893	New Restroom/Shower Facility	\$250,000	No	\$0	\$730,941
		Beach Pavilion at Fish Pass	\$52,000	Yes	\$50,744	
		Shade Shelters and Picnic Tables	\$120,000	Yes	\$109,208	
Lost and Diminished Recreational Use of National Parks	\$205,766	Auditorium and First Aid Station Expansion	\$200,400	Yes, modified scope & location	\$205,766	\$0
Emergency Restoration	\$234,336	Padre Island National Seashore Reimbursement	\$234,336	Yes	\$234,336	\$0

The 2003 Final RP/EA selected the Auditorium and First Aid Station Expansion on Padre Island National Seashore project as a preferred alternative. Although First Aid Station improvements were made, initial design plans for the Auditorium were inadequate and the cost to produce them could not be recovered. Shortly thereafter the building in which this project was planned to occur sustained water damage and developed a significant mold problem, rendering it a public health hazard and therefore uninhabitable. To implement the project as originally proposed in the 2003 Final RP/EA would have meant paying for a new set of design plans and mitigating the mold; this was cost prohibitive.

Fortunately, a vacancy in the nearby (40 ft. away) park concessionaire store building allowed the project, with some modifications, to go forward. This version of the project involved remodeling the inside of the building as an Education Center to support presentations, educational programs, and meetings. Work included minor removal and construction of non-load-bearing walls, a new HVAC system, minor plumbing changes, lighting and fire suppression system upgrades, and finish work like painting and flooring. This project was completed in 2016 utilizing approximately \$89,284 of the \$205,766 in settlement funds available for the Lost and Diminished Recreational Use of National Parks, approximately \$206,782 of PINS' Federal Lands Recreation Enhancement Act funds, and approximately \$100,934 in other park funds to make up the balance. In summary, of the \$205,766 allocated by the Trustees for recreational use at national parks, \$11,524 was spent on First Aid Station improvements, \$104,958 was spent on the design plans for the original Auditorium project, and \$89,284 was spent on construction of the relocated Auditorium.

A total of \$1,568,077 was allocated to restoration in the 2003 Final RP/EA, of which \$804,246 remains within the restoration categories of Dune Vegetation (\$73,305) and Lost and Diminished Recreational Use in State Parks (\$730,941). Since 2003, the remaining funds have accrued \$328,956 in interest, resulting in a total of \$1,133,202 available for allocation in those restoration categories.

6 Proposed Restoration Alternatives and Evaluation of Alternatives— 2018 Draft Amendment to the 2003 Restoration Plan

The Trustees propose to revise the suite of projects proposed in the 2003 Final RP/EA with new alternatives by way of this Draft Amendment. These alternatives are described in Sections 6.1 and 6.2. In considering alternatives, the Trustees are required to evaluate the proposed alternatives pursuant to the six criteria under the OPA NRDA Regulations, 15 CFR § 990.54. For this case, the Trustees considered additional criteria. The OPA criteria and the Trustees' additional criteria are as follows:

- *The technical feasibility, i.e. the weight of uncertainty or risk, of implementing the project;*
- *The project's consistency with the Trustee Restoration Goals to restore rehabilitate, replace, enhance, or acquire the equivalent of the injured natural resource or the services those resources provided;*
- *The project's expected compliance with existing laws and regulations;*
- *Potential effect of the project on public health and safety;*
- *Relationship of expected benefits of the project to injured resources and services;*
- *Potential for additional injury resulting from the proposed restoration activities;*
- *The project's likelihood of success;*
- *The project's potential benefits to more than one injured resource;*
- *The anticipated amount of time the project will take to provide benefits to injured resources or services;*
- *The anticipated longevity of benefits the project will provide;*
- *Any opportunities available to protect the project over time, such as through conservation easements, land acquisition and management, etc.;*

- *The opportunities available for collaboration on the project through matching, in-kind services, etc.;*
- *The cost-effectiveness of the project, i.e., the anticipated benefits of the project relative to the project's cost;*
- *The total cost of the project and the accuracy of the estimate; and*
- *The extent to which the project contributes to a more comprehensive restoration package.*

The next sections provide a general description of each project alternative, a map of the project area, and an OPA evaluation of the project using the criteria above. The project area depicted on each map is a general representation of the project and may not necessarily reflect the final project design. For more details on the OPA evaluation of each alternative, see Appendix B (a table evaluating each of the project alternative using the criteria).

6.1 Lost and Diminished Recreational Use Projects – Mustang Island State Park

The following projects are proposed to restore lost and diminished recreational use impacts to MISIP resulting from the Spill. There are currently \$733,305 in restoration funds available for lost and diminished recreational use projects. An additional \$328,956 in interest has accrued on the principal sum, which can be proportioned between restoration types as necessary.

6.1.1 Alternative 1: Dune Walkover at the Primary Dune Restoration Site

This project would construct a dune walkover to the beach on the Gulf side of MISIP. The project site is in the same location as the “Dune Restoration and Preservation (Gulf Side)” project that is currently being implemented. This dune walkover would provide an elevated footpath for park visitors over the dune system and help maintain the integrity of newly forming dunes (the construction of both the dunes and the walkover was approved as part of the 2003 Final RP/EA). This dune walkover was an identified component of a “selected” project (“Dune Reconstruction – Gulf Side”) in the original 2003 Final RP/EA; its potential environmental consequences were analyzed in that document. The analyses in the 2003 Final RP/EA are incorporated here by reference.

The Trustees propose enlarging the walkover project presented in the 2003 Final RP/EA from the originally approved design encompassing 800 sq. ft. to approximately 2,700 sq. ft. This modified walkover is longer and wider than originally planned to accommodate the newly forming dunes and to comply with Americans with Disabilities Act (ADA) accessibility standards. Initial project designs entail an elevated boardwalk 450 ft. in length and 6 ft. wide and include the installation of three interpretive panels along the walkway. This project is still in the design phase and minor modifications may occur to these dimensions once engineering designs are finalized.

This project is technically feasible, and in the past, the Trustees have implemented similar projects with a high degree of success. This project will benefit multiple resources by both allowing for enhanced dune restoration and benefitting public access to the beach. Implementation of this project would avoid further impact to the newly-forming dune habitat.



DUNE WALKOVER AT THE PRIMARY DUNE RESTORATION SITE



Map produced by TPWD IT-GIS Team May 2018
 No claims are made to the accuracy of the data or to the suitability of the data to a particular use.
 Projection: NAD 1983 Texas Centric Mapping System Albers
 M:\MustangIsland\mxd\Location_1

6.1.2 Alternative 2: Boardwalk and Pavilion at Fish Pass

This project would plan and construct a wildlife viewing pavilion and low boardwalk just above ground level at MISP near Fish Pass, a popular fishing and kayaking location. The boardwalk and pavilion would provide a shade shelter, lookout, and wildlife viewing point for park visitors.

This boardwalk and pavilion project was proposed in the original 2003 Final RP/EA (“Interpretive Pavilion and Marsh Boardwalk”) where it was evaluated against the OPA criteria and the Trustees’ additional criteria. The analyses in the 2013 Final RP/EA are incorporated by reference. The boardwalk and pavilion proposed in this Draft Amendment, however, have a smaller footprint than originally proposed in the 2003 Final RP/EA. The length of the boardwalk has decreased from 200 ft. to 150 ft. and the width has decreased from 8 ft. to 6 ft. The size of the pavilion has also decreased from 900 sq. ft. to 400 sq. ft. The pavilion would have deck flooring and would connect to the low boardwalk approach from an existing unpaved parking area on the south side of Fish Pass, west of State Highway 361. The boardwalk and pavilion would facilitate viewing of seagrass beds, salt marshes, tidal flats, coastal tallgrass prairies, and wildlife associated with these habitats. Additionally, approximately three interpretive signs (approximately 2 ft. by 3 ft.) describing topics associated with fire management, the existing nearby Mustang Island Coastal Paddling Trail, general bay ecology, and water safety would be placed along the boardwalk and within the pavilion.

This project is technically feasible, and in the past, the Trustees have implemented similar projects with a high degree of success. This project would directly benefit recreation in the park by increasing visitor enjoyment of park viewsheds.



BOARDWALK AND PAVILION AT FISH PASS



Map produced by TPWD IT-GIS Team May 2018
 No claims are made to the accuracy of the data or to the suitability of the data to a particular use.
 Projection: NAD 1983 Texas Centric Mapping System Albers
 M:\MustangIsland\mxd\Location_2

6.1.3 Alternative 3: Kayak Launch, Restroom, and Parking Improvements at Fish Pass

This project would install an ADA-compliant kayak launch, a restroom facility, and ADA-compliant parking on the south side of Fish Pass in MISF adjacent to the existing public access area. The south side of Fish Pass is a trailhead on the Texas Paddling Trails. Currently the area has no improvements except for a bulkhead constructed on the south side of the pass and an unpaved parking lot. The bulkhead provides a good location for fishing, but is not recommended for launching a kayak. This project would install a durable ADA-compliant floating dock at the site which would include modifications to make the site and launch ADA-accessible.

Along with the ADA-compliant kayak launch, the project would add ADA-compliant restrooms, parking, and a walkway to the area. The restrooms would consist of a structure with two chemical toilets which would be regularly serviced by park staff. An approximately 360-sq. ft. area within the existing footprint of the parking lot would be paved. Also, an accessible walkway with a ramp and deck would be installed within the existing footprint of the parking lot to allow wheel-chair accessibility between the ADA-compliant parking spaces, restroom facilities, and the kayak launch. The walkway would be approximately 933 sq. ft. Additional site improvements may include solar lighting, solar fans, and directional signs. In addition, the existing parking area would be graded to improve drainage and to improve vehicle, pedestrian, and wheelchair access.

This project is technically feasible and would have direct benefit to recreational use of Mustang Island State Park by improving public access to the kayak launch site and increasing amenities in a popular recreational area of the park. This project would directly benefit public health and safety through improving safety and accessibility of the parking area, which is currently unpaved.



KAYAK LAUNCH, RESTROOM, AND PARKING IMPROVEMENTS AT FISH PASS

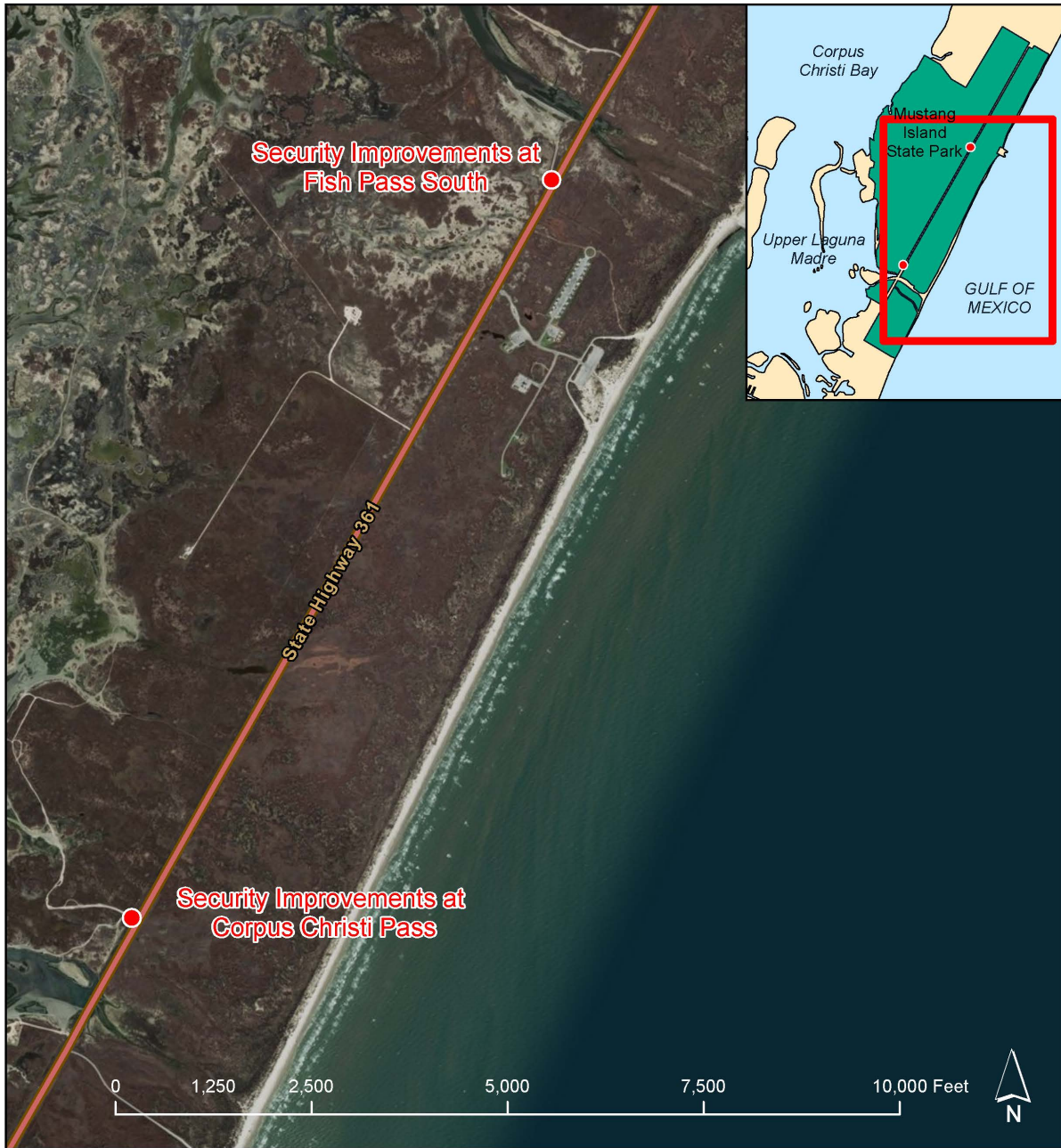


Map produced by TPWD IT-GIS Team May 2018
 No claims are made to the accuracy of the data or to the suitability of the data to a particular use.
 Projection: NAD 1983 Texas Centric Mapping System Albers
 M:\MustangIsland\mxd\Location_3

6.1.4 Alternative 4: Security Improvements at Corpus Christi Pass and Fish Pass South

This project would install automatic solar-powered vehicle gates and signage at two critical road junctions in MISP: Corpus Christi Pass North Road and Fish Pass South Side Access. Both locations are access points to heavily used recreational fishing and kayaking areas on the bay side of the park. Access is not currently controlled to either of these locations. The gates would be programmed to open and close at designated and posted normal park hours and could be controlled by park staff to remain closed during periods of rain or extreme high tides when the roads could be wet or submerged and dangerous or damaged by vehicles. Signs would be posted at each gate clearly marking each area as part of the State Park, informing visitors that off-road use of motorized vehicles is not allowed and that the gates will close automatically at the set time. The gates would automatically allow visitors who overstay to exit.

These security improvements protect and maintain the health and safety of the public while also avoiding further injury to the impacted area. The Trustees anticipate quick installation of the gates and signage at a relatively low cost.



SECURITY IMPROVEMENTS AT CORPUS CHRISTI PASS AND FISH PASS SOUTH



Map produced by TPWD IT-GIS Team May 2018
 No claims are made to the accuracy of the data or to the suitability of the data to a particular use.
 Projection: NAD 1983 Texas Centric Mapping System Albers
 M:\MustangIsland\mxd\Location_4

6.1.5 Alternative 5: Security Improvements at Fish Pass North

This project would install automatic solar-powered vehicle gates and signage at an additional critical road junction in MISP: Fish Pass North Side Access. The location is an access point to heavily used recreational fishing and kayaking areas on the bay side of the park. Access is not currently controlled to this location. The gates would be programmed to open and close at designated and posted normal park hours and could be controlled by park staff to remain closed during periods of rain or extreme high tides when the roads could be wet or submerged and dangerous or damaged by vehicles. Signs would be posted at the gate clearly marking the area as part of the State Park, informing visitors that off-road use of motorized vehicles is not allowed and that the gate will close automatically at the set time. The gate would automatically allow visitors who overstay to exit.

These security improvements protect and maintain the health and safety of the public while also avoiding further injury to the impacted area. The Trustees anticipate quick installation of the gates and signage at a relatively low cost.



SECURITY IMPROVEMENTS AT FISH PASS NORTH

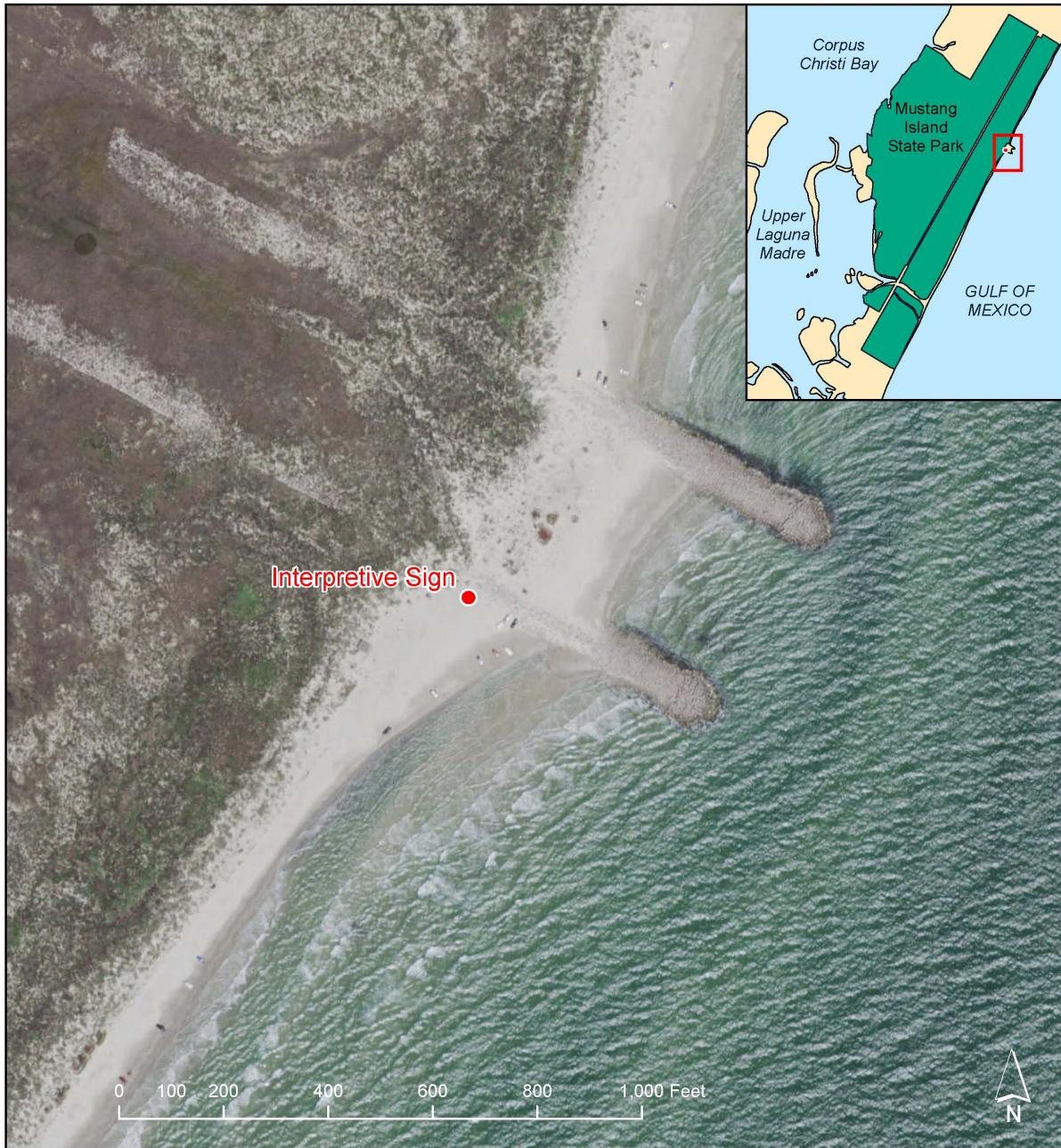


Map produced by TPWD IT-GIS Team May 2018
 No claims are made to the accuracy of the data or to the suitability of the data to a particular use.
 Projection: NAD 1983 Texas Centric Mapping System Albers
 M:\MustangIsland\mxd\Location_5

6.1.6 Alternative 6: Interpretive Sign at South Jetty of Fish Pass

An interpretive panel would be designed and installed at the Fish Pass jetties, on the south side. The panel would be approximately 4 ft. by 4 ft. and would provide information to park visitors about resources at the site. The panel would foster public engagement with natural resources by interpreting resources commonly found at the site.

The Trustees have implemented similar projects to this alternative in the past and this project is cost-effective and technically feasible in comparison. This project would directly benefit recreational use of the park by increasing visitor enjoyment of the park's resources.



INTERPRETIVE SIGN AT SOUTH JETTY OF FISH PASS



Map produced by TPWD IT-GIS Team May 2018
No claims are made to the accuracy of the data or to the suitability of the data to a particular use.
Projection: NAD 1983 Texas Centric Mapping System Albers
M:\MustangIsland\mxd\Location_6

6.1.7 Alternative 7: Road Repair at Corpus Christi Pass

This project would re-grade an existing sand road that provides access to the Corpus Christi Pass fishing area within the existing footprint of the road and/or shoulder. Originally, this road was designed as a packed sand road, and has functioned well with minimal maintenance for 50 years. The road provides unique access to a popular fishing spot in the park, and in the last decade the road has been severely degraded by continued use. This portion of the road has been worn away over time and now regularly floods during storm events. This entire area is only 1 to 2 ft. above sea level and the soil moisture makes the sand a good flat, hard driving surface. Raising the road surface to the previous grade and grading it so that it drains properly would restore the road condition and regular vehicle access. As currently planned, the repair would be made with sand regularly removed from the visitor parking area of the park; no caliche or other imported road materials would be used. The repair would occur within the existing road footprint and would cause no additional impacts to the site. The sand source in the Park would be the Day Use Parking Area, where windblown sand must be removed almost daily.

This project would benefit recreational use of the park by improving access to a popular fishing location on Corpus Christi Pass. Project actions would also improve the health and safety conditions of a high-traffic road, which is currently severely eroded. The Trustees anticipate quick repair of the road at a relatively low cost.



ROAD REPAIR AT CORPUS CHRISTI PASS



Map produced by TPWD IT-GIS Team May 2018
 No claims are made to the accuracy of the data or to the suitability of the data to a particular use.
 Projection: NAD 1983 Texas Centric Mapping System Albers
 M:\MustangIsland\mxd\Location_7

6.1.8 Alternative 8: Bollard and Cable Fencing for Pedestrian Safety at Day Use Area

The day-use area of MISP is a pedestrian-only area on the beach, which is cordoned off from beach vehicle traffic by two rows of bollard and cable fencing which extend from the entrance of the park into the tidal area of the shoreline. Over time, this bollard and cable system has deteriorated and needs replacement to ensure safety of pedestrian park visitors on the beach. This project would repair and/or replace approximately 975 linear feet of bollards and cable on the north and south sides of the pedestrian-only “day-use” beach on the Gulf side of the park. Approximately 415 linear feet would be repaired and replaced on the south side and 560 linear feet would be replaced on the north side of the pedestrian area; the same construction actions would occur on both sides. Replacing the bollard and cables would ensure that vehicles on the beach are prevented from driving through the pedestrian-only area. Construction activities would only take place within the existing footprint of the bollards, including those that extend into the water during high tide. The bollards are anticipated to be 4 in. to 8 in. diameter posts spaced 4.0 ft. - 6.0 ft. apart and connected with 1/2 in. to 3/4 in. thick galvanized wire cable. Approximately 160 to 250 bollards and 975 ft. of cable would be installed. The bollards would run perpendicular to the beach, on either side of the “day-use” area and extend the width of the beach.

This project would benefit recreational use of the park and public health and safety by maintaining the pedestrian-only beach recreational area at MISP. Trustees have implemented similar projects in the past and expect the project can be implemented quickly and cost-effectively.



BOLLARD AND CABLE FENCING FOR PEDESTRIAN SAFETY AT DAY USE AREA



Map produced by TPWD IT-GIS Team May 2018
 No claims are made to the accuracy of the data or to the suitability of the data to a particular use.
 Projection: NAD 1983 Texas Centric Mapping System Albers
 M:\MustangIsland\mxd\Location_8

6.1.9 Alternative 9: Equipment Rental at Mustang Island State Park

This project would provide loaner recreational equipment to MISP park visitors. This service may include books, binoculars, fishing gear, and/or other items that would enhance visitor experiences and provide additional connection with the park's natural resources. It would be managed during park hours by a park staff member, who would monitor the equipment inventory and assist with item reservations.

This project would benefit recreational use of the park by providing visitors with additional means to enjoy and engage with the park's resources. The Trustees expect that the project can also be implemented quickly and cost effectively.



EQUIPMENT RENTAL AT MUSTANG ISLAND STATE PARK



Map produced by TPWD IT-GIS Team May 2018
No claims are made to the accuracy of the data or to the suitability of the data to a particular use.
Projection: NAD 1983 Texas Centric Mapping System Albers
M:\MustangIsland\mxd\Location_9

6.1.10 Alternative 10: Trail/Boardwalk System from Corpus Christi Pass Road Parking Area to South Access Point

This project would construct a trail and boardwalk system so visitors to MISP could easily get from the parking area at Corpus Christi Pass Road to a popular fishing area on the bay side of the park, South Access Point. A parking area/trailhead will be established at the end of the road nearest the Corpus Christi Pass shoreline. From this location a system of trails, 8 ft.-wide stabilized caliche, and low boardwalks, 5 to 6 ft. wide, elevated less than 2.5 ft. above ground, will lead approximately 1,500 feet north to provide non-vehicular access to the shoreline. An optional 10 ft. x 10.ft. covered deck would be provided near the shoreline at the end of the boardwalk. The path would include one to two interpretive panels along the way.

This project would benefit recreational use of the park by providing visitors with pedestrian access to bayside shoreline. However, the Trustees anticipate that implementation of this project may result in collateral injury to the surrounding dune habitat during construction. Additionally, the Trustees have implemented similar boardwalk projects in the past, and in comparison, this project is proposed at a higher cost.



TRAIL/BOARDWALK SYSTEM FROM CORPUS CHRISTI PASS ROAD PARKING AREA TO SOUTH ACCESS POINT

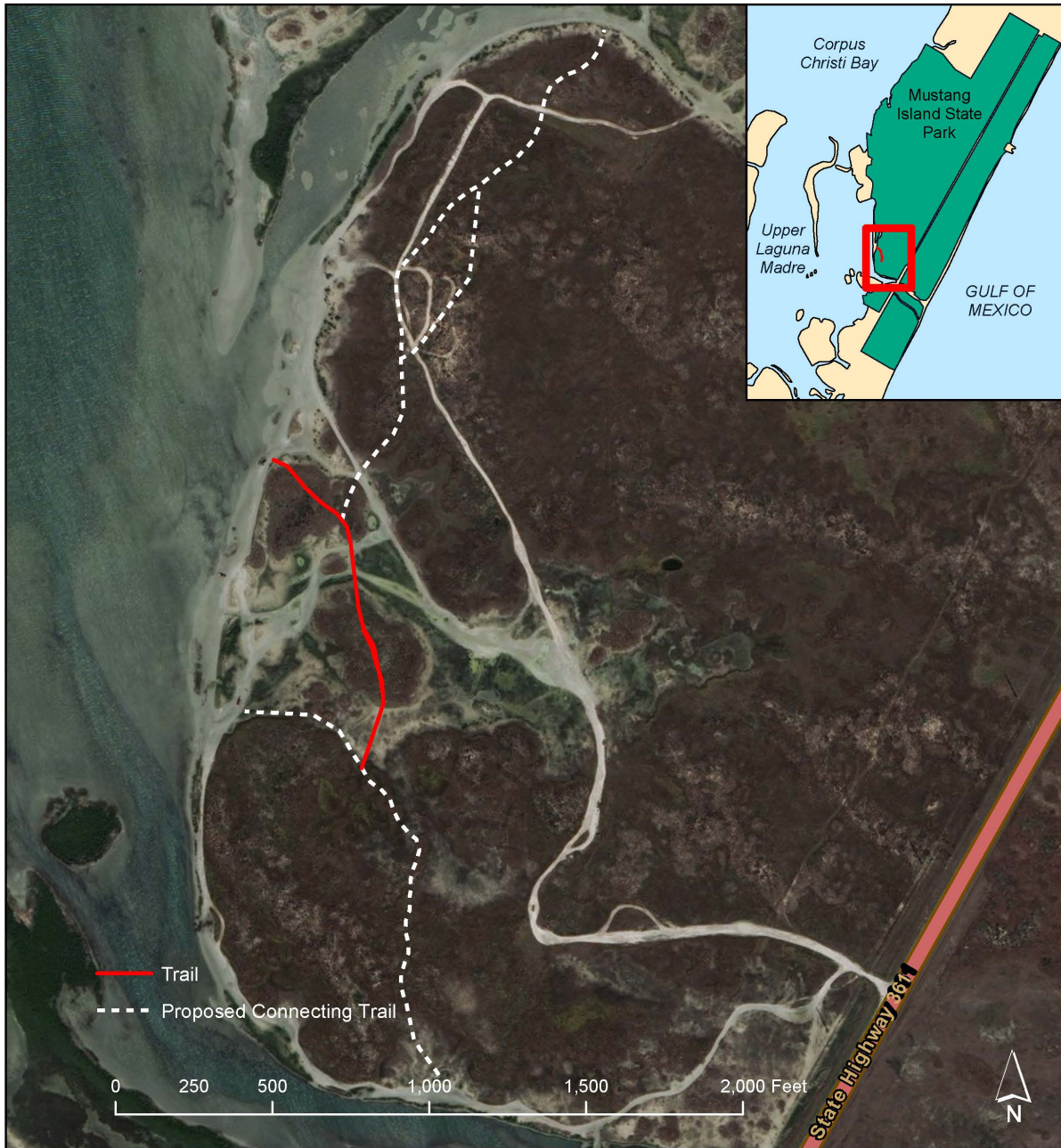


Map produced by TPWD IT-GIS Team May 2018
 No claims are made to the accuracy of the data or to the suitability of the data to a particular use.
 Projection: NAD 1983 Texas Centric Mapping System Albers
 M:\MustangIsland\mxd\Location_10

6.1.11 Alternative 11: Trail/Boardwalk System from South Access Point to Kate's Hole

The trail and boardwalk system from Corpus Christi Pass parking area to the South Access Point would be extended so that visitors could easily access the popular fishing area called Kate's Hole on the bay side of MISPP. The extension would be a system of trails, 8 ft.-wide stabilized caliche, and low boardwalks, 5 to 6 ft. wide, elevated less than 2.5 ft. above ground, leading approximately 1,115 feet north to provide non-vehicular access to the shoreline. An optional 10 ft. x 10 ft. shade pavilion with sand floor would be provided near the shoreline at the end of the trail.

This project would benefit recreational use of the park by providing visitors with pedestrian access to the bayside shoreline. However, the Trustees anticipate that implementation of this project may result in collateral injury to the surrounding dune habitat during construction. Additionally, the Trustees have implemented similar boardwalk projects in the past, and in comparison, this project is proposed at a higher cost.



TRAIL/BOARDWALK SYSTEM FROM SOUTH ACCESS POINT TO KATE'S HOLE



Map produced by TPWD IT-GIS Team Map 2018
 No claims are made to the accuracy of the data or to the suitability of the data to a particular use.
 Projection: NAD 1983 Texas Centric Mapping System Albers
 M:\MustangIsland\mxd\Location_11

6.1.12 Alternative 12: Extension of Trail/Boardwalk System from Kate's Hole to North Access Point

The trail and boardwalk system from Corpus Christi Pass parking area and Kate's Hole (Alternatives 10 and 11, above) would be extended so that visitors could easily access the North Access Point. The extension would be a system of trails, 8 ft.-wide stabilized caliche, and low boardwalks, 5 to 6 ft. wide, elevated less than 2.5 ft. above ground. A 550-ft. long high dune walk would loop off from the trail and follow an existing vehicle track up one of the highest dunes providing a great view of the barrier island. An optional 10 ft. x 10 ft. shade pavilion with a sand floor and interpretive signage would be provided near the shoreline at the north end of the trail.

This project would benefit recreational use of the park by providing visitors with pedestrian access to bayside shoreline. However, the Trustees anticipate that implementation of this project may result in collateral injury to the surrounding dune habitat during construction. Additionally, the Trustees have implemented similar boardwalk projects in the past, and in comparison, this project is proposed at a higher cost.



TRAIL/BOARDWALK SYSTEM KATE'S HOLE TO NORTH ACCESS POINT



Map produced by TPWD IT-GIS Team May 2018
 No claims are made to the accuracy of the data or to the suitability of the data to a particular use.
 Projection: NAD 1983 Texas Centric Mapping System Albers
 M:\MustangIsland\mxd\Location_12

6.1.13 Alternative 13: Interpretive Pavilion and Marsh Boardwalk (Proposed but not selected in 2003 Final RP/EA)

As proposed in the 2003 Final RP/EA, this project at MISP would plan and construct a covered, open-air pavilion with ample seating. The pavilion would be approximately 900 sq. ft. and equipped with seating to allow for large gatherings. The facility would be constructed with weather-resistant materials. As described in the 2003 Final RP/EA, the pavilion would be built on the west side of Highway 361. Currently, the area is popular for fishing, swimming, and kayaking, but there are limited upland amenities for park visitors to enjoy.

This project would benefit recreational use of the park by providing visitors with additional space to enjoy the park's resources and viewsheds. However, the Trustees have implemented similar projects in the past, and due to its larger footprint, the Trustees anticipate that this project is not technically feasible at this time. The project location is not well-defined, so the cost-effectiveness and potential for collateral injury cannot be determined.



INTERPRETIVE PAVILION AND ELEVATED MARSH BOARDWALK



Map produced by TPWD IT-GIS Team May 2018
 No claims are made to the accuracy of the data or to the suitability of the data to a particular use.
 Projection: NAD 1983 Texas Centric Mapping System Albers
 M:\MustangIsland\mxd\Location_13