***DWH Project Proposal Form – 9/2019***

***Project ID: 1446***

***Project Title: Enhancement of Gomez Key, near Cedar Key, FL, to benefit breeding American Oystercatchers.***

***Project Description:*** *Provide a concise project description of one to two paragraphs, clearly indicate the objective(s) of the proposed project. Additional information may be provided as an upload at the end of the form.*

The Florida's Big Bend has experienced a 66% net decline in the extent of oyster reefs since the 1970's. Oyster reefs serve a critical function for shorebirds by preventing erosion of critical breeding habitats and providing foraging opportunities adjacent to nesting locations. Oyster reef restoration and enhancement has proven to be an effective tool in Florida's Big Bend for reversing habitat loss. In habitat limited areas, losses of quality nesting habitat forces birds into suboptimal areas which could decrease bird survival and reproductive output. The American Oystercatcher (hereafter oystercatcher) feeds primarily on marine bivalves and depends on coastal areas that support intertidal shellfish beds. The small offshore sand/shell islands of Cedar Key, located in the Big Bend, have historically supported >7% of the statewide population. Reproductive potential and effort are high but reproductive success is low due to frequency of nest overwash. Islands used for nesting by oystercatchers near Cedar Key have decreased in total area by 39% from 1974 -2016 and losses are correlated with the timing of oyster reef declines. The goal of this project is to restore/enhance oystercatcher nesting and foraging locations located on a small island, Gomez Key, to prevent further erosion and habitat loss of this critical nesting and foraging location and to increase reproductive success at the nesting site.

Habitat loss in the intertidal waters around Cedar Key is the biggest threat facing the breeding population of oystercatchers in the area. Many small but critically important nesting sites are already threatened by overwash and erosion during the normal tidal cycle. We have documented the recent total loss of one nesting island (Derrick Key) that once had the highest concentration of breeding pairs of oystercatchers in the area. The restoration project will focus on Gomez Key, a critical site for roosting, foraging, and nesting oystercatchers, which has experienced a 60% loss in area between 1974 and 2016 (Vitale 2019 – see uploads). There is a sense of urgency surrounding this restoration due to accelerated rates of erosion and habitat loss in the area. Providing durable structure for oyster recolonization is a key strategy to prevent the continued loss of offshore oyster reef habitat in the Big Bend. It has proven to be successful for recolonization of oysters, even following catastrophic mortality events. In addition, to expand the potential nesting habitat we will add breakwaters to buffer the island from continued erosion as well as to increase sediment deposition on the island to expand potential habitat above the mean high-water line. The reefs surrounding the island will be built using limestone and cultch. The combination of restoration materials will maximize resistance to wave action and surface area for new oyster colonization. In addition, we will increase the elevation of parts of the island using cultch to reduce the frequency of overwash of nesting areas and expand available nesting habitat. Our design will encourage accretion over time to the nesting areas. Total cost for the restoration of Gomez Key is estimated at $1,400,000. Timeframe for completion of the restoration of Gomez Key is 6 years.

***Resource Benefits: Birds***

***Is the Project included in a Regional or Statewide Plan(s)? Yes***

***Plan Name:*** Conservation Action Plan for the American Oystercatcher; Business Plan for the Conservation of the American Oystercatcher; Florida's Species Action Plan for Four Imperiled Beach-Nesting Birds; Florida Beach-nesting Bird Plan; Atlantic Flyway Shorebird Initiative.

***Technical Feasibility:*** *Describe the technologies involved and any relevant past experience or proven success with similar projects (1023 character max)*

The restoration materials described in the project description have been successfully used in the Cedar Key area by the project PI. We recently restored 10 acres of two significant offshore high tide roosts currently used by wintering oystercatchers in the Cedar Key area. This project was the first oyster habitat restoration project that was specifically designed to benefit roosting oystercatchers. The preliminary results of this project are promising, and we have already documented oyster recruitment, habitat accretion, and oystercatcher use of the restored reefs. In addition, the restoration projects have withstood several tropical storms including Hurricanes Hermine and Irma. The ability for the restoration design to show resistance to extreme physical conditions as well as oyster settlement is a good indication that the technologies used were successful and work for restoration in the Big Bend area.

***Complements to existing efforts:*** *Describe any ongoing activities in the project area that may relate to or be affected by the proposed project. Consider how the proposed project may complement existing local, regional, and state efforts/plans/objectives. (1023 character max)*

This project compliments state and regional conservation plans by restoring/enhancing habitat used by state and federally listed avian species. The state listed American Oystercatcher and numerous species of northern birds, including the federally listed Piping Plover, and other northern nesting shorebirds that were injured during the DWH oil spill will benefit from this project. Increasing nesting habitat suitability and reproductive success for oystercatchers in the area will contribute to reaching state and regional population goals. The Atlantic Flyway Shorebird Initiative identified that the primary stressor throughout the flyway is habitat loss and change. Enhancing habitats used by migratory and wintering shorebirds as critical high-tide roosting habitat is essential to the survival of these species.

***Community Resilience***: *Describe if the project assists Florida's ability to anticipate, withstand, or recover from hazards or threats (e.g. hurricanes, storm surges, shoreline erosion). (1023 Character Max)*

N/A.

***Public Support***: *Describe any known or potential public approval or opposition to the project. (1023 Character Max).*

The community of Cedar Key has been very supportive with previous restoration projects in the area. We involved local aquaculture farmers to obtain and distribute materials to restoration sites. Involving the Cedar Key community with these types of restoration projects help stimulate the local economy and garner support for the project. We also offer support and communicate and coordinate with other restoration project PI's in the area (University of Florida- Peter Frederick, Lower Suwannee National Wildlife Refuge).

***Total Cost of Project***: *This should include the project cost regardless of funding source. Include contingency and ongoing operations/maintenance if applicable*

***$1,400,000***

***Total Funding Request:*** *This is the dollar amount being requested by this proposal, excluding other funds*

***$1,400,000***

***Funding Needed For:*** Engineering, Planning/Design, Permitting, Implementation, Operation/Maintenance, Project related Monitoring

***Status of Project Planning/Design:*** Not Started

***Status of Project Permitting***: Not Started

***Is the Project able to be Phased***: No

***Number of Phases*:**

***Describe the Phases:***

***Time Frame of the entire Project:*** 72 Months (6 years)

***Category***: Habitat Restoration

***Habitat Restoration Subcategory***: Other

***Other Subcategory***: Barrier Island, Offshore oyster/shell rake

***Project Partner:*** Blair Hayman

***Leveraging Information:***

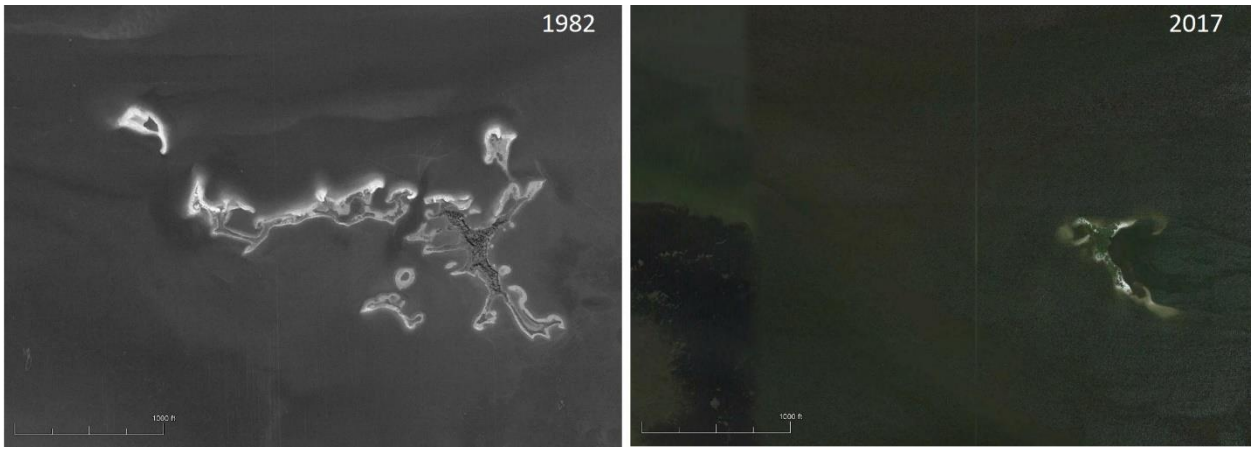
***Other Funding***: No

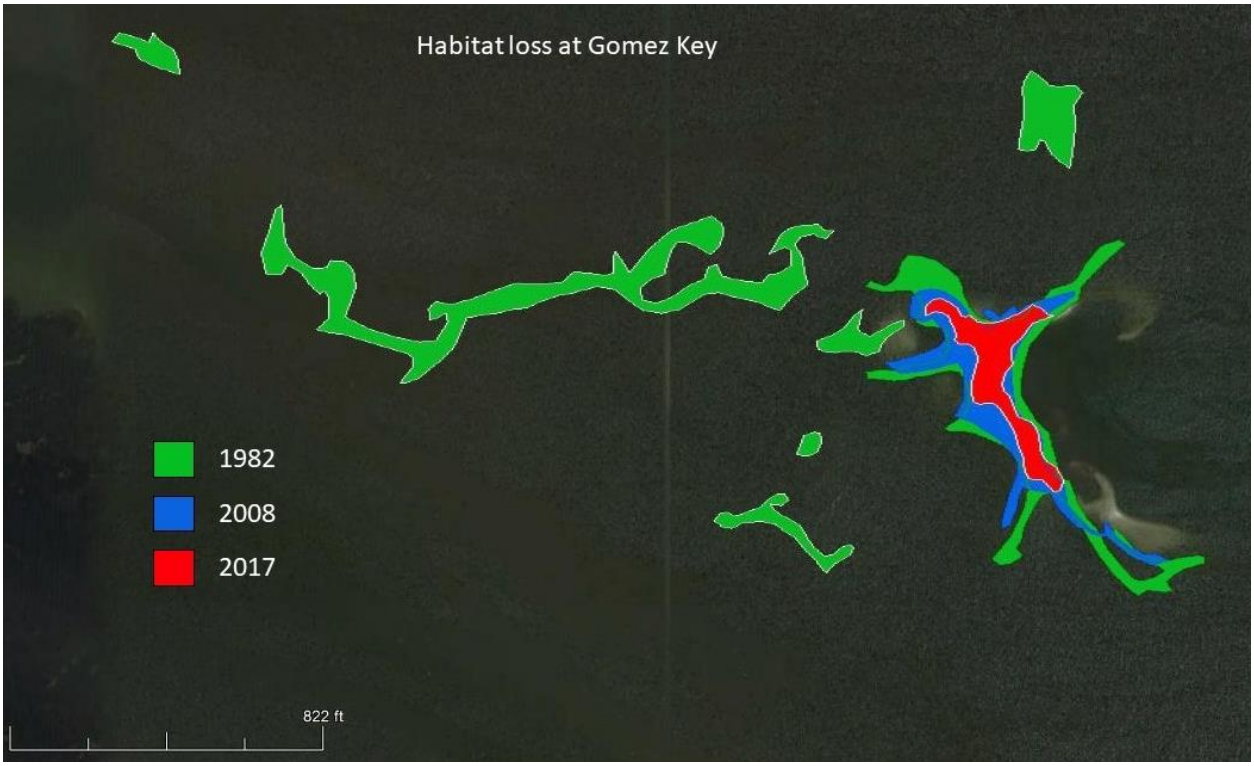
***Location***

***Extent of Project***: Single Location – Gomez Key

***Supplemental Information***:

**Figure 1**. Habitat loss at Gomez Key from 1982 - 2017




Habitat loss at Gomez Key
1982
2008
2017
822 ft