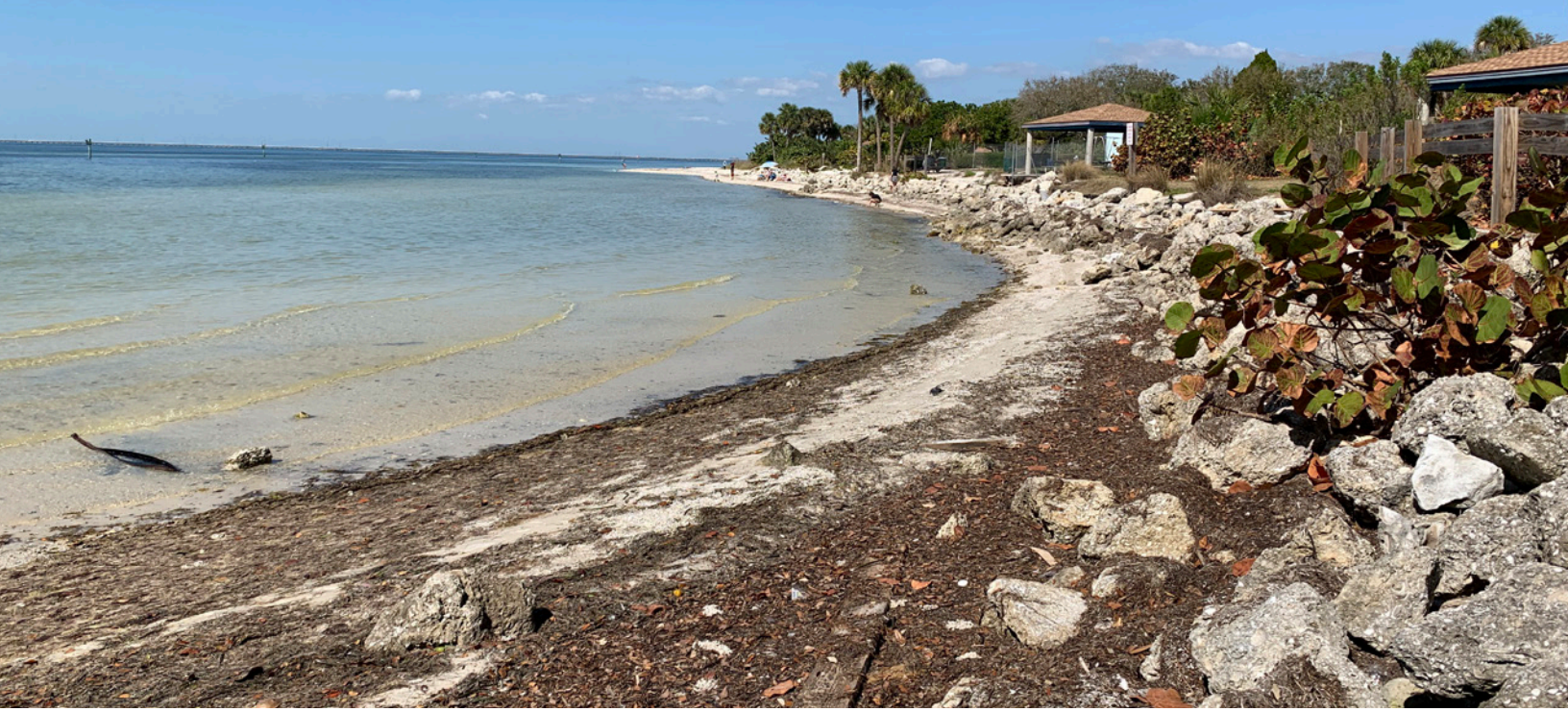

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Building Community Resilience for Port Tampa City with Nature-based Solutions at Picnic Island Park

Objective

Develop and implement a regional demonstration project at Picnic Island Park with City of Tampa that uses nature-based solutions to address coastal hazards and inform climate adaptation and mitigation policy

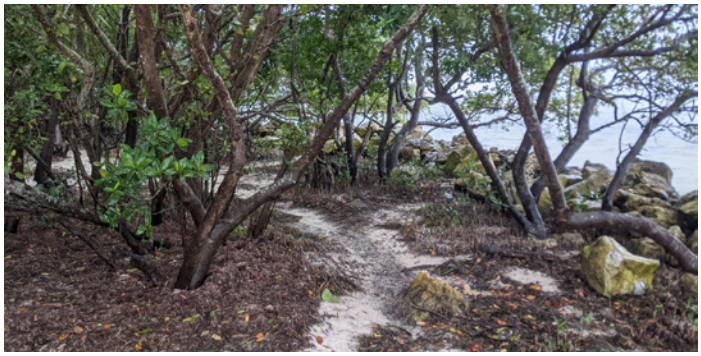
Partners and Stakeholders

City of Tampa, Florida Fish and Wildlife Conservation Commission, MacDill Air Force Base, Port Tampa Civic Association, Tampa Bay Estuary Program, Tampa Bay Regional Planning Council, University of Miami, University of South Florida

Project Description

This project will develop and implement a regional demonstration project at Picnic Island Park that uses nature-based solutions (NBS) to minimize erosion at the park, reduce flood risk for Port Tampa City, and enhance up to 492 acres of habitat for fish and wildlife on Tampa Bay. The conceptual NBS include backfilling of dredge holes for seagrass recruitment, construction of living breakwaters with suitable substrate for oyster recruitment and intertidal zones for marsh/mangrove recruitment or restoration, creation of longshore bars with suitable substrate for oyster recruitment, as well as expansion of living shorelines and dune and coastal hammock habitats where appropriate to minimize park user conflicts. These conceptual NBS were selected based on their existing but limited presence at the 98-acre park, their

PICNIC ISLAND PARK, CITY OF TAMPA, HILLSBOROUGH COUNTY, FLORIDA



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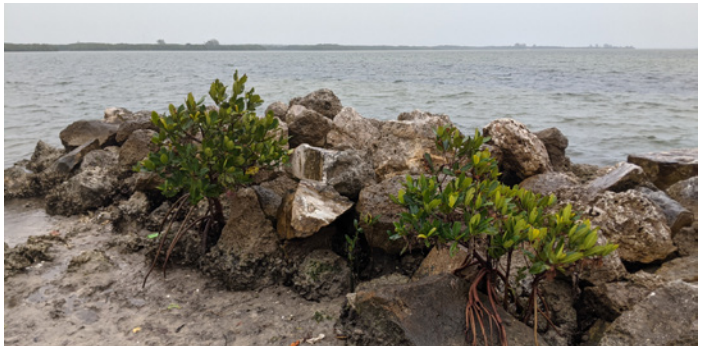

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regional significance for restoration of Tampa Bay, and for their potential to be expanded and/or enhanced at Picnic Island Park and on an adjacent parcel that is also owned by Tampa. The adjacent 394-acre parcel is characterized by fringing mangroves, remnant marsh, and upland areas, where mosquito/drainage ditches facilitate landward penetration of storm surge and sea level rise, and thereby provides opportunities for immediate transferability and scalability of conceptual NBS developed for Picnic Island Park. Topographic restoration of wetlands and incorporation of a horizontal levee planted with coastal hammock species in upland areas of the adjacent parcel is expected to further reduce flood risk to Port Tampa City and neighboring MacDill Air Force Base as well as further improve habitats for fish and wildlife.

Conceptual plans for NBS were developed by TNC, Tampa, and other stakeholders including the Civic Association of Port Tampa City and the Tampa Bay Estuary Program from January through June 2022. The project will integrate key findings from the final technical memorandum (June 2022) and continue stakeholder engagement with Tampa. TNC and partners are currently seeking funding for additional stakeholder engagement and hydrodynamic modeling to evaluate the performance of conceptual NBS at Picnic Island Park as well as wetland restoration and conceptual NBS on the adjacent 394-acre parcel.

Outcomes

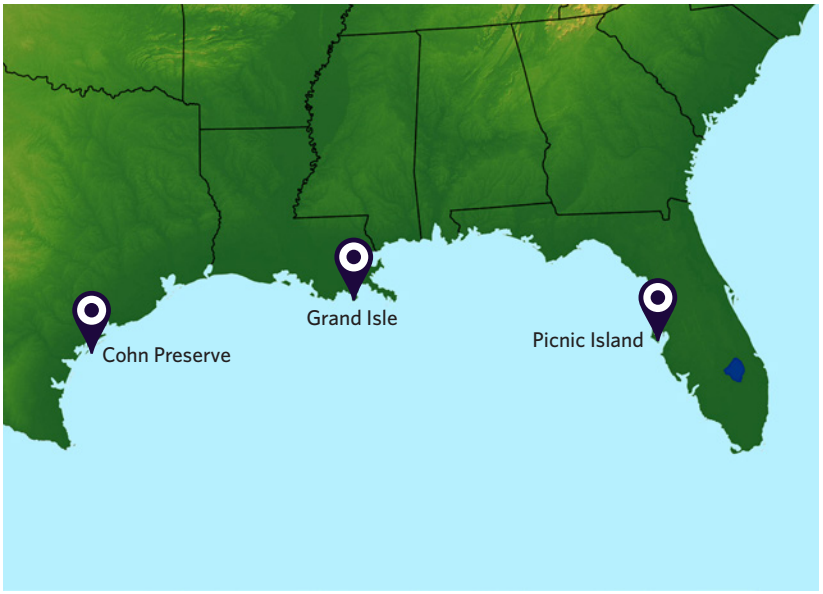
This project will initially focus on evaluating the performance and informing preliminary design of NBS interventions at Picnic Island Park and the adjacent parcel to maximize erosion control benefits at the park, flood risk reduction benefits for Port Tampa City, and ecological benefits for fish and wildlife of Tampa Bay.

Site Rationale

Tampa finalized a Sea Level Rise Study in 2021 that recommended establishing Port Tampa City as an Adaptation Area due to risk of seasonal high tide flooding. Port Tampa City is also identified as a community that will be impacted by the 2045 and 2060 NOAA intermediate sea level rise projections of 1.26 and 1.87 feet, respectively. The community is also wholly within a high-risk AE flood zone, which presents a 1% annual chance of flooding and a 26% chance of flooding over the life of a 30-year mortgage according to FEMA. Tampa also finalized Resilient Tampa in 2021, which is a strategy to reduce greenhouse gas (GHG) emissions and build a stronger, more equitable, and more resilient city by focusing on climate-ready infrastructure including world-class green and open spaces that mitigate extreme heat and flooding.

Timeline

2022 January – 2022 June: Develop conceptual NBS and finalize Technical Memorandum (MERM Project)
2022 November – 2024 May: Complete site investigations and preliminary design (NCRF full proposal pending)



Background

TNC's Gulf of Mexico Program is leading a Gulf wide effort to better understand what role mangrove engagement, restoration and management (MERM) might play in making human and natural communities more resilient to the impacts of climate change. As part of this effort, HDR was contracted for data collection and review, facilitation of stakeholder engagement, preparation of conceptual plans, cost estimates, permitting authority/agency pre-application meetings, and a completion of a final technical memorandum for three sites in three different states: Texas, Louisiana, and Florida; where mangroves are expanding their range due to climate change. Additional information regarding the MERM Project can be found in the forthcoming handbook titled "Ensuring a Future with Mangroves: Mangrove Engagement, Restoration, and Management in the Gulf of Mexico and on the Southeast Atlantic Coast".

The Nature Conservancy

For more information about The Nature Conservancy and other efforts related to mangroves on the Gulf of Mexico and Atlantic coasts of the United States, please visit **www.nature.org/USmangroves.**