



TOWN OF
JUPITER ISLAND
FLORIDA

CUMMINS | CEDERBERG
Coastal & Marine Engineering

Town of Jupiter Island Vulnerability Assessment Public Outreach Meeting No. 1

February 18th, 2025



Vulnerability Assessment and Resilient Florida Grant Program

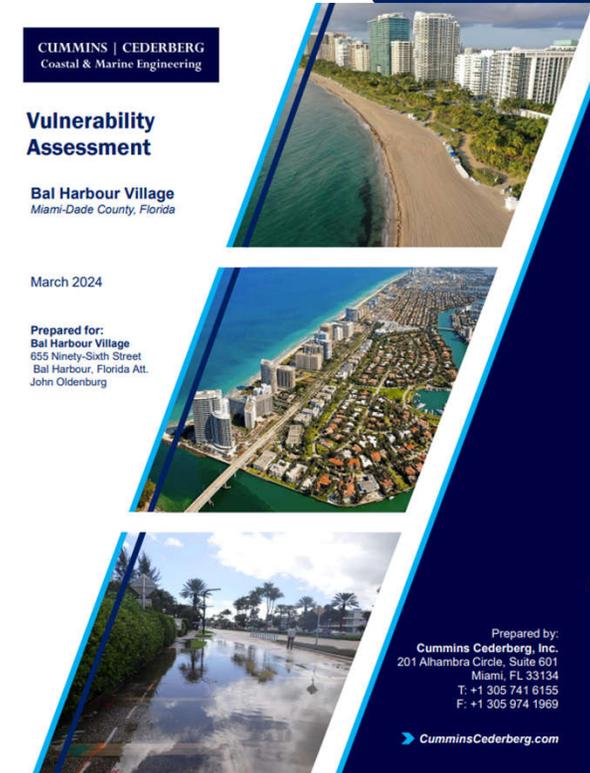
- Resilient Florida Program established in **May 2021** Senate Bill 1954 – Florida Statutes 380.093
- **Florida is particularly vulnerable** to increasing severity and frequency of rainfall events, storm surge, severe weather systems, and sea level rise
 - Program created opportunities to **support local governments** and to improve state’s resilience to flooding and sea level rise
 - Funding administered by Florida Department of Environmental Protection (**FDEP**)



This work was funded in part through a grant agreement from the Florida Department of Environmental Protection’s Office of Resilience and Coastal Protection Resilient Florida Program. The views, statements, findings, conclusions, and recommendations expressed herein are those of the author(s) and do not necessarily reflect the views of the State of Florida or any of its subagencies.

Vulnerability Assessment and Resilient Florida Grant Program

- Town **vulnerability assessment** will:
 - Evaluate the vulnerabilities of critical assets
 - Create a list of these assets, prioritized by flood risk
 - Flood risk: Sea Level Rise, king tides, storm surge and precipitation
- Town will use this information to be better equipped to plan adaption and resiliency measures in the near and long-term
- Town can submit proposed projects to the Statewide Flooding and Sea Level Rise Resilience Plan for potential award of legislative funding



About Town of Jupiter Island

- Town is a narrow **barrier island**, approximately 1,643 acres between Atlantic Ocean and Intracoastal Waterway
- Town was incorporated in 1953 - **enacted strict low-density zoning, preserving the natural beauty**
- Large portions of the Town has been preserved and owned by:
 - U.S Fish and Wildlife Service
 - Audubon Society and
 - The Nature Conservancy



Town Vision Statement:

The Town of Jupiter Island is a barrier Island community, between the Indian River Lagoon and the Atlantic Ocean, where the beauty of nature will always dominate the presence of man. Our vision for the future is illustrated by the traditions of the past, formed by a community of caring individuals who, with imagination and heart, have combined the island's beautiful gifts of nature with those of tradition and family. Inherent in the character of the Town are tranquility, seclusion and safety. The residents of Jupiter Island will faithfully endeavor to preserve and nurture their unique community for all future generations.

Public Outreach Meeting No. 1



ACTIVATION

- The purpose of the first Public Outreach meeting is to allow the public to provide input during the initial data collection stages

ENGAGEMENT

- Everyone here plays a vital role in this project

TRANSITIONAL

- This includes input on preferred methodologies, data for analyzing potential sea level rise impacts and/or flooding.

INVOLVEMENT

- The public helps determine guiding factors to consider and critical assets important to the community

OUTREACH

- Your voice matters

Project Scope of Work

Task 1: Identify VA Data Standards

Task 2: Kick Off Meeting

Task 3: Assemble Steering Committee &
Conduct Meetings

Task 4: Public Outreach Meeting #1

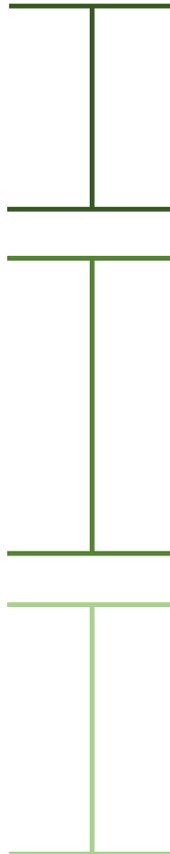
Task 5: Acquire Background Data

Task 6: Exposure Analysis

Task 7: Sensitivity Analysis

Task 8: Public Outreach Meeting #2

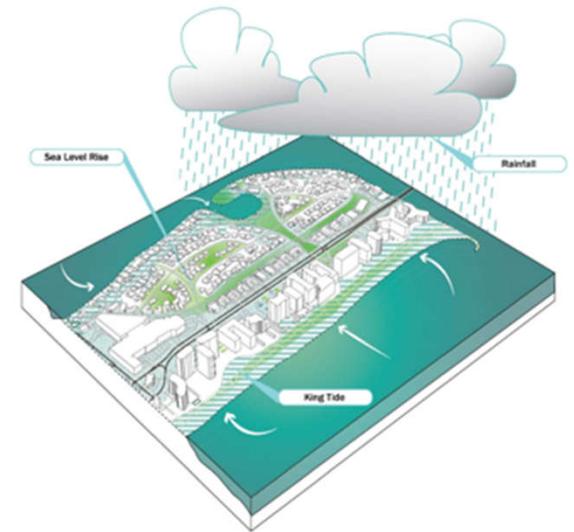
Task 9: Final Vulnerability Assessment



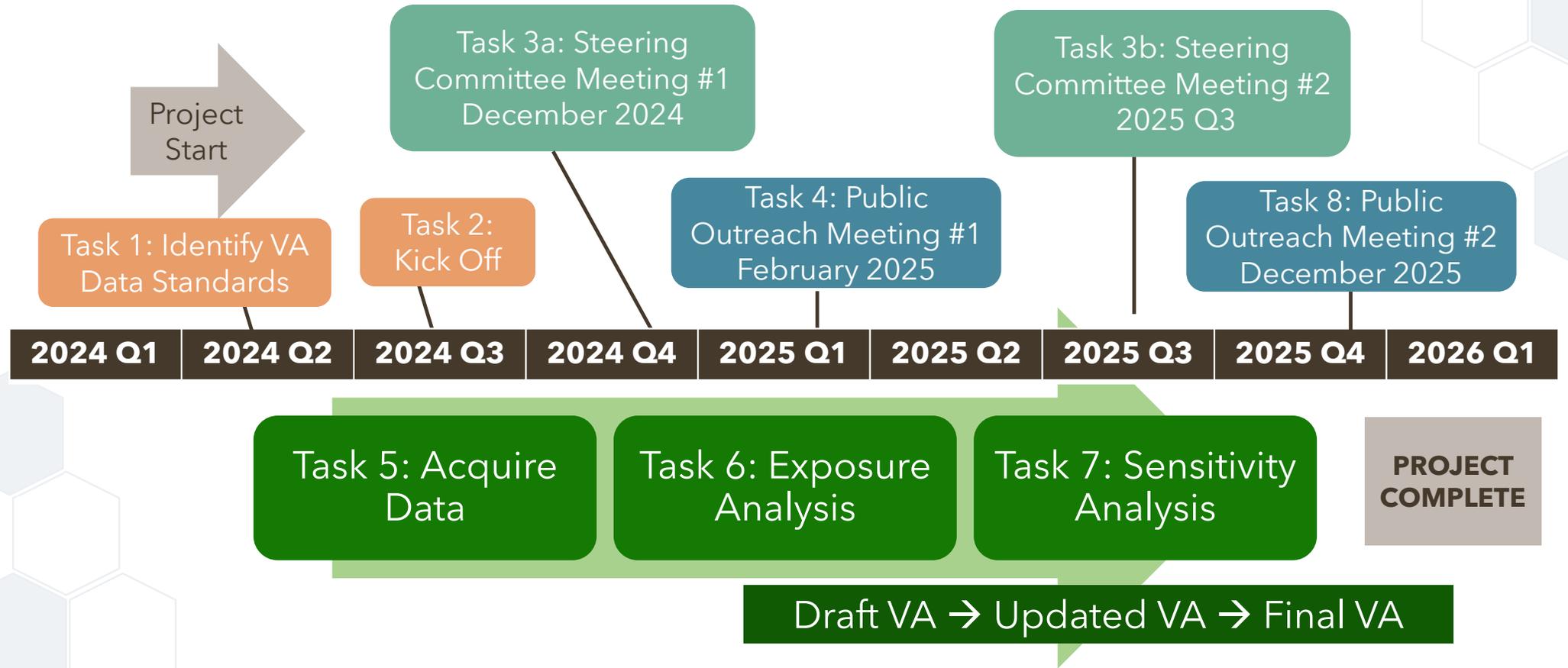
Completed Work

Ongoing

Next Steps



Project Schedule



Task 1: Identify VA Data Standards

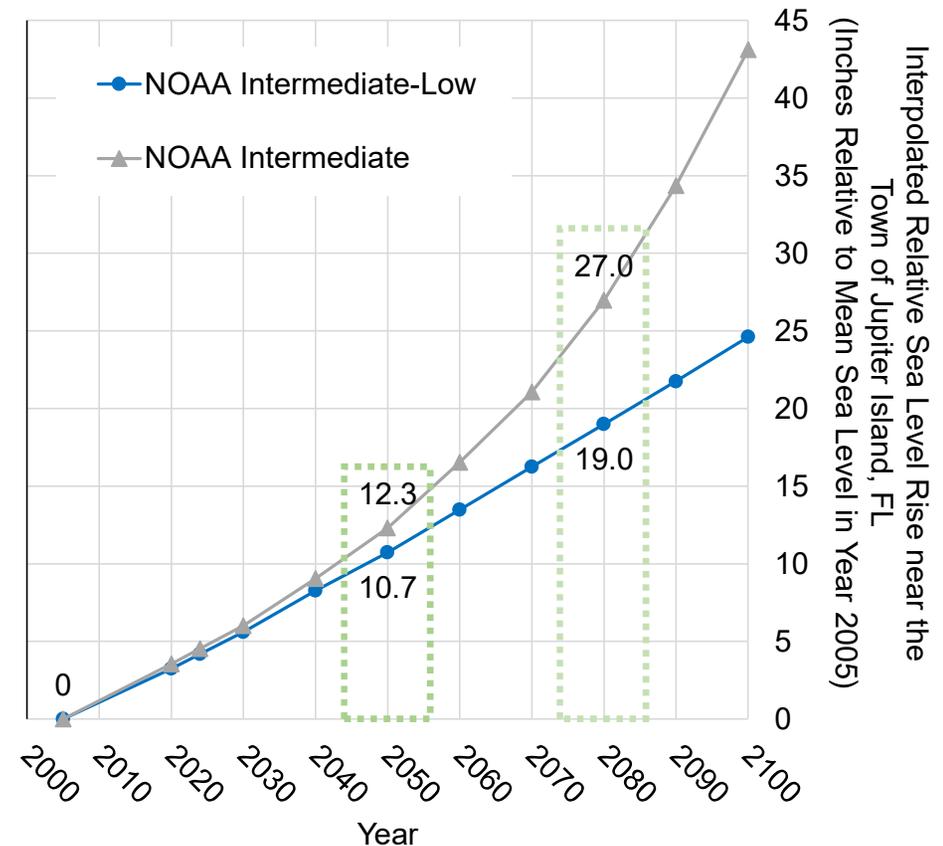
Goal: Identify data standards to include **sea level rise scenarios** and **planning horizons** needed to perform the VA

- Categories of data:
 - Critical asset inventory
 - Topographical data
 - Flood scenario data
- Flood Scenario Data:
 - Sea level Rise
 - Mean Higher High Water
 - High Tide Flooding
 - Storm Surge
 - Rainfall
 - Compound Flooding
- Data sources:
 - Town data
 - Florida Flood Hub
 - NOAA
 - FEMA
 - LiDAR

Task 1: Identify VA Data Standards

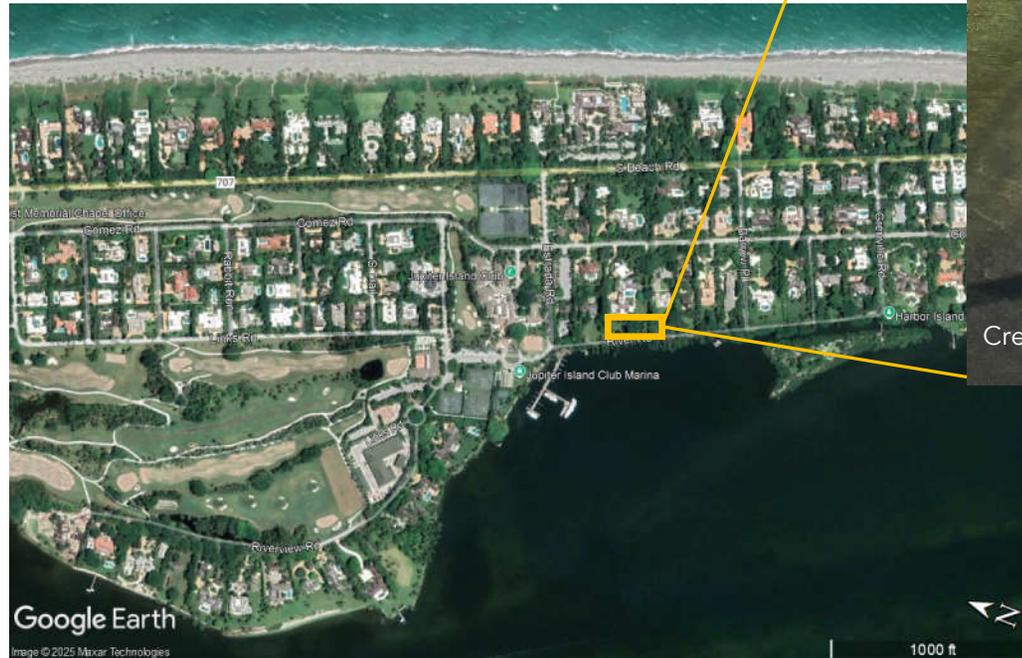
Florida Statute Min. Requirements:

- **2022 NOAA Sea Level Rise projections** (intermediate low & intermediate)
- **2050 & 2080 Planning Horizons**
- Current & future high tide flooding
- Current & future 100-yr Storm Surge
- Current & future 100-yr Rainfall
- Compound flooding
- Digital Elevation Model



Task 1: Identify VA Data Standards

- High tide flooding, king tide, nuisance flooding, or sunny day flooding
- Typically occur in **October and November** for Martin County



Credit: Sarah Colley

Critical Asset Classes & Types

1. Transportation and Evacuation Routes

- Airports
- Bridges
- Bus Terminals
- Ports
- Major Roadways
- Marinas
- Rail Facilities
- Railroad Bridges

2. Critical Infrastructure

- Wastewater Treatment Facilities and Lift Stations
- Stormwater Treatment Facilities and Pump Stations
- Drinking Water Facilities
- Water Utilities Conveyance Systems
- Electric Production and Supply Facilities
- Solid and Hazardous Waste Facilities
- Military Installations
- Communications Facilities
- Disaster Debris Management Sites

3. Critical Community and Emergency Facilities

- Schools, Colleges, Universities
- Community Centers
- Correctional Facilities
- Disaster Recovery Centers
- Emergency Medical Service Facilities
- Emergency Operation Centers
- Fire Stations
- Health Care Facilities, Hospitals
- Law Enforcement Facilities
- Local Government Facilities
- Logistical Staging Areas
- Affordable Public Housing
- Risk Shelter Inventory
- State Government Facilities

4. Natural, Cultural, Historical Resources

- Conservation Lands
- Parks
- Shorelines
- Surface Waters
- Wetlands
- Historical and Cultural Assets

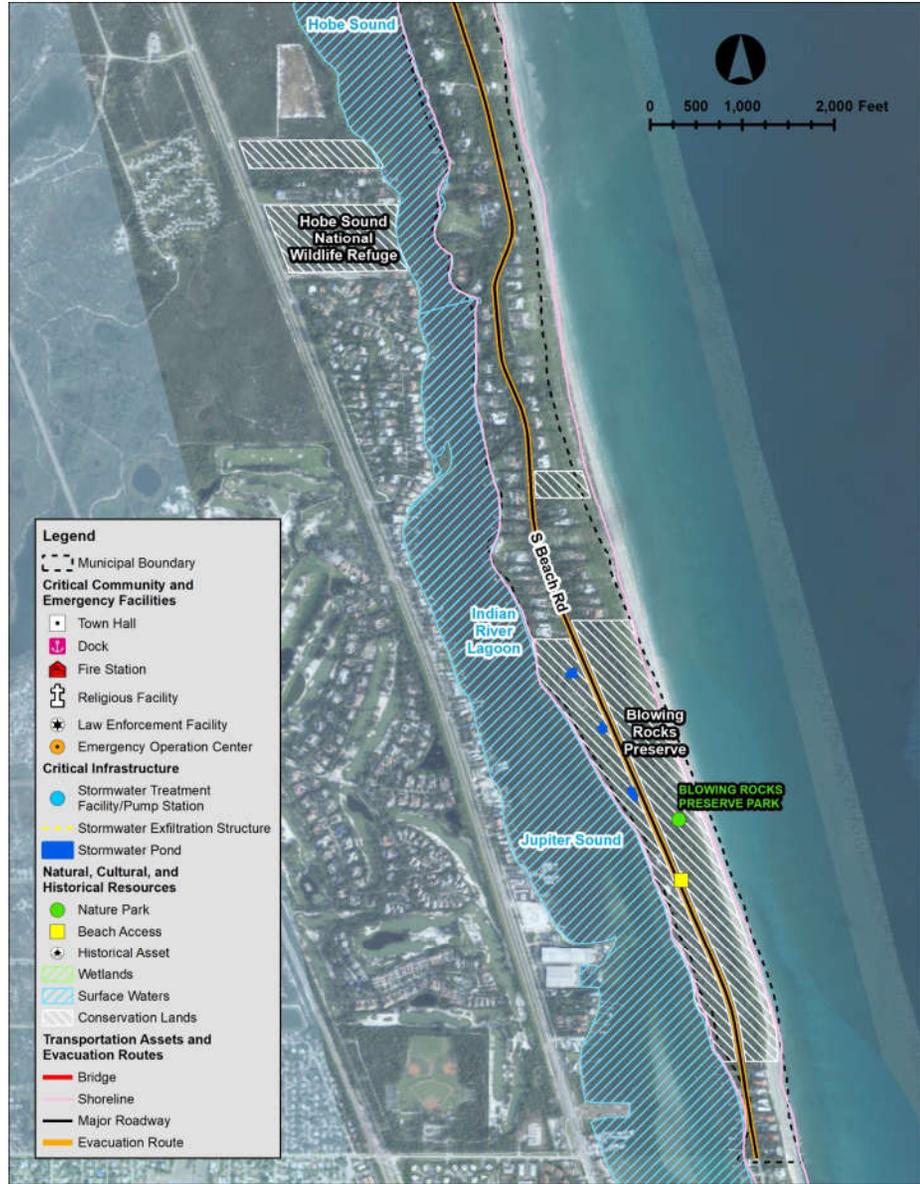
Task 5: Acquire Background Data

Critical Assets

- 19 total assets identified
- **Largest asset class is Natural, Cultural, Historic Resources**
 - Coincides with vision statement
- Critical Asset Maps







Task 6: Exposure Analysis

Scenario No.	Rainfall	Sea Level Rise Projection	Planning Horizon	Tidal Condition
1	N/A	N/A	2023	HTF
2	N/A	2022 NOAA Intermediate Low	2050	HTF
3	N/A	2022 NOAA Intermediate	2080	HTF
4	N/A	2022 NOAA Intermediate Low	2050	HTF
5	N/A	2022 NOAA Intermediate	2080	HTF
6	N/A	N/A	2023	100-yr SS
7	N/A	2022 NOAA Intermediate Low	2050	100-yr SS
8	N/A	2022 NOAA Intermediate	2080	100-yr SS
9	N/A	2022 NOAA Intermediate Low	2050	100-yr SS
10	N/A	2022 NOAA Intermediate	2080	100-yr SS
11	100-yr	N/A	2023	MHHW
12	100-yr	2022 NOAA Intermediate	2050	MHHW
13	500-yr	N/A	2023	MHHW
14	100-yr	N/A	2023	100-yr SS + HTF
15	100-yr	2022 NOAA Intermediate	2050	100-yr SS
16	500-yr	N/A	2023	100-yr SS + HTF

Modified
Bathtub
Model

Dynamic
Model

Dynamic Model Terrain



Task 7: Sensitivity Analysis

- **What is the most critical to the Town from an operations standpoint**
- Goal: To **measure impact of flooding** on assets and apply data from exposure analysis to the inventory of critical assets
- Evaluation of the **impact of flood severity** on each asset class and flood scenario
- **Assign a risk level** based on percentage of land area inundated and number of critical assets affected

A photograph of a long, straight asphalt road stretching into the distance, flanked by large, mature trees with thick, gnarled trunks and dense green foliage. The road has a double yellow line down the center and a white line on the left edge. The scene is brightly lit, suggesting a sunny day. The word "Questions?" is overlaid in the center of the image in a large, bold, black font.

Questions?

Breakout Sessions

A. Where do you experience flooding?

Are we missing any Critical Assets?

- Lead by Jennifer Bistyga & Nathalia Lopes
- Identify where you experience flooding in the Town
- Review and identify critical assets in the Town

B. What type of flood sources concern you?

- Lead by Leonard Barrera Allen
- Identify the flooding source that concerns you the most

C. Comment Cards

- Express any comments or questions about the VA

A photograph of a tropical landscape. A paved path leads from the foreground into a lush area with many palm trees and other tropical plants. The path eventually leads to a body of water, likely a lake or a large pond. The scene is bright and sunny, with clear blue skies. The overall atmosphere is peaceful and scenic.

Closing Remarks

Photo Credit: Sarah Colby