

Dauphin Island Watershed Management Plan



Sunset Capital OF Alabama™

Dauphin Island Open House Meeting

Nov. 8, 2021

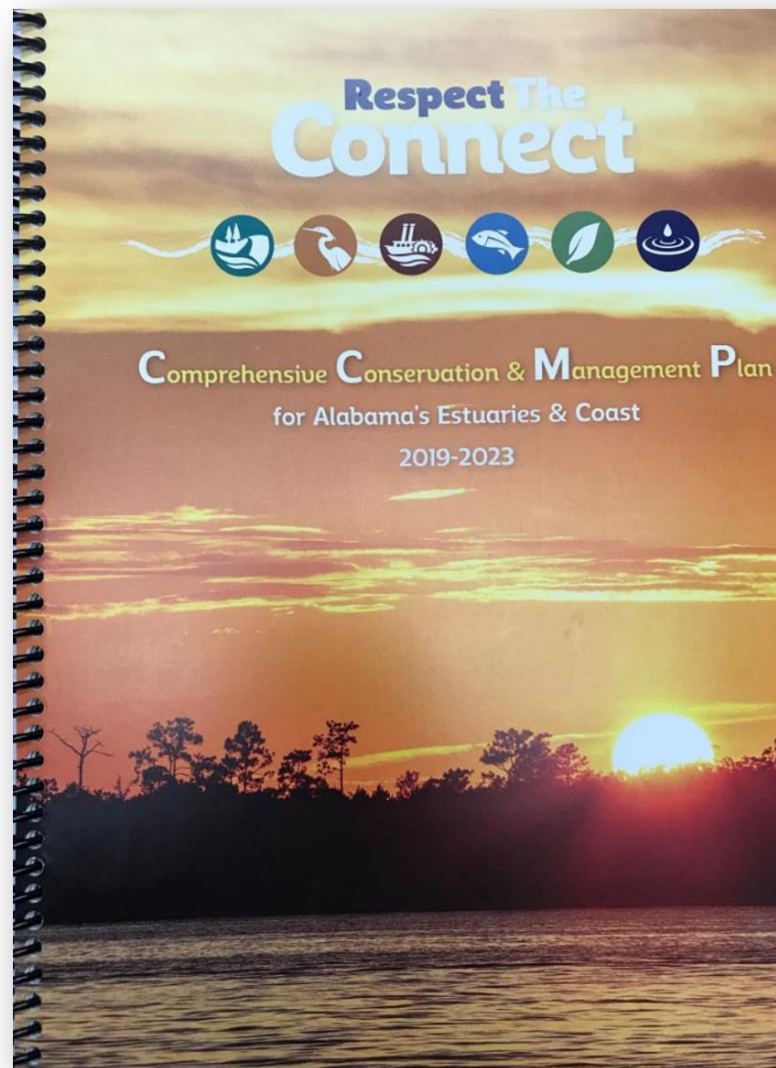


Agenda



- Watershed Management Planning Overview
- Poll
- Project Lead Introductions
- Breakout for Open House
- Wrap-up

Mobile Bay National Estuary Program (MBNEP)



Six common values most important to those living in Coastal Alabama



Access: To the water and open spaces for recreation and vistas.



Beaches and Shorelines: Protection, economy, beauty.



Fish and Wildlife: Habitats, abundance, livelihoods.



Heritage and Culture: Promoting our area's historic identity and protecting this legacy for future generations.



Resilience: Protecting the capacity of human and natural physical systems to rebound from unforeseen events.

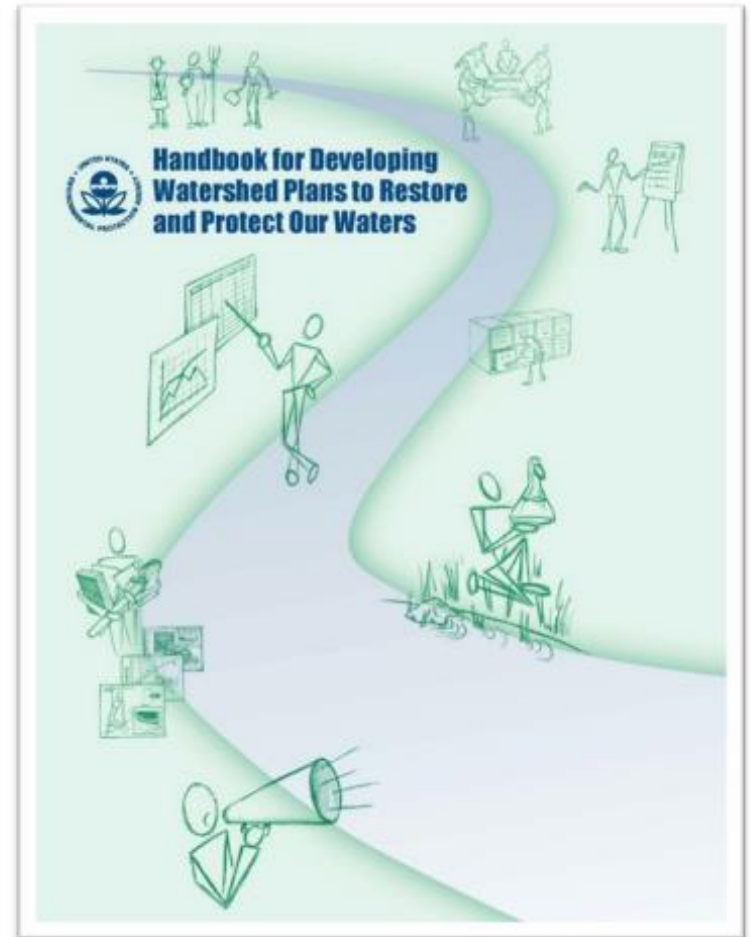
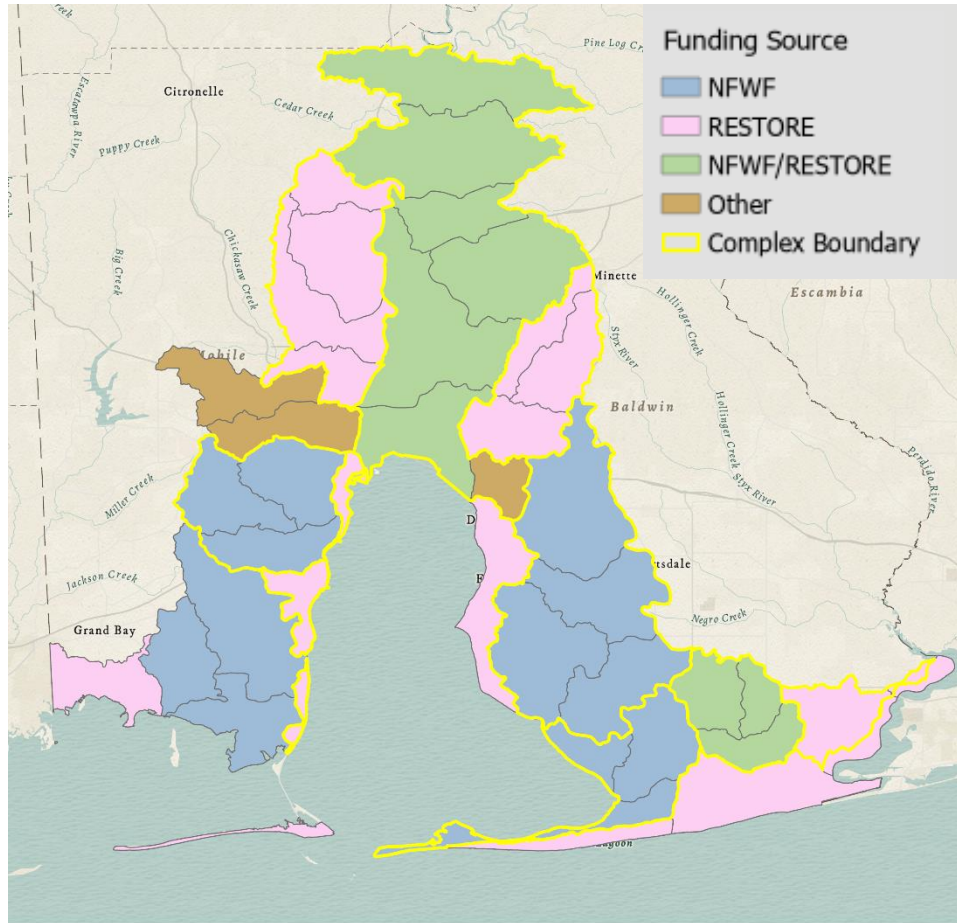


Water Quality: Whether drinkable, fishable, or swimmable, the public places high value on quality rivers, creeks, and bays.



Watershed Management Planning (WMP) Overview

The Methodology – Watershed Management Approach



Source: EPA.gov

Why do we plan?

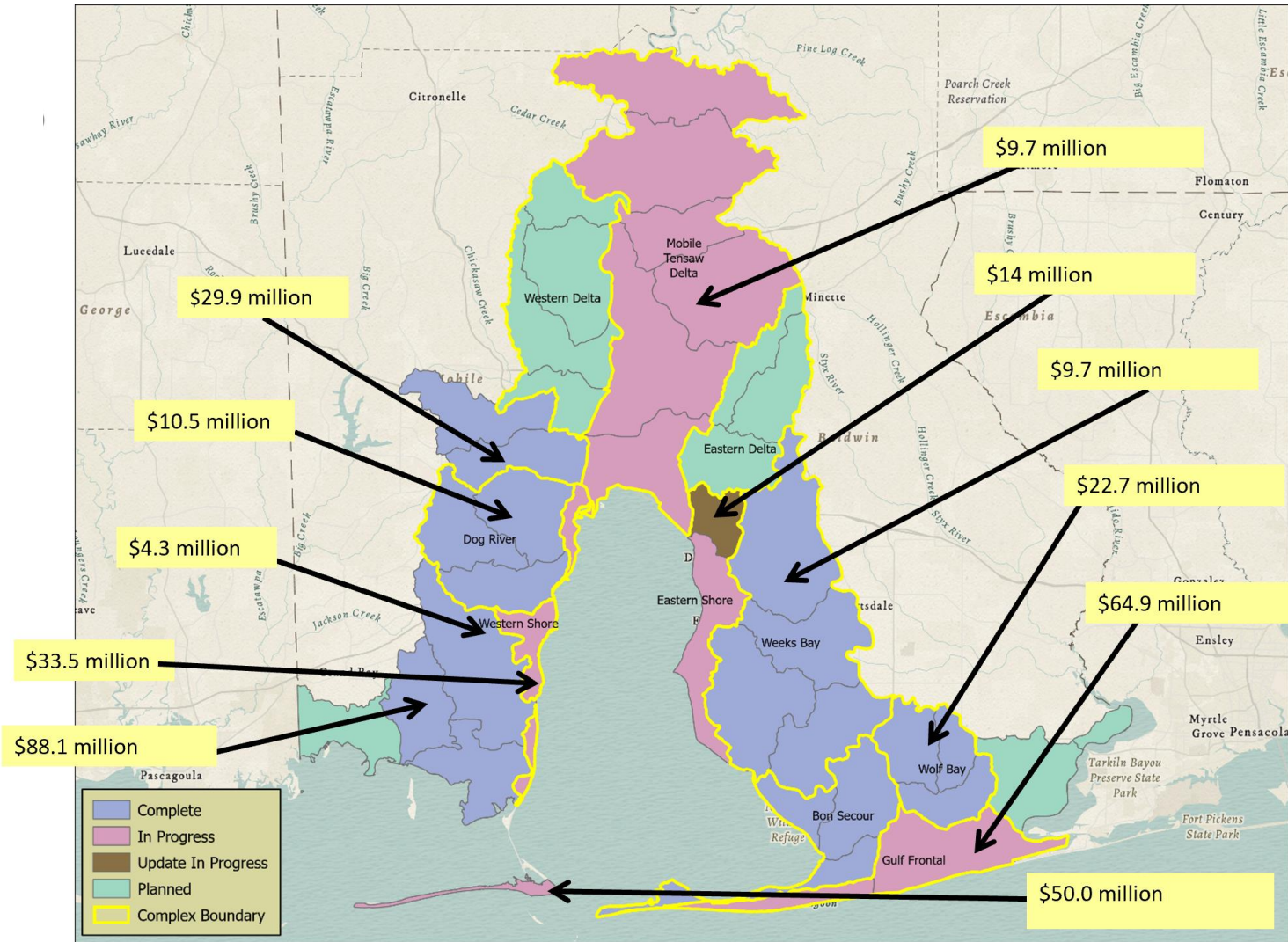
- Protect and improve water quality
- Conserve and restore habitat for fish and wildlife
- Protect customary uses of natural resources
- Stabilize beaches and shorelines
- Expand opportunities for public access
- Preserve and celebrate culture and heritage
- Enhance watershed resilience
- Institutionalize cooperation and collaboration for long-term implementation



Why do we plan?



\$337.3 million in BP spill-related funding and counting...





How do we plan?

1. Build Partnerships

Identify key stakeholders and solicit community input and concerns. Promote community involvement and engagement (5).

2. Characterize the Watershed

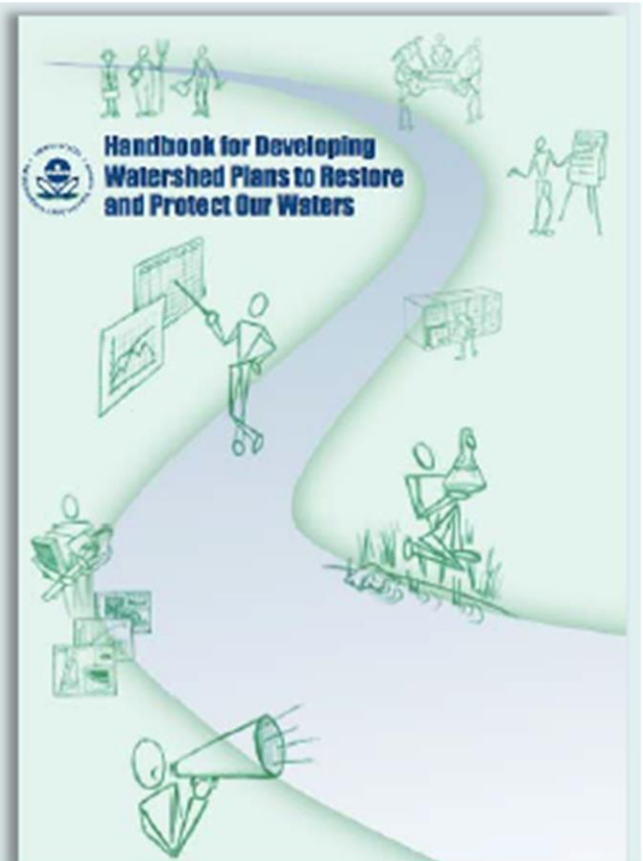
Create a natural and cultural resource inventory. Identify causes and sources of impairments, data gaps, and estimate pollutant loads (1).

3. Set Goals and Identify Solutions

Determine pollutants or other critical areas of concern, establish acceptable thresholds, and identify management measures necessary to achieve goals (2-3).

4. Design an Implementation Program

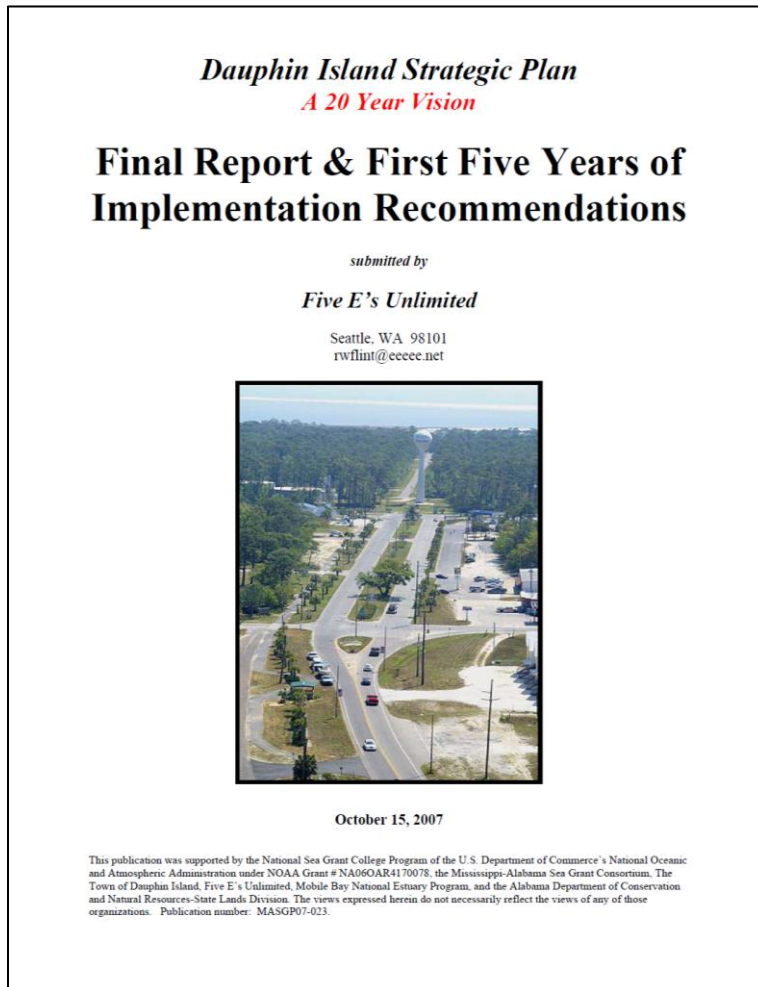
Generate an implementation schedule with interim milestones. Identify criteria to measure progress and include a monitoring component, information/education program, and identification of technical and financial assistance needed to implement the plan (4-9).



Source: MBNEP Western Shore WMP

How do we plan?

- Continuity with existing plans



How do we plan?



- Build on Existing Efforts – Recently Completed, Ongoing, Planned, and Proposed Projects (~50)



<https://www.mobilebaynep.com/watersheds/dauphin-island-watershed>

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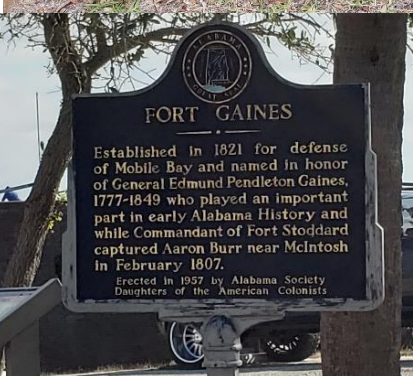
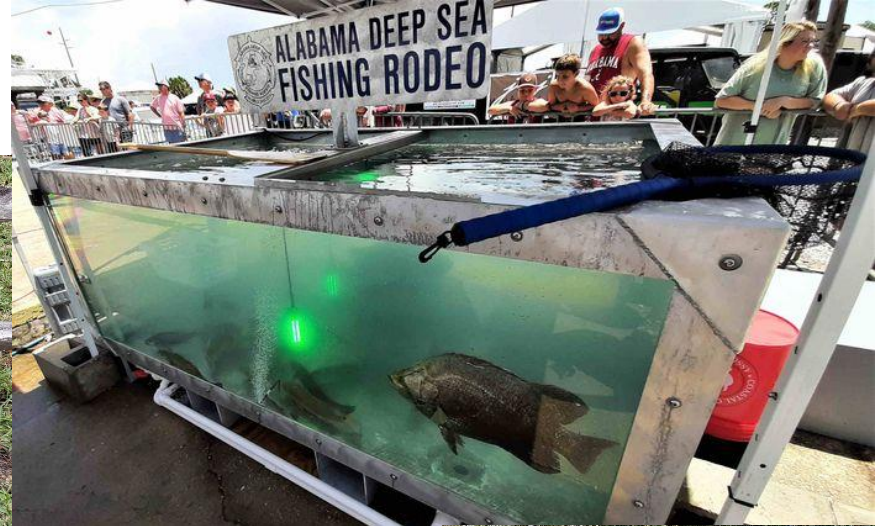


Resilience: Protecting the capacity of human and natural physical systems to rebound from unforeseen events.



Water Quality: Whether drinkable, fishable, or swimmable, the public places high value on quality rivers, creeks, and bays.

Culture and Heritage



Access



Water Quality

- Tidal creeks and coastal waterbodies
- Limited data
- Mercury advisory for King Mackerel
- Periodic bacterial exceedances at beaches
- Sanitary Sewer Overflows (SSO) from heavy rains





Habitats

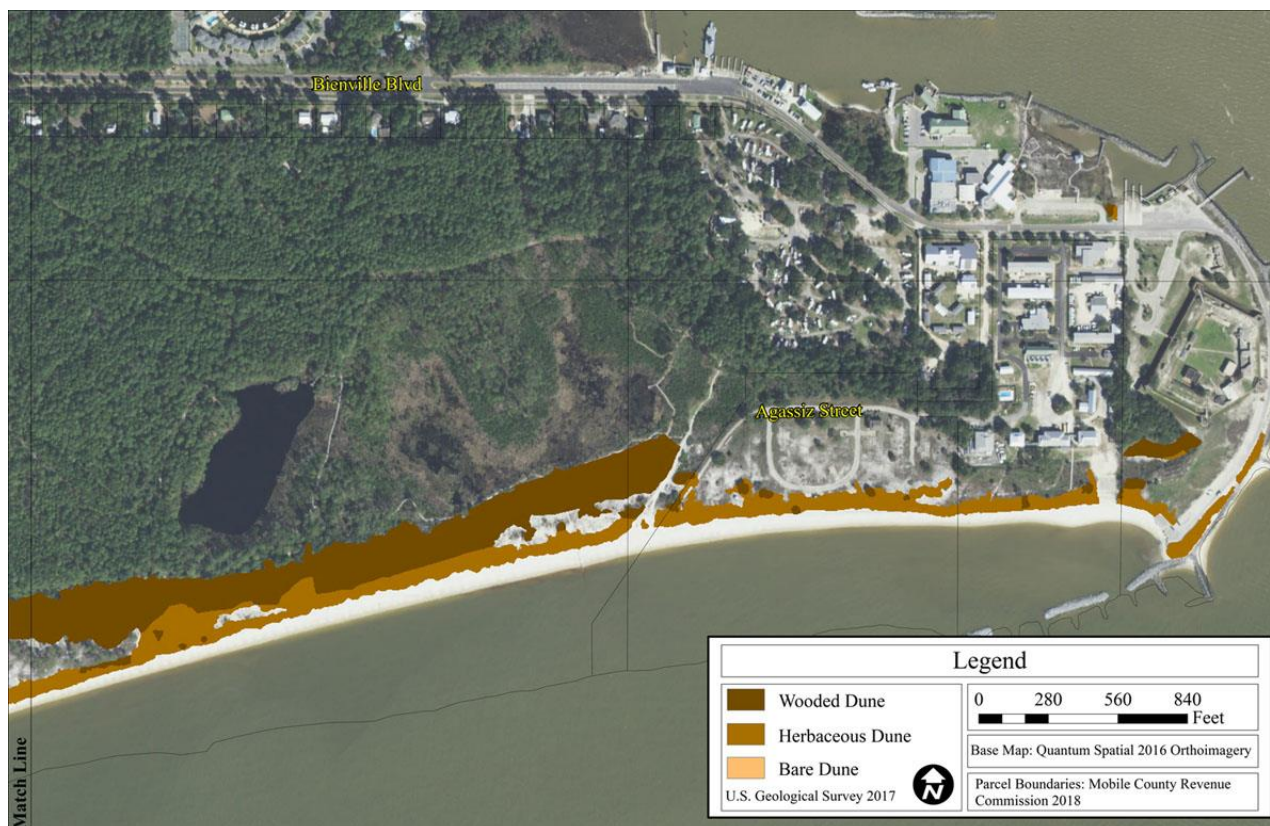


USGS Alabama Barrier Island Restoration Assessment 2017 Dune Map



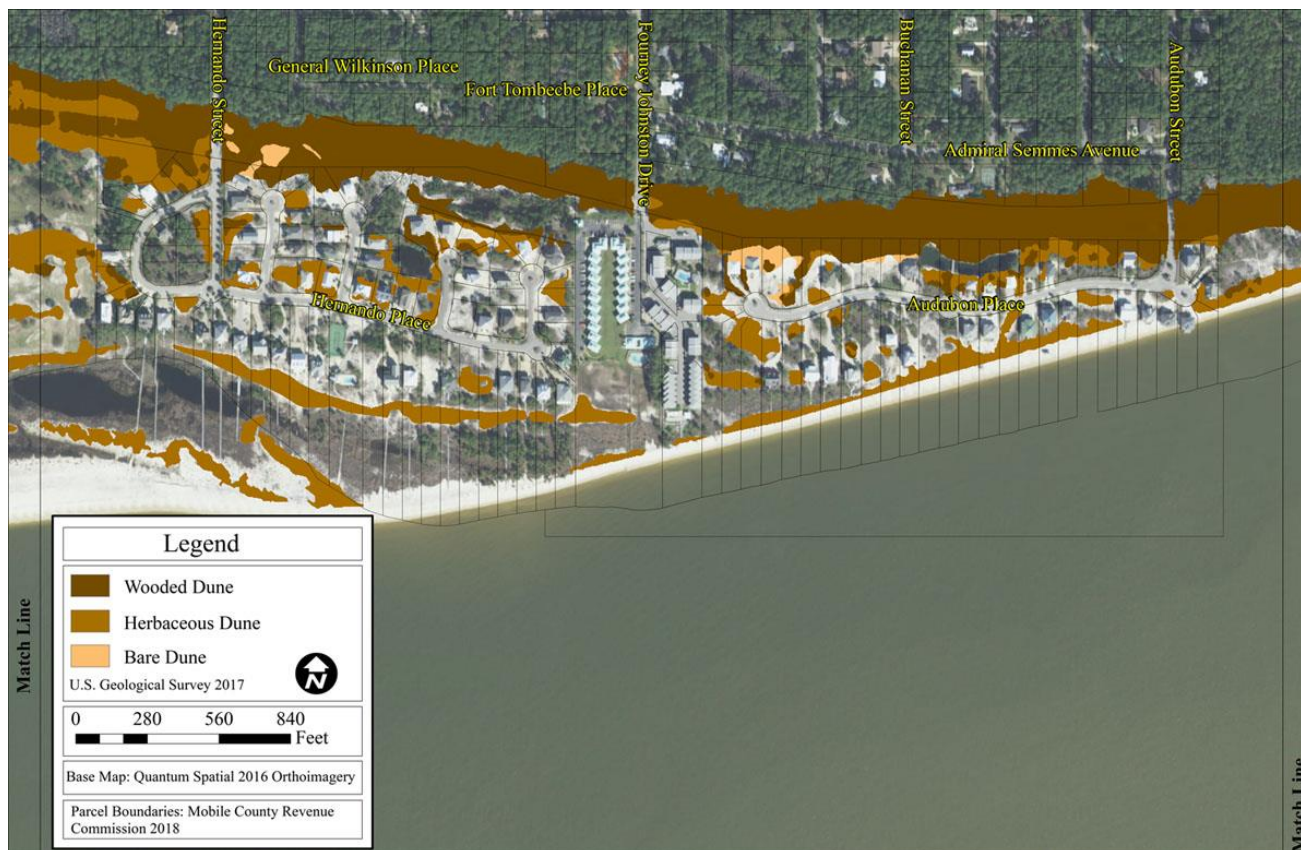


Dune Locations





Dune Locations



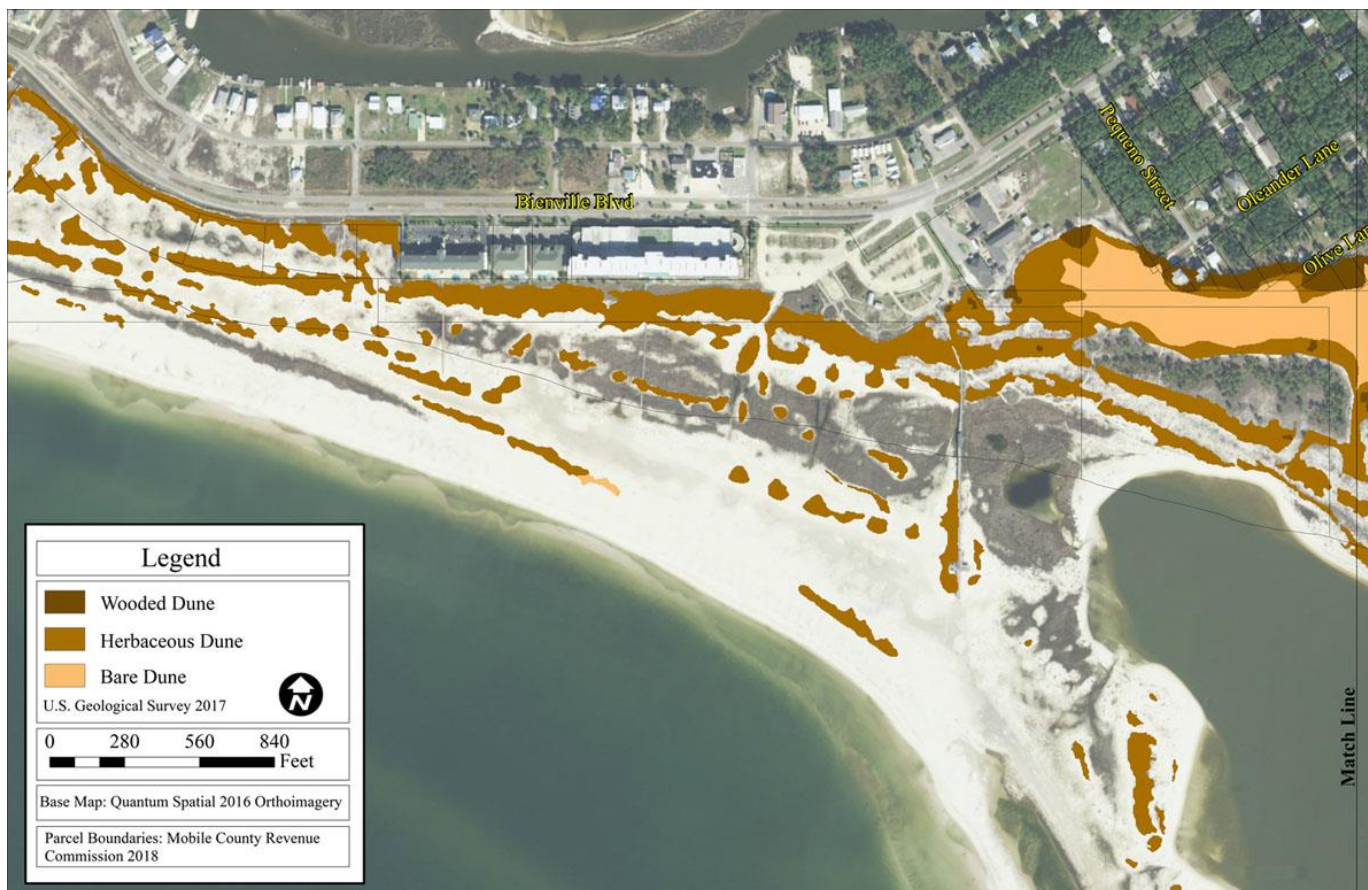


Dune Locations



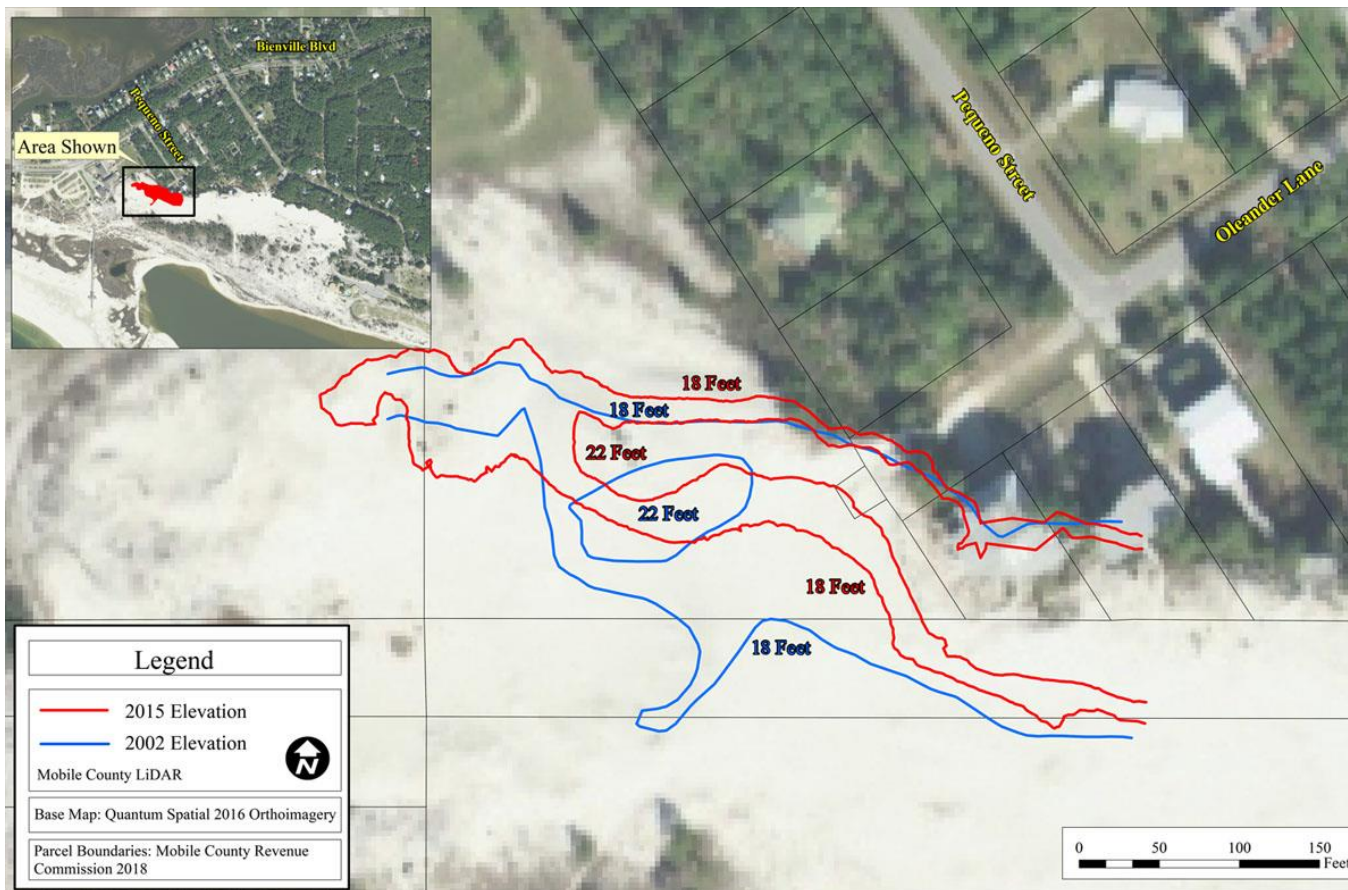


Dune Locations





Dune Migration





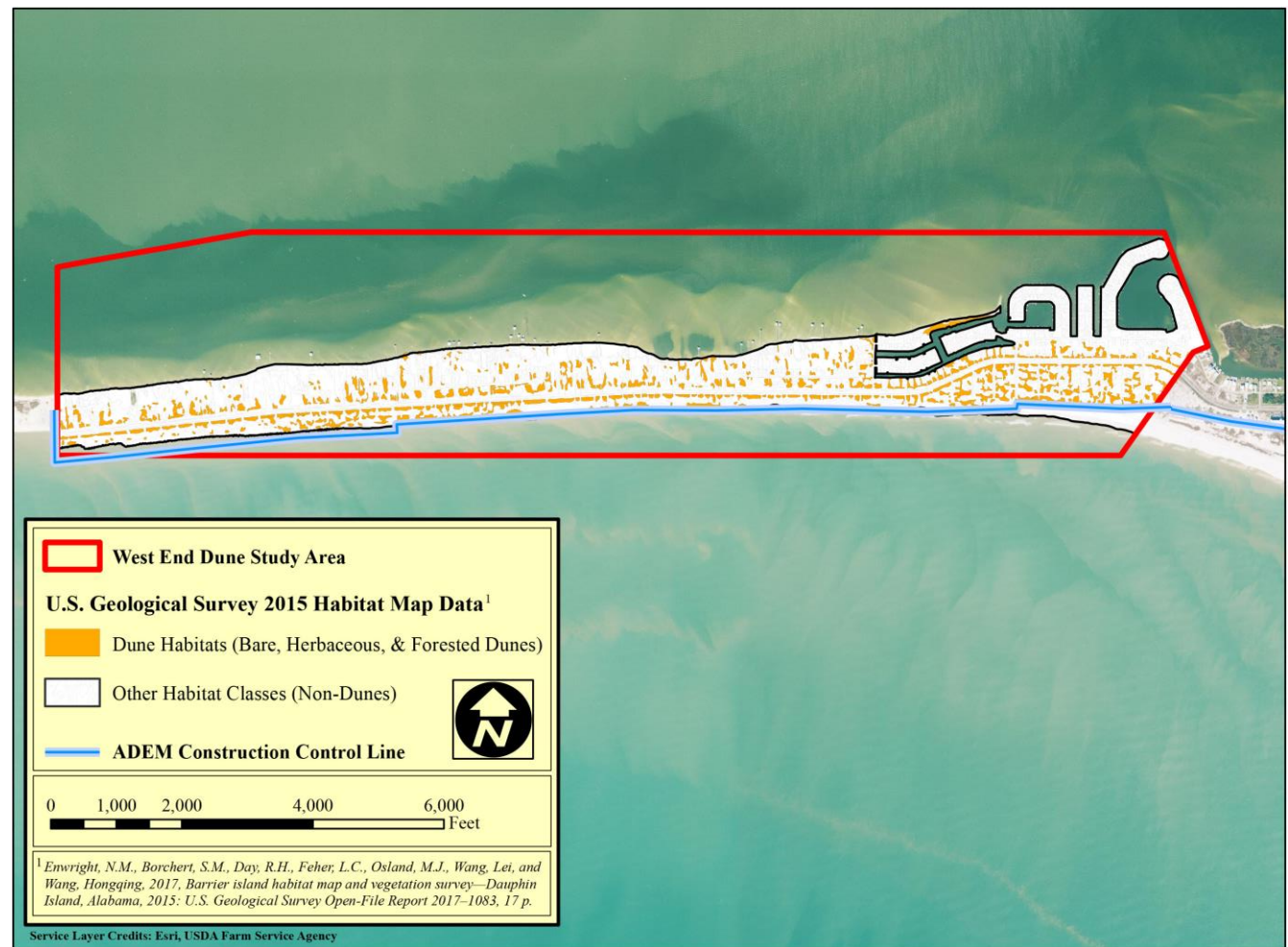
Dune Migration



From Roland Harper, 1940



West End Dune Locations

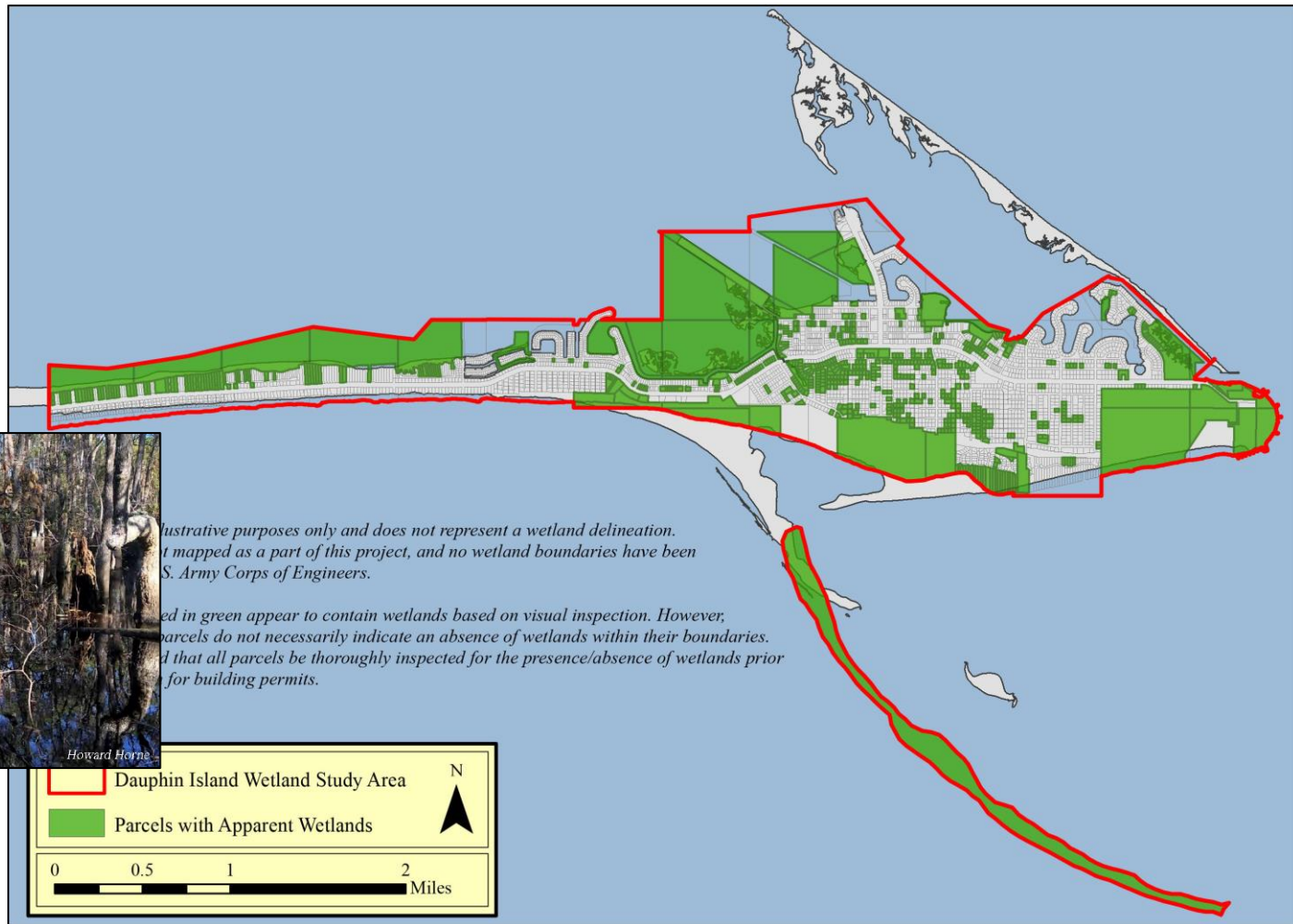




West End Dune Locations



Wetlands





Shell Mound



From Roland Harper, 1940



Environmental Health & Resiliency



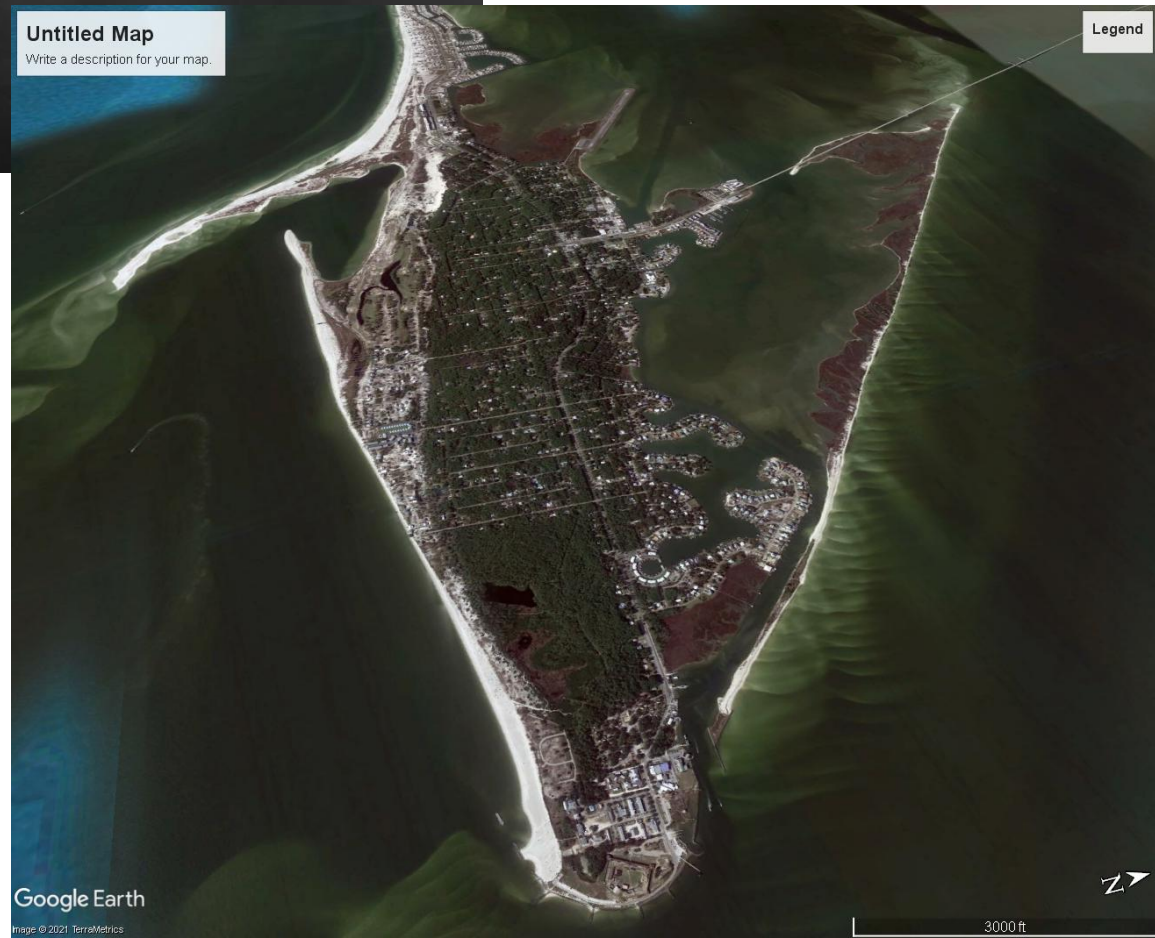
Source: History Museum of Mobile



"Build your house in a wetland, and you've got a hobby for the rest of your life. You will be fighting that water forever."

– Ed Perry, USFWS

Source: <https://www.nwf.org/Magazines/National-Wildlife/1998/Caution-Building-in-a-Wetland-Can-Be-Hazardous-to-Your-House>





Shorelines



West End Overwash, May 2021

Source: MBNEP, Steve Cole Photographer

Hurricane Katrina, 2005

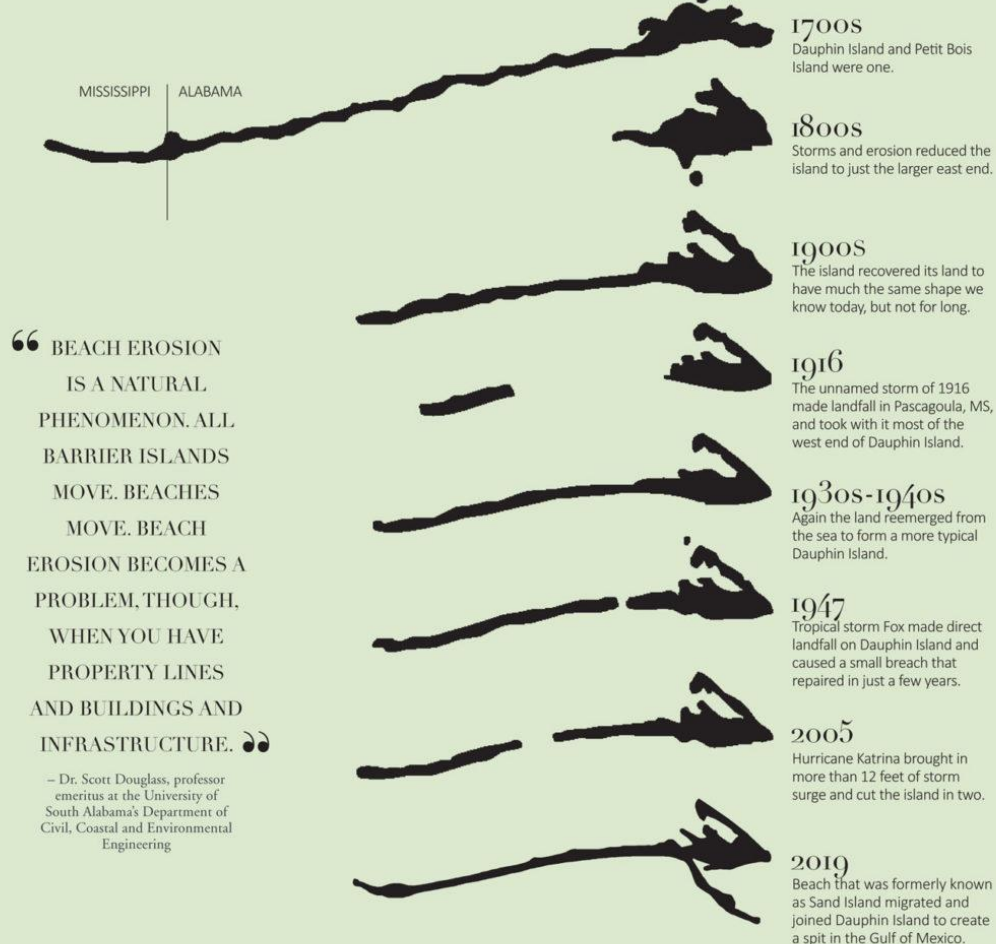
Source: National Weather Service





DAUPHIN ISLAND'S CHANGING LAND

A snapshot of the many phases of our barrier island



“ BEACH EROSION
IS A NATURAL
PHENOMENON. ALL
BARRIER ISLANDS
MOVE. BEACHES
MOVE. BEACH
EROSION BECOMES A
PROBLEM, THOUGH,
WHEN YOU HAVE
PROPERTY LINES
AND BUILDINGS AND
INFRASTRUCTURE. ”

— Dr. Scott Douglass, professor
emeritus at the University of
South Alabama's Department of
Civil, Coastal and Environmental
Engineering

BUILDING A BEACH

\$6.8 MILLION

Spent on beach restoration in 2016, adding 320,000 cubic yards of sand to a one-mile stretch of beach on the east end of the island, replacing about 10 years' worth of beach erosion

\$3.6 MILLION

Money from a 2014 BP oil spill settlement through the National Fish and Wildlife Foundation funded a study for restorative efforts all along Dauphin Island's shoreline

3.5 MILLION CUBIC YARDS OF SAND

The town of Dauphin Island hopes to pump this sand onto more than 4 miles of shoreline on the west end

WORKING TO CREATE

Wider sandy beaches (100 feet on east end, 200 feet on west end); higher sand dunes; increased native vegetation; and improved storm protection for the existing homes and public infrastructure

Management Measures



- Retain – the culture and heritage of Dauphin Island
- Revitalize – underutilized assets
- Restore – and preserve natural systems (dunes and marshes)
- Reinforce, rebuild, replace, relocate – aging or inadequate infrastructure
- Retention – of stormwater through green and gray infrastructure
- Renourish – beaches and shorelines
- Resist – storm surge through engineered and natural solutions
- Reduce – vulnerability to storm events
- Resilient – implement programs and policies to strengthen resiliency
- Reconsider – existing policies
- Rethink – how development occurs on the Island
- Retreat – from unsustainable areas
- Reserve – areas for habitat migration
- Reinvent – approaches and solutions
- Reimagine – what a future Dauphin Island could look like

Poll

Project Lead Introductions

Information and Contacts



- Dauphin Island WMP Website:
 - <https://www.mobilebaynep.com/watersheds/dauphin-island-watershed>
- Contacts:
 - Nicole Love
 - nlove@thompsonengineering.com
 - Chris Warn
 - cwarn@esassoc.com