



Freshwater Wetlands Assessment and Inventory on Sapelo Island Using ArcCollector and ArcMap GIS

Spring 2019 MGIS Thesis Proposal

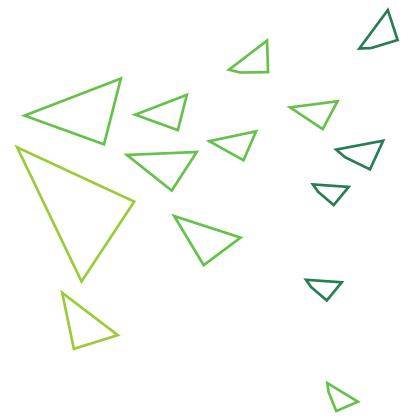
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Missing Data

- Current NWI/habitat assessments underrepresent the actual number of wetlands on Sapelo.
- Field verification has not occurred in decades.
- SINERR revived the assessment project in 2017



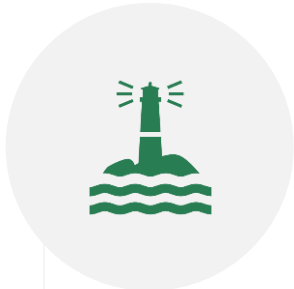
Coastal Georgia

Sapelo Island

Sapelo Island is a Pleistocene barrier island located close to the center of the roughly 100-mile long Georgia coast, and is the fourth largest of Georgia's fourteen major barrier islands. All of Georgia's barrier islands sit several miles offshore, separated from the mainland by vast expanses of salt marsh and tidal waters.



Sapelo Island Background



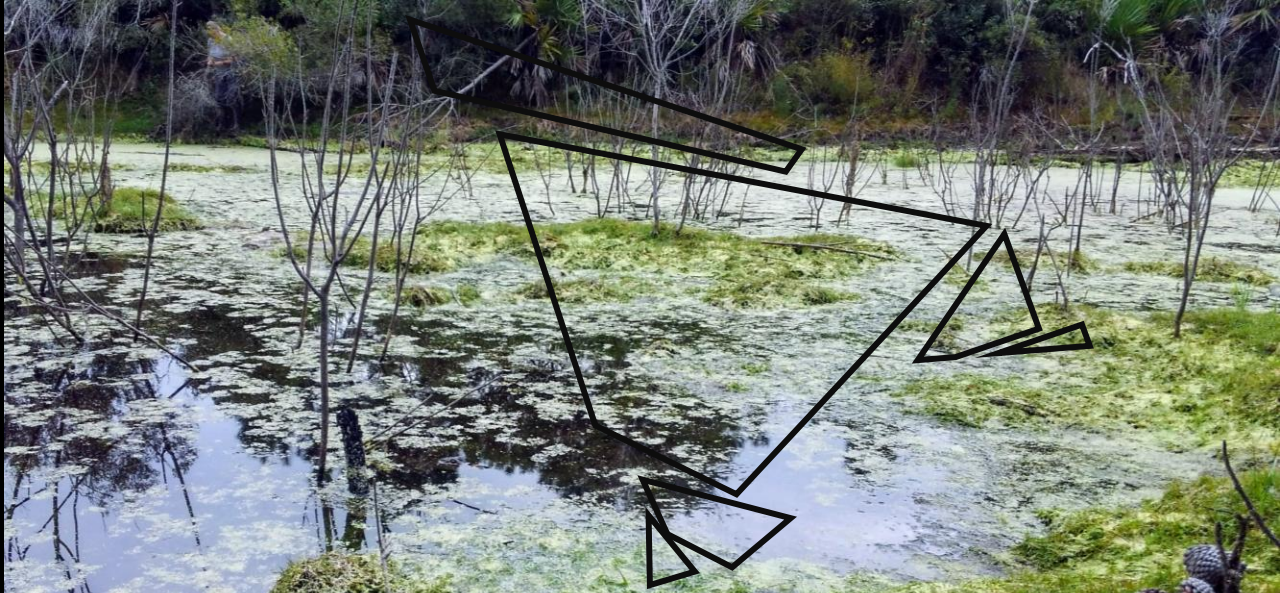
Coastal freshwater resources have become scarcer as anthropogenic demand increases



Agriculture canaling and ditching drained/changed the hydrology of the original wetlands



Water salinity levels, wetland inventory, and amphibian diversity is currently unknown



Freshwater Wetlands Are Essential

Vital habitat for many species:

Amphibians, reptiles, birds, fish.

Preserving these wetlands will aid in slowing or reversing specie decline



Wetland Hunting

Cross-reference wetland identification:

High-resolution imagery, NWI Inventory data,
Habitat classification data

Data Collection:

ArcCollector



Revived Sapelo Island Wetland Assessment



GIS Data Management

Esri's ArcMap
ArcCollector
ArcGIS Online



Wetland Inventory

Imagery Identification
Field Verification



Water Quality Testing

Salinity Levels
pH
Dissolved Oxygen
Temperature



Sapelo Island
Wetland Verification Status



The Deliverables



Standardized Data Management System

GIS geodatabase and analysis



Maps

Digital and print reference maps.

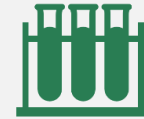
ArcGIS Web Applications for individual analysis



Esri Story Map

Public Story Map presentation of project overview and progress

The Big Picture Results



Accurate Data

Provides additional opportunities for wetland research



Realistic Preservation

We can't preserve essential resources if we don't know what and where they are



Public Education

Public awareness and knowledge is the key to continuing essential resource survival

Thank You

“UNLESS someone like you cares a whole awful lot, Nothing is going to get better. It's not.”

- The Lorax by Dr. Seuss

