



## LIVING SHORELINES

# Fort Morgan Private Shorelines

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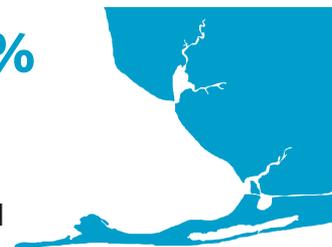
The Nature Conservancy worked with five private landowners to construct oyster reef breakwaters and living shorelines in front of their lands. This allowed for meaningful coastal protection projects, while also developing a better understanding of the permitting, private access needs, and construction constraints involved with private ownerships. Reef segments were placed about 80 ft waterward from the shoreline. This project restored over .5 acre of reef breakwater and living shoreline habitat.

The 2012 Fort Morgan sites are located north of the Fort Morgan peninsula and approximately .4 miles apart. Both sites were the first projects completed by The Nature Conservancy in Alabama involving private landowners who wanted to find alternative solutions to traditional shoreline armoring to help protect their shorelines. These projects helped inform

## FORT MORGAN FACTS

CONSTRUCTED IN  
**2012**

**63%**  
IMPROVED  
SHORELINE  
PROTECTION



**650**

YARDS RIP-RAP  
ROCK

**162**

YARDS  
OF SHELL

**364**

MARSH  
PLANTS

**2**

OSPREY  
PLATFORMS



PRIVATE LANDOWNERS

**1,142**  
LINEAR FEET

**11**  
REEFS



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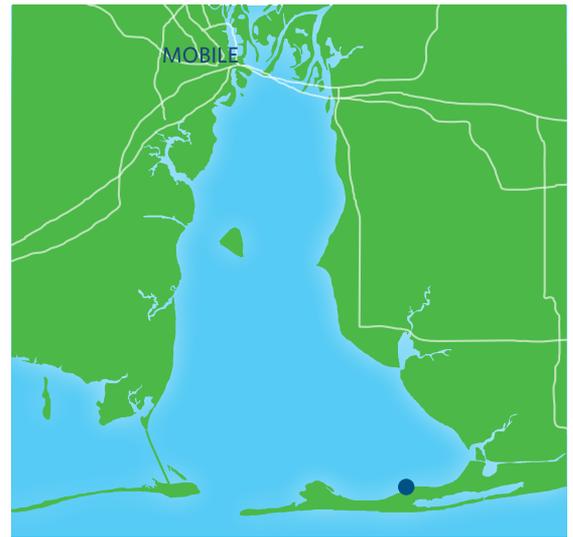
Newly constructed osprey platform at Fort Morgan.

TNC about the permitting, access needs, and construction constraints involved with private ownerships. One shoreline consisted of a natural sand beach with a freshwater pond located approximately 80 ft from the waterline. The other shoreline was previously hardened with a bulkhead and rip-rap rock. The construction technique used for reefs along these shorelines was riprap covered with bagged oyster shell.

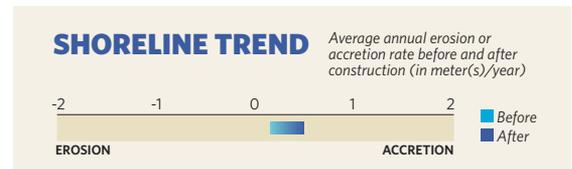
The breakwaters were built to dampen wave energy, stabilize sediments, and protect approximately 1,142 ft of shoreline. Monitoring has shown limited settlement by oysters. Mussels settled in higher numbers initially, but decreased in abundance in recent years. In addition, the breakwaters have provided increased habitat for blue crabs, shrimp and finfish.

### The Future of Fort Morgan Private Shorelines

Future work may include adding additional rock to replace settled rock and maintain wave attenuation capacity and substrate availability.



**LOCATION** Baldwin County, AL  
**PARTNERS** University of South Alabama, 100-1000: Restore Coastal Alabama, North Baldwin Center for Technology  
**FUNDERS** NFWF \$201,996 total



- BIVALVES**
- This mid-salinity site saw significant mussel recruitment and limited oyster development.
  - The Nature Conservancy's approach to adaptive management means that restoration projects are monitored each year. Using results from monitoring, projects are adjusted to respond to varying location conditions that influence performance.



\*ppt = parts per thousand