



**Restore
the Earth
FOUNDATION**

Gulf Saver® Bags Wetland & Habitat Restoration MANGROVE Performance/Cost Benefit Analysis *An Innovative Solution for Early Project Success!*



Bags are 14" x 26"



Gulf Savers® is an initiative of Restore the Earth Foundation Inc., a 501c3 not-for-profit, that has proven to be a successful innovative approach to marsh creation for stabilization and restoration of wetlands and habitats.

The Gulf Saver Bag is a biodegradable, self contained package of native plants with its own site specific custom mixed supply of natural nutrients to support, feed, and protect the native vegetation. The bag is a stability kit that jump starts growth and survivability in the face of storm surge, wave action and rapid erosion, unlike traditional methods of planting plugs.

The Gulf Saver Bag, creates a supportive environment for accretion by slowing down water, allowing sediment to build, and adding nutrient rich biomass to the soil. Oil eating microbes can also be introduced to the custom mix for added protection against oil impacted sites.



4000 bags, 4 days , 4 acres, 30 volunteers

Benefits of Gulf Saver Bags & Initiatives

- Reduces erosion
 - Stabilizes and accelerates native re-vegetation
 - Prevents interior marsh breaching
 - Remediates soil and organic matter
 - Creates environment for accretion
 - Re-establishes wildlife habitat
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- Replicable/scalable
 - Provides for community engagement
 - Supports local economy
 - Provides opportunities for environmental education
 - Supported by collaborative partnerships

Gulf Saver bags® Pilot at Pass a Loutre, WMA, Venice, Louisiana



Gulf Saver bags at 8 months plugged with black Mangrove



Gulf Saver bags/mangrove at 1 year



Gulf Saver bags at 18 months with flowering EKOgrown Mangrove



Bag Filling with custom mix



Volunteers at USFWS filling Bags



Deploying bags in LDWLF WMA

BLACK MANGROVE COST/BENEFIT ANALYSIS/Gulf Saver Bags vs Seedlings Planting

Measurements	Gulf Saver Bags	Mangrove Seedlings
Cost Per Acre	\$15,990 (\$30 per bag planted)	\$ 6,500.00 (\$6.50 1 gal. planted)
Spacing	3.0 meter centers - 507 bags/acre	3.0 meter centers -500/acre
Survivability	95% 1st year	50% 1st & 2nd year
Anticipated Replanting	5% one time	50% year 1 / 50% year 2 (2x)
Service Value	100% in <2 years	100% in 5-10 years
Carbon Credit Value Achieved	1st year	5th year
Estimated DSAYS	16+ /acre	12+ /acre
Estimated Cost Per DSAY	\$1,000.00	\$3,154.00

COST: Excludes transportation to off shore sites. Additional 15-20% cost reduction for projects of 100,000 bags or more

Gulf Saver Bag Performance at 18 months North Pass A Loutre, WMA

- 2-3x greater survival than seedlings
- 3x earlier seed regeneration
- 3x greater above and below ground biomass



Technical Support, Product development and Monitoring Provided By:



Regulatory Acceptance and Endorsed By:

- United States Army Corps of Engineers
- Natural Resource Conservation Service
- Louisiana Department of Wildlife and Fisheries
- National Oceanic & Atmospheric Administration
- United States Fish and Wildlife Services
- LSU Department of Oceanography & Coastal Science
- Southeast Louisiana University
- Audubon Nature Institute
- Nature Conservancy
- Center for Energy and Climate Solutions
- National Wildlife Federation
- Coalition to Restore Coastal Louisiana
- Restore Americas Estuaries
- Venice Port Complex
- Plaquemines Parish Government
- Gulf Restoration Network
- Common Ground Relief
- Gulf Future Coalition - Sunshine on the Gulf Report
- Gulf Coast Alliance
- Americas Wetlands
- Ducks Unlimited