Ecosystem Service Logic Model (ESLM) for Oyster Reef Restoration

Technique 1: Subtidal, 2-dimensional, intensively harvested
Implemented in Mobile Bay, Galveston Bay, and Chandeleur & Breton Sounds
Ecosystem Service Logic Model (ESLM) for Oyster Reef Restoration

Technique 2: Subtidal, 3-dimensional, intensively harvested
Implemented in Mobile Bay and Galveston Bay

Key
Intervention
External factor
Intermediate component
Ecological outcome
Human activity outcome
Socioeconomic outcome

Biodiversity

Scientific opportunities

Equity

Revenue
Income
Taxes
Permits

Jobs
Fishing/oyster harvest industry

Human health
Nutrition for sealion-dependent communities
Mental health

Food
Commercial sale
Personal consumption

Oyster harvest
Commercial

Non-oyster harvest
Recreational
Commercial

Subtidal, 3-dimensional, intensively harvested Othi

Oyster reef techniques
Oyster reef quantity or quality

Marine wildlife populations
Oysters
Benthic organisms
Fish
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Technique 3: Subtidal, 3-dimensional, not intensively harvested
Implemented in Charlotte Harbor, Back Bay of Biloxi, Mobile Bay, and Galveston Bay

Key
- Interaction
- Economic factor
- Intermediate component
- Ecological outcomes
- Human activity outcomes
- Socioeconomic outcomes

Sediment stability

Water quality
- Nitrates
- Turbidity

Shoreline erosion

Non-oyster harvest
- Recreational
- Commercial
- Subsistence

Oyster harvest
- Recreational
- Commercial
- Subsistence

Human health
- Recreation for elderly-dependent communities
- Mental health

Oyster reef quantity or quality

Oyster reef techniques

Marine wildlife populations
- Oysters
- Echinoderms
- High
- Species important for wildlife viewing

Bird population

Threatened and endangered species persistence
- Resilience

Property protection
- Private commercial infrastructure
- Residential

Equity

Revenue
- Income
- Taxes
- Permits

Jobs
- Periophytes harvest industry
- Recreation
- Education & scientific research
- Restoration

Cultural practices related to oysters
- Festivals
- Art
- Connection to natural resources

Other?
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Technique 5: Protection or enhancement of existing reef
Implemented in Charlotte Harbor, Back Bay of Biloxi, Mobile Bay, and Galveston Bay
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Technique 6: Oyster aquaculture
Implemented in Mobile Bay