

**RESTORE Act Ecosystem Restoration Project Proposals
for consideration in the Gulf Coast Ecosystem Restoration Council's Comprehensive Plan
2012**

Contact Information: Mike Campbell, Artificial Habitat Director, Lee County, Division of Natural Resources, MNCampbell@leegov.com					Date of Submittal: 1/7/2013		
Name of Project: Tarpon Reef					Org and Rank:		
Background: Many reef fish species require some variety of structure in their offshore surroundings to thrive as adults. The vast majority of Lee County's offshore waters are absent of ledges and hard bottom outcroppings that provide the physical base of reef habitats; due to the limited extent of this habitat type in Southwest Florida, it creates discrete, identifiable "targets" for recreational and commercial anglers seeking high value fisheries such as grouper and snapper. As the human population of Lee County grows (Southwest Florida consistently ranks in highest per capita boat ownership in the United States), the impacts of development cause stress to the inshore nursery habitat (water quality degradation, seagrass damage, etc.) at the same time users (50,000+ registered vessels, 2011) seek to target the adult reef fish; Lee County also ranks in the top five Florida counties in terms of saltwater fishing license revenues. Lee County reef building today is an effort to meet the growing demand for recreational fishing opportunities in an environmentally compatible fashion. The Tarpon Reef Project will create additional offshore reef habitat to support adult life cycle needs. By utilizing a one of its kind artistic style to create this habitat, we can also increase the public interest in the project. This will allow a unique platform from which to deliver a message of personal responsibility and environmental stewardship so that anglers understand that the choices and actions they take can better contribute to a healthy and sustainable habitat and fishery. Project Description: Artificial reef construction and habitat enhancement/creation. The Tarpon Reef project will be a joint habitat creation/community outreach project, creating marine fisheries habitat by constructing a tarpon sculpture in a public venue with education components related to marine fisheries being distributed. The sculpture will be deployed as a reef in the Gulf of Mexico, on permitted ARC Reef site (See Attachment A).							
Project Location: Gulf of Mexico; -82.411333 26.415174 Decimal Degrees							
Responsible Party: Lee County				Partners: Coastal Conservation Association of Florida, Lee Reefs Inc.			
NEP:		Project Cost: 590,519			Dollars Needed: 590,519		
Start: 2013				Completion: 2014			
Status of Project Design and Permitting: Completed, August 24, 2012							
What Date or Year could Construction Feasibly Begin: 2013							
Your Proposed Timing of Funding (given permits, phasing, staging, etc.)							
FY	12/13	13/14	14/15	15/16	16/17	17/18	Total
	590,519						590,519
Quantify Environmental Results and How to Measure Them: Annual fish count and benthic organism monitoring will be conducted for five years post completion.							
Economic Benefits (including ecosystem services):							

- The results from a recent survey of the economic impact of artificial reefs show extensive use of the Lee County artificial reef system by residents, visitors, private boaters and for-hire clients.
- On a daily basis, an average of more than 1350 persons in Lee County – residents and visitors included – use artificial reefs.
- Fishermen and divers who use Lee County’s 23 artificial reef sites spend nearly \$60 million in the county annually.
- Survey results document that artificial reefs help support the for-hire fishing sector (guides, charter and party boats) with clients spending nearly \$21 million on artificial reef-related trips.
- Visitors bring new money into the local economy (\$26.45 million), accounting for more than half of artificial reef expenditures.
- Expenditures on artificial reef-related activities generate nearly \$52 million in net economic impacts annually that support 575 full- and part-time jobs.
- With 50 miles of white sand beaches, more than 97 parks, beaches and national wildlife refuges, and more than 50,000 registered boats (4th highest in the state). (<http://www.flseagrant.org/>).

Estimated number of Jobs Created or Preserved: 20

How much Habitat will be restored and conserved? .56 NM squared

Quantify pollutant reductions: Pollutant reduction is not a component of this project. The site is in the open waters of the Gulf of Mexico and subject to wind and wave induced mixing. Existing reef materials demonstrate a diverse biofouling assemblage and fish population indicative of acceptable water quality.

What living coastal/marine resources will be improved and by how much? Increases in the biological diversity of Gulf of Mexico seafloor in areas previously devoid of preferred habitat for finfish and benthic organisms.

How will community resilience be enhanced? Additions to the County’s reef system add to the economic resilience of the community and are supported by citizens regardless of whether or not they directly utilize reefs. During the construction phase of the project, the reef structure will be on display and educational materials covering marine fisheries related topics will be distributed.

Additional Justification: Lee County is blessed with an extensive inshore and offshore marine ecosystem. Its subtropical climate affords a diverse compilation of aquatic specimens. Coastal barrier islands provide the nutrients, refuge and foundation for the shallow seagrass meadows that carpet the many bays, estuaries and lagoons. In Lee County alone, major aquatic ecosystems such as Charlotte Harbor, Pine Island Sound and Estero Bay provide the means to mix the freshwater upland runoff with the tidal saltwater of the Gulf of Mexico. Numerous mangrove islands and marshes promote sedimentation by trapping fine particles. This relatively shallow estuarine system drains over 3000 square miles of watershed and encompasses over 53 square miles of surface water. Approximately 30% of the inshore waters contain seagrass meadows.

This system is inhabited by approximately 246 species of fish. Many of these species are important forage for other species. These include species important to the commercial and sportfishing industries. Many of these fish species utilize both the inshore habitat afforded by the estuarine system and the open waters of the Gulf during their life cycle. The adult spawning

stock living in the Gulf reproduce, broadcasting ichthyoplankton, which migrate by way of tidal surges into the upper reaches of the estuarine system. Specific species have specific criteria, such as shoreline features, seagrass meadows, salinity and tidal energy, for juvenile habitat.

Offshore habitat includes hard substrate and shifting sandy and/or shell bottom. Areas with limestone outcropping provide the substrate for soft and hard corals, encrusting invertebrates and algae. The vast majority of Lee County's offshore waters are absent of ledges and hard bottom outcroppings. Many reef fish species require some variety of structure to their offshore surroundings to thrive as adults. Consequently, for there to be a healthy, diverse reef fish assemblage, attention must be given to both the inshore and offshore components of their life cycle.

Add any photos or maps that explain project:



