



Oyster Restoration

Sanibel-Captiva Conservation Foundation (SCCF) and City of Sanibel



Native Reef Restoration in a SW Florida Sanibel Bayou

Sanibel Island, Lee County, Florida, is the targeted area and is within the boundary of the Charlotte Harbor National Estuary Program (CHNEP) and immediately adjacent to the J.N. "Ding" Darling National Wildlife Refuge (NWR), Clam Bayou. The area includes over 235 acres of public parks (Silver Key and Bowman's Beach Regional Park) and 14 miles of mangrove shoreline (12 miles publicly- and 2 miles privately-owned).

Clam Bayou (a 400 acre impoundment with extreme salinities) was once connected to the Gulf of Mexico and Pine Island Sound through natural flow-ways. Storm events (hurricanes) and human activities (road construction in the 1950s and 1960s) isolated this water-body from natural tidal exchange and resulted in loss or degradation of mangrove, seagrass and oyster reef habitats (estimated loss of 150 acres of mangroves, 20 acres of oyster habitat, and 120 acres of seagrass).

In February 2006, the City of Sanibel, with funding from the South Florida Water Management District (SFWMD), NOAA's Community Restoration Program, NFWF's Challenge Cost Share, USFWS Flex Funds, Partners for Wildlife, the South Florida Coastal Ecosystem Program, the US EPA and NOAA Gulf of Mexico CR Programs began a restoration effort by installing a flow-way.



Fast Facts

- Oysters filter large quantities of water, removing algae, nutrients and sediments.
- Oysters were once abundant in many of the island's bayous; the remnants of these reefs can still be seen.
- Restoration of flows in 2006 allowed for more natural tidal levels and associated salinities, and access for manatees and other mobile species.
- By adding substrate at the appropriate tidal height we are enhancing settlement sites for oysters, increasing brood stock, and as well as feeding/nursery sites for numerous finfish, invertebrates, birds, and mammals.

In 2009 funding from the TNC-NOAA Community Restoration program began concerted restoration efforts by the Sanibel Captiva Conservation Foundation's Marine Laboratory, the City of Sanibel and local volunteers, including junior high and high school students to enhance substrates for oyster settlement, and ultimately brood stock.

By enhancing oyster populations adjacent to seagrass habitats we hope to improve water quality (clarity) and expand shallow fringing seagrass communities, along with oysters greatly expanding habitats for waterfowl, manatees, numerous ecologically and economically important finfish and invertebrate species over time. We will be monitoring water quality, seagrasses, oysters and the associated organisms within restored and adjacent natural areas.

The project is also deploying recruitment sampling units in Clam Bayou, Tarpon Bay, Pine Island Sound and San Carlos Bay to assess oyster recruitment and reef progress at sites with a variety of salinity ranges and larval abundances. We are also sampling water quality (chlorophyll concentrations) over reefs as oyster densities increase through time as a non-destructive method to assess reef restoration progress, as well as enumerating the organisms utilizing reefs.



Relaying shell bags to place in the Clam Bayou

Working Together

This effort is a collaborative effort between The Sanibel Captiva Conservation Foundation's (SCCF) Marine Laboratory, the City of Sanibel, the University of New Hampshire, Lee County and numerous volunteers and stake holders living around Clam Bayou. A related SCCF project funded by NOAA and the National Association of Counties (NACo) Program is enhancing mangroves, seagrass and oysters also in the Bayou.

Since October 2009, the overall Clam Bayou program has engaged more than 400 volunteers, placed over 50 tons of fossil shell into Clam Bayou, and constructed more than 4,500 square feet of TNC-NOAA supported reefs and over 1,500 square feet of NACo-NOAA supported reefs in the system.



Filling shell bags with fossil shell and deploying these to construct oyster reefs in Clam Bayou. Photo credits: SCCF staff

The mission of The Nature Conservancy is to preserve the plants, animals, and natural communities that represent the diversity of life on Earth by protecting the lands and waters they need to survive.

For more information

Loren Coen is the Director of The SCCF Marine Laboratory and can be reached at lcoen@sccf.org. See also <http://www.oyster-restoration.org/> for more general info.



NOAA

The National Partnership between the NOAA Community-based Restoration Program and The Nature Conservancy implements innovative conservation activities that benefit marine, estuarine and riparian habitats across the United States. The NOAA Restoration Center has worked with community organizations to support locally-driven projects that provide strong on-the-ground habitat restoration components that offer educational and social benefits for people and their communities, as well as long-term ecological benefits.