



# Communities Restoring Oyster Reefs

Florida Chapter



## Mosquito Lagoon

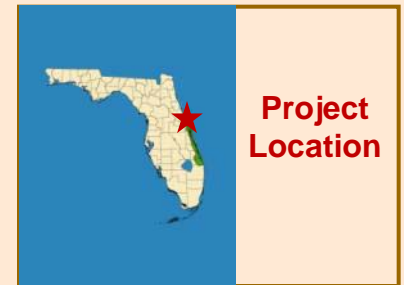
### Why Restore Oyster Reefs?

Oyster reefs benefit marine flora and fauna, improve water quality and help protect shorelines. Globally, 85 percent of oyster reefs have been lost, making them the most severely impacted marine habitat on Earth.

Oysters face a number of threats that include overharvesting, habitat degradation, reduced water quality and disease. In Mosquito Lagoon they are also impacted by boat wakes. Boat wakes dislodge live oysters from the reef and push them towards the shore in large piles. These piles can extend above the water line, causing dislodged oysters to die. The piles create “dead margins,” dam-like structures that restrict water flow over the surrounding reef and seagrasses, resulting in the eventual loss of these areas.

### Restoring Dead Margins

The Nature Conservancy is working with the University of Central Florida, Brevard Zoo and many other partners and community volunteers to restore oyster reefs in Mosquito Lagoon. Dead margins are being restored back to oyster reefs using “oyster mats.” The oyster mats are created by attaching oyster shells to a mesh material. The mats, tied together and anchored to the bottom of the lagoon, provide a stationary substrate on which oyster larvae will settle and grow.



### Fast Facts

Oysters filter feed, which helps improve water quality and clarity – a single oyster filters as much as 50 gallons per day.

Oyster reefs provide food, shelter and nursery areas for a diversity of species, including fishes, crabs, shrimp and birds.

Oyster reefs are natural buffers that protect shorelines from erosion due to boat wakes and storms.

## Restoration Progress

Restoration of oyster reefs in Mosquito Lagoon began in 2005, using science-based protocol established by the University of Central Florida to restore oyster habitat within the boundaries of Canaveral National Seashore. By the end of 2010, 42 reefs had been restored with the help of more than 18,000 volunteers who made and deployed 19,654 oyster mats. These newly created reefs provide habitat and food for fishes, crabs, birds and other important estuarine species. Results have proven the oyster mat restoration technique successful in the shallow, intertidal system of Mosquito Lagoon.

After only one year in the water, an average of 36 new oysters had settled on each mat and a 3-dimensional reef structure had started to form. After three years the mats are totally covered by live reef. More than 140 different species have been identified using these restored reefs, which is similar to the number of species using nearby natural reefs. In addition, seagrass establishment has been observed adjacent to new reefs. The new reefs are monitored every year to determine the success of this restoration method over time.

## How You Can Help!

Volunteers are needed to help with all aspects of this project, from preparing mat material, to making mats and deploying them in the water. There's something for everyone! This is a great volunteer project for civic groups, schools, clubs, boating groups, recreational clubs, church groups – or anyone looking for a fun way to help restore the lagoon.

A project representative will bring all materials and give a presentation to your group about oysters reefs, the lagoon environment and instructions on how to create oyster mats. Completed mats will later be placed in the lagoon as the building blocks for new oyster reefs.



Oyster mats recently anchored in the lagoon with sprinkler weights



Oyster mats covered with live oysters after just seven months in the water



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.



## Working Together

This project is being funded, in part, through a national partnership grant between the National Oceanic and Atmospheric Administration Community-Based Restoration Program and The Nature Conservancy.

This project would not be possible without support from the following partners:

- University of Central Florida
- Canaveral National Seashore
- Brevard Zoo
- Indian River Lagoon National Estuary Program
- St. Johns River Water Management District
- Volusia County Mosquito Control
- Disney Friends for Change
- Disney Worldwide Conservation Fund
- Florida Department of Environmental Protection
- Royal Caribbean International
- Brevard County
- Coastal Conservation Association
- New Smyrna Beach Marine Discovery Center
- Citizen volunteers throughout the lagoon region

*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 information on the project and how to volunteer

Brevard Zoo  
(321) 254-9453 Ext. 265

The Nature Conservancy  
201 N. Riverside Drive, Suite B  
Indialantic, FL 32903-4274  
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[nature.org/oysters](http://nature.org/oysters)

Photos: Anne Birch and CJ Greene, The Nature Conservancy and Linda Walters, University of Central Florida