

Peanut Island Environmental Restoration, Florida

civil engineering



Coastal Systems International, Inc. developed conceptual layout and design alternatives for the restoration of marine and upland habitat on approximately six acres of a Port of Palm Beach Intracoastal Waterway spoil island located near Lake Worth Inlet. The proposed environmental restoration includes the creation of a 1.5-acre artificial reef habitat hydraulically connected to Lake Worth Lagoon on the seaward side and a 1.3-acre shallow water seagrass lagoon on the landward side. Additional features include the creation of a tidal pond and flushing channel system to provide more adequate tidal flushing and seawater inundation to an existing mangrove community. The lagoon habitat required a series of coastal structures including groins and an innovative pile crib breakwater. Numerical Modeling was conducted to determine design wave conditions

The project also includes the creation of recreational features such as a floating shallow-draft marina, pedestrian boardwalk and observation decks, and swimming/snorkeling access to the reef habitat. Utility upgrades to the existing water lines and lights were designed along with grading and drainage improvements. Plans and specifications for the project were prepared in the U.S. Army Corps of Engineers format.



Conceptual Environmental Habitat Plan



Recreational Features Under Construction

Client:	Palm Beach County Environmental Resources Management (ERM)
Location:	Lake Worth Lagoon, Palm Beach County, Florida
Date of Completion:	2004 (est)
Construction Cost:	\$4,500,000 (Marine Works) \$25,000,000 (Total Project)

