

**RESTORING WEST LAKE: FISH, SHOREBIRD HABITAT, TIDAL
POOLS AND MANGROVES RESTORED IN A 1,500 ACRE
MANGROVE PRESERVE WITHIN DENSELY POPULATED
BROWARD COUNTY, FLORIDA**

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Mitigating Circumstances

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EXPANDED ABSTRACT

During the period of 1985 through 1996, the West Lake Park Project, one of the largest mangrove restoration programs in the United States, converted 607 ha (1,500 acres) of disturbed land area into productive, ecologically sound mangrove habitat. This project required the cooperative efforts of local, State and Federal regulatory agencies, the Broward County Commission through its Parks and Recreation Division, and a private developer for completion. Located in the Fort Lauderdale, Florida area, West Lake borders the Atlantic Intracoastal Waterway for 2.5 miles and is approximately one mile in width. Once a freshwater ecosystem, the area was dredged, filled, and divided in 1924-26 into more than 654 outparcels, ready for development. Using \$12,000,000 in State of Florida Conservation and Recreation Lands (CARL) funds and \$8,000,000 in County funds, the land was purchased and preserved. Working with the State of Florida, Broward County, the City of Hollywood, a large private development firm, and concerned environmental groups, 82.2 ha (203 acres) of mangrove re-creation was accomplished from previously disturbed Australian

pine (Casaurina spp.) habitat. The project involved obtaining public ownership of all parcels, establishing the funds to accomplish the \$6,000,000 restoration program, providing scientific research for successful natural mangrove propagule establishment and significantly modifying the regulatory agencies' original mitigation design.

Broward County had concerns about the final construction scrapedown elevation for mangroves (+0.6' NGVD) in relation to natural propagation, which was the permit requirement in West Lake. To assist, Mr. Robin Lewis, President, Lewis Environmental Services, Inc. was hired to provide direction to one of the largest wetland mitigation projects ever attempted in the United States. An 1100 foot zone of 25 one-meter test plots was designed by Mr. Lewis and monitored for 3½ years. The results showed that the design scrapedown elevation should be modified slightly higher (+0.9 - 1.4' NGVD) for the entire project.

With this information, the permits were modified and the mangrove creation project was constructed at the revised elevation. Outstanding natural recruitment has occurred throughout the 2.5 mile ecosystem. In addition, a 4.05 ha (10 acre) tidal pool and mudflat zone was constructed with elevations at +0.0' to +0.5' for mudflats, -4.0' for tidal pools, and -2.0' for connecting channels. This zone has been very productive in providing a diversified feeding habitat for shore and wading birds.

Being the largest mangrove preserve in an approximate 140-mile stretch of the urban Gold Coast of Florida, West Lake is home or utilized by 91 species of fish and 135 species of birds. Public access has been integrated, designed to be consistent with the natural resource preserve, through a \$10,500,00 nature center complex and canoe marina funded by Broward County.