

## **DON'T LET YOUR MANGROVE RESTORATION PROJECT END UP LIKE THIS!**

**ATTEND AND LEARN AT THE 10<sup>TH</sup> ANNUAL "MANGROVE ECOLOGY, MANAGEMENT AND RESTORATION TRAINING COURSE, MARCH 1-2, 2012, HOLLYWOOD, FLORIDA, USA. DETAILS AT [WWW.MANGROVERESTORATION.COM](http://WWW.MANGROVERESTORATION.COM) OR CONTACT ROBIN LEWIS AT [LESRRL3@AOL.COM](mailto:LESRRL3@AOL.COM)**

# Mangrove replanting project a bust

*Only 9 percent of seedlings placed around Naples Bay since 2000 have survived*

By ERIC STAATS  
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A pilot project to replant mangroves along Naples Bay has not had much more success than Mother Nature.

Crews from the Conservancy of Southwest Florida planted 1,114 red and white mangrove seedlings at various spots around Naples Bay in two planting cycles between 2000 and 2002.

Of those, only 95 red mangrove seedlings have survived, or about 9 percent, according to monitoring results reported in a December 2005 report to the U.S. Fish and Wildlife Service.

The Fish and Wildlife Service awarded the Conservancy a \$25,000 grant in 2000 to conduct the pilot project.

The results illustrate the high hurdles scientists will have to jump to regrow mangroves as part of a larger effort to restore Naples Bay.

It will take more than a green thumb.

Conservancy researchers have estimated that Naples Bay has lost some 70 percent of its mangrove forest to development. Mangrove loss has dealt a significant blow to the bay's ecosystem.

Fish find meals and hide from predators

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among mangrove roots. The roots keep water clean by holding sediment. Migratory birds roost in mangrove branches. When mangrove leaves fall and rot, they become food for organisms at the base of the food chain.

A healthy mangrove forest can produce millions of floating seeds each year, and a small percentage of them find a place where they can grow on their own, said wetlands scientist and mangrove expert Roy "Robin" Lewis III, president of Lewis Environmental Services in Salt Springs, Fla.

If mangroves have not moved into an area, the problem could be with the site, not necessarily the planter, he said.

On Naples Bay, water along most seawalls is too deep for mangroves to grow, and riprap is placed at too steep an angle in many places.

The solution: Either don't plant mangroves where they won't grow or find ways to revamp the shoreline, Lewis said.

"It doesn't mean you can't correct it," Lewis said.

Restoration also will depend on quelling homeowners' fears that water views and mangroves are not mutually exclusive.

Homeowners volunteered to allow mangroves to be planted on the edge of their lots as part of the pilot project.

Besides inhospitable shoreline structure, boat wakes slamming the shoreline also contributed to mangrove seedlings' failure, according to the Conservancy report.

An unexpected freeze in late December 2000 took a toll on the first planting cycle, according

to the report.

Vandalism or honest mistakes by ill-informed gardeners were other problems,

according to the report. The report theorizes that misguided shoreline fishermen pulled out seedlings at Bayview Park.

"It's not an easy thing," said Brad Rieck, a Fish and Wildlife Service biologist in the agency's project planning division in Vero Beach.

"You just don't walk up and down the shoreline, plant propagules at the mean high water line, walk away and a couple years later have a nice stand of mangroves."

Although most of the seedlings didn't make it, crews did what they could to give them a leg up when they were planted.

Workers collected about 2,750 mangrove seeds and propagules and cultivated them in a nursery the Conservancy set up.

About 18 percent of the white mangrove seeds and 72 percent of the red mangrove propagules germinated and grew roots for replanting, according to the report.

Monitoring after the planting showed a survival rate of 19 percent for the first cycle and 71 percent in the second cycle, according to the report.

The report attributes the difference to more mature seedlings planted in the second cycle.

In both planting cycles, some of the mangroves were plant-

ed inside plastic tubes and the rest were planted directly into riprap.

In the second planting cycle, the root systems of half of the mangroves seedlings were wrapped in cheesecloth filled with soil and then wedged into riprap, packed with more soil and supported with bamboo stakes.

Unwrapped seedlings had a survival rate of 69 percent compared with an 81 percent survival rate of wrapped seedlings, according to the report.

Seedlings planted in riprap had a 56 percent survival rate compared with 36 percent surviving in plastic tubes along seawalls, according to the report.

By the end of the monitoring period in November 2005, though, the overall survival rate had dropped to 9 percent.

Conservancy biologist Kathy Worley said the results should not discourage future plantings, but the problems that kept mangroves from growing should be fixed first.

"We're not saying it can't be done; it can," she said.

■ Conservancy of Southwest Florida biologist Kathy Worley said the results should not discourage future plantings, but the problems that kept mangroves from growing should be fixed first.

**ANNOUNCEMENT: "Mangrove Forest Ecology, Management and Restoration" training workshop, March 1-2, 2012, Hollywood, Florida, USA.**

**The tenth annual "Mangrove Forest Ecology, Management and Restoration" training workshop will be held at the Anne Kolb Nature Center, in Hollywood, Florida, USA, March 1-2, 2012. The training site is within a 500 ha mangrove restoration project at West Lake Park operated by Broward County. The award-winning project was designed by Roy R. "Robin" Lewis III, who will be teaching the course. Mr. Lewis has taught this very successful course in Cuba, Nigeria, Thailand, Vietnam, India and Sri Lanka.**

**The workshop includes an introduction to mangrove forest ecology, management options and problems, and restoration design issues. The class programs are all presented in a PowerPoint format, and each student is provided with a print out of the presentation and additional handouts including monitoring reports for typical restoration projects. Case studies of 5 successful mangrove restoration projects, and several unsuccessful projects, are discussed. Field trips are taken within the 500 ha West Lake Park mangrove restoration project (now 22 years old) and a new project just one year old, for a comparison. Participants are invited to bring pending project designs to the course for professional review and critique.**

**The emphasis is on cost-effective successful mangrove management and restoration, and cost figures for typical projects are discussed and explained. The Ecological Mangrove Restoration (EMR) method of mangrove restoration is emphasized as the best approach to successful restoration at minimal cost (see Erftemeijer and Lewis 2000; Lewis 1999, 2000a, 2000b, 2005; Lewis and Marshall 1998; Lewis and Streever 2000; Lewis et al. 2005, Lewis and Gilmore 2007, Stevenson et al. 1999 and Turner and Lewis 1997). Planting of mangroves is discussed in light of the many failures of this alone to successfully restore mangroves.**

**Cost for the course not including travel to Ft. Lauderdale, lodging or food is \$850, due by January 1, 2012 to Coastal Resources Group, Inc., P.O. Box 5430, Salt Springs, Florida, USA 32134-5430. Two qualified students will be allowed to attend for free, and can apply at any time for the two fee-waived positions. This course is organized by the Coastal Resources Group, Inc., a US based 501(c)3 tax exempt corporation, and will be taught in conjunction with the Mangrove Action Project ([www.mangroveactionproject.org](http://www.mangroveactionproject.org)). Lodging close to the training site is available at the SleepInn in Dania Beach, Florida. Reservations need to be made early. Each participant is responsible for making their own reservations. No formal application forms are needed. Receipt of the necessary registration fee in advance of the registration deadline is all that is needed along with the contact information for the registrant.**

More information can be provided by Robin Lewis at [LESRRRL3@aol.com](mailto:LESRRRL3@aol.com) and [www.mangroverestoration.com](http://www.mangroverestoration.com).

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Parks and Recreation Division

## WEST LAKE PARK/ANNE KOLB NATURE CENTER

751 Sheridan St. • Hollywood, FL 33019 • 954-926-2480 • FAX 954-926-2491

## HOLLYWOOD NORTH BEACH PARK

3601 N. Ocean Dr. • Hollywood, FL 33019 • 954-926-2444

OFFICE HOURS (*seven days a week*) - 8 a.m.-6 p.m.

PARK HOURS (*seven days a week*)

First Sunday in April-Last Sunday in October (*Eastern Daylight Time*) - 8 a.m.-7:30 p.m.

Last Sunday in October-First Sunday in April (*Eastern Standard Time*) - 8 a.m.-6 p.m.

***This triplex of facilities encompassing more than 1,500 acres near the Atlantic Ocean offers a variety of activities, including water-oriented and nature-oriented programs and beachside recreational opportunities. For more information, call 954-926-2480. For facility reservations, visit the park office.***

### WEST LAKE PARK

**Basketball:** Two courts.

**Boat Ramp:** Non-gasoline-powered watercraft only.

**Manatee Play Area:** Playground with water play fountain.

**Marina:** Canoe and kayak rentals. Weekends and holidays only.

**Picnic Shelters:** Two small (45 capacity) with tables, grills, water, and electricity. Reservation fee and deposit required.

**Racquetball/Tennis:** Four racquetball courts. Four hard tennis courts.

**Snack Concession**

**Volleyball**

### ANNE KOLB NATURE CENTER

**Amphitheater:** Outdoor facility (250 capacity) available for rental.

**Aquarium:** Stocked 3,500-gallon saltwater aquarium.

**Boat Dock:** Day use 175-foot waterway access to nature center.

**Boat Rentals:** Canoes and kayaks.

**EcoRoom:** Hands-on investigations of South Florida's shallow-water habitats and animal residents.

**Environmental Boat Tours:** Narrated 40-minute tours on a U.S. Coast Guard-licensed 35-foot, 25-passenger boat. Fee required. Call for schedule.

**Exhibit Hall:** Static and interactive displays. *Living Crossroads* 10-minute video. Entrance fee.

**Fishing:** From shore and 870-foot pier on Intracoastal Waterway. Participants should follow the state licensing rules and regulations. Catch and release encouraged.

**Nature Hikes**

**Observation Tower:** Five levels, 68 feet tall, with elevator.

**School Educational Tours**

**Visitors' Center:** General information, reservations.

**Walking Trails**

### HOLLYWOOD NORTH BEACH PARK

**Beachside Parking:** Daily fee.

**Bicycling**

**Fishing:** Permitted from pier on Intracoastal Waterway. Catch and release encouraged.

**Food Concession**

**Observation Tower:** Sixty-foot tower.

**Picnic Shelters:** Two medium (50 capacity) on Intracoastal Waterway, both with tables, grills, water, and electricity. Fee and deposit required, plus metered parking.

**Picnic Tables/Grills:** On both sides of A1A, available on a first-come, first-served basis.

### MISCELLANEOUS

**Entrance Fee:** Gate entrance fee on weekends and holidays at West Lake Park; children 5 and under admitted free. No entrance fee at Anne Kolb Nature Center. Optional on-site parking fee at Hollywood North Beach Park.

**Intoxicants:** Hard liquor not permitted in park. Beer and wine permitted. Keg beer permitted by park management authorization only.

**Litter Law:** Please keep your parks clean. All state laws apply. Violators subject to fines.

**Live/Amplified Music:** Permitted in picnic shelters with park management approval. Park management reserves the right to lower volume or turn music off.

**Motor Vehicles:** All state laws apply. Speed limit 15 mph. Parking permitted in designated areas only. Handicapped parking provided. Vehicles not permitted on bike paths and not permitted to park next to picnic shelters or on grass.

**Pets:** Not allowed at Anne Kolb Nature Center and Hollywood North Beach Park. Allowed at West Lake Park on leashes no longer than six feet. Owners responsible for cleaning up after pets.

***Parks promotes recycling. Please recycle right.***

*Anyone requiring auxiliary aids for communication should call 954-357-8170 (voice) or 954-537-2844 (TTY) prior to the event so that advance arrangements can be made.*



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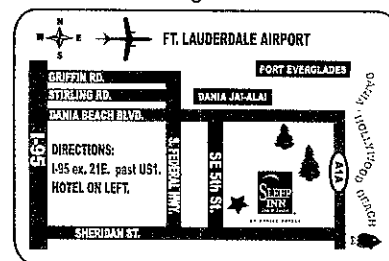
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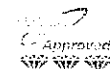
ACCOMMODATIONS/FEATURES

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- 69 Spacious Rooms and Suites with King or Two Queen Beds. All include: Microwave, Refrigerator, Iron & Iron board, Coffe Maker, Hair Dryer and 3 Phones with 2 lines.
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AREA ATTRACTIONS

- Hollywood and Dania Beaches - 1 mile
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- Dania Hurricane (Roller Coaster) 2 miles
- Sun Cruz - Gambling Center - 2 miles
- Hollywood Dog Track - 3 miles
- Downtown Museum - 5 miles
- Las Olas Blvd - 5 miles
- Recreation Parks - Next Door



Contact Your Travel Agent:

Empty box for contact information.