

Cells 17 & 18

Background:

Cells 17 & 18 of the East Coast Buffer provide mitigation for impacts to 52.5 acres of wetlands associated with the construction of a DOT rest and recreation facility at I-75 and the Miami Canal. South Florida Water Management District (SFWMD), as the responsible entity, will perform the mitigation requirements that include the purchase, enhancement, and maintenance of 358.2 acres of melaleuca impacted wetlands to an enhanced marsh. For this effort, the District was provided \$389,363 (\$1,087/acre) in restoration funds and \$227,457 (\$635/acre=\$18/acre/yr) in long-term management funds. The construction has been completed and SFWMD is in the process of implementing the multi-year treatments that began in 2001.

Location: The project area is bordered to the north by Pines Blvd (SR 820), to the south by the section 22 section line (T51S, R39E), to the west by US 27, to the east by South Broward Drainage District's Canal Number 8 (north end) and South 208th Avenue (south end). Pembroke Road traverses the site east-west, one-third of the north-south distance measured from the south boundary, forming the dividing boundary between Cell 17 and Cell 18 of the East Coast Buffer (ECB) project.

Existing Conditions: The site is relatively flat and slopes gently towards the south. Ground elevations vary from approximately 5.0 feet NGVD in the north to approximately 4.0 feet NGVD in the south. The site is heavily vegetated with melaleuca trees. There is a berm, with a crest elevation of between 6.0 and 6.5, around much of the site.

Summary of Mitigation: The objective is to enhance hydro patterns and the vegetative quality of the exotic infested marsh. Enhancement efforts include the removal of dense exotic vegetation (primarily melaleuca).

Description of Work Effort: The goal is to provide improved habitat functions through exotic removal and the restoration of a sawgrass community. The enhancement effort primarily targets the elimination of melaleuca although all exotic invasive species such as Australian pine, Brazilian pepper, bishofia, torpedo grass, primrose willow, cattail, air potato, and syngonium are included in the eradication program.

The treatment program involves a multi-year herbicidal and manual removal program with a follow-up controlled burn. The exotic eradication effort effectively manages melaleuca by containing and progressively reducing the population. The application method follows a three phased effort. The first phase focuses on the initial elimination of seed bearing trees and seedlings. During the second phase, the treatment focuses on the missed areas and seedlings that resulted from the previous year's treatment. The third phase involves a long-term program to monitor the effectiveness of the eradication program and assessment for follow-up treatments. The District Vegetation Management Department uses a five year schedule, where treatment cost estimates are reduced by 50 percent for each succeeding year, until the seed source is brought under control. At the end of year five it is expected that the exotics will attain a level of control where they can be contained, utilizing the long-term management fund.

There are four different treatment areas and treatment methods proposed as a way of comparing efficacy and costs. In the northern 157 acres, there are three 40-acre blocks and one 37.3-acre block that will be treated using various methods. Work completion of the initial phase occurred in 2001. Follow up aerial treatments occurred in 2003 and follow-up on ground treatments are ongoing.

Area	Acres	Contractor	Description of Work Effort
1	37.3	Future American Corp.	Mechanical removal of trees to a staging area, trees chipped, mulch produced and sold. Note due to abandonment by contractor area was aerially treated.
2	40	Habitat Restoration	Remove trees with feller buncher machine, tigercat shovel loader walks site collecting trees to a staging area for chipping, haul chips to cogeneration plant.
3	40	Applied Aquatics	Cut and fell trees, treat stumps, leave trees on ground to decompose.
4	40	FL Environmental Clearing	Trees will be ground in place, producing mulch that will be left on the ground to decompose. *Half of area will now be aerially treated
5	227	* Aerial Application Services & Applied Aquatics	Aerial application over majority of site, ground crews for spot treatment and along perimeter

Two herbicides will be used for the aerial application, ARSENAL and RODEO at 3 quarts per acre along with 4 quarts of SUN WET as a surfactant. Ground crews will conduct follow-up treatments using the same two herbicides with the girdle and squirt method. The ground based elimination methods include girdle treatment for isolated individuals and hand pulling smaller trees less than one inch in diameter.

Success Criteria and Guidelines:

All exotic and nuisance vegetation shall be treated or removed from the Area. In order to assure that the Area becomes self-sustaining, the following criteria shall be met:

- a) A minimum of 80% coverage by desirable wetland species after a two (2) year period and demonstration of persistence for three (3) additional years.
- b) Less than 2% coverage by invasive exotic and undesirable species is allowable if plants are dispersed and not concentrated in any particular area. Treatment efforts should be tailored to prevent these species from becoming reproductively mature.
- c) A minimum of 80% survival of each planted species.