

Project Name: C&SF: CERP Melaleuca Eradication and Other Exotic Plants (OPE)
Project ID: 2818 (CERP Project WBS # 95)
Lead Agency: USACE / SFWMD
Authority: WRDA 2000 (Programmatic Authority < \$25 M)
Funding Source: Federal/State

Strategy and Biennial Report Objective Addressed: 2-B.4
Invasive Species Strategic Action Framework Goal: 4

Measurable Output(s): Increase effectiveness of biological control technologies

April 1999 Project Synopsis: Includes: (1) upgrading and retrofitting the current quarantine facility in Gainesville, and (2) large-scale rearing of approved biological control organisms for release at multiple sites within the South Florida ecosystem. The purpose of this feature is to increase the effectiveness of biological control technologies to manage melaleuca and other invasive exotic plant species.

Current Project Synopsis: The primary benefits of this project include limiting the expansion of invasive exotic plant species by reducing their coverage, density, and reproductive potential. Secondary benefits include promoting the re-establishment of native plants, restoring native habitat for native bird and wildlife species, and reducing stressors on rare, threatened and endangered species.

The Design Agreement between the USACE and the SFWMD was amended 29 July 2004 to include the Melaleuca and Other Exotic Plants–Implement Biological Controls project. The Project Management Plan was approved in 2005 and the Project Implementation Report (PIR) was completed June 2010. The PIR focused on the mass rearing and controlled release of biological agents to control melaleuca, Brazilian pepper, Australian pine, and Old World climbing fern throughout South Florida, although other invasive plant species may be targeted for biological control under this project if there is a benefit to Everglades restoration. An adaptive management strategy was developed in coordination with RECOVER and incorporated in the final PIR.

Current Status:

The Project's operations and maintenance phase officially started in December 5, 2013 when the Melaleuca Mass Rearing Annex was formally transferred from the ACOE to the SFWMD. As part of the O&M phase, an Annual Work Plan is discussed among the Project Managers of the three partnering agencies (USDA-ARS, USACE, and SFWMD) and approved by the SFWMD Project Manager. The general focus of the program will be placed on 1. Surveying the current ranges of selected biological control agents, 2. Mass rearing selected agents for release, 3. Selecting release sites and coordinating with local land managers, 4. Conducting releases, and 5. Monitoring these releases for establishment, dispersal, and impacts on the target weeds. This first four years of operations involved mass rearing and release of two agents targeting Old World climbing fern (Brown lygodium moth [*Neomusotima conspurcatalis*] and the lygodium mite [*Florocarus perrepae*]), one agent targeting air potato (air potato leaf beetle [*Lilioceris cheni*]), and one agent targeting water hyacinth (leafhopper [*Megamelus scutellaris*]) along with field monitoring of establishment and spread of the agents.

Est. Annual Operating Cost: \$ 661,536

Project Schedule: December 2013 thru December 2038 – Operations and Maintenance Phase

Detailed Project Budget Information (rounded):

Melaleuca	Obligations Thru FY 2015
USACE	\$4,798,296
SFWMD	\$656,785
Total	\$5,455,081

Hyperlink: <http://www.saj.usace.army.mil/Missions/Environmental/EcosystemRestoration>

Contact: LeRoy Rodgers, Project Manager, SFWMD
(561) 628-9373, lrodders@sfwmd.gov

Jim Hourican, Senior Project Manager, Ecosystem Section, USACE
(904) 232- 1268, James.J.Hourican@usace.army.mil

Source: Original project description summarized from the *Central and Southern Florida Project Comprehensive Review Study (Restudy) (1999)*. Cost estimate information is updated to reflect current price levels in October 2015 dollars. Actual expenditures include all federal expenditures through FY14 (Sept, 2014) and sponsor verified and recorded in kind credit through 4th quarter FY14.

Additional Information: Melaleuca trees, (*Melaleuca quinquenervia*), known as punk trees or paper bark tea trees, are native to Australia. There, melaleuca is planted in parks, valued by beekeepers, and is attractive to birds and bats. Because of development, melaleuca trees in some parts of Australia are the subject of conservation efforts. In the Everglades, however, melaleuca is a pest, where the trees grow into immense forests, virtually eliminating all other vegetation and becoming a "river of trees", a completely alien habitat to the plants and animals that have evolved to live in the glades. Melaleuca grows in terrestrial as well as in completely aquatic situations. During the 50 years since its introduction, melaleuca has taken over hundreds of thousands of acres of Everglades producing huge quantities of seeds, which become small trees. Herbicides are proving to be somewhat effective, but purposely-set management fires (and lightning-started fires) apparently help



spread the seeds and trees. Recently, biological control insects have been released against melaleuca, but it will take time before bio-control results are known.

SOURCE: University of Florida/IFAS Center for Aquatic Plants.