

The Miracle Workers of Virginia Key

Restoring Natural Systems in City of Miami Parks

by Juan Fernandez



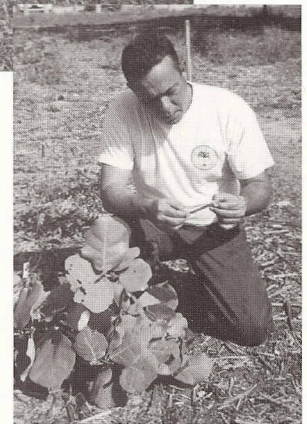
All photos by the author



Areas are cleared of alien plants, uncovered native plants are carefully marked and monitored, and where needed, planting is done. The crew watches for flowering and collects seed to grow plants needed in reforestation efforts.

Pest plant matadors, from left to right: Marlon Chavez, Neftaly Riveron, Jorge Sardinas, Felipe Alonso, Juan Fernandez, Nicolas Cusimano, Iluminado Chavez, Arnett Phillips. Not pictured: Elusienne St. Ange, Miriam Caquimbo, Nelson Morales, Pablo Santos, Marcelino Gonzalez, and Carlos Fernandez. This typically Miamian multicultural work crew has been well trained to distinguish native and exotic plants, and attacks the exotics with gusto. Note the chainsaw, pick shovel, and herbicides in the foreground.

At right, Juan Fernandez checks the growth rate of a seagrape (*Coccoloba uvifera*) now free from pest plant competition and able to thrive.



Population growth, urbanization, and natural disasters like Hurricane Andrew are some of the principal reasons why the City of Miami today has so few natural areas and, subsequently, so little native flora. The sadness we feel about this loss, and what hasn't been done to avoid it in the past, might lift a bit when you read about what is being done now by a team of workers from the City of Miami Parks and Recreation Department.

This team of city workers, under the supervision of Juan Fernandez, a biologist with the Parks and Recreation Department, is un-

covering and restoring valuable natural areas in four city parks: Simpson Park, Alice Wainwright Park, Sewell Park, and Virginia Key Beach. The natural areas in these parks suffered varying degrees of damage as a result of Hurricane Andrew. Under ideal conditions, the areas would recover from such natural disasters, but in this case the stresses caused by man would preclude their regeneration without human intervention. [Ed: Recall Roger Hammer's tragic tale of the young palm orchid, *Tropidia polystacha*, in the Spring 1997 issue of *The Palmetto*.]

Two years ago, the natural areas in these

four parks were overgrown with invasive alien pest plants such as air potatoes (*Dioscorea bulbifera*), Agdestis (*Agdestis climatidea*), Brazilian pepper (*Shinus terebenthifolius*), Burma reed (*Neurandia renaudiana*) cat's claw (*Mecadyena unguis-cati*), lather leaf (*Colubrina asiatica*), nephythytis (*Syngonium podophyllum*), oyster plant (*Rhoeo spathaceae*), papaya (*Carica papaya*), pothos (*Rhaphidophora aurea*), and snake plant (*Sansevieria* spp.). Invasion by these plants has resulted in serious losses of native vegetation; in some areas, like Virginia Key, as much as

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60% of the total area had been completely overtaken by pest plants.

After two years of hard, hot, dirty work using herbicides, chain saws, machetes, shovels, and their hands, the city's team has eradicated the vast majority of the pest plants in three of the parks (Simpson, Wainwright, and Sewell), bringing these areas up to "maintenance level." The team is now engrossed in work at Virginia Key, where approximately 40% of the area remains to be cleared of invasive pest plants so that the naturally occurring (and critically imperiled) coastal hardwood hammock can be preserved.

The most abundant native species on Virginia Key are seagrape (*Coccoloba uvifera*), strangler fig (*Ficus aurea*), Spanish stopper (*Eugenia foetida*), wild coffee (*Psychotria nervosa*), and saw palmetto (*Serenoa repens*). But perhaps the most exciting discovery is that of prickly ash (*Zanthoxylum coriaceum*), endangered primarily due to habitat loss. The coastal hardwood hammock of Virginia Key contains one of the last wild populations of the prickly ash in Florida. One other natural occurrence of this species in Florida is in Bear Cut Preserve on Key Biscayne. Fairchild Tropical Garden has assisted in tagging the 21 specimens of prickly ash and continues to assist in monitoring the plants as part of their ongoing effort to maintain an *ex situ* (in their original location) living collection of endangered plants of South Florida.


There is great potential for reforestation on Virginia Key, and the city team, on its own initiative, has begun to collect seeds of the newly uncovered native plants for propagation in their own nursery and later reforestation projects. The team is well trained, knowledgeable, and enthusiastic in their work to restore and protect valuable natural areas in the City of Miami. Despite potential funding problems, the team is hopeful that they will be able to continue their conservation work.

This successful project is the result of an exemplary partnership established between the City of Miami, Dade County (Departments of Environmental Resources Management and Parks and Recreation), the U.S. Federal Emergency Management Agency (FEMA),

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through the State of Florida and Fairchild Tropical Garden, and GeoCORE, a facility of the University of Miami, under the direction of Carlos Rivero. Dade County has provided extensive advice, training, and consultation; FEMA has provided funding, Fairchild Tropical Garden has provided consultation and now propagation of endangered plants for restoration in the city's parks, and GeoCORE faculty and students have provided habitat characterization, mapping, and spatial analysis. Special thanks go to Albert Ruder, Raul Garcia, and Saulo Bastos in the City of Miami Parks and Recre-

ation Department, for their support in establishing and continuing the project. 

About the Author: Originally from Cuba, where he was last studying a very rare cactus, Juan has been working in the U.S. for three years and takes a great interest in South Florida ecology. A brand-new member of FNPS, Juan has graciously volunteered to work on our Hispanic outreach program in Dade County, where he will be a tremendous asset. He gave the editor a brief tour of Virginia Key, where she was thrilled to hear the work crew members shouting, in both English and Spanish, "Look, a native!" and "Is this native or can I kill it?" - truly music to her ears - ¡Gracias, amigos!