

**Final Grant Report
High Marsh Restoration
on the
Charlotte Harbor Preserve State Park**
(formerly the Charlotte Harbor State Buffer Preserve)

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Prepared by
Robert W. Repenning, Resource Management Biologist
Charlotte Harbor Preserve State Park
Florida Department Of Environmental Protection

Introduction

This project involved the control and eradication of Brazilian pepper (*Schinus terebinthifolius*) from 16.4 acres of high marsh area within the Charlotte Harbor Preserve State Park (formerly a State Buffer Preserve) (Figure 1). Brazilian pepper was invading this area due to altered hydrology. This changed the landscape of the marsh from open grasslands to a shrub-dominated marsh. Such changes also change the wildlife value of the marsh.

The project was conducted in two phases. The first phase was the mechanical removal of the Brazilian pepper using a “bull hog” mower. In areas where natural vegetation dominates, removal of pepper was conducted by hand. In the second phase of the project CHSBP personnel used herbicide (Garlon 4) to treat and kill the re-sprouts, root suckers, and new seedlings.

Results

The project experienced a number of confounding conditions that both hindered the timing but helped the overall success of the project.

During the winter of 2000-2001, Punta Gorda experienced a severe frost that damaged much of the Brazilian pepper in the restoration area. Then, in late winter a prescribed fire burned the Brazilian pepper. When the site was evaluated in Spring 2001, Buffer Preserve staff determined that the frost and fire had killed or severely damaged much of the Brazilian pepper. In order to make better use of the restoration funding provided by the CHNEP, a modification to the grant was requested to shift the restoration to an adjacent area (Figure 1). Buffer Preserve staff will maintain both this new site and the original, thus doubling the overall area restored by this grant. The modified restoration area is virtually identical to the originally approved area.

Unfavorable weather conditions and some administrative problems lead to an extensive delay in obtaining a contractor and completing the Brazilian pepper mowing in the High Marsh Restoration Project. The mowing was finally completed in late May 2003, by then the rainy season had started, flooding the marsh and we were unable to complete the re-treatment phase of the project (the preferred herbicide cannot be used over water). An extension was granted by the CHNEP.

The mowing was completed literally the day the rainy season started. By the time that the cut pepper began resproating rising water levels caused much of this new growth to die thus killing the plants. This reduced the need retreatment. Work crews were then able to

concentrate their efforts on the original site as well as the higher ground in the new site. This resulted in over 30 acres of marsh being restored (Figure 2).

Future management techniques to be used on this marsh to keep the area pepper free include rotational control burns and the refilling of the adjacent drainage ditches which should restore the hydrology of the area.

Summary

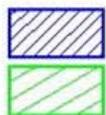
Charlotte Harbor State Buffer Preserve staff and contractors cleared 30 acres of Brazilian pepper from high marsh habitat on the Punta Gorda Unit of the Charlotte Harbor State Buffer Preserve. Weather conditions and a prescribed fire aided the project success. The mowing portion of the project taking part as the rainy season also benefited the project success. However, these conditions are cannot be predicted or planned for so have little practical benefit. The prescribed fire alone without the freeze would have top killed the pepper but the roots would have resprouted.

On the whole, this project and past projects conducted on the buffer preserve show that mowing Brazilian pepper in high marsh conditions is a viable way to restore the landscape of the natural marsh. This only works where conditions exist that have already stressed the plants so that their stem diameter is less than 6 inches. Larger stems would need more intensive root raking which causes soil disturbance that is avoided using the mowing methodology described here.

High Marsh Restoration Project Modification



0.3 0 0.3 0.6 Miles



Original Pepper Removal Area

Modified Pepper Removal Area



Figure 1: Project area as proposed and after relocation.



Project area during mowing rear area not mowed looks like entire area premowing.



Project area after one growing season

.Figure 2: Photos of project area

The Charlotte Harbor National Estuary Program is a partnership of citizens, elected officials, resource managers and commercial and recreational resource users working to improve the water quality and ecological integrity of the greater Charlotte Harbor watershed. A cooperative decision-making process is used within the program to address diverse resource management concerns in the 4,400 square mile study area. Many of these partners also financially support the Program, which, in turn, affords the Program opportunities to fund projects such as this. The entities that have financially supported the program include the following:

U.S. Environmental Protection Agency
Southwest Florida Water Management District
South Florida Water Management District
Florida Department of Environmental Protection
Florida Coastal Zone Management Program
Peace River/Manasota Regional Water Supply Authority
Polk, Sarasota, Manatee, Lee, Charlotte, DeSoto and Hardee Counties
Cities of Sanibel, Cape Coral, Fort Myers, Punta Gorda, North Port, Venice and Fort
Myers Beach
and the Southwest Florida Regional Planning Council.