

**National Park Service
Annual Challenge Funding
Project Description
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Project Name: Southern Bear Island Brazilian pepper treatment project

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Project Size: 21,045 acres

Habitat Description and Related Information:

Brazilian peppertree (*Schinus terebinthifolius*) threatens all natural communities in Big Cypress National Preserve (BICY). In prairie and cypress habitats, peppertree is generally restricted to isolated high spots or on tree bases. Pinelands are more susceptible to infestation by Brazilian pepper, especially those that are fire suppressed, previously grazed or otherwise disturbed. Untreated, Brazilian pepper can dominate pineland understories. Hammock communities are the most threatened by peppertree invasions. Virtually all hammocks have some level of infestation and those that have been disturbed have greater densities than those that are intact. It is anticipated that canopy disturbance in hammocks from recent hurricanes will favor regeneration of Brazilian pepper over native vegetation, compounding the problem. Disturbed areas (abandoned agriculture, roadsides, old homesites) generally harbor the heaviest peppertree infestations. These areas serve as a major seed source, allowing continuous reinfestation of surrounding natural areas. In all cases Brazilian pepper displaces native vegetation and is a threat to the integrity of natural communities. In addition, peppertree infestations reduce habitat available for the 104 state listed plant species and 29 listed animal species found in BICY.

The proposed project area (Figure 1) includes all communities discussed above. Cypress dominated habitats (domes, strands and savannas) are the most abundant. Pinelands and prairies also make up a significant proportion of the project area. A large number (72) of hardwood hammocks are found throughout the project area. These hammocks range in size from less than one acre to 480 acres. Disturbed sites occur as a small percentage of the total project area, primarily along roadsides and in locations previously grazed or

farmed (Table 1). Approximately 40% of the listed plant species and 55% of the listed animal species in BICY can be found in the project area. Control of Brazilian pepper in this area is essential to ensuring the continued existence of these species in the preserve.

Community Type	Acres
Cypress communities	10425
Prairie communities	4420
Pineland communities	4268
Hammock communities	1090
Disturbed communities	840
Table 1. Acreage by community type of Southern Bear Island Brazilian pepper treatment project area. Acreage derived from University of Georgia vegetation map.	

Exotic Plants Present:

The most significant invasive species problem in the proposed project area is Brazilian pepper. In addition to peppertree, Old World climbing fern (*Lygodium microphyllum*) has been found and treated in the proposed work area. It is likely that small infestations will be encountered and treated while work proceeds. Scattered infestations of other important invasive species occur in this area including rose apple (*Syzygium cumini*), melaleuca (*Melaleuca quinquenervia*), five finger (*Syngonium podophyllum*) and air-potato (*Dioscorea bulbifera*).

Targeted Area:

The proposed treatment area includes the southern half of the Bear Island management unit and adjacent Addition Lands to the west. This area is a continuation of initial treatment in the Addition Lands and Bear Island management units currently underway and scheduled for completion late 2006 (Figure 1). All plant communities in the project area will be surveyed and Brazilian pepper will be treated as it is found. The majority of treatment will occur in disturbed areas, hammocks and other mesic communities because infestations are typically heavier in these habitat types. Controlling these dense infestations will reduce re-infestation in surrounding treated natural habitats. If funding is still available after the proposed project area is treated, work will continue south into the Deep Lake Management Unit, west of Turner River Road.

Scope of Work:

Contracted exotic plant management crews will be used to conduct all proposed treatment activities. Contractors have proven safety and performance records and are required to achieve 95% control of treated species. Brazilian pepper will be treated with basal bark application of 10% Garlon4 in a vegetable oil vehicle. Seedlings and saplings will be pulled when possible. Other exotic species encountered will be treated using approved and appropriate herbicides and application techniques. Contractors will map the area treated using a GPS unit. All geographic coordinates will be recorded in UTM using

NAD 83 datum. Estimates of each exotic species' density will be recorded for each area treated.

Project Goals:

This project is a continuation of a Brazilian pepper management program initiated in 2003. The overall goal of the exotic plant management program at BICY is to reduce this and other significant exotic invasive species to a maintenance level, allowing restoration of historical landscapes. This project is part of the initial Brazilian pepper management strategy of treating the entire perimeter of BICY, creating a treatment buffer around the preserve. Once this is completed, initial treatment will be carried out in the interior of the preserve.

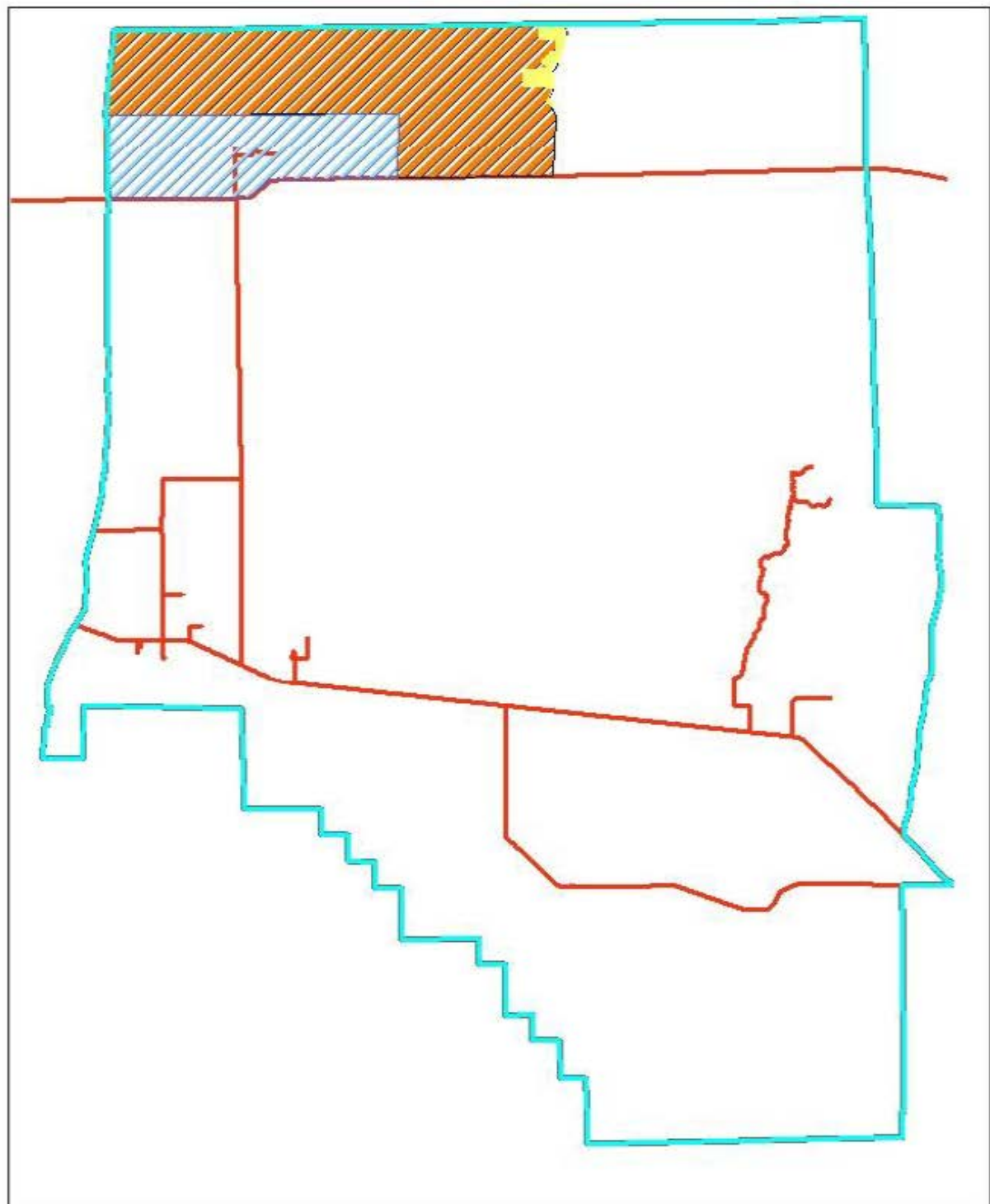
Other Administrative Considerations:

- Project has NEPA compliance.
- Control of exotic vegetation is done with all required permits and authorization. The approved BICY Management Plan outlines and addresses control and maintenance of exotic organisms.
- Project builds on established restoration/exotic control programs. Control of exotic vegetation has been an ongoing, aggressive and successful part of resource management for over 25 years.
- BICY is committed to ongoing project maintenance. Re-treatment or secondary treatment of areas with exotics is underway and will continue indefinitely.
- Control and maintenance of exotic vegetation is provided with the most cost-effective and current control methods.
- Project contributes to BICY GPRA goal of exotic acres contained.
- Project will be featured in brochure on habitat restoration being produced for general distribution at visitor interaction points in BICY.

NPS Project costs:

Community type	Acres	Estimated exotic coverage	Exotic acres
Cypress communities	10425	0.10%	10.4
Prairie communities	4420	0.10%	4.4
Pineland communities	4268	2%	85.4
Hammock communities	1090	3%	32.7
Disturbed communities	840	5%	42
Estimated Exotic Acres			174.9

Figure 1. FY2006/2007 Proposed and treated areas in Addition Lands and Bear Island Management Units, Big Cypress National Preserve.



-  Initial Treatment Completed
-  Treatment in progress
-  2007 Proposed treatment area
-  Preserve Boundary
-  Roads/Trails