

## EMERGENCY STABILIZATION PLAN REVIEW AND APPROVAL

**I. Refuge manager approval that the Emergency Stabilization Plan meets approved land management plan management objectives.**

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Ken Merritt, Project Leader, South Texas Refuges Complex

Date

**II. Regional Fire Management Coordinator concurrence that the plan fits the Interagency Burned Area Response Guidebook technical definition for use of Emergency Stabilization funding.**

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Dave Lentz, Regional Fire Management Coordinator, Region 2

Date

**III. Emergency Stabilization Funding Approval (check one box below):**

- Approved** Explanation for Revision or Disapproval:
- Approved with Revision**
- Disapproved**

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Dr. Benjamin N. Tuggle, Regional Director, Region 2

Date

**Sabal Orchard Fire**  
**BURNED AREA EMERGENCY RESPONSE PLAN**

**UNIT:** Boscaje de la Palma Tract

**LOCATION:** Brownsville, Cameron County, Texas

**DATE:** April 26, 2006

**PREPARED BY:** Chris Best, Plant Ecologist, LRGV NWR

Submitted By: \_\_\_\_\_ Date: \_\_\_\_\_  
Jeff Rupert, Refuge Manager, LRGV NWR

## EXECUTIVE SUMMARY

### Introduction

This Burned Area Emergency Response Plan has been prepared in accordance with Department of the Interior and U.S. Fish and Wildlife Service (FWS) policy, the Lower Rio Grande Valley National Wildlife Refuge (LRGV NWR) Comprehensive Conservation Plan (CCP), and the South Texas Refuge Complex (STRC) Fire Management Plan. This plan provides emergency stabilization recommendations for all land burned within the Sabal Orchard Fire. The primary objectives of the Sabal Orchard Fire Burned Area Emergency Stabilization Plan are:

Prescribe cost effective post-fire stabilization measures necessary to protect human life, property, and critical cultural and natural resources.

Promptly stabilize and prevent further degradation to affected resources on lands within the fire perimeter or downstream impact areas and mitigate damages caused by fire suppression operations in accordance with approved land management plans and policies, and all relevant federal, state, and local laws and regulations.

Prevent the growth and spread of introduced invasive grass species in the burned area.

Repair or replace fencing damaged by the fire.

This plan addresses emergency stabilization treatments. Refuge Manager Jeff Rupert, Fire Management Officer Patrick Pearson, Law Enforcement Officer Tony McGallicher and Plant Ecologist Chris Best conducted an initial site inspection on April 10, 2006. Additional information on site history and local natural history was provided by Cecilia Farrell and Ernesto Ortíz of Sabal Palm Audubon Sanctuary, Brownsville, Texas. The GIS work, Burned Area Assessment Report and Burned Area Emergency Response Plan were prepared by Chris Best.

Appendix I contains the Burned Area Assessment Report. The individual emergency stabilization treatments specifications including effectiveness monitoring identified in the assessments can be found in Part F. A summary of the costs by jurisdictions is in Part E. Appendix II contains the National Environmental Policy Act (NEPA) compliance documentation summary. Appendix III contains the Burned Area Emergency Response Plan maps. Appendix IV contains photo documentation. Appendix V contains supporting documentation.

### Fire Background

The Sabal Orchard fire (21550-9141-CF3G) was discovered at 9:30 pm on April 8, 2006, at Boscaje de la Palma tract, LRGV NWR. It was contained on April 11 and controlled on April 16. The 52.4-ac burned area is at the extreme north end of Boscaje de la Palma tract (Boscaje), bounded on the south by the International Boundary and Water Commission (IBWC) main levee, on the north by the Cameron County Water Control District No. 6 canal, and on the east by Dakota Avenue. The burn is surrounded on the east, west and north by privately-owned land, including several housing developments, a goat pasture, and an auto junk yard. The Palm Grove School, a public elementary school of the Brownsville Independent School District, is immediately adjacent to the north-east edge of the burned area. The fire

was investigated by refuge Law Enforcement Officer Tony McGallicher, who determined that the point of ignition was within the interior of the burned area; the source of ignition was not identified. The refuge-owned boundary fence surrounding this tract, totaling 5,991 ft, will be replaced in FY 2007. No other infrastructure or cultural resources were damaged in the burned area. The primary fuel was dry guineagrass (*Urochloa maxima*), from 1 to 2 m tall. Guineagrass is an extremely fast-growing invasive species that can regenerate a heavy load of fine fuel in as little as two to three months. Subsequent wildfire at this site is likely to be more severe, due to the accumulation of standing and fallen dead wood that resulted from the current burn. Therefore, the primary objective in stabilizing this site is to prevent the regrowth and spread of guineagrass.

### **Fire Damages and Threats to Human Safety and Natural and Cultural Resources**

The 52.4-ac burned area is a former citrus orchard that was abandoned after the severe freeze of December 1983. Current vegetation at the burn site was dominated by native trees up to 6 m (20 ft) tall, including Sabal palm (*Sabal mexicana*), tepeguaje (*Leucaena pulverulenta*), sugar hackberry (*Celtis laevigata*), and honey mesquite (*Prosopis glandulosa*). There are also several Brazilian pepper trees (*Schinus molle*), an introduced species that is invasive along watercourses in the Rio Grande delta.

The understory vegetation in the burned area was almost completely dominated by guineagrass, an introduced invasive grass of African origin. This relatively shade-tolerant tropical grass readily invades the understory of disturbed forest, often growing to a height of 3 m (10 ft), using support from trees and shrubs, fences, guy wires etc. However, guineagrass will not invade where native understory vegetation is well established. Guineagrass is ideally suited to the pulse-driven pattern of this region's seasonal rainfall, during which growth is extremely rapid. During subsequent periods of drought, the dormant stems and leaves provide an abundance of fine, light fuel that carries wildfire into tree and shrub canopies. The impact that this wildfire will have on the regenerating native vegetation can be judged from several previous wildfires that have occurred on other portions of Boscaje tract in similar stands of vegetation. The native Sabal palm is fairly resistant to wildfire, although some palms were burned through at the base (see attached photographs). Most of the tepeguaje and smaller honey mesquite trees will be top-killed, but will re-grow from root coppices. Some sugar hackberry trees may be killed outright. However, the guineagrass will re-grow very quickly from dormant tillers, reaching its former stature in about two months. Therefore, this site could easily support another wildfire by mid-summer. Most native trees and shrubs of the Rio Grande delta do not have resinous stems or leaves, and while living, will not support wildfire. However, following the initial burn, the site will contain abundant dead, dry branches and trunks, both fallen and standing. Subsequent wildfires spreading through dry guineagrass and dead, dry wood can then become crown fires that are much hotter than the initial fire, completely killing the surviving stand of Sabal palm trees.

Therefore, the existing stand of guineagrass has created a self-perpetuating, fire-adapted non-native plant community that is susceptible to frequent wildfires. Any attempt to restore native vegetation and to reduce the future risk of wildfire will require the eradication of guineagrass as a first step.

The Sabal palm is a keystone species in this area. An estimated 40,000 acres of Sabal palm forest occurred along this southward bend of the Rio Grande, known as the "Texas Southmost" area. Today,

only a few small fragments of undisturbed Sabal palm forest exist in Texas. The Sabal Palm Audubon Sanctuary is adjacent to the south-east corner of the burned area. The Lennox Foundation Southmost Preserve, managed by The Nature Conservancy, is 1.9 miles to the east of the burned area. Old-growth Sabal Palm forest provides critical habitat for many rare, endemic, peripheral and listed endangered plant and animal species, including the ocelot (*Felis pardalis*), jaguarundi (*Felis yaguaroundi*), speckled racer (*Drymobius margaritiferus*), gray-crowned yellow-throat (*Chaemathlypis poliocephala*), yellow-green vireo (*Vireo flavoviridis*), Runyon's water-willow (*Justicia runyonii*), David's milkberry (*Chiococca alba*) and Twining Tournefortia (*Tournefortia volubilis*). Other notable faunal species formerly known from this area, but now extirpated, include the jaguar (*Felis onca*) and coati (*Nasua narica*).

Due to the level topography and the silty-clay soil types, there is relatively little risk of soil erosion at this site. No additional infrastructure or cultural sites are known to exist within the burned area.

Palm Grove Elementary School, several *colonias* (housing developments), and the Audubon sanctuary are all less than 1,000 feet from the burned area. Due to the potential threat to property and human safety, as well as the importance of protecting and restoring the native Sabal palm forest, the prevention and suppression of wildfire at this site has a very high priority.

The following emergency stabilization treatments are recommended for the Sabal Orchard site:

1. Eradicate established guineagrass bunches and deplete the soil seed bank of viable guineagrass seed. Apply glyphosate herbicide at a rate of 13 oz (a.i.) per ac to guineagrass 4 to 6 times during the first year (April 16, 2006 to April 15, 2007). Applications must be made during periods of active growth (following rainfall). All applications should be made when blade lengths have reach 4 to 8 inches in height, before grass culms have begun flowering. In order to be successful, this requires close attention to weather and plant responses in the field. Due to the density of living and dead trees at this site (see attached photographs), it is not possible to conduct operations with a farm tractor. The most efficient method for applying herbicide will probably be with an ATV-mounted sprayer with a spray gun, re-supplied with an auxiliary tank mounted on a trailer or truck bed.
2. Eradicate Brazilian pepper trees. For trees with stem diameters greater than 2 inches, fell tree and apply Garlon 3A herbicide to the freshly-cut cambium. Treat smaller trees with basal stem application of Garlon 4 + JLB Oil or similar adjuvant. Repeat applications may be necessary to kill established trees.

Subsequent restoration of the native shrub understory will be conducted after guineagrass eradication is complete, funded through Burned Area Rehabilitation plans and/or other funding sources. The intact native shrub understory will minimize re-invasion by guineagrass and other introduced grasses, and has much lower susceptibility to wildfire.

### **Lower Rio Grande Valley Management Requirements**

The suppression of wildfire and restoration of native vegetation are provisions of the refuge

Comprehensive Conservation Plan (established as an Interim Comprehensive Management Plan and Draft Environmental Assessment, approved by Acting Regional Director Lynn B. Starnes, September 24, 1997):

S.5.1.A. Acquisition and Land Status Objectives (p. 42).

2. Acquire lands (tracts) that will: (1) Provide for the protection of endangered species; (2) Assist in the achievement of a contiguous river wildlife corridor; (3) Enlarge established brush tracts or create corridors connecting tracts of native habitat; (4) Enhance or connect existing refuge tracts not on or near the river; and (5) Protect isolated tracts of desirable habitat.

S.5.1.D. Revegetation and Habitat Management Objectives (pp 44-46).

1. Continue to protect and restore refuge lands containing any of the 11 biotic communities identified in the Land Protection Plan (LPP).
2. Continue to revegetate up to 1000 acres of refuge cropland per year with appropriate native plant species...Prioritize revegetation of fields according to the following scale (with A being the highest priority): A) fields located immediately adjacent to the Rio Grande which would directly link habitat corridor segments.
3. The primary objective of revegetation is to restore high-quality habitat on disturbed sites (mainly croplands), modeled on undisturbed sites with similar characteristics, in the minimum length of time.
4. a) Provide a diversity and composition of native plant species modeled on the vegetation of undisturbed sites with similar characteristics.  
  
d) Minimize the impact of perennial exotic species, the most significant of which are the exotic grass species and Russian Thistle (*Salsola kali*).

S. 5.1.E. Fire Management (p. 47).

1. Use a combination of strategies such as discing [sic], prescribed fire, and herbicides (depending on location and other factors) to control and lessen fuel loads in areas susceptible to high growth levels of bermuda and other exotic grasses and Russian thistle, especially tracts within the Hidalgo County District as 40% of all suppressed fires in the LRGV are in that area. Areas would not be reforested until these exotics are removed.
2. Presuppression / Suppression --- The refuge will maintain a standing force of fire program personnel whose primary duty will be to detect and suppress those wildfires found on the refuge.

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**PART A - FIRE LOCATION AND BACKGROUND INFORMATION**

Fire Name	Sabal Orchard
Fire Number	21550-9141-CF3G
Agency Unit	SRR
Region	2
State	Texas
County(s)	Cameron
Ignition Date/Cause	April 8, 2006 / Presumed Human
Zone	SACC
Date Fully Contained	April 16, 2006
Jurisdiction	FWS 52.4 Acres
<i>other jurisdictions</i>	None
Total Acres	52.4
Date Contained	April 11, 2006

**PART B - NATURE OF PLAN**

Type of Action (check one box below)

X	Initial Submission
	Amendment to the Initial Submission

## **PART C - EMERGENCY STABILIZATION ASSESSMENT**

### Emergency Stabilization Objectives

1. Eradicate invasive guineagrass and Brazilian pepper trees.
2. Reduce the primary fuel source at the burn site, which is a dense stand of introduced, invasive grass species, to less than 5% total vegetative cover.

**PART D - TEAM ORGANIZATION, MEMBERS, AND RESOURCE ADVISORS**

I. Burned Area Emergency Response Team Members: *(List of technical specialists used to develop the plan)*

<b>Position</b>	<b>Team Member (Agency)</b>
Team Leader, Vegetation/ GIS Specialist	Chris Best, Plant Ecologist, LRGV NWR (FWS)
Public Information	Patty Alexander, Public Outreach Specialist, STRC (FWS)
Operations	Patrick Pearson, FMO STRC (FWS)
NEPA Compliance & Planning	Ernesto Reyes, Ecological Services (FWS)
Wildlife Biologist	Mitchell Sternberg, Wildlife Biologist, LRGV NWR FWS
Resource Advisors	Jeff Rupert, Refuge Manager, LRGV NWR FWS
	Mark Kaib, Regional Fire Ecologist, Albuquerque, NM

III. Resource Advisors: (Note: Resource Advisors are individuals who assisted the burned area emergency response team with the preparation of the plan. See Part H for a full list of agencies and individuals who were consulted or otherwise contributed to the development of the plan.)

<b>Name</b>	<b>Affiliation</b>
Cecilia Farrell	Audubon Sabal Palm Sanctuary, Office Manager
Ernesto Ortíz	Sanctuary Warden



## PART F - INDIVIDUAL SPECIFICATION

<b>TREATMENT/ACTIVITY NAME</b>	Apply glyphosate ATV - Hose	<b>PART E SPECIFICATION #</b>	1
<b>NFPORS TREATMENT CATEGORY*</b>	Other Treatment	<b>FISCAL YEAR(S) (list each year):</b>	2006, 2007
<b>NFPORS TREATMENT TYPE *</b>	Chemical	<b>WUI? Y / N</b>	Y
<b>IMPACTED COMMUNITIES AT RISK</b>	Palm Grove School, Southmost Colonias	<b>IMPACTED T&amp;E SPECIES</b>	Ocelot, Jaguarundi

\* See NFPORS Restoration & Rehabilitation module - Edit Treatment screen for applicable entries.

### WORK TO BE DONE (describe or attach exact specifications of work to be done):

<p>Number and Describe Each Task:</p> <p>A. General Description: Apply glyphosate herbicide w/ATV-mounted sprayer, hose application, to guineagrass.</p> <p>B. Location/(Suitable) Sites: Entire 52.4 ac burn site</p> <p>C. Design/Construction Specifications:</p> <ol style="list-style-type: none"> <li>1. Apply during active growth of guineagrass, when blade length is 4 to 8 inches, before culms flower.</li> <li>2. Apply at rate of 13 oz (a.i.) per acre.</li> <li>3. From 10 to 20 days after the main application, herbicide shall be re-applied as described above to all areas that were not adequately treated during the main application, as evidenced by lack of herbicide symptoms (yellowing, wilting and tissue necrosis). Re-treatment is not necessary if specification number 4 has been met. Additional re-treatment(s) shall be made until Specification number 4 is met.</li> <li>4. The treatment (plus re-applications as necessary) is complete when untreated areas comprise less than 1% of the total treated area.</li> <li>5. Repeat steps 1 - 4 to treat regrowth from tillers and germinating seed, total of 6 times over 12-month period. Timing is dependent on weather and growth conditions.</li> </ol> <p>D. Purpose of Treatment Specifications: Eradicate existing guineagrass bunches and deplete soil seed bank of viable seed.</p> <p>E. Treatment Effectiveness Monitoring Proposed: Visual inspection 7 – 10 days after each treatment; collect data on vegetative cover before treatments begin and after 1 year. Final data collection at least 6 weeks after last herbicide application.</p>
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### LABOR, MATERIALS AND OTHER COST:

<b>PERSONNEL SERVICES: (Grade @ Cost/Hours X # Hours X #Fiscal Years = Cost/Item):</b> Do not include contract personnel costs here (see contractor services below).	<b>COST / ITEM</b>
TOTAL PERSONNEL SERVICE COST	
<b>EQUIPMENT PURCHASE, LEASE AND/OR RENT (Item @ Cost/Hour X # of Hours X #Fiscal Years = Cost/Item): Note:</b> Purchases require written justification that demonstrates cost benefits over leasing or renting.	<b>COST / ITEM</b>
TOTAL EQUIPMENT PURCHASE, LEASE OR RENTAL COST	
<b>MATERIALS AND SUPPLIES (Item @ Cost/Each X Quantity X #Fiscal Years = Cost/Item):</b>	<b>COST / ITEM</b>
Glyphosate herbicide + adjuvants @ \$15/ac x 52.4 ac x 6 applications	\$4,716
TOTAL MATERIALS AND SUPPLY COST	\$4,716
<b>TRAVEL COST (Personnel or Equipment @ Rate X Round Trips X #Fiscal Years = Cost/Item):</b>	<b>COST / ITEM</b>
TOTAL TRAVEL COST	
<b>CONTRACT COST (Labor or Equipment @ Cost/Hour X #Hours X #Fiscal Years = Cost/Item):</b>	<b>COST / ITEM</b>
\$75/ac x 52.4 ac x 6 applications	\$23,580
TOTAL CONTRACT COST	\$23,580

<b>SPECIFICATION COST SUMMARY</b>							
<b>FISCAL YEAR</b>	<b>PLANNED INITIATION DATE (M/D/YYYY)</b>	<b>PLANNED COMPLETION DATE (M/D/YYYY)</b>	<b>WORK AGENT</b>	<b>UNITS</b>	<b>UNIT COST</b>	<b>PLANNED ACCOMPLISHMENTS</b>	<b>PLANNED COST</b>
FY06	06/01/2006	09/30/2006	C	52.4 ac	\$270	Eradicate invasive grass	\$14,148
FY07	10/01/2006	04/15/2007	C	52.4	\$270	Eradicate invasive grass	\$14,148
FY__							
FY__							
<b>TOTAL</b>							<b>\$28,296</b>

**Work Agent:** C=Coop Agreement, F=Force Account, G=Grantee, P=Permittees, S=Service Contract, T=Timber Sales Purchaser, V=Volunteer

**SOURCE OF COST ESTIMATE**

1.	Estimate obtained from 2-3 independent contractual sources.	
2.	Documented cost figures from similar project work obtained from local agency sources.	C
3.	Estimate supported by cost guides from independent sources or other federal agencies	
4.	Estimates based upon government wage rates and material cost.	P,M
5.	No cost estimate required - cost charged to Fire Suppression Account	

**P** = Personnel Services, **E** = Equipment **M** = Materials/Supplies, **T** = Travel, **C** = Contract, **F** = Suppression

**RELEVANT DETAILS, MAPS AND DOCUMENTATION INCLUDED IN THIS REPORT:**

List Relevant Documentation and Cross-Reference Location within the Accomplishment Report.
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**TOTAL COST BY JURISDICTION**

<b>JURISDICTION</b>	<b>UNITS TREATED</b>	<b>COST</b>
U.S. FWS	52.4 ac	\$28,296
	<b>TOTAL COST</b>	<b>\$28,296</b>

## PART F - INDIVIDUAL SPECIFICATION

<b>TREATMENT/ACTIVITY NAME</b>	Apply Garlon Herbicide	<b>PART E SPECIFICATION #</b>	2
<b>NFPORS TREATMENT CATEGORY*</b>	Other Treatment	<b>FISCAL YEAR(S) (list each year):</b>	2006, 2007
<b>NFPORS TREATMENT TYPE *</b>	Chemical	<b>WUI? Y / N</b>	Y
<b>IMPACTED COMMUNITIES AT RISK</b>	Palm Grove School, Southmost Colonias	<b>IMPACTED T&amp;E SPECIES</b>	Ocelot, Jaguarundi

\* See NFPORS Restoration & Rehabilitation module - Edit Treatment screen for applicable entries.

### WORK TO BE DONE (describe or attach exact specifications of work to be done):

<p>Number and Describe Each Task:</p> <p>A. General Description: Apply Garlon 3A and Garlon 4 herbicide to Brazilian pepper trees.</p> <p>B. Location/(Suitable) Sites: Entire 52.4 ac burn site</p> <p>C. Design/Construction Specifications:</p> <ol style="list-style-type: none"> <li>1. Apply Garlon 3A to cut stem of all Brazilian pepper trees with trunk diameter &gt; 2 inches..</li> <li>2. Apply Garlon 4/Bark Oil in basal stem application from ground level to 18 inches of all Brazilian pepper trees with trunk diameter &lt; 2 inches.</li> <li>3. Inspect treated plants after 3 months, 6 months and 9 months; each time, repeat appropriate Garlon treatments to all live Brazilian pepper trees.</li> </ol> <p>D. Purpose of Treatment Specifications: Eradicate all existing Brazilian pepper trees.</p> <p>E. Treatment Effectiveness Monitoring Proposed: Visual inspection 3 months after each treatment and upon completion of project.</p>
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### LABOR, MATERIALS AND OTHER COST:

<b>PERSONNEL SERVICES: (Grade @ Cost/Hours X # Hours X # Fiscal Years = Cost/Item):</b> Do not include contract personnel costs here (see contractor services below).	<b>COST / ITEM</b>
GS 6 @ \$24/hour x 16 hours x 1 year	\$384
TOTAL PERSONNEL SERVICE COST	\$384
<b>EQUIPMENT PURCHASE, LEASE AND/OR RENT (Item @ Cost/Hour X # of Hours X #Fiscal Years = Cost/Item): Note:</b> Purchases require written justification that demonstrates cost benefits over leasing or renting.	<b>COST / ITEM</b>
TOTAL EQUIPMENT PURCHASE, LEASE OR RENTAL COST	
<b>MATERIALS AND SUPPLIES (Item @ Cost/Each X Quantity X #Fiscal Years = Cost/Item):</b>	<b>COST / ITEM</b>
Garlon 3A @ \$73/gal x 5 gal	\$365
Garlon 4 + Adjuvants @ \$127/gal x 2.5 gal	\$318
TOTAL MATERIALS AND SUPPLY COST	\$683
<b>TRAVEL COST (Personnel or Equipment @ Rate X Round Trips X #Fiscal Years = Cost/Item):</b>	<b>COST / ITEM</b>
TOTAL TRAVEL COST	
<b>CONTRACT COST (Labor or Equipment @ Cost/Hour X #Hours X #Fiscal Years = Cost/Item):</b>	<b>COST / ITEM</b>
TOTAL CONTRACT COST	

<b>SPECIFICATION COST SUMMARY</b>							
<b>FISCAL YEAR</b>	<b>PLANNED INITIATION DATE (M/D/YYYY)</b>	<b>PLANNED COMPLETION DATE (M/D/YYYY)</b>	<b>WORK AGENT</b>	<b>UNITS</b>	<b>UNIT COST</b>	<b>PLANNED ACCOMPLISHMENTS</b>	<b>PLANNED COST</b>
FY06	06/01/2006	09/30/2006	F	52.4 ac	\$10.18	Eradicate Brazilian pepper	\$533.50
FY07	10/01/2006	04/15/2007	F	52.4	\$10.18	Eradicate Brazilian pepper	\$533.50
FY__							
FY__							
<b>TOTAL</b>							<b>\$1,067</b>

**Work Agent:** C=Coop Agreement, F=Force Account, G=Grantee, P=Permittees, S=Service Contract, T=Timber Sales Purchaser, V=Volunteer

**SOURCE OF COST ESTIMATE**

1.	Estimate obtained from 2-3 independent contractual sources.	
2.	Documented cost figures from similar project work obtained from local agency sources.	C
3.	Estimate supported by cost guides from independent sources or other federal agencies	
4.	Estimates based upon government wage rates and material cost.	P,M
5.	No cost estimate required - cost charged to Fire Suppression Account	

**P** = Personnel Services, **E** = Equipment **M** = Materials/Supplies, **T** = Travel, **C** = Contract, **F** = Suppression

**RELEVANT DETAILS, MAPS AND DOCUMENTATION INCLUDED IN THIS REPORT:**

List Relevant Documentation and Cross-Reference Location within the Accomplishment Report.
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**TOTAL COST BY JURISDICTION**

<b>JURISDICTION</b>	<b>UNITS TREATED</b>	<b>COST</b>
U.S. FWS	52.4 ac	\$1,067
	<b>TOTAL COST</b>	<b>\$1,067</b>

## PART F - INDIVIDUAL SPECIFICATION

<b>TREATMENT/ACTIVITY NAME</b>	Monitor, Inspect, Collect Data	<b>PART E SPECIFICATION #</b>	3
<b>NFPORS TREATMENT CATEGORY*</b>	Other Treatment	<b>FISCAL YEAR(S) (list each year):</b>	2006, 2007
<b>NFPORS TREATMENT TYPE *</b>		<b>WUI? Y / N</b>	Y
<b>IMPACTED COMMUNITIES AT RISK</b>	Palm Grove School, Southernmost Colonias	<b>IMPACTED T&amp;E SPECIES</b>	Ocelot, Jaguarundi

\* See NFPORS Restoration & Rehabilitation module - Edit Treatment screen for applicable entries.

### WORK TO BE DONE (describe or attach exact specifications of work to be done):

<p>Number and Describe Each Task:</p> <p>A. General Description: Monitor site conditions inspect contract work; collect vegetation cover data to document treatment effectiveness.</p> <p>B. Location/(Suitable) Sites: Sabal Orchard burned area.</p> <p>C. Design/Construction Specifications:</p> <ol style="list-style-type: none"> <li>1. Monitor guineagrass growth, soil moisture and other factors to determine timing of contracted glyphosate application.</li> <li>2. Inspect contracted work to determine contractor compliance and effectiveness of treatments.</li> <li>3. Collect vegetation cover data before treatments begin and after completion of treatments to document treatment effectiveness.</li> </ol> <p>D. Purpose of Treatment Specifications: Assure timely herbicide application, contractor compliance; documentation of treatment effectiveness.</p> <p>E. Treatment Effectiveness Monitoring Proposed: Written documentation of site visits, observations, quantitative and qualitative data.</p>
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### LABOR, MATERIALS AND OTHER COST:

<b>PERSONNEL SERVICES: (Grade @ Cost/Hours X # Hours X # Fiscal Years = Cost/Item):</b> <b>Do not include contract personnel costs here (see contractor services below).</b>	<b>COST / ITEM</b>
GS-9 @ \$36/hr x 53 hr x 2 years	\$3,857
TOTAL PERSONNEL SERVICE COST	
<b>EQUIPMENT PURCHASE, LEASE AND/OR RENT (Item @ Cost/Hour X # of Hours X #Fiscal Years = Cost/Item): Note:</b> <b>Purchases require written justification that demonstrates cost benefits over leasing or renting.</b>	<b>COST / ITEM</b>
Digital camera, battery, flash card	\$600
Height measuring pole, 15 m	\$490
Measuring tape, 100 m	\$30
Sheetholder Clipboards (2)	\$49
TOTAL EQUIPMENT PURCHASE, LEASE OR RENTAL COST	\$1,169
<b>MATERIALS AND SUPPLIES (Item @ Cost/Each X Quantity X #Fiscal Years = Cost/Item):</b>	<b>COST / ITEM</b>
TOTAL MATERIALS AND SUPPLY COST	
<b>TRAVEL COST (Personnel or Equipment @ Rate X Round Trips X #Fiscal Years = Cost/Item):</b>	<b>COST / ITEM</b>
TOTAL TRAVEL COST	
<b>CONTRACT COST (Labor or Equipment @ Cost/Hour X #Hours X #Fiscal Years = Cost/Item):</b>	<b>COST / ITEM</b>
Contractor @ \$50/hour x 200 hours x 2 fiscal years	20,000
TOTAL CONTRACT COST	20,000

<b>SPECIFICATION COST SUMMARY</b>							
<b>FISCAL YEAR</b>	<b>PLANNED INITIATION DATE (M/D/YYYY)</b>	<b>PLANNED COMPLETION DATE (M/D/YYYY)</b>	<b>WORK AGENT</b>	<b>UNITS</b>	<b>UNIT COST</b>	<b>PLANNED ACCOMPLISHMENTS</b>	<b>PLANNED COST</b>
FY06	06/01/2006	09/30/2006	F	52.4 ac	\$477.60	Monitor, Inspect, Document	\$23,097
FY07	10/01/2006	04/15/2007	F	52.4	\$36.81	Monitor, Inspect, Document	\$1,928
FY__							
FY__							
<b>TOTAL</b>							<b>\$25,025</b>

**Work Agent:** C=Coop Agreement, F=Force Account, G=Grantee, P=Permittees, S=Service Contract, T=Timber Sales Purchaser, V=Volunteer

**SOURCE OF COST ESTIMATE**

1.	Estimate obtained from 2-3 independent contractual sources.	
2.	Documented cost figures from similar project work obtained from local agency sources.	
3.	Estimate supported by cost guides from independent sources or other federal agencies	
4.	Estimates based upon government wage rates and material cost.	P,M,C
5.	No cost estimate required - cost charged to Fire Suppression Account	

**P** = Personnel Services, **E** = Equipment **M** = Materials/Supplies, **T** = Travel, **C** = Contract, **F** = Suppression

**RELEVANT DETAILS, MAPS AND DOCUMENTATION INCLUDED IN THIS REPORT:**

List Relevant Documentation and Cross-Reference Location within the Accomplishment Report.
--

**TOTAL COST BY JURISDICTION**

<b>JURISDICTION</b>	<b>UNITS TREATED</b>	<b>COST</b>
U.S. FWS	52.4 ac	\$26,954
	<b>TOTAL COST</b>	

**PART F - INDIVIDUAL SPECIFICATION**

<b>TREATMENT/ACTIVITY NAME</b>	Supplemental Assistance	<b>PART E SPECIFICATION #</b>	4
<b>NFPORS TREATMENT CATEGORY*</b>	Other Treatment	<b>FISCAL YEAR(S) (list each year):</b>	2006, 2007
<b>NFPORS TREATMENT TYPE *</b>		<b>WUI? Y / N</b>	Y
<b>IMPACTED COMMUNITIES AT RISK</b>	Palm Grove School, Southmost Colonias	<b>IMPACTED T&amp;E SPECIES</b>	Ocelot, Jaguarundi

\* See NFPORS Restoration & Rehabilitation module - Edit Treatment screen for applicable entries.

**WORK TO BE DONE** (describe or attach exact specifications of work to be done):

<p>Number and Describe Each Task:</p> <p>A. General Description: Assist in site inspections, water and equipment hauling, chainsaw operations etc.</p> <p>B. Location/(Suitable) Sites: Sabal Orchard burned area.</p> <p>C. Design/Construction Specifications:</p> <ol style="list-style-type: none"> <li>1. Assist with initial inspection of burned area and inspections of site conditions during project implementation.</li> <li>2. Haul clean water to site for herbicide treatments, as needed.</li> <li>3. Transport heavy equipment to/from project site, including farm tractors, ATV, etc., as needed.</li> </ol> <p>D. Purpose of Treatment Specifications: Assist project personnel in project implementation.</p> <p>E. Treatment Effectiveness Monitoring Proposed: Written documentation of assistance through bi-weekly time sheets and financial reporting.</p>
---

**LABOR, MATERIALS AND OTHER COST:**

<b>PERSONNEL SERVICES: (Grade @ Cost/Hours X # Hours X # Fiscal Years = Cost/Item):</b>	<b>COST / ITEM</b>
<b>Do not include contract personnel costs here (see contractor services below).</b>	
GS 6 @ \$24/hour x 32 hours x 2 fiscal years	\$1,526
TOTAL PERSONNEL SERVICE COST	\$1,526
<b>EQUIPMENT PURCHASE, LEASE AND/OR RENT (Item @ Cost/Hour X # of Hours X #Fiscal Years = Cost/Item): Note:</b>	<b>COST / ITEM</b>
<b>Purchases require written justification that demonstrates cost benefits over leasing or renting.</b>	
TOTAL EQUIPMENT PURCHASE, LEASE OR RENTAL COST	
<b>MATERIALS AND SUPPLIES (Item @ Cost/Each X Quantity X #Fiscal Years = Cost/Item):</b>	<b>COST / ITEM</b>
TOTAL MATERIALS AND SUPPLY COST	
<b>TRAVEL COST (Personnel or Equipment @ Rate X Round Trips X #Fiscal Years = Cost/Item):</b>	<b>COST / ITEM</b>
TOTAL TRAVEL COST	
<b>CONTRACT COST (Labor or Equipment @ Cost/Hour X #Hours X #Fiscal Years = Cost/Item):</b>	<b>COST / ITEM</b>
TOTAL CONTRACT COST	

<b>SPECIFICATION COST SUMMARY</b>							
<b>FISCAL YEAR</b>	<b>PLANNED INITIATION DATE (M/D/YYYY)</b>	<b>PLANNED COMPLETION DATE (M/D/YYYY)</b>	<b>WORK AGENT</b>	<b>UNITS</b>	<b>UNIT COST</b>	<b>PLANNED ACCOMPLISHMENTS</b>	<b>PLANNED COST</b>
FY06	06/01/2006	09/30/2006	F	52.4 ac	\$14.66	Monitor, Inspect, Document	\$768
FY07	10/1/2006	04/15/2007	F	52.4 ac	\$14.66	Monitor, Inspect, Document	\$768
FY__							
FY__							
<b>TOTAL</b>							<b>\$1,536</b>

**Work Agent:** C=Coop Agreement, F=Force Account, G=Grantee, P=Permittees, S=Service Contract, T=Timber Sales Purchaser, V=Volunteer

**SOURCE OF COST ESTIMATE**

1.	Estimate obtained from 2-3 independent contractual sources.	
2.	Documented cost figures from similar project work obtained from local agency sources.	
3.	Estimate supported by cost guides from independent sources or other federal agencies	
4.	Estimates based upon government wage rates and material cost.	P
5.	No cost estimate required - cost charged to Fire Suppression Account	

P = Personnel Services, E = Equipment M = Materials/Supplies, T = Travel, C = Contract, F = Suppression

**RELEVANT DETAILS, MAPS AND DOCUMENTATION INCLUDED IN THIS REPORT:**

List Relevant Documentation and Cross-Reference Location within the Accomplishment Report.
--

**TOTAL COST BY JURISDICTION**

<b>JURISDICTION</b>	<b>UNITS TREATED</b>	<b>COST</b>
U.S. FWS	52.4 ac	\$1,536
	<b>TOTAL COST</b>	<b>\$1,536</b>

## **PART G - POST-EMERGENCY STABILIZATION REQUIREMENT**

The following are post-emergency stabilization, implementation, operation, maintenance, monitoring, and evaluation actions after three years from the control of the fire to ensure the effectiveness of initial investments. Estimated annual cost and funding source is indicated.

1. Monitor seedling survival and growth rates at 3-month, 6-month and 1-year post-planting (\$384 – 1261).
2. Monitor invasive grass re-colonization and germination from dormant seed at 3-month, 6-month and 1-year post-planting (\$384 – 1261).
3. Spot application of glyphosate or imazypyr herbicide, as needed, at 1- and 2-years post planting (\$1000 – 1261).
4. Monitor native plant and invasive plant densities and relative dominance at 5-years post-planting. (\$1,280 – 1261).
5. Long-term wildfire detection and suppression (\$10,000 – 9141).

## **PART H – CONSULTATIONS**

### **PART H – CONSULTATIONS**

U.S. Fish and Wildlife Service  
Ernesto Reyes, Wildlife Biologist  
Ecological Services  
956-784-7560

U.S. Fish and Wildlife Service  
Tony McGallicher  
South Texas Refuges Complex  
956-784-7620

U.S. Fish and Wildlife Service  
Patrick Pearson, Fire Management Officer  
Lower Rio Grande Valley NWR  
956-784-7602

U.S. Fish and Wildlife Service  
Mark Kaib, Regional Fire Ecologist  
Region 2 Regional Office  
505-248-6819

Sabal Palm Audubon Center and Sanctuary  
Cecilia Farrell, Office Manager;  
Ernesto Ortíz, Sanctuary Warden  
956-541-8034

# **APPENDIX I: BURNED AREA ASSESSMENT REPORT SABAL ORCHARD FIRE (21550-9141-CF3G)**

Prepared by Chris Best, Plant Ecologist  
April 25, 2006

## **I. Objectives**

The objectives of this burned area assessment include:

1. Report background information on the fire, including the cause, fuels, and impacts to infrastructure and cultural resources.
2. Create an accurate map of the area affected by the fire.
3. Discuss the site history and land use.
4. Determine the fire's impacts to vegetation, wildlife and other natural resources, including rare, threatened and endangered species.
5. Compile site characteristics that are pertinent to restoration and management, including climate, geology, topography, soils, existing and potential vegetation, and wildlife habitat values.
6. Provide specific recommendations for restoration, monitoring and management of natural resources at the site.
7. Estimate costs associated with the recommended specifications.

## **II. Background Information and Site Description.**

### **1. Fire Background Information.**

The Sabal Orchard fire (21550-9141-CF3G) was discovered at 9:30 pm on April 8, 2006, at Boscaje de la Palma tract, LRGV NWR. It was contained on April 11 and controlled on April 16. The burned area is at the extreme north end of Boscaje de la Palma tract (Boscaje), bounded on the south by the International Boundary and Water Commission (IBWC) main levee, on the north by the Cameron County Water Control District No. 6 canal, and on the east by Dakota Avenue. The burn is surrounded on the east, west and north by privately-owned land, including several housing developments, a goat pasture, and an auto junk yard. The Palm Grove School, a public elementary school of the Brownsville Independent School District, is immediately adjacent to the north-east edge of the burned area. The fire was investigated by refuge Law Enforcement Officer Tony McGallicher, who determined that the point of ignition was within the interior of the burned area; the source of ignition was not identified. The primary fuel was dry guineagrass (*Urochloa maxima*), from 1 to 2 m tall. The refuge-owned boundary fence surrounding this tract, totaling 5,991 ft, must be replaced and funding for this will be requested through a subsequent rehabilitation plan. No other infrastructure or cultural resources were damaged in the burned area.

2. Site Map. The fire was controlled along the perimeter of this portion of Boscaje tract, which is clearly visible on DOQQ (orthographically corrected aerial photography) images. The burned area was determined to be 52.4 ac (see attached map, Sabal Orchard Fire). The entire burned area is contained on refuge-owned land.

### 3. Site History and Land Use.

CIR aerial photography shows that in 1983 this site, except for 7.4 ac in the southeast corner, was an orchard, with cultivated ground between the trees. A CIR aerial photograph from 1987 showed that the trees were actually smaller, and the ground had been colonized by grasses. Ernesto Ortiz, a farmer and Sanctuary Warden at the Sabal Palm Audubon Center and Sanctuary, has lived his entire life in that area. Mr. Ortiz stated that this site had been a citrus orchard that was damaged in the freeze of December 22-31, 1983. The orchard was subsequently abandoned and was colonized by introduced grasses; the small trees visible in the 1987 aerial photograph must have been coppice growth from the citrus root stocks. Mr. Ortiz stated that at some point during the late 1980s, the re-sprouted citrus trees were removed with a bulldozer. He recalled that the site has burned several times. This land was acquired by FWS as Tract 2028 of Lower Rio Grande Valley NWR, on June 22, 1993. The survey, conducted on September 8, 1993, described the land as “abandoned citrus overgrown with brush and native vegetation.” The tract totals 53.183 acres, including the levee easement. The refuge has not previously attempted to restore native vegetation or control invasive grasses at this site.

### 4. Impacts to Natural Resources.

Vegetation at the burn site was dominated by native trees up to 6 m (20 ft) tall, including Sabal palm (*Sabal mexicana*), tepeguaje (*Leucaena pulverulenta*), sugar hackberry (*Celtis laevigata*), and honey mesquite (*Prosopis glandulosa*). There are also several Brazilian pepper trees (*Schinus molle*), an introduced species that is invasive along watercourses in the Rio Grande delta. The citrus trees that formerly occupied the site would have provided excellent cover for frugivorous birds and mammals. Cultivated citrus trees are excellent nurse trees for Sabal palms and many other native plants whose seeds are dispersed by animals. The existing stand of Sabal palms at the burn site probably established from seeds deposited by animals under the protection of spiny citrus branches.

The understory vegetation in the burned area was almost completely dominated by guineagrass, an introduced invasive grass of African origin. This relatively shade-tolerant tropical grass readily invades the understory of disturbed forest, often growing to a height of 3 m (10 ft), using support from trees and shrubs, fences, guy wires etc. However, guineagrass will not invade where native understory vegetation is well established. Guineagrass is ideally suited to the pulse-driven pattern of this region's seasonal rainfall, during which growth is extremely rapid. During subsequent periods of drought, the dormant stems and leaves provide an abundance of fine, light fuel that carries wildfire into tree and shrub canopies. The impact that this wildfire will have on the regenerating native vegetation can be judged from several previous wildfires that have occurred on other portions of Boscaje tract in similar stands of vegetation. The native Sabal palm is fairly resistant to wildfire, although some palms were burned through at the base (see attached photographs). Most of the tepeguaje and smaller honey mesquite trees will be top-killed, but will re-grow from root coppices. Some sugar hackberry trees may be killed outright. However, the guineagrass will re-grow very quickly from dormant tillers, reaching its former stature in about two months. Therefore, this site could easily support another wildfire by mid-summer. Most native trees and shrubs of the Rio Grande delta do not have resinous stems or leaves, and while living, will not support wildfire. However, following the initial burn, the site will contain abundant dead, dry branches and trunks, both fallen and standing. Subsequent wildfires spreading through dry guineagrass and dead, dry wood can then become crown fires that are much hotter than the initial fire, completely killing the surviving stand of Sabal palm trees.

Therefore, the existing stand of guineagrass has created a self-perpetuating, fire-adapted non-native plant community that is susceptible to frequent wildfires. Any attempt to restore native vegetation and to reduce the future risk of wildfire will require the eradication of guineagrass as a first step.

## 5. Site Characteristics.

The soil type over most of this burn site is classified as Laredo silty clay loam, 0 to 1 percent slope. Soil at the southeast corner of the site consists of Olmito silty clay. These are deep, well-drained, level soils of the river delta with slow to moderate permeability and slow runoff. There is relatively little risk of soil erosion at this site.

The Sabal palm is a keystone species in this area. An estimated 40,000 acres of Sabal palm forest occurred along this southward bend of the Rio Grande, known as the "Texas Southmost" area. Today, only a few small fragments of undisturbed Sabal palm forest exist in Texas. The Sabal Palm Audubon Sanctuary is adjacent to the south-east corner of the burned area. The Lennox Foundation Southmost Preserve, managed by The Nature Conservancy, is 1.9 miles to the east of the burned area. Old-growth Sabal Palm forest provides critical habitat for many rare, endemic, peripheral and listed endangered plant and animal species, including the ocelot (*Felis pardalis*), jaguarundi (*Felis yaguaroundi*), speckled racer (*Drymobius margaritiferus*), gray-crowned yellow-throat (*Chaemathlypis poliocephala*), yellow-green vireo (*Vireo flavoviridis*), Runyon's water-willow (*Justicia runyonii*), David's milkberry (*Chiococca alba*) and Twining Tournefortia (*Tournefortia volubilis*). Other notable faunal species formerly known from this area, but now extirpated, include the jaguar (*Felis onca*) and coati (*Nasua narica*).

## III. Recommendations for Restoration, Monitoring and Management.

The recommended rehabilitation of this site consists of the following specifications

1. Thoroughly eradicate established guineagrass bunches, and deplete viable guineagrass seed in the soil seed bank, by means of up to 6 repeated, well-timed applications of glyphosate herbicide over a period of 18 months. After the initial application, repeat applications must be made when emerging tillers and/or germinated seeds have reached a blade length of 4 to 8 inches and are actively growing, but before they have begun flowering. In order to be successful, this requires close attention to weather and plant responses in the field. Due to the density of living and dead trees at this site (see attached photographs), it is not possible to conduct operations with a farm tractor. The most efficient method for applying herbicide will probably be with an ATV-mounted sprayer with a spray gun, re-supplied with an auxiliary tank mounted on a trailer or truck bed.
2. Eradicate Brazilian pepper trees. For trees with stem diameters greater than 2 inches, fell tree and apply Garlon 3A herbicide to the freshly-cut cambium. Treat smaller trees with basal stem application of Garlon 4 + JLB Oil or similar adjuvant.
3. Repair boundary fencing.
4. Restore native understory vegetation through transplantation of 440 seedlings per acre of

shrubs, sub-shrubs, broad-leaf herbaceous plants and grasses. Direct seeding is probably not a viable option at this site, due to inaccessibility to farm equipment. The optimal season for seedling transplant is mid-September to mid-December, provided that available soil moisture from rainfall has penetrated the soil column at least to a depth of 18 inches.

5. Continue monitoring seedling growth and survival and invasive grass presence for two additional years. During this time, treat large-scale re-emergence of guineagrass with grass-selective Fusilade herbicide. Treat isolated guineagrass bunches with directed spot applications of glyphosate and/or imazypyr herbicide.
6. Continue to suppress wildfire at this site. Successful establishment of native understory vegetation is expected to reduce the risk and severity of wildfire.

Specifications 1, 2 and 3 are appropriate for funding through a Burned Area Emergency Stabilization Plan. The continuation of Specification 1, and Specifications 4 and 5 should be proposed for funding through a Burned Area Rehabilitation Plan. Specification 6 can be accomplished through the existing Fire Management Program at South Texas Refuges Complex.

#### **IV. Estimated Costs of the Recommended Specifications (ES Plan Only).**

<b>Specification</b>	<b>Cost per Unit</b>	<b>Quantity</b>	<b>Total</b>
Glyphosate herbicide and adjuvants	\$15/ac	6 applications x 52.4 ac	\$4,716
Glyphosate Application	\$75/ac	6 applications x 52.4 ac	\$23,580
Monitor Contracts and Site Conditions	\$24/hour	112 Hours	\$2,688
Repair fencing	\$3/foot	5,991 feet	\$17,973
Garlon 3A	\$73/gal	5 gal	\$365
Garlon 4 herbicides + adjuvants	\$127/gal	2.5 gal	\$318
Garlon Application	\$24/hour	16 hours	\$384
<b>TOTAL:</b>			<b>\$50,024</b>

#### **V. Consultations.**

Cecilia Farrell, Office Manager, Sabal Palm Grove Audubon Center and Sanctuary: Natural history of Sabal palm habitat.

Tony McGallicher, Law Enforcement Officer, South Texas Refuges Complex: Fire investigation.

Ernesto Ortiz, Sanctuary Warden, Sabal Palm Grove Audubon Center and Sanctuary: Site history.

Patrick Pearson, Fire Management Officer, Lower Rio Grande Valley NWR: Site location and fire history.

#### **VI. References.**

Carr, W. R., J. M. Poole, D. M. Price and J. R. Singhurst. 2004 (draft). The Rare Plants of Texas. Texas A&M University Press. College Station, Texas.

Department of Economic Geography. 1976. Geologic Atlas of Texas, McAllen – Brownsville Sheet. The University of Texas. Austin, Texas.

Jones, S.D., J. K. Wipff and P.M. Montgomery. 1997. Vascular Plants of Texas: A comprehensive checklist including synonymy, bibliography and index. University of Texas Press, Austin, Texas. 404 pp.

U.S.D.A. Soil Conservation Service and Texas Agricultural Experiment Station. 1981. Soil Survey of Cameron County, Texas. National Cooperative Soil Survey.

U.S.G.S. 1996 CIR DOQQ Image, Southmostne.tif (available through Texas Natural Resources Information Service).

U.S.G.S. 2004 CIR DOQQ Image, tx061\_1-1.sid (available through Texas Natural Resources Information Service).

1983 CIR Aerial Photography Set for LRGV NWR Project Area (produced under contract for the refuge).

1987 CIR Aerial Photography Set for LRGV NWR Project Area (produced under contract for the refuge).

## **APPENDIX II - ENVIRONMENTAL COMPLIANCE**

### **Federal, State, and Private Lands Environmental Compliance Responsibilities**

All projects proposed in the Sabal Orchard Emergency Response Plan that are prescribed, funded, or implemented by Federal agencies on Federal, State, or private lands are subject to compliance with the National Environmental Policy Act (NEPA) in accordance with the guidelines provided by the Council on Environmental Quality (CEQ) Regulations (40 CFR 1500-1508); Department of the Interior and U.S. Fish and Wildlife Service. This Appendix documents the Burned Area Emergency Response team considerations of NEPA compliance requirements for prescribed rehabilitation and monitoring actions described in this plan for all jurisdictions affected by the Sabal Orchard Emergency Response Plan.

### **Related Plans and Cumulative Impact Analysis**

Sabal Orchard Emergency Response Plan (*approval date*). The Sabal Orchard Emergency Response Plan was reviewed and it was determined that actions proposed in the Sabal Orchard Emergency Response Plan within the boundary of the Sabal Orchard Fire are consistent with the management objectives established in the Comprehensive Conservation Plan. The Comprehensive Conservation Plan NEPA compliance process (Environmental Assessment) specifically addresses:

- Biological Resources
- Air Quality
- Water Quality
- Wetland Preservation and Enhancement
- Compatibility and Service Policy on Recreational Uses
- Cultural Resources
- Socioeconomics

### **Cumulative Impact Analysis**

Cumulative effects are the environmental impacts resulting from the incremental impacts of a proposed action when added to other past, present, and reasonably foreseeable future actions, both Federal and non-Federal. Cumulative impacts can result from individually minor, but collectively significant actions taking place over a period of time. The emergency stabilization treatments for areas affected by Sabal Orchard Fire, as proposed in the Sabal Orchard Emergency Response Plan, do not result in an intensity of impact (i.e. major ground disturbance, etc.) that would cumulatively constitute a significant impact on the quality of the environment. The treatments are consistent with the above jurisdictional management plans and associated environmental compliance documents and categorical exclusions listed below.

### **Applicable and Relevant Categorical Exclusions**

The individual actions proposed in this plan for the Sabal Orchard fire burned area are Categorically Excluded from further environmental analysis as provided for in the Department of Interior and U.S. Fish and Wildlife Service categorical exclusions. All applicable and relevant Department and Agency Categorical Exclusions are listed below. Categorical Exclusion decisions were made with consideration given to the results of required emergency consultations completed by the Burned area emergency

response team and documented below.

Applicable Department of Interior Categorical Exclusions  
516 DM 2 App; 2, 1.6  
516 DM 6 App. 7.4 L (3)

Applicable U.S. Fish and Wildlife Service Categorical Exclusions

516 DM 6 App. 1.4 B (1)  
516 DM 6 App. 1.4 B (3) iii  
516 DM 6 App. 1.4 B (5)

### **Statement of Compliance for the Sabal Orchard Fire Burned Area Rehabilitation Plan.**

This section documents consideration given to the requirements of specific environmental laws in the development of the Sabal Orchard Emergency Response Plan. Specific consultations initiated or completed during development and implementation of this plan are also documented. The following executive orders and legislative acts have been reviewed as they apply to the Sabal Orchard Emergency Response Plan:

- National Historic Preservation Act (NHPA).
- Executive Order 11988. Flood plain Management.
- Executive Order 11990. Protection of Wetlands.
- Executive Order 12372. Intergovernmental Review.
- Executive Order 12892. Federal Actions to Address Environmental Justice in Minority and Low-income Populations.
- Endangered Species Act.
- Secretarial Order 3127. Federal Contaminated
- Clean Water Act.
- Clean Air Act.

### **CONSULTATIONS**

Not applicable.

**NEPA Checklist:** If any of the following exception applies, the Burned Area Emergency Response Plan cannot be Categorically Excluded and an Environmental Assessment (EA) is required.

(Yes) (No)

- Adversely affect Public Health and Safety
- Adversely affect historic or cultural resources, wilderness, wild and scenic rivers aquifers, prime farmlands, wetlands, floodplains, ecologically critical areas, or Natural Landmarks.
- Have highly controversial environmental effects.
- Have highly uncertain environmental effects or involve unique or unknown environmental risks.
- Establish a precedent resulting in significant environmental effects.
- Relates to other actions with individually insignificant but cumulatively significant environmental effects.
- Adversely effects properties listed or eligible for listing in the National Register of Historic Places
- Adversely affect a species listed or proposed to be listed as Threatened or Endangered.
- Threaten to violate any laws or requirements imposed for the "protection of the environment" such as Executive Order 11988 (Floodplain Management) or Executive Order 11990 (Protection of Wetlands).

### **National Historic Preservation Act**

Ground Disturbance:

- None
- Ground disturbance did occur and an archeologist survey, required under section 110 of the NHPA will be prepared. A report will be prepared under contract as specified by the Burned Area Emergency Response Plan.

A NHPA Clearance Form:

- Is required because the project may have affected a site that is eligible or on the national register. The clearance form is attached. SHPO has been consulted under Section 106 (see Cultural Resource Assessment, Appendix I).
- Is not required because the Burned Area Emergency Response Plan has no potential to affect cultural resources (initial of cultural resource specialist).

### **Other Requirements**

(Yes) (No)

- Does the Burned Area Emergency Response Plan have potential to affect any Native American uses? If so, consultation with affiliated tribes is needed.
- Are any toxic chemicals, including pesticides or treated wood, proposed for use? If so, local agency integrated pest management specialists must be consulted.

I have reviewed the proposals in the Sabal Orchard Emergency Response Plan in accordance with the criteria above and have determined that the proposed actions would not involve any significant environmental effect. Therefore it is categorically excluded from further environmental (NEPA) review and documentation. Burned area emergency response team technical specialists have completed necessary coordination and consultation to insure compliance with the National Historic Preservation Act, Endangered Species Act, Clean Water Act and other Federal, State and local environment review requirements.

---

Project Leader, South Texas Refuges Complex

Date

**APPENDIX III - MAPS**

Sabal Orchard Fire: April 8 – 12, 2006

## **APPENDIX IV - PHOTO DOCUMENTATION**

## **APPENDIX V - SUPPORT DOCUMENTS**