

**MILLAR FIRE
EMERGENCY STABILIZATION PLAN**



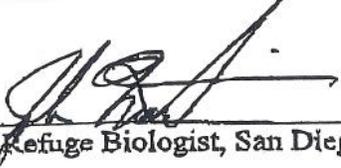
UNIT: SAN DIEGO NATIONAL WILDLIFE REFUGE

LOCATION: Jamul, San Diego County, California

DATE: July 10, 2007

PREPARED BY: John Martin, Refuge Biologist, San Diego National Wildlife Refuge
Bill Molumby, Fire Management Officer, San Diego National Wildlife Refuge

Submitted By: _____


John Martin, Refuge Biologist, San Diego National Wildlife Refuge

Date: _____

20 July 2007

EMERGENCY STABILIZATION PLAN REVIEW AND APPROVAL

I. Project Leader approval that the Emergency Stabilization Plan meets approved land management plan management objectives.


for Andy Yuen, Project Leader, San Diego National Wildlife Refuge Complex 7/20/07
Date

II. Regional Fire Management Coordinator concurrence that the plan fits the technical definition for use of Emergency Stabilization funding.


Doug Waggoner, Fire Management Coordinator, Region 8 7/23/07
Date

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

- Approved
- Approved with Revision (see attached)
- Disapproved


Stephen Thompson, Manager, California/Nevada Operations 7-23-07
Date

EXECUTIVE SUMMARY

Introduction

This Emergency Stabilization Plan has been prepared in accordance with Department of the Interior and U.S. FISH AND WILDLIFE SERVICE policy. This plan provides emergency stabilization recommendations for all lands burned within the MILLAR Fire perimeter and downstream impact areas including: public lands administered by the U.S. FISH AND WILDLIFE SERVICE and other jurisdictions if necessary. The primary objectives of the MILLAR Fire Emergency Stabilization Plan are:

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

This plan addresses emergency stabilization treatments. San Diego National Wildlife Refuge Complex Project Leader Andy Yuen, Refuge Biologist John Martin, and Fire Management Officer Bill Molumby inspected the area burned by the fire. They then conducted an analysis of fire damages throughout the lands impacted by the fire. The San Diego NWR Biologist conducted an assessment of effects of the fire on federal listed threatened and endangered species and the fire effects on the refuge management program for these species. The San Diego NWR Wildlife Refuge Biologist also served as vegetation specialist in evaluating the effects of the fire on native vegetation, existing noxious weeds within the burned area, and the fire's effect on the refuge's existing noxious weed management program. Areas with high potential for erosion were identified. The Refuge Biologist gathered the spatial data layers necessary for the plan and coordinated GPS activities. Section 7 analysis of proposed remedial action is attached.

Individual resource Burned Area Assessment Reports produced by these specialists are in Appendix I.. 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 Emergency Stabilization Plan maps. Appendix IV contains photo documentation. Appendix V contains supporting documentation.

Fire Background

The Millar Fire started on July 6th at approximately 1500 immediately north of Hwy 94 and the intersection of Millar Ranch Road. The weather and fire behavior conditions that day were identified as extreme with a burning index of 140. The cause of the fire is still under investigation.

Initial report was of a wildland fire behind the stables on Hwy 94. A high wildland response was initiated by the Fish & Wildlife Service, CalFire, and San Miguel Fire District. Upon arrival the fire was 2 to 3 acres burning in an easterly direction with a potential of 100 to 200 acres. Numerous residences, commercial properties, power lines, and critical habitat were threatened. The strategy was for full control using a direct attack method while limiting the number of acres burned. A combination of ground and air resources were used to control the fire within 3 hours after 13 acres had burned. There were no injuries and the only private property destroyed were several ornamental trees shading a water tank on the southeast corner of the fire.

The primary vegetation burned was California sagebrush (*Artemisia californica*) and California Buckwheat (*Eriogonum fasciculatum*), also known as coastal sage scrub, with a interspersing of non-native annual grasses. The fire behavior is characterized as high intensity with flame lengths of 10 to 15 feet and a rate of spread of 40 to 60 chains per hour. Vegetation consumption in the fire area was total with most of the above ground woody vegetation removed leaving only the root structure.

The historic fire regime for this ecosystem is identified as III with a condition class of 2. The condition class is a product of fire being too frequent and therefore pushing towards a conversion from the native shrub to a non-native grass and weed cover. The last fire on this site was in the 1970s which is at the lower end of the fire return interval.

- Issues to be addressed in the Emergency Stabilization Plan include control of erosion, mitigation of potential impacts to federally threatened and endangered species and other species covered under the MSCP, and precluding vegetation type conversion to non-native grassland dominated by exotic annual weeds.

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

Due to the relatively small size of the fire and its location, no threats to human safety are expected.

Threatened natural resources include several threatened and endangered species. Of primary concern were the fire effects on federally endangered least Bell's vireo (*Vireo bellii pusillus*; vireo) and federally threatened coastal California gnatcatcher (*Polioptila californica californica*; gnatcatcher). The site has low potential to support federally endangered Quino checkerspot butterfly (*Euphydryas editha quino*), and the planned emergency stabilization treatments offers an opportunity to protect the sites potential. San Diego National Wildlife Refuge was established primarily to protect these and other federally listed species, and to protect many other locally and regionally rare and sensitive species under the Multiple Species Conservation Plan: an HCP associated with an incidental take permit for several local jurisdictions in the greater San Diego area, under section 10(a)(1)(B) of the Endangered Species Act. It is important to maintain habitat quality for these species to persist in the plan area. Non-federally listed species covered under the MSCP and likely to use the area that was burned in the fire include:

- Snake cholla (*Cylindropuntia californica californica*)
- San Diego horned lizard (*Phrynosoma coronatum blainevillei*)
- Orange-throated whiptail (*Cnemidophorus hyperythrus beldingi*)
- Cooper's Hawk (*Accipiter cooperii*)

- Mountain lion (*Felis concolor*)
- Southern mule deer (*Odocoileus hemionus fuliginatus*)

In addition, the site had potential to support Hermes copper butterfly (*Lycaena hermes*), which is not federally listed nor covered by MSCP, but is nevertheless a rare and sensitive species endemic to San Diego County and extreme northern Baja California, Mexico.

Suppression effects totaled approximately 0.26 acre, and consisted of hand-clearing of vegetation to establish a fire line. Suppression impacts are generally similar to fire impacts, and will be mitigated at the same time and in the same manner as fire impact mitigation.

There are no known cultural resource sites within the burned area.

Recommended emergency stabilization treatments include:

Placement of straw wattles on slopes across the burned area, planting of *Muhlenbergia rigens* (deergrass) in the gully that crosses the center, to control erosion, and control of noxious weeds and invasive non-native species.

SAN DIEGO NATIONAL WILDLIFE REFUGE Management Requirements

- “1) Protect and manage key habitats for several endangered, threatened, and rare species; 2) maintain the high biological diversity of the southwestern San Diego region; 3) provide natural open space for certain compatible wildlife-dependent recreational uses for the residents of and visitors to the San Diego region; and 4) provide a contribution by the U.S. fish and Wildlife Service toward the implementation of the Multiple Species Conservation Program in the San Diego region.” (Otay-Sweetwater Unit, San Diego National Wildlife Refuge, San Diego County, California. Environmental Assessment and Land Protection Plan. Page 1-2: Purpose and Need. April 23, 1997.

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PART A - FIRE LOCATION AND BACKGROUND INFORMATION

| | | |
|--|------------------------------------|-------|
| Fire Name | MILLAR | |
| Fire Number | 81680-9141-DNJ4 | |
| Agency Unit | San Diego National Wildlife Refuge | |
| Region | California/Nevada | |
| State | California | |
| County(s) | San Diego | |
| Ignition Date/Cause | July 6, 2007/ Under investigation | |
| Zone | Southern California | |
| Date Fully Contained | July 6, 2007 | |
| Acres by Jurisdiction | | Acres |
| SAN DIEGO NATIONAL WILDLIFE REFUGE | | 13.3 |
| Total Acres | | 13.3 |
| Date Contained | July 6, 2007 | |

PART B - NATURE OF PLAN

Type of Action (check one box below)

| | |
|-------------------------------------|-------------------------------------|
| <input checked="" type="checkbox"/> | Initial Submission |
| <input type="checkbox"/> | Amendment to the Initial Submission |

PART C - EMERGENCY STABILIZATION ASSESSMENT

Emergency Stabilization Objectives

- Stabilize severely burned slopes including the slopes on the west end of the fire footprint, and the east-west gully that traverses the center of the fire footprint. These areas have the potential to erode and deposit excessive silt in the riparian area of the Sweetwater River.
- As practical and necessary, restore natural conditions to areas disturbed by fire suppression actions. Such areas can be adequately restored using the same program proposed for restoration of the area impacted by the fire itself.

PART D - TEAM ORGANIZATION, MEMBERS, AND RESOURCE ADVISORS

I. Burned Area Emergency Response Team Members:

| Position | Team Member (Agency) |
|-----------------------------------|--|
| Team Leader | John Martin, Refuge Biologist, San Diego National Wildlife Refuge, USFWS |
| Public Information | |
| Operations | |
| NEPA Compliance & Planning | |
| Hydrologist | |
| Soil Scientist | |
| Geologist | |
| Cultural Resources/Archeologist | |
| Vegetation Specialist | John Martin, Refuge Biologist, San Diego National Wildlife Refuge, USFWS |
| Wildlife Biologist | John Martin, Refuge Biologist, San Diego National Wildlife Refuge, USFWS |
| GIS Specialist | John Martin, Refuge Biologist, San Diego National Wildlife Refuge, USFWS |
| Documentation/Computer Specialist | |
| Photographer | Andy Yuen, Project Leader, San Diego National Wildlife Refuge Complex |

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.

| Name | Affiliation |
|-------------|---------------------------------------|
| Andy Yuen | San Diego NWR Complex, Project Leader |
| | |

PART F - INDIVIDUAL SPECIFICATION

| | | | |
|-------------------------------------|------------------------------------|---|---|
| TREATMENT/ACTIVITY NAME | Erosion control measures | PART E SPECIFICATION # | 1 |
| NFPORS TREATMENT CATEGORY* | Erosion/sedimentation | FISCAL YEAR(S) (list each year): | 2007 |
| NFPORS TREATMENT TYPE * | Hillslope protection/ revegetation | WUI? Y / N | n |
| IMPACTED COMMUNITIES AT RISK | Diegan coastal sage scrub | IMPACTED T&E SPECIES | Coastal California gnatcatcher, least Bell's vireo, Quino checkerspot butterfly |

* 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: Protect fire-denuded slope and drainage from excessive erosion in subsequent rainy season</p> <p>B. Location/(Suitable) Sites: 25-30 degree slopes on west end of burn area, and east-west gully bisecting burned area</p> <p>C. Design/Construction Specifications:</p> <ol style="list-style-type: none"> 1. Install approximately 5000ftm of straw wattles across 25-30 degree slopes on west end of burn area, and east-west gully bisecting burned area, prior to October 15, 2007. 2. Plant 100 <i>Muhlenbergia rigens</i> (deergrass) in bottom of east-west gully bisecting burned area. 3. Project Manager will conduct follow-up reconnaissance to monitor effectiveness of erosion control measures. <p>D. Purpose of Treatment Specifications: To slow water moving downslope, reduce its kinetic energy and capacity to erode soil</p> <p>E. Treatment Effectiveness Monitoring Proposed: Site will be inspected by SDNWR personnel after first significant rain event of winter 2007 to ensure that treatment is effective.</p> |
|---|

LABOR, MATERIALS AND OTHER COST:

| | |
|---|--------------------|
| PERSONNEL SERVICES: (Grade @ Cost/Hours X # Hours X # Fiscal Years = Cost/Item): Do not include contract personnel costs here (see contractor services below). | COST / ITEM |
| Project manager GS-11 @ \$31.60/hr X 8 hrs = | \$252.80 |
| YCC crew leader @ \$11.50/hr X 80 hrs = | \$920.00 |
| YCC crew (6) @ \$7.50/hr X 80 hrs = | \$3,600.00 |
| Effectiveness monitoring GS-11 @ \$31.60/hr X 8 hrs = | \$252.80 |
| TOTAL PERSONNEL SERVICE COST | \$5,025.60 |
| EQUIPMENT PURCHASE, LEASE AND/OR RENT (Item @ Cost/Hour X # of Hours X #Fiscal Years = Cost/Item): Note: Purchases require written justification that demonstrates cost benefits over leasing or renting. | COST / ITEM |
| TOTAL EQUIPMENT PURCHASE, LEASE OR RENTAL COST | |
| MATERIALS AND SUPPLIES (Item @ Cost/Each X Quantity X #Fiscal Years = Cost/Item): | COST / ITEM |
| 25-foot weed-free straw rolls @ \$20.00/roll X 200 rolls = | \$4,000.00 |
| Stakes @ \$0.35/each X 1200 = | \$420.00 |
| Delivery of materials = | \$75.00 |
| <i>Muhlenbergia rigens</i> plants @ 3.50/each X 100 plants | \$350.00 |
| TOTAL MATERIALS AND SUPPLY COST | \$4,845.00 |
| TRAVEL COST (Personnel or Equipment @ Rate X Round Trips X #Fiscal Years = Cost/Item): | COST / ITEM |
| 8-passenger van @ \$0.24/mile X 46 miles/round-trip X 10 round-trips = | \$110.40 |
| TOTAL TRAVEL COST | \$110.40 |
| CONTRACT COST (Labor or Equipment @ Cost/Hour X #Hours X #Fiscal Years = Cost/Item): | COST / ITEM |
| TOTAL CONTRACT COST | |

SPECIFICATION COST SUMMARY

| FISCAL YEAR | PLANNED INITIATION DATE (M/D/YYYY) | PLANNED COMPLETION DATE (M/D/YYYY) | WORK AGENT | UNITS | UNIT COST | PLANNED ACCOMPLISHMENTS | PLANNED COST |
|--------------|------------------------------------|------------------------------------|------------|-------|-----------|-------------------------|-------------------|
| FY07 | 07/30/2007 | 08/30/2007 | C/FA | 13 | \$767.77 | | \$9,981.00 |
| FY__ | | | | | | | |
| FY__ | | | | | | | |
| FY__ | | | | | | | |
| TOTAL | | | | | | | \$9,981.00 |

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. | M |
| 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,T |
| 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 JURSDICTION

| JURSDICTION | UNITS TREATED | COST |
|-------------|-------------------|-------------------|
| USFWS | 13 acres | \$9,981.00 |
| | | |
| | | |
| | TOTAL COST | \$9,981.00 |

PART F - INDIVIDUAL SPECIFICATION (continued)

| | | | |
|------------------------------|---------------------------|----------------------------------|---|
| TREATMENT/ACTIVITY NAME | Herbicide treatment | PART E SPECIFICATION # | 2 |
| NFPORS TREATMENT CATEGORY* | Invasive species | FISCAL YEAR(S) (list each year): | 2008 |
| NFPORS TREATMENT TYPE * | Chemical treatment | WUI? Y/N | |
| IMPACTED COMMUNITIES AT RISK | Diegan coastal sage scrub | IMPACTED T&E SPECIES | Coastal California gnatcatcher, least Bell's vireo, Quino checkerspot butterfly |

* 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: Detect, control, and monitor non-native species likely to proliferate in fire-disturbed landscape.</p> <p>B. Location/(Suitable) Sites: throughout 13.3-acre fire footprint.</p> <p>C. Design/Construction Specifications:</p> <ol style="list-style-type: none"> Starting approximately 2-3 weeks after first significant rain of the next winter (likely October-November 2007) assess germination of exotic weeds (e.g., <i>Erodium cicutarium</i>, <i>Avena</i> sp., <i>Brassica nigra</i>...). When first cohort of weeds has reached approx. 10 cm tall, treat with 2% glyphosate, using backpack sprayers or truck-mounted hoses. Applicators must be familiar with native coastal sage scrub species, and avoid spraying them to the greatest extent practicable. Monitor site for effectiveness of initial treatment, and for subsequent cohorts of weeds germinating in response to subsequent rains. When subsequent cohorts of weeds reach 10-20 cm, treat as described in specification #2. Repeat steps 2-4 as necessary, up to 4 times. <p>D. Purpose of Treatment Specifications: Control spread of non-native invasive species into susceptible burned areas that will convert the native plant community. Protect the ecological integrity and productivity of habitat potentially supporting 3 federally listed animal species, 6 locally sensitive animal species, and one locally sensitive plant species, and their associated habitats on lands administered by the SDNWR.</p> <p>E. Treatment Effectiveness Monitoring Proposed: Reconnaissance, comparison with adjacent unburned vegetation community.</p> |
|---|

LABOR, MATERIALS AND OTHER COST:

| | |
|---|--------------------|
| PERSONNEL SERVICES: (Grade @ Cost/Hours X Hours X # Fiscal Years = Cost/Item): Do not include contract personnel costs here (see contractor services below). | COST / ITEM |
| Project Manager: (1) GS-11 PFT @ \$2528/PP x 1 PP = | \$2,528.00 |
| TOTAL PERSONNEL SERVICE COST | \$2,528.00 |
| EQUIPMENT PURCHASE, LEASE AND/OR RENT (Item @ Cost/Hour X # of Hours X #Fiscal Years = Cost/Item): Note: Purchases require written justification that demonstrates cost benefits over leasing or renting. | COST / ITEM |
| TOTAL EQUIPMENT PURCHASE, LEASE OR RENTAL COST | |
| MATERIALS AND SUPPLIES (Item @ Cost/Each X Quantity X #Fiscal Years = Cost/Item): | COST / ITEM |
| TOTAL MATERIALS AND SUPPLY COST | |
| TRAVEL COST (Personnel or Equipment @ Rate X Round Trips X #Fiscal Years = Cost/Item): | COST / ITEM |
| TOTAL TRAVEL COST | |
| CONTRACT COST (Labor or Equipment @ Cost/Hour X #Hours X #Fiscal Years = Cost/Item): | COST / ITEM |
| Field Crew Coordination and Supervision X 4 applications | \$2,784.00 |
| Crew Chief (2 persons) - 50 hours @ \$39.00/hour X 4 applications | \$7,745.92 |
| Field Crew (3 persons) - 75 hours @ \$28.00/hour X 4 applications | \$8,400.00 |
| Expenses (herbicide and equipment rental) X 4 applications | \$3,724.00 |
| TOTAL CONTRACT COST | \$22,653.92 |

SPECIFICATION COST SUMMARY

| FISCAL YEAR | PLANNED INITIATION DATE (M/D/YYYY) | PLANNED COMPLETION DATE (M/D/YYYY) | WORK AGENT | UNITS | UNIT COST | PLANNED ACCOMPLISHMENTS | PLANNED COST |
|--------------|------------------------------------|------------------------------------|------------|-------|------------|-------------------------|--------------------|
| FY08 | 11/19/2007 | 07/30/08 | S/FA | 13 | \$1,937.07 | | \$25,181.92 |
| FY__ | | | | | | | |
| FY__ | | | | | | | |
| TOTAL | | | | | | | \$25,181.92 |

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. | |
| 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. Information derived from similar selective herbicide application conducted at Shinohara vernal pool restoration project, and Rancho San Miguel Otay tarplant preserve restoration. Location based on personal field reconnaissance.

TOTAL COST BY JURSDICTION

| JURSDICTION | UNITS TREATED | COST |
|-------------|-------------------|--------------------|
| USFWS | 13 | \$25,181.92 |
| | | |
| | | |
| | TOTAL COST | \$25,181.92 |

PART F - INDIVIDUAL SPECIFICATION (continued)

| | | | |
|-------------------------------------|--|---|---|
| TREATMENT/ACTIVITY NAME | Seeding native plant species | PART E SPECIFICATION # | 3 |
| NFPORS TREATMENT CATEGORY* | Invasive species | FISCAL YEAR(S) (list each year): | 2008 |
| NFPORS TREATMENT TYPE * | Native seed collection Prevention (seeding) | WUI? Y / N | N |
| IMPACTED COMMUNITIES AT RISK | Diegan coastal sage scrub | IMPACTED T&E SPECIES | Coastal California gnatcatcher, least Bell's vireo, Quino checkerspot butterfly |

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

I. 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: Collect seed of <i>Artemisia californica</i>, <i>Eriogonum fasciculatum</i>, <i>Viguiera laciniata</i>, <i>Nassella pulchra</i>, <i>Muhlenbergia rigens</i>, <i>Rhamnus crocea</i>, <i>Plantago erecta</i> and other species as appropriate, from area surrounding burned site.</p> <p>B. Location/(Suitable) Sites: San Diego National Wildlife Refuge within 2 km of the site.</p> <p>C. Design/Construction Specifications:</p> <ol style="list-style-type: none"> 1. Collect approximately 50-100 pounds of native seed of species listed above and other appropriate species as determined in consultation with SDNWR Biologist. 2. Monitor donor plant phenology starting March 2008. Begin collecting seed when viable seed is mature. Time of maturation (and thus collection) will differ among species. Some seeds will likely be ready for collection in May 2008. 3. Seeds will be rough-cleaned, labeled, and stored in an area reasonably safe from insects, rodents, fire, and moisture. 4. Seeds will be distributed on the burn site in November 2008, allowed to grow <i>in situ</i> taking advantage of natural rains. <p>D. Purpose of Treatment Specifications: Control spread of non-native invasive species into susceptible burned areas to preclude vegetation type conversion. Protect the ecological integrity and site productivity for 3 federally listed T & E species, and 6 MSCP covered species.</p> <p>E. Treatment Effectiveness Monitoring Proposed: Spot checking of germination and growth of native plants to evaluate need for remedial planting, if necessary.</p> |
|--|

II. LABOR, MATERIALS AND OTHER COST:

| | |
|--|--------------------|
| PERSONNEL SERVICES: (Grade @ Cost/Hours X # Hours X # Fiscal Years = Cost/Item): Do not include contract personnel costs here (see contractor services below). | COST / ITEM |
| Project Manager: (1) GS-11 PFT @ \$2528/PP x 0.5 PP = | \$1,264 |
| TOTAL PERSONNEL SERVICE COST | \$1,264 |
| EQUIPMENT PURCHASE, LEASE AND/OR RENT (Item @ Cost/Hour X # of Hours X #Fiscal Years = Cost/Item): Note: Purchases require written justification that demonstrates cost benefits over leasing or renting. | COST / ITEM |
| | |
| MATERIALS AND SUPPLIES (Item @ Cost/Each X Quantity X #Fiscal Years = Cost/Item): | COST / ITEM |
| | |
| TRAVEL COST (Personnel or Equipment @ Rate X Round Trips X #Fiscal Years = Cost/Item): | COST / ITEM |
| TOTAL TRAVEL COST | |

| CONTRACT COST (Labor or Equipment @ Cost/Hour X #Hours X #Fiscal Years = Cost/Item): | COST / ITEM |
|---|--------------------|
| Seed collection = \$168.00/ac X 13.3 ac | \$2,234.40 |
| Field coordination w/ SDNWR biologist = \$16.67/ac X 13.3 ac | \$221.71 |
| Seed cleaning and storage = \$112/ac X 13.3 ac | \$1,489.60 |
| TOTAL CONTRACT COST | \$3,954.71 |

SPECIFICATION COST SUMMARY

| FISCAL YEAR | PLANNED INITIATION DATE (M/D/YYYY) | PLANNED COMPLETION DATE (M/D/YYYY) | WORK AGENT | UNITS | UNIT COST | PLANNED ACCOMPLISHMENTS | PLANNED COST |
|--------------------|---|---|-------------------|--------------|------------------|--------------------------------|---------------------|
| FY08 | 03/15/2008 | 09/30/2008 | SC/FA | 13 | \$401.44 | 1 | \$5,218.71 |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | TOTAL | \$5,218.71 |

Work Agent: CA=Coop Agreement, FA=Force Account, G=Grantee, P=Permittees, SC=Service Contract, TSP=Timber Sales Purchaser, V=Volunteer

SOURCE OF COST ESTIMATE

| | | |
|----|---|---|
| 1. | Estimate obtained from 2-3 independent contractual sources. | C |
| 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

III. RELEVANT DETAILS, MAPS AND DOCUMENTATION INCLUDED IN THIS REPORT:

| |
|--|
| List Relevant Documentation and Cross-Reference Location within the Accomplishment Report. Information derived from similar work conducted for San Miguel Ranch Otay tarplant preserve restoration. |
|--|

IV. TOTAL COST BY JURISDICTION

| JURISDICTION | UNITS TREATED | COST |
|---------------------|----------------------|-------------------|
| USFWS | 13 | \$5,218.71 |
| | | |
| | | |
| | TOTAL COST | \$5,218.71 |

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.

See Treatment Specification for monitoring details.

PART H - CONSULTATIONS

John Martin
San Diego National Wildlife Refuge Biologist
U.S. Fish and Wildlife Service

Bruce Hanson
Restoration ecologist
Edaw (private environmental consultants)

APPENDIX I - BURNED AREA ASSESSMENT REPORTS

SOIL AND WATERSHED DAMAGE ASSESSMENT REPORT

I. Objectives

Our objective is to restore the wildlife habitat function and value of the burned area. Specific objectives supporting this larger objective include:

- prevention of gully formation, loss of soil from the burned area, and siltation of the adjacent riparian area through erosion.

II. Issues

- Portions of the western end of the burned area have slopes of approximately 25-30°. Burned soil in these areas is prone to erosion.
- An east-west running gully runs across the center of the burned area. This gully is fed by a culvert that runs under the service road that defines the southeast (uphill) boundary of the burned area. Runoff from the slope above, channeled through the culvert, has the potential to erode the denuded gully in the burned area.

III. Observations

A. Background Information

Prior to the fire, the area within the fire footprint supported a floristically diverse coastal sage scrub vegetation community, dominated by *Artemisia californica* (California sagebrush) and *Eriogonum fasciculatum* (flat-topped buckwheat), and including *Malosma laurina* (laurel sumac), *Rhamnus crocea* (spiny redberry), *Sambucus mexicana* (elderberry), *Viguiera laciniata* (San Diego sunflower), and *Nassella pulchra* (purple needlegrass). Some of the bare-soil areas between shrubs supported cryptobiotic crusts. The shrub cover, grass cover, associated roots, and cryptobiotic crusts protected the soil surface from erosion before the fire. The fire essentially eliminated the protection of all of these biotic features.

Soils within the fire footprint have been mapped as Friant fine sandy loam 30-50% slopes, Vista coarse sandy loam 30-65% slopes, and Fallbrook sandy loam 15-30% slopes.

B. Reconnaissance Method

9 July 2007:

John Martin (San Diego National Wildlife Refuge Biologist) and Andy Yuen (San Diego National Wildlife Refuge Complex Project Leader) investigated the site of the fire that occurred on SDNWR on 6 July 2007.

Recorded perimeter of burned area using hand-held GPS. Area burned = 5.383 ha = 13.3 ac.

We observed two sites that are likely to require some erosion control measures. About 60% of the site on the south end is on a fairly steep slope (approx 25-30°) and was essentially denuded of vegetation. The burned soil is loose, powdery, not very adherent, and vulnerable to erosion. Also an east-west running gully across the middle of the fire footprint, emanating from a culvert under the road that extends along the uphill side of the burned area, is likely to require some erosion control. The gully fed by the culvert is one of the more intensely burned areas on the site, with more white ash on the surface than anywhere else. The cooler, moister microclimate of the gully likely supported more dense vegetation than the surrounding area, and thus supported more fuel.

C. Findings.

We find that the two areas described above are likely to require erosion control.

IV. Recommendations

A. Management (specification related): We recommend the installation of straw wattles perpendicular to the slope, at approximately 30-foot intervals. We also recommend that 50 clumps of *Muhlenbergia rigens* (deergrass) be planted in the bottom of the gully that bisects the site.

B. Specification Monitoring (specification related): SDNWR personnel will inspect the site after the first significant rain event of the winter of 2007, to ensure that straw wattles are effectively controlling erosion.

C. Management (non-specification related)

II. Consultations

Consulted Tom Hanson, Ground Service Technology, Inc., regarding price and availability of straw wattles.

VEGETATION DAMAGE ASSESSMENT REPORT

I. Objectives

Our objective is to restore the wildlife habitat function and value of the burned area. Specific objectives supporting this larger objective include:

- prevention of loss of soil through erosion;
- prevention of vegetation type conversion from coastal sage scrub to non-native grassland;
- replacement of floristically diverse coastal sage scrub vegetation community;
- replacement of habitat function and value for endangered, threatened, and sensitive species listed below; and
- replacement of young *Quercus agrifolia* (coast live oak) that may have been killed by the fire.

II. Issues

- Loss of native vegetation in critical habitat that supports Federal listed Endangered or Threatened Species
- Potential encroachment of non-native invasive species into critical habitat

III. Observations

A. Background Information

Prior to the fire, the area within the fire footprint supported a floristically diverse coastal sage scrub vegetation community, dominated by *Artemisia californica* (California sagebrush) and *Eriogonum fasciculatum* (flat-topped buckwheat), and including *Malosma laurina* (laurel sumac), *Rhamnus crocea* (spiny redberry), *Sambucus mexicana* (elderberry), *Viguiera laciniata* (San Diego sunflower), and *Nassella pulchra* (purple needlegrass).

Soils within the fire footprint have been mapped as Friant fine sandy loam 30-50% slopes, Vista coarse sandy loam 30-65% slopes, and Fallbrook sandy loam 15-30% slopes.

The area is within designated critical habitat for the federally threatened coastal California gnatcatcher (*Polioptila californica californica*), federally endangered least Bell's vireo (*Vireo bellii pusillus*), and federally endangered arroyo toad (*Bufo californicus*). It was probably occupied by California gnatcatcher, and likely used for foraging by least Bell's vireos nesting in the adjacent riparian habitat. The site had potential to support federally endangered Quino checkerspot butterfly (*Euphydryas editha quino*). San Diego National Wildlife Refuge was established primarily to protect these and other federally listed species, and to protect many other locally and regionally rare and sensitive species under the Multiple Species Conservation Plan: an HCP associated with an incidental take permit for several local jurisdictions in the greater San Diego area, under section 10(a)(1)(B) of the Endangered Species Act. Non-federally listed species covered under the MSCP and likely to use the area that was burned in the fire include:

- Snake cholla (*Cylindropuntia californica californica*)
- San Diego horned lizard (*Phrynosoma coronatum blainevillei*)

- Orange-throated whiptail (*Cnemidophorus hyperythrus beldingi*)
- Cooper's Hawk (*Accipiter cooperii*)
- Mountain lion (*Felis concolor*)
- Southern mule deer (*Odocoileus hemionus fuliginatus*)

In addition, the site had potential to support Hermes copper butterfly (*Lycaena hermes*).

B. Reconnaissance Method

9 July 2007:

John Martin (San Diego National Wildlife Refuge Biologist) and Andy Yuen (San Diego National Wildlife Refuge Complex Project Leader) investigated the site of the fire that occurred on SDNWR on 6 July 2007.

Recorded perimeter of burned area using hand-held GPS. Area burned = 5.383 ha = 13.3 ac.

Vegetation impacts: Based on multiple prior observations of the site, and composition of adjacent unburned vegetation, essentially all of the burned area was vegetated with *Artemisia* and *Eriogonum*-dominated coastal sage scrub (CSS). Quality of CSS varied from good to poor, little or none was excellent. Most of the area had a lot of exotic annual grass between shrubs. Scrub on the lower slopes included shrubs up to 1.5 m tall, but typically about 1 m. Perhaps as many as 100 *Rhamnus crocea* (spiny redberry: larval host plant of Hermes copper butterfly) were killed. Approximately 500-600 square meters supported *Nassella pulchra* (purple needlegrass). Two young *Quercus agrifolia* (coast live oaks) were killed by suppression efforts, four more had all foliage killed and were slightly burned around the base, they may or may not survive. The mature coast live oaks lining the riparian area were minimally impacted. One large (basal diameter about 30 cm) *Sambucus mexicana* (elderberry) was killed. About 5-10 mature *Cylindropuntia californica californica* (snake cholla: an MSCP-covered species) were killed. A few hundred square meters of relatively intact cryptobiotic crusts were killed.

C. Findings:

We found that approximately 13.3 acres of good-to-poor quality coastal sage scrub had been burned. Artificially short anthropogenically-induced fire intervals have the potential to convert coastal sage scrub to non-native grassland (Zedler *et al* 1983, Malanson 1984, Westman and O'Leary 1986). Based on multiple prior observations of the site, and supported by observations of adjacent unburned vegetation, we believe that the site is occupied by a variety of exotic annual weeds, including *Avena* sp. (wild oat), *Bromus madritensis* ssp. *rubens* (red brome), *B. diandrus* (rip gut brome), *Brassica nigra* (black mustard), *Centaurea melitensis* (maltese star thistle), *Erodium cicutarium* (stork's-bill) and others. It is likely that seed of a variety of exotic annual weeds remains in the seed bank within the burned area. Weed seeds are also likely to disperse into the burned area from the surrounding vegetation. To preclude the type conversion of this site from coastal sage scrub to non-native grassland, and thus to preserve its quality as habitat for the threatened and endangered wildlife species including gnatcatcher, vireo, and Quino checkerspot, it

is important to implement an integrated weed control program on the burn site.

IV. Recommendations

A. Management (specification related):

Spec 1: We recommend that exotic weeds on the site be treated with up to four applications of glyphosate on the site from approximately mid-November 2007 to late July 2008, and up to two more applications between November 2008 and July 2009. Herbicides should be selectively applied, to avoid herbicide impacts to regenerating native vegetation.

Spec. 2: We recommend that native seed be collected from San Diego National Wildlife Refuge for use in revegetation of this area. Native seed should be applied to the site in November or December of 2008 (after the first application of herbicide).

B. Specification Monitoring (specification related)

C. Management (non-specification related): We recommend that horses, bicycle, and pedestrian traffic within the burned area be minimized for five years following the fire, to allow native plants to become established. We recommend that locally-collected acorns be used to replace young coast live oaks that were or may have been killed by the fire.

III. Consultations:

Bruce Hanson, restoration ecologist with Edaw (an environmental consulting firm).

IV. References

Malanson, G. P. 1984. Fire history and patterns of Venturan subassociations of Californian coastal sage scrub. *Vegetatio* 57: 121–128.

Westman, W. F., J. F. O'Leary 1986. Measures of resilience: the response of coastal sage scrub to fire. *Vegetatio* 65: 179–189.

Zedler, P. H., C. R. Gautier, G. S. McMaster 1983. Vegetation change in response to extreme events: the effect of a short interval between fires in California chaparral and coastal scrub. *Ecology* 64: 809–818.

WILDLIFE DAMAGE ASSESSMENT REPORT

I. Objectives

Our objective is to restore the wildlife habitat function and value of the burned area. Specific objectives supporting this larger objective include:

- Restoration of habitat for federally threatened coastal California gnatcatcher (*Poliioptila californica californica*)
- Restoration of habitat for federally endangered least Bell's vireo (*Vireo bellii pusillus*);
- Restoration of habitat for federally endangered Quino checkerspot butterfly (*Euphydryas editha quino*)
- prevention of vegetation type conversion from coastal sage scrub to non-native grassland;
- replacement of floristically diverse coastal sage scrub vegetation community;
- replacement of young *Quercus agrifolia* (coast live oak) that may have been killed by the fire.

II. Issues:

- Exotic annual weeds are prevalent in the spaces between native shrubs in adjacent unburned areas, and have the potential to disseminate seeds into the burned area. In addition, it is likely that a significant soil seed bank of exotic annual weeds exists in the fire footprint. Without treatment, conversion of the site from coastal sage scrub to non-native grassland dominated by exotic weeds is likely. The resultant non-native grassland is not likely to support nesting gnatcatchers, foraging vireos, or larval Quino checkerspot butterfly. To prevent vegetation type conversion, it will be important to treat weeds with herbicide, and to actively plant and seed native species into the fire footprint, so that they might become established and successfully out-compete invasive weeds.
- Young coast live oaks, which have high wildlife habitat value, were destroyed by the fire and/or fire suppression efforts. These trees should be replaced.
- *Rhamnus crocea* (spiny redberry: the larval host plant of Hermes copper butterfly) were destroyed by the fire and/or fire suppression efforts. These shrubs should be replaced.
- About 5-10 mature *Cylindropuntia californica californica* (snake cholla: an MSCP-covered species) were destroyed by the fire. Cuttings of nearby surviving snake cholla should be used to re-establish snake cholla in the burned area.

III. Observations

A. Background Information

Prior to the fire, the area within the fire footprint supported a floristically diverse coastal sage scrub vegetation community, dominated by *Artemisia californica* (California sagebrush) and *Eriogonum fasciculatum* (flat-topped buckwheat), and including *Malosma laurina* (laurel sumac), *Rhamnus crocea* (spiny redberry), *Sambucus mexicana* (elderberry), *Viguiera laciniata* (San Diego sunflower), and *Nassella pulchra* (purple needlegrass).

Soils within the fire footprint have been mapped as Friant fine sandy loam 30-50% slopes, Vista coarse sandy loam 30-65% slopes, and Fallbrook sandy loam 15-30% slopes.

The area is within designated critical habitat for the federally threatened coastal California gnatcatcher (*Polioptila californica californica*), federally endangered least Bell's vireo (*Vireo bellii pusillus*), and federally endangered arroyo toad (*Bufo californicus*). It was probably occupied by California gnatcatcher, and likely used for foraging by least Bell's vireos nesting in the adjacent riparian habitat. The site had potential to support federally endangered Quino checkerspot butterfly (*Euphydryas editha quino*). San Diego National Wildlife Refuge was established primarily to protect these and other federally listed species, and to protect many other locally and regionally rare and sensitive species under the Multiple Species Conservation Plan: an HCP associated with an incidental take permit for several local jurisdictions in the greater San Diego area, under section 10(a)(1)(B) of the Endangered Species Act. Non-federally listed species covered under the MSCP and likely to use the area that was burned in the fire include:

- Snake cholla (*Cylindropuntia californica californica*)
- San Diego horned lizard (*Phrynosoma coronatum blainevillei*)
- Orange-throated whiptail (*Cnemidophorus hyperythrus beldingi*)
- Cooper's Hawk (*Accipiter cooperii*)
- Mountain lion (*Felis concolor*)
- Southern mule deer (*Odocoileus hemionus fuliginatus*)

In addition, the site had potential to support Hermes copper butterfly (*Lycaena hermes*).

B. Reconnaissance Method

9 July 2007:

John Martin (San Diego National Wildlife Refuge Biologist) and Andy Yuen (San Diego National Wildlife Refuge Complex Project Leader) investigated the site of the fire that occurred on SDNWR on 6 July 2007.

Recorded perimeter of burned area using hand-held GPS. Area burned = 5.383 ha = 13.3 ac.

Biological impacts: Based on multiple prior observations of the site, and composition of adjacent unburned vegetation, essentially all of the burned area was vegetated with *Artemisia* and *Eriogonum*-dominated coastal sage scrub (CSS). Quality of CSS varied from good to poor, little or none was excellent. Entire area had a lot of exotic annual grass between shrubs. Scrub on the lower slopes included shrubs up to 1.5 m tall, but typically about 1 m. Perhaps as many as 100 *Rhamnus crocea* (spiny redberry: larval host plant of Hermes copper) were killed. Approximately 500-600 square meters supported *Nassella pulchra* (purple needlegrass). Two young *Quercus agrifolia* (coast live oaks) were killed by suppression efforts, four more had all foliage killed and were slightly burned around the base, they may or may not survive. The mature coast live oaks lining the riparian area were minimally impacted. One large (basal diameter about 30 cm) *Sambucus mexicana* (elderberry) was killed. About 5-10 mature *Cylindropuntia californica californica* (snake cholla: an MSCP-covered species) were killed. A few hundred square meters of relatively intact

cryptobiotic crusts were killed.

Two dead animals found: one was the anterior half of a southern alligator lizard (*Elgaria multicarinata*). It was not burned but was likely flushed from shelter by the fire. May have been depredated, may have been run over by fire suppression equipment. Other animal casualty was a striped skunk (*Mephitis mephitis*). Lying dead in the burned area, but was not burned, indicating that it died post-fire. Further investigation revealed two puncture wounds on the throat, about 1.5-2 cm apart. Apparently it was killed by a young and inexperienced mammalian carnivore, who was subsequently repelled by the skunk's chemical defenses.

Live animals remaining in the burned area included side-blotched lizard (*Uta stansburiana*), Western fence lizard (*Sceloporus occidentalis*), and orange-throated whiptail (*Cnemidophorus hyperythrus beldingi*). Ash-throated Flycatcher (*Myiarchus cinerascens*) and White-tailed Kite (*Elanus leucurus*) were observed foraging in and over the burned area.

C. Findings:

We find that the area has been burned, and wildlife habitat quality is likely to be degraded by conversion to non-native grassland if we do not implement an integrated pest management-based program to control exotic weeds. Artificially short anthropogenically-induced fire intervals have the potential to convert coastal sage scrub to non-native grassland (Zedler *et al* 1983, Malanson 1984, Westman and O'Leary 1986).

IV. Recommendations

A. Management (specification related):

Spec 1: We recommend that exotic weeds on the site be treated with up to four applications of glyphosate on the site from approximately mid-November 2007 to late July 2008, and up to two more applications between November 2008 and July 2009. Herbicides should be selectively applied, to avoid herbicide impacts to regenerating native vegetation.

Spec. 2: We recommend that native seed be collected from San Diego National Wildlife Refuge for use in revegetation of this area. Native seed should be applied to the site in November or December of 2008 (after the first application of herbicide).

B. Specification Monitoring (specification related) (see specifications for included monitoring.

C. Management (non-specification related): We recommend that horses, bicycle, and pedestrian traffic within the burned area be minimized for five years following the fire, to allow native plants to become established. We recommend that locally-collected acorns be used to replace young coast live oaks that were or may have been killed by the fire.

I. References

Malanson, G. P. 1984. Fire history and patterns of Venturan subassociations of Californian coastal sage scrub. *Vegetatio* 57: 121–128.

Westman, W. F., J. F. O'Leary 1986. Measures of resilience: the response of coastal sage scrub to fire. *Vegetatio* 65: 179–189.

Zedler, P. H., C. R. Gautier, G. S. McMaster 1983. Vegetation change in response to extreme events: the effect of a short interval between fires in California chaparral and coastal scrub. *Ecology* 64: 809–818.

APPENDIX II - ENVIRONMENTAL COMPLIANCE

Federal, State, and Private Lands Environmental Compliance Responsibilities

All projects proposed in the MILLAR Fire Emergency Stabilization 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 emergency stabilization and monitoring actions described in this plan for all jurisdictions affected by the MILLAR Fire.

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 the MILLAR Fire, as proposed in the MILLAR Fire Emergency Stabilization 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 Millar Fire are Categorically Excluded from further environmental analysis as provided for in the Service's NEPA categorical exclusion No. 516 DM 6, Appendix 1.4) B. Resource Management. (2): The operation, maintenance, and management of existing facilities and routine recurring management activities and improvements, including renovations and replacements which result in no or only minor changes in the use, and have no or negligible environmental effects on-site or in the vicinity of the site. Prior to carrying out these actions, the Service should coordinate with affected Federal agencies and State, Tribal, and local governments. 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 Categorical Exclusions

Applicable U.S. FISH AND WILDLIFE SERVICE Categorical Exclusions

No. 516 DM 6, Appendix 1.4) B.

Statement of Compliance for the MILLAR Fire Emergency Stabilization Plan.

This section documents consideration given to the requirements of specific environmental laws in the development of the MILLAR Fire Emergency Stabilization 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 MILLAR Fire Emergency Stabilization Plan:

- National Historic Preservation Act (NHPA).
- Executive Order 11988. Floodplain 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.

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

(Yes) (No)

- () (x) Adversely affect Public Health and Safety
- () (x) Adversely affect historic or cultural resources, wilderness, wild and scenic rivers aquifers, prime farmlands, wetlands, floodplains, ecologically critical areas, or Natural Landmarks.
- () (x) Have highly controversial environmental effects.
- () (x) Have highly uncertain environmental effects or involve unique or unknown environmental risks.
- () (x) Establish a precedent resulting in significant environmental effects.
- () (x) Relates to other actions with individually insignificant but cumulatively significant environmental effects.
- () (x) Adversely effects properties listed or eligible for listing in the National Register of Historic Places
- () (x) Adversely affect a species listed or proposed to be listed as Threatened or Endangered.
- () (x) 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

(x) Ground disturbance is proposed. However, results of archaeological surveys associated with the establishment of SDNWR indicate that no archaeological resources are known from the proposed action area (Ogden, 1981. Results of an archaeological investigation of Phase II, Rancho San Diego, Spring Valley, California. ACT/Berryman 1981).

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).
- (x) Is not required because the Emergency Stabilization Plan has no potential to affect cultural resources. Results of archaeological surveys associated with the establishment of SDNWR indicate that no archaeological resources are known from the proposed action area (Ogden, 1981. Results of an archaeological investigation of Phase II, Rancho San Diego, Spring Valley, California. ACT/Berryman 1981).

Other Requirements

(Yes) (No)

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

Herbicides proposed for use in this plan have previously been approved for use on the refuge through the Service's Integrated Pest Management program.

I have reviewed the proposals in the MILLAR Fire Emergency Stabilization 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.

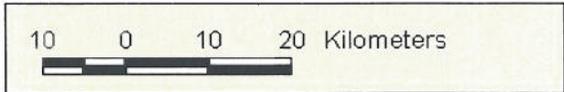
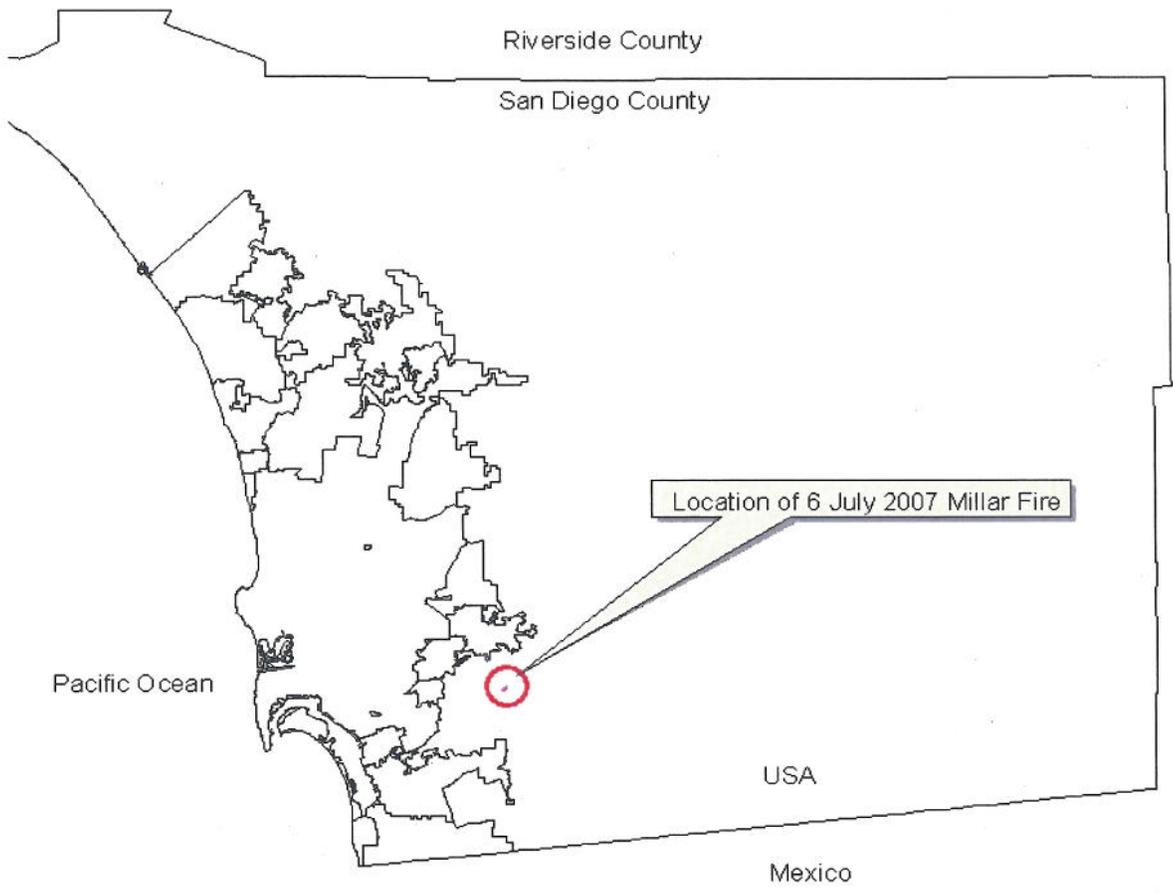
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Project Leader, San Diego National Wildlife Refuge Complex

7/20/07
Date

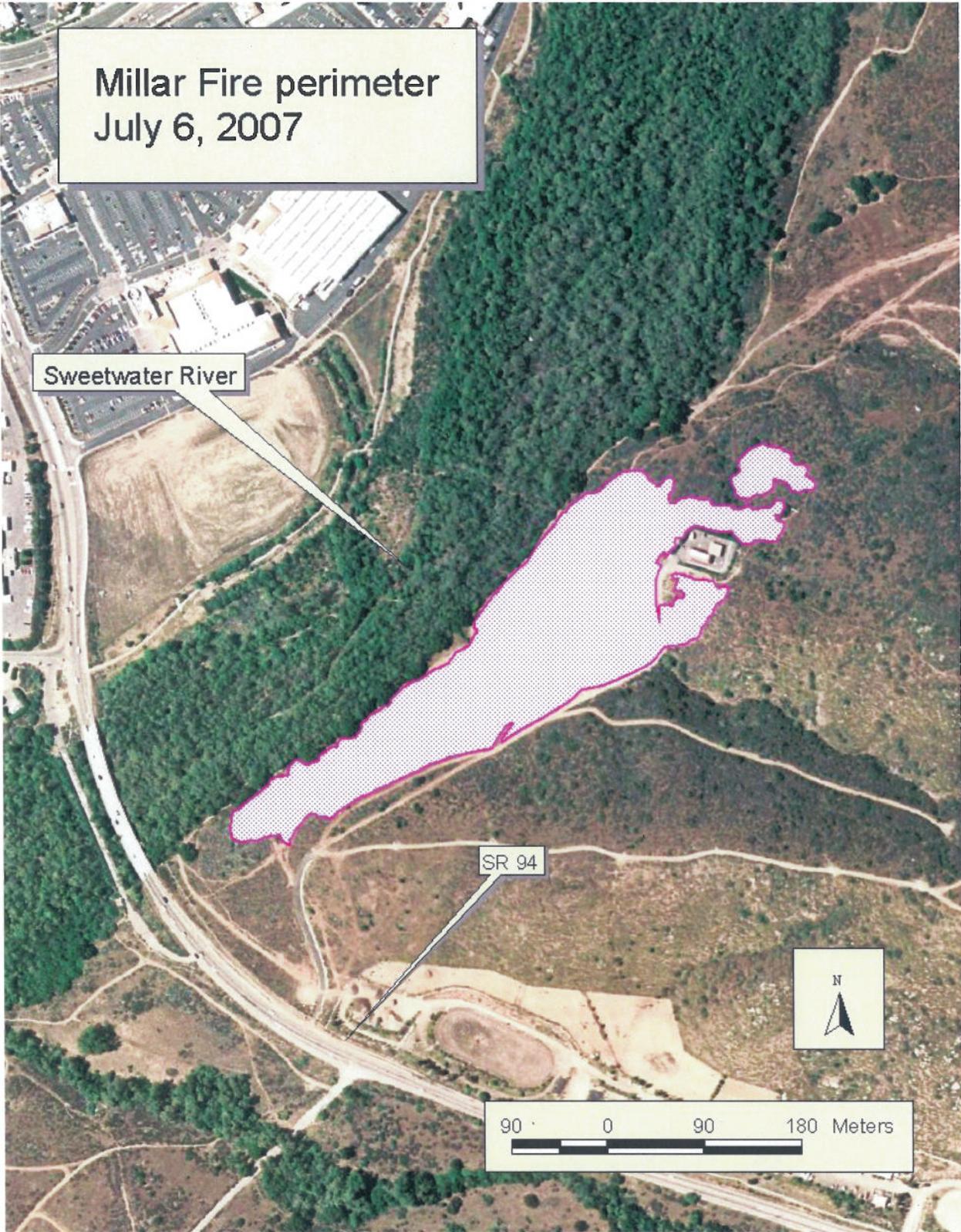
APPENDIX III - MAPS

Map 1: Fire Location

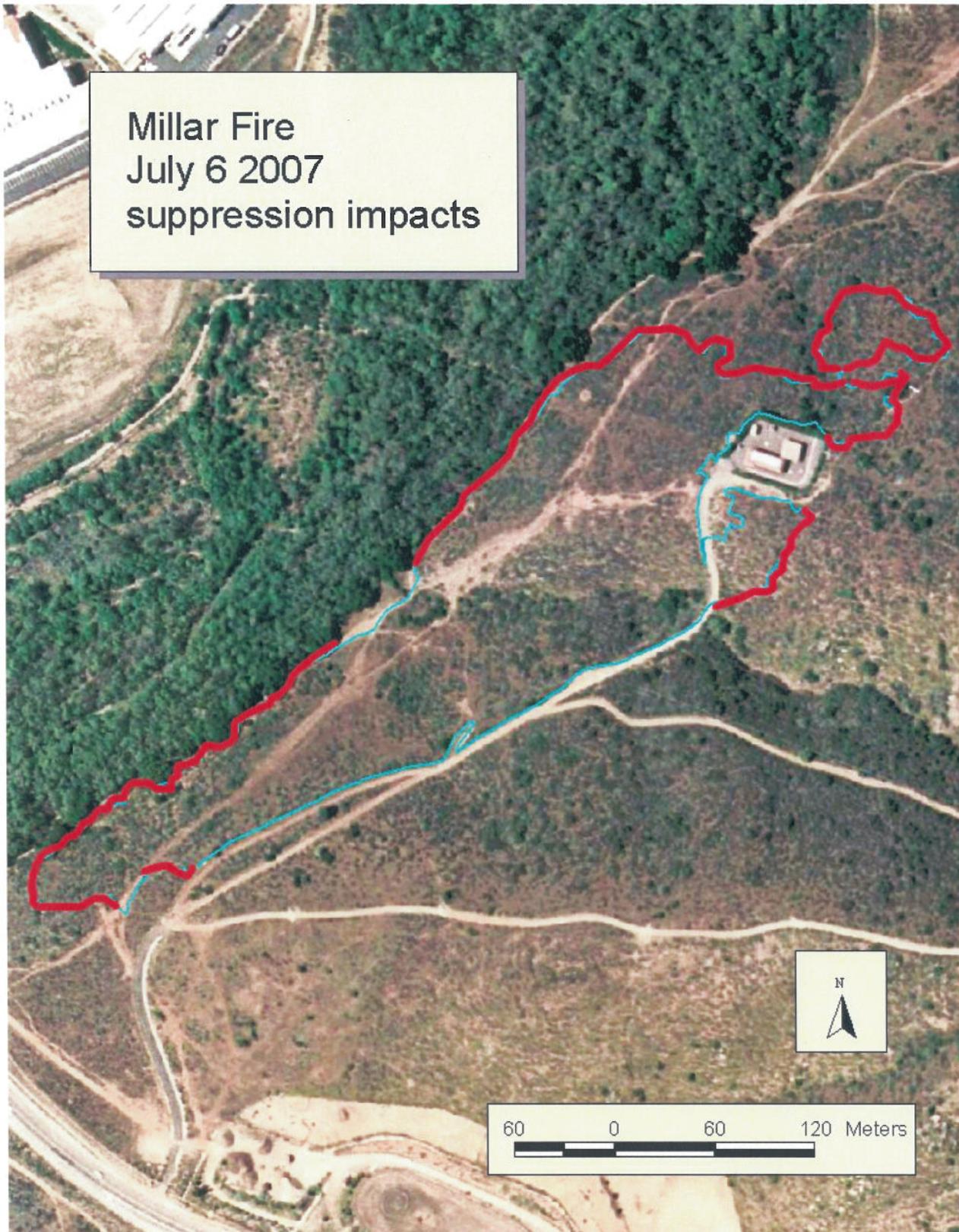
Millar Fire (6 July 2007) in San Diego County



Map 2: Fire perimeter



Map 3: Suppression impacts



APPENDIX IV - PHOTO DOCUMENTATION

Figure 1. Millar Fire, July 6 2007



Figure 2. Extent of Millar Fire



Figure 3. Potential for erosion on Millar Fire site.



Figure 4. Burned *Cylindropuntia californica californica* (snake cholla) at Millar Fire.



Figure 5. Burned *Sambucus mexicana* (elderberry) and *Quercus agrifolia* (coast live oak) at Millar Fire.



Figure 6. Southern alligator lizard (*Elgaria multicarinata*) dead at site of Millar Fire.



APPENDIX V - SUPPORT DOCUMENTS

INTRA-SERVICE SECTION 7 BIOLOGICAL EVALUATION FORM

Originating Person: John Martin
Telephone Number: 619-468-9245, X 227
Date: 16 July 2007

I. Region: California/Nevada Region

II. Service Activity

The San Diego National Wildlife Refuge (SDNWR) is planning to stabilize soils at the site of the Millar Fire. The fire occurred on July 6, 2007, and burned 13.3 acres of coastal sage scrub adjacent to the Sweetwater River. We propose to install approximately 200 twenty-five-foot straw wattles, perpendicular to the slope, within the burn footprint, and to plant approximately 100 *Muhlenbergia rigens* (deergass) in a burned gully. We are also planning to conduct weed control and native revegetation at the site of the Millar Fire. We propose to treat annual weeds with glyphosate for two years. We also propose to collect native seed on SDNWR, and use it to seed the burned area.

III. Pertinent Species and Habitat:

A. Listed species and/or critical habitat *that are or may be* within action area:

| Species | Species Present | Suitable Habitat Present | Critical Habitat Present |
|---------|-----------------|--------------------------|--------------------------|
|---------|-----------------|--------------------------|--------------------------|

| | | | |
|--------------------------------|---|--|---------------------------------|
| San Diego ambrosia | Yes. Occurs approximately 70 m southwest of the southwest end of the burn footprint. However, focused surveys including the southern 100 m of the burn footprint have been conducted. The plant has not been found within the burn footprint. | Yes, marginally. | Critical Habitat not designated |
| Otay tarplant | No | Yes. The site has some potential to support Otay tarplant. However, the species prefers clay soils, which do not occur on site. | No |
| Willowy monardella | No | No. Species occupies ephemeral drainages. | Critical Habitat not designated |
| San Diego thornmint | No. | Soil on site is not appropriate. | Critical Habitat not designated |
| Quino checkerspot butterfly | No. Adult butterflies were observed in suitable habitat approximately 2 km from project site in March 2001. | No. Prior to fire, site was questionably suitable for Quino checkerspot. However, any aestivating larvae or pupae were probably killed in the fire. | No. |
| Arroyo toad | No. Negative surveys conducted annually from 1999-2005 (except 2004). | Marginal at best. The stream bordering the site is not suitable toad breeding habitat, as it is thickly vegetated, therefore does not support open, sunny, gravel-bottomed pools. In addition, the stream is deeply shaded, therefore water temperatures are likely too low to support toad larvae, and would not support the development of algal mats. | Yes. |
| Southwestern willow flycatcher | No. Negative surveys conducted in spring 2007. | Yes, immediately adjacent. | No. |

| | | | |
|--------------------------------|--|---|--|
| Least Bell's vireo | Yes. Surveys in spring 2007 documented vireos in riparian vegetation adjacent to burned area, prior to fire. | Yes, immediately adjacent. | Yes. Less than 100 square meters of the project area overlaps with critical habitat. |
| Coastal California gnatcatcher | Yes. Gnatcatchers have been observed in coastal sage scrub within approximately 200 meters of the project site. All coastal sage scrub adjacent to the project area should be considered occupied by gnatcatchers. | Yes. Prior to burn, Millar Fire footprint was good gnatcatcher habitat. | Yes. Critical habitat for the gnatcatcher includes the entire project area and most of the surrounding undeveloped land. |

B. Proposed species and/or proposed critical habitat *that are or may be* within action area:

| Species | Species Present | Suitable Habitat Present | Proposed Critical Habitat Present |
|--------------------------------|-----------------|--------------------------|-----------------------------------|
| Otay tarplant critical habitat | No | Yes | No. |

C. Candidate species *that are or may be* within action area:

None.

D. Include species/habitat occurrences on a map.

See attached figures.

IV. Geographic area or station name and action:

San Diego National Wildlife Refuge. Action is the installation of approximately 200 straw wattles on the 13.3-acre Millar Fire site.

V. Location (attach map):

See attached figure 1.

A. Eco-region Number and Name:

Southern California Eco-region

B. County and State:

San Diego County, California

C. Section, township, and range:

Jamul Mountains 7.5' Quadrangle
Section 33; T. 16 S., R. 1 E.

D. Distance and direction to nearest town:

Proposed project is located within the unincorporated community of Jamul, San Diego County, California.

E. Species/habitat occurrence:

See III A-C above.

VI. Description of proposed action

The San Diego National Wildlife Refuge will install approximately 200 twenty-five-foot straw wattles within the footprint of the Millar Fire. Fire footprint is approximately 13.3 acres, adjacent to the south side of the Sweetwater River, and approximately 80 m northeast of SR 94. Wattles will be placed perpendicular to the slope, laid in trenches approximately 5 cm deep, and secured with stakes driven into the ground. In addition, we will plant approximately 100 *Muhlenbergia rigens* from containers into a gully that runs east-west, roughly bisecting the burn site.

The San Diego National Wildlife Refuge will contract for weed control within the footprint of the Millar Fire. Fire footprint is approximately 13.3 acres, adjacent to the south side of the Sweetwater River, and approximately 80 m northeast of SR 94. The contractor will selectively control non-native weeds distributed throughout the entire 13.3-acre fire footprint by spraying a glyphosate-based herbicide (approved by the Service) in up to four separate applications between November 19, 2007, and July 30, 2008. An additional two applications will occur between November 17, 2008, and July 17, 2009. The separate herbicide applications will be scheduled approximately one to three weeks after seasonal rain events.

We expect that the first cohort of weeds will germinate in response to October or November rains. Subsequent rain events are expected to stimulate germination and growth of subsequent cohorts of weeds, which will be treated with herbicide on a similar schedule (i.e., after approximately 1-3 weeks growth). Each subsequent rain event is expected to produce a smaller cohort of weeds. As frequency of seasonal rains diminishes, successive cohorts of exotic weeds are expected to be less numerous and less vigorous; therefore, herbicide applications may occur at longer intervals. It is expected that the site will require up to four applications of herbicide between November 19, 2007, and July 30, 2008. Additionally, as the growing season progresses, more and larger desirable native plants are expected to occur on the site, such that as the season progresses, herbicide applicators will need to exercise greater care and selectivity to avoid deleterious effects to native plants. Herbicide will be applied when conditions are optimal for the translocation of glyphosate.

The glyphosate-based herbicide application will be accomplished on the entire 13.3-acre fire footprint. Herbicide will be applied according to all label directions and the following specifications:

1. Herbicide will only be applied when wind speed is less than 5 miles per hour, to reduce the potential for drift.
2. Spray nozzles will be of a design to maximize the size of droplets and thus reduce the

potential for drift of herbicide to non-target plants.

4. Application of herbicide will not occur if rain is projected within 24 hours of the application.
5. Herbicide shall be applied with a hand-held apparatus (e.g., a backpack sprayer or hose from a truck-mounted compressor sprayer) to ensure selective application to exotic plants and avoidance of native plants.
7. Crews will be trained in the identification and avoidance of desirable native species.

The project site currently consists of bare soil, formerly coastal sage scrub. Prior to the fire, the vegetation was dominated by *Artemisia californica*, *Eriogonum fasciculatum*, interspersed with *Malosma laurina*, *Rhamnus crocea*, *Viguiera laciniata*, and non-native weeds, including *Avena* sp., *Bromus madritensis* ssp. *rubens*, *Brassica nigra*, *Centaurea melitensis*, and *Salsola tragus*. Seeds of all of these species likely persist in the soil seed bank.

VII. Determination of effects:

- A. Explanation of effects of the action on species and critical habitat in items III, A-C.

Threatened and Endangered Species

| Species | Effects Determination | Rationale |
|--------------------|------------------------------|--|
| San Diego ambrosia | NE | None found during focused surveys on the site. Steeply sloped areas elevated above the Sweetwater River floodplain are likely unsuitable for this species. |
| Otay tarplant | NE | Not likely to occur on the site. Also, work will be conducted during season when the only live Otay tarplant consists of seeds in the soil seed bank. It would not be affected by the proposed work. |

| | | |
|-----------------------------|------|---|
| Quino checkerspot butterfly | NLAA | <p>None found during repeated visits to the action area from 2005-2007. Burned area is currently not suitable habitat for Quino checkerspot. Any live Quino checkerspot that may have been on site prior to the fire were killed by the fire. There is potential for Quino checkerspot to immigrate into the area when its larval host plant becomes established.</p> <p>Laboratory studies on a variety of insect orders show that some taxa of insects may be adversely affected by glyphosate, while others evidently are not (Hassan et al 1988). Multiple studies on honeybees (Burgett and Fisher 1990; Huntington 1985; Wildlife International Ltd. 1992) suggest that glyphosate is not toxic to bees at concentrations that could be encountered in the field. I know of no investigations of direct toxicity of glyphosate to Lepidoptera. No effects on the number of common butterfly species were observed when glyphosate was used to control trees, shrubs and blackberry in wire zones; but numbers of individuals did increase (Bramble et al. 1997). The available information suggests that if Quino checkerspot immigrate into the area, they would be unlikely to be directly deleteriously affected by glyphosate. Glyphosate application will be avoided on all sites where host plants are found. Because glyphosate binds to soil particles readily, and loses its toxic properties when it does so, there is no potential for glyphosate to affect <i>Plantago erecta</i> (dwarf plantain: the butterfly's obligate larval host plant) that germinates later, after rain falls. Project is expected to improve habitat quality for Quino checkerspot butterfly.</p> |
| Arroyo toad | NE | <p>Only marginally suitable habitat exists near the site. Given the low habitat suitability and the low likelihood of toad movement from known occupied sites to the project site, the project's potential to affect arroyo toad is discountable.</p> |

| | | |
|---|------|---|
| Arroyo toad critical habitat | NLAM | Project would not affect any primary constituent elements of arroyo toad critical habitat. By combating erosion, project has the potential to prevent degradation of upland aestivation habitat. |
| Southwestern willow flycatcher | NE | No flycatchers and minimal (insignificant) suitable habitat on site. Project would not impact either. |
| Least Bell's vireo | NLAA | Project would not affect the insignificant amount of suitable habitat on site. Glyphosate is essentially non-toxic to birds at concentrations that could reasonably be encountered in the field. |
| Least Bell's vireo critical habitat | NE | The very small amount of Critical Habitat on site would not be affected by the proposed work. |
| Coastal California gnatcatcher | NLAA | Project site is currently unsuitable for gnatcatchers. Though adjacent habitat is likely occupied, work would not entail travel through occupied habitat nor would it generate noise in excess of 60 dB(A). The proposed action would restore suitable habitat to the burn site, whereas refraining from the action is likely to result in the conversion of the site to very low-quality habitat in the long term. Gnatcatchers are unlikely to be negatively affected by application of glyphosate. Glyphosate is essentially non-toxic to birds at concentrations that could reasonably be encountered in the field. |
| Coastal California gnatcatcher critical habitat | NLAM | Installation of straw wattles will not affect any primary constituent elements of gnatcatcher critical habitat. |

Proposed Threatened and Endangered Species

None.

Candidate Species

None.

B. Explanation of actions to be implemented to reduce adverse effects:

As discussed under VIIA , a determination was made that the proposed action was not likely to adversely affect any of the listed and candidate species or adversely modify critical habitat that may occur in the action area. Thus, no further actions are needed to reduce adverse effects.

VIII. Determination of effects:

A. Explanation of effects of the action on species and critical habitat in items III:

See VIIA for determination of effects for each species that may be affected by the proposed action. The effects are self explanatory.

B. Explanation of actions to be implemented to reduce adverse effects:

See VIIB for list of actions to be implemented to reduce adverse effects. The reason for these actions is self explanatory.

VIII. Effects determination and response requested:

A. Listed species/designated critical habitat:

| <u>Determination</u> | <u>Response requested</u> |
|---|---|
| Will not affect species (species: San Diego ambrosia, Otay tarplant, southwest willow flycatcher, arroyo toad) | <input checked="" type="checkbox"/> Concurrency |
| May affect, and is not likely to adversely affect species (species: Quino checkerspot, least Bell's vireo, coastal California gnatcatcher) | <input type="checkbox"/> Concurrency |
| May affect, and is not likely to adversely modify critical habitat (species: coastal California gnatcatcher, least Bell's vireo, arroyo toad) | <input type="checkbox"/> Concurrency |
| B. Proposed species/proposed critical habitat: | |
| May affect, and is not likely to adversely modify critical habitat (species: none) | <input type="checkbox"/> Concurrency |
| C. Candidate species: | |
| May affect, but is not likely to adversely affect species/adversely modify critical habitat (species: none) | <input type="checkbox"/> Concurrency |

