

165 FIRE

Burned Area

Emergency Stabilization & Rehabilitation Plan

**U.S. Fish and Wildlife Service
San Luis National Wildlife Refuge Complex
California**

Prepared by:

**United States Department of the Interior
San Luis National Wildlife Refuge Complex
California/Nevada Operations Office**

**165 Fire
BURNED AREA
EMERGENCY STABILIZATION & REHABILITATION (ESR) PLAN**

AGENCY/UNIT: U.S. Fish and Wildlife Service
San Luis National Wildlife Refuge Complex

LOCATION: Merced County, California

DATE: June 18, 2001

PREPARED BY: United States Department of the Interior
San Luis National Wildlife Refuge and
California/Nevada Operations Office

Submitted By: _____
Richard Hadley, BAER Team Leader,
U.S. Fish & Wildlife Service

Date: _____

**DEPARTMENT OF THE INTERIOR
BURNED AREA EMERGENCY STABILIZATION & REHABILITATION PLAN
ACCOMPLISHMENT REPORT**

EXECUTIVE SUMMARY

Introduction

This plan has been prepared in accordance with the U.S. Department of the Interior, *Burned Area Emergency Stabilization General Policy and Procedures (620 DM 3)* January, 2001 and U.S. Fish and Wildlife Service Burned Area Interim Burned Area Emergency Stabilization and Rehabilitation Guidelines (June 2001). This plan provides Emergency Stabilization and Rehabilitation (ESR) for all Federal lands burned within the 165 Fire. The primary objectives of the 165 Fire Burned Area Emergency Stabilization and Rehabilitation (ESR) Plan are:

- ! To prescribe post-fire mitigation measures necessary to protect human life, property, and critical cultural and natural resources
- ! To promptly mitigate unacceptable effects of fire and its suppression on lands within the burned area in accordance with management policies, and all relevant federal, state, and local laws and regulations

This plan addresses rehabilitation of fire suppression impacts and emergency stabilization and rehabilitation of fire effects. A Burned Area Emergency Response (BAER) Team was established, lead by the California/Nevada Operations Office and comprised of staff at San Luis National Wildlife Refuge Complex. The BAER Team conducted an analysis of fire effects throughout the burned area. The Wildlife Biologist conducted an assessment of effects of the fire on federal listed threatened and endangered species, the fire effects on the refuge management program for these species, as well as impacts to the refuges waterfowl management program. The vegetation specialist evaluated the effect of the fire on existing noxious weeds within the burned area and the post-fire effect on refuge's existing noxious weed management program. The vegetation specialist also assessed impacts to infrastructure necessary to maintain the refuge's grazing management program which is targeted at management of protected habitat under *Recovery Plan for Upland Species of San Joaquin Valley, California (1998)*. There are no known cultural resource sites or populations of sensitive or protected plant species within the burned area. Fire suppression impacts were mapped and rehabilitation treatments were developed.

Management Requirements

San Luis National Wildlife Refuge land acquisition boundary was Congressionally established on February 3, 1967. Lands within the refuge were purchased under Migratory Bird Conservation Act (16 U.S.C., Section 715d), Fish and Wildlife Coordination Act (16 U.S.C. 664), and the Fish and Wildlife Act of 1956 (16 U.S.C. 742f(b)(1)). The Congressionally established purposes for the refuge are:

“for use as an inviolate sanctuary, or for any other management purpose for migratory birds” (Migratory Bird Conservation Act)

“for the conservation, maintenance, and management of wildlife, resources thereof, and its habitat thereon” (Fish and Wildlife Coordination Act)

“for the development, advancement, management, conservation, and protection of fish and wildlife resources... for the benefit of the United States Fish and Wildlife Service, in

performing its activities and services. Such acceptance may be subject to the terms of any restrictive or affirmative covenant, or condition of servitude” (Fish and Wildlife Act)

Refuge management is further directed by the National Wildlife Refuge System Administration Act as Amended by the National Wildlife Refuge Improvement Act of 1997, the *Recovery Plan for Upland Species of San Joaquin Valley, California*, and specific approved land management plans including:

Biological (Operations) Program, San Luis National Wildlife Refuge Complex, Environmental Assessment, (August 30, 1999)

Public Use Management Program, San Luis National Wildlife Refuge Complex, Environmental Assessment, (August 30, 1999)

Cooperative Farming and Grazing Program, San Luis National Wildlife Refuge Complex, Environmental Assessment (August 30, 1999)

Annual Integrated Pest Management Plan, San Luis National Wildlife Refuge Complex (2001)

Under the Upland Species Recovery plan, protection and management of the refuge habitat has been specifically identified under recovery actions:

“Protect existing kit fox habitat in northern, northwestern, northeastern segments of their geographic range (includes San Luis NWR and the 165 Fire burn area) and existing connections between habitat in those areas...”

As a result of the approval of the 1998 recovery plan the refuge purposes are by default amended to include the Endangered Species Act requirements for recovery of the San Joaquin kit fox.

A Comprehensive Conservation Plan has not been prepared for the San Luis National Wildlife Refuge as required by the National Wildlife Refuge Improvement Act (1997) at the time of this plans preparation.

Fire Background

The 165 Fire began at approximately 1100 hours on Wednesday June 13, 2001 along State Highway 165 at the junction of the Salt Slough boat launch area. The cause of the ignition is currently under investigation. Driven by high wind (40 mph+) and temperatures, low humidity, the fire quickly spread through predominately grassland vegetation. The wind driven fire burned approximately 1,054 acres and at several locations, jumped major sloughs several hundred feet across, through spotting. In addition to refuge lands, approximately 100 acres of the State Salt Slough Unit of the North Grassland Wildlife Management Area were burned.

Refuge fire management staff along with U.S. Forest Service staff assigned to a planned prescribed burn conducted the initial attack and immediately called for additional assistance as the fire had already reach over 100 acres in size. A California Department of Forestry and Fire Protection (CDF) Type III Incident Management Team (IMT) arrived at the fire within 1 hour of the ignition and took charge of the fire as Unified Command with the Refuge Fire Management Officer. The fire was declared contained at approximately 2000 hours on June 13, 2001 and controlled at 2200 hours on June 14, 2001.

The Refuge Project Leader consulted with the California/Nevada Operations office regarding Burned Area Emergency Stabilization and Rehabilitation Assistance on June 13, 2001 and it was determined that a BAER Team could be assembled at the refuge with available staff under the direction of a CNO Team Leader.

The BAER Team, tasked with evaluation of fire suppression impacts rehabilitation and ESR needs, developed this plan to address the following issues:

- ! Rehabilitation of grazing infrastructure impacted by fire to facilitate grazing necessary for management of Federal endangered San Joaquin kit fox and migratory waterfowl habitat
- ! Rehabilitation requirements established by Federal law, policies, and relevant approved resource management plans
- ! Implementation of treatments in a timely manner to prevent irreversible natural resource damage from spread of noxious weeds
- ! Rehabilitation of fire suppression dozer line.

Resource Damages and Threats to Resources and Human Safety

The BAER Team conducted intensive field surveys after the fire to identify impacts and compiled the following recommendations for rehabilitation of affected lands:

Fire Suppression Rehabilitation:

- ! Rehabilitate (recontour) 4.5 miles of dozerline
- ! Fall seed dozer line to reduce establishment of noxious weeds
- ! Chemically treat dozerline (spring) for noxious weeds (yellow star thistle and pepper weed)
- ! Regrade 4 miles of road damaged by fire suppression activities

Emergency Stabilization and Rehabilitation

- ! Hire Project Implementation Coordinator
- ! Replace 6 miles of grazing fence necessary for maintenance of San Joaquin kit fox and migratory waterfowl habitat and protection of riparian corridors
- ! Chemically Treat 600 acres of star thistle and pepperweed management units to prevent expansion of pre-fire seed sources.
- ! Replace resource protection fences
- ! Monitor noxious weed treatments for first growing season

**DEPARTMENT OF THE INTERIOR
BURNED AREA EMERGENCY STABILIZATION & REHABILITATION PLAN
ACCOMPLISHMENT REPORT**

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PART A FIRE LOCATION AND BACKGROUND INFORMATION

Fire Name	165 Fire	Date Controlled	June 14, 2001
Fire Number	PA-DWP-990004	Total Acres Burned	1054
Agency Unit	San Luis National Wildlife Refuge	Acres / Jurisdiction	
Region	California/Nevada Operations	FWS	1054
State(s)	California	BIA	
County(s)	Merced	BLM	
Ignition Date/Manner	June 13, 2001/ Human Caused	State	100
Zone	South	Private	
Date Contained	June 13, 2001	Other	

PART B NATURE OF PLAN

I. Type of Plan (check one box below):

<input type="checkbox"/>	Suppression Rehabilitation (complete Parts A, B, C, and H only)
<input type="checkbox"/>	Emergency Stabilization & Rehabilitation (complete all parts)
<input checked="" type="checkbox"/>	Both Suppression & ESR (completed all parts)

II. Type of Action (check one box below):

<input checked="" type="checkbox"/>	Initial submission
<input type="checkbox"/>	Updating or revising the initial submission
<input type="checkbox"/>	Supplying information for accomplishment to date on work underway
<input type="checkbox"/>	Different phase of project plan
<input type="checkbox"/>	Final report (to comply with the closure of the EFR account)

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PART C REHABILITATION ASSESSMENT

I. Rehabilitation Objectives:

- ! Recommend post-fire rehabilitation prescriptions which prevent irreversible loss of natural and cultural resources.
- ! As practical and necessary, restore natural conditions to areas disturbed by fire suppression actions.
- ! Conduct immediate post-burn reconnaissance for fire suppression related impacts to T&E species.
- ! Provide long-term monitoring recommendations intended to ensure the success of rehabilitation efforts.

II. Rehabilitation Recommendations:

See Summary of Rehabilitation Recommendations.

III. BAER Team Members

SPECIALTY/PROFESSION	NAME/AGENCY	ASSESSMENT INCLUDED (Yes or No)
Team Leader	Richard Hadley (FWS)	N/A
Operations	Roger Wong/Chris Schoneman (FWS)	N/A
Hydrologist	N/A	
Soil Scientist	N/A	
Forester	N/A	
Cultural Resource/Archeologist	N/A	
Vegetation Specialist	Richard Hadley (FWS)	YES
Wildlife Biologist	Dennis Woolington (FWS)	YES
Wildlife Biologist/GIS Specialist	Karen Harvey (FWS)	
Environmental Protection Spec.	Richard Hadley (FWS)	N/A

IV. Resource Advisors: (Note: Resource Advisors are individuals who assisted the BAER Team with the preparation of this plan. See Part H of this plan for a full list of agencies and individuals who were consulted or otherwise contributed to the development of this plan.

NAME	AFFILIATION, SPECIALTY, or PROFESSION
Kim Forrest	SLNWRC, Project Leader
Chris Schoneman	Assistant Refuge Manager
Tim Keldsen	
Roger Wong	Fire Management Officer

**DEPARTMENT OF THE INTERIOR
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PART D SUMMARY OF APPROVAL AUTHORITIES (By Activities/Cost)

ACTIVITIES REQUIRING PROJECT LEADER APPROVAL	COST
Fire Suppression Damages (charged to Fire Suppression)	
Dozerline Rehabilitating	\$1,200
Seed Dozerline	\$6,890
Chemical Treat Noxious Weeds on Dozerline	\$1,682
Regrade Refuge Roads Impacted by Fire Suppression Traffic	\$3,000
SUBTOTAL	\$12,772

ACTIVITIES REQUIRING REGIONAL OFFICE REVIEW/APPROVAL:	
Long-term ESR request (charged to ESR)	
Chemically Treat Burned Noxious Weed Management Units	\$75,329
Monitor Chemical Treatment of Burned Noxious Weed Management Units	\$1,610
Replace Burned Grazing Fence	\$27,630
Replace Resource Protection Signs	\$445
Implementation Leader (term appointment)	\$46,200
SUBTOTAL	\$151,214

Activities Requiring Superintendent's Approval:	
FWS Base Funding	
N/A	
SUBTOTAL	

TOTAL REHABILITATION COST (short & long-term)	\$163,986
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**DEPARTMENT OF THE INTERIOR
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PART E SUMMARY OF ACTIVITIES

The SUMMARY OF ACTIVITIES table identifies **trackable** Suppression Rehabilitation costs charged to fire account, costs proposed for Emergency Stabilization and Rehabilitation (ESR) funding, agency operation funds, and other funding sources. Only trackable expenditures are displayed in the total cost column. They are coded with the appropriate cost authority. The total cost of the rehabilitation effort to date, excluding the costs absorbed by the fire (fire crew, labor and associated overhead) is displayed as either Fire Suppression Rehabilitation (F), Emergency Stabilization & Rehabilitation (ESR), Agency Operations (OP) or Other (O).

PART E - SUMMARY OF ACTIVITIES - San Luis National Wildlife Refuge Complex

TREATMENT SPECIFICATION	UNIT	UNIT COST	# OF UNITS	COST BY FUND SOURCE			IMPLEMENTATION METHOD	SPECIFICATION TOTAL
				FIRE	ESR	OP		
S-1 Dozerline Rehabilitation	MILES	\$ 67	4.5	1,200			C	\$ 1,200
S-2 Seed Dozerline	ACRES	\$ 34	34	6,890			C	\$ 6,890
S-3 Chemically Treatment of Noxious Weeds on Dozerline	ACRES	\$ 153	11	1,682			C	\$ 1,682
S-4 Regrade Refuge Roads Impacted by Fire Suppression Traffic	Miles	\$ 750	4	3,000			C	\$ 3,000
N-1 Chemically Treatment Noxious Weed Management Units	Acres	\$ 126	600		75,329		C	\$ 75,329
N-2 Monitor Chemical Treatment Noxious Weed Management Units	Miles	\$ 3	511		1,610		C	\$ 1,610
N-3 Replace Burned Grazing Fence	Miles	\$ 4,605	6		27,630		C	\$ 27,630
N-4 Replace Resource Protection Signs	Signs	\$ 7	65		445		C	\$ 445
N-5 Implementation Leader	Leader	\$ 46,200	1		46,200			\$ 46,200
TOTAL				12,772	151,214			\$ 163,986
COST: F=Suppression; ESR=Long-term Rehab.; OP=Base Funding. METHOD: FC=Crews Assigned to Fire; C=Contract; EFC=Emergency Fire Contract; P=Agency Personnel								

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PART F - SPECIFICATIONS

SPECIFICATION TITLE:	Dozerline Rehabilitation	AGENCY:	FWS
PART E LINE ITEM:	S-1 Dozerline	FISCAL YEAR(S) (list each year):	2001

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: Rehabilitation of fire suppression constructed dozerline is necessary to avoid soil erosion and to restore natural surface flows. Rehabilitation will also serve to restrict unintended/undesired access by off-road vehicle traffic.</p> <p>B. Location/(Suitable) Sites: Approximately 2.5 miles of dozerline was constructed on the western flank of the fire and 2.0 mile on the eastern flank adjoining refuge access roads</p> <p>C. Design/Construction Specifications:</p> <ol style="list-style-type: none"> Return soil side cast in berms and recover fill materials and replace in cuts along dozer line blending disturbed areas to fit the natural contours. This may be accomplished with a grader. Fill materials should be cleaned or removed from established drainages. <p>D. Purpose of Treatment Specification:Prevention of surface and gully erosion, and prevention of off-road vehicle use.</p>
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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
TOTAL PERSONNEL SERVICE COST	
? 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
Grader and Operator @ \$75 X hour X 16 hours	\$1,200
TOTAL CONTRACT COST	\$1,200

SPECIFICATION COST SUMMARY

FISCAL YEAR	UNIT	UNITS COST	# OF UNITS	COST	FUNDING SOURCE	METHOD
FY 1	MILE	\$267.00	4.5	\$1,200	F	C
FY 2						
FY 3						
TOTAL	MILE	\$267.00	4.5	\$1,200	F	C

FUNDING SOURCES:

- F** = Fire Suppression Account
- EFR** = Emergency Fire Rehabilitation
- OP** = Agency Operating Fund
- O** = Other

METHODS:

- P** = Agency Personnel Services
- C** = Contract (long-term)
- EFC** = Emergency Fire Contract
- FC** = Crew Labor Assigned to Fire

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	C
4. Estimates based upon government wage rates and material cost.	
5. No cost estimate required - cost charged to Fire Suppression Account	

P = Personnel Services, 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 BAER Report:
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PART F - SPECIFICATIONS

SPECIFICATION TITLE:	Seed Dozerline	AGENCY:	FWS
PART E LINE ITEM:	S-2 Dozerline	FISCAL YEAR(S) (list each year):	2002

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: Reseed dozerlines created by fire suppression efforts to maintain ecological integrity of native plant communities and prevent noxious weed establishment. Use range drill to seed dozerline area after recontouring.</p> <p>B. Location/(Suitable) Sites: Approximately 2.5 miles on burned area west flank and 2.0 miles on the eastern flank</p> <p>C. Design/Construction Specifications:</p> <ol style="list-style-type: none"> 1. The seed mixture for the 165 Fire dozerline is an established seed mixture used for similar disturbance on San Luis NWR. Seed should be tested for purity and germination rates. The mix consists of creeping wildrye () and salt grass () Before accepting delivery of seed shipment the contractor must provide written evidence (seed label and letter) to the Refuge Manager that the seed conforms to the purity and germination requirements in the specification. Test methods specified in Rules for Testing Seeds, Proceeding of the Association of Official Seed Analyst will be acceptable for determining the germination rate. 2. Saltgrass Seed will be collected locally as supplies are not available commercially and the quantity required is small. 3. Delivery: Deliver certified noxious weed-free seed sold on a pure live seed basis. Delivery to San Luis National Wildlife Refuge Complex, Maintenance Facility, Los Banos, CA. 4. Seed should be applied in the fall prior to winter rains using a range drill at a rate of 10 lbs per acre. If seed is not applied immediately after delivery seed should be stored under cover in a cool location free of pests. <p>D. Purpose of Treatment Specification: Seeding can be an effective erosion control technique and reduce the establishment noxious weeds in disturbed areas impacted by fire suppression. Seeding is being conducted consistent with approved refuge management plans including the annual Integrated Pest Management Plan.</p>
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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
TOTAL PERSONNEL SERVICE COST	
? 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
Local Collection of Saltgrass seed cost @ \$20 / lb. X 100 lbs.	\$2,000
Creeping Wildrye (Leymus triticoides (Rio) Seed @ \$16 / lb. X 120 lbs. + \$50 shipping	\$1,970
16-20-0 fertilizer (50 lb bags) @ \$10 ea. X 12 bags	\$120
TOTAL MATERIALS AND SUPPLY COST	\$4,090
? 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
Contracted tractor and range drill @ \$14 / acre X 200 acres (including move in and out)	\$2,800
TOTAL CONTRACT COST	\$2,800

SPECIFICATION COST SUMMARY

FISCAL YEAR	UNIT	UNITS COST	# OF UNITS	COST	FUNDING SOURCE	METHOD
FY 1					F	C
FY 2	ACRES	\$34.00	200.0	\$6,890		
FY 3						
TOTAL	ACRES	\$35.00	200.0	\$6,890	F	C

FUNDING SOURCES:

- F** = Fire Suppression Account
- EFR** = Emergency Fire Rehabilitation
- OP** = Agency Operating Fund
- O** = Other

METHODS:

- P** = Agency Personnel Services
- C** = Contract (long-term)
- EFC** = Emergency Fire Contract
- FC** = Crew Labor Assigned to Fire

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	C
4. Estimates based upon government wage rates and material cost.	
5. No cost estimate required - cost charged to Fire Suppression Account	

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

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

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PART F - SPECIFICATIONS

SPECIFICATION TITLE:	Chemically Treat Noxious Weeds on Dozerline	AGENCY:	FWS
PART E LINE ITEM:	S-3 Noxious Weeds	FISCAL YEAR(S) (list each year):	2002

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: Chemically treat known noxious weed infestation areas along dozerline within the burned area to prevent post-fire spread of yellow star thistle and pepper weed. There are approximately 11 acres to be treated.</p> <p>B. Location/(Suitable) Sites: Known areas of weed infestation within the burned area, that were under active control through the refuge's integrated pest management program.</p> <p>C. Design/Construction Specifications:</p> <ol style="list-style-type: none"> 1. Use certified pesticide applicator. 2. Treat areas using chemical treatments approved in the refuges annual Integrated Pest Management Program. <p>D. Purpose of Treatment Specification: Prevent re-infestation of yellow star thistle and pepper weed into areas under active noxious weed management by the refuge under their approved IPM program.</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
TOTAL PERSONNEL SERVICE COST	
? 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
2 lbs. Telar @ \$75 / lb. (application rate of 3 oz. / ac)	\$150
1 gal. Transline @ \$315 (application rate of 11 oz. / ac)	\$315
1 gal. surfactant @ \$17 (1 qt. / 100 gallon solution)	\$17
2.5 gal. Blazon Dye @ \$128 (½ gal. / 100 gal. solution)	\$320
TOTAL MATERIALS AND SUPPLY COST	\$802
? 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
Application of Transline to control yellow starthistle @ \$40 / acre X 11 acres	\$440
Application of Telar to control perennial pepperweed @ \$40 / acre X 11 acres	\$440
TOTAL CONTRACT COST	\$880

SPECIFICATION COST SUMMARY

FISCAL YEAR	UNIT	UNITS COST	# OF UNITS	COST	FUNDING SOURCE	METHOD
FY 1						
FY 2	ACRES	\$153.00	11.0	\$1,682	F	C
FY 3						
TOTAL	ACRES	\$153.00	11.0	\$1,682	F	C

FUNDING SOURCES:

- F** = Fire Suppression Account
- EFR** = Emergency Fire Rehabilitation
- OP** = Agency Operating Fund
- O** = Other

METHODS:

- P** = Agency Personnel Services
- C** = Contract (long-term)
- EFC** = Emergency Fire Contract
- FC** = Crew Labor Assigned to Fire

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	C/M
4. Estimates based upon government wage rates and material cost.	
5. No cost estimate required - cost charged to Fire Suppression Account	

P = Personnel Services, 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 BAER Report:

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PART F - SPECIFICATIONS

SPECIFICATION TITLE:	Regrade Refuge Roads Impacted by Fire Suppression Traffic	AGENCY:	FWS
PART E LINE ITEM:	S-4 Road Repairs	FISCAL YEAR(S) (list each year):	2001

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: Rehabilitation of pre-existing roads is necessary to avoid erosion gullies and ponding on road surfaces due to blockage of drainage diversions by berms created by suppression actions. The intent is not to improve the road but re-establish drainage structures and contours to pre-fire conditions. A grader is the preferred equipment.</p> <p>B. Location/(Suitable) Sites: Approximately 4 miles of refuge road system on eastern flank of fire (see fire perimeter map).</p> <p>C. Design/Construction Specifications:</p> <ol style="list-style-type: none"> 1. All road to be graded shall be watered prior to grading activity. 2. Berms and vegetation piles created by dozers on the edge of the road shall be feathered out and recontoured to pre-fire road shoulder conditions. 3. Water drainages filled during suppression line construction shall be clean and recontoured. <p>D. Purpose of Treatment Specification:</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
TOTAL PERSONNEL SERVICE COST	
? 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
Contracted water truck @ \$50 / hour X 8 hrs. X 3 days	\$1,200
Contracted Road Grader @ \$75 / hour X 8 hrs. X 3 days	\$1,800
TOTAL CONTRACT COST	\$3,000

SPECIFICATION COST SUMMARY

FISCAL YEAR	UNIT	UNITS COST	# OF UNITS	COST	FUNDING SOURCE	METHOD
FY 1	MILE	\$750.00	4.0	\$3,000	F	C
FY 2						
FY 3						
TOTAL	MILE	\$750.00	4.0	\$3,000	F	C

FUNDING SOURCES:

- F** = Fire Suppression Account
- EFR** = Emergency Fire Rehabilitation
- OP** = Agency Operating Fund
- O** = Other

METHODS:

- P** = Agency Personnel Services
- C** = Contract (long-term)
- EFC** = Emergency Fire Contract
- FC** = Crew Labor Assigned to Fire

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, 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 BAER Report:

**DEPARTMENT OF THE INTERIOR
BURNED AREA EMERGENCY STABILIZATION & REHABILITATION PLAN
AND ACCOMPLISHMENT REPORT**

PART F - SPECIFICATIONS

SPECIFICATION TITLE:	Chemically Treat Noxious Weed Management Units	AGENCY:	FWS
PART E LINE ITEM:	N-1 Noxious Weeds	FISCAL YEAR(S) (list each year):	2002

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: Chemically treat approximately 500 acres of burned grassland prone to advanced spread of yellow starthistle and pepperweed as the result of loss of native vegetative cover and nutrient release via fire ash.</p> <p>B. Location/(Suitable) Sites: 200 acres are located on the East Freitas Unit, 200 acres on West Bear Creek Unit and 100 acres are located in the Deadman Slough vicinity.</p> <p>C. Design/Construction Specifications:</p> <ol style="list-style-type: none"> 1. Use certified pesticide applicator. 2. Treat areas using chemical treatments approved in the refuges annual Integrated Pest Management Program. <p>D. Purpose of Treatment Specification: Prevent re-infestation of yellow star thistle and pepper weed into areas under active noxious weed management by the refuge under their approved IPM program.</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
TOTAL PERSONNEL SERVICE COST	
? 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
63 gallons Garlon 3A @ \$80/ gal. (application rate of 5 pts. / ac.)	\$5,040
43 gallons Transline @ \$315 / gal. (application rate of 11 oz. / ac.)	\$13,545
32 gallons surfactant @ 17 / gal. (1 qt. T & 1 pt. G / 100 gal. solution)	\$544
87.5 gallons Blazon Dye @ \$128 / gal. (½ gal. / 100 gal. solution)	\$11,200
TOTAL MATERIALS AND SUPPLY COST	\$30,329
? 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
Application of transline to control yellow starthistle @ \$75 / acre X 500 acres	\$37,500
Application of garlon 3A to control pepperweed @ \$75 / acre X 100 acres	\$7,500
TOTAL CONTRACT COST	\$45,000

SPECIFICATION COST SUMMARY

FISCAL YEAR	UNIT	UNITS COST	# OF UNITS	COST	FUNDING SOURCE	METHOD
FY 1						
FY 2	ACRES	\$126.00	600.0	\$75,329	ESR	C
FY 3						
TOTAL	ACRES	\$126.00	600.0	\$75,329	ESR	C

FUNDING SOURCES:

- F** = Fire Suppression Account
- EFR** = Emergency Fire Rehabilitation
- OP** = Agency Operating Fund
- O** = Other

METHODS:

- P** = Agency Personnel Services
- C** = Contract (long-term)
- EFC** = Emergency Fire Contract
- FC** = Crew Labor Assigned to Fire

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	M/C
4. Estimates based upon government wage rates and material cost.	
5. No cost estimate required - cost charged to Fire Suppression Account	

P = Personnel Services, 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 BAER Report:

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BURNED AREA EMERGENCY STABILIZATION & REHABILITATION PLAN
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PART F - SPECIFICATIONS

SPECIFICATION TITLE:	Monitor Noxious Weed Treatments	AGENCY:	FWS
PART E LINE ITEM:	S-4 Noxious Weed Monitoring	FISCAL YEAR(S) (list each year):	2002

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: Yellow-star thistle treatments will likely be successful and addition follow-up treatments may not be necessary. However, pepper weed frequently requires follow-up treatments. The implementation leader for the BAER plan will be responsible for conducting visual inspection of treated areas both on dozerlines and in the burned area in the spring of 2002.</p> <p>B. Location/(Suitable) Sites: Mapped dozerline and chemical treatment areas.</p> <p>C. Design/Construction Specifications:</p> <ol style="list-style-type: none"> Assigned staff will conduct a visual inspect of dozerlines and treated noxious weed infestation areas during spring "weed" season of 2002. Areas in need of weed further treatment for yellow star thistle and pepper weed will be mapped and GPS coordinates will be taken. <p>D. Purpose of Treatment Specification: Monitoring during the spring of 2002 is required to determine if noxious weed treatments on dozerlines and known noxious weed infestation areas of the burned area require follow-up treatment. If additional treatments are required a supplemental chemical treatment specification can be submitted for approval.</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
GS-11 Biologist X \$161 / day X 10 days =	\$1,610
TOTAL PERSONNEL SERVICE COST	\$1,610
? 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
TOTAL CONTRACT COST	

SPECIFICATION COST SUMMARY

FISCAL YEAR	UNIT	UNITS COST	# OF UNITS	COST	FUNDING SOURCE	METHOD
FY 1						
FY 2	ACRES	\$3.20	511.0	\$1,610	ESR	P
FY 3						
TOTAL	ACRES	\$3.20	511.0	\$1,610	ESR	P

FUNDING SOURCES:

F = Fire Suppression Account
EFR = Emergency Fire Rehabilitation
OP = Agency Operating Fund
O = Other

METHODS:

P = Agency Personnel Services
C = Contract (long-term)
EFC = Emergency Fire Contract
FC = Crew Labor Assigned to Fire

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.	M/P
5. No cost estimate required - cost charged to Fire Suppression Account	

P = Personnel Services, 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 BAER Report:
--

**DEPARTMENT OF THE INTERIOR
BURNED AREA EMERGENCY STABILIZATION & REHABILITATION PLAN
AND ACCOMPLISHMENT REPORT**

PART F - SPECIFICATIONS

SPECIFICATION TITLE:	Replace Burned Fence	AGENCY:	FWS
PART E LINE ITEM:	N-3 Fence	FISCAL YEAR(S) (list each year):	2001-2002

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: Repair approximately 6 miles of 5-strand fences damaged by the 165 Fire to pre-fire conditions</p> <p>B. Location/(Suitable) Sites: Fence line through-out 165 Fire Burned Area (map available at refuge headquarters)</p> <p>C. Design/Construction Specifications:</p> <ol style="list-style-type: none"> 1. Replace 5 strand fence consisting of 12 ½ gauge barbed-wire (includes removal of burned wire) 2. Existing steel T-posts will be reused 3. Replace wood support structures including: 47 H-braces, 202 support posts, 35 corner braces. <p>D. Purpose of Treatment Specification: Replacement of burned fence to allow the continued, approved grazing program during 2002 winter season, required to maintain habitat for the Federal endangered San Joaquin kit fox and migratory waterfowl populations. Grazing is an approved management practice in the burned area. Fencing is also required to protected riparian habitat recovering from the 165 Fire.</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
TOTAL PERSONNEL SERVICE COST	
? 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
8 X 5 treated wood posts @ \$7.05 ea. X 284 posts =	\$2,002
12 ½ gauge barbed wire @ \$42 ea. X 134 rolls =	\$5,628
TOTAL MATERIALS AND SUPPLY COST	\$7,630
? 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
Remove and depose damaged fence materials	\$5,000
Install new fence labor @ \$2,500 per mile X 6 miles =	\$15,000
TOTAL CONTRACT COST	\$20,000

SPECIFICATION COST SUMMARY

FISCAL YEAR	UNIT	UNITS COST	# OF UNITS	COST	FUNDING SOURCE	METHOD
FY 1	MILE	\$4,605.00	6.0	\$27,630	ESR	C
FY 2						
FY 3						
TOTAL	MILE	\$4,605.00	6.0	\$27,630	ESR	C

FUNDING SOURCES:

- F** = Fire Suppression Account
- EFR** = Emergency Fire Rehabilitation
- OP** = Agency Operating Fund
- O** = Other

METHODS:

- P** = Agency Personnel Services
- C** = Contract (long-term)
- EFC** = Emergency Fire Contract
- FC** = Crew Labor Assigned to Fire

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.	M/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, 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 BAER Report:

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BURNED AREA EMERGENCY STABILIZATION & REHABILITATION PLAN
AND ACCOMPLISHMENT REPORT**

PART F - SPECIFICATIONS

SPECIFICATION TITLE:	Replace Resource Protection Signs	AGENCY:	FWS
PART E LINE ITEM:	N-4 Sign Replacement	FISCAL YEAR(S) (list each year):	2001

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: Replace resource protection signs burned in the fire including "Area Closed" signs and boundary signs.</p> <p>B. Location/(Suitable) Sites: Refuge boundary and interior refuge fence lines for management units.</p> <p>C. Design/Construction Specifications:</p> <p style="padding-left: 20px;">1. Replace burned signs with standard signs</p> <p>D. Purpose of Treatment Specification: To inform refuge visitors of area closures and refuge boundary</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
TOTAL PERSONNEL SERVICE COST	
? 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
Refuge Boundary Signs (FWS-A-2) @ \$6.85 ea. X 40	\$274
Area Closed Sign (FWS-A-6) @ \$6.85 ea X 25	\$171
TOTAL MATERIALS AND SUPPLY COST	\$445
? 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
TOTAL CONTRACT COST	

SPECIFICATION COST SUMMARY

FISCAL YEAR	UNIT	UNITS COST	# OF UNITS	COST	FUNDING SOURCE	METHOD
FY 1	SIGN	\$6.85	65.0	\$445	ESR	P
FY 2						
FY 3						
TOTAL	SIGN	\$6.85	65.0	\$445	ESR	P

FUNDING SOURCES:

F = Fire Suppression Account
EFR = Emergency Fire Rehabilitation
OP = Agency Operating Fund
O = Other

METHODS:

P = Agency Personnel Services
C = Contract (long-term)
EFC = Emergency Fire Contract
FC = Crew Labor Assigned to Fire

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	M/P
4. Estimates based upon government wage rates and material cost.	
5. No cost estimate required - cost charged to Fire Suppression Account	

P = Personnel Services, 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 BAER Report:
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**DEPARTMENT OF THE INTERIOR
BURNED AREA EMERGENCY STABILIZATION & REHABILITATION PLAN
AND ACCOMPLISHMENT REPORT**

PART F - SPECIFICATIONS

SPECIFICATION TITLE:	Implementation Leader	AGENCY:	FWS
PART E LINE ITEM:	N-5 Leader	FISCAL YEAR(S) (list each year):	2001 - 2002

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: This specification provides for a full time project implementation leader responsible for set-up of accounts, contract development, tracking and project accomplishment reporting.</p> <p>B. Location/(Suitable) Sites: Los Banos, CA</p> <p>C. Design/Construction Specifications:</p> <p>1. Hire a term appointed full-time implementation leader to manage over-all 165 Fire Rehab. project</p> <p>D. Purpose of Treatment Specification:</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
GS-11 Implementation Leader (term appoint) @ \$27.00 / hr. X 80 hours X 20 pay periods	\$43,200
TOTAL PERSONNEL SERVICE COST	\$43,200
? 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
Mis. equipment @ \$3,000	\$3,000
TOTAL EQUIPMENT PURCHASE, LEASE OR RENTAL COST	\$3,000
? 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
	\$
TOTAL CONTRACT COST	\$

SPECIFICATION COST SUMMARY

FISCAL YEAR	UNIT	UNITS COST	# OF UNITS	COST	FUNDING SOURCE	METHOD
FY 1	LEADER	\$46,200.00	1.0	\$46,200	ESR	P
FY 2						
FY 3						
TOTAL	LEADER	\$46,200.00	1.0	\$46,200	ESR	C

FUNDING SOURCES:

F = Fire Suppression Account
EFR = Emergency Fire Rehabilitation
OP = Agency Operating Fund
O = Other

METHODS:

P = Agency Personnel Services
C = Contract (long-term)
EFC = Emergency Fire Contract
FC = Crew Labor Assigned to Fire

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	C
4. Estimates based upon government wage rates and material cost.	
5. No cost estimate required - cost charged to Fire Suppression Account	

P = Personnel Services, 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 BAER Report:
--

**DEPARTMENT OF THE INTERIOR
BURNED AREA EMERGENCY STABILIZATION & REHABILITATION PLAN
AND ACCOMPLISHMENT REPORT**

**PART G FWS - SAN LUIS NATIONAL WILDLIFE REFUGE
APPROVAL**

REVIEW AND

I. Suppression Related Rehabilitation Approval (check one box below):

- G Approved**
- G Approved with Revision**
- G Disapproved**

Explanation for revision or disapproval:

Kim Forrest, Project Leader, San Luis NWRC

Date

II. Emergency Stabilization & Rehabilitation (ESR) Approval (check one box below):

- G Approved**
- G Approved with Revision**
- G Disapproved**

Explanation for revision or non-concurrence:

Stephen Thompson, Manager, California/Nevada Operations

Date

**DEPARTMENT OF THE INTERIOR
BURNED AREA EMERGENCY STABILIZATION & REHABILITATION PLAN
AND ACCOMPLISHMENT REPORT**

APPENDIX I: BAER TEAM RESOURCE ASSESSMENTS

! Vegetation Assessment

! Wildlife Assessment

**DEPARTMENT OF THE INTERIOR
BURNED AREA EMERGENCY STABILIZATION AND REHABILITATION PLAN**

**165 FIRE
VEGETATION RESOURCE ASSESSMENT**

I. OBJECTIVES

- ! Evaluate and assess fire and suppression impacts to vegetative resources and identify values at risk associated with vegetative losses.
- ! Determine rehabilitation and monitoring needs supported by specifications to aid in vegetative recovery, plant community ecological integrity and soil stabilization
- ! Evaluate potential for invasive species infestation into native plant communities within the burned area.
- ! Provide management recommendations to assist in vegetative recovery, watershed stabilization, site productivity and species habitat protection and rehabilitation.

II. ISSUES

- ! Fire suppression impacts to plant communities, vegetative, and range improvements within the 165 Fire burned area
- ! Protection of other resource values including site productivity, wildlife habitat, and watershed stability
- ! Management strategies which provide for the stabilization, natural regeneration and recovery of the burned area
- ! Monitoring of the seeding effectiveness of rehabilitation efforts.
- ! Monitoring of noxious weed treatment areas to determine follow-up treatment requirements.

III. OBSERVATIONS

This report identifies and addresses known and potential impacts to vegetation resources within the 165 Fire burned area at San Luis National Wildlife Refuge, Los Banos, California. The 165 Fire burned approximately 1,300 acres of the refuge on June 13, 2001.

The burned area consists of approximately 1,300 acres of annual and perennial grassland, alkali scrub, freshwater emergent wetlands, and riparian oxbows and sloughs associated with the San Joaquin River.

Findings and recommendations contained within this assessment are based upon information obtained from personal interviews with refuge staff, literature review, and field inspection of the burned area.

Reconnaissance was conducted on the ground using all terrain vehicles. This assessment attempts to capture the resource management concerns related to vegetation loss from 165 Fire as expressed by the refuge Biologist and other refuge resource management staff.

A. Background

The 165 Fire was a typical wind-driven fire ignited by an unknown human source on June 13, 2001 at approximately 1100 hours immediately adjoining State Highway 165. Strong winds in excess of 40 mph drove the wind southwest across the refuge in a narrow less than 1 mile wide band. Fire behavior was extreme for the grassland communities. At several points the fire jumped Salt slough a distance of several hundred feet. The fire was declared contained at approximately 1900 hours on the 13th.

The fire crossed three management units of the refuge: the East Freitas, West Bear Creek, and San Luis units. Vegetative resources provide forage and cover for a variety of wildlife species and domestic livestock use, as well as aesthetic values, and

watershed stability. The burned area provides important habitat for the Federally Endangered San Joaquin kit fox (see wildlife assessment). Management objectives for the burned area include maintenance of short grassland habitat for the San Joaquin kit fox, burrowing owl, badger, long-billed curlew as well as wintering habitat for arctic nesting geese and sandhill cranes.

1. Vegetation

The burned area is predominately upland mixed native and introduced grasses and forbs, with a willow forest riparian corridor along the length of Salt Slough. Alkali seeps, small vernal pools, and meandering seasonal channels of the slough are also found in this unit. Plant species in the uplands include native grasses and forbs such as alkali sacaton, creeping wild rye, salt grass, gum plant goldfield, and alkali heath. Non-native species include wild oats, various brome species, poison hemlock, and noxious weeds including yellow star thistle and pepperweed.

2. Vegetation Impacts

Vegetation resources were directly impacted by the 165 Fire and by fire suppression tactics utilized to control the fire. Documented impacts to vegetation resulted from:

- a) Construction of dozerline and removal of vegetation from along road shoulders and previously undisturbed sites.
- b) Vegetation losses due to fire intensity. All Vegetation was removed from grassland communities. Riparian forests were partial consumed and some mortality can be expected.

Evidence of a fast moving fire were observed in that shrub species were bent over and only partial consumed by the fire. Riparian forest vegetation was scorched to height of 5 to 15 feet. Due to the fast moving nature of the burn most of the burn area could be characterized as low burn intensity. With longer residency times in the riparian forest additional were identified through scorch heights. However, mortality in riparian forests are expected to be low.

Grasslands are expected to recovery quickly. The additional nutrients made available from the fire will be used by the recovering plant community. Shrub and riparian forest types that have been damaged or killed can be expected to resprout.

Negative impacts resulting from the loss of vegetation include the temporary loss of wildlife habitat and increased potential for the spread of invasive noxious weeds.

3. Structural Improvements

Additional losses surveyed during field reviews were fire impacts to pasture fences. Stretch posts, corner posts, H-braces, and support posts were burned by the fire and wire tensile strength has likely been reduced due to heat exposure. These internal grazing fences are required, as part of refuges approved wildlife management program, to maintain vegetation heights necessary to support the federally listed San Joaquin kit fox and habitat for migratory waterfowl, burrowing owl and sandhill crane in the uplands while protecting the adjacent riparian corridors from grazing . The boundary fence need to be repaired by December of Fiscal Year 2002 to facilitate the on-going grazing program for the refuge and to keep livestock off State Highway 165 and out of sensitive riparian forest habitat.

Resource protection signs burned during the fire should be replaced as soon as possible.

RECOMMENDATIONS

A. Management (specification related)

The following recommendations are offered to assist in the timely recovery of 165 Fire burned area:

1. **Rehabilitate, Seed and Chemically Seed Dozerline:** Dozerline constructed for fire suppression needs to be recontoured to pre-fire conditions. The line should be seeded using a range drill prior to winter rains to ensure a dense cover of native grasses, and the line should be sprayed to control star thistle and pepperweed at the beginning of the weed growing season in mid to late spring.
2. **Chemically Treat Pre-fire Noxious Weed Units:** The refuge was actively treating star thistle infestations on upland area and pepperweed in low lying areas adjoining riparian habitat prior to the 165 Fire. These units should be chemically treated in accordance with the refuge's approved IPM program at the beginning of weed growing season in mid to late spring of 2002.
3. **Repair Fence:** All burned wood posts and wire should be replaced prior to initiation of grazing back onto the burned area during the winter of 2002.
4. **Replace Resource Protection Signs:** Burnt resource protection signs including "Area Closed" signs should be replaced as soon as possible.

B. Monitoring

1. **Dozerline Treatment Monitoring:** Treatments should be monitored during the spring of Fiscal Year 2002 and if necessary supplemental funds should be requested for follow-up treatments.
2. **Monitor Noxious Weed Treatment Units:** Noxious weed treatment units should be monitored later in the weed growing season of 2002 to determine if a supplemental funding request and follow-up treatment is required.

V. CONSULTATIONS

Kim Forrest, Project Leader, San Luis National Wildlife Refuge Complex
Chris Schoneman, Assistant Refuge Manager, San Luis National Wildlife Refuge
Dennis Woolington, Supervisory Refuge Biologist, San Luis National Wildlife Refuge Complex
Karen Harvey, San Luis National Wildlife Refuge Complex
Roger Wong, Fire Management Officer, San Luis National Wildlife Refuge Complex
Dave Paullin, Refuge Supervisor, Northern California / Klamath Basin
Joel Miller, Assistant Refuge Supervisor, Northern California / Klamath Basin

VI. REFERENCES

Recovery Plan for Upland Species of San Joaquin Valley, California. Miller. 1998

Biological (Operations) Program, San Luis National Wildlife Refuge Complex, Environmental Assessment, (August 30, 1999)

Public Use Management Program, San Luis National Wildlife Refuge Complex, Environmental Assessment, (August 30, 1999)

*Cooperative Farming and Grazing Program, San Luis National Wildlife Refuge Complex,
Environmental Assessment (August 30, 1999)*

Annual Integrated Pest Management Plan, San Luis National Wildlife Refuge Complex (2001)

Richard Hadley, Assistant Refuge Supervisor, California/Nevada Operations, (916) 414-6464

**DEPARTMENT OF THE INTERIOR
BURNED AREA EMERGENCY REHABILITATION TEAM**

165 FIRE

WILDLIFE RESOURCE ASSESSMENT

I. OBJECTIVES

- ! Assess effects of fire and suppression actions to Threatened and Endangered or otherwise sensitive wildlife species and their habitats
- ! Assess effects of fire and suppression actions to infrastructure necessary to maintain wildlife habitat
- ! Prescribe emergency stabilization and rehabilitation measures and/or monitoring

II. ISSUES

- ! Habitat for the Federally listed San Joaquin kit fox was burned
- ! Habitat for other sensitive species was burned including habitat for burrowing owl, arctic nesting geese and sandhill crane
- ! Infrastructure necessary to maintain habitats for the above species has been damaged by the fire
- ! Noxious weed that occur in the burned area could degrade wildlife habitat if left uncontrolled

III. OBSERVATIONS

A. Background

The burned area on Refuge lands consisted of portions of the East Freitas, West Bear Creek, and San Luis units of San Luis NWR. The 26,878-acre refuge is part of the 3 refuge San Luis NWR Complex. San Luis NWR was established in 1967 under authority of the Migratory Bird Treaty Act and is managed with the objective of providing habitat for migratory birds, conserving and aiding in the recovery of threatened and endangered species, and maintaining and enhancing native plant and wildlife communities. The Refuge consists of a mosaic of managed wetlands, grass uplands, shrub communities, and riparian oxbows and corridors associated with the San Joaquin River and Salt Slough. The Refuge and surrounding areas provide wintering and migration habitat for up to 1.3 million waterfowl and 100,000 shorebirds. More than 550 species of vertebrates and plants have been documented in the area. Total of 47 species of Federal and State listed threatened and endangered, candidate, or Species of Concern have been documented on or near the refuge complex.

The Freitas unit is bounded by Highway 165 on the west, Salt Slough on north and east, and California Department of Fish and Game lands on the south (North Grassland Wildlife Area). The unit is predominately uplands mixed native and introduced grasses and forbs, with a willow forest riparian corridor along the length of Salt Slough. Alkali seeps, small vernal marshes, and meandering seasonal channels (anabranch tributaries of Salt Slough) are present throughout the uplands. Plant species in the uplands include native grasses and forbs such as alkali sacaton, creeping wild rye, salt grass; gum plant, goldfield, and alkali heath; and non-native grasses and forbs such as wild oats, various

species of brome grasses, poison hemlock, yellow star thistle, and perennial pepperweed. Plant species in the riparian corridor Gooding's black willow, buttonwillow, cattail, roundstem bulrush, smartweed, and perennial pepperweed. Facilities include a refuge-owned public boat launch on the north corner of the unit, perimeter fences (5-strand barbed wire fence), and a fence separating the uplands from the riparian corridor. No interior roads are present. Management objectives for the uplands focus on: maintaining short grassland habitat for San Joaquin kit fox, burrowing owls, badger, long-billed curlews, and other species, providing winter foraging habitat for arctic nesting geese and sandhill cranes; and enhancing native plant communities. This is accomplished through seasonal grazing by cattle (Dec.-June) herbicide spraying to control yellow star thistle, perennial pepperweed, and , milk thistle. Management objectives for the riparian corridor and adjacent uplands within the fenced area focus on: providing nesting and foraging habitat for neotropical migratory landbirds, raptors, and waterfowl; developing tall dense cover for ground nesting birds, and maintaining habitat for other wetlands/riparian dependent wildlife. This has been accomplished by fencing off the corridor to exclude cattle grazing and limiting access to reduce disturbance.

The West Bear Creek unit lays adjacent to and east of the East Freitas unit. It is bounded on the west by Highway 165 and Salt Slough, on the north and east by the San Joaquin River, and on the south by the San Luis unit. The burned area of this unit consists of habitats and plant species similar to those described for the East Freitas unit. There is, however, numerous vernal pools scattered throughout the area and sand dune area on the southwest corner of the unit. In addition, the meandering seasonal channels between the San Joaquin River and Salt Slough hold water longer than those of East Freitas. Because of that, willow riparian habitat is present along part of the those channels, and the channels and associated wetland basins provide important waterfowl brood habitat. Facilities within the burned area consist of perimeter and riparian corridor fencing, and 4 water control structures, Management objectives, with the addition of protecting and maintaining vernal pool and sand dune habitat, is essentially the same as that for the East Freitas unit. Cattle grazing and herbicide application are used in the upland areas to maintain short grassland condition and control invasive weeds. The area along Salt Slough has been fenced to protect the riparian habitat and an adjacent upland corridor of nesting cover. Periodic sheep grazing is used to keep introduced grasses and forbs from vegetating the dune area.

The San Luis unit lays adjacent to and south of the West Bear Creek unit, and southeast of the East Freitas unit. It is bounded by Salt Slough on the west, the West Bear Creek unit on the north, the San Joaquin River on the east, and private agricultural lands on the south. The burned area is limited to the northwest corner of the unit and consists of the riparian corridor habitat of Salt Slough, managed seasonal and semi-permanent wetlands, and uplands. The riparian corridor and uplands habitats have similar plant species composition as that described for the previous two units. However, due to some uplands not being grazed, some areas have a large component of tall introduced forbs. Dominant plant species within the managed wetlands include cattail, bulrush, swamp timothy, smartweed, and watergrass. Facilities within and adjacent to the burned areas include perimeter fence, gravel and dirt roads, canals, lift pump stations, and electrical power lines. Primary management objectives for the burned portion of the unit include providing habitat for waterfowl and other wetlands dependent wildlife, plus the riparian and upland habitat objectives described for East Freitas and West Bear Creek. Management activities include intensive marsh management of seasonal wetlands to produce moist soil food plants for wintering waterfowl, maintenance of semi-permanent wetlands to provide summer habitat for waterfowl broods and other wetlands dependent wildlife, sheep grazing to promote native grassland communities, and herbicide application to control noxious weeds.

B. Reconnaissance Methodology and Results

Information used in this assessment is based on a review of relevant literature, Refuge management planning documents, Refuge wildlife sightings and inventory data, personal knowledge of Refuge staff, and a reconnaissance of the fire area on June 14-15 and 19. Reconnaissance included travel throughout the fire area on 4WD all terrain cycles by Refuge staff and a representative of the BAER team, and an aerial photo flight (fixed-wing). The fire perimeter, location of fences, and extent of fire lines were mapped by Refuge staff using a ground-based GPS system and presented in an AutoCad format.

C. Findings

This section details the known and potential impacts to 2 guilds of wildlife (grassland/upland dependent species and riparian/wetland associated species, Federally listed threatened and endangered species, and the habitats on which they depend. Direct effects as described in this report refer to mortality or disturbance that results in displacement, harassment, or mortality of animals, and mortality or weakening of plants. Indirect effects refer to modification of habitats and/or effects to prey species.

Grassland/Upland Dependent Species

Although there is disagreement about the role of fire in the environment of this part of the Central Valley prior to European settlement, fire has played a major role in shaping habitat conditions since Mediterranean annual grasses were first introduced in the 1600s and 1700s. Wildfires are a regular occurrence each summer in the dry annual grasslands of the valley floor and foothills. Prescribed fires are conducted at San Luis NWR in upland habitats similar to those in the burned area to reduce thatch and stimulate growth of new grasses as forage for arctic nesting geese, to promote native plant communities, and to control invasive and noxious weeds.

The greatest direct effect impacts probably occurred upon ground nesting birds and small mammals. Mortality of individuals and eggs of birds such as mallards, cinnamon teal, gadwall, and northern harriers was limited due to the majority of nests would have hatched and young moved offsite by the date of the fire. However, the nests of late-nesting gadwalls and other species making a re-nesting attempt would have been vulnerable to the fire. Ground nesting songbirds and other species with a later or more drawn out nesting season experienced a complete loss of nests within the burned area. Documented or probable ground-nesting species known to nest in or adjacent to the burned area include grasshopper sparrow, horned lark, song sparrow, and western meadowlark. Large numbers of small mammals such as voles and deer mice perished in the flames. Larger more mobile mammals, such as coyotes were better able to avoid the fire. Species associated with ground burrows, such as burrowing owls, ground squirrels, and badgers were able to take refuge from the fire. Several species of fairy shrimp and tadpole shrimp have been documented in the burn area in the West Bear Creek Unit. The vernal pools at West Bear Creek were dried up at the time of the fire. The fire burned around the vernal pools because the sparse vegetation in the pool bottoms would not carry a fire. The encysted eggs are known. The fire was moving fast enough that it is unlikely that smoke inhalation and heat caused much mortality to animals in the burrows.

Indirect impacts are mixed. Swainson's hawks and other raptors were observed foraging in the area almost as soon as the fire was out. Scavengers would have a short term increase in their available food supply. Other species, such as mourning doves typically move into burned areas to feed on seeds on the bare ground. However, other species such as burrowing owls, ground squirrels, and grassland songbirds would find their forage supplies and prey species much reduced. Saltgrass (native) will begin growing within a few weeks after the fire, and during first winter and spring short annual grasses will provide high quality forage for arctic nesting geese, sandhill cranes, long-billed curlews, and other species. However, on the long term, the greatest potential indirect effect

impact, would be habitat change due to the increase of invasive weeds. If the site is left untreated, the mixed grasslands would become dominated by yellow star thistle, perennial pepperweed, milk thistle, and other non-native forbs. The tall rank vegetation would make the area unsuitable for species associated with short grassland habitats.

Riparian and Wetland Associated Species

Greatest direct effect impacts were mortality to eggs and nestlings of birds nesting in the tree, shrub, and understory layers of the riparian corridor, and the cattail/tule stands of the wetlands. Species that have been documented within these habitats in and adjacent to the burn area include: loggerhead shrike, black-headed grosbeak, blue grosbeak, bullock's oriole, common yellowthroat, marsh wren, western kingbird, wood duck, and barn owl. Most adults would have been able to escape the fire. Some level of mortality undoubtedly occurred with small and medium sized mammals in the thick understory of the riparian corridor. At least one raccoon was found dead in the burned area. Due to the relative amounts of these habitats burned, there were greater losses in species associated with riparian associated than those associated with the managed wetland habitats.

Indirect impacts are again variable. Most of the crown area of the riparian corridor willows remained unburned. Insectivorous birds that forage in the upperstory would have their feeding areas relatively unchanged. Species that forage in the mid and understory of the riparian corridor would have their feeding habitat and forage supplies eliminated, and would have to move to unburned areas offsite. Furthermore, most riparian associated passerines nest in the midstory layer. In time, a new black willow growth will come from stump sprouts and regeneration to form a new midstory layer and ultimately replace burned mature trees. However, perennial pepperweed will proliferate in the burned and disturbed sites adjacent to Salt Slough. If the site is left untreated, the shrubs and forbs of the riparian corridor will be replaced by a monotypic stand of perennial pepperweed, making the area unsuitable for species dependent on the midstory layer of riparian corridor habitat.

Threatened and Endangered Species

The species detailed below are the Federally listed Endangered, Threatened, or Candidate species that have been documented on or near San Luis NWR and are known to be, or could potentially be present at or near the burn area. Their status, potential presence, and the impacts to them by the fire are described.

San Joaquin kit fox (Vulpes macrotis mutica) (Endangered) San Joaquin kit fox frequent short cropped grasslands and arid uplands. They spend most of the daytime in underground burrows, and at night hunt for small mammals throughout the uplands. The long term presence of San Joaquin kit fox within and near the burn area has been documented by radio telemetry studies, systematic night lighting surveys, and incidental observations. The burn area is part of a larger foraging habitat base. No dens sites have ever been recorded in the burn area, although potential den sites are present. It is unlikely that any direct mortality occurred as a result of the fire. However, any change in the uplands from a short grassland habitat to one dominated by tall, rank invasive weeds would reduce the suitability of the area for San Joaquin kit fox.

Giant garter snake (Thamnophis gigas) (Threatened) Giant garter snakes inhabit cattail/tule lined slough channels where they bask on sunny shorelines and feed on fish and amphibians. They have been recorded in wetland areas near San Luis NWR. The species has not been documented within the Salt Slough corridor on the refuge. Although tree-lined sloughs are not their preferred habitat, there are extensive stands of cattails and tules along the banks of Salt Slough and it is possible that giant garter snakes are present. Because of the aquatic nature of the species, it is unlikely that any

direct mortality occurred as a result of the fire. It is unknown as to whether an increase in the amount of perennial pepperweed along the Salt Slough streambank would affect the site's suitability for the species.

Conservancy fairy shrimp (Branchinecta conservatio) (Endangered); *Longhorn fairy shrimp (Branchinecta longiantenna)* (Endangered); *Vernal pool fairy shrimp (Branchinecta lynchi)* (Endangered); *Vernal pool tadpole shrimp (Lepidurus packardi)* (Endangered): These 3 species of fairy shrimp and 1 of tadpole shrimp are found in vernal pools. The fairy shrimps' life cycle consists of them hatching from eggs after the pools fill from winter rains, then breed, lay eggs and die within a 2 -3 week period. Tadpole shrimp have a similar cycle but extended over a somewhat longer time period. The eggs of all 4 species become encysted as the pools dry up in the spring and lay in the alkaline dust of the dry pools until the next or a subsequent winter when the pools refill. Vernal pool fairy shrimp and Vernal pool tadpole shrimp have been documented in the burn area in the West Bear Creek Unit. Conservancy fairy shrimp and longhorn fairy shrimp have been found during sampling of other areas on the Refuge and could potentially be present in the vernal pools at West Bear Creek. The vernal pools at West Bear Creek were dried up at the time of the fire. The fire burned around the vernal pools because the sparse vegetation in the pool bottoms would not carry a fire. The encysted eggs are known to be highly resistant to heat, so it is unlikely that the fire caused any direct mortality. There were a few instances where rubber-tired fire fighting equipment were driven across the edges of vernal pools but the impacts are unknown.

Mountain plover (Charadrius montanus) (proposed Threatened). This shorebird breeds in northern Alaska and migrates through the San Luis NWR area to and from its more southerly wintering area. It usually frequents short grasslands and agricultural fields during the migration and wintering period. Mountain plovers were not present at San Luis NWR during time of the fire, and no direct effect impacts occurred. However, the sprouting annual grasses during the first winter after the fire will provide potential foraging habitat as the species migrates through the area. This will be an ephemeral benefit unless the uplands are maintained in a short-cropped condition and treated to control invasive weeds

Aleutian Canada goose (Branta canadensis leucopareia) (Delisted) This Canada goose subspecies breeds in the Aleutian Islands of Alaska and winters in the Central Valley of California. Most of them winter on a unit (San Joaquin River NWR) of the San Luis NWR Complex. Aleutian Canada geese are seen regularly over the East Freitas, West Bear Creek, and San Luis units during the winter, and have been observed foraging in grazed uplands and agricultural fields in the nearby area. NO geese were present at San Luis NWR during time of the fire, and no direct effect impacts occurred. However, the sprouting annual grasses during the first winter after the fire will provide potential foraging habitat for wintering geese. This will be an ephemeral benefit unless the uplands are maintained in a short-cropped condition and treated to control invasive weeds

California tiger salamander (Ambystoma californiense) (Candidate 1) This species is associated with short cropped uplands and vernal pools. The adults spend most of their lives in ground squirrel burrows. As vernal pools fill up in the winter, they go out and lay their eggs in the pools, then return to their burrows. The eggs hatch, and the larvae live in the vernal pools until their external gills metamorphose into internal lungs, at which time they seek out ground squirrel burrows. California tiger salamanders have been documented in vernal pools within the burn area in the West Bear Creek Unit and were present in ground squirrel burrows at time of the fire. Because the fire was moving rapidly across light fuels, it is unlikely that any direct effect impacts, such as mortality due to smoke inhalation and heat, occurred.

The species detailed below are the Federally listed Endangered, Threatened, or Candidate species that have been documented on or near San Luis NWR Complex. However, based on surveys, lack of appropriate habitat, or season of use, these species would be highly unlikely to be present in or near the burn area during the time of year of the fire or affected by any post fire habitat conditions. No direct effect nor indirect effect impacts would occur on these species..

Fresno kangaroo rat (Dipodomys nitratooides exilis) (Endangered)
Riparian woodrat (Neotoma fuscipes riparia) (Endangered)
Riparian brush rabbit (Sylvilagus bachmani riparius) (Endangered)
Bald eagle (Haliaeetus leucocephalus) (Threatened)
Blunt-nosed leopard lizard (Gambelia sila) Endangered)
California red-legged frog (Rana aurora draytonii) (Threatened)
Central Valley steelhead (Oncorhynchus mykiss) (Threatened)
Delta smelt (Hypomesus transpacificus) (Threatened)
Sacramento splittail (Pogonichthys macrolepidotus) (Threatened)
Winter-run chinook salmon (Oncorhynchus tshawytscha) (Endangered)
Central Valley spring-run chinook salmon (Oncorhynchus tshawytscha) (Threatened)
Valley longhorn elderberry beetle (Desmocerus californicus dimorphis) (Endangered)
Colusa grass (Neostapfia colusana) (Threatened)
Central Valley fall-run chinook salmon (Oncorhynchus tshawytscha) (Candidate 1)

IV. RECOMMENDATIONS

A. Management (specification related)

The following recommendations are offered to assist in the timely recovery of wildlife habitat within the 165 Fire burned area:

- 1. Chemically Treat Pre-fire Noxious Weed Units:** The refuge was actively treating star thistle infestations on upland area and pepperweed in low lying areas adjoining riparian habitat prior to the 165 Fire. These units should be chemically treated in accordance with the refuge's approved IPM program at the beginning of weed growing season in mid to late spring of 2002.
- 3. Repair Fence:** All burned wood posts and wire should be replaced prior to initiation of grazing back onto the burned area during the winter of 2002.

B. Monitoring

- 1. Monitor Noxious Weed Treatment Units:** Noxious weed treatment units should be monitored later in the weed growing season of 2002 to determine if a supplemental funding request and follow-up treatment is required.

V. CONSULTATIONS

Kim Forrest, Project Leader, San Luis National Wildlife Refuge Complex
Chris Schoneman, Assistant Refuge Manager, San Luis National Wildlife Refuge
Dennis Woolington, Supervisory Refuge Biologist, San Luis National Wildlife Refuge Complex
Karen Harvey, Wildlife Biologist/Uplands Habitat Management Specialist, San Luis National Wildlife Refuge Complex
Roger Wong, Fire Management Officer, San Luis National Wildlife Refuge Complex
Dave Paullin, Refuge Supervisor, Northern California / Klamath Basin
Joel Miller, Assistant Refuge Supervisor, Northern California / Klamath Basin

VI. REFERENCES

Recovery Plan for Upland Species of San Joaquin Valley, California. Miller. 1998

Biological (Operations) Program, San Luis National Wildlife Refuge Complex, Environmental Assessment, (August 30, 1999)

Public Use Management Program, San Luis National Wildlife Refuge Complex, Environmental Assessment, (August 30, 1999)

Cooperative Farming and Grazing Program, San Luis National Wildlife Refuge Complex, Environmental Assessment (August 30, 1999)

Annual Integrated Pest Management Plan, San Luis National Wildlife Refuge Complex (2001)

Dennis Woolington, Supervisory Wildlife Biologist, San Luis National Wildlife Refuge Complex

**DEPARTMENT OF THE INTERIOR
BURNED AREA EMERGENCY STABILIZATION & REHABILITATION PLAN
AND ACCOMPLISHMENT REPORT**

APPENDIX II: ENVIRONMENTAL DOCUMENTATION CONSULTATIONS

- M National Environmental Policy Act, Compliance Documentation
- M Categorical Exclusion Checklist
- M National Historic Preservation Act (Section 106) Compliance

165 FIRE
BURNED AREA EMERGENCY STABILIZATION AND REHABILITATION PLAN
Environmental Compliance Considerations and Documentation

A. FEDERAL, STATE, AND PRIVATE LANDS ENVIRONMENTAL COMPLIANCE RESPONSIBILITIES

All projects proposed in the 165 Fire Burned Area Emergency Stabilization and Rehabilitation (ESR) Plan that are prescribed, funded, or implemented by Federal agencies on Federal, State, Tribal, 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)*. This Appendix documents the Interagency BAER Team considerations of NEPA compliance requirements for prescribed rehabilitation and monitoring actions described in this plan.

This plan has been developed by an interdisciplinary BAER Planning Team comprised of representatives from the: U.S. Department of the Interior (DOI) , U.S. Fish and Wildlife Service, California/Nevada Operations Office, and San Luis National Wildlife Refuge Complex.

B. RELATED PLANS AND CUMULATIVE IMPACTS ANALYSIS

The individual actions recommended by the BAER Team in the 165 Fire Burned Area Emergency Stabilization and Rehabilitation Plan are adequately covered by the: *Biological (Operations) Program, San Luis National Wildlife Refuge Complex, Environmental Assessment*, (August 30, 1999); *Public Use Management Program, San Luis National Wildlife Refuge Complex, Environmental Assessment*, (August 30, 1999); *Cooperative Farming and Grazing Program, San Luis National Wildlife Refuge Complex, Environmental Assessment* (August 30, 1999); or the Annual Integrated Pest Management Plan, San Luis National Wildlife Refuge Complex (2001); or are Categorically Excluded from further environmental analysis as provided for in the Department of the Interior, Manual Part 516, and U.S. Fish and Wildlife Service, NEPA Guidelines, Part 516 DM 6, Appendix 1.

All applicable and relevant Department and Agency Categorical Exclusions are listed below. Department exceptions (516) DM 2.3 do not apply to any of the individual actions proposed.

Departmental Categorical Exclusions:

- | | |
|---------------------------|---|
| 516 DM 6 App. 1.4A(3) iii | The planting of seeds or seedlings and other minor revegetation actions. |
| 516 DM 6 App. 1.4A(5) | Fire management activities, including prevention and restoration measures, when conducted in accordance with departmental and Service procedures. |

U.S. Fish and Wildlife Service Categorical Exclusions:

(1) Research, inventory, and information collection activities directly related to the conservation of fish and wildlife resources which involve negligible animal mortality or habitat destruction, no introduction of contaminants, or no introduction of organisms not indigenous to the affected ecosystem.

(3) The construction of new, or the addition of, small structures or improvements, including structures and improvements for the restoration of wetland, riparian, instream, or native habitats, which result in no or only minor changes in the use of the affected local area. The following are examples of activities that may be included.

- i. The installation of fences.
- ii. The construction of small water control structures.
- iii. The planting of seeds or seedlings and other minor revegetation actions.
- iv. The construction of small berms or dikes.
- v. The development of limited access for routine maintenance and management purposes.

(5) Fire management activities including prevention and restoration measures, when conducted in accordance with departmental and Service procedures.

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 nonfederal. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time. The emergency protection and rehabilitation treatments for 165 Fire, as proposed in the 165 ESR 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.

No direct or indirect unavoidable adverse impacts to the biological or physical environment would result from the implementation of the 165 Fire ESR Plan. The implementation of emergency stabilization and rehabilitation treatments proposed in the plan would not result in any adverse effect on the burned area or areas downstream. Conversely, implementation of the plan would be expected to result in a cumulatively beneficial effect by reducing the extent and intensity of the fire's effect on native wildlife and plant species.

C. STATEMENT OF COMPLIANCE FOR THE 165 FIRE BURNED AREA EMERGENCY STABILIZATION AND REHABILITATION PLAN

This section documents considerations given in development of the Cerro Grande Fire BAER Plan to the requirements of specific environmental laws. 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 Cerro Grande Fire BAER Plan.

1. **Executive Order 11593. Protection and Enhancement of Cultural Environment and National Historic Preservation Act (NHPA).** The Refuge Project Leader has verified that there are no known historic or prehistoric resources that will be effected by the treatments proposed in this plan.
2. **Executive Order 11988. Floodplain Management.** Treatments proposed within this plan due occur within the 100-year floodplain however the treatments do not constitute structures, fills, or changes in land use as defined by this order.
3. **Executive Order 11990. Protection of Wetlands.** Treatments proposed within this plan due occur within jurisdictional wetlands however the treatments do not constitute an action that falls within the federal actions defined by this order.
4. **Executive Order 12372. Intergovernmental Review.** Coordination and consultation is ongoing with affected Tribes, Federal, State, and local agencies. A copy of the plan will be disseminated to all affected agencies.

5. **Executive Order 12892. Federal Actions to Address Environmental Justice in Minority and Low-Income Populations.** All Federal actions must address and identify, as appropriate, disproportionately high and adverse human health or low-income populations, and Indian Tribes in the United States. The BAER Team Environmental Protection Specialist has determined that the actions proposed in this plan will result in no adverse human health or environmental effects for minority or low-income populations and Indian Tribes.
6. **Endangered Species Act.** The Refuge Wildlife Biologists determined that the actions proposed in this plan will have no affect on federally and State listed.
7. **Secretarial Order 3127. Contaminants and Hazardous Waste.** There are no known contaminated sites within or within 1 mile of the 165 Fire burned area.
8. **Clean Water Act.** Any alteration to streams or waters of the United States requires compliance with Section 404 of the Clean Water Act. The BAER Team Environmental Specialist has determined that the action proposed in this plan would have no affect on water quality or quantity.
9. **Clean Air Act.** Federal Ambient Air Quality Primary and Secondary Standards are provided by the National Ambient Air Quality Standards (NAAQS), as established by the U.S. Environmental Protection Agency (EPA) (Clean Air Act, 42 U.S.C. 7470, et seq., as amended). The BAER Team Environmental Protection Specialist has determined that treatments prescribed in the 165 Fire will have short-term minor impacts to air quality that would not differ significantly from routine land use practices for the area. Long-term, treatments proposed in this plan would be expected to have a beneficial impact to air quality through stabilization of ash and soils within the 165 Fire burned area.

Richard Hadley BAER Team, Environmental Protection Specialist

Date

**ENVIRONMENTAL COMPLIANCE AND CONSULTATIONS
DOCUMENTATION AND DECISION
165 Fire Burned Area Emergency Stabilization and Rehabilitation Plan**

NEPA CHECKLIST: If any of the following exception applies, the project 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. |
| ? | ? | 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 1198 (Floodplains Management) or Executive Order 11990 (Protection of Wetlands). |

NATIONAL HISTORIC PRESERVATION ACT

Ground Disturbance:

- ?
- None
- ?
- Ground disturbance will occur on previously disturbed sites and an archeologist survey is therefore not required under 110 of the NHPA.

A NHPA Clearance Form:

- ?
- Is required because the project affects 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 project has no potential to affect cultural resources (initial of cultural resource specialist).

OTHER REQUIREMENTS

(Yes) (No)

?

?

Does the project have potential to affect any Native American uses? If so, consultation with affiliated tribes is needed. Consultation has been completed with both the Santa Clara and San Ildefonso Tribes (see Cultural Resource Assessment, Appendix I).

?

?

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 165 Fire Burned Area Emergency Stabilization and Rehabilitation 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. BAER 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 environmental review requirements.

BAER Team, Environmental Protection Specialist

Date

?

I concur and it is my decision to approve the plan.

?

I do not concur because.

Project Leader, San Luis National Wildlife Refuge

Date

?

I concur and it is my decision to approve the plan.

?

I do not concur because.

Manager, California Nevada Operations

Date

**DEPARTMENT OF THE INTERIOR
BURNED AREA EMERGENCY STABILIZATION & REHABILITATION PLAN
AND ACCOMPLISHMENT REPORT**

APPENDIX III: PLAN MAPS

- ! Fire Parimeter Map

- ! Suppression Impacts Map