

DEPARTMENT OF THE INTERIOR  
U.S. FISH AND WILDLIFE SERVICE  
Region 1, Portland, Oregon

**FINDING OF NO SIGNIFICANT IMPACT**

Final Environmental Assessment  
for  
Seasonal Grazing, Prescribed Burning, Mowing, and Herbicide Application  
on the Warm Springs Seasonal Wetland Unit of the  
Don Edwards San Francisco Bay National Wildlife Refuge  
Alameda County, California  
P.O. Box 524  
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The U.S. Fish and Wildlife Service has prepared an Environmental Assessment to evaluate the effects associated with seasonal grazing, mowing, herbicide application, and prescribed burning on the Warm Springs Seasonal Wetland Unit (Warm Springs) of the Don Edwards San Francisco Bay National Wildlife Refuge (Refuge). The Environmental Assessment follows this FONSI and is incorporated by reference herein.

The U.S. Fish and Wildlife Service proposes to expand upon current management techniques at Warm Springs in order to combat the continued expansion of non-native vegetation presently shifting the ecosystem further from its natural state and threatening populations of special status species. Refer to Section 1 of the EA for a discussion of the need for action. Following comprehensive review and analysis, the Service selected Alternative D as its proposed action because it best addresses the needs and constraints of Warm Springs. Livestock grazing would be the primary management tool used to reduce non-native vegetation. Carefully timed seasonal grazing is an effective means to reduce non-native annual grass biomass with minimal costs economically and environmentally. Supplementary mowing and herbicide application would be used to eliminate stands of unpalatable, invasive vegetation. Periodic prescribed burning would be employed only if grazing, mowing, and herbicide application do not successfully reduce non-native vegetation to the desired level within five years. The effects of these management techniques on endangered and native species will be closely monitored.

**The U.S. Fish and Wildlife Service analyzed a number of alternatives:**

- A) No Action: Under the No Action Alternative, habitat management would remain limited to mowing, herbicide application, and hand pulling of weeds.
- B) Prescribed Grazing as Primary Strategy – Secondary Mowing and Herbicide Application: This alternative would use seasonal livestock grazing as the primary tool for enhancing vernal pool habitat for the priority species. Secondary management strategies would include mowing and herbicide application.
- C) Prescribed Burning as Primary Strategy – Secondary Mowing and Herbicide Application: This alternative would implement prescribed burning as the primary management

strategy for reducing non-native annual grass biomass and enhancing vernal pool habitat for the special status species. Mowing and herbicide spraying would be used to combat infestations of fast growing invasive species during times when prescribed burns are not possible, namely drought years and the non-burn seasons.

- D) Prescribed Grazing as Primary Strategy – Secondary Prescribed Burning, Mowing, and Herbicide Application (Proposed Action): This alternative is identical to Alternative B, except that it would allow prescribed burning to be used as a secondary management strategy. Prescribed burning would not commence until grazing, mowing, and herbicide application have been employed alone for 5 years. At this time, if monitoring results demonstrate that habitat management objectives are not being met, prescribed burning of selected sites would commence on an as-needed basis.

**The preferred alternative (Alternative D) was selected over the other alternatives because:**

A low-intensity, winter (November - March) and summer (June - August) grazing regime offers a cost-effective, readily available, and easily regulated primary management strategy for vernal pool grasslands. Mowing and herbicide application provide efficient means to remove localized patches of invasive plant species that are not consumed or trampled by livestock. Periodic prescribed burning would not be applied at Warm Springs within the first five years following plan approval. After five years, if monitoring results demonstrate that habitat objectives are not being met with seasonal grazing, mowing, and herbicide spraying, prescribed burning of selected upland sites would commence on an as-needed basis. Since prescribed burning is the most costly method of non-native vegetation control and puts forth the greatest risk to the surrounding developed areas, it will not be employed as the primary management strategy. However, its inclusion in the proposed action ensures an alternative means of reducing non-native vegetation if livestock grazing proves unable to meet the established habitat objectives. The preferred alternative thus offers a diversity of management tools and more flexibility to adapt to resulting conditions. Refer to Section 2 of the EA for specific habitat objectives, and Section 4 of the EA for an assessment of the impacts of each alternative.

**Implementation of the preferred alternative would be expected to result in the following environmental, social, and economic effects:**

Study of the environmental effects of the proposed actions has shown the preferred alternative would enhance the vernal pool and upland habitat at Warm Springs with mutual benefits for the special status species and diverse native flora and fauna.

Non-native, invasive plants negatively impact vernal pool and upland habitat. Therefore, the removal of non-native plants, as proposed in the preferred alternative, is expected to result in an improvement to the environmental condition, but not a significant one.

Livestock grazing would result in an overall reduction of non-native annual grass cover and residual dry matter (RDM; the amount of old plant material left on the ground at the beginning of a new growing season), thereby promoting the establishment of native plants and lengthening the vernal pool inundation period. This will enhance breeding habitat for the endangered vernal pool

tadpole shrimp and California tiger salamander, encourage endangered Contra Costa goldfield establishment, and provide optimal foraging and nesting habitat for burrowing owls.

Periodic prescribed burning would also reduce non-native annual grass cover and RDM with similar environmental benefits to livestock grazing.

The aesthetic quality of the Warm Springs area (scenery and odor) would be temporarily altered due to smoke from any prescribed burns that may take place. Escaped fire could threaten the neighboring office buildings, private property, and public safety.

Mowing and herbicide spraying would replace isolated stands of unpalatable, non-native vegetation with short vegetation habitat benefitting California tiger salamanders and burrowing owls.

Given the fragility of the vernal pools during the inundation season, trampling by livestock has the potential to adversely affect delicate vernal pool plants and biota. However, these possible impacts can be minimized at Warm Springs with low intensity grazing that is properly timed according to the phenologies of native species and annual climatic conditions. Refer to Sections 4.1 - 4.4 of the EA for detailed environmental effects.

It was determined by the State Historic Preservation Office that no historic properties would be affected by the activities proposed in the preferred alternative.

No economic impacts would occur with implementation of the preferred alternative.

**Measures to mitigate and/or minimize adverse effects have been incorporated into the proposal. These measures include:**

- 1) The careful preparation of a low intensity grazing regime that is properly timed according to the phenologies of native species and the climatic conditions of a given year would minimize adverse effects associated with livestock grazing. Livestock would be removed from Warm Springs at the first sign of vernal pool draw down (approximately mid-March) to prevent cattle from crushing blooming vernal pool plants and preclude the possibility of cattle trampling migrating juvenile California tiger salamanders. In dry years, vernal pools are more vulnerable and grazing intensity (number of cattle per acre) will be lowered. Additionally, the Refuge would only cooperate with a livestock operator that agrees to adhere to the stringent rotation schedule and grazing intensity determined by the Refuge.
- 2) The use of cattle as the livestock species at Warm Springs because they preferentially forage on annual grasses, which are the target resident non-native species (e.g. *Bromus spp.*, *Hordeum spp.*, and *Lolium multiflorum*). Beef cattle were chosen over dairy cattle because their less social habits reduce the chance of excessive trampling in one area.
- 3) The control of cattle distribution throughout Warm Springs by positioning watering troughs and salt licks a minimum of 50 meters from any vernal pool in areas densely vegetated by annual grasses. These attractions will also be positioned away from upland California tiger salamander estivation areas as determined by the existence of burrows and other visual signs.

4) The exclusion of vernal pools that have previously contained high numbers of vernal pool tadpole shrimp and California tiger salamanders from livestock grazing until monitoring results demonstrate that grazing is beneficial to these species. Additionally, small (6 m x 6 m) enclosures will be constructed around Contra Costa goldfield populations to provide comparative data on the effects of grazing on this endangered species.

5) Careful coordination with the Bay Area Air Quality Management District, Alameda County Fire Department, Service Regional Fire Management Officer, and Service Ecological Services Office. The selection of, and adherence to, a proper burn prescription as well as cessation of burn activities when conditions exceed predetermined levels. The utilization of firebreaks around burn sites to minimize the chance of an escaped burn. Additionally, a Refuge Fire Management Plan is currently being updated and will be in place prior to conducting a prescribed burn. If grazing fails to reduce the annual grass litter, prescribed burning will greatly mitigate potential future negative impacts resulting from wildfires by reducing the thick fuel layer.

**The proposal is not expected to have any significant adverse effects on wetlands and floodplains, pursuant to Executive Orders 11990 and 11988 because:**

The proposal aims to restore and enhance the natural function of a 275-acre seasonal vernal pool wetland. Under this action, water, living, and cultural resource values of the seasonal wetland will be maintained or enhanced. The facilities required to conduct livestock grazing on Warm Springs (e.g. loading corral, water troughs, and interior fencing) will not interfere with wetland function as they will be located in upland areas.

**The proposal is not expected to have any significant effects on the human environment because:**

In the context of the continuing environmental degradation in this area, the proposed action is expected to result in an improvement to the environmental condition, but not a significant one. The actions would not degrade habitat or water quality, and would not disrupt or conflict with any land use, social, cultural, or economic factors.

The aesthetic quality of the Warm Springs area would be temporarily altered due to smoke from the fire. Burning vegetation could also temporarily increase PM 10 concentrations in the area, but these impacts will be negligible due to the small size of the burn and the weather conditions under which it would be conducted. These impacts would be further minimized by adhering closely to the requirements delineated by the Bay Area Air Quality Management District.

**The proposal has been thoroughly coordinated with all interested and/or affected parties.**

Refer to Appendix A and B of the Environmental Assessment for a full list of interested and/or affected organizations and individuals. During a 30 day comment period beginning September 3, 2003, the draft Environmental Assessment was sent to all individuals on the mailing list

(Appendix B of the final Environmental Assessment). Their comments were considered in the formation of the final Environmental Assessment and are included, with responses, in Appendix D of the final Environmental Assessment. Additional comments received after the official comment period ended and before December 19, 2003 were also considered. The agency shall make the finding of no significant impact available to the affected public by sending a letter announcing its availability to all individuals and organizations on the mailing list (Appendix B of the Environmental Assessment).

**Conclusions:**

Based on review and evaluation of the information contained in the supporting references, it is my determination that the proposal does not constitute a major Federal action significantly affecting the quality of the human environment under the meaning of section 102(2)(c) of the National Environmental Policy Act of 1969 (as amended). As such, an environmental impact statement is not required. An environmental assessment has been prepared in support of this finding and is available upon request to the FWS facility identified above.

**References:**

U.S. Fish and Wildlife Service (USFWS). 2004. U. S. Department of Interior Pesticide Use Proposal # R-1-04-11640 for Roundup Pro at Don Edwards San Francisco Bay National Wildlife Refuge.

U.S. Fish and Wildlife Service (USFWS). 2003a. Draft Compatibility Determination for Livestock Grazing on the Warm Springs Seasonal Wetland Unit of the Don Edwards San Francisco Bay National Wildlife Refuge.

U.S. Fish and Wildlife Service (USFWS). 2003b. Draft Environmental Assessment for Livestock Grazing at the Warm Springs Seasonal Wetland Unit of the Don Edwards San Francisco Bay National Wildlife Refuge.

U.S. Fish and Wildlife Service (USFWS). 2003c. Intra-Service Section 7 Evaluation Form consultation/conference/concurrence, June 16, 2003 (1-1-03-I-1852). U.S. Fish and Wildlife Service, Sacramento, California.

U.S. Fish and Wildlife Service (USFWS). 2001. Fire Management Plan for Don Edwards San Francisco Bay National Wildlife Refuge.

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Manager, California/Nevada Operations Office

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Date



