

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT  
EUGENE DISTRICT OFFICE

UPLAND PRAIRIE RESTORATION AT WILLOW CREEK AND ROYAL

ENVIRONMENTAL ASSESSMENT No. OR EA-99-19

**I. PURPOSE AND NEED FOR THE PROPOSED ACTION**

Native prairies in the Willamette Valley of Oregon have been in decline since European settlement. Less than 0.5% of historic upland prairies remain. Three species have recently been proposed for listing under the Endangered Species Act of 1973. These are the Fender's blue butterfly, (*Icaricia icarioides fenderi*), Kincaid's lupine (*Lupinus sulphureus kincaidii*) and Willamette Daisy (*Erigeron decumbens decumbens*, Federal Register, January 1998). Recovery of these species will require both management of declining populations and restoration of historic sites that currently do not maintain the species. Bureau of Land Management (BLM) proposes to restore populations of Kincaid's lupine in order to restore habitat for the Fender's blue butterfly.

Experiments were begun in 1995 to investigate restoring upland prairie, with primary focus on restoration of habitat for Fender's blue butterfly and its host plant, the Kincaid's lupine (Schultz 1997). Fender's blue butterfly requires this lupine for its larval food source. Experiments involved planting a dozen native prairie plants, including Kincaid's lupine, and varying the soil treatments before planting and the seeding densities at time of planting. Fender's blue butterflies have not been reintroduced into the sites nor have they been observed naturally dispersing into the sites. Therefore the only sensitive species within the experimental areas is Kincaid's lupine.

Experimental areas include two sites targeted for restoration in the West Eugene area. These are a field in the southern portion of The Nature Conservancy's Willow Creek Natural Area and a field owned by the Bureau of Land Management just north of Royal Road near Fern Ridge Reservoir (the Hansen Parcel).

Both fields are highly disturbed, with few native plants and no sensitive species. The experimental areas are each about 0.3 ha. The Willow Creek site is located in Section 18, T.17S., R05W. The Royal site is located in Section 24, T17S., R05W. Both have soils that indicate they were historically upland prairies.

Initial experimental results are suggestive that some treatments and seeding densities are more favorable to restoration success than other treatments and seeding densities (Schultz 1998). However, in all treatments, aggressive, non-native weeds are a problem and threaten restoration success.

Willamette Valley prairies evolved with late summer or fall-season fires and plants of these prairies are well-adapted and potentially dependent upon the presence of fire for their continued healthy existence. Prescribed burns at other prairies during recent years have reduced the cover of aggressive weeds and invigorated Kincaid's lupine (Clark and Wilson 1998). Additionally, Clark and Wilson

demonstrated that, although fire may kill Fender's blue butterfly in the short-term, it is likely essential for maintaining the butterfly's habitat in the long-term.

## **II. PROPOSED ACTION AND ALTERNATIVES**

Proposed Action (Alternative A): The proposed action is to enhance habitat of Kincaid's lupine over a three year period, August 1999-September 2001. After each year and after the three year period, management actions would be evaluated. Enhancement projects would include small-scale burning and mowing. The parcels may be burned during the fall of 1999, 2000, and/or 2001, with a fire return interval of 2-3 years. The duration of each burn would be less than one hour at each site. Within each experimental area, there would be 8 burns of approximately 4 m x 9 m in size. Ignition of burning would be by hand using propane, fusees, or drip torches. Fire control/suppression would be accomplished with pre-burn hose lays and wet-lining and fire retardant foam. An area approximately 3-4 m wide may be mowed around the outside boundary of the prairie area to assure fire control. Prescribed burns would be conducted in a manner consistent with State and local smoke management regulations. Burns would occur during August or September, when the clay soils of the grassland are dry, hard, and can support fire-fighting vehicles without damage to soils. The sites will be protected by wetting down the sites with water prior to and during burning over the rest of the site. Fire vehicles would be restricted to the adjacent non-native pasture vegetation.

Mowing is an alternative method to potentially reduce aggressive weeds. Wilson (pers. com.) has demonstrated that repeated mowing over a number of years reduces perennial weedy grasses and encourages native species. Within each experimental area, there would be 8 mowed areas of approximately 4 m x 9 m in size. Mowing in the experimental areas would occur during the fall of 1999, and/or late spring or fall 2000, and/or 2001, as funding and labor force will allow. This study was initiated in 1995.

Monitoring will include Kincaid's lupine, species seeded in the experiments and plants originally existing within the prairie community. Plant responses will be assessed in relation to proposed management treatments.

Implementation of treatments will be contingent upon funding and work force availability.

Alternative B: In this Alternative, we would not conduct the prescribed burns but all other actions would be implemented as detailed in Alternative A.

Alternative C: The No Action Alternative would be to leave the experimental areas unmanaged.

## **III CONFORMANCE**

The proposed action and alternatives are in conformance with the West Eugene Wetlands Plan (City of Eugene, 1992).

#### IV. AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

The Willow Creek Restoration Area is an approximately 12 ha hayed meadow in the south-central portion of the Natural Area, of which about 0.3 ha are within the restoration area. Although several rare, threatened and endangered species persist on the preserve, none are present in the restoration area except Kincaid's lupine that was seeded during this study. Approximately 35 Kincaid's lupine plants have been established during this study (Schultz, pers obs, May 1999). The closest natural population of Kincaid's lupine to the restoration area is more than 40m away.

The Royal restoration area is an approximately 6 ha hayed meadow in the eastern portion of the Hansen property, of which about 0.3 ha is in the restoration area. Wetlands are in the lower part of the site, no less than 100 m from this site. Approximately 10 Kincaid's lupine plants have established at the site during the study (Schultz, pers obs., May 1999).

Proposed Action (Alternative A). The Eugene District BLM has conducted similar management techniques (mowing and prescribed burns) at a wet prairie parcel to improve conditions for prairie plants. The U.S. Fish & Wildlife Service, The Nature Conservancy, and Army Corps of Engineers have also been implementing prescribed burning and mowing in recent years to improve conditions for Willamette Valley prairie plant species. Repeated burning has benefitted the population survival of *L. bradshawi*, a wet prairie species. On other parts of Willow Creek, *Erigeron decumbens decumbens* and *Horkelia congesta congesta* has increased in open prairie areas that have been burned (personal communication, Ed Alverson 1996). Burning has also increased the frequency or density of a number of other native prairie plant species (Pendergrass 1995).

Based on research and general observations, BLM can reasonably expect several positive consequences from proposed management manipulations of Special Status plants at the Willow Creek and Royal restoration areas.

**Threatened and Endangered Species:** The Proposed Action would "Affect, but is Not Likely to Adversely Affect" the Kincaid's lupine because of the expected benefits to the lupine. Based on past findings, it is anticipated that Kincaid's lupine (proposed Federal Threatened) would benefit from burning and mowing. No other federally listed or proposed species known or expected to occur in the vicinity would be affected by this endeavor. A letter of concurrence on these projects is expected from the U. S. Fish and Wildlife Service (USFWS) prior to manipulations in late August/September, 1999. Any recommendations from the USFWS would be incorporated during implementation of the project.

**Vegetation:** Aggressive, non-native grasses such as tall fescue (*Festuca arundinaceae*) and bent grass (*Agrostis tenuis*), would be set back - restoring and enhancing the integrity of the restored prairie community.

**Wildlife:** Species expected to occur in or near the study area would not be negatively affected by this proposed action.

**Cultural Resources:** There would be no affects to cultural resources within the experimental areas as a result of the proposed action.

**Irreversible and Irretrievable Commitments of Resources:** There are no irreversible or irretrievable resources affected by the Proposed Action.

Cumulative Effects: This proposal is not expected to result in negative cumulative effects such as sedimentation.

Soils: The Proposed Action would not result in significant changes to soil resources.

Water Quality: There are no anticipated impacts to water quality from the Proposed Action.

Hazardous Materials: The operation of fire equipment as necessary to implement the Proposed Action would take place during the summer and early fall when the prairies are dry, so there is no chance of diesel fuel or hydraulic fluid spills into water. The foam sometimes used to aid in control of prescribed burning is not considered a hazardous material.

Air Quality: The Proposed Action would not exceed the Department of Environmental Quality ambient air pollution standards. All burning would be done in compliance with the Lane Regional Air Pollution Authority. Airshed impacts would be short-term and minimal.

Alternative B: Although aggressive weeds could be stalled by repeated mowing, some beneficial effects of fire on Kincaid's lupine would not be mimicked by this technique, and viability of the plant at the experimental areas may decline. Impacts from the implementation of Alternative B would be similar to the Proposed Action except that there would be no short-term changes in air quality due to burning.

Alternative C: The No Action Alternative would be to leave the experimental areas without manipulation. This would not protect Kincaid's lupine or the grassland habitat from the encroaching aggressive weeds. The weeds would eventually dominate the site and lead to the loss of Kincaid's lupine and other native plants.

## **V. CONSULTATION AND COORDINATION**

In compliance with Section 7 of the Endangered Species Act of 1973 (as amended), BLM is informally conferencing with the U.S. Fish and Wildlife Service concerning the Proposed Action. It is anticipated that BLM will receive concurrence to proceed with this project. Since this is a multi-year study, it is possible the Kincaid's lupine may be listed as Threatened during the project. If and when this occurs, the appropriate consultation will be pursued to ensure compliance with the Endangered Species Act. The parameters of this project are similar to disturbance treatments that have been conducted with U.S. Fish and Wildlife concurrence in the past (EA-88-15, EA-90-36, EA-92-49, EA-93-30, EA-93-31, EA-94-33, EA-95-27).

**VI. LIST OF PREPARERS**

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Prepared by: \_\_\_\_\_

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Preliminary Finding of No Significant Impact

Environmental Assessment No. OR EA-99-19

Finding of No Significant Impact

Proposed Action: The Proposed Action is to proceed with projects to enhance the federally proposed (threatened) plant, Kincaid's lupine, and other native plant species during the next three years. Management objectives are to increase densities of rare plants, to increase the critical habitat for these species, and to gain valuable information for the continued management of these species.

On the basis of the information contained in the attached Environmental Assessment, and all other information available, it has been determined that the proposal does not constitute a major Federal action affecting the quality of the human environment. Therefore, an Environmental Impact Statement or a supplement to the existing Environmental Impact Statement is not necessary and will not be prepared.

Rationale

The Proposed Action would be consistent with enhancing critical habitat for the proposed Federally-listed species, Kincaid's lupine and Fender's blue butterfly. The proposed action and alternatives are in conformance with the West Eugene Wetlands Plan (City of Eugene 1992).