



Final Environmental Assessment

# Deschutes and Crook Counties Wildfire Mitigation Continuation

Deschutes and Crook Counties, Oregon

FEMA-PDMC-PJ-10-OR-2008-005

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## Terms Used in This Document

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**Area of Potential Effects** – the geographic area or areas within which an undertaking may cause changes in the character or use of historic properties, if such properties exist. The area of potential effects is influenced by the scale and nature of the undertaking.

**Best Management Practices (BMPs)** – innovative environmental protection practices applied to help ensure that projects are conducted in an environmentally responsible manner.

**Crown Fire** – fire that involves the tops of the canopy trees in the forest; can spread rapidly.

**Fuels (Ladder)** – understory branches or shrubs that can allow a fire to ascend into the canopy.

**Fuels Reduction** – removal of excess fuels through thinning, limbing, or other methods to reduce the potential for severe wildfires.

**Limbing** – removal of large tree limbs to reduce fuel load and the potential for crown fires.

**Prescribed Fire** – any fire ignited by management actions to meet specific objectives. A written approved prescribed fire plan must be completed and appropriate National Environmental Policy Act requirements followed prior to ignition. This term replaces the term “management ignited prescribed fire.”

**Suppression** – a response to wildland fire that results in curtailment of fire spread and elimination of all identified threats from the fire.

**Thinning** – partial removal of trees, branches, or shrubs from a stand to reduce fuel loads.

**Wildfire** – an unwanted wildland fire.

**Wildland Fire** – any non-structure fire, other than prescribed fire, that occurs in the wildland. This term encompasses fires previously referred to as both wildfires and natural fires.

**Wildland/Urban Interface** – line, area, or zone where structures and other human development meet or intermingle with vegetative fuels in wildlands.

## **Acronyms Used in This Document**

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APE	Area of Potential Effect
BLM	Bureau of Land Management
BMP	best management practices
CFR	Code of Federal Regulations
CWPP	Community Wildfire Protection Plan
DPS	Distinct Population Segment
EA	environmental assessment
EO	Executive Order
ESA	Endangered Species Act
FEMA	Federal Emergency Management Agency
HFRA	Healthy Forest Restoration Act
NEPA	National Environmental Policy Act
NHMP	Natural Hazard Mitigation Plan
NHPA	National Historic Preservation Act
NRHP	National Register of Historic Places
OSU	Oregon State University
SHPO	State Historic Preservation Officer
USDA	U.S. Department of Agriculture
USFS	U.S. Forest Service
USFWS	U.S. Fish and Wildlife Service

### SECTION ONE INTRODUCTION

Deschutes and Crook Counties applied to the U.S. Department of Homeland Security's Federal Emergency Management Agency (FEMA) Pre-Disaster Mitigation Program for funding assistance with a wildfire fuel load reduction project in Central Oregon. The Deschutes and Crook Counties Wildfire Mitigation Continuation Project would build upon current efforts to treat fuels on 1,200 acres of public and private lands to assist the region in reducing risk and preventing loss from future wildland fires.

The National Environmental Policy Act (NEPA) of 1969 and the Council on Environmental Quality regulations implementing NEPA (40 Code of Federal Regulations [CFR] Part 1500 through 1508) direct FEMA and other Federal agencies to fully understand and take into consideration the environmental consequences of proposed federally funded projects. Under NEPA, Congress authorizes and directs Federal agencies to carry out their regulations, policies, and programs as fully as possible in accordance with the statute's policies on environmental protection. NEPA requires Federal agencies to make a series of evaluations and decisions that anticipate significant effects on environmental resources. This requirement must be fulfilled whenever a Federal agency proposes an action, grants a permit, or agrees to fund or otherwise authorize any other entity to undertake an action that could possibly affect the human environment. In compliance with NEPA and its implementing regulations, FEMA prepared the draft environmental assessment (EA) and Final EA to analyze the potential environmental impacts of the project alternatives.

### **SECTION TWO PURPOSE AND NEED FOR ACTION**

The purpose of the FEMA Pre-Disaster Mitigation Program is to provide funding to States and communities to implement a sustained, pre-disaster, natural-hazard mitigation program that would reduce the overall risk to the population and structures, while also reducing reliance on Federal funding from actual disasters. The purpose of this action is to provide Pre-Disaster Mitigation funding to Deschutes and Crook Counties to expand their wildfire mitigation activities.

The combined lands of Crook and Deschutes Counties cover an area of 6,046 square miles. Lands in these counties have an acute potential for high impact and reoccurring wildland fires due to the region's arid high desert climate, difficult terrain, patterns of hot sun and gusty winds, frequent summer lightning strikes, and stands of timber and other vegetation that contain volatile and highly flammable oils and resins. The geographic areas targeted for wildfire vegetation management under the Proposed Action were identified as high-risk in the Counties' Natural Hazards Mitigation Plans and individual Community Wildfire Protection Plans.

Long-term fire suppression and other past vegetation management choices have exacerbated wildfire risk. Historically, prior to fire suppression practices, frequent fires prevented the build-up of flammable materials. Because of the constant reduction in flammable materials such as grasses, shrubs, and western juniper trees, fires in rangeland plant communities such as Deschutes and Crook Counties were mostly non-lethal and primarily limited to overstory trees.

The region has been the setting for a significant number of large, fast-moving, and destructive wildland/urban interface wildfires during the last quarter century. Due to a rapid rise in population and expanding development, many people are now living within these high wildfire risk areas of the wildland/urban interface, in the forests and grasslands located between and around primary population centers. A total of 136 communities in Central Oregon appear on the Federal government's Five-Year Action Plan for communities in the U.S. that are most at risk from wildfires. This presents a real danger to people and property in these areas. The need for this action is to reduce or eliminate the risk to people and to property from wildfires in Deschutes and Crook Counties. From this need, the Counties identified the preferred alternative (vegetative fuel management and removal) as a high-priority in their Natural Hazards Mitigation and Community Wildfire Protection Plans.

## **SECTION THREE ALTERNATIVES ANALYSIS**

This section discusses the two alternatives considered in this EA: (1) the No Action Alternative and (2) the Proposed Action Alternative, to which FEMA funding would contribute.

### **3.1 ALTERNATIVE 1 – NO ACTION**

Under the No Action Alternative, FEMA would not provide funding to reduce wildfire fuel loads in target areas of Central Oregon’s wildland/urban interface. People and nearby structures would continue to be at a higher risk from catastrophic fire events. Current and ongoing activities to protect the open spaces and wildland/urban interface would continue, but not to the degree needed if wildfire occurs. This alternative would not meet the project purpose and need, nor the goals and objectives listed in the Counties’ Natural Hazards Mitigation and Community Wildfire Protection Plans.

### **3.2 ALTERNATIVE 2 – PROPOSED ACTION**

The Proposed Action would remove excessive vegetation through hand thinning, brush cutting, mowing, and other low-impact measures by private contractors on approximately 1,000 acres of privately-owned lands (for a map of the project areas, see Appendix A – Figure 1). The geographic areas targeted for wildfire vegetation management include the Ochoco Reservoir, Ochoco West and Powell Butte communities in Crook County and the Awbrey Butte, Awbrey Glenn, Tetherow Crossing and Woodside Ranch communities in Deschutes County. These properties were identified as high-risk in the Deschutes and Crook County Natural Hazards Mitigation Plans and individual Community Wildfire Protection Plans. Under the Deschutes County Forester and Crook County Fire and Rescue staff direction, each individual property would be assessed to determine the best method of vegetation removal. FEMA funds would be used by the Counties and private contractors to treat vegetation near roads and driveways, and to haul all debris to local co-generation plants. Private property owners are responsible for vegetation removal on their properties, including labor. However, there is a special needs component to the project for residents who are physically or financially unable to perform the work themselves. In those cases, the private contractors would provide the labor to remove vegetation within 100 feet of structures to develop defensible space. The Counties anticipate that less than 5 percent of property owners within the project areas would apply for this assistance.

Treatment areas would be accessed from existing roads and driveways, which are typically gravel or dirt. No improvements to the access roads/driveways would occur. Juniper and sagebrush would be removed from the project areas within Crook County, and also from Tetherow Crossing in Deschutes County. Bitterbrush would be removed from all project areas. The Counties and contractors would remove all debris to local co-generation plants for disposal, which produce two useful forms of energy, electricity and process steam, from a single fuel source. Soil disturbance is not planned.

Each property owner would be required to provide personal labor and/or materials valued at \$333 or more per acre and maintain the property in its new fire-safe condition beyond the grant period using the knowledge and skills obtained through participation in the project. A comprehensive inventory of environmental and historical conditions would be completed during

the first phase of the project as each property is assessed and provided with a specific mitigation plan that takes into account the topography, critical facilities and other man-made structures, bodies of water, historical use, plant and animal populations, hazardous and toxic materials, as well as cultural, economic, and ethnic demographics.

Implementation of the Proposed Action would also use grant funds and matching contributions to accomplish the following activities over a 1 year period:

1. Plan, supervise, manage, administer, and be accountable for all project activities and funding
2. Develop and adopt program criteria, policies, and operating guidelines
3. Communicate project readiness to property owners and compile working inventory
4. Conduct environmental review of affected properties and plan responsive mitigation strategies
5. Hire private contractors to perform the work
6. Administer grant funds, collect and manage matching contributions, authorize and monitor expenditures
7. Monitor and evaluate program effectiveness and adjust if needed to achieve goals
8. Prepare and submit required status reports and communicate project results
9. Explore ways to make the program self-sustaining on a long-term basis

The proposed tasks are consistent with the *1998 Integrated Natural Fuels Strategy*, the *2000 National Fire Plan*, the *2002 Healthy Forests Initiative* and *2003 Healthy Forests Restoration Act*, and the *2004 Healthy Forests and Firesafe Communities in Central Oregon* program.

### **3.3 OTHER ALTERNATIVES CONSIDERED**

Other alternatives were considered to help mitigate the problem, as identified in the Counties' Natural Hazards Mitigation and Community Wildfire Protection Plans. These include restricting development in high-risk areas, requiring fire-safe building construction and materials, and mandating certain landscape requirements. These alternatives were seen as far more intrusive and potentially unenforceable for existing development within the community; therefore, would not meet the purpose and need. These alternatives were dropped from further study and no further alternatives were evaluated. The Proposed Action was determined to be the only feasible alternative that would meet the purpose and need by effectively reducing or removing the risks of wildfire.

# Affected Environment and Environmental Consequences

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## SECTION FOUR AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

This section discusses the existing conditions, by resource and the potential effects, of the No Action and Proposed Action alternatives.

For each resource category, the impact analysis follows the same general approach. When possible, quantitative information is provided to establish impacts. Qualitatively, these impacts will be measured based on small, moderate, or large impacts as outlined in the chart below.

Impact Scale	Criteria
Small	Environmental effects would not be detectable or would be so minor that they would neither destabilize nor noticeably alter any important attribute of the resource.
Moderate	Environmental effects would be sufficient to alter noticeably, but not to destabilize, important attributes of the resource.
Large	Environmental effects would be clearly noticeable and would be sufficient to destabilize important attributes of the resource.

Impacts are disclosed based on the amount of change or loss of the resource from the baseline conditions. Impacts may be direct or indirect. Direct impacts are caused by an action and occur at the same time and place as the action. Indirect impacts are caused by an action and occur later in time or are farther removed from the area, but are reasonably foreseeable. Cumulative impacts are discussed in Section Five.

Resources that were not analyzed in detail include air quality, wild and scenic rivers, and visual resources. No prescribed fire would be used for fuel reduction in this project, so no effect to air quality is expected beyond small amounts of dust and exhaust from short-term mechanical removal operations. The Deschutes River is designated a Wild and Scenic River Corridor, but no activities associated with the Proposed Action would be implemented in the corridor. No visual impacts are anticipated due to the minor loss of vegetation and small amounts of ground disturbance. These resources will not be analyzed to any further extent in this document.

### 4.1 CLIMATE, GEOLOGY, AND SOILS

#### 4.1.1 Climate

Generally, the climate in Crook and Deschutes County can be described as cold with significant snowfall in the winter, and dry and sunny in the summer. The climate is arid with average precipitation of 12 inches annually on the valley floor. Storms are frequent during the summer months and a 4-year history of recorded lightning strikes indicates that almost any given location experienced between 0.25 and 10 strikes (Deschutes County NHMP 2006).

Temperatures range from highs in the 80s in the summer to the mid-30s in winter and lows of 40s in the summer to the teens for the winter (Oregon Climate Service 2005a and b).

### 4.1.2 Geology and Soils

The project area is located within the Deschutes-Columbia Plateau. This plateau is part of the larger Columbia Plateau which covers about 63,000 square miles in Oregon, Washington, and Idaho. The Deschutes-Columbia Plateau was formed by immense outpourings of lavas during the Miocene Epoch (17 to 14 million years ago) which filled a subsiding basin and formed one of the largest flood basalt provinces in the world. These basalt flows were erupted from vents in central and northeast Oregon and in southeast Washington and adjacent Idaho.

In Central Oregon the province includes the Deschutes Basin which lies between the Cascade Range and the Ochoco Mountains. This basin is underlain by the Columbia River Basalts which make up much of the Columbia Plateau (USFS 2008).

The project area is relatively flat with small topographic changes. The topography is conducive to fire spread with ground fuels and canopy fuels readily available.

Soils in the project areas are predominantly volcanic in origin. Soils are mostly referred to as loess, which are described as brown, fine-grained, silty soils. This type of soil is vulnerable to accelerated erosion caused by disturbance of natural conditions through burning, excessive grazing, or tillage. These disturbances increase the potential for erosion by wind and water. Wind typically presents the greatest source of erosion under arid conditions (Deschutes County NHMP 2006). The soils in the Ochoco West project area are sandy to stony loam, well-drained, with a soil depth of 31-60 inches. Soils in the Ochoco Reservoir area are very gravelly to cobbly loam, well-drained, with a soil depth of 20-60 inches. The soils at Powell Butte are sandy, cobbly, and ashy loam, well-drained, with a soil depth of 21-31 inches. Soils in the Tetherow Crossing area are sandy to cobbly loam, well-drained, with a soil depth of 18-31 inches. The soils in the Woodside Ranch area are decomposed plant material (1 inch) over sandy to cobbly loam, well-drained, with a soil depth of 15-25 inches. The soils at Awbrey Butte and Awbrey Glen are well-drained sandy, stony, very cobbly loam with some bedrock outcrops and exposed lava flows, with a soil depth of 15-25 inches (USDA 2008).

### 4.1.3 Environmental Consequences

#### ***Alternative 1 – No Action***

Under the No Action Alternative, FEMA would not provide funding to reduce wildland fuel loads in target areas of Deschutes and Crook Counties' wildland/urban interface. No impacts to soil resources within the project area would be expected, except for impacts associated with a catastrophic fire. These impacts may include loss of vegetation caused by uncontrolled fire and subsequent soil erosion. The impact scale would range from small to large, depending on the size of the wildfire.

#### ***Alternative 2 – Proposed Action***

No effect on climate and geology would be expected based on the small scale of the project and minor ground-disturbing activities. Future natural fires of varying intensities may alter the physical, chemical, and biological properties of the soil as a result of vegetation removal, organic

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## Affected Environment and Environmental Consequences

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consumption, and increased temperatures. In addition, the lack of fire may alter the soil properties as a result of limited nutrient cycling in fire-maintained habitat areas.

No environmental consequences to soils are expected from fuels reduction activities in the project area because the activities would not require leveling of the soil. Mechanical removal activities would be limited to the use of chainsaws, weed cutters, and pulaskis, and would not include heavy equipment. Soil disturbance is not planned. Additionally, no fuels reduction by burning is planned for this project. The impact scale would be small. While individual trees would be removed, vegetation removal in overly large areas at a given time would be avoided and best management practices (BMPs) for erosion control would be employed. Vegetation removal activities would not occur within 200 feet of water bodies, and would not result in increased turbidity in streams and increased erosion of stream banks. Limited soil would be removed as a result of individual tree removal.

Direct, indirect, and cumulative effects to soil productivity, fertility, stability, or infiltration capacity would be at or below the level of detection. Any effects on soil productivity or fertility would be slight, and no long-term effects to soils would occur.

### 4.2 FLOODPLAINS

Priority areas in Deschutes County are adjacent to the Deschutes River, Little Deschutes River, and Fall River floodplains. However, the project actions would not occur within the adjacent floodplains.

#### ***Alternative 1 – No Action***

Under the No Action Alternative, FEMA would not provide funding to reduce wildland fuel loads in target areas of Deschutes and Crook Counties' wildland/urban interface. No impacts to floodplains adjacent to the project area would be expected, except for impacts associated with a catastrophic fire. These impacts may include loss of vegetation caused by uncontrolled fire and subsequent soil erosion. The impact scale would be moderate.

#### ***Alternative 2 – Proposed Action***

No environmental consequences related to floodplains are expected from fuels reduction activities because the activities do not require soil-leveling or large-scale removal of vegetation that would result in changes to the adjacent floodplain contours or elevations. The actions would not occur within designated floodplains and/or riparian areas. No direct, indirect, or cumulative impacts to floodplains are anticipated. The impact scale would be small. Other values (biological, cultural) associated with floodplains are addressed in other sections of this EA.

### 4.3 WETLANDS AND WATER RESOURCES

Wetlands and water bodies were mapped by both Counties; however no wetlands were found within the project areas.

One water body, the Ochoco Reservoir, is located adjacent to the Crook County project area of the same name. The reservoir was formed after World War I for irrigation, flood control, and

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indirectly for recreation. Mill Creek and Ochoco Creek flow into the reservoir, and the output is Ochoco Creek. The surface water level varies greatly depending on the season, and is highest during spring (USFS 2009).

The Deschutes River is located adjacent to the Tetherow Crossing project area. The Deschutes River is used primarily for irrigation and recreation. The headwaters of the river is Little Lava Lake (approximately 26 miles northwest of La Pine, Oregon), and it flows to the Columbia River (USFS 2009).

### **Alternative 1 – No Action**

No impacts to wetlands and water resources within the project area would be expected, except for impacts resulting from a catastrophic fire. These impacts may include a loss of vegetation due to uncontrolled fire and subsequent soil erosion, both of which would affect the water quality of wetlands and riparian habitats along water features in the project area. The impact scale would range from small to large, depending on the size of the wildfire.

### **Alternative 2 – Proposed Action**

No environmental consequences are expected to occur to wetlands or water resources within the project area. No manual, mechanical, or chemical vegetation removal would occur within 200 feet of wetlands, riparian areas, or streams. BMPs for erosion control would be used if necessary, as determined during the individual property assessment. These BMPs would include the use of straw bales and silt fences to prevent sediment transport and the seeding of disturbed areas with native erosion control seed mixes until native plants can be installed. Impacts on water quality would be considered negligible based on the types of vegetation removal proposed, which requires no to little ground disturbance. The impact scale would be small.

## **4.4 VEGETATION**

Both counties are located within the rain shadow east of the Cascade Mountains where precipitation is negligible. The eastern location also contributes to a preponderance of annual dry lightning storms which commonly ignite wildfires. While vegetation can vary somewhat from one specific location to the next, the region generally features a mixture of ponderosa pine, mixed conifer, and juniper forests as well as non-forest grasses and sagebrush. Invasive non-native plants are also present in the proposed area. The below listed vegetative types are the dominant (in presence and distribution) species found in the project area. Other vegetative types, as described in the Community Wildfire Protection Plans, are also present, but at a much smaller scale and distribution.

**Ponderosa pine** (*Pinus ponderosa*) is currently found at higher elevations in northeastern Deschutes County and western Crook County, with small patches in the project areas. Historically, ponderosa pine forests contained more understory grasses and less shrubs. These plants, combined with fallen pine needles, formed fast-burning fuels that led to recurrent widespread burning. The fire history for ponderosa pine is characterized by low-intensity ground fires that occur at intervals of 11 to 15 years. The pattern of low ground fires and stand dynamics resulted in the open park-like conditions that early inhabitants and visitors found in the region.

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Less stand management, less logging activity and highly effective wildland fire suppression have significantly altered the ponderosa pine forest type. Removal of the larger “yellow belly” pines has dramatically decreased open park-like forests, replacing them with more evenly spaced and smaller “black-bark” forests. Similar to other species of conifer forest types, fire suppression has greatly increased the number of trees (stocking levels) and density of trees, creating ladder fuels and putting the stands at risk of attack from insects and disease. These factors have contributed to more intense fires in ponderosa pine forests in recent years.

**Western juniper** (*Juniperus occidentalis*) occurs mainly in the northern and eastern sections of the Counties’ wildland/urban interface. The fire history of western juniper is characterized by fire that occurs approximately every 30 years and is generally limited by the availability of fuels. Western juniper trees have thin bark and fires kill them easily. Western juniper appeared to spread over the previous century. Several factors may account for the expansion: a) fire suppression, which allows the stands to grow unchecked by fire; b) overgrazing by domestic livestock, which opens up new sites for colonization; c) reestablishment of juniper after being logged; and d) climate change.

**Bitterbrush** (*Purshia*) occurs throughout the project areas and are often found with other shrubs such as manzanita and sage. Fire severely damages bitterbrush, especially if rain is not received shortly after a burn. It regenerates mostly from seed after a fire and often sprouts from caches of seeds made by rodents. Bitterbrush will sprout after burning regardless of the severity of the burn and matures relatively quickly. Consequently, the Counties’ wildland/urban interface area is rich with patches of bitterbrush that burn well on their own and provide fire-ready ladder fuels for taller tree stands.

**Manzanita** (*Arctostaphylos*) is a shrub that occurs throughout the project areas, usually mixed with other shrub species such as bitterbrush. Manzanita is established both through sprouts and seeds that are stimulated by fire. The shrub has volatile materials in the leaves, low moisture content in the foliage and persistence of dead branches and stems. This leads to a rapid and extensive fire spread. Manzanita is particularly susceptible to fire where it is the primary understory component.

**Big sagebrush** (*Artemisia tridentata*) is found in the eastern project areas and commonly grows in association with juniper and bitterbrush. Most fires kill big sagebrush plants. In many big sagebrush communities, changes in fire occurrence along with fire suppression and livestock grazing have contributed to the current condition. Introduction of annuals, especially cheatgrass (*Bromus tectorum*), has increased fuel loads so that fire carries easily. Burning in big sagebrush communities commonly sets the stage for repeated fires. Fire frequency can be as little as five years, not sufficient time for the establishment and reproduction of big sagebrush. In these cases, annuals such as cheatgrass commonly take over the site.

The result of the fuel hazards and forest types in the project areas is an overgrowth of trees, forest floor fuels, and an abundance of dead or dying vegetation that contribute to a substantially elevated risk of wildland fires that are difficult to control. These overly dense conditions lead to fire behavior that produce flame lengths over eight feet with crowning and torching that can result in stand replacement severity fires.

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Not only have large, stand replacement fires not occurred, but also the more frequent low intensity fires have not been allowed to burn either. This practice of fire exclusion along with insufficient vegetation and fuels reduction has resulted in the buildup of excessive live and dead fuels.

### ***Alternative 1 – No Action***

As new development occurs within the wildland/urban interface, the high risk of vegetation loss from wildfires would continue. Factors contributing to the high fire risk include combinations of steep topography, narrow roads with few connecting streets, inadequate water supply in older neighborhoods, dense development, increased fuel loads, and buildings lacking defensible space (clearings between wildland vegetation and structures). Increased invasive species creating a greater fuel load would be expected. The impact scale would range from small to large, depending on the size of the wildfire.

### ***Alternative 2 – Proposed Action***

Integrating thinning and manual/mechanical vegetative treatment could result in a small loss of individual native plants. Juniper and sagebrush would be removed from the project areas within Crook County, and also from Tetherow Crossing in Deschutes County. Bitterbrush would be removed from all project areas. Treatment areas would be accessed through existing gravel or dirt roads and driveways. Various disturbances as a result of the work crews, removal of individual trees, and hand pruning/limbing would result in localized, indirect, small effects to native plant communities. However, in these habitat types thinning is generally desirable and promotes reduction of overstocked understory trees and shrubs. The Proposed Action does provide a potential for the further spread of invasive, non-native species into the project area.

Changes in the vegetative community or species population would be minor, with small and localized effects to a relatively minor proportion of any native species population. The impact scale would be small to moderate. Many of these species are ecologically dependent on fire and fire cycles, and the effects are considered small in the short term and beneficial in the long term. Individual homeowners would be responsible for controlling invasive species through monitoring and maintaining the affected area per local and state requirements.

The education to be provided as part of mitigation efforts would increase home and business owner's awareness of the risks and would provide them with alternatives for reducing those risks. Using education in combination with the use of manual/mechanical vegetative treatment would benefit natural resources and the ecological system as a whole.

## **4.5 FISH AND WILDLIFE**

There are hundreds of wildlife and fish species associated with the forests, rangeland, and streams in Central Oregon. In a classic wildland/urban interface environment, priority growth areas overlap each of the vegetative communities present in Crook and Deschutes Counties. The seven project areas represent such wildland/urban interface areas.

### **4.5.1 Federally Listed Species and Critical Habitat**

Lists of Federally endangered and threatened species with the potential to occur in Deschutes and Crook Counties were obtained from the U.S. Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service on January 8, 2009 (Appendix B). Two Federally listed species may be found within the proposed action area; the northern spotted owl and bull trout. Both species have designated critical habitat specified in Deschutes and Crook Counties.

#### **4.5.1.1 Northern Spotted Owl**

The northern spotted owl (*Strix occidentalis caurina*) is a Federal and Oregon State listed species. The northern spotted owl was listed as threatened on June 26, 1990 (55 FR 26114 – 26194). A draft recovery plan was published in 1992 (USFWS 1992).

The northern spotted owl is a forest bird that inhabits old-growth coniferous and mixed conifer-hardwood forests from British Columbia through northern California. Suitable habitats for spotted owls provide elements necessary for nesting, roosting, foraging, and dispersal. Characteristics of nesting and roosting in Oregon generally include forests dominated by Douglas-fir and western hemlock with large (more than 30 inches diameter at breast height) overstory trees. Canopies exhibit a moderate to high canopy closure (60 to 80 percent), and are multi-layered with multiple tree stories (USFWS 1992). In addition, trees with various structural deformities (cavities, broken tops, mistletoe infections) and large snags are also characteristic of northern spotted owl habitat, as well as accumulated fallen trees and debris on the forest floor (USFWS 1992). Most nest and roost sites are within forest stands with trees that are often more than 200 years old, but northern spotted owls also utilize mature forests 100 to 200 years old. Foraging and dispersal habitats may be in younger, more open and fragmented forests than those associated with nesting and roosting (USFWS 1992).

Critical habitat has been designated for the spotted owl in Deschutes County. There is no potential habitat for northern spotted owls in the Proposed Action areas.

#### **4.5.1.2 Bull Trout (Columbia River Basin)**

On June 10, 1998, the Columbia River Bull Trout Distinct Population Segment (DPS) was listed as threatened (63 FR 31647 – 31674). On November 1, 1999, all bull trout in the continuous United States were listed as threatened (64 FR 58910). In 2002, a draft recovery plan was developed for three of five bull trout DPSs, including the Columbia River Bull Trout DPS (USFWS 2002).

In the Columbia River Basin, bull trout historically were found in about 60 percent of the basin. They now occur in less than half of their historic range. The Deschutes Recovery Unit encompasses the entire Deschutes River basin and its tributaries. Bull trout have been observed in the Deschutes River and its tributaries (USFWS 2002).

Bull trout critical habitat has been designated along portions of the Deschutes River downstream of Big Falls near Redmond, Oregon and the Crooked River downstream of Prineville, Oregon (70 FR 56212 – 56311). Bull trout do not currently occupy the Crooked River and only occupy the Deschutes River upstream to Big Falls. The Proposed Action areas are beyond the range of the current bull trout population or its designated critical habitat.

### **4.5.2 Migratory Birds**

To determine potential for occurrence of migratory birds within the project areas, a remote habitat analysis was performed by a certified biologist. Geographic information systems data, aerial photos, and species descriptions were utilized to identify potential migratory bird occurrence. The Migratory Bird Treaty Act of 1918, as amended, provides Federal protections for migratory birds, their nests, eggs, and body parts from harm, sale, or other injurious actions. The act includes a “no take” provision. Migratory birds addressed here include those that are included within the United States Fish and Wildlife Service Birds of Conservation Concern (USFWS 2008) and the Conservation Strategies for the Oregon-Washington Partners in Flight (Altman 2000a, Altman 2000b, Altman 2000c).

The project areas are dominated by juniper woodlands, sagebrush, and ponderosa pine as identified by the ReGAP dataset (OSU 2007). See Appendix B for specific ReGAP classifications. The species of conservation concern were evaluated for their habitat usages and determined whether or not they could potentially occur within one or more of the project areas. The predicted distribution of each species as modeled by the GAP Analysis Project (GAPServe 2004) was also used in species consideration. Avian species listed in Appendix B have the potential to either nest or forage within the project areas.

### **4.5.3 Environmental Consequences**

#### ***Alternative 1 – No Action***

Under the No Action Alternative, no vegetation management activities would be conducted. As a result, no direct effects to wildlife, including ESA Federally listed species, state-listed species, or special status species in the project areas are expected. However, the potential for losses of wildlife, including protected species, due to wildfire would remain. The impact scale would range from small to large, depending on the size of the wildfire. Future uncontrolled wildfires could result in adverse impacts to wildlife, including protected species, through the loss of habitat or the mortality of individuals.

#### ***Alternative 2 – Proposed Action***

Under the Proposed Action Alternative, wildfire fuel reduction activities would not affect Federally listed wildlife species or their critical habitats. No spotted owl or bull trout habitat occurs in the Proposed Action areas.

Impacts to non-listed wildlife, including migratory birds, could occur through displacement and habitat modification. Various factors including changes in food sources, shelter, population density, and dispersal effort would determine the severity of impacts to non-listed wildlife. These impacts would dissipate as displaced individuals either establish new home ranges or are outcompeted. The impact scale to non-listed wildlife would be small as impacts would not be expected to exceed the natural range of variability or have long-term effects on the natural processes sustaining these populations.

### 4.6 HISTORIC, ARCHAEOLOGICAL, AND CULTURAL RESOURCES

Section 106 of the National Historic Preservation Act (NHPA) mandates that activities occurring on Federal lands, or those that require Federal permits or use Federal funds, undergo a review process to protect cultural resources that are or may be eligible for listing on the National Register of Historic Places (NRHP). The Area of Potential Effects (APE) for historic, archaeological and cultural resources would include all areas where potential ground disturbance related to vegetation removal would occur within the 1,000 acre project area.

#### 4.6.1 Historic Resources

An online database of the NRHP was reviewed in May 2009. There were no NRHP-listed resources located within the project areas. However, the Oregon State Historic Preservation Officer (SHPO) maintains a statewide database of inventoried historic resources, and there may be historic resources present within the project areas that are not listed on the NRHP but that may be eligible for listing. Examples of historic resources include canals, railroads, residences, and other structures 50 years or older. One known historic structure, a segment of the Arnold Irrigation District canal system, is located within the Powell Butte project area.

#### 4.6.2 Archaeological and Cultural Resources

A review of confidential archaeological records on file at the Oregon SHPO office in Salem, Oregon, was conducted in May 2009 to determine the presence or absence of previously recorded sites in the Area of Potential Effect. Three precontact period archaeological resources fall within the inventoried units, and consist of two rockshelters and a quarry/lithic reduction site. Of these three archaeological resources, two are located near the Ochoco Reservoir project area in Crook County, and the third is located near the Tetherow Crossing project area in Deschutes County.

#### 4.6.3 Environmental Consequences

##### ***Alternative 1 – No Action***

Under the No Action Alternative, FEMA would not provide funding to reduce wildland fuel loads in target areas of Deschutes and Crook Counties' wildland-urban interface. Because no federal activity would occur, no requirement for compliance with Section 106 of the NHPA exists. Historic, archaeological, and cultural resources would continue to be at the same risk for potential damages. The impact scale would be small to large, depending on the damage from fire.

##### ***Alternative 2 – Proposed Action***

The scope of the Proposed Action, reduction of fuel loading through removal of brush by private contractors using manual means such as hand thinning, brush cutting, and other low-impact measures, is limited in terms of potential to impact historic resources. Four known archaeological and historic resources are located within the APE based on the results of the record search. No activities would take place within 50 feet of these known resources.

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## **Affected Environment and Environmental Consequences**

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The majority of the proposed project areas have not been subjected to prior inventory, therefore the quantity and type of potential cultural and archaeological resources falling within the project areas is undetermined. Although no ground disturbance is planned, effects to resources could occur if mechanical vegetation removal damages site integrity or individual artifacts (Odess and Robertson 2007). A comprehensive inventory of environmental and historical conditions would take place during the first phase of the project as each individual property is assessed. If historical or archaeological resources are found, appropriate protection measures would be taken, including documenting the site, planning the mitigation strategy to avoid the immediate vicinity of the feature, and/or engaging in low-impact mitigation strategies that do not disrupt the structures or topography.

Since the project areas are located within developed residential subdivisions and no ground disturbance is anticipated, no effects to cultural resources are expected. The impact scale would be small. The Counties intend to avoid all impacts to historic resources and expect no effect to aboveground resources. No activities would occur within 50 feet of the Arnold Irrigation District canal system, except where a public road/bridge crosses the canal. Vegetation removal activities near these bridges would be limited and would not affect the historic, visual, or structural integrity of the canal.

### **4.7 SOCIOECONOMIC AND ENVIRONMENTAL JUSTICE (EO 12898)**

Executive Order (EO) 12898, Environmental Justice, directs Federal agencies to identify and address, as appropriate, disproportionately high and adverse human health or environmental effects on minority and low-income populations in the U.S. resulting from Federal programs, policies, and activities. Socioeconomic and demographic data for residents in the project vicinity was studied to determine if a disproportionate number (defined as greater than 50 percent) of minority or low-income persons have the potential to be affected by the alternatives.

U.S. Census Bureau data for Deschutes and Crook Counties were used to identify the minority<sup>1</sup> and low-income<sup>2</sup> compositions of the study area. The project areas in Deschutes County were located in Census Tracts 9905, 9911, and 9912.01. The Crook County project areas were located within Census Tracts 9501, 9502, and 9503. Census 2000 data at the county level and census tract level was reviewed.

In Deschutes County, the minority population was 5 percent. Within the three Census Tracts studied, the minority population was 4 percent. The poverty level for Deschutes County was 9.3

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<sup>1</sup> A minority person is “a person who is: (1) Black (a person having origins in any of the black racial groups of Africa); (2) Hispanic (a person of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin, regardless of race); (3) Asian American (a person having origins in any of the original peoples of the Far East, Southeast Asia, the Indian subcontinent, or the Pacific Islands); or (4) American Indian and Alaskan Native (a person having origins in any of the original people of North America and who maintains cultural identification through tribal affiliation or community recognition).”

<sup>2</sup> Low-income is identified as “one whose median household income is at or below the Department of Health and Human Services poverty guidelines.” Income data based on Department of Health and Human Services guidelines are difficult to gather, so Census Bureau data are often used for environmental justice analyses.

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## **Affected Environment and Environmental Consequences**

percent, while the levels within the project areas ranged from 5.4 percent in Census Tract 9911 to 8.1 percent in Census Tract 9912.01.

In Crook County, the minority population was 7 percent. The minority population within Census Tracts 9501 and 9502 was also 7 percent, while the population of Census Tract 9503 (containing the Powell Butte project area) was 8 percent. The poverty level for Crook County was 11 percent, while the levels within the three Census Tracts studied was 10 percent.

### ***Alternative 1 – No Action***

Under the No Action Alternative, FEMA would not provide funding to reduce wildland fuel loads in target areas of Deschutes and Crook Counties' wildland/urban interface. Because no Federal activity would occur, no requirement for compliance with EO 12898 exists.

### ***Alternative 2 – Proposed Action***

The project areas under the Proposed Action were selected as high-priority based solely on their need for fuel reduction. Since most project areas have a lower percentage of minorities and residents below poverty level as the respective County, and one location, Powell Butte, has slightly higher minority population of 1 percent, the Proposed Action would not cause adverse economic impacts, and would comply with EO 12898. The impact scale would be small. The project would ensure a higher level of safety for all area and local populations. This would be a social and economic beneficial impact to the community as a whole.

**SECTION FIVE      CUMULATIVE IMPACTS**

The Council on Environmental Quality regulations for implementing NEPA require an assessment of cumulative effects during the decision-making process for Federal projects. Cumulative effects are defined as “the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions” (40 CFR 1508.7). Cumulative effects were determined by combining the effects of the alternative with other past, present, and reasonably foreseeable future actions.

This action and other wildland/urban interface activities that are planned in the fire management plans by the Counties are not expected to have adverse cumulative impacts to climate, geology, and soils; floodplains; wetlands; water resources; vegetation; historic, archeological, and cultural resources; or socioeconomics and environmental justice, as no project impacts are anticipated. Impacts to fish and wildlife, specifically non-listed wildlife and migratory birds, could occur through displacement and habitat modification. However, these effects would not be expected to exceed the natural range of variability or have long-term effects on the natural processes sustaining these populations. The action includes an educational element for the private land owners to maintain these fuel reduction practices over time and the understanding of fire related risks as development increases in the wildland/urban interface. Due to the limited scope of the work, no loss of any sensitive species or habitat is expected that would contribute a measurable amount to the cumulative effects.

### **SECTION SIX PUBLIC INVOLVEMENT AND RESPONSE TO COMMENTS**

FEMA is the lead Federal agency for conducting the NEPA compliance process for the proposed vegetation management project. As the lead agency, FEMA expedites the preparation and review of NEPA documents, responds to the needs of residents surrounding the treated lands, meets the spirit and intent of NEPA, and complies with all NEPA provisions.

A public notice was required for the draft EA. The public had the opportunity to comment on the EA for 30 days between April 6, 2009 and May 6, 2009. FEMA reviewed all written comments submitted for identification of any significant issues that need to be addressed. An email received from Oregon Wild discussed concerns regarding the Proposed Action and its impact on wildlife and vegetation (see Appendix E). As a result, revisions were made to the EA to describe the proposed actions and impacts in greater detail, including a discussion of migratory birds. However, no significant issues were raised and the impacts described in the draft EA did not change.

Public involvement is ongoing and had begun before the initiation of this EA. With the passing of the Healthy Forests Restoration Act (HFRA) in 2003, many communities in Oregon organized or increased their public education efforts to reduce hazardous fuels on public and private forested lands. HFRA also directed Federal agencies to work each community to develop a Community Wildfire Protection Plan (CWPP). The plans outline priority areas, strategies and action plans for wildfire fuel reduction treatments and educate their respective communities on living in a fire-adapted ecosystem. These plans were developed in large part by the efforts of Oregon local community groups. The groups also have worked to provide public information concerning National Fire Plan goals and to develop wildfire education and prevention programs.

The following eleven plans are relevant to public involvement efforts supporting this EA.

#### **6.1 DESCHUTES COUNTY NATURAL HAZARDS MITIGATION PLAN**

Representatives from private and public agencies, organizations, businesses and community groups collaborated to develop this plan. The Deschutes County Natural Hazards Mitigation Plan provides an opportunity to merge common strategies and actions related to five potential natural hazards – wildland fire, severe winter storms, volcanic eruption, earthquakes, and floods. The wildland area near the City of Redmond is considered a moderate fire risk, while Bend’s wildland area is a high fire risk.

The short-term wildland fire mitigation action items include 1) continuing and expanding education and training, 2) expand public information and education initiatives in support of active hazardous fuels treatment, and 3) expand public information and education initiatives expanding the self-governing Rangeland Association.

#### **6.2 PRINEVILLE/CROOK COUNTY NATURAL HAZARDS MITIGATION PLAN**

The Crook County Natural Hazards Mitigation Action Plan (CCEM 2005) is the result of a collaborative effort between Crook County citizens, public agencies, non-profit organizations, the private sector, and regional and State organizations. Public participation played a key role in

development of goals and action items. Interviews were conducted with stakeholders throughout the county, and all of their workshops were open to the public. Several citizens were actively involved in the plan's development. This plan does not identify specific communities at-risk, rather that is done by the individual community fire plans (see discussion on Crook County Community Wildfire Protection Plan, page 6-3).

The overall goals for participation include are 1) develop and implement education and outreach programs, 2) provide information on tools, partnership opportunities, and funding resources, 3) strengthen communication and coordinate participation among and within public agencies, citizens, non-profit organizations, business, and industry, and 4) encourage leadership within public and private sector organizations.

### **6.3 UPPER DESCHUTES RIVER NATURAL RESOURCES COALITION COMMUNITY WILDFIRE PROTECTION PLAN**

The Upper Deschutes River Natural Resources Coalition comprises sixteen neighborhoods in southern Deschutes County and includes the La Pine Rural Fire Protection District, the Oregon Department of Forestry, the USFS, the Bureau of Land Management (BLM), and Deschutes County. Since 2004 this coalition has worked to increase neighborhood interest in restoration and protection of natural resources along the Upper Deschutes River. The coalition regularly participates in wildfire prevention education and activities.

The Upper Deschutes River Natural Resources Coalition Plan (Upper Deschutes River Natural Resources Coalition 2007) also lists seven "Communities at Risk" as defined by HFRA. These consist of Three Rivers, Wild River, Foster Road Corridor, Little Deschutes Corridor, Big River, Haner Park, and Fall River. These communities face significant threat from wildfire due to location (near Federal land), have conditions conducive to large-scale wildfires, and face a threat to human life and property from these fires. Due to this, community education and involvement efforts have been ongoing.

### **6.4 GREATER LA PINE COMMUNITY WILDFIRE PROTECTION PLAN**

Greater La Pine community members involved in the development of their plan include members of fire agencies, local businesses and organizations, and individuals. Similarly to Upper Deschutes, the La Pine Rural Fire Protection District, the Oregon Department of Forestry, the USFS, and the BLM all were involved in the effort to develop the plan and continue to be involved in the ongoing process of revision and improvement of the plan (Project Wildfire 2005).

The Greater La Pine Plan has two primary goals: education and outreach. The Greater La Pine community also continues to educate and inform residents about living in a fire-adapted environment and increasing personal responsibility for creating defensible space. With the rapid influx of new residents in the area, efforts have been established to educate new residents and make informational resources easily available. The La Pine Rural Fire Protection District routinely partners with Project Wildfire for public educational efforts. Some homeowners' associations and other organized groups in the Greater La Pine area provide valuable ongoing education to their members about the risks of wildland fire and the ways to reduce those risks.

Additional public outreach is ongoing in the Greater La Pine “Communities at Risk” as defined by the HFRA. These communities consist of Wickiup Acres, Newberry Estates, 6th and Dorrance, Ponderosa Pines, Masten Road, Day Road Corridor, Little Deschutes River, Huntington South, and Section 36.

### **6.5 GREATER REDMOND COMMUNITY WILDFIRE PROTECTION PLAN**

Community members and local businesses and organizations collaborated with representatives from Redmond Fire & Rescue, Deschutes County Rural Fire Protection District #1, Oregon Department of Forestry, the USFS, the BLM, the Oregon Military Department, Deschutes County, and Project Wildfire to develop this plan (Project Wildfire 2006a). The three main purposes of this plan are to 1) instill a sense of personal responsibility for taking preventative actions regarding wildland fire, 2) increase public understanding of living in a fire-adapted ecosystem, and 3) increase the community’s ability to prepare for, respond to, and recover from wildland fires. To reach these goals, public involvement and education are ongoing.

Greater Redmond selected eight subregions as their “Communities at Risk” as defined by the HFRA. These are the Northwest, Southwest, Northeast, Southeast, Urban Northwest, Urban Northeast, Urban Southwest, and Urban Southeast subregions. In order to meet the fire safety needs of these communities, education and outreach are top priorities of the Greater Redmond community.

Further public education has been made possible by the individual and collaborative efforts of Redmond Fire & Rescue, Oregon Department of Forestry, the Central Oregon Fire Prevention Cooperative, and Project Wildfire. These groups provide a variety of wildland fire prevention programs in the Greater Redmond area.

### **6.6 CROOK COUNTY COMMUNITY WILDFIRE PROTECTION PLAN**

The Crook County Plan was developed by the collaborative efforts of the Crook County Court, Crook County Fire and Rescue, Crook County Emergency Management, Crook County Natural Resources Planning Committee, Oregon Department of Forestry, and the Ochoco National Forest and BLM-Prineville District via Central Oregon Fire Management Services (Crook County Community Wildfire Protection Plan Committee 2005).

The Community Emergency Preparedness Committee and the Crook County Natural Resources Planning Committee presented the plan to the public for review and input and posted a draft of the document on the County website. Additional presentations of the plan were held throughout the county during the 2005 Crook County Sheriff’s Town Hall meetings.

The Crook County Plan divided the county into six geographical blocks containing multiple communities and referred to as Risk Assessment Areas to identify “Community at Risk” (as defined by HFRA). These areas were Juniper Canyon, Powell Butte, McKay, Paulina, Maury, and Twelve Mile. These communities will direct outreach and resources.

### 6.7 GREATER SISTERS COUNTY COMMUNITY WILDFIRE PROTECTION PLAN

Education and outreach are primary goals for the Greater Sisters County Plan (Watershed Research and Training Center 2006). The two main themes of education and outreach are to increase public understanding of living in a fire-adapted ecosystem and to increase personal responsibility for creating defensible living space. To accomplish this, in the fall of 2004 the Greater Sisters County Plan steering committee hosted four community meetings to introduce the idea of a plan to the public and to obtain feedback. The meetings increased public support for the plan, identified community members who wanted to participate in additional efforts, gathered information about community values and concerns, identified potential emergency response and preparedness improvements, identified community priorities for Federal land fuel reduction, and identified future educational opportunities.

Ongoing education and outreach efforts continue in the form of guided tours for the public of recent large wildland fires in the area, guided tours of the Metolius Heritage Demonstration Project, an interactive website, and tours of the ongoing Highway 20 Fuels Reduction Project.

The Greater Sisters County Community selected 14 communities as their “Communities at Risk” (as defined by HFRA) through a wildfire risk assessment, which included input from community meetings. These communities require additional efforts to reduce wildland fire risk. They are Tollgate, Crossroads, Panoramic View Estates, Camp Sherman, Sage Meadows, Sisters Area, Indian Ford Meadows, Squaw Creek, Black Butte, Cascade Meadows, Forked Horn Estates, Suttle Lake, Plainview Estates and Area, and Aspen Lakes.

### 6.8 GREATER BEND COMMUNITY WILDFIRE PROTECTION PLAN

After the passing of HFRA in 2003, three community meetings were held to generate interest and participation in the planning process. This inspired the Greater Bend Community to develop the Greater Bend Plan (Project Wildfire 2006b). Participants included the City of Bend Fire Department, Deschutes County Rural Fire Protection District #2, Oregon Department of Forestry, the USFS, the BLM, Deschutes County, members of fire agencies, local businesses and organizations, and individuals.

Three of the public education goals of the Greater Bend Plan are 1) instill a sense of personal responsibility for taking preventative actions regarding wildfires, 2) increase public understanding of living in a fire-adapted ecosystem, and 3) increase the community’s ability to prepare for, respond to, and recover from wildland fires. These goals have made education and outreach top priorities for the plan. The City of Bend Fire Department, the Central Oregon Fire Prevention Cooperative and Project Wildfire all provide wildfire prevention education to the public and Federal and State agencies. Many neighborhood groups and homeowner associations also provide ongoing information to their residents to reduce wildfire risk and improve their protection.

The Greater Bend Plan selected 10 “Communities at Risk” (as defined by HFRA) for assessment and prioritization. These are identified as North, Northeast, Southeast, Urban Growth Reserve East, Urban Growth Reserve West, West, Deschutes River Woods, Tumalo, Skyliners, and Saddleback. These risk areas require ongoing planning and public education efforts.

### 6.9 SUNRIVER COMMUNITY WILDFIRE PROTECTION PLAN

The Sunriver Owners Association, the Sunriver Fire Department, Federal and State agencies, community individuals, and other interested parties collaborated to develop the Sunriver Plan (Sunriver Owners Association Environmental Services and Sunriver Fire Department 2005). Prior to this collaboration, the association had drafted a Fuels Modification Plan as early as 1991 (later called the Ladder Fuels Reduction Plan). The plan detailed the reduction of fuels on private properties and common areas. In 1996 Sunriver made fuels reduction mandatory for property owners.

### 6.10 WALKER RANGE COMMUNITY WILDFIRE PROTECTION PLAN

A multi-jurisdictional group of agencies, organizations, and individuals collaborated to develop the Walker Range CWPP. The purpose of the Walker Range Plan is to protect human life and reduce property loss due to wildland fire in the communities and surrounding areas of the Crescent, Crescent-Odell Lakes, Chemult, and Oregon Outback Rural Fire Protection Districts and the Walker Range Forest Protective Association. The steering committee selected 38 “Communities at Risk” (as defined by HFRA). These include the Odell Lake summer homes, Crescent Lake summer homes, Crescent Lake Junction Cluster, Crescent/Gilchrist Cluster, Highway 97 West, Oregon Outback Cluster, and Schoonover and vicinity Cluster.

In the fall of 2004, the Walker Range Fire Plan Team hosted a series of six community meetings about the Walker Range Plan. Each of the meetings included an overview of the wildfire plan and a discussion of key issues. In May of 2005, the Walker Range Fire Plan Team hosted a second series of five community meetings about the Walker Range Plan. Overall, attendees were pleased with the overall strategy of reducing fuels and the priorities in the plan. Many comments addressed additional emergency evacuation routes. As a result of this feedback, many new emergency evacuation routes were added to the priorities in the action plan.

Four of the public education goals of the Walker Range Plan are 1) increase homeowner responsibility, 2) improve web page, 3) keep working with education cooperatives, and 4) distribute the Defensible Space Checklist at appropriate opportunities.

### 6.11 EAST AND WEST DESCHUTES COUNTY COMMUNITY WILDFIRE PROTECTION PLAN

This plan encompasses the remaining unincorporated and/or unprotected wildland/urban interface areas in Deschutes County that are not included in previous plans. Four project areas are profiled in the plan: West, Paulina and East Lakes, Alfalfa, and Brothers/Hampton. For each area, Communities at Risk were identified according to the Healthy Forests Restoration Act. Seven Communities at Risk were identified in the West area, five were identified in the Paulina and East Lakes area, one was identified in the Alfalfa area, and six were identified in the Brothers/Hampton area.

Members of fire agencies, local businesses, organizations, three steering committees, and individuals collaborated to develop the East and West Deschutes County Plan. A draft of the East and West Deschutes County CWPP was available for public comment for 30 days prior to

## **Public Involvement and Response to Comments**

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the final signing and approval of the plan. Interested parties provided comments for consideration by the Steering Committees during this period.

### **SECTION SEVEN REQUIRED PERMITS AND COMPLIANCE**

Deschutes and Crook Counties are required to obtain and comply with all local, State, and Federal permits and approvals prior to implementing the Proposed Action Alternative. Development at the Proposed Action Alternative areas shall comply with the project application's scope of work.

A comprehensive inventory of environmental and historical conditions would take place during the first phase of the project as each individual property is assessed. In the event that historically or archaeologically significant materials or sites (or evidence thereof) are discovered during the implementation of the project, the project shall be halted immediately and all reasonable measures taken to avoid or minimize harm to property. The Counties would then be required to consult with FEMA and the SHPO for further guidance. No activities would take place within 50 feet of the four known archaeological and historic resources located within the APE.

**SECTION EIGHT CONCLUSION**

The draft and final EA evaluated potentially significant resources that could be affected by the Proposed Action. The evaluation resulted in identification of no significant impacts associated with the resources of climate, geology, and soils; floodplains; wetlands and water resources; vegetation; fish and wildlife (ESA); historic, archaeological, and cultural resources; and socioeconomic and environmental justice. Obtaining and implementing permit requirements along with appropriate BMPs will avoid or minimize any effects associated with the action. It is recommended that a finding of no significant impact to the human or natural environment be issued for the Proposed Action Alternative.

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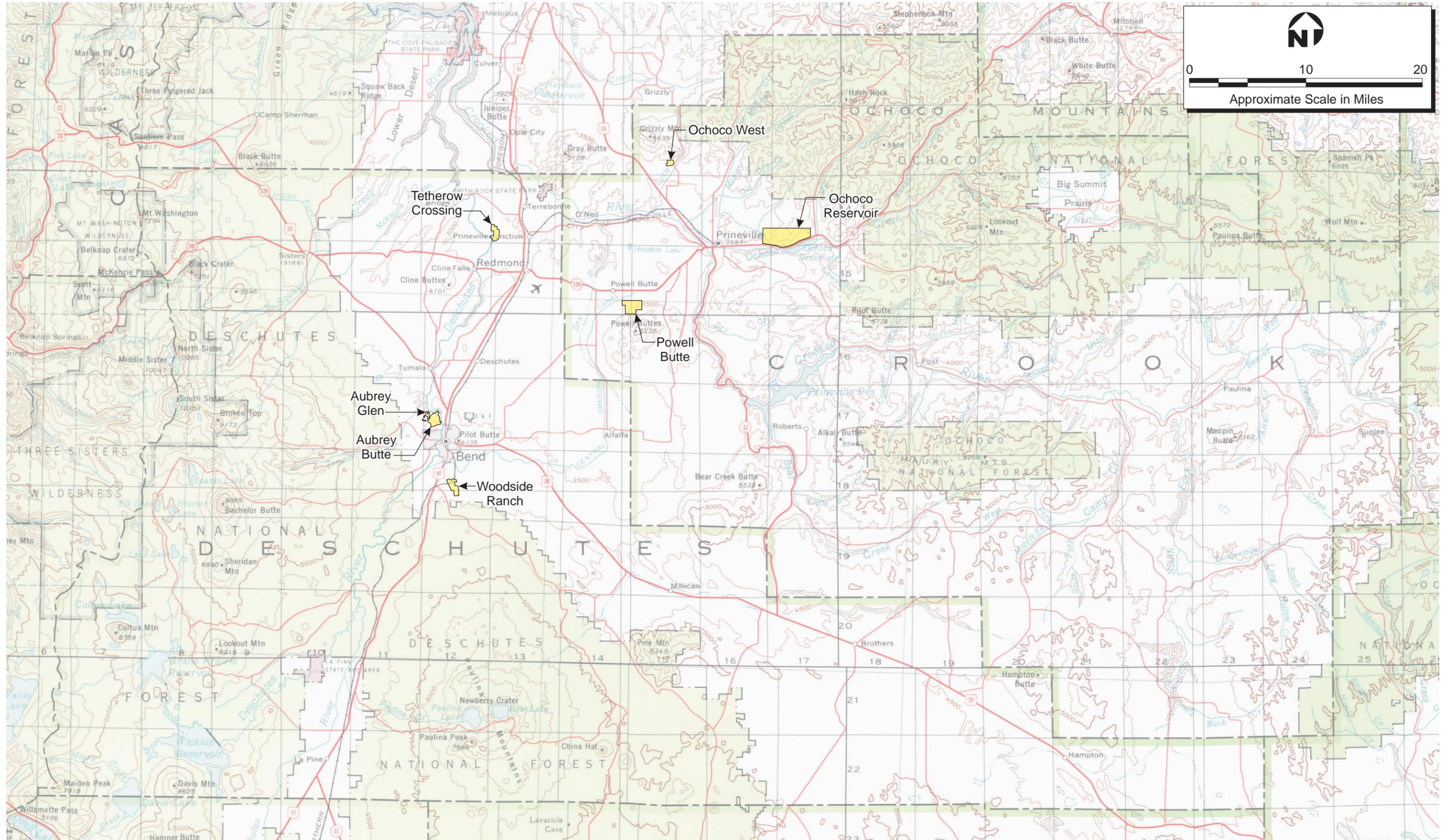
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**Appendix A**  
**Figures**

Figure 1 – Proposed Project Areas



Source: USGS 1:500,000 quadrangle map, Oregon, revised 1982.

**Appendix B**  
**U.S. Fish and Wildlife Service Species Lists**  
**Migratory Bird Species Lists**

**FEDERALLY LISTED, PROPOSED, CANDIDATE SPECIES  
AND SPECIES OF CONCERN  
UNDER THE JURISDICTION OF THE FISH AND WILDLIFE SERVICE  
WHICH MAY OCCUR WITHIN CROOK COUNTY, OREGON**

**LISTED SPECIES**

**Fish**

***Inland:***

Bull trout

*Salvelinus confluentus*

CH T

**PROPOSED SPECIES**

**None**

No Proposed Endangered Species

PE

No Proposed Threatened Species

PT

**CANDIDATE SPECIES**

**Reptiles and Amphibians**

***Inland:***

Columbia spotted frog

*Rana luteiventris*

**SPECIES OF CONCERN**

**Mammals**

***Terrestrial:***

Pygmy rabbit

*Brachylagus idahoensis*

Pallid bat

*Antrozous pallidus pacificus*

Townsend's western big-eared bat

*Corynorhinus townsendii townsendii*

Spotted bat

*Euderma maculatum*

California wolverine

*Gulo gulo luteus*

Silver-haired bat

*Lasionycteris noctivagans*

Small-footed myotis bat

*Myotis ciliolabrum*

Long-eared myotis bat

*Myotis evotis*

Long-legged myotis bat

*Myotis volans*

Yuma myotis bat

*Myotis yumanensis*

Preble's shrew

*Sorex preblei*

**Birds**

Northern goshawk

*Accipiter gentilis*

Western burrowing owl

*Athene cunicularia hypugaea*

Ferruginous hawk

*Buteo regalis*

Greater sage-grouse

*Centrocercus urophasianus*

Black tern

*Chlidonias niger*

Olive-sided flycatcher

*Contopus cooperi*

Willow flycatcher

*Empidonax traillii adastus*

Yellow-breasted chat

*Icteria virens*

Lewis' woodpecker

*Melanerpes lewis*

Mountain quail

*Oreortyx pictus*

White-headed woodpecker

*Picoides albolarvatus*

**FEDERALLY LISTED, PROPOSED, CANDIDATE SPECIES  
AND SPECIES OF CONCERN  
UNDER THE JURISDICTION OF THE FISH AND WILDLIFE SERVICE  
WHICH MAY OCCUR WITHIN CROOK COUNTY, OREGON**

**Reptiles and Amphibians**

Northern sagebrush lizard

*Sceloporus graciosus graciosus*

**Fish**

Pacific lamprey

*Lampetra tridentata*

**Invertebrates**

***Insects:***

Cascades apatanian caddisfly

*Apatania tavalala*

**Plants**

Henderson ricegrass

*Achnatherum hendersonii*

Wallowa ricegrass

*Achnatherum wallowaensis*

Henderson's bentgrass

*Agrostis hendersonii*

Estes' artemisia

*Artemisia ludoviciana ssp. estesii*

Bastard kentrophyta

*Astragalus tegetarioides*

Crenulate grape fern

*Botrychium crenulatum*

Mountain grape fern

*Botrychium montanum*

Peck's mariposa lily

*Calochortus longebarbatus var. peckii*

Cusick's buckwheat

*Eriogonum cusickii*

Ochoco lomatium

*Lomatium ochocense*

disappearing monkeyflower

*Mimulus evanescens*

Howell's thelypody

*Thelypodium howellii ssp. howellii*

**DELISTED SPECIES**

**Birds**

American Peregrine falcon

*Falco peregrinus anatum*

Bald eagle

*Haliaeetus leucocephalus*

**Definitions:**

Listed Species: An endangered species is one that is in danger of extinction throughout all or a significant portion of its range. A threatened species is one that is likely to become endangered in the foreseeable future.

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AND SPECIES OF CONCERN  
UNDER THE JURISDICTION OF THE FISH AND WILDLIFE SERVICE  
WHICH MAY OCCUR WITHIN CROOK COUNTY, OREGON**

**Key:**

E      Endangered  
T      Threatened  
CH     Critical Habitat has been designated for this species  
PE     Proposed Endangered  
PT     Proposed Threatened  
PCH    Critical Habitat has been proposed for this species

**Notes:**

Marine & Anadromous Species:      Please consult the National Marine Fisheries Service (NMFS) (<http://www.nmfs.noaa.gov/pr/species/>) for marine and anadromous species. The National Marine Fisheries Service (NMFS) manages mostly marine and anadromous species, while the U.S. Fish and Wildlife Service manages the remainder of the listed species, mostly terrestrial and freshwater species.

**FEDERALLY LISTED, PROPOSED, CANDIDATE SPECIES  
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WHICH MAY OCCUR WITHIN DESCHUTES COUNTY, OREGON**

**LISTED SPECIES**

**Birds**

Northern spotted owl *Strix occidentalis caurina* CH T

**Fish**

***Inland:***

Bull trout *Salvelinus confluentus* CH T

**PROPOSED SPECIES**

**None**

No Proposed Endangered Species PE  
No Proposed Threatened Species PT

**CANDIDATE SPECIES**

**Birds**

Yellow-billed cuckoo *Coccyzus americanus*

**Reptiles and Amphibians**

***Inland:***

Oregon spotted frog *Rana pretiosa*

**SPECIES OF CONCERN**

**Mammals**

***Terrestrial:***

Pygmy rabbit	<i>Brachylagus idahoensis</i>
Townsend's western big-eared bat	<i>Corynorhinus townsendii townsendii</i>
Spotted bat	<i>Euderma maculatum</i>
California wolverine	<i>Gulo gulo luteus</i>
Silver-haired bat	<i>Lasionycteris noctivagans</i>
Small-footed myotis bat	<i>Myotis ciliolabrum</i>
Long-eared myotis bat	<i>Myotis evotis</i>
Long-legged myotis bat	<i>Myotis volans</i>
Yuma myotis bat	<i>Myotis yumanensis</i>
Preble's shrew	<i>Sorex preblei</i>

**Birds**

Northern goshawk	<i>Accipiter gentilis</i>
Western burrowing owl	<i>Athene cunicularia hypugaea</i>
Ferruginous hawk	<i>Buteo regalis</i>
Greater sage-grouse	<i>Centrocercus urophasianus</i>
Black tern	<i>Chlidonias niger</i>
Olive-sided flycatcher	<i>Contopus cooperi</i>

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AND SPECIES OF CONCERN  
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WHICH MAY OCCUR WITHIN DESCHUTES COUNTY, OREGON**

Willow flycatcher  
Yellow-breasted chat  
Lewis' woodpecker  
Mountain quail  
White-headed woodpecker

*Empidonax traillii adastus*  
*Icteria virens*  
*Melanerpes lewis*  
*Oreortyx pictus*  
*Plcoides albolarvatus*

**Reptiles and Amphibians**

Coastal tailed frog  
Oregon slender salamander  
Cascades frog  
Northern sagebrush lizard

*Ascaphus truei*  
*Batrachoseps wrighti*  
*Rana cascadae*  
*Sceloporus graciosus graciosus*

**Invertebrates**

**Clams:**

California floater mussel

*Anodonta californiensis*

**Plants**

Estes' artemisia  
Cliff paintbrush  
Cusick's buckwheat  
Peck's penstemon  
Howell's thelypody

*Artemisia ludoviciana ssp. estesii*  
*Castilleja rupicola*  
*Eriogonum cusickii*  
*Penstemon peckii*  
*Thelypodium howellii ssp. howellii*

**DELISTED SPECIES**

**Birds**

American Peregrine falcon  
Bald eagle

*Falco peregrinus anatum*  
*Haliaeetus leucocephalus*

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# Endangered Species Act Status of West Coast Salmon & Steelhead

(Updated Feb. 26, 2008)

		Species <sup>1</sup>	Endangered Species Act Listing Status <sup>2</sup>	ESA Listing Actions Under Review
Sockeye Salmon ( <i>Oncorhynchus nerka</i> )	1	Snake River	Endangered	
	2	Ozette Lake	Threatened	
	3	Baker River	Not Warranted	
	4	Okanogan River	Not Warranted	
	5	Lake Wenatchee	Not Warranted	
	6	Quinalt Lake	Not Warranted	
	7	Lake Pleasant	Not Warranted	
Chinook Salmon ( <i>O. tshawytscha</i> )	8	Sacramento River Winter-run	Endangered	
	9	Upper Columbia River Spring-run	Endangered	
	10	Snake River Spring/Summer-run	Threatened	
	11	Snake River Fall-run	Threatened	
	12	Puget Sound	Threatened	
	13	Lower Columbia River	Threatened	
	14	Upper Willamette River	Threatened	
	15	Central Valley Spring-run	Threatened	
	16	California Coastal	Threatened	
	17	Central Valley Fall and Late Fall-run	Species of Concern	
	18	Upper Klamath-Trinity Rivers	Not Warranted	
	19	Oregon Coast	Not Warranted	
	20	Washington Coast	Not Warranted	
	21	Middle Columbia River spring-run	Not Warranted	
	22	Upper Columbia River summer/fall-run	Not Warranted	
	23	Southern Oregon and Northern California Coast	Not Warranted	
	24	Deschutes River summer/fall-run	Not Warranted	
Coho Salmon ( <i>O. kisutch</i> )	25	Central California Coast	Endangered	
	26	Southern Oregon/Northern California	Threatened	
	27	Lower Columbia River	Threatened	• Critical habitat
	28	Oregon Coast <sup>2</sup>	Threatened	
	29	Southwest Washington	Undetermined	
	30	Puget Sound/Strait of Georgia	Species of Concern	
	31	Olympic Peninsula	Not Warranted	
Chum Salmon ( <i>O. keta</i> )	32	Hood Canal Summer-run	Threatened	
	33	Columbia River	Threatened	
	34	Puget Sound/Strait of Georgia	Not Warranted	
	35	Pacific Coast	Not Warranted	
Steelhead ( <i>O. mykiss</i> )	36	Southern California	Endangered	
	37	Upper Columbia River	Endangered	
	38	Central California Coast	Threatened	
	39	South Central California Coast	Threatened	
	40	Snake River Basin	Threatened	
	41	Lower Columbia River	Threatened	
	42	California Central Valley	Threatened	
	43	Upper Willamette River	Threatened	
	44	Middle Columbia River	Threatened	
	45	Northern California	Threatened	
	46	Oregon Coast	Species of Concern	
	47	Southwest Washington	Not Warranted	
	48	Olympic Peninsula	Not Warranted	
	49	Puget Sound	Threatened	• Critical habitat • Protective Regulations
	50	Klamath Mountains Province	Not Warranted	
Pink Salmon ( <i>O. gorbuscha</i> )	51	Even-year	Not Warranted	
	52	Odd-year	Not Warranted	

<sup>1</sup> The ESA defines a “species” to include any distinct population segment of any species of vertebrate fish or wildlife. For Pacific salmon, NOAA Fisheries considers an evolutionarily significant unit, or “ESU,” a “species” under the ESA. For Pacific steelhead, NOAA Fisheries has delineated distinct population segments (DPSs) for consideration as “species” under the ESA

<sup>2</sup> On Feb. 11, 2008, NOAA Fisheries published a final determination listing Oregon coast coho as threatened (73FR7816). This final rule also designated critical habitat and issued final protective regulations. The listing, critical habitat and protective regulations are effective on **May 12, 2008**.

## ReGAP Environmental Classifications

Project Site	Re-GAP Ecological System
Woodside Ranch (Deschutes County)	Northern Rocky Mountain Ponderosa Pine Woodland and Savanna
	Inter-Mountain Basins Big Sagebrush Steppe
	Columbia Plateau Western Juniper Woodland and Savanna
Awbrey Butte (Deschutes County)	Columbia Plateau Western Juniper Woodland and Savanna
	Northern Rocky Mountain Ponderosa Pine Woodland and Savanna
	Inter-Mountain Basins Big Sagebrush Steppe
Awbrey Glen (Deschutes County)	Columbia Plateau Western Juniper Woodland and Savanna
	Northern Rocky Mountain Ponderosa Pine Woodland and Savanna
	Inter-Mountain Basins Big Sagebrush Steppe
Powell Butte (Crook County)	Columbia Plateau Western Juniper Woodland and Savanna
	Inter-Mountain Basins Big Sagebrush Steppe
	Inter-Mountain Basins Big Sagebrush Shrubland
Tetherow Crossing (Deschutes County)	Columbia Plateau Western Juniper Woodland and Savanna
Ochoco West (Crook County)	Columbia Plateau Western Juniper Woodland and Savanna
	Inter-Mountain Basins Big Sagebrush Shrubland
	Inter-Mountain Basins Big Sagebrush Steppe
Ochoco Reservoir (Crook County)	Columbia Plateau Western Juniper Woodland and Savanna
	Inter-Mountain Basins Big Sagebrush Steppe
	Northern Rocky Mountain Ponderosa Pine Woodland and Savanna

## Migratory Birds With the Potential to Occur Within the Project Areas

Common name ( <i>Scientific name</i> )	Habitat Associations	Species Consideration <sup>1</sup>	Sites
<b>Bald Eagle</b> ( <i>Haliaeetus leucocephalus</i> )	Bald eagles utilize rivers and lakes during the breeding and wintering seasons. Snags and trees near open bodies of water are used as winter daytime roost sites.	<b>Considered.</b> Project areas are adjacent to open bodies of water including the Deschutes River and Ochoco Reservoir.	<b>Tetherow Crossing Ochoco Reservoir</b>
<b>Black Swift</b> ( <i>Cypseloides niger</i> )	Typically found in mountainous terrain. Nests on canyon walls near water and sheltered by overhanging rock or moss, preferably near waterfalls.	<b>Not Considered.</b>	<b>None</b>
<b>Brewer's Sparrow</b> ( <i>Spizella breweri breweri</i> )	Brewer's Sparrow's breed primarily in shrubsteppe habitats. However, they may be found in high desert scrub near shrubsteppe habitat as well as in large sagebrush openings in Pinyon-Juniper or conifer forests. Breeding habitats are usually dominated by Big Sagebrush.	<b>Considered.</b> The project area contains suitable habitat in sagebrush and juniper habitats.	<b>All</b>
<b>Burrowing Owl</b> ( <i>Athene cunicularia</i> )	Open deserts, grasslands, fields and pastures. Most common in shrub-steppe.	<b>Not Considered.</b> The project area is not within the predicted species distribution.	<b>None</b>
<b>Chipping Sparrow</b> ( <i>Spizella passerine</i> )	Open forests and woodlands of all types, montane scrub, partially wooded areas around human habitation. Forest edges. Preference for Douglas-fir bordering sagebrush, Lodgepole Pine, occasionally urban. Open woods, clearings, farms, orchards, open stands.	<b>Considered.</b> Suitable habitat occurs within the project area.	<b>All</b>
<b>Calliope Hummingbird</b> ( <i>Stellula calliope</i> )	Prefers mountain areas and open montane forests near water. Alpine and subalpine meadows are used for foraging.	<b>Not Considered.</b> Preferred habitat is not located within the project area.	<b>None</b>
<b>Cassin's Finch</b> ( <i>Carpodacus cassinii</i> )	Inhabit dry, open coniferous forests east of the Cascade crest. They are most common in mid-elevation Ponderosa pine forests but can also be found in Douglas fir, spruce, or fir forests. Also known to inhabit sagebrush and juniper communities.	<b>Considered.</b> Project area contains ponderosa pine forests, sagebrush, and juniper.	<b>All</b>

<b>Common name (Scientific name)</b>	<b>Habitat Associations</b>	<b>Species Consideration<sup>1</sup></b>	<b>Sites</b>
<b>Ferruginous Hawk (<i>Buteo regalis</i>)</b>	Grassland and sagebrush country, saltbrush, greasewood. Flat rolling terrain in grassland or shrub/steppe regions. Avoids high elevations, forest interior and narrow canyons.	<b>Considered.</b> Project area contains sagebrush.	<b>All</b>
<b>Flammulated Owl (<i>Otus flammeolus</i>)</b>	Open forests with a ponderosa pine component.	<b>Considered.</b> Project area contains ponderosa pine.	<b>Woodside Ranch Awbrey Butte Awbrey Glen Ochoco Reservoir</b>
<b>Golden Eagle (<i>Aquila chrysaetos</i>)</b>	Open habitats in mountains and hill country, prairies and other grasslands. Open sagebrush areas adjacent to nesting cliffs.	<b>Considered.</b> Project area contains suitable foraging habitat.	<b>All</b>
<b>Greater Sage Grouse (<i>Centrocercus urophasianus</i>)</b>	Sage-grouse occur only in the sagebrush and sagebrush steppe ecosystems of western North America. Critical habitat is primarily big sagebrush along with wet meadows, forb-dominated meadows, and south and west-facing ridges and slopes where grouse are known to winter.	<b>Not Considered.</b> Although sagebrush habitats are found at all sites, the likelihood of sage-grouse presence is rare. State monitoring programs show no occurrences within the project area.	<b>None</b>
<b>Green-tailed Towhee (<i>Pipilo chlorurus</i>)</b>	Found in thickets, open juniper woodlands, chaparral, shrublands and riparian scrub, primarily in mountains during breeding season.	<b>Considered.</b> Project areas contains juniper woodlands.	<b>All</b>
<b>Gray Flycatcher (<i>Empidonax wrightii</i>)</b>	Prefers relatively treeless areas with tall sagebrush and bitterbrush, or mountain mahogany communities, also openings of juniper, ponderosa or lodgepole pine.	<b>Considered.</b> Suitable habitat occurs within the project area.	<b>All</b>
<b>Lazuli Bunting (<i>Passerina amoena</i>)</b>	Brushy habitats, arid brushy hillsides, sagebrush, agriculture fields and residential gardens, and juniper woodlands and forest edges. Avoids dense forest.	<b>Considered.</b> Potential habitat occurs within the project area.	<b>All</b>
<b>Lark Sparrow (<i>Chondestes grammacus</i>)</b>	Sagebrush valleys, grasslands with scattered bushes (often sagebrush), and sagebrush communities with grass understories. Also open pine/juniper woodlands. May be found in agriculture areas.	<b>Considered.</b> Project area contains sagebrush and juniper communities.	<b>All</b>

<b>Common name (Scientific name)</b>	<b>Habitat Associations</b>	<b>Species Consideration<sup>1</sup></b>	<b>Sites</b>
<b>Lewis's Woodpecker (<i>Melanerpes lewis</i>)</b>	Open forests, often at lower elevations, white oak woodlands, ponderosa pine woodlands, mixed oak-pine woodlands and cottonwood riparian woodlands.	<b>Considered.</b> Potential habitat exists in ponderosa pine woodlands.	<b>Woodside Ranch Awbrey Butte Awbrey Glen Ochoco Reservoir</b>
<b>Loggerhead Shrike (<i>Lanius ludovicianus</i>)</b>	Includes sagebrush, bitterbrush, greasewood and juniper woodlands, also very open pine or oak woodlands and mountain shrub communities.	<b>Considered.</b> Suitable habitat occurs within the project area in sagebrush and juniper communities.	<b>All</b>
<b>Long-billed Curlew (<i>Numenius americanus</i>)</b>	Dry grasslands and shrub savannahs are the traditional breeding habitats of Long-billed Curlews. They also nest in grain fields and pastures.	<b>Not Considered.</b> Typical habitat does not occur or is not common within the project area.	<b>None</b>
<b>Olive-sided Flycatcher (<i>Contopus cooperi</i>)</b>	Prefers higher elevation montane coniferous forests such as Douglas-fir and lodgepole pine. Found below alpine zone and above ponderosa pine zones.	<b>Not Considered.</b> Project area is not within the elevation range this species typically inhabits.	<b>None</b>
<b>Pinyon Jay (<i>Gymnorhinus cyanocephalus</i>)</b>	Found in pinyon/juniper woodlands.	<b>Considered.</b> Project area contains juniper woodlands.	<b>All</b>
<b>Peregrine Falcon (<i>Falco peregrinus</i>)</b>	Peregrine falcons can be found in a wide variety of habitats in the Intermountain West. They prefer to nest on high cliffs in mountainous areas or deep canyons. The large foraging area utilized by peregrines could result in incidental occurrences at the project area.	<b>Not Considered.</b> Cliff and canyon habitats are not within the project area.	<b>None</b>
<b>Prairie Falcon (<i>Falco mexicanus</i>)</b>	Open habitats from prairie to alpine tundra. Found in grasslands and low sagebrush habitat. Avoid human habitation.	<b>Not Considered.</b> Avoidance of human activity and lack of nesting habitat would make it unlikely that prairie falcons utilize the project area.	<b>None</b>
<b>Pygmy Nuthatch (<i>Sitta pygmaea</i>)</b>	Prefers open ponderosa pine and pine-fir forests.	<b>Considered.</b> Project area contains ponderosa pine forests.	<b>Woodside Ranch Awbrey Butte Awbrey Glen Ochoco Reservoir</b>

<b>Common name (Scientific name)</b>	<b>Habitat Associations</b>	<b>Species Consideration<sup>1</sup></b>	<b>Sites</b>
<b>Sage Sparrow</b> ( <i>Amphispiza belli nevadensis</i> )	Prefers big sagebrush whether pure stands or interspersed with bitterbrush, saltbrush, shadscale, rabbitbrush, or greasewood.	<b>Not Considered.</b> Sagebrush communities occur within the project area, but are not within the predicted distribution of the species.	<b>None</b>
<b>Sage Thrasher</b> ( <i>Oreoscoptes montanus</i> )	Considered a shrubsteppe obligate. Requires healthy stands of mature sagebrush.	<b>Considered.</b> Sagebrush habitat is located on or near the project area.	<b>Woodside Ranch Awbrey Butte Awbrey Glen Powell Butte Ochoco West Ochoco Reservoir</b>
<b>Snowy Plover</b> ( <i>Charadrius alexandrinus</i> )	Found on sand beaches, mud flats, dune systems, coastal lagoons, inland steppes, sand deserts, tidal flats, dry salt flats, and large sandy lakes and rivers with little vegetation.	<b>Not Considered.</b> Habitat does not occur within the project areas.	<b>None</b>
<b>Swainson's Hawk</b> ( <i>Buteo swainsoni</i> )	Shrub steppe, prairie, open woods, shelterbelts, cultivated land with few trees. Open sagebrush areas. Open stands of grass dom. vegetation, sparse shrubs, small open woods, agriculture areas.	<b>Not Considered.</b> Suitable habitat occurs, but the project area is not within the predicted distribution of the species.	<b>None</b>
<b>White-headed Woodpecker</b> ( <i>Picoides albolarvatus</i> )	Closely associated with ponderosa pine and ponderosa pine-mixed conifer forests.	<b>Considered.</b> Project area contains ponderosa pine woodlands.	<b>Woodside Ranch Awbrey Butte Awbrey Glen Ochoco Reservoir</b>
<b>Williamson's Sapsucker</b> ( <i>Sphyrapicus thyroideus</i> )	Uses mature, higher-elevation conifer forests. Prefers open ponderosa pine but may also use lodgepole pine, red fir, grand fir subalpine spruce, Douglas fir and aspen. Also breeds in riparian thickets within conifer forest mosaics	<b>Considered.</b> Project area contains ponderosa pine forests.	<b>Woodside Ranch Awbrey Butte Awbrey Glen Ochoco Reservoir</b>
<b>Willow Flycatcher</b> ( <i>Empidonas traillii</i> )	Willow Flycatchers are limited to riparian habitats, primarily willow.	<b>Considered.</b> Project area is adjacent to or borders rivers and lakes within the predicted distribution of the species.	<b>Tetherow Crossing Ochoco Reservoir</b>

<b>Common name (Scientific name)</b>	<b>Habitat Associations</b>	<b>Species Consideration<sup>1</sup></b>	<b>Sites</b>
<b>Yellow Rail</b> <i>(Coturnicops noveboracensis)</i>	Prefer wet meadows, fens, boggy swales, floodplains, montane meadows, and emergent vegetation in fresh and brackish wetlands	<b>Not Considered.</b> Oregon population is restricted to the Klamath Basin.	<b>None</b>
<b>Yellow Warbler</b> <i>(Dendroica petechia)</i>	Riparian woodlands, shrub riparian and riparian thickets of stream edges and lakes.	<b>Considered.</b> Project area is adjacent to or borders rivers and lakes within the predicted distribution of the species.	<b>Tetherow Crossing Ochoco Reservoir</b>
<b>Yellow-billed Cuckoo</b> <i>(Coccyzus americanus)</i>	Considered a riparian obligate and found in large tracts of cottonwood/willow habitats with dense sub-canopies.	<b>Not Considered.</b> Project area does not contain significant cottonwood/willow riparian habitats.	<b>None</b>
<b>Yellow-breasted Chat</b> <i>(Icteria virens)</i>	Riparian thickets, dense shrub and mahogany woodlands on moist slopes, brushy areas and riparian woodlands along streams.	<b>Considered.</b> Project area is adjacent to or borders rivers and lakes within the predicted distribution of the species.	<b>Tetherow Crossing Ochoco Reservoir</b>
<sup>1</sup> Species considerations are based on habitat preferences of the species and ReGAP habitat analyses of the project sites. GAP Analysis Predicted Species Distributions are also incorporated.			

**Appendix C**  
**Project Conditions and Conservation Measures**

## **Project Conditions and Conservation Measures**

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The Proposed Action would comply with the following conditions and conservation measures:

- The applicant shall obtain all local, State, and Federal permits and approvals prior to implementing the Proposed Action Alternative and comply with any and all conditions imposed.
- The applicant is responsible for selecting, implementing, monitoring, and maintaining best management practices to control erosion and sediment, reduce spills and pollution, and provide habitat protection.
- The Counties shall develop and recommend appropriate landscaping requirements for new homes within the wildlife-urban interface, such as reducing the amount and type of vegetation around structures, providing a plant list of fire-resistant species appropriate for residential lots, offering tips for continued vegetation maintenance, and promoting property certification under the Oregon Forestland-Urban Interface Fire Protection Act. At a minimum, the default standards under the Oregon Forestland-Urban Interface Fire Protection Act should be recommended, which are to:
  - Establish a fuel break around structures
  - Improve driveway access for fire trucks
  - Remove tree branches near chimneys
  - Remove dead branches overhanging a roof
  - Move firewood away from structures, or cover it
  - Remove flammables from under decks and stairways
  - Create fuel breaks along roadsides and property lines (only on properties with a fire-risk classification of High-Density Extreme).
- Property owners shall continue vegetation management, including the removal of invasive weeds.
- Any change to the approved scope of work will require re-evaluation for compliance with NEPA and other laws and Executive Orders.
- A comprehensive inventory of environmental and historical conditions shall take place during the first phase of the project as each individual property is assessed.
- In the event that archaeological or historic materials are discovered during project activities, work in the immediate vicinity shall be discontinued, the area secured, and the SHPO and FEMA notified.
- No activities shall take place within 50 feet of the four known archaeological and historic resources located within the APE.

**Appendix D**  
**Public Notice for the Draft EA**

**PUBLIC NOTICE**

**Federal Emergency Management Agency  
Draft Environmental Assessment  
Wildfire Fuels Reduction in Deschutes & Crook Counties, Oregon**

The U.S. Department of Homeland Security's Federal Emergency Management Agency (FEMA) proposes to provide funding to the counties of Deschutes and Crook for a wildfire fuels reduction project in central Oregon. Funding would be provided as authorized by §203 of the Robert T. Stafford Disaster Assistance and Emergency Relief Act (Stafford Act), 42 USC.

FEMA prepared a draft environmental assessment (EA) for the proposed project pursuant to the National Environmental Policy Act (NEPA) of 1969 and FEMA's implementing regulations found in 44 Code of Federal Regulations (CFR) Part 10. The EA evaluates alternatives for compliance with applicable environmental laws, including Executive Orders #11990 (Protection of Wetlands), #11988 (Floodplain Management), and #12898 (Environmental Justice). Many alternatives were evaluated during the development of Community Wildfire Protection Plans and the Hazard Mitigation Plan for Deschutes and Crook Counties. The alternatives evaluated in the EA are the (1) no action; and (2) reduction and management of fuel loads through mechanical and manual means in targeted areas as identified in the Community Wildfire Protection Plans for Deschutes and Crook Counties.

The EA is available for review online at the FEMA environmental Web site at: <http://www.fema.gov/plan/ehp/envdocuments> under Region X. If no significant issues are identified during the comment period, FEMA will finalize the EA, issue a Finding of No Significant Impact (FONSI), and fund the project. Unless substantive comments are received, FEMA will not publish another notice for this project. However, should a FONSI be issued, it will be available for public viewing at <http://www.fema.gov/plan/ehp/envdocuments> under Region X.

The draft EA is also available for review on April 6, 2009 at the Deschutes County Roads Department at 61150 SE 27th Street, Bend, Oregon, and the Crook County Courthouse at 300 NE 3rd Street, Prineville, Oregon.

Written comments on the draft EA should be directed no later than 5 p.m. on May 6, 2009 to Mark G. Eberlein, Regional Environmental Officer, FEMA Region X, 130 228th Street SW, Bothell, WA 98021, or by e-mail at [mark.eberlein@dhs.gov](mailto:mark.eberlein@dhs.gov). Comments also can be faxed to 425-487-4613.

**Appendix E**  
**Oregon Wild Letter**

**OREGON WILD**

*formerly Oregon Natural Resources Council (ONRC)*

**PO Box 11648 | Eugene OR 97440 | 541-344-0675 | fax 541-343-0996**

[dh@oregonwild.org](mailto:dh@oregonwild.org) | <http://www.oregonwild.org/>

5 May 2009

TO: [mark.eberlein@dhs.gov](mailto:mark.eberlein@dhs.gov)

Subject: Oregon Wild comments on the Draft Environmental Assessment, Deschutes and Crook Counties, Wildfire Mitigation

Dear FEMA:

Please accept the following comments from Oregon Wild concerning the Draft Environmental Assessment, Deschutes and Crook Counties, Wildfire Mitigation, Deschutes and Crook Counties, Oregon FEMA- PDMC-PJ-10-OR-2008-005 dated April 6, 2009.

Oregon Wild represents about 4,500 members and supporters who share our mission to protect and restore Oregon's wildlands, wildlife, and water as an enduring legacy. Our goal is to protect areas that remain intact while striving to restore areas that have been degraded. This can be accomplished by moving over-represented ecosystem elements (such as logged and roaded areas) toward characteristics that are currently under-represented (such as roadless areas and complex old forest).

The proposed action alternative involves reducing fuels on about 1,000 acres of private land at 7 sites in the wildland urban interface in Crook and Deschutes Counties, Oregon. Mechanical removal activities would be limited to the use of chainsaws, weed cutters, and pulaskis, and would not include heavy equipment. Additionally, no fuels reduction by burning is planned with this project.

We like many aspects of this project:

- o this project treats non-federal lands that are closest to homes and communities, so that natural processes like can be allowed to play their natural role in the back-country. Fire is a natural process that creates and maintains healthy forests that store carbon to stabilize our climate, filter out drinking water, provide habitat for fish & wildlife, etc;
- o this project requires both an upfront commitment of resources from participating private property owners as well as a long-term commitment to maintain a fire-safe fuel condition;

NEPA and the CEQ regulations view the EA as a way to inform both the public and the decision-maker about the effects of the proposed action and alternatives. The needs some significant improvements, including:

- o Consideration of more action alternatives. FEMA needs to compare different methods of treatment (some methods are more light on the land others more damaging), different areas of treatment (some are higher priority than others);
- o A better description of the existing situation. Describe current vegetation types, seral stages, density; The EA gives a general description of Ponderosa pine juniper and bitterbrush vegetation types, it does not describe the vegetation types in the sites that will actually to be treated.
- o A better description of where the activities will take place. The map in Appendix A should be described as a map and referenced as a map in the text of the EA. Each of the seven sites should be described in some detail and the environmental consequences should also be described in site-specific detail. Which vegetation types will be most affected at each site? What methods at each site. What soil type occurs at each site?
- o A better description of how the fuel reduction activities will occur, how the treatments areas will be accessed? are the roads in good shape? are there erosion risks? The EA says "Mechanical removal activities would be limited to the use of chainsaws, weed cutters, and pulaskis, and would not include heavy equipment. Additionally, no fuels reduction by burning is planned with this project." This should be stated under the description of alternatives, not under the environmental consequences on geology.
- o A better description of the environmental consequences, especially in terms of fire hazard (good an bad), wildlife habitat (not just threatened & endangered species, but those species most likely to be affected by this project), soil disturbance, the spread of weeds, slash disposal (biomass utilization is possible bu tis it probable? who is lined up to assume the costs of removal?), etc
- o The EA is very brief and glosses over some the of the key consideration involved in fuel reduction, including:
  - o the fact that fuel reduction can make fire hazard worse or better depending on how it's done. When logging is used as a fuel reduction tool it creates a lot of flammable slash that is rarely adequately treated; it makes the resulting forest hotter, dryer, and windier; leaves fine fuels more dry; and it stimulates the growth of future surface and ladder fuels,
  - o fuel reduction comes with costs in terms of soil, water quality, and wildlife habitat; there may be cases where the risks of fire are moderate

and preferable to the risk of these other adverse impacts caused by fuel reduction.

- o The EA uses a definition of "thinning" that could include clearcutting; FEMA should be more explicit that thinning always involves partial removal that retains a fully stocked stand.
- o The EA appears to be based on a NEPA template that is not always relevant. The EA gives big section headings to "floodplains" and "wetlands" and "bull trout" and "spotted owls" even though this project does not involve any of these resources. "Migratory birds" will be affected but this issue get no more discussion than the resources that the project will have zero affect on. This is not the way NEPA is supposed to work. Which migratory birds are most likely to be affected? How? How might the effects be mitigated?
- o Appendix B fails to disclose a list of affected species because it's allegedly "not vital to the EA." Since NEPA is specifically addressed to environmental impacts, and wildlife are part of the environment, we can't see any reason why the affected wildlife would not be germane to an informed decision.
- o Page 4-4 of the EA perpetuates a myth that lack of logging is the cause of the current fuel problems in Ponderosa pine forests. The fuels to be removed by this project are not of commercial size, so lack of logging did not cause the problem. The real problem was high-grade logging (removal of the most fire resistant large trees), fire suppression, (which the EA does mention), and livestock grazing (which the EA fails to mention).

Note, we are not opposed to this project We just want FEMA to use NEPA for it's intended purpose as an aid to informed decision-making, not as an afterthought.

We are concerned that an aggressive paramilitary approach to fuel reduction will run rough-shod over important ecosystem values. If FEMA begins to take more responsibility for conducting NEPA analyses to support extensive fuel reduction efforts in native ecosystems, then Oregon Wild would like to work with FEMA to make sure that it is done in an environmentally sensitive way. Oregon Wild has years of experience reviewing fuel reduction projects and we have ideas to make them less damaging to the environment. We urge FEMA to acknowledge and consider the complex trade-offs between fire hazard and other ecosystem services and seek to find the proper balance. To torture an old cliché ... "We're not from the government, but we're here to help." ;-)

It is under-appreciated by most people that a dense forest canopy provided by mature trees that hold the canopy high off the ground can be an excellent form of fire hazard mitigation because helps provide a cool, moist, and less windy microclimate, and the canopy helps suppress the growth of ladder fuels. In additional, logging canopy trees not only creates proportionately more slash that needs to be treated, but it also sacrifices the benefits of canopy cover in terms of fire

microclimate, habitat, and hydrologic buffering. The point is that there are a lot of complementary benefits from maintaining mature forest canopy.

Sincerely,

/s/

Doug Heiken

for Oregon Wild

In response to the Oregon Wild letter, FEMA revised the draft EA to describe the Proposed Action and its impacts in greater detail. A discussion of migratory birds was also included in the EA and Appendix B. However, no significant issues were raised and the impacts described in the draft EA did not change.