



## **Wallowa County Community Wildfire Protection Plan**

**A working document that will serve as a tool to coordinate the resource management of lands within Wallowa County in a manner that protects communities and local values at risk from wildfire**

**March 24, 2006**

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# ***Executive Summary***

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In response to state and federal legislation, Wallowa County embarked on the project of preparing a Community Wildfire Protection Plan (CWPP) that enhances future collaboration with local, state, and federal wildland fire protection agencies to reduce the impact of wildfire on lives, property, and the landscape. Local communities now have a unique opportunity to influence where and how federal agencies implement fuel reduction projects on federal lands, and how federal funds may be distributed on non-federal lands. The Wallowa County Commissioners tasked a committee of local, state, and federal wildfire agencies, land managers, and private citizens with creating a CWPP for the wildland-urban interface (WUI) areas in Wallowa County.

Emphasis to protect priority WUI areas in Wallowa County from a large wildfire event can be mitigated through improved fire response, fuels treatment, defensible space, and fire prevention campaigns. All citizens of Wallowa County, whether in a WUI area or not, are encouraged to protect their homes and property from a large wildfire event by creating defensible space and keeping access into homes clear for fire apparatus.

This plan contains information to assist landowners and homeowners in developing strategies that address protection from wildfire. Also, citizens within WUI areas are encouraged to work with land managers to address landscape or community level fuels mitigation. Communities-at-Risk within WUI areas can contact the Wallowa County Emergency Services Manager to develop communication and evacuation plans (see Section IV-Community Participation and Education and Section X-Emergency Management).

Goals of the CWPP include:

- ✓ promote wildfire awareness and target fire prevention and safety information across at-risk communities
- ✓ promote cooperative emergency fire response, identify available resources and needs, and review interagency communication and suppression strategies
- ✓ identify, assess, and reduce hazardous fuels, coordinate risk reduction strategies, and prioritize fuel reduction areas and projects
- ✓ complete annual monitoring and evaluation to assess progress and effectiveness and recommend changes as appropriate

Those communities and WUI areas most at-risk from a wildfire event were identified and prioritized based on public input, local area knowledge of the committee, and an assessment of hazard factors using federal and non-federal

data. Information from this hazard assessment was used to develop a scoring matrix. The results of the assessment can be found in Section V-Wildfire Risk Assessment and Section VI-Prioritization and Strategies of WUI Areas.

The Wallowa County CWPP is a working document that will serve as a tool to coordinate the resource management of lands in a manner that protects communities and local values at risk from wildfire. It will become a part of the Tri-County Natural Hazard Mitigation Plan as the wildfire section of that plan. While some strategies and activities could be individually accomplished by landowners, the CWPP is not intended to mandate treatment activities. It is provided only as a resource and guidance document.

# Signature Page

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The content of this plan has been agreed upon by the Wallowa County Board of Commissioners, Oregon Department of Forestry (ODF), Wallowa County Emergency Services, and the county's structural fire departments. The plan will be revised and updated as stated in the section titled, *Monitoring and Evaluation*. The contents, vision, mission, goals, and objectives of this plan will become a part of any operation plan of the agencies represented below:

  
Mike Hayward, Wallowa County Commissioner 3/24/06  
Date

  
Dan R. DeBoie, Wallowa County Commissioner 3/24/06  
Date

  
Ben Boswell, Wallowa County Commissioner 3/24/06  
Date

  
Todd Evans, Wallowa County Emergency Services Manager 3/21/06  
Date

  
Paul Karvoski, Wallowa County Fire Defense Board Chief 3/23/06  
Date

  
John Buckman, District Forester, Northeast Oregon District, ODF 3/24/06  
Date

# ***I. Introduction***

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## **Wildland-Urban Interface (WUI) Loss in Oregon<sup>1</sup>**

Wildland fires are a common and widespread natural hazard in Oregon; the state has a long and extensive history of wildfire. Significant portions of Oregon's wildlands and areas adjacent to rural communities are dominated by ecosystems dependent upon fire for their health and survival.

Oregon has more than 41 million acres (more than 64,000 square miles) of forest and rangeland that are susceptible to wildfire. In addition, significant agricultural areas of the Willamette Valley, north central, and northeastern Oregon grow crops, such as wheat, and raise livestock on rangelands that are prone to wildfire damage. Communities are also at risk. According to a listing in the 2001 *Federal Register*, 367 Oregon communities are at risk of damage from wildfire. In Wallowa County, twenty-two wildland-urban interface (WUI) areas have been identified and would be directly threatened or affected by a large wildfire event.

The majority of wildfires occur between June and October. However, wildfires can occur at other times of the year, when weather and fuel conditions combine to allow ignition and spread. In 2003, fire statistics statewide showed 70% of Oregon's wildland fires resulted from human activity. The remaining 30% resulted from lightning, occurring most frequently in eastern and southern Oregon. In Wallowa County, over 80% of fire starts are caused from lightning and 20% are attributed to human-caused fire starts.

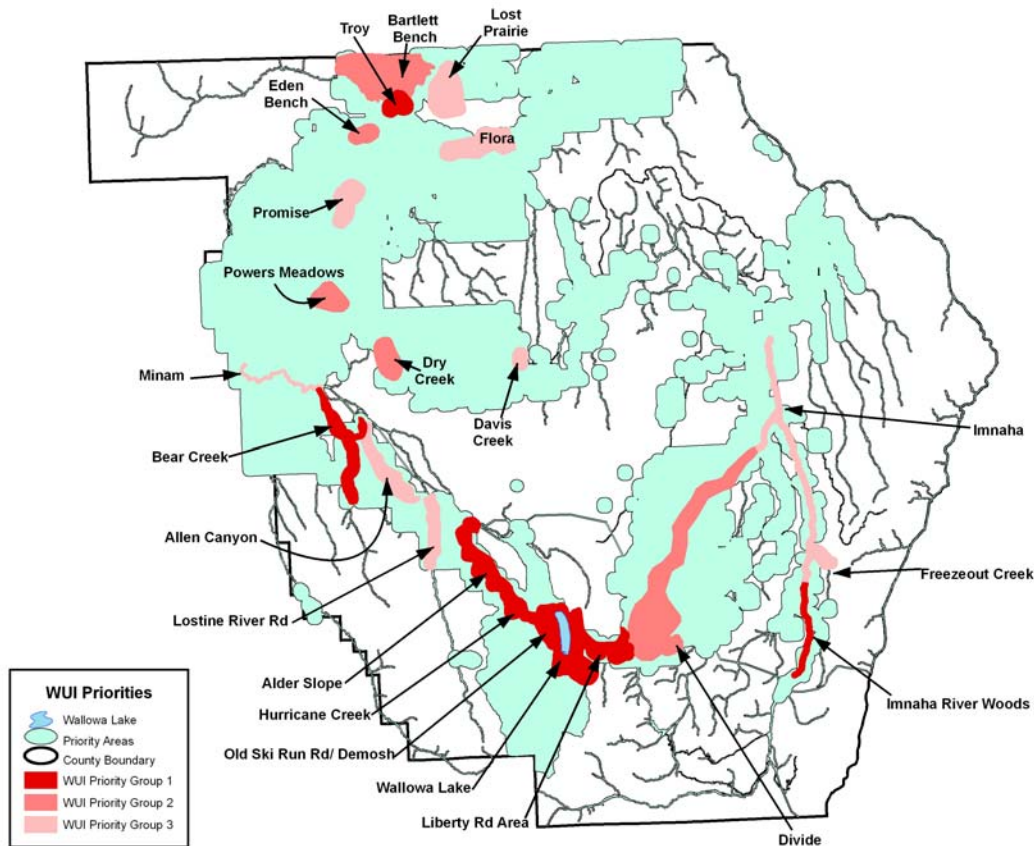
The financial and social costs of wildfires demonstrate the need to reduce their impact on lives and property, as well as the short and long-term economic and environmental consequences of large-scale fires. Cost savings can be realized through preparedness and risk reduction, including a coordinated effort of planning for fire protection and implementing activities among local, state, and federal agencies, the private sector, and community organizations. Individual property owners have a major role to play in this coordinated effort, especially in WUI areas.

The **wildland urban interface (WUI)** area is the area or zone where structures and other human development meet or intermingle with wildland fuels. As more people have moved into WUI areas, whether for lifestyle or economic reasons, the number of large wildfires damaging or destroying homes has escalated dramatically. Many in the population, migrating to rural Oregon from urban areas, took with them an expectation of structural fire protection similar to high-density areas they were leaving. There are approximately 948,000 acres of

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<sup>1</sup> State of Oregon *Emergency Management Plan, Natural Hazards Mitigation Plan, Fire Chapter, December 2003.*

**Figure 1: Priority WUI Areas of Wallowa County, Dawn Smith, Wallowa County GIS**



priority WUI areas in Wallowa County. Rural fire departments combined with local mutual aid agreements, and finally the **Conflagration Act**, attempt to fulfill expectations of adequate fire protection, but many homes are still located in areas with little or no structural fire protection. Ultimately, it is up to the homeowner in WUI areas to ensure the safety of a home from wildfire. This document contains information to help homeowners develop strategies to protect their homes and property from wildfire.

In addition to not having structural fire protection available in most of the WUI areas of Wallowa County, there are many acres of wildland also without fire protection. These unprotected areas include over half of the acreage of the county; the most familiar unprotected area is known as the "donut-hole" (an unprotected area located in the center of Wallowa County). Unprotected areas fall just outside of any agency's primary protection coverage. Response to fires that occur within unprotected lands will be coordinated by the Wallowa County Commissioners. Strategies for dealing with unprotected areas of the county will be discussed in Section VI - Mitigation Action Plan.

Recent fire seasons bring the wildland interface problem to the forefront and the problem of overabundant dense forest fuels is a focus of public discussion. The forest fuels issue is a major, continuing problem that has received attention at the presidential level. Work is underway to reduce fuels in WUI areas by way of



community involvement and funding from the National Fire Plan. National Fire Plan (NFP)<sup>2</sup> goals are:

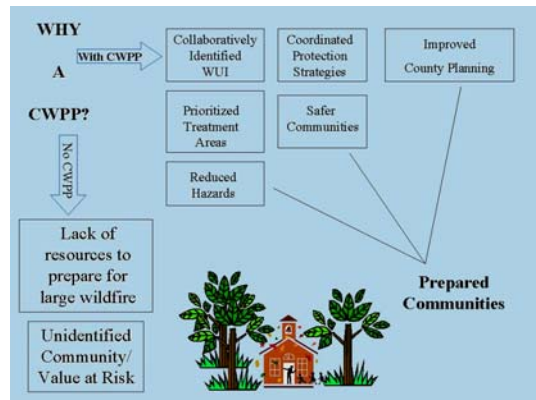
- Ensure sufficient firefighting resources for the future;
- Rehabilitate and restore fire-damaged and fire-adaptive ecosystems;
- Reduce fuels (combustible forest materials) in forests and rangelands at risk, especially near communities; and
- Work with local residents to reduce fire risk and improve fire protection.

Community Assistance grants and other grant opportunities are available through NFP to aid in achieving these goals. The goals aim high and represent a huge amount of work, with their ultimate success depending upon concerned individuals, agencies and organizations joining forces. No agency or group working alone can achieve the goals of NFP.

### Preparing a Community Wildfire Protection Plan (CWPP)<sup>3</sup>

Both the NFP and the "Ten-Year Comprehensive Strategy for Reducing Wildland Fire Risks to Communities and the Environment" place a priority on working collaboratively with communities in the WUI to reduce their risk from large-scale wildfire. The incentive for communities to engage in comprehensive forest planning and prioritization was given new momentum with the enactment of the Healthy Forests Restoration Act (HFRA)<sup>4</sup> in 2003. The language in HFRA provides maximum flexibility for communities to determine the substance and detail of their plans and the procedures they use to develop them. HFRA emphasizes the need for federal agencies to work

Figure 2: Chart by Angie Johnson, ODF



collaboratively with communities in developing hazardous fuel reduction projects, and it places priority on treatment areas identified by communities themselves in a community fire plan. Combine this with the direction of NFP and the "Ten-Year Comprehensive Strategy...", which also states that collaboration and prioritization of projects by a community is essential, one can see how important preparing a CWPP is.

<sup>2</sup> <http://www.fireplan.gov>

<sup>3</sup> <http://www.communitiescommittee.org/pdfs/cwpphandbook.pdf>

<sup>4</sup> <http://whitehouse.gov/infocus/healthyforests/toc.html>

Other constraints for local government, such as the Federal Emergency Management Agency's (FEMA) direction to prepare county hazard mitigation plans, and possible implementation of Senate Bill 360 (Oregon Forestland-Urban Interface Act of 1997)<sup>5</sup>, has made it very important that local government also participate in the development and implementation of a CWPP.

Local plans can be simple or as complex as the community desires. However, there are a few *minimum requirements* for a CWPP as described in the HFRA.

- 1) **Collaboration:** A CWPP must be collaboratively developed by local and state government representatives, in consultation with federal agencies and other interested parties.
- 2) **Prioritized Fuel Reduction:** A CWPP must identify and prioritize areas for hazardous fuel reduction treatments and recommend the types and methods of treatment that will protect one or more at-risk communities and essential infrastructure.
- 3) **Treatment of Structural Ignitability:** A CWPP must recommend measures that homeowners and communities can take to reduce the ignitability of structures throughout the area addressed by the plan.

HFRA requires that three entities must mutually agree to the final contents of the CWPP:

- The applicable local government (i.e., counties or cities);
- The local fire department(s) or representative of a county's structural agencies; and
- The state entity responsible for forest management (Oregon Department of Forestry).

## Overview of this Plan, its Development, and Compliance

The Wallowa County CWPP is the result of analysis, professional cooperation and collaboration, assessments of wildfire risk, and other factors considered with the intent to reduce the potential for wildfires that threaten people, structures, infrastructure, and values in Wallowa County. This plan also highlights opportunities to capture economic benefit and support business development relevant to wildfire protection and forest management.

The core planning committee responsible for implementing this project includes:

Nils Christofferson, Wallowa Resources  
Mike Hayward, Wallowa County Commissioner  
Angie Johnson, Oregon Department of Forestry

*Chairman  
Board of Commiss. Rep.  
Committee Staff/Resource*

Jim Beekman, US Forest Service

*Core Member*

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<sup>5</sup> <http://www.oregon.gov/ODF/FIRE/SB360/sb360.shtml>

Cassandra Botts, Private Citizen	<i>Core Member</i>
Bruce Dunn, Natural Resource Advisory Rep.	<i>Core Member</i>
Roy Garten, Forest Capital	<i>Core Member</i>
Floyd Hoofard, Wallowa Lake Rural Fire Dept.	<i>Core Member</i>
Matt Howard, Oregon Department of Forestry	<i>Core Member</i>
Peggy Kite-Martin, Oregon Employment Dept.	<i>Core Member</i>
Nick Lunde, US Forest Service	<i>Core Member</i>
Matthew Marmor, Wallowa County Emergency Serv.	<i>Core Member</i>
Roy McKinney, Private Landowner	<i>Core Member</i>
Dawn Smith, Wallowa County Geographic Info. (GIS)	<i>Core Member</i>
Andy White, Oregon Department of Forestry	<i>Core Member</i>
John Williams, Wallowa Co. OSU Extension Service	<i>Core Member</i>

These resource members serve as an advisory group for the core planning committee:

Wallowa Co. Planning Department  
 Ken Bronec, USFS  
 Brian Kelly, Hells Canyon Preservation Council  
 Bruce Countryman, USFS  
 Jerry Hustafa, USFS  
 Ira Jones, Nez Perce Tribe  
 Paul Oester, Oregon State Univ. Extension Forester, Wallowa/Union/Umatilla Co.  
 Jeff Oveson, Grande Ronde Model Watershed  
 Mark Porter, Wallowa Resources  
 Dave Quinn, Northeast Oregon Interagency Fire Center  
 Genny Reinhardt, US Forest Service  
 Vicki Rosgen, Wallowa County Chamber of Commerce  
 Tim Schommer, US Forest Service  
 Phil Shephard, The Nature Conservancy, Northeast Oregon

This CWPP has been prepared in compliance with the National Fire Plan, the "Ten Year Comprehensive Strategy...", the Tri-County Hazard Mitigation Plan (Baker, Union, and Wallowa Counties), Senate Bill 360, and the Healthy Forest Restoration Act.

The Wallowa County Commissioners, the Northeast Oregon District Forester for ODF and the Wallowa County Emergency Services Manager endorse this plan. By signing, these representatives mutually agree to the final contents of the plan. The plan will not be legally binding in any way; its role is to be viewed as a working document that serves as a planning tool for the fire and land managers of Wallowa County (see signature page).

## **II. Wallowa County Profile and Fire History**

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### **Profile<sup>1</sup>**

Wallowa County, Oregon's far northeastern county, shares state boundaries with both Washington and Idaho. The county is mostly mountainous and forms the headwaters of several important tributaries to the Columbia/Snake River System. About 3/5 of the land area in Wallowa County is publicly owned, including lands administered by a variety of federal, state, and local agencies. Most public land is part of the Wallowa-Whitman National Forest and is administered by the United States Forest Service (USFS). The Wallowa-Whitman National Forest includes three wilderness areas and one national recreation area.

The Eagle Cap Wilderness, which lies along the County's southwestern border, is noted for its high mountain lakes and its peaks nearing 10,000 feet. The Wenaha Wilderness lies to the northwest and is noted for its deer and elk hunting, as well as backpacking adventures. The newest wilderness area is the Hells Canyon Wilderness, along the eastern boundary of the county. This forms the Oregon-Idaho boundary. This wilderness is buffered within the much larger Hells Canyon National Recreation Area.



**Figure 1: Eagle Cap Wilderness, Photo Courtesy of David Jensen**

Wallowa County is home to four incorporated cities: Wallowa, Lostine, Enterprise (county seat) and Joseph. These cities are nestled in the Wallowa Valley along Highway 82. At the end of the highway, the famous Wallowa Lake provides a destination for the majority of the county's tourism industry. This pristine glacier-formed lake draws in an annual average of 74,220 visitors for camping, lodging, fishing, boating, hiking and horseback riding in the Eagle Cap Wilderness each summer. The day-use recreation average is 780,279 for the Minam area and forest trails within the State Park coverage area.<sup>2</sup> This excludes the numbers collected by the USFS within the wilderness area.

The Nez Perce Tribe aboriginally occupied a territory that encompassed virtually all of what is now north central Idaho as well as extensive portions of what is now northeastern Oregon and southeastern Washington. Wallowa County has a long history of Native American influence, having specifically the Wallowa Band of the Nez Perce once making the Wallowa Valley their home for hunting, fishing, and gathering. They followed changing seasons to headwaters of rivers and high

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<sup>1</sup> Wallowa County, Oregon: A Strategic Plan for the Future, August 5, 1996.

<sup>2</sup> Wallowa Lake State Park and Management Area, Statistics captured from 1998-2002.

mountains of the Wallowas in the summer and returned to deep canyons of the Snake River and its tributaries in winter.<sup>3</sup> Included in recognizing the homeland and lands identified in the Walla Walla Council Treaty of 1855, the Nez Perce National Historic Trail, which starts at Wallowa Lake, is also a value important to Wallowa County.

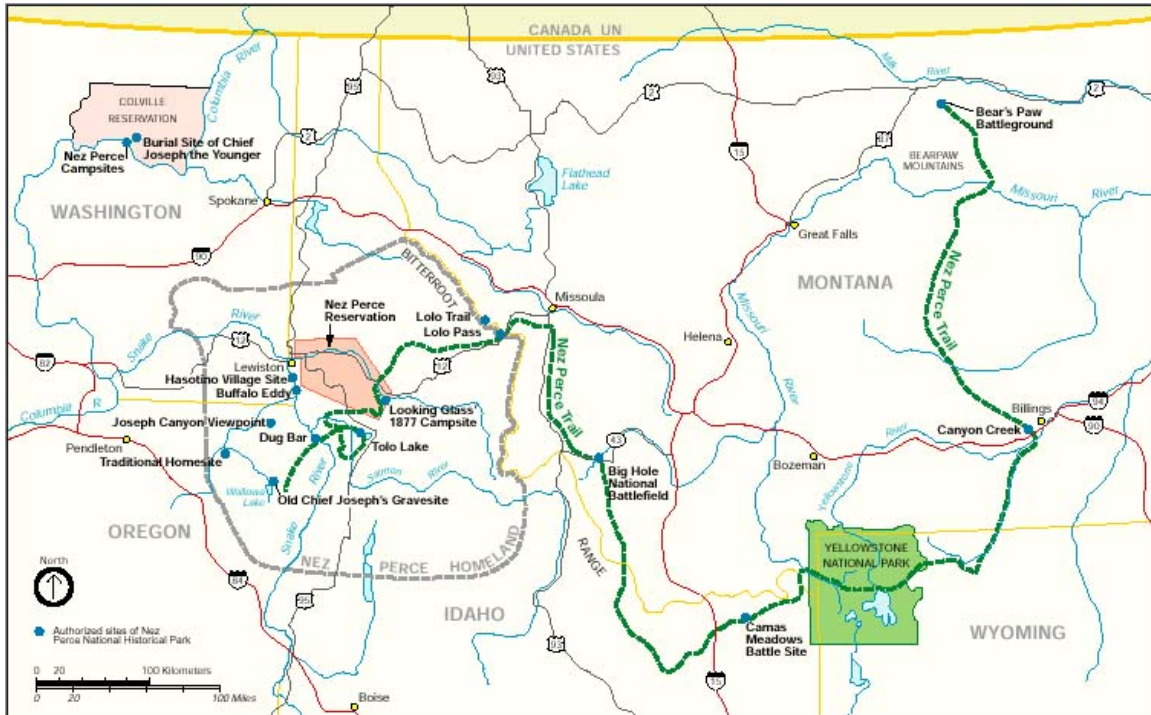


Figure 2: Courtesy of <http://www.nezperce.org>

The recreational, ecological and scenic values that draw tourists to Wallowa County are the same values that the residents of Wallowa County want to protect from the risk of wildfire. Other important values to the communities of Wallowa County are: concerns about public safety and protection of the local economy (e.g., forestry, agriculture, arts and recreation). Wallowa County has already experienced several large fires over the course of the last 5 years that have affected those values, including Eastside Complex, Carrol Creek, Horse Creek, Lightning Creek Complex, Anniversary, and several **wildland fire use (WFU)** fires in the wilderness.

## Fire History in Wallowa County

Fires are recorded separately by the responding agency. Wildland fires that start on protected private land is reported by ODF. However, ODF will respond to and report fires that are on unprotected lands that threaten protected lands, or on dual-protected lands where ODF provides mutual aid with structural fire

<sup>3</sup> <http://www.wallowanezperce.org>

departments. (Federal agencies also record fires they respond to in a separate database.) Fire cause is categorized into human or lightning. Wallowa County has a significant amount of lightning storms that pass through during the summer and fall months, leaving prevention of those fire starts beyond human control. Over 3/4 of all fire starts are attributed to lightning, with a higher percentage of lightning starts on the public lands (85% average for the last 5 years) than the private lands (72% average for the last 5 years). ODF reports a slightly higher percentage of human causes where human activity is more prevalent (see Appendix A - Fire Statistics).

The Wallowa Mountains office of the Wallowa-Whitman National Forest reports similar fire statistics. The 5-year average for lightning-caused fires is 85% of all fires in this period, while 15% were human-caused. Wallowa County also has USFS-protected land in the Eden Bench/Troy area that is protected and managed by the Walla Walla Ranger District of the Umatilla National Forest. Statistics for those fires were not available at the time this plan was submitted for print.<sup>4</sup> Large fires closely correlate with multiple ignition days (more than 7 starts in one day).

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<sup>4</sup> Once statistics for fires reported by the Walla Walla Ranger District are available, they will be posted on the web and included in the third printing of this document. Also, fire statistics for structural fire agencies were not available in a form that could be included with other agency fires, but an attempt will be made to do that by the third printing of this document.

# **III. Vision, Mission, Goals and Objectives**

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## ***Vision Statement***

Wallowa County produces livestock, timber products, crops, art objects, performances, services and offers diversified recreation. Wallowa County provides stewardship of public and private resources with local input encouraged from citizens of the county regarding decisions made on management of public lands.

The local government is efficient and cost-effective and protects the health and safety of the population with high quality police and fire resources that protect the land use of the county.

Wallowa County residents will continue to live and work in watersheds that are resistant to catastrophic wildfire and in a community that is prepared to minimize the effects of those fires that do occur through continued collaborative efforts.

## ***Mission Statement***

To assist in coordination of the resource management of lands within Wallowa County in a manner that protects communities and local values at risk from wildfire, enhances local economic benefit and maintains or enhances ecological condition.

## ***Goals***

To reduce wildfire risk to local communities, watersheds and other at-risk lands through a broad-based collaborative process that:

1. Continues to enhance watershed quality while protecting municipal water systems.
2. Improves community safety through continued education and awareness in regard to the risks of living, working and recreating in the wildlands of Wallowa County.
3. Continues to improve pre-suppression planning in the event of a wildfire.
4. Maintains, enhances and protects aesthetic, recreational and cultural values.
5. Preserves and promotes the custom, culture and economic health of Wallowa County.

6. Engage the local workforce in work related to wildfire prevention and protection, and restoration of lands in Wallowa County.

## ***Objectives***

The goals above can be achieved by, but not limited to, the following objectives:

1. Define and prioritize areas with high risk of wildfire in order to target and coordinate mitigation strategies on public and private land.
2. Document and outline strategies for protecting community values such as watershed/viewshed, residences, infrastructure, recreation resources, cultural resources and economic resources through the use of fire prevention campaigns, emergency services preparedness, and continued fuels reduction and hazard mitigation.
3. Identify economic developments and networking opportunities regarding fuel reduction and biomass utilization enterprises.
4. Design specific strategies to reduce wildfire risk on public and private land, and promote these strategies with the respective land managers.
5. Improve the fire suppression resources of the community by identifying equipment and training needs.
6. Coordinate fire suppression efforts between county, state, Tribal and federal agencies.
7. Educate communities in Wallowa County of this plan and solicit public input.



## ***IV. Community Participation and Education***

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### **Outreach**

Education and community outreach are two of the areas of primary focus of the Wallowa County CWPP. The community should view the plan as valuable to public safety and as a resource for mitigating hazards from the risk of wildfire.

During the development of this plan, communities across the county were considered an important source of information and every attempt was made to gain their involvement. Several education and outreach opportunities were offered. In June 2004, a *Firewise* workshop was held at the Wallowa Lake Fire Station. *Firewise* provides the community with techniques that promote 1) education of the public regarding the dangers of a wildfire in the area, 2) community responsibility of reducing the risk of a wildfire and 3) increasing awareness of the natural role of low-intensity fires and the benefits of prescribed burning or occasionally managing natural wildland fires to achieve ecological benefits while maintaining firefighter and public safety.

In August 2004, the committee put together an informational booth at the Wallowa County Fair. Wallowa County Emergency Management and ODF contributed materials to the booth that emphasized protecting homes and property from the risk of wildfire, including information on evacuation. Participants and visitors to the Fair were encouraged to participate in a questionnaire to gather opinions regarding wildfire risk and management. Also, maps were on display, highlighting hazards across the county that would contribute to a large wildfire event (see Appendix B - Assessment Maps).

**Figure 1: Photo of fair booth, courtesy of Angie Johnson, ODF**



In September and October 2004, a series of five community meetings were held across the county. The purpose of the meetings was to introduce citizens to the committee members tasked with developing Wallowa County's CWPP, inform them of the progress the committee had made at that time, discuss the risk assessment used to determine high hazard areas, involve citizens in identifying values threatened by wildfire and identify concerns related to emergency services and fire agency response. In January 2005, the committee hosted a public workshop in Joseph to review and discuss the first draft of the plan (see Appendix C - Public Outreach).

In addition to informing the public about this project through newspaper articles, public meetings and workshops, the committee decided a website would also be an effective way to communicate with citizens throughout the evolution of the plan. The website will continue to progress along with the development of the plan, offering citizens the opportunity to comment at any time regarding the contents of the plan or the site itself. The site is available at (underscore after "wallowaco"):

[http://www.odf.state.or.us/areas/eastern/northeast/wallowaco\\_cwpp.htm](http://www.odf.state.or.us/areas/eastern/northeast/wallowaco_cwpp.htm)

## Fire Prevention and Education

In order to address the subject of wildfire in the WUI areas of Wallowa County, homeowners and landowners need to be aware of the hazards that are around their homes and on their property that contribute to the spread of wildfire. As mentioned in the introduction of this plan, a WUI is an area or zone where structures and other human development meet or intermingle with wildland or vegetative fuels. As more people move into WUI areas, whether for lifestyle or economic reasons, the risk of large wildfires affecting homes increases. Many of the population migrating to rural Oregon from urban areas bring with them an expectation of structural fire protection similar to high-density areas they are coming from.

Across Wallowa County, fire protection is provided at three levels: no protection (without any protection for the wildland or structures); single protection by either rural, city, or wildland agencies (structures are protected, but not the land; or visa versa); and dual-protection (both structural and wildland agencies available).

Finding an area with dual protection is limited in the rural areas of Wallowa County. Also, the vastness of the county allows for increased response time which limits the capabilities of fire services.

**Structural Vulnerability** - a term that relates factors contributing to how and why a home is vulnerable to wildfire. Examples of factors that would make homes vulnerable in a wildfire event are type of access to the home, ladder fuels and vegetation within the landscape of a home, and whether or not fire protection is available.

Citizens of Wallowa County can find for themselves, through the various prevention programs mentioned below, information on how to protect themselves and their property from the risk of wildfire. These programs guide citizens through creating survivable (otherwise known as defensible) space around homes by eliminating ladder fuels, planting fire-resistant vegetation, and removing other hazardous material around the homesite. By practicing the techniques offered by the many prevention programs below, citizens can increase the survivability of their home in the event of a wildfire. The best

protection is prevention, especially when the trend is to build homes farther from urban services.

### *Living with Fire*

This educational newspaper is available online. The newspaper displays step-by-step instructions on how to create a survivable space around your home, depending on the topography and vegetation that surrounds it. Visit <http://www.or.blm.gov/nwfire/docs/Livingwithfire.pdf>



*The pre-fire activities implemented by this homeowner include a green and well-maintained landscape, reduction of wildland vegetation around the perimeter of the property, a fire resistant roof, and a good access road with a turnaround area. The charred surroundings of the home show that these pre-fire activities effectively protected it when wildfire hit.*

*Living with Fire Project: Photo courtesy of California Department of Forestry and Fire Protection*

### *I'm Concerned....*

ODF is currently using the “I’m Concerned...” campaign as a basis for its fire prevention program. “I’m Concerned...” offers quick tips for burning debris safely, seasonal clean up tips for your property, building and extinguishing a campfire safely, burn barrel safety and home fire safety. ODF publishes “I’m Concerned...” ads in the Wallowa County Chieftain and on the ODF/Northeast Oregon District website as time of year dictates. Visit <http://www.odf.state.or.us/areas/eastern/northeast/default.asp> anytime to get a copy of burn barrel safety and home fire safety.



### *Firewise*

*Firewise* promotes fire-wise practices by, 1) educating the public of the dangers of a wildfire in the area, 2) encouraging residents to take responsibility for reducing the risk of a wildfire and to create survivable space around their residence and 3) increasing awareness of the natural role of low-intensity fires. In addition to promoting the reduction of fire risk, the *Firewise* program provides education related to the benefits of prescribed burning or occasionally managing

natural wildland fires to achieve ecological benefits, known as wildland fire use (WFU), while maintaining firefighter and public safety (visit [www.firewise.org](http://www.firewise.org) for more information).

A term that is emphasized in this prevention program is structural ignitability, which has to do with how flammable the building materials of the home, deck, or outbuilding attached to the home are. See definition in the block to the right.

**Structural Ignitability** - a term that relates cause of a home igniting during a wildfire to building materials. Cause could be attributed to the building materials used for the home or the amount of combustible materials around the home.

### *Fire-Resistant Plants for Oregon Home Landscapes*

When landscaping around a home, most homeowners are concerned with aesthetics. When homeowners are advised to remove flammable vegetation, they are worried that the aesthetics of their landscape will be compromised. Flammable plant material in the landscape can increase the fire risk around homes. Homeowners can find information about fire-resistant plant materials that aid in improving chances of a home surviving a wildfire and provide aesthetically pleasing color, texture, flowers, and foliage to the landscape. Visit <http://extension.oregonstate.edu/emergency/FireResPlants.pdf> for a copy of the brochure and plant list.

### *Cost-Share Grant Programs through NFP*

ODF, Wallowa Resources, and Wallowa Lake Rural Fire Department have teamed up to provide homeowners within the WUI areas of Wallowa County a free homesite inspection. After the inspection, technical advice is given to the homeowner as to what can be done to lessen the structural ignitability rating for the home. The removal of vegetation and amount to be removed varies, depending on what amount of survivable space should be created to decrease the vulnerability to the structure. Grants may be available to the homeowner interested in a homesite project. Contact ODF in Wallowa at (541) 886-2881, or Wallowa Resources at (541) 426-8053, to find out more about this program.

In addition, there is a separate program for the larger landowner that has land within a WUI area of Wallowa County, and even more ideally, adjacent to Federal land. This program offers cost-share incentives for pre-commercial thinning, slash removal, brush removal, and/or ladder fuel removal. To find out more about this program and what kind of cost-share incentive may be available, contact ODF in Wallowa at (541) 886-2881.

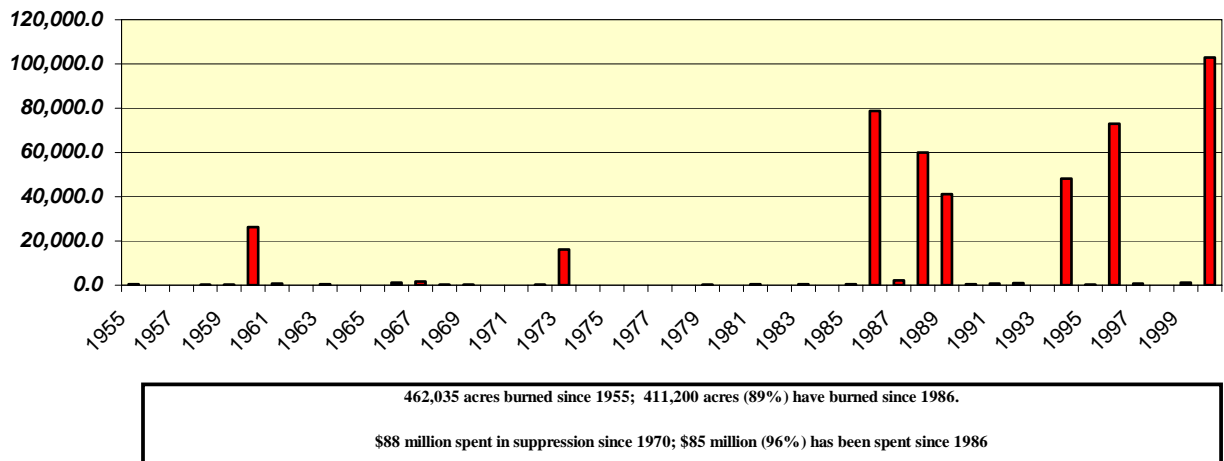
# V. Wildfire Risk Assessment<sup>1</sup>

## Introduction

The poor ecological health of the forested ecosystem in Wallowa County and the greater Blue Mountains area is well documented in federal and scientific reports. Forest ecosystems are considered “unhealthy” because of widespread conifer die-off due to insect and disease epidemics, as well as a cycle of low precipitation. USFS Vegetation Assessments (1993-1998) of the Wallowa Whitman National Forest determined that mortality exceeded new growth by 29%. Assessments of the area highlight “natural process imbalances” attributed to the history of fire exclusion, past livestock grazing and past timber management techniques (in particular overstory removal of early **seral** species).

Past timber management practices and fire exclusion have driven a colonization of the forested lands by more shade-tolerant Douglas-fir, true firs, and a build-up of fuels to a level much greater than that historically found in this area. Since 1976 (Hall 1976, Hall 1980, Hall 1984, Gast et. al. 1991), scientists have been predicting an increase in catastrophic stand-replacing fires. Between 1986 and 2002, six large events occurred compared to two much smaller events in the previous 30 years (See Figure 1). Current assessments still rank the risk of catastrophic fire in Wallowa County to be extremely high.

Figure 1: Acres Burned in Wallowa Fire Zone - Wildfire Occurrence 1955-2000



<sup>1</sup> This section authored by Genny Reinhardt, US Forest Service - Wallowa Mountains Office.

The combined forest management strategies referred to above have also resulted in an “imbalance” in the forest stand structure and species composition distribution. Recent field assessments<sup>2</sup> reveal increasing homogeneity across the forested landscapes of Wallowa County. The underlying data also highlights the loss of early seral species (e.g. Ponderosa pine and Western larch) and the increasing dominance of mid and late seral species (e.g. Grand fir). This simplification of stand structure and shift in species composition increases the probability of large-scale fire, insect, and disease disturbances.

## Setting Priorities

Wallowa County recognizes the need for priority setting to ensure effective use of scarce human and financial resources. A considerable portion of the County’s federal forested lands require management intervention to restore these fire adapted ecosystems. Conservative estimates by this committee suggest a starting point of 100,000 acres that would receive benefits from mechanical thinning and slash disposal. With treatment costs running anywhere from \$300 to \$900 per acre, there is a need to isolate those areas where the risk of and consequence from wildfire are the greatest.

Through a series of collaborative workshops, facilitated by technical work prepared by the USFS and ODF fire staff, Wallowa County approached priority setting using a three-step process: analysis, mapping, and review of the County’s vegetation conditions were conducted for (1) fire hazard; (2) fire risk; and (3) fire consequence. (See Figure 2)

### Figure 2: Definition of Terms

**Hazard:** The resistance to control once a wildfire starts; influenced by biophysical conditions of an area (topography, fuels, etc.) that contributes to fire spread.

**Risk:** Potential fire start and spread to valued resources in an area when fire hazard, fire occurrence and consequence are combined.

**Consequence:** Potential outcome of values at risk from a fire occurring in a specific geographic location.

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<sup>2</sup> Contact USFS-Wallowa Mountains office, Enterprise, OR, for more information.

## Description of Methodology

A decision was made early in the process to utilize the best available information from both the USFS and ODF databases. As new information becomes available, any enhancements in data collection will become a part of the revised plan. Each future version of the plan should be considered “a living document.”

**Hazard** was determined by analyzing the respective databases of the USFS and ODF related to fuel model, slope, aspect, and historic fire occurrence. The USFS database also includes **fire regime** and **condition class**, which are not attributes of the ODF data. To estimate condition class for private land from the ODF database, Andy White, ODF Unit Forester, and Genny Reinhardt, Fuels Planner for Wallowa-Whitman National Forest, interpreted condition class from the ODF vegetation layer, utilizing stand criteria applied to the Forest Service vegetation layer.<sup>3</sup> For each variable analyzed, specific values were assigned and an aggregate score was developed. The higher the value, the greater its influence on fire behavior, specifically rate of spread and flame length.

The values for determining relative fire hazard are as follows:

<b>Slope:</b>	<u>Range</u>	<u>Value</u>
	0-30%	3
	31-60%	6
	61+%	9

<b>Aspect:</b>	South	8
	West	6
	East	4
	North	2

<b>Fuel Model:</b>	<u>Range</u>	<u>Value</u>
	1	10
	2	9
	5	8
	6	9
	8	1
	9	5
	10	7
	11	6
	14	1

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<sup>3</sup> USFS Vegetation Assessments of Wallowa-Whitman NF; ODF Landsat imagery. Contact either the USFS-Wallowa Mountains office or ODF-Wallowa Unit office for more information.

Note: Values for Fuel Models were assigned based on **rate of spread** (chains/hr.) and **flame length** (resistance to control) from “Aids to Determining Fuel Models for Estimating Fire Behavior” GTR INT-122 by Hal E. Anderson, April 1982. Agricultural lands were assigned to Fuel Model 14.

<b>Condition Class:</b>	<u>Value</u>
1	3
2	6
3	9

Utilizing Spatial Analyst software, the values assigned for each of these four variables (slope, aspect, fuel model, and condition class above) were added to arrive at a combined value for each specific polygon within the GIS database. All polygons were assigned Low, Medium or High hazard ratings from the following scale:

**Fire Hazard Ratings by Combined Values:**

- Low – 0-16
- Medium – 17-26
- High – 27-36

**Fire Probability** was determined by mapping historic fire occurrence within Wallowa County from 1970 (the year fire reports started being archived in a retrievable database) through 2003. The fires in the database are all fires that were found, and resulted in a fire report being completed, including wilderness wildland fire use fires. Reported fires resulting in a fire not found on the ground are not included in the data. The data includes fires from all sources and are not segregated in this analysis. Approximately 80% of all fires in Wallowa County are lightning caused. Recreation fires, debris burning and fireworks lead the causes of human ignitions. To map fire occurrence, the software looks at a 1000-acre area around each fire start. If other starts are found within the 1000-acre area, the software identifies them by adding different colors to the overlapping areas, resulting in a map displaying relative historic fire density. By looking at historic fires we are able to predict where future fires are more likely to occur.

**Consequence** mapping was determined by holding meetings in communities and asking the residents to identify the attributes and values of their community which they felt were most at risk from wildfire (also known as values at risk). Major themes emerged from these meetings and are summarized by the team as follows:

**High priority values**

- ◆ Public Safety, including-
  - Homes
  - Evacuation routes



- ◆ Infrastructure (power lines, substations, water sources and water distribution)

### **Moderate priority values**

- ◆ Economic and Significant Assets
  - Private property – Timber/grazing
  - Threatened and endangered species habitat
- ◆ Important viewsheds including –
  - River corridors
  - Wallowa Mountain front
  - Joseph Canyon
  - Buckhorn overlook
- ◆ Industrial and commercial infrastructure
- ◆ Cultural/Historic sites

### **Lower priority values**

- ◆ Landscapes in the following order-
  - Warm/dry biophysical environment
  - Cool/ dry biophysical environment
  - All others

### **Combining the Numerical Values**

By utilizing *Spatial Analyst*<sup>4</sup>, the hazard, risk of ignition and consequence layers were derived in the final fire plan as priority treatment areas of High, Medium and Low. WUI boundaries created by the public were clipped to hazards.

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<sup>4</sup> ESRI software product.

## ***VI. Mitigation Action Plan***

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### **Prioritization of WUI Areas**

Priority wildland-urban interface (WUI) areas in Wallowa County are a result of the assessment discussed in Section V - Wildfire Risk Assessment. In Wallowa County, a **community-at-risk (CAR)** is defined as a group of homes or other structures with basic infrastructure (such as shared transportation routes) and services within or near federal land. A **wildland-urban interface (WUI) area** surrounds a community-at-risk, including that community's infrastructure, water source, and other values at-risk, and may extend 1 1/2 miles or more beyond that community. The boundary of a WUI depends on topographic and geographic features that could influence wildfire, the location of an effective fuel break, or Condition Class 3 lands. The priority of a WUI area depends on interest by communities to participate in reducing fuels and promoting firewise activities, availability of fire protection, type of fuel, and level of fuel loading.

#### *Reducing Fuels and Promoting Firewise Activities*

Ultimately, it is up to homeowners in WUI areas to ensure the safety of their homes from wildfire. When reducing fuels around homes and on property, the following objectives should be met in order to lessen the wildfire threat:

- Increase moisture content of vegetation
- Decrease amount of flammable vegetation
- Shorten plant height
- Alter arrangement of vegetation

Fuel treatments that include fuel reduction will not guarantee the elimination of a wildfire burning through property, but it can reduce the probability that extreme fire behavior will occur. Modification of vegetation structure should be such that fire behavior will be affected. Use the Living with Fire newspaper (available on the web at <http://www.or.blm.gov/nwfire/docs/Livingwithfire.pdf>) to assist with planning proper spacing of vegetation and determination of amount of defensible space around the home. Also, refer to **Appendix D - Treatment Specifications for Private Landowners** and **Appendix E - Firewise Tips around Your Home**.

Creating defensible space around your home does not require any special equipment or skill, just routine gardening and landscape maintenance. The resources mentioned above will be valuable. However, when wanting to employ fuels treatment techniques on larger blocks of property where special equipment is needed, contact Oregon Department of Forestry, Wallowa Unit, at (541) 886-2881.

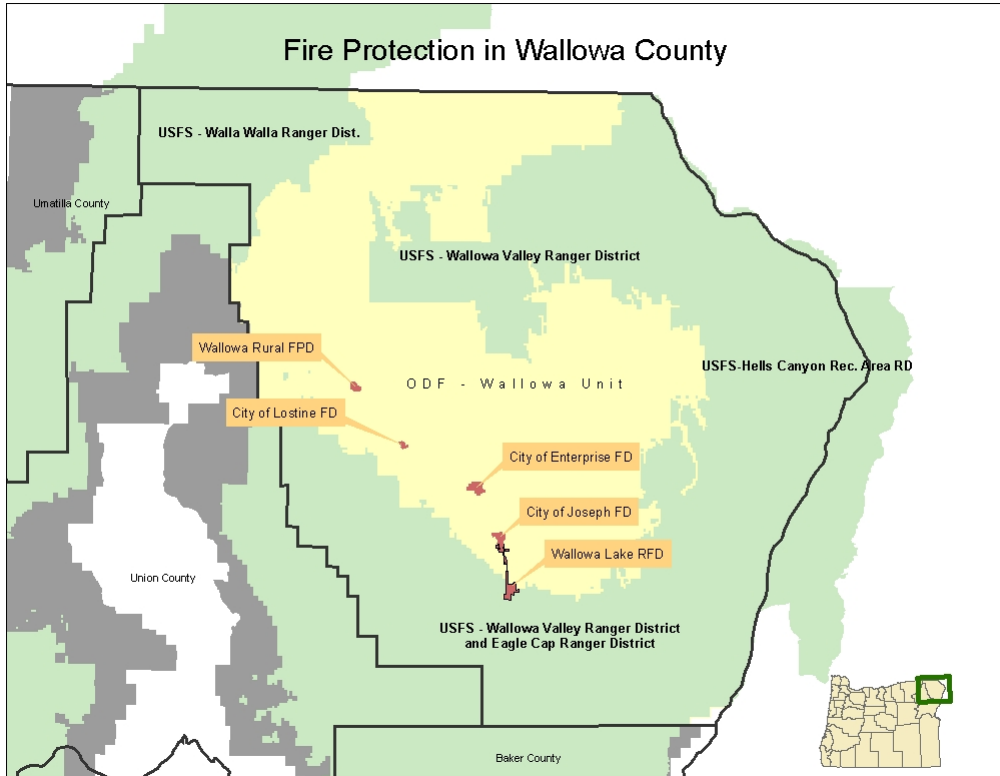
### *Availability of Fire Protection*

It should not be assumed that the fire department will protect every home in Wallowa County. Most areas do not have structural fire protection available and some areas do not even have wildland fire protection. Response to fires that occur within unprotected lands will be directed by the Wallowa County Commissioners; coordination will occur with the Emergency Management office and the Oregon State Fire Marshall's County Fire Chief to determine the appropriate response. As a long-term strategy, the CWPP committee encourages efforts that would provide some level of wildland fire protection coverage for all unprotected lands. This might include working with local government and rural fire districts to: 1) incorporate unprotected areas into already existing rural districts; 2) to help fund an additional substation in an existing rural district; or 3) attempt to form an entirely new fire district (tax-based). ODF's Eastern Oregon Area office (which includes Northeast Oregon District) has hired a coordinator that can assist counties with the formation of fire protection associations if the county desires exploring that option.

During a major wildfire, firefighting resources become scarce. In these instances, firefighters will likely **triage** a neighborhood to determine which homes in the neighborhood could be protected safely and effectively. When triaging a neighborhood, fire agencies consider factors like access into the home, building materials of the home, flammable items around the home and water sources available. Some wildfires may become so intense that little can be done to save a home from burning. It is important that action be taken by the homeowner to protect their home by reducing the risk of a fire approaching the home before a wildfire occurs.

In Wallowa County, wildland fire protection is provided by Oregon Department of Forestry, US Forest Service - Wallowa Fire Zone. Structural fire protection is offered by two rural fire departments and three city fire departments: Wallowa Lake Rural, Wallowa Rural, City of Joseph, City of Lostine, and City of Enterprise.

**Figure 1: Wallowa County Fire Protection, Angie Johnson, ODF**



*Type of Fuel and Level of Fuel Loading*

Fuel type and fuel loading were analyzed to determine fuel hazard (see Section V - Wildfire Risk Assessment). Fuel hazard has a direct effect on fire behavior and was used to determine the priority of each group. When looking at each group, cost of treating fuels in the area and likelihood of treatment taking place was determined based on what is currently happening in an area. With treatment costs running anywhere from \$300 to \$900 per acre, there is a need to isolate those areas where the risk of and consequence from wildfire are the greatest. Also, a considerable portion of the County’s federal forested lands require management intervention to restore fire adapted ecosystems. This information was used to group WUI areas into three priorities.

Currently, the grouping of priorities is:

Priority Group 1	Priority Group 2	Priority Group 3
Wallowa Lake Basin <sup>1</sup>	Divide Camp	Flora
Imnaha River Woods	Little Sheep Creek	Promise
Troy	Bartlett Bench	Lostine
Bear Creek	Dry Creek	Lost Prairie
Alder Slope	Eden Bench	Allen Canyon
Liberty	Powers Meadows	Wallowa Canyon
Hurricane Creek		Freezeout Creek
		Davis Creek
		Imnaha

Fuels treatment within the forested areas of each WUI above may consist of the following methods, depending on fuel type and loading:

- Felling/Thinning
- Removal of dead and down trees and slash concentrations
- Pruning
- Piling
- Burning
- Removal of trees infected by insect and disease
- Whole tree yarding/Leave top attached

The following is a list of the type of treatment that would be considered in the grasslands of Wallowa County:

- Grazing
- Mowing
- Plowing
- Irrigation
- Controlled burning

Both ODF and federal agencies have specifications that discuss in detail the type of project and type of treatment(s) to be conducted within the WUI areas. Once a project is identified, collaboration will be utilized among all landowners to achieve optimum results. Commercial tree removal may offset the cost of fuels treatment for the landowner. When trying to achieve the goal of reducing fuels to change forest structure that modifies fire behavior, other issues related to insect and disease, nutrient loss, and weed infestation need to be addressed. (See Appendix D - Treatment Recommendations for Landowners)

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<sup>1</sup> Wallowa Lake Basin includes Mt. Howard, Ferguson Ridge, and Ski Run Road/DeMosh areas.

## Fuels Treatment and Forest Health<sup>2</sup>

Thinning for fuels reduction can have the added benefit, if stocking levels are lowered enough, of increasing tree diameter growth and enhancing tree vigor. From the stand perspective, this will reduce the time to the next thinning and maintain healthier trees by increasing resistance to pests, such as bark beetles. To meet both fire risk and forest health objectives, stands need to be thinned wide enough to take advantage of the sites resources: water, nutrients, and sunlight. Spacing depends on factors such as site quality, species, and tree size (diameter): on poorer sites, trees will be spaced a bit wider; species such as Ponderosa and Lodgepole pine are spaced wider than other species; and larger trees need more space than smaller trees.

Remember, forests are dynamic and continually growing in diameter, height, and crown width. Fuels reduction activities that include thinning are beneficial, but thinning without consideration for forest health doesn't provide the benefits of pest resistance or good individual tree growth. Also, without future maintenance, the fire risk reduction benefits decline over time. (See Section 8 - Maintenance)

For more information about proper tree spacing for your stand, contact Paul Oester, Extension Forester for Union, Wallowa and Umatilla Counties, at (541) 963-1010, or Oregon Department of Forestry in Wallowa at (541) 886-2881.

## Control of Noxious Weeds<sup>3</sup>

Noxious weed prevention and management is an important issue within Wallowa County. Slash piles, log landings, and other areas of ground disturbance provide opportunities for new weed infestation. Care needs to be taken by landowners, forest contractors and crews to prevent weeds from escaping and overtaking new areas. Seed can be transported from one site to another if equipment is not cleaned. Infestation can take place if a site is not restored after a disturbance.

All equipment needs to be regularly and thoroughly cleaned before moving between job sites to prevent transport of weed seeds from one site to another. All equipment should be cleaned in the same location, preferably next to a county road. The area in which the cleaning takes place should be noted or mapped so it can be monitored and checked for any future weed growth.

Once forest management work is completed, the site has to be restored to its previous condition. Disturbed ground must be seeded back with native grasses and forbs to keep competing weeds from taking over the site. (Disturbance areas also include landing sites and slash pile burn sites.) Grass seed used to

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<sup>2</sup> Oester, Paul. *Blue Mountains Renewable Resource Newsletter*. Vol. 20, No. 3, Fall 2004.

<sup>3</sup> Refer to the Wallowa County Integrated Weed Management Plan for further information.

treat disturbed ground can be purchased at Wallowa County Grain Growers, or acquired from the Wallowa County Vegetation Department.

If a new infestation is found, either within the forest management area or the equipment cleaning site, proper treatment (whether it is pulling and bagging, chemical application, or a combination of both) must be implemented to eradicate the weeds and prevent a new invasion. Similar attention to ground vegetation, monitoring, and treatment of any emerging weeds is required in the aftermath of a wildfire.

It is the responsibility of the landowner and contractor to prevent weeds from spreading from one job sight to another. Wallowa County has an enforcement policy which states, "Each person, firm, or corporation owning or occupying land within the district shall destroy or prevent the seeding on such land of any noxious weed within the meaning of ORS 570.515 to 570.600 in accordance with the declaration of the county court and by the use of the best means at hand and within a time declared reasonable and set by the court, except that no weed declared noxious shall be permitted to produce seed."

## **Mitigation Strategies for WUI Areas in Wallowa County**

The following map displays the twenty-two priority WUI's identified in Wallowa County. Also included in this sub-section are tables addressing specific projects for each WUI. The projects listed are either completed, planned, or suggestions for reducing risk of wildfire. For suggested projects, funding or help from the community may hinder the success of the project being completed. These tables will be reviewed and updated as new projects and ideas are available.

The inventory of projects and action items that could be implemented to protect WUI areas in Wallowa County from large wildfire is not all-inclusive. Community members who have other ideas to help protect their specific community can contact one of the committee members at any time. The idea will be shared with the committee at large and inserted into the table associated with that priority group. Once in the table, the community and the Wallowa County CWPP committee can begin a process for completing the project.

All projects are listed by category. The categories are Education, Fuels Treatment, or Emergency Preparedness. Education projects are those related to fire prevention or collaboration/awareness on a particular issue related to this CWPP. Fuels treatment projects are those related to treating fuels on the landscape or creating defensible space around homes. Emergency Preparedness projects are those related to emergency response in a wildfire event, either pre-suppression or suppression.

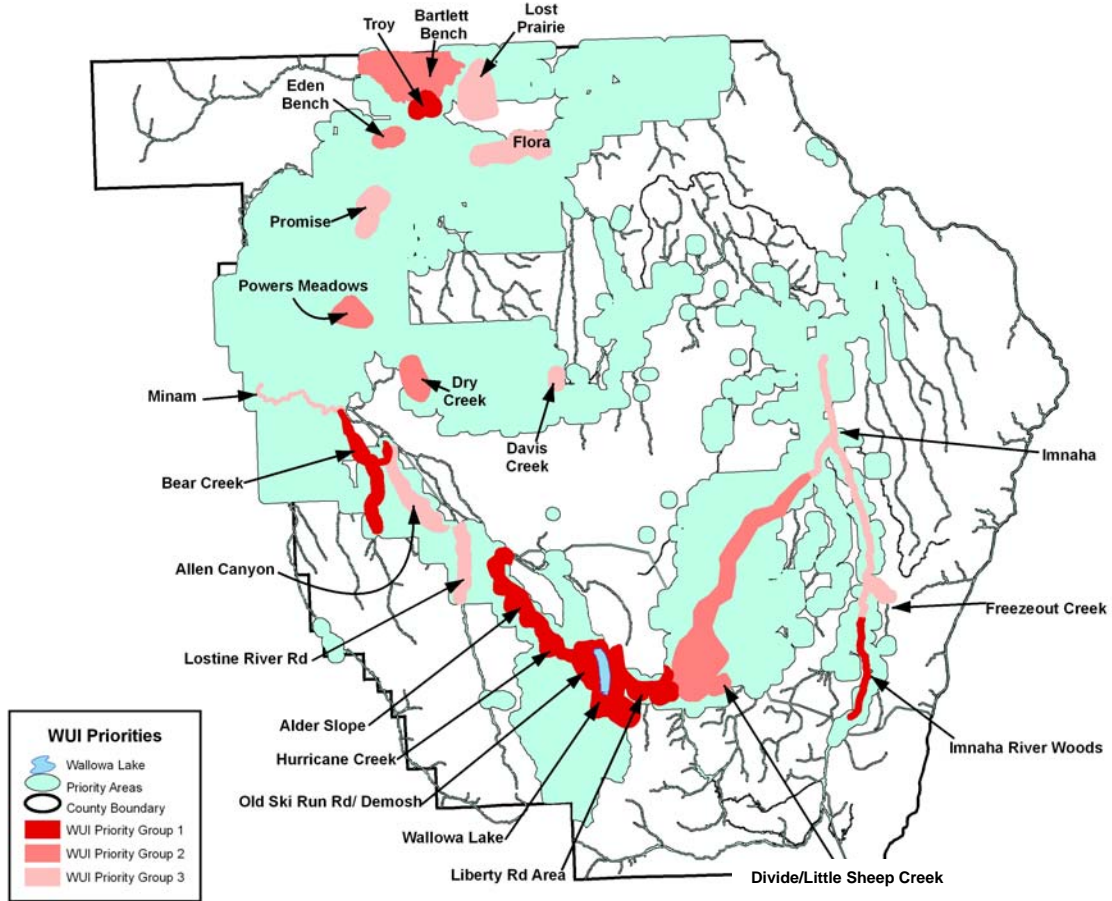


Figure 2: Wallowa County WUI Areas, Dawn Smith, Wallowa County GIS



**Priority Group One**

**Communities at Risk:** Wallowa Lake Basin<sup>4</sup>, Imnaha River Woods, Alder Slope, Liberty Road, Hurricane Creek, Bear Creek, and Troy.

**Fire Protection Agency:** Wallowa Lake Basin receives structural fire protection from the Wallowa Lake Rural Fire Protection District. All other communities listed above do not have structural fire protection available; however, wildland fire protection for the private land surrounding the communities listed above is available from Oregon Department of Forestry.

**Projects:** Many strategies identified in this plan apply to all wildland-urban interface areas because they are broader in scope or represent general outreach messages or educational opportunities. Those listed here are specific to interface areas in Wallowa County.

Strategy	Type of Project	Timeframe	Cooperators
⇒ Create defensible space around structures/Address issue of absentee cabin owners	Fuels Treatment	Ongoing	ODF, WLRFPD, Wallowa Lake Homeowners Association, Wallowa Lake Business Owners Association, Imnaha River Woods Subdivision, and Oregon State Parks, all communities noted in this priority group
⇒ Promote Firewise Communities USA/Offer one-day community workshops	Education	Ongoing	ODF, WLRFPD, Wallowa Lake Homeowners Association, Wallowa Lake Business Owners Association, Oregon State Parks, City of Joseph <sup>5</sup> , Wallowa County, and community of Wallowa Lake Basin
⇒ Form Wallowa County Fire Prevention Cooperative	Education	September 2005 to December 2007	ODF, USFS, all structural fire departments, Wallowa County Emergency Services
⇒ Coordinate implementation of fuels treatment projects across landscape	Fuels Treatment	Ongoing	All communities in this group; ODF, USFS
⇒ Continue to enhance capacity of structural fire departments	Emergency Preparedness	Ongoing	ODF, USFS, Wallowa County Emergency Services, WLRFPD, City of Joseph FD (see next page)

<sup>4</sup> Wallowa Lake Basin includes Mt. Howard, Ferguson Ridge, and Ski Run Road/DeMosh areas. Contact USFS-Wallowa Mountains office to review Mt. Howard scoping letter.

<sup>5</sup> See Resolution in Appendix J.

⇒ Develop Community Emergency Plans	Emergency Preparedness	April 2005 to December 2007	Wallowa County Emergency Services and all communities mentioned in this priority group
⇒ Plan Imnaha River Woods and Troy fuels treatment projects/Contact interested landowners	Fuels Treatment	September 2005 to May 2006	ODF, community members of Imnaha River Woods and Troy

**Priority Group Two**

**Communities at Risk:** Divide Camp, Little Sheep Creek, Bartlett Bench, Dry Creek, Eden Bench, and Powers Meadows.

**Fire Protection Agency:** None of the communities listed above receive structural fire protection. All areas have some level of wildland fire protection.

**Projects:** Many strategies identified in this plan apply to all wildland-urban interface areas because they are broader in scope or represent general outreach messages or educational opportunities. Those listed here are specific to interface areas in Wallowa County.

Strategy	Type of Project	Timeframe	Cooperators
⇒ Create defensible space around structures	Fuels Treatment	Ongoing	ODF, all community members in this priority group
⇒ Coordinate implementation of fuels treatment projects across landscape	Fuels Treatment	Ongoing	All communities mentioned in this priority group; ODF, USFS
⇒ Develop strategies for any unprotected lands/needs for structural fire protection	Emergency Preparedness	Ongoing	ODF, USFS, Wallowa County Emergency Services, and all communities mentioned in this priority group.
⇒ Develop Community Emergency Plans	Emergency Preparedness	April 2005 to December 2007	Wallowa County Emergency Services and all communities mentioned in this priority group
⇒ Plan fuels treatment for Divide Camp	Fuels Treatment	September 2006 to September 2007	USFS, cabin owners in Divide Camp

### Priority Group Three

**Communities at Risk:** Flora, Promise, Lostine, Lost Prairie, Allen Canyon, Wallowa Canyon, Freezeout Creek, Davis Creek, and Imnaha.

**Fire Protection Agency:** The City of Lostine has a structural fire department that provides protection for the city. All other communities mentioned above do not have structural fire protection available. There is some level of wildland fire protection, and may not be any available for private land.

**Projects:** Many strategies identified in this plan apply to all wildland-urban interface areas because they are broader in scope or represent general outreach messages or educational opportunities. Those listed here are specific to interface areas in Wallowa County.

Strategy	Type of Project	Timeframe	Cooperators
⇒ Create defensible space around structures	Fuels Treatment	Ongoing	ODF, all communities noted in this priority group
⇒ Promote Firewise Communities USA/Offer one-day community workshops	Education	Ongoing	ODF, community of Lostine, Upper Lostine subdivision, and Allen Canyon
⇒ Form Wallowa County Fire Prevention Cooperative	Education	September 2005 to December 2007	ODF, USFS, all structural fire departments, Wallowa County Emergency Services
⇒ Coordinate implementation of fuels treatment projects across landscape	Fuels Treatment	Ongoing	All communities in this priority group, ODF, USFS
⇒ Continue to enhance City of Lostine FD/Explore development of structural fire protection in Imnaha/Troy areas/Address any unprotected lands	Emergency Preparedness	Ongoing	ODF, USFS, Wallowa County Emergency Services, City of Lostine FD, communities around Imnaha and Troy
⇒ Develop Community Emergency Plans	Emergency Preparedness	April 2005 to December 2007	Wallowa County Emergency Services and communities in this priority group

## ***VII. Wildland Fire Use***

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### **Introduction**

**Wildland Fire Use** is the management of naturally ignited wildland fires to achieve forest health and resource management objectives. Currently, the Eagle Cap Wilderness, the Hells Canyon Wilderness, and several backcountry management areas adjacent to the Eagle Cap Wilderness are governed by approved USFS Fire Use Plans. These plans address over 60% of the nearly 1.3 million acres of public land in Wallowa County.

Fire starts within a designated Wildland Fire Use zone are not automatically allowed to burn. Site-specific conditions, current environmental conditions, and human / property safety assessments are all factored into the management decision for any given fire by the designated USFS Line Officer. Suppression is still an option with Wildland Fire Use zones.

Recent ecological research and literature suggests that fire, or its absence, can have a more profound effect on some natural life systems than any other single factor or combination of factors.

The Wallowa County CWPP recognizes the role of fire in achieving forest restoration and stewardship, and supports the gradual reintroduction of naturally occurring fires within the forested and rangeland ecosystems where such fires do not pose a significant danger to private lands, historic and cultural assets, critical economic assets (power lines, roads, timber management areas, recreation areas, etc), or public safety. Currently, Wildland Fire Use is only approved within Wilderness Areas. If Wildland Fire Use is applied to non-wilderness areas in the future, mechanical fuel reduction treatment may be required in some areas before fire can be safely reintroduced.

### **Fire History of the Area**

Severe summer thunderstorms with a high occurrence of lightning are common for the Blue Mountains of Northeast Oregon. There is evidence that fires have burned large acreages within the Blue Mountains throughout history. Prior to the time of domestic livestock grazing and organized firefighting (early 1900's), most fires in the drier forested types were low intensity and creeping in nature.

Most Indian groups are thought to have used fire to manipulate the environment for various reasons. Those most likely to have been employed by the Nez Perce within Wallowa County are as follows:

- ◆ Hunting: Burning of large areas to drive big game into smaller unburned areas.
- ◆ Crop Management: The Nez Perce relied heavily on various root crops, the majority of which grow in wet meadow or scab environments. Burning would retain or enhance both the extent and condition of open areas.
- ◆ Fireproof Areas: The Nez Perce may have burned around winter villages and seasonal camps to help reduce threat from wildfires.
- ◆ Improve Growth and Yields: Fire may have been used to improve forage for big game (deer, elk, antelope, bison and eventually horses), root crop production seed plants, berry plants, (especially huckleberries).
- ◆ Clearing Areas for Travel: Fires may have been started to clear trails for travel through areas that were overgrown with grass or brush.

High intensity, stand-replacement fires were not common, and occurred almost exclusively in higher elevation Lodgepole pine, Sub-alpine fir, and mixed conifer communities. Even in these higher elevation forests, fires were low to moderate severity, and only reached high severity when weather, fuel loads, and fuel moisture were conducive to high fire intensities. Stand replacement patch sizes varied from 1,000 to 10,000 acres in size. Fire return intervals were anywhere from 35-150 years.

After many decades of fire suppression, the mixed conifer forests of the mid and upper slopes of the Wallowa Mountains have been impacted by the lack of fire. In areas where fire periodically cleaned up meadows these higher elevation meadows have been encroached with expanding forest stands. Fuel loadings and bug infestations are currently exceeding historic levels at all elevations, which is a direct effect of the lack of disturbance within these stands. Recent assessments suggest these stands have missed between 2-4 fire cycles. In the lower elevations Ponderosa pine, Douglas fir, Western larch, and Grand fir forests, the absence of several natural fire cycles has resulted in an accumulation of ground and standing fuels. This vertical fuel-ladder effect has created the potential for more intense and extensive stand replacement fires than research suggests occurred historically. With this fuel situation, even low intensity surface fires may spread into the crowns.

## **Wildland Fire Use Objectives**

The objective of the wildland fire use program is to manage the fire from natural ignitions to protect, maintain, and enhance natural, cultural and economic resources, and to allow fire to function, as nearly as possible, to its ecological role.

Over time, fires of various sizes, intensities, and durations will occur over the landscape. The size of these wildland fires will range from a few acres, to hundreds of acres, and sometimes thousands of acres<sup>1</sup>. Fire will range from low intensity, creeping ground fires which primarily consume the understory vegetation,

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<sup>1</sup> The Granite Wildland Fire Use Complex of 2005 in Hells Canyon was a successful application of Wildland Fire Use that eventually covered 37,820 acres.

but leave the overstory trees intact, to high intensity stand replacement fires. These will be lethal to most of the existing stand and return the site to an early seral stage. Fires will occur throughout the fire season, thus reflecting effects associated with seasonality.

Smoke is part of the natural fire process and is seen in the wilderness and in adjacent areas. One can expect a short-term increase in smoke as more fires are allowed to run their natural course. Because of the gradual change in the vegetation mosaic and reduction in fuel accumulations, long term smoke emissions are expected to decrease over time.

Fish, wildlife, and botanical resources experience secondary benefits from fires, as diversity increases with the reduction of large contiguous high intensity fires, particularly in lower elevation frequent fire regime areas.

## **Factors Affecting Wildland Fire Use**

The critical factors affecting decisions regarding wildland fire use are as follows:

- Distance to private property or the edge of the fire management use area;
- Natural breaks in topography (ridges and rivers) or other features that could slow or stop fire spread;
- Fuel distribution – in particular the continuity (or lack thereof) of fuels; and,
- The objectives or economic values within adjacent public land management units.
- Seasonal weather and fuel conditions that may increase risks, or prevent successfully meeting wildland fire use objectives.

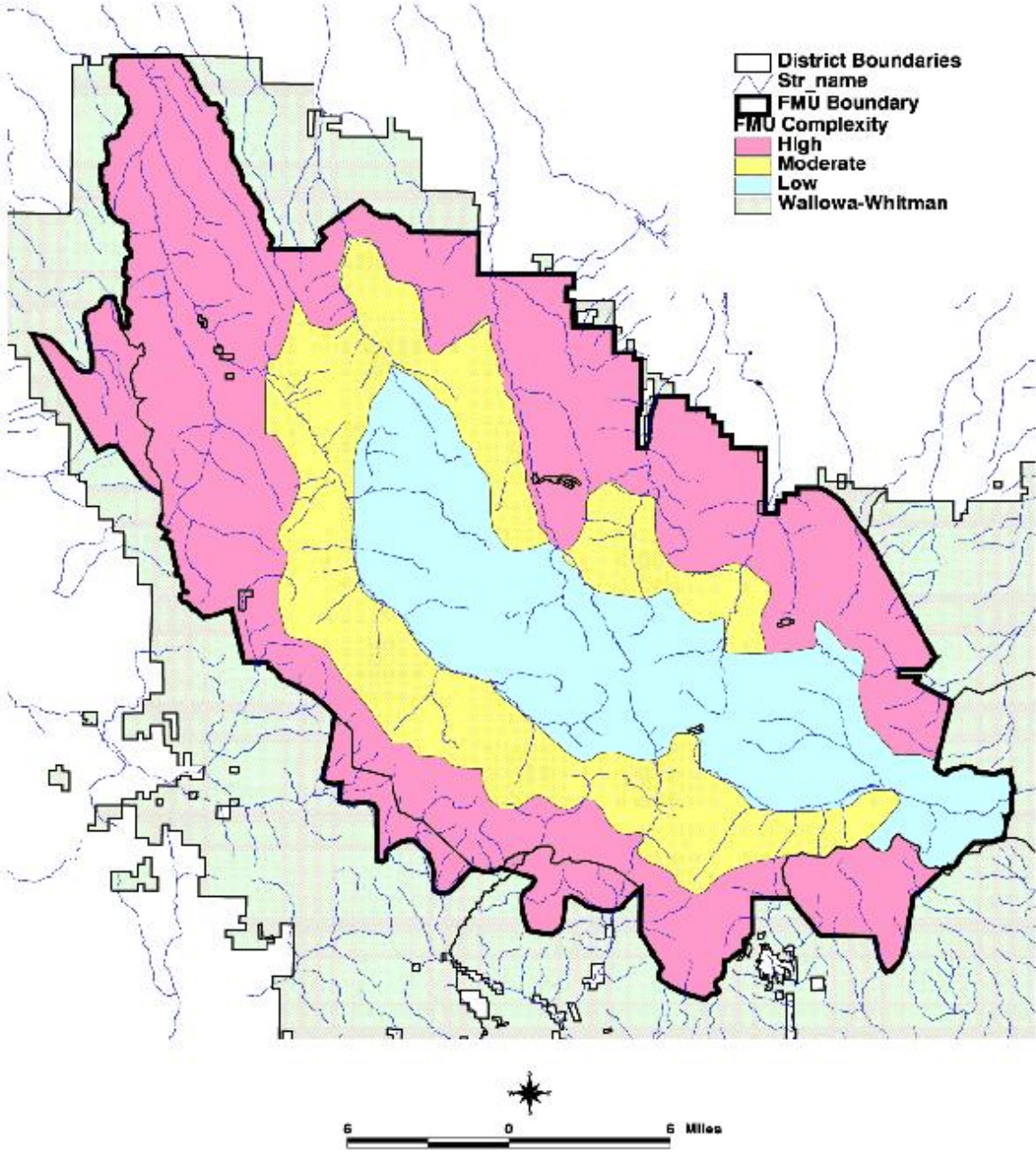
High complexity ratings are given to lands within a wildland fire use area that are close to private lands or the boundary of a wildland fire use area, have no significant interior barriers to fire spread, have substantial fuel loads and continuous fuel ladders, and where adjacent lands are not suitable for wildland fire use due to their economic or cultural assets or other factors. Increased fire management attention will be given to the use of wildland fire in high complexity areas.

The intent of wildland fire use is to limit their spread within approved areas. Aggressive suppression response will be implemented on fires that directly threaten lands not administered by the Wallowa-Whitman National Forest.

The following maps show the high, moderate and low complexity ratings for wildland fire use areas in the Eagle Cap Wilderness Area and the Hells Canyon Natural Recreation Area.

Figure 1: WFU layout, USFS.

# Eagle Cap FMU Complexity





# Hells Canyon FMU Complexity

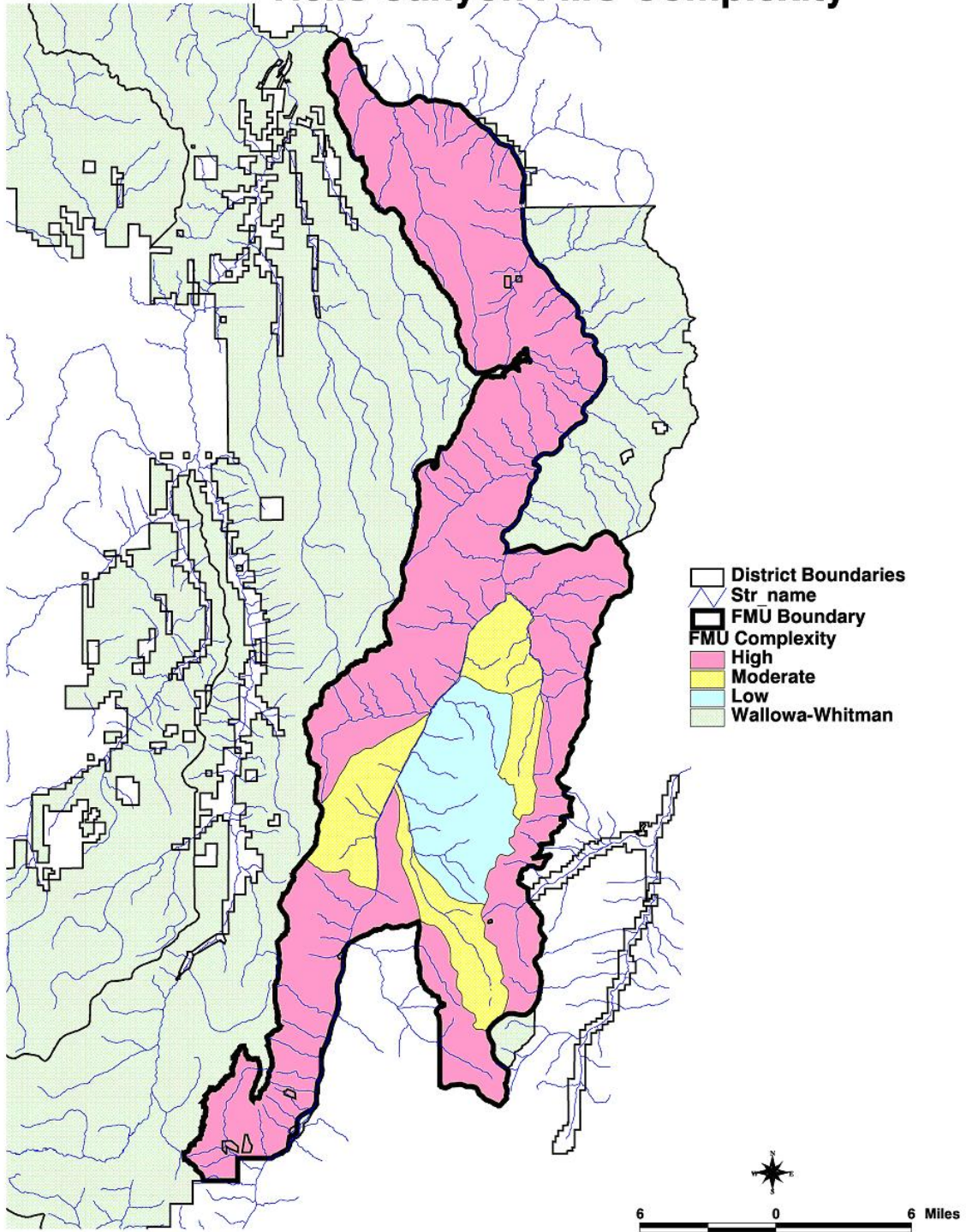


Figure 2: WFU layout, USFS.

## ***VIII. Maintenance Plan for Fuels Treatment<sup>1</sup>***

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Developing a fuels reduction maintenance program requires knowledge of fire behavior in different forest and fuel types, and includes defining acceptable fire behavior parameters. A flame length of 4 feet or less, particularly in or near WUI areas, is considered appropriate. Higher flame lengths and more aggressive fire behavior are appropriate and allowed in wildland fire use areas.

### **Concepts for a Fuels Maintenance Program**

Over time, treated stands undergo the process of ecological succession in which understory and overstory vegetation adapt, resulting in incremental changes (often increases) in herbs, grasses, shrubs, and regeneration of trees because more growing space has been created by the removal of trees and other vegetation. Overstory structure changes too, as residual trees expand their crowns and increase in diameter, continually adding more biomass to the site (needles, branches, downed logs). Subsequent disturbances caused by insects and disease can kill trees and will also add more biomass to the forest floor. Although some of this biomass decays over time, in the dry forests of eastern Oregon, dead biomass tends to accumulate on the forest floor faster than it decays, adding more fuel to the landscape.

How long it will take before treated areas require re-treatment is dependent on several factors, including:

- Past treatment level (e.g., how much fuel was initially removed);
- Plant association groups;
- Site productivity;
- Rate of fuel accumulation;
- Fuel structure (i.e., surface/ladder/crown connection)
- Historic fire regime;
- Desired fire behavior (for effective control)
- Climatic regime

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<sup>1</sup> Fitzgerald, Stephen and Martin, Charlie. *A Conceptual Approach for a Maintenance Strategy for Fuel Treatments in Oregon: Maintaining the Investment*, Oregon State FFHM Committee Report, July 5, 2004.

Although condition class and fire regime are the two factors in prioritizing areas initially for treatment, along with strategic location, this prioritizing method may have less of a bearing in deciding which areas should be prioritized for *re-treatment* in the future.

Sites that were condition class 2 or 3 before treatment and treated to condition class 1 should not be allowed to revert back to condition class 2 or 3 before conducting the re-treatment, particularly in WUI areas.

Public and private land managers need to monitor fire risk factors in their forests over time, and ensure that fuels are not allowed to re-accumulate after treatment to the levels characteristic of much of the forested landscape today. Failure to ensure continuous maintenance of these conditions will require more expensive re-treatment and increase the risk of losing the initial investment made in fuel reduction.

ODF will provide advice and recommendations to private landowners regarding fuel maintenance program schedules upon request. Contact ODF in Wallowa at (541) 886-2881.

## Maintenance around the Home

After creating defensible space around the home (other terms that mean the same thing are *survivable space* and *green space*), daily/weekly and annual maintenance should be conducted. Daily/weekly maintenance includes watering the lawn and plants, raking any debris from fall foliage or needle cast, raking any debris that accumulates over the winter, and mowing.

Annual maintenance includes pruning branches and bushes, removing any vegetation that is crowded in the landscape, or removing vegetation that shouldn't be growing within the green space. The less accumulated plant debris, and the less crowded vegetation is (creating a *ladder fuel* effect), the slower fire will spread or carry into the crowns of trees.



**Figure 1: Green Space, Jamie Knight, ODF**

Annual maintenance should also take place around the home. Building materials should be inspected and the roof and gutters should be free of debris. Also, the access to your home should be maintained, allowing for the quick ingress/egress of emergency vehicles if a wildfire were to approach the home. As mentioned earlier, structural vulnerability will affect the response to a home and may even hinder the chances of a home

being saved in the event of a wildfire. Below are other considerations for making your home survivable (these were taken from the *Living with Fire* newspaper):

- ✓ **Roof** - Your roof is the most vulnerable part of your house in a wildfire. Once a roof is fully engulfed, there is nothing more a structural agency can do to save the home. If at all possible, make sure the construction is Class C or better. Remove all branches, needle cast, and leaves from roof and gutters. Remove any branches within 15 feet of your chimney. Cover the chimney outlet and stovepipe with a nonflammable screen of one-half inch or smaller mesh.
- ✓ **Construction of Home** - Box your eaves, and if at all possible, use fire resistant building materials. Enclose the underside of balconies and above-ground decks with fire resistant materials. Remove vegetation from around windows.
- ✓ **Yard** - Stack woodpiles at least 30 feet from all structures and clear away flammable vegetation within 10 feet of woodpiles. Move LPG tanks (butane and propane) at least 30 feet from any structure and surround them with 10 feet of clearance.
- ✓ **Emergency Water Supply** - Consider installing an emergency water source in the neighborhood that meets fire department standards. Clearly mark all emergency water sources and notify your local fire department of their existence. Create easy firefighter access to your closest emergency water source. If your water comes from a well, consider an emergency generator to operate the pump during a power failure.
- ✓ **Access** - Identify at least two exit routes from your neighborhood. Construct and maintain roads that allow two-way traffic. Design roads and access into home with turnarounds and curves that allow for large structural fire engines and large equipment to reach your house. Make sure dead-end roads, long driveways, and road signs in neighborhood are clearly marked and visible. Clear flammable vegetation at least 10 feet from roads and five feet from driveways. Cut back overhanging tree branches above roads. Make sure your house number is marked and clearly visible and duplicated elsewhere in the county. Post your address at the beginning of your driveway and on your house.
- ✓ **Outside** - Make sure you also consider the flammability of the building materials of your fences, decks, porches, and outbuildings, especially if they are connected to the house. Use fire-resistant building materials and clear any vegetation away from outside structures.

# ***IX. Biomass Utilization and Economic Development***

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## **Introduction**

In 1994, the three remaining sawmills in Wallowa County closed due to the decline in timber harvest on public land. Over 10% of the workforce lost their jobs. Businesses providing local services experienced a significant decline in revenue. The loss of full-time jobs with benefits has had a significant and sustained impact on the community structure, schools and social services. Per-capita incomes remain amongst the lowest in Oregon, as is the net job growth per 1,000-population. The per-capita income conditions are actually worse than the weak figures indicate, as Wallowa County's income figures have amongst the highest contribution from dividends, interest and rent of any in the State. In 1999, for the first time ever, contributions from these transfer payments to County income exceeded those generated by wages. In 1999 and 2002, the Oregon Progress Board ranked Wallowa County's economy among the weakest in the state.

From the early 1900's up until 1998, the wood products manufacturing industry was the largest private sector payroll provider in the County – and accounted for 80-90% of all the manufacturing jobs. These jobs were amongst the highest paying jobs, with substantial health insurance and retirement benefits. In 1990, there were 408 wood product-manufacturing jobs. Now the sector is struggling to maintain 85 jobs, benefits have been reduced, and temporary lay-offs occur regularly due to log shortages and depressed markets<sup>1</sup>. Today one small saw mill operates, but its future is uncertain due to the decline in availability of timber. The sawmill has been forced to purchase much of its timber from outside the County.

A conservative but active restoration program on the public lands within Wallowa County could provide more in-the-woods jobs and supplies to wood manufacturing and biomass energy plants that would generate additional year-round jobs. The public lands total 1.3 million acres within the County. Of this total, about 700,000 acres are forested, and less than 250,000 are deemed available for timber harvest due to terrain, access and/or environmental restrictions (e.g. riparian buffers). Recent estimates suggest that there are over 20-30 million board feet of tree mortality and 20 million board feet of new tree growth each year on these lands available for timber harvest. That's equivalent

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<sup>1</sup> The decline in domestic market prices for commodity lumber products due to increasing import competition is an important factor affecting rural communities. However, the decline in log supply (and continuing uncertainty about future USFS supplies) creates disincentives to private sector investment in productivity and marketing strategies that could secure profits even in the current market conditions.

to approximately 10,000 log truckloads of material. Current management activity – including local firewood harvesting – is removing only about 4 million board feet per year (roughly 1,000 truckloads). The differential between the natural process volumes and management removals represents both a threat from increasing fuel loads, and an opportunity to support a restoration workforce and businesses geared toward the utilization of small diameter wood.

More investment in restoration work and small diameter processing is justified financially as well. In the last 20 years the USFS has spent over \$100 million on wildfire suppression within Wallowa County. As fuel loads increase, coupled with recurring drought cycles, fire suppression spending will continue to rise. Increased investment targeting fuel reduction treatments and the restoration of fire-adapted ecosystems should generate immediate and long-term benefits to the community, the USFS, and the American taxpayers.

## **Forest Biomass and Energy**

Federal and state agencies, local government and private forest landowners are using thinning and prescribed burning in strategic locations to reduce forest fuels and wildfire risks. Most of the material generated from fuels reduction activities is not suitable for wood products manufacturing. In many cases, biomass from these activities is left on-site or piled and burned at an additional cost. An alternative outlet for this wood could help reduce the costs of thinning and mitigate environmental impacts associated with prescribed burning and wildfires.

Forest biomass is generated because of forest fuels reduction, commercial timber harvest, non-commercial thinning, and timber stand improvement (TSI) activities. Non-commercial thinning includes pruning and tree removal designed to help shape and guide development of forest stands to meet a variety of goals. It generally does not result in removal of trees that can be used to manufacture products, but it could be used in renewable energy production (heat, steam, electricity, and bio-fuels). TSI can accomplish similar goals, but it often results in removal of some commercially valuable trees. Wood manufacturing residues including bark, sawdust, chips, and veneer cores are additional sources of raw material for renewable energy production.



**Figure 1: Chip Storage, Fuels for Schools website**

The use of biomass for renewable energy production would have net economic benefits. These economic benefits include increased employment in a rural, natural resource-based economy. An estimated six jobs are created for each megawatt (MW) of biomass power capacity that is installed. These jobs include positions at the plant and also in the fuel processing and delivery sectors. Additional jobs are supported in forest management and logging.

Studies are currently being completed on the cost-savings that might be generated from installing wood-energy systems within the local school buildings. Wood heat is about 50% of the cost of oil heat and 12% of the cost of electrical heat. These small institutional energy systems could be installed in many public buildings across the county, and lay the foundation for larger conversion to renewable energy.<sup>2</sup>

A 5-MW biomass power plant would use an estimated 123,000 green tons of fuel per year and would create an estimated 16 new jobs at the plant with payroll and benefits equal to \$600,000. In addition to jobs at the plant, the development of a biomass power facility would stimulate employment in the fuel supply and delivery sectors (fuel procurement). The 5-MW plant would employ approximately 18 people in fuel procurement. Therefore, a 5-MW plant would support 34 new jobs, including plant operations and fuel procurement. For each MW of power, a plant needs one ton of fuel per hour (8,760 tons per year).

A 15-million-gallon per year biomass ethanol facility would employ approximately 30 people at the plant. Approximately 70 people would be employed in feedstock supply and delivery systems, bringing the total economic impact to approximately 100 new jobs. The biomass ethanol plant would require approximately 600,000 green tons of biomass per year. The higher feedstock requirements and sophistication of plant equipment result in a higher employment impact for a biomass ethanol plant than for a biomass power plant.

Wallowa County welcomes investments in renewable energy production from forest biomass.

## **Fuels Treatment and Jobs**

Since the initiation of the NFP in 2000, the USFS and ODF have been contracting fuel treatment work within and adjacent to priority communities within Wallowa County. Wallowa Resources coordinated contract work around the Wallowa Lake Basin in 2000 and 2001. Approximately 110 acres were treated, and eight people had work for a total of four months. Cost-share programs for private landowners have stimulated additional work in the Lostine Highlands sub-division, across Alder Slope, and in dispersed areas across the County.

This work includes thinning, pruning, slash piling and treatment. It is labor intensive. Several local contractors have the skills, licensing and crews to conduct this work across public and private lands.

Wallowa County encourages the use of local benefit criteria in all NFP-funded projects to optimize the economic stimulus from these investments.

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<sup>2</sup> <http://www.fuelsforschools.org>

## Forest Service Contracting

Since the late 1990's, a significant portion (80%) of the USFS restoration contracts for work on the Blue Mountains National Forests is captured by non-local contractors. This is particularly true in Grant and Wallowa counties while Union County exhibits a more equal distribution between local (47%) and non-local contractors (53%). Several factors have been identified in a survey of contractors that tend to inhibit local contractors from transitioning into the restoration sector and successfully capturing a larger portion of the contracts offered on the Blue Mountains National Forests. These limitations include lack of contracts, timing issues, bonding requirements, bidding procedures, capital investment and equipment needed, small crew sizes, and lack of skilled labor.

The USFS has limitations on their ability to award contracts based solely on the geographic criteria. The contracts typically need to be awarded on a competitive basis. The benefit to the local community can be identified as one of the selection criteria considered as part of the overall proposal. However, if there are not enough resident contractors of a sufficient number and scale to be competitive in bidding for contracts, the awards to resident contractors will be minimal. Few awards to resident contractors will prevent the development of backward linkages to suppliers and the development of forward linkages to customers and larger markets.

Addressing the limitations previously discussed would increase the likelihood that the contracts will be awarded to businesses that are closer to the project sites or that nonresident contractors spend more of the awards within the counties where the work is performed. Tailoring the number of contracts and the type of work to more closely match the firms and skills in the local area and providing a more consistent supply of work would expand opportunities for resident contractors. Training and financial assistance in bonding requirements, bidding procedures, business expansion, and increasing skills and consistency in the local labor force would build greater capacity for local contractor's to procure the work that is available.

While the question of scale has important implications as policies are designed to encourage local contractors, if it is too narrowly defined to be within the same county as residence there will not be enough work within any one county to support many contractors and this may reduce competition.



# ***X. Emergency Management<sup>1</sup>***

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## **Introduction**

The primary focus of the public safety portion of this plan is to protect lives, private property and key values from wildfire. Critical to this public safety mission is a partnership between private property owners and businesses, non-profit organizations, county, state and federal agencies to reduce the risk of damage from wildfire to homes, businesses and other developed properties.

This plan's public safety portion outlines many of the critical components that need to be addressed on a situational basis. And while these components will vary from incident to incident, our collective resolve is to protect life and key resource values. Failing to address the factors contributing to large scale fires opens the door to potential significant secondary hazard risks including: debris flows, flash floods air and water quality issues, which could threaten lives, property and environmental values.

## **Home Construction Materials**

A basic factor in many types of fire prevention programs is how easily an object catches fire and how to stop the ignition from occurring in the first place. In addition to creating defensible space around the home, building materials should also be considered. Flammable materials could put your home at risk, even with defensible space. (See Appendix E - *Firewise* Tips. Or, visit the websites mentioned in Section 4 of this plan for other information.)

Current building practices are regulated by specific fire codes to save lives from fires originating within the structure. The placement of specific construction materials, under the fire code, is appropriately aimed at protecting life and slowing/containing a fire so that suppression efforts would be effective.

A wildland fire incident may generate radiant heat, sparks and embers over a prolonged time period, subjecting the outside of a home to fire ignition prior to any type of safe fire suppression activity at the home. These sources of ignition are the most common cause of home and structure loss during a wildfire.

The two most common places for sparks or embers to ignite a home are the roof and exposed decks. New fire resistant building materials and treatments are available to homeowners and contractors. Manufactures have crafted these

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<sup>1</sup> This section submitted by Wallowa County Emergency Services

materials to replicate traditional building materials, but they reduce the ability of sparks and embers to ignite the building.

## Home Site Access

For many property owners, a home is one of the highest values to protect from wildfire. Homes located on acreage, tucked away from everyone else in a forested area, are subject to inherent risks from wildfire.

Access to the home is also an important consideration. Roads and bridges should be well maintained, and roadside vegetation managed to reduce barriers to access or egress during a wildfire event.

Fire suppression forces will always consider if accessing your home puts them at risk during fire suppression work. Furthermore, firefighters may utilize structural fire fighting equipment, engines, brush rigs or tenders to protect homes from fire. These vehicles require more space to turn around in and higher clearances than our cars and pickups.

Having an adequate and safe area for firefighters to work around your home is also critical. Issues like the grade of the road, surface material, length, available turn-outs or turn-a-rounds are essential considerations when looking at protecting homes. Overgrown roadside vegetation could become a flame front, trapping firefighters. Above ground utility lines running along your access may also become a hazard.

Clearly marked rural address numbers at the access point to your property greatly aids fire suppression efforts. *Remember:* firefighters may be working during darkness to protect your home. They will need to be able to see the house number clearly. Consider reflective numbering.

The following documents outline some considerations for developing or improving your home's access:

- Wallowa County Road Standards
- *Firewise* Criteria
- State Fire Marshall's Criteria

These documents are available at the Wallowa County Emergency Services office at (541) 426-4543, ext. 48.

## Action Points

### *Notification*

Depending on the urgency needed to alert people of an impending wildfire hazard one or more of the following methods may be utilized:

- Emergency Alert System
- KWVR news broadcasts or announcements
- Door-to-door
- Emergency Vehicle sirens/public address announcements
- Local Phone Trees
- Person notification

### *Updated Information*

During a wildfire incident there is a genuine need for agencies with jurisdiction to provide accurate and timely information about the incident, especially to affected communities in wildland-urban interface areas.

While the primary purpose of *notification* is to alert people to a wildfire hazard, the purpose of providing *updated information* is to share ongoing suppression actions, evacuation trigger points or evacuation area status and projected future size/impacts from the wildfire.

There are two factors, which may hinder getting more detailed information out beyond initial emergency notifications, the overwhelming nature of a fast moving event and limited personnel resources immediately available.

Web sites, information hot lines, public meetings within communities, local information booths, and press releases have all been successfully used, and will continue to be used to help provide updated information to our communities.

#### **Web sites to visit for information**

- ✓ [www.co.wallowa.or.us/es](http://www.co.wallowa.or.us/es)
- ✓ [www.wallowa.net](http://www.wallowa.net)

People displaced by wildfires have concerns about the safety of their home and property during an incident. It is important that agencies with jurisdiction identify a position within the Incident Command System (ICS) structure, which will liaison with this group of people to help answer their issues. At the time of an incident, key contact for information will be a designated Public Information Officer.

## *Evacuation*

When a wildfire threatens a community our collective first priority is to protect life. As a first step, people need to move out of harm's way.

Evacuation is simply a tool used to protect life during a hazardous and/or unpredictable event. By removing the threat to life from an area, firefighters can avoid the split focus of worrying about people in the hazard area as they work to suppress the fire and protect property.

### **Critical Home Documents**

- ✓ *Insurance Papers*
- ✓ *Financial Account Numbers*
- ✓ *Will/Estate planning*

Traffic control is essential to safe and effective evacuation. Traffic control points will be established around the perimeter of the incident. Traffic control points will also be used to prevent people from getting back into the hazard area until it is determined safe to do so.

A community that maintains defensible space around their homes may significantly reduce the need to evacuate the community. And the defensible space likely will increase the survivability of the home. When necessary during evacuations, communities will be advised of locations opened as shelters to provide cover, food and information to those displaced by a wildfire. The American Red Cross has a national mandate to provide these services and locally the ARC is integrated into Wallowa County's emergency plan. The American Red Cross also supports evacuees in obtaining emergency prescription medications and serving as a conduit for health or welfare messages between evacuees and family/friends.

The Wallowa County Sheriff's Office will be the lead agency in protecting property within evacuated areas and in establishing traffic control points related to wildfire.

## *Re-Entry*

The incident commander of the agency with jurisdiction will determine under what conditions re-entry into evacuated areas will occur on a case-by-case basis.

## **Community Action Plans**

Communities should contact the Wallowa County Emergency Services Manager to develop action plans that address what procedure a community will follow in case of a wildfire or other disaster. The plans should contain information about evacuation routes, phone trees, contact lists, and other pertinent information that could be handed over to an incident commander. Currently, Troy and the

Imnaha area have phone trees in place. Any community that would like to prepare such a plan or improve the plan they have should contact Wallowa County Emergency Services office at (541) 426-4543, ext. 48.

The following areas have been identified through a series of collaborative workshops across the county as communities-at-risk:

- South Wallowa Lake
- West Wallowa Lake
- Old Ski Run
- Alder Slope
- Hurricane Creek
- Liberty Road/Upper Prairie Creek
- Tuckerdown Road/McCully Creek/Ferguson Ridge
- High Lostine Subdivision
- Bear Creek
- Imnaha River Woods
- Freezeout Creek
- Imnaha River Canyon
- Flora
- Troy
- Eden Bench
- Bartlett Bench
- Davis Creek
- Lost Prairie
- Minam
- Promise
- Allen Canyon













In addition to communities, there are campgrounds in the area that are used heavily that would contain a considerable population during the summer months. These campgrounds are identified as areas-at-risk for fuels, use rates, remote location, and/or access constraints:

- 46 Road area – Buckhorn, Dougherty, Coyote
- 39 Road area – Lick Creek
- Chesmnus area – Vigne
- Imnaha area – Blackhorse, Ollokot, Coverdale, Hidden, Evergreen, Indian Crossing
- Hurricane Creek area
- Lostine Creek area – Pole Bridge, Williamson, Lostine, Lillyville, Shady
- Bear Creek – Boundary
- Minam River – Minam State Park

## Emergency Response Training and Equipment Needs

The County fire chiefs, Wallowa County Emergency Services, Oregon Department of Forestry, and US Forest Service met to discuss the needs of the structural fire agencies and how to build capacity for those agencies. The table below displays the needs for training and equipment, and action points are listed for improving response.

**Table 1: Building Firefighter Capacity, Wallowa County Emergency Services**

<i>Training Needs</i>
<ul style="list-style-type: none"> <li> NIMS training for all structural department personnel</li> <li> Advanced ICS training for officers and chiefs</li> <li> Design and participate in urban-interface wildfire exercises</li> </ul>
<i>Equipment Needs</i>
<ul style="list-style-type: none"> <li> Structural firefighters need wildland PPE at their fire stations</li> <li> Handheld and mobile radios consistent with county communications plan</li> <li> Additional rolling stock (brush rigs) needed for City of Joseph FD and Wallowa Lake RFPD</li> <li> Pursue any additional equipment to improve wildland fire response capabilities for structural agencies</li> </ul>
<i>Action Points for Improving Response</i>
<ul style="list-style-type: none"> <li> Memorandum of Understanding signed between respective departments (county-wide mutual aid agreement)</li> <li> Communication protocol developed between wildland and structural dispatch centers</li> <li> Develop specific response plans for identified CAR's</li> <li> Support local fire department recruitment efforts for new firefighters</li> <li> Identify and train Community Emergency Response Teams within CAR's</li> </ul>

# ***XI. Monitoring and Evaluation of the Plan***

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## **Schedule**

The maintenance of this plan will be directed by the Wallowa County Commissioners, and coordinated with Wallowa County's Natural Resource Advisory Committee (NRAC) and core committee members established. The committee will update NRAC periodically with an evaluation report of how goals and objectives are being accomplished as set forth in this plan.

Annual review of the strategy recommendations will be necessary as various projects or tasks are accomplished and areas at-risk decline in hazard rating. Annual review will also be needed as County infrastructure needs change or are met and should include representation of stakeholders who participated in the development of the plan being reviewed. The first review was held February 28, 2006, and evaluation information gathered during that review is provided in the appendices of this plan. A schedule for future reviews and revisions is also included with the evaluation information.

A comprehensive revision of the plan every five years is recommended as Wallowa County infrastructure needs change. This revision will reflect the County's changing infrastructure, population, settlement patterns, forest and fuel conditions, emergency services, and any other changes that may significantly improve this plan.

## **Monitoring**

The continued involvement of the public and multiple agencies, Tribe, and other interest groups is needed to accomplish many of the recommendations in this plan. It is important that the committee members make every attempt to network with all groups and citizens of Wallowa County, allowing for continued collaboration on how best to meet their needs while, at the same time, accomplishing the mission of this plan. This concept is known as multi-party monitoring.

The locations where copies of the plan can be found are listed in Appendix H. In addition, the plan is on the web at (underscore after "wallowaco"):

[http://www.odf.state.or.us/areas/eastern/northeast/wallowaco\\_cwpp.htm](http://www.odf.state.or.us/areas/eastern/northeast/wallowaco_cwpp.htm)

Continued dialogue with the public about the mission set forth in this plan is encouraged. The website provides an opportunity to send comments or questions to the committee chair at any time.

## Evaluation

Annual assessment of the identified projects is very important to determine whether or not progress is being made. Units of measure to be considered when updating the plan in the future for the purpose of reporting accomplishments are listed below:

1. Number of projects accomplished which improve fire agency/emergency service response time.
2. Number of transportation problems resolved that improve road systems for access, ingress/egress.
3. Number of water sources added to improve firefighting response.
4. Number of pieces/types of equipment obtained and number of training courses provided.
5. Number of acres treated for fuels reduction and type(s) of treatment used.
6. Number of events with prevention message delivery, number of prevention courses attended/conducted, number of news releases or prevention campaigns conducted, and number of prevention team meetings held.
7. Number of partners/agencies/groups involved.
8. Number of people contacted (meetings, courses, etc) and number of educational items distributed (brochures, etc).

On an annual basis, the core committee members will assess each identified project using the units of measure listed above to determine progress. This plan does not serve as a means of bypassing the individual processes and regulations of the participating agencies. Each project must adhere to any pertinent local, state or federal rules or guidelines in determining the point of project implementation. The plan is a coordinating document for projects related to education and outreach, information development, fire protection and fuels treatment.



# Appendix A - Fire Statistics<sup>1</sup>

## Wallowa Unit Fire Cause Statistics

### TOTALS BY PERIOD:

	Lightning 1	RR 2	Equip Use 3	Recreation 4	Smoking 5	D Burn 6	Arson 7	Juv 8	Misc 9	Total # fires
Last 45 yrs	933	12	47	112	69	80	3	10	39	1305
Last 30 Yrs	662	0	28	59	21	54	0	4	18	846
Last 20 yrs	495	0	24	37	8	42	0	4	13	623
Last 10 yrs	188	0	12	20	1	23	0	2	6	252
Last 5 yrs	126	0	9	17	0	16	0	2	6	176

### Average # Fires by Period:

	Lightning 1	RR 2	Equip Use 3	Recreation 4	Smoking 5	D Burn 6	Arson 7	Juv 8	Misc 9	# fires
45 yr Average	20.7	0.3	1.0	2.5	1.5	1.8	0.1	0.2	0.9	29.0
30 yr "	22.1	0.0	0.9	2.0	0.7	1.8	0.0	0.1	0.6	28.2
20 yr "	24.8	0.0	1.2	1.9	0.4	2.1	0.0	0.2	0.7	31.2
10 yr "	18.8	0	1.2	2	0.1	2.3	0	0.2	0.6	25.2
5 yr "	25.2	0.0	1.8	3.4	0.0	3.2	0.0	0.4	1.2	35.2

### Percentage of fires by General cause:

	Lightning 1	RR 2	Equip Use 3	Recreation 4	Smoking 5	D Burn 6	Arson 7	Juv 8	Misc 9	# fires
45 yr Average	71%	1%	4%	9%	5%	6%	0%	1%	3%	100%
30 yr "	78%	0%	3%	7%	2%	6%	0%	0%	2%	100%
20 yr "	79%	0%	4%	6%	1%	7%	0%	1%	2%	100%
10 yr "	75%	0%	5%	8%	0%	9%	0%	1%	2%	100%
5 yr "	72%	0%	5%	10%	0%	9%	0%	1%	3%	100%

For Example: The 5 yr average shows that 72% of all fires in this period were lightning while 28% were human caused

### Comparison of last 5 years to the respective averages as listed:

	Lightning 1	RR 2	Equip Use 3	Recreation 4	Smoking 5	D Burn 6	Arson 7	Juv 8	Misc 9	# fires
45/5	122%	0%	172%	137%	0%	180%	0%	180%	138%	
30/5	114%	0%	193%	173%	0%	178%	0%	300%	200%	
20/5	102%	0%	150%	184%	0%	152%	0%	200%	185%	
10/5	134%	0%	150%	170%	0%	139%	0%	0%	200%	
5 yr	0%	0%	0%	0%	0%	0%	0%	0%	0%	

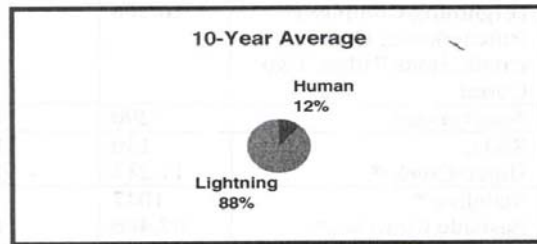
For Example: comparing the last 5 years to the 10 yr average, Recreation fires are up 170%

<sup>1</sup> Fire statistics were not available from structural fire agencies of the county in a format that could be used. An attempt will be made to collect that data in the future. This table of statistics was collected by Oregon Department of Forestry-Wallowa Unit, Wallowa, Oregon.

# USFS Fire Statistics<sup>2</sup>

## Wallowa Fire Zone 10-Year Fire Statistics

Year	Total Fires	Lightning-caused	Human-caused
2004	31	30	01
2003	44	34	10
2002	59	50	09
2001	50	43	06
2000	56	51	05
1999	46	39	07
1998	35	32	03
1997	32	26	06
1996	81	71	10
1995	25	20	05
<b>Total Fires</b>	<b>459</b>	<b>396</b>	<b>62</b>
<b>10-Year Average</b>	<b>46</b>	<b>40</b>	<b>06</b>



Year	Total Acres	Lightning-caused	Human-caused
2004	939.04	936.04	3.00
2003	16311.76	16,233.16	78.60
2002	468.90	384.90	84.00
2001	11,364.00	11,363.00	1.00
2000	125,564.10	124,516.75	1,047.35
1999	609.00	477.60	131.40
1998	19.10	18.40	0.70
1997	808.30	54.90	753.40
1996	74,003.40	73,924.20	79.20
1995	174.00	61.70	112.30
1994	343,897.40	343,893.20	4.20
<b>Total Acres</b>	<b>574,159.00</b>	<b>571,863.85</b>	<b>2,290.95</b>
<b>10-Year Average</b>	<b>57,416</b>	<b>57,186</b>	<b>229</b>

<sup>2</sup> Information submitted by Billie Crump, USFS, Enterprise, OR.

# USFS Large Fire Information<sup>3</sup>

## Wallowa Fire Zone 10-Year Fire Statistics

Year	Total Project Fires Over 100 Acres	Names	Acres	Cause
2004	2	Hazel II WFU & Jim White Ridge WFU (Eagle Cap Complex) It also included the 1 acre Goat Mountain WFU	926.00	Lightning
2003	5	Hazel Mountain, (Lightning Complex)* Butcherknife, Grouse Creek, Haas Ridge, Two Corral	500 16,206	Lightning
2002	1	Anniversary	290	Lightning
2001	2	Slide, Horse Creek *	130 11,213	Lightning Lightning
2000	3	Stateline * Eastside Complex * Carrol Creek *	1047 97,486 2965	Human Lightning Lightning
1999	3	Cache Creek Gaylord Gulch Rough Creek	125 180 120	Lightning Lightning Human
1998	0			
1997	1	Bull Creek	750	Human
1996	4	Salt Creek Sheep Heavens Gate Dam	52,600 16,000 425 4,800	Lightning Lightning Lightning Lightning
1995	0			

- \* Indicates that private land acres are not included in the total acres. Records after 1999 do not indicate private land acres.

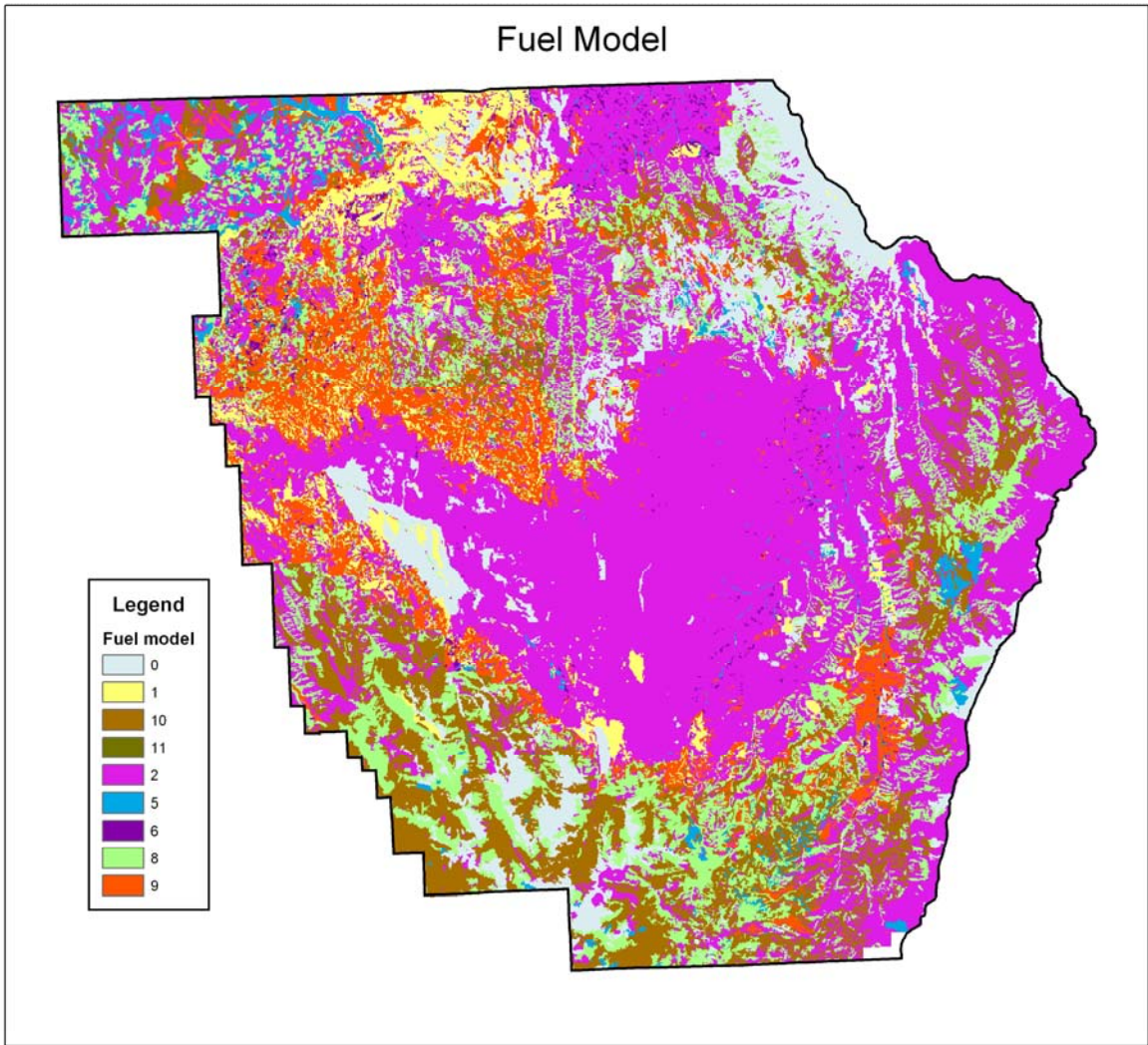
<sup>3</sup> Information submitted by Billie Crump, USFS, Enterprise, OR.

## Appendix B - Assessment Maps

**Table 1: Fuel Models Used to Determine Hazards<sup>1</sup>**

Fuel Hazard Factor	Fuel Types	Fire Characteristics
1	Grass, Low/less Flammable brush, and short-needle timber litter (FM 1, 5, 8)	Typically produces a flame length of up to 5 feet; a wildfire that exhibits very little spotting, torching, or crowning, and which results in a burned area that can normally be entered within 15 minutes. Low severity.
2	Grass/Timber, Moderate brush, conifer reproduction, open sage and juniper (FM 2, 6, 9)	Typically produces a flame length of 5-8 feet; a wildfire that exhibits sporadic spotting, torching, or crowning, and which results in a burned area that can normally be entered within one hour. Mixed severity.
3	Tall, flammable grasses, Heavy/flammable brush, timber/slash (FM 3, 4, 10-13)	Typically produces a flame length of over 8 feet; a wildfire that exhibits frequent spotting, torching, or crowning, and which results in a burned area that normally cannot be entered into for over one hour. Stand replacement severity.

<sup>1</sup> Wolf, Jim. *Concepts for Identifying and Assessment of Communities at Risk in Oregon*, July 19, 2004.



**Figure 1: Fuel Model assessed for county, Dawn Smith, Wallowa County GIS**

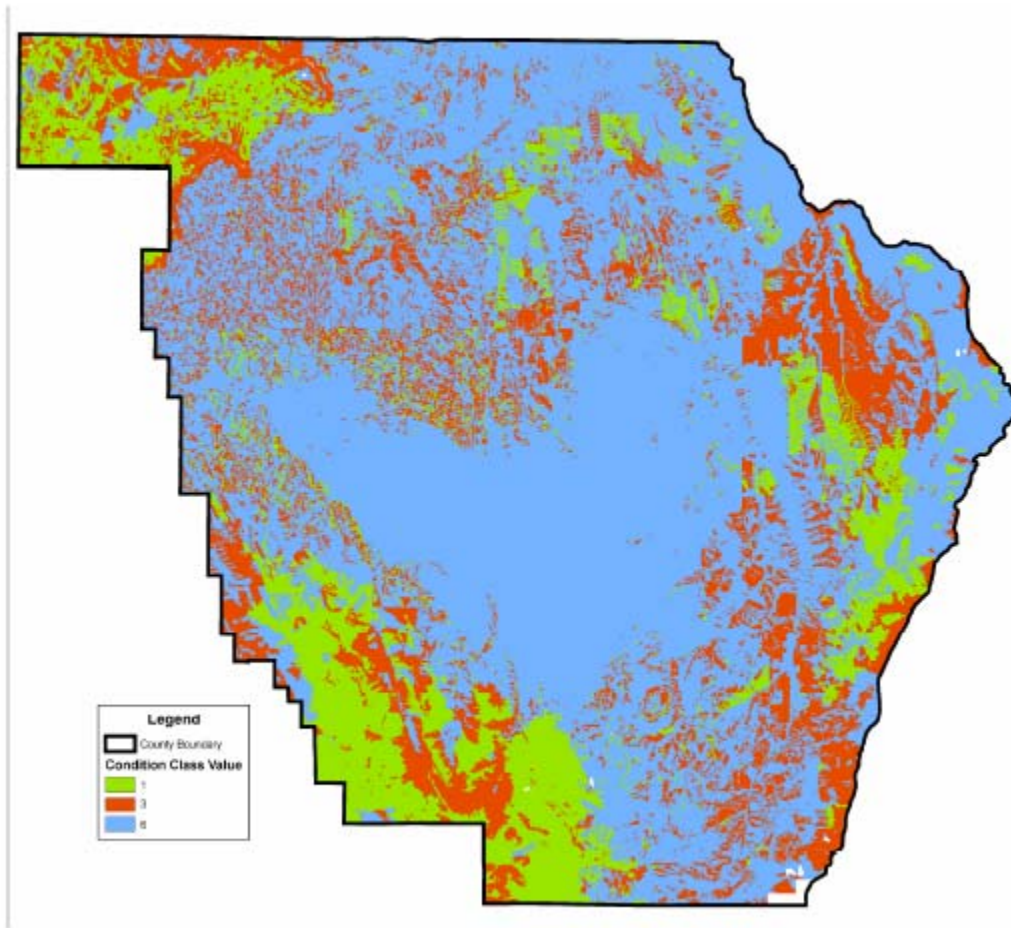
**Table 2: Expanded Fire Condition Class<sup>a</sup> Definition Table<sup>2</sup>**

Condition Class	Fire Regime <sup>1,2</sup>	Example Management Options <sup>1,2</sup>	Examples of Key Ecosystem Component Susceptibility to Changing Fire Condition Classes				Examples of published photo series
			<i>Species composition and structure</i>	Invasion by non-native species	Smoke production, Hydrology, and Soils	Insects and disease	
Condition Class 1	Fire regimes are within an historical range, and the risk of losing key ecosystem components is low. Vegetation attributes (species composition and structure) are intact and functioning within an historical range.	Where appropriate, these areas can be maintained within the historical fire regime by treatments such as fire use.	Species composition and structure are functioning within their historical range, especially at a landscape level.	Non-native species are currently not present or present in limited extent. Through time or following disturbance sites are potential vulnerable to invasion by non-native species.	Are functioning within their historical range.	Insect and disease populations are functioning within their historical range.	
Condition Class 2	Fire regimes have been moderately altered from their historical range. The risk of losing key ecosystem components is moderate. Fire frequencies have departed from historical frequencies by one or more return intervals (either increased or decreased).	Where appropriate, these areas may need moderate levels of restoration treatments, such as fire use and hand or mechanical treatments, to be restored to the historical fire regime.	Species composition and structure have been moderately altered from their historical range, especially at a landscape level. For example: Grasslands – Moderate encroachment of shrubs and/or invasive exotic species. Shrublands – Moderate encroachment of trees, late seral shrubs and/or invasive exotic species. Forestland – Moderate encroachment of shade tolerant tree species and/or	Populations of non-native invasive species have increased, thereby increasing the potential risk for these populations to expand following disturbances, such as wildfires.	Have been moderately altered from their historical range.	Insect and disease population have been moderately altered from their historical range.	

<sup>2</sup> Schmidt, Kirsten M.; Menakis, James P.; Hardy, Colin C.; Hann, Wendall J.; Bunnell, David L. 2002. **Development of coarse-scale spatial data for wildland fire and fuel management.** Gen. Tech. Rep. RMRS-GTR-87. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 41 p. + CD.

Hardy, Colin C., Schmidt, Kirsten M., Menakis, James P., and Sampson R.N., 2001. **Spatial data for national fire planning and fuel management.** International Journal of Wildland Fire. 10: 353-372

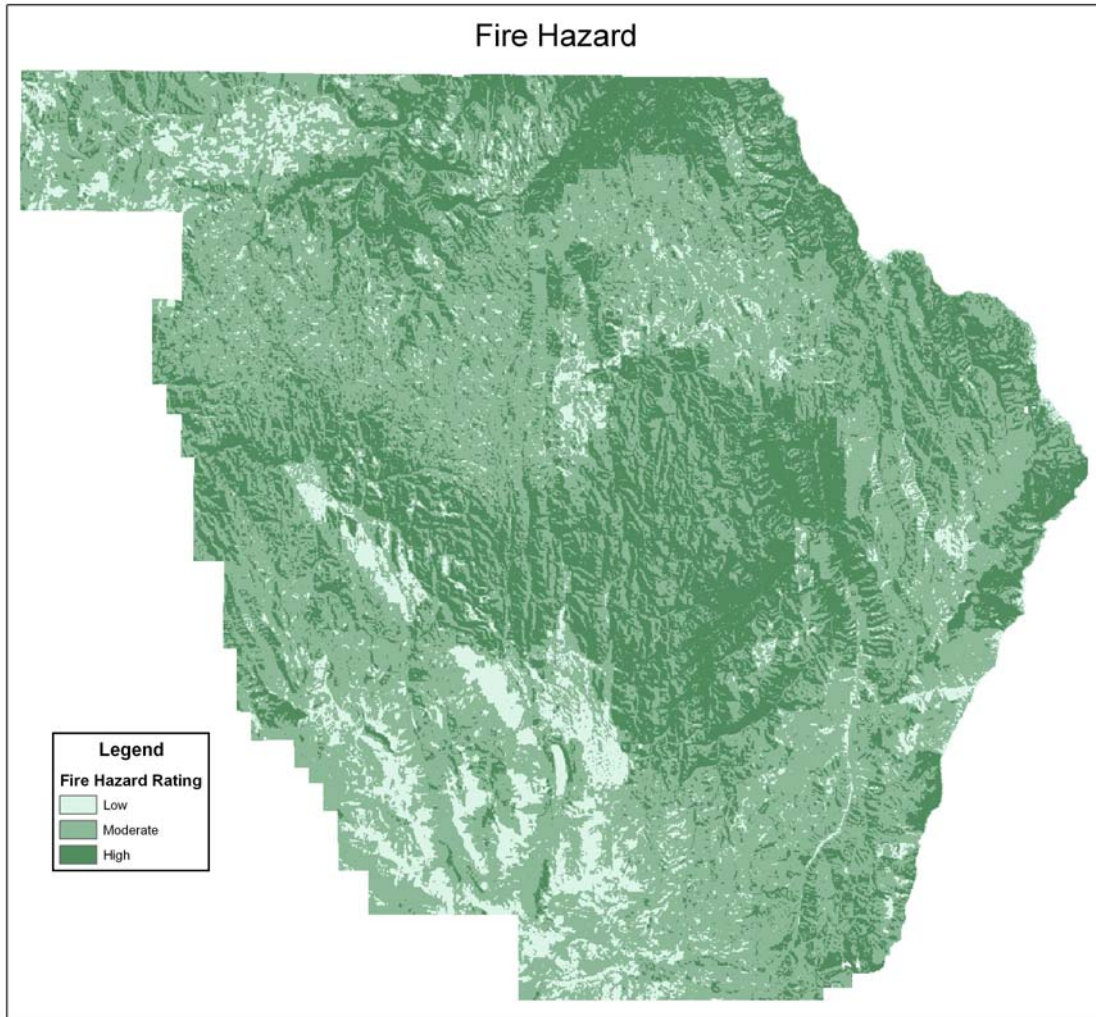
	This results in moderate changes to one or more of the following: fire size, intensity and severity, and landscape patterns. Vegetation attributes have been moderately altered from their historical range.		moderate lose of shade intolerant tree species caused by logging, or exotic insects or disease.				
Condition Class 3	Fire regimes have been significantly altered from their historical range. The risk of losing key ecosystem components is high. Fire frequencies have departed from historical frequencies by multiple return intervals. This results in dramatic changes to one or more of the following: fire size, intensity, severity, and landscape patterns. Vegetation attributes have been significantly altered from their historical range.	Where appropriate, these areas may need high levels of restoration treatments, such as hand or mechanical treatments, before fire can be used to restore the historical fire regime.	Species composition and structure have been significantly altered from their historical range, especially at a landscape level. For example: Grasslands – High encroachment and establishment of shrubs and/or invasive exotic species. Shrublands – High encroachment and establishment of trees, late seral shrubs and/or invasive exotic species. Forestland – High and encroachment establishment of shade tolerant tree species and/or high lose of shade intolerant tree species caused by logging, or exotic insects or disease.	Populations of non-native invasive species are quite high and in some cases the dominant species on the landscape. Any disturbance will likely increase both the dominance and geographic extent of these invasive species.	Have been significantly altered from their historical range.	Insect and disease population have been significantly altered from their historical range.	
<p><sup>a</sup> Fire Regime Current Condition Classes are a qualitative measure describing the degree of departure from historical fire regimes, possibly resulting in alterations of key ecosystem components such as species composition, structural stage, stand age, canopy closure, and fuel loadings. One or more of the following activities may have caused this departure: fire suppression, timber harvesting, livestock grazing, introduction and establishment of exotic plant species, introduced insects or disease, or other past management activities<sup>1</sup>.</p>							



**Figure 2: Condition Class assessed, Dawn Smith, Wallowa County GIS**



The darkest green represents highest Fire Hazard. Refer to Section V - Wildfire Risk Assessment - for more information regarding this layout.



**Figure 3: Fire Hazard Rating for Wallowa County, Dawn Smith, Wallowa County GIS**

More layouts are found on the CWPP website at (underscore after "wallowaco"):

[http://www.odf.state.or.us/areas/eastern/northeast/wallowaco\\_cwpp.htm](http://www.odf.state.or.us/areas/eastern/northeast/wallowaco_cwpp.htm)

# ***Appendix C - Public Outreach***

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## **Community Meetings**

This document was submitted after the first round of public meetings introducing the plan's concept:

## **Wallowa County Community Wildfire Protection Plan**

### **Public Meeting Brief**

Submitted by,  
Angie Johnson  
Oregon Department of Forestry  
October 22, 2004

## **Meeting Format**

The community meetings were held:

*Saturday, September 4, 2004, at the Wallowa Lake Fire Station*

*Tuesday, September 7, 2004, at the community church in Imnaha*

*Wednesday, September 8, 2004, at the Joseph Civic Center*

*Thursday, September 9, 2004, at the Wallowa Senior Center*

*Monday, October 11, 2004, at the Troy School*

The purpose of the meetings was to inform citizens of Wallowa County about the progress of the committee tasked with developing a Community Wildfire Protection Plan for Wallowa County, discuss the risk assessment involved in determining high hazard areas around the county, and involve the citizens in discussing values that they believe to be threatened by the risk of wildfire, and any other concerns they had related to emergency services and fire agency response.

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### ***Wallowa Lake Homeowners Association Semi-Annual Meeting Wallowa Lake Rural Fire Station***

Values at Risk included watershed, beauty of the lake area, comfort (being able to live in an area where there is scenery, wildlife, flora, and fauna), big trees that create shade, property investment, tourism, and air quality.

Concerns that were raised included the homesite density around the lake and emergency response issues related to response of wildland firefighters, access to structures, and lack of evacuation routes.

## ***City of Imnaha Community Church***

Values at Risk for Imnaha included:

1. Homes - "Everything we own is right there."
2. Ranches - the loss is tied to not only the value of the ranch, but the loss of the economic livelihood it provides.
3. Animals
4. Powerlines
5. Forest/Scenery - "Why we moved here."
6. Human Life
7. Forage -Loss would limit feed for wildlife and livestock.
8. Escape Routes
9. Salmon, Trout, and other fish - Loss of habitat might affect their population.

Concerns:

1. Escape Routes - "How do we get out" in the case of a wildfire? (We need to make sure we keep Imnaha and Imnaha River Woods aware of any kind of evacuation plan that is developed.)
2. It was suggested that we put together a safety message regarding fuel tanks and propane tanks, both to prevent the tanks from exploding or catching fire in a wildfire event and letting fire resources know where they are at.
3. Fire Resources need to realize that there are actually two different communities in the area - City of Imnaha and Imnaha River Woods.
4. Fire Managers should consider a better way to align campfire and burning barrel restrictions.
5. Communication to Imnaha or Imnaha River Woods is limiting. Radios do not work well in the canyon. It was suggested that a phone tree be established in both communities that could be activated by Wallowa County Emergency Services. Also, in the case of an evacuation, personnel will go door-to-door to contact residents.
6. Undeveloped lots in Imnaha River Woods represent a fuel hazard. "How do we get those lots cleaned up?"
7. Campfires in Recreation Area.
8. "Hopefully this plan addresses a maintenance schedule for completed fuels treatment projects" and how landowners will be held responsible if they don't maintain the fuel hazards on their property.

***City of Joseph  
Joseph Convention Center***

Values at risk included everything biological: wildlife habitat, watershed health, and rare plants. It was also mentioned that the USFS already conducted an extensive outreach and public meeting process to gather input on values at risk during the Mt. Howard project analysis. (We will need to contact the local ranger district for that information.)

***Wallowa  
Wallowa Senior Center***

Values at Risk included:

1. Scenery: specifically Wallowa River Canyon and Allen Canyon.
2. Wilderness recreation opportunities.
3. Timber value and land value.
4. Economy
5. Grazing
6. Fish and Wildlife habitat.
7. Homes/Property.
8. Historical/Cultural values like homesteads and cemeteries.
9. Human life.
10. Municipal water source/Domestic wells.
11. Powerlines and other infrastructure.
12. Air Quality.

Concerns:

1. Access routes that are one way in and one way out.
2. If there is a large wildfire in the wilderness, it could affect the economic value brought in by hunting, river rafters, and train excursions, which could impact revenue for motels, merchants, and restaurants.
3. A wildfire in the state parks could impact the revenue from the camping tourists.
4. A fire at the mill would cause job loss.
5. A large fire would cause short-term grazing loss.

## ***Troy Troy School***

Values include:

1. Farmsteads and old homesteads-they represent where people live and have historical value. Farming and grass for cattle are the livelihood of some resident of the area.
2. Timber is a resource for some landowners.
3. Fences.
4. Transmission lines in the canyons. These carry power outside the area as well as provide power to the area.
5. Livestock.
6. Historical sites like old cemeteries, post offices, and old school houses. Some of the old school houses of the area are Lost Prairie, Arco, Deer Creek, Paradise, and one on Grouse Flats. To get a better list, refer to a book written by Irene Barlow, titled, Old Schoolhouses of the County.
7. The trailhead at Three Forks.
8. Viewshed along the river corridor.
9. Wenaha.

Concerns:

1. "Hate to see this country look like Hat Point."
2. The restaurant in town sees lots of fishing traffic. That would be a contribution to the economy lost if a fire took out Troy, not only for the restaurant, but for the RV park as well.
3. There was concern raised regarding weed invasion that could take place after a fire.
4. There was some concern about the fuel load in the wilderness. Private land adjacent to the wilderness should be considered for treatment in order to prevent a large scale fire going into or coming out of the wilderness.
5. There is a slash fuel load in the Grouse Flats area.
6. There was discussion about getting grazing back onto the land. The grasslands of the BLM and Tribe are unmanaged and pose a fuel hazard danger.

Emergency Services:

### 1. Communications

- The Troy area has a phone tree that could be activated in an emergency, but it needs refinement. Key contacts would need to be identified (school, café).
- Aerial delivery of information?

### 2. Evacuation

- Access in Lost Prairie, Day Ridge, Paradise, and Courtney Butte are one way in/one way out.

## Questionnaire Results

### Wallowa County Community Wildfire Protection Plan Questionnaire Results

The questionnaire was meant to gather information from citizens of Wallowa County regarding how aware they are of the concepts that have been circulating as a result of the National Fire Plan. Since the passing of the Healthy Forest Restoration Act and some of the newspaper articles that were printed regarding the Wallowa County Community Wildfire Protection Plan, there were a few questions asked regarding participation in that process. A booth was set up at the Wallowa County Fair in July 2004 and people passing by were encouraged to fill out the questionnaire. Also, questionnaires were distributed at the public meetings that were held in October and November of 2004. Results are not scientific and a statistician was not used to compile the results.

1. Thirty-seven citizens participated in filling out the questionnaire on a voluntary basis. The citizen base was distributed in this manner:

Imnaha River Woods - 1

Imnaha - 2

Lost Prairie - 1

Paradise - 1

Wallowa Lake - 13

Joseph - 7

Enterprise - 2

Wallowa - 8

Alder Slope - 1

Flora - 1

2. When asked if they were concerned about a large wildfire event happening in "their" community, 89% answered **yes**.
3. When asked how aware they were about the concept of "defensible/survivable" space, 8% answered **not aware**, 17% answered **somewhat aware**, 22% answered **moderately aware**, and 53% answered **very aware**.
4. The national program of *Firewise* has been promoted in Northeast Oregon since 2001. Oregon Department of Forestry, through the local unit and the district offices, has hosted four workshops and has a moderator on staff. When the citizens were asked if they have heard anyone speak on the concept of *Firewise*, 22% **didn't know**, 36% said **yes**, and 42% said **no**.
5. The distribution of values of these citizens varied. Responses to "what do you value most about your community" were clean air, timber, beauty/scenery, people/lives, rural environment, place to live/livability, homes/property, forests/flora, habitat,

livelihood, pasture, people working together, safety issues/evacuation, wildlife/fauna, wilderness, urban environment, spirituality, history, and natural landscape.

6. When asked would those values be threatened by the risk of wildfire, 36 of the 37 citizens answered **yes** and 1 of the 37 citizens answered **maybe**.
7. When asked if they have heard of community wildfire protection planning, 5% **didn't know**, 64% answered **yes**, and 31% answered **no**.
8. When asked if they would be willing to review and comment on the final draft of the Wallowa County Protection Plan, 5 citizens left the question **blank**, 24 citizens answered **yes** (and left their contact information so that we could send them a hard copy or an electronic copy), 6 citizens answered **no**, and 2 citizens answered **maybe**.

Additional Comments included:

- \* Need controlled burns in forests.
- \* Values, like aesthetics and crops, would be temporarily threatened by wildfire.
- \* "People are what I value most. Everything else will grow back."
- \* Lost Prairie is concerned about fire "on the allotment."



# **Appendix D - Treatment Specifications<sup>1</sup>**

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## **Treatment Specifications for Private Landowners**

### **Felling/Thinning:**

- Trees to be felled will be marked with orange paint.
  - Trees to be felled will generally be less than 6" in diameter at breast height.
- Trees to be felled will be done in a manner to cause minimal damage to residual stand.
- Trees that are felled will be fully limbed and bucked to a 3" top.
- Stump height shall not exceed 12 inches.
- Hardwood clumps with dead material will be cut out.
- Required equipment: Chainsaws/Handsaws

### **Dead/Down trees and slash concentrations:**

- Trees that are dead and down will be limbed and bucked to a 3" top.
- Slash concentrations will be bucked for ease of piling.

### **Pruning:**

- All residual trees will be pruned to a height of 15 feet (measured from the uphill side of the tree), not to exceed 50% of crown height.
- Branch stobs will be cut to a length no less than ¼" and not to exceed ½" in length.
- Pole saws and handsaws will be provided.

### **Piling:**

- All residual slashing from Felling/Thinning, Dead/Down trees, slash concentrations and Pruning will be piled.
- Boles of trees shall remain on site and shall not be piled.
- Hand piles will be no less than 4 feet tall and no more than 8 feet tall.
- Placement of piles should be free of residual tree crowns.
- If a pile must be placed under a residual tree crown, restrict pile height to 4 feet.
- All slashing greater than ¼" shall be piled.

### **Weed Prevention:**

- Follow guidelines set forth in this plan (See Section VI-Prioritization and Strategies of WUI areas)

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<sup>1</sup> All guidelines in this document must meet standards set forth in the Oregon Forest Practices Act. Contact a forester at the ODF-Wallowa Unit for more information.

Residual Snags:

- All residual snags shall have a 10-foot clearance from the base of the snag down to mineral soil.

Buffers:

- BUFFERS. Buffers 50 feet wide shall be left on each side of streams shown on the attached map. Trees shall not be cut within buffers.

Work Crew:

- Workers shall be organized into crews of not more than 8 persons with an experienced supervisor in charge of each crew. CONTRACTOR shall not change the number or size of crews, unless approved. Foreman shall be designated by CONTRACTOR and shall work as foreman for the duration of the contract, unless otherwise approved.

Production Schedule:

- Once work is commenced, project work shall be ongoing. Work shall commence on a Monday-Friday schedule unless prior arrangements are made with the contract administrator. Any delay in daily production should be discussed and agreed upon through the contract administrator. Work shall be completed by October 20, 2001.
- Work shall not commence until the work schedule is approved, then shall be continuous, unless weather conditions or circumstances beyond CONTRACTOR's control prevent working. Deviation from the approved work schedule must be approved. Work delays which are not approved may result in a penalty of \$200 per working day beginning with the first day for which notification was not given and for each day thereafter until work commences.
- In any case, all work shall be completed and the contract shall terminate no later than October 20, 2001, unless extended. Contract Administrator, by written notice to CONTRACTOR, may extend the date of completion if weather or other conditions justify such action.

MATERIALS AND SERVICES FURNISHED:

- a. Designated representative to acquaint CONTRACTOR with areas and access roads and to represent STATE in administration of contract.
- b. Periodic inspection of work for compliance and certification of CONTRACTOR's work.
- c. Maps of project area.
- d. Pole Saws and hand pruning saws.

MATERIALS AND SERVICES FURNISHED BY CONTRACTOR:

- a. All equipment necessary to complete the work specified in the contract.
- b. All costs of equipment, operation, and transportation.
- c. Crews each day with an experienced, qualified supervisor for each crew.
- d. All required safety equipment and training for crewmembers in use of tools.
- e. Designated representative to supervise contract operations and represent CONTRACTOR.

# Appendix E<sup>1</sup> - Firewise Tips

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- ✓ Keep a clearing of at least 30 feet around your house for fire fighting equipment.
- ✓ Space the trees you plant carefully.
- ✓ Remove **ladder fuels**. They link the grasses and brush with the tree tops.
- ✓ Create a **fuel break** - driveways, gravel walkways, or lawns.
- ✓ Maintain your irrigation system regularly.
- ✓ Prune limbs so the lowest is between 6' - 10' from the ground.
- ✓ Remove leaf litter from your roof and yard.
- ✓ Mow regularly.
- ✓ Remove dead or overhanging branches.
- ✓ Store firewood away from your house.
- ✓ Refuel garden equipment carefully and maintain regularly.
- ✓ If you smoke, use your ashtray.
- ✓ Store and use flammable liquids properly.
- ✓ Dispose of cuttings and debris promptly, according to local regulations.
- ✓ Observe local regulations regarding vegetative clearances and fire safety equipment requirements.
- ✓ Check your generator and/or hose to be sure it is in good repair.
- ✓ Don't keep combustibles under decks or elevated porches.
- ✓ Make trellises of non-flammable metal.
- ✓ Have at least two ground-level doors as safety exits.
- ✓ Keep at least two means of escape (either a door/window) in each room.
- ✓ Mark your driveway and access roads clearly.
- ✓ Keep ample turnaround space near your house for fire equipment.
- ✓ Prevent sparks from entering your house by covering vents with wire mesh no larger than 1/8".
- ✓ When possible, use construction materials that are fire-resistant or non-combustible.

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<sup>1</sup> [www.firewise.org](http://www.firewise.org)

# ***Appendix F - Acronym List/Glossary***

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## **Acronym List**

CAR          Community-at-Risk

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CWPP        Community Wildfire Protection Plan

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FD          Fire Department

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FEMA        Federal Emergency Management Agency

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FFHM        Forest Fuels and Hazard Mitigation (Standing Committee for State of Oregon - Oregon Department of Forestry)

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FPA         Fire Protection Association

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GIS         Geographic Information System

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HFRA        Healthy Forest Restoration Act

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ICS         Incident Command System

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NFP         National Fire Plan

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NRAC        Natural Resource Advisory Committee

---

ODF         Oregon Department of Forestry

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PPE         Personal Protective Equipment

RFPD	Rural Fire Protection District
TSI	Timber Stand Improvement
USFS	United States Forest Service
WFU	Wildland Fire Use
WUI	Wildland Urban Interface

## Glossary

*Biomass:* quantity of biological matter of one or more species present on a unit area.

*Condition Class:* qualitative measure of degree of departure from historical ecosystem components such as species composition, structural stage, stand age, canopy closure, and fuel loadings.

*Conflagration Act:* state legal authority established as a civil defense measure to mobilize structural fire suppression resources for massive urban fires. It was first used in 1951 to coordinate aid to an explosion and fire in downtown Roseburg. The Act was not invoked again until 1972, when a wildland fire in Yamhill County threatened homes in what is now known as the wildland-urban interface. It must be authorized by the Governor. The Act includes authorization for OSFM to assign firefighting forces and equipment beyond mutual aid agreements. It also designates reimbursement for aid to those departments participating.

*Consequence:* values at-risk from a fire occurring in a specific geographic location.

*Community at-risk:* (in Wallowa County) a group of homes or other structures with basic infrastructure (such as shared transportation routes) and services within or near federal land.

*Defensible Space:* the zone, typically a width of 30 feet or more, between an improved property and a potential wildfire where the combustibles have been removed or modified. It is recommended, depending on slope and fuels surrounding the home, that radius of defensible space could be closer to 100 feet.

*Fire regime:* qualitative measure describing the degree of departure from historical fire regimes, where fire frequency has deviated from normal intervals.

*Flame length:* the distance measured from the tip of the flame to the middle of the flaming zone at base of the fire. It is measured on a slant when the flames are tilted due to effects of wind and slope.

*Fuel:* non-decomposed material, living or dead, derived from herbaceous plants.

*Fuel Break:* an area, strategically located for fighting anticipated fires, where the native vegetation has been permanently modified or replaced so that fires burning into it can be more easily controlled. Fuel breaks divide fire-prone areas into smaller areas for easier fire control and to provide access for fire fighting.

*Fuel Hazard:* a fuel complex defined by kind, arrangement, volume, condition, and location that forms a special threat of ignition or of suppression difficulty.

*Fuel Loading:* the volume of fuel in a given area generally expressed in tons per acre.

*Fuel Model:* a simulated fuel complex for which all fuel descriptors required by the mathematical fire spread model have been supplied.

*Fuel Reduction:* the planned manipulation of living or dead forest fuels for forest management and other land-use objectives.

*Green Space:* see Defensible Space.

*Hazard (as it relates to wildfire):* hazardous conditions like fuel, topography, weather, etc. that contributes to fire spread.

*Initial Attack:* the actions taken by the first resources to arrive at a wildfire to protect lives and property, and prevent further extension of the fire.

*Ladder fuel:* fuels that provide vertical continuity allowing fire to carry from surface fuels into the crowns of trees or shrubs with relative ease.

*Mutual Aid Agreement:* agreement in place between wildland and structural fire protection agencies that allows for either fire protection agency to help the other in a wildfire event.

*Prescribed Fire:* the controlled application of fire to wildland fuels in either their natural or modified state, under such conditions of weather, fuel moisture, soil moisture, etc. as allow the fire to be confined to a predetermined area and at the same time to produce the intensity of heat and rate of spread required to further certain planned objectives of silviculture, wildlife management, grazing, hazard reduction, etc. The intention is to employ fire scientifically so as to realize maximum net benefits with minimum damage and at acceptable cost.

*Rate of Spread:* the relative activity of a fire in extending its horizontal dimensions. It is expressed as rate of increase of the total perimeter of the fire; or as rate of forward-spread of the fire front; or as rate of increase in area, depending on the intended use of the information. Usually its (forward) rate of spread is expressed in chains or acres per hour.

*Risk (as it relates to wildfire):* the likelihood of a fire occurring.

*Roof Class:* can be either A, B, C, or non-rated. Roof class is a determination of flame resistance. Class A is rated for more flame resistant building materials than Class C.

*Seral:* of, like, or pertaining to the development of like ecological communities.

*Silviculture:* manipulation of forest vegetation to accomplish a specified set of objectives; controlling forest establishment, composition, and growth.

*Structural Fire Protection:* The protection of a structure from interior and exterior fire ignition sources. This fire protection service is normally provided by municipal fire departments, with trained and equipped personnel. In northeastern Oregon, rural and volunteer fire departments are relied upon heavily to also provide this type of protection. After life safety, the agency's priority is to keep the fire from leaving the structure of origin and to protect the structure from an advancing wildland fire. (The equipment and training required to conduct structural fire protection is not normally provided to the wildland firefighter.) Various taxing authorities fund this service.

*Structural Ignitability:* a term that relates cause of a home igniting during a wildfire to building materials. Cause could be attributed to the building materials used for the home or the amount of combustible materials around the home.

*Structural Vulnerability:* a term that relates factors contributing to how and why a home is vulnerable to wildfire. Examples of factors that contribute to vulnerability are type of access to the home, ladder fuels and vegetation with the landscape of a home, and whether or not fire protection is available.

*Survivable Space:* see Defensible Space.



*Triage (as it relates to structures in a wildfire event):* the sorting and prioritizing of structures requiring protection from wildfire based upon an educated assessment designed to maximize the number of structures saved.

*Wildland Fire Protection:* the protection of natural resources and watersheds from damage by wildland fires. State and Federal forestry or land management agencies normally provide wildland fire protection with trained and equipped personnel. The structural firefighter may also be trained and equipped to aid the wildland agency in a wildland fire event. Various taxing authorities and fees fund this service.

*Wildland Fire Use:* is the management of naturally ignited wildland fires to achieve forest health and resource management objectives.

*Wildland-Urban Interface:* (in Wallowa County) an area that surrounds a community or values of a community, including that community's infrastructure or water source, and may extend 1 1/2 miles or more beyond that community. The boundary of a wildland-urban interface area depends on topographic and geographic features that could influence wildfire, the location of an effective fuel break, or Condition Class 3 lands.

# Appendix G - Sources

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## Websites to Visit

<http://www.communitiescommittee.org/pdfs/cwpphandbook.pdf>

<http://egov.oregon.gov/ODF/FIRE/SB360/sb360.shtml>

<http://extension.oregonstate.edu/emergency/FireResPlants.pdf>

<http://www.fema.gov/>

<http://www.fireplan.gov>

<http://www.firewise.org>

<http://www.fuelsforschools.org>

<http://www.nwfireplan.gov>

[http://www.odf.state.or.us/areas/eastern/northeast/wallowaco\\_cwpp.htm](http://www.odf.state.or.us/areas/eastern/northeast/wallowaco_cwpp.htm)

<http://www.or.blm.gov/nwfire/docs/Livingwithfire.pdf>

<http://www.whitehouse.gov/infocus/healthyforests/toc.html>

## Sources Specific to Each Section

### *Section I - Introduction*

Page 1      State of Oregon, Emergency Management Plan, Natural Hazards Mitigation Plan, Fire Chapter, December 2003.

### *Section II - Wallowa County Profile and Fire History*

Page 1      Wallowa County, A Strategic Plan for the Future, August 5, 1996.

Page 1      Wallowa Lake State Park and Management Area, Statistics captured from 1998-2002.

### *Section VI - Prioritization and Strategies of WUI Areas*

Page 4 Oester, Paul, Blue Mountains Renewable Resource Newsletter, Vol. 20, No. 3, Fall 2004.  
*Section VIII - Maintenance Plan for Fuels Treatment*

Page 1 Fitzgerald, Stephen and Martin, Charlie, A Conceptual Approach for a Maintenance Strategy for Fuel Treatments in Oregon: Maintaining the Investment, Oregon State FFHM Committee Report, July 5, 2004.

### **Other Sources**

NFES 2171. Fire Operations in the Urban Interface, Student Workbook, February 1991.

NFES 2665. Gaining an Understanding of the National Fire Danger Rating System, publication of the National Wildfire Coordinating Group, July 2002.

NFES 2378. Intermediate Wildland Fire Behavior, Student Workbook, July 1994.

Walstad, John D., Radosevich, Steven R., and Sandberg, David V. (editors). Natural and Prescribed Fire in Pacific Northwest Forests, Oregon State University Press, Corvallis, OR, 1990.

Young, Raymond A. and Giese, Ronald L. (editors). Introduction to Forest Science, Second Edition, John Wiley and Sons, 1990.

## ***Appendix H - Contact List/Plan Locations***

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Wallowa County Emergency Management  
101 S. River, Rm. 202  
Enterprise, OR 97828  
(541) 426-4543, ext. 48

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Wallowa County Board of Commissioners  
101 S. River  
Enterprise, OR 97828  
(541) 426-4543, ext. 11

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Wallowa County Planning Department  
101 S. River, Rm. B-1  
Enterprise, OR 97828  
(541) 426-4543

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Wallowa County Library  
207 NW Logan  
Enterprise, OR 97828  
(541) 426-3969

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Wallowa Public Library  
PO Box 486  
Wallowa, OR 97885  
(541) 886-4265

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City of Enterprise Library  
101 NE 1st  
Enterprise, OR 97828  
(541) 426-3906

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City of Joseph  
PO Box 15  
Joseph, OR 97846  
(541) 432-3832

City of Wallowa  
211 E. 2nd  
Wallowa, OR 97885  
(541) 886-2422

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Wallowa County OSU Extension Service  
668 NW 1st  
Enterprise, OR 97828  
(541) 426-3143

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Nez Perce Tribe  
Attn: Ira Jones  
PO Box 365  
Lapwai, ID 83540

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Oregon Department of Forestry  
Wallowa Unit  
802 W. Highway 82  
Wallowa, OR 97885  
(541) 886-2881

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United States Forest Service  
Wallowa Valley Ranger District  
88401 Highway 82  
Enterprise, OR 97828  
(541) 426-5583

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Wallowa Resources  
PO Box 274  
Enterprise, OR 97828  
(541) 426-8053

# Appendix I - 2005 Accomplishments

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## Hazardous Fuels Mitigation projects conducted by Wallowa Fire Zone, USFS

Project Name	Unit Number	Acres	Date Completed	Treatment Type
Bugcheck	54	300	10/17/05	Underburn
Hotel	85	200	10/24/05	Underburn
Reservoir	91	288	10/21/05	Underburn
Reservoir	92	600	10/23/05	Underburn
Upper Imnaha	1	1828	10/25/05	Underburn
Haypen	65	355	10/19/05	Underburn
Haypen	73	806	10/17/05	Underburn
Haypen	65	758	10/25/05	Underburn
Haypen	74	345	10/24/05	Underburn
Imnaha River Woods WUI	1	125	09/30/05	Handpile
		<b>5605 Total</b>		

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## Mitigation projects tracked and/or conducted by Wallowa Unit, ODF - 2005

*Number of Projects accomplished which improve fire agency/emergency service response time -*

None noted at this time.

*Number of transportation problems resolved that improve access/ingress/egress-*

1. Better visibility at South Wallowa Lake and in the Lostine subdivision.
2. Developing Emergency Access to west side of Wallowa Lake (in progress).
3. Opening east side of Wallowa Lake for Emergency Access (in progress).

*Number of pieces/types of equipment obtained and number of training courses provided to improve wildland fire response of structural fire agencies-*

ODF assisted City of Joseph Fire Department in acquiring three FEPP engines. Also, S-190 was provided to City of Joseph Fire Department. City of Joseph FD also includes Wallowa Lake Rural Fire Protection District. A Firewise workshop

was also given at the Wallowa Lake Rural Fire Protection District station, which informed the structural fire department members about response in WUI areas.

*Number of acres treated for fuels reduction and types of treatment conducted (private land only)-*

604 acres were treated. More information will be gathered by ODF to present this accomplishment more fully.

*Fire Prevention accomplishments-*

Twenty-eight message opportunities were delivered in the form of 6 news releases and 22 fire prevention campaigns. Two fire prevention courses were attended/conducted and 3 prevention team meetings were held. People contacted were 84,000 (including readership of the Wallowa County Chieftain, where "I'm Concerned" ads were placed), and 2,500 educational items were distributed among schools and events (this included the hunter's safety fire prevention letter that is sent out to all tag holders).

*Partners/groups/agencies involved-*

Five partners, 6 groups, and 10 agencies were involved collaboratively in accomplishing the above mitigation strategies.

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### **Schedule of Future Evaluation Meetings**

2006 Accomplishments/Review of Goals and Objectives	February 2007
2007 Accomplishments/Review of Goals and Objectives	February 2008
2008 Accomplishments/Review of Goals and Objectives	February 2009
Full Revision of Plan - Including revised Assessment	February 2010

NOTE: Progress will be reported annually to the Wallowa NRAC.

# **Appendix J - City of Joseph Resolution**

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## **Resolution**

**We the council of the City of Joseph do hereby declare the following:**

**We recognize that we have evolved from and are defined by the natural landscapes that surround our city; and that our economy, and the heart and soul of our city are largely derived from that relationship.**

**We further recognize that Mt. Howard and the Eaglecap Wilderness area are publicly owned by the citizens of the United States and managed by the United States Forest Service; and that the City of Joseph will make it a priority to encourage an active and open working relationship between the Forest Service, the city, the citizens, the workforce, and the forest industries of our community.**

**We proclaim that Mt. Howard, with its high fuel load, on the ground and the sub-alpine fir 80% dead above 6500 feet, located as they are pose a clear and present danger to the health of our watershed in the Eaglecap Wilderness Area and to the health of our arts & tourism economy.**

**We further proclaim that we (the Joseph City Council) will take an active stand on protecting these resources; and that we will represent ourselves in any and all political arenas as determined to promote a "restoration economy" in our valley, using our local workforce and contractors to perform these needed fuels reduction activities.**

**Signed on this day, April 5<sup>th</sup>, 2005.**

**Peggy Kite-Martin  
Mayor, City of Joseph**